

FACSIMILE

June 10, 2010

TO:

All Interested Bidders

SUBJECT:

Invitation for Bid #10-1766DC

Juvenile Process Center Building Modifications

ADDENDUM #1

Bidders are hereby notified that this Addendum shall be made a part of the above named bidding and contract documents. The following items are issued to add to, modify, and clarify the bid and contract documents. These items shall have the same force and effect as the original bidding and contract documents, and cost involved shall be included in the bid prices. Bids to be submitted on the specified bid date, shall conform to the additions and revisions listed herein.

- See attached Plans for the electrical, mechanical, and plumbing electrical Drawings as prepared by BMK architects, Inc.
- 2. Engineer's Construction estimate for the work as specified is \$276,592.
- 3. The contractor shall be certified in Florida as a General Contractor (IFB page 8, Article B.02).

Bids will be received at Manatee County Purchasing, 1112 Manatee Avenue West, Suite 803, Bradenton, Florida 34205 until **July 14, 2010 at 11:00 A.M.**

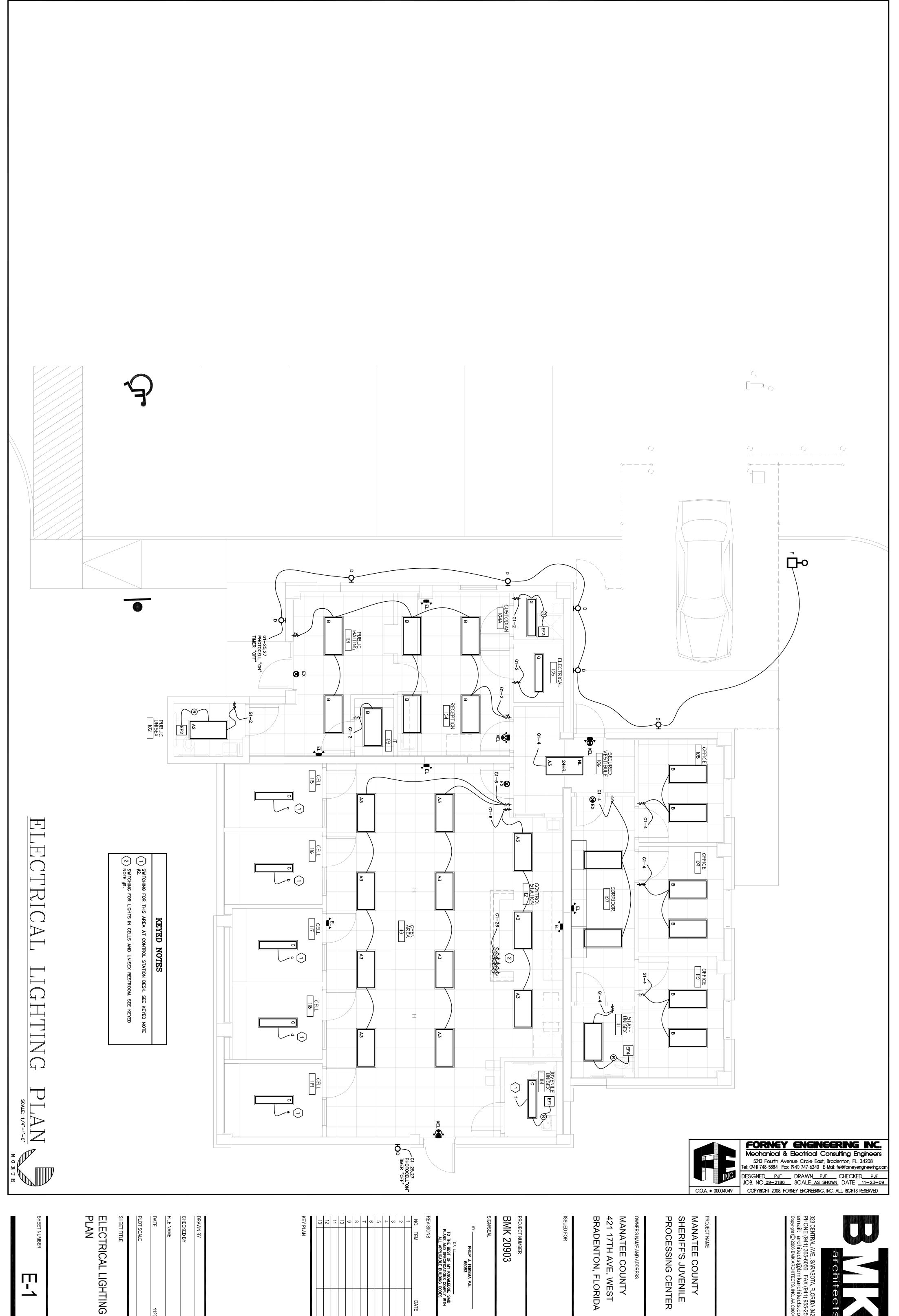
Sincerely,

Deborah Carey-Reed Construction Buyer

/dcr

Attachments

Financial Management Department - Purchasing Division 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205 PHONE: 941.749.3074 * FAX: 941.749.3034 www.mymanatee.org





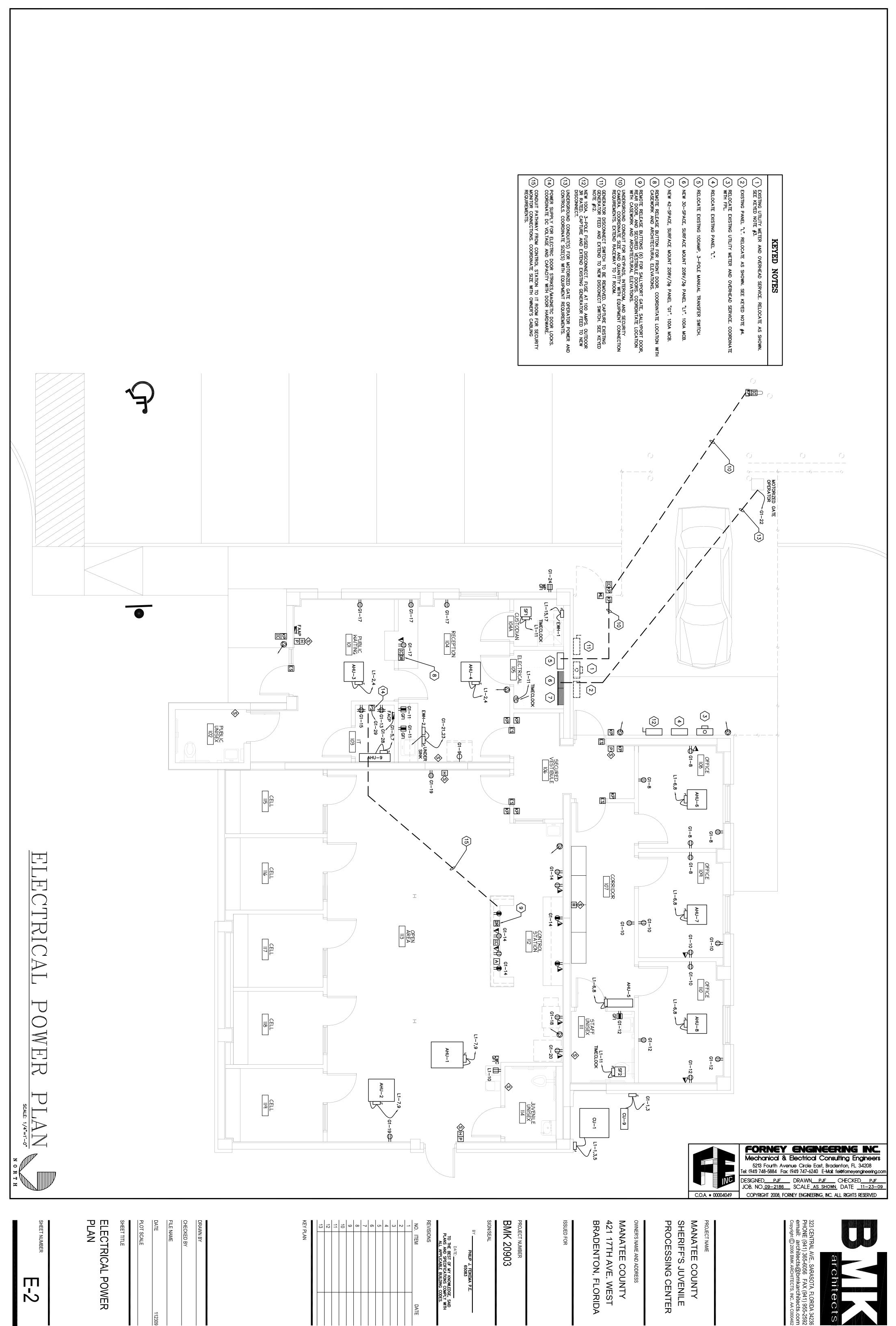
BMK 20903

BRADENTON, FLORIDA 421 17TH AVE. WEST

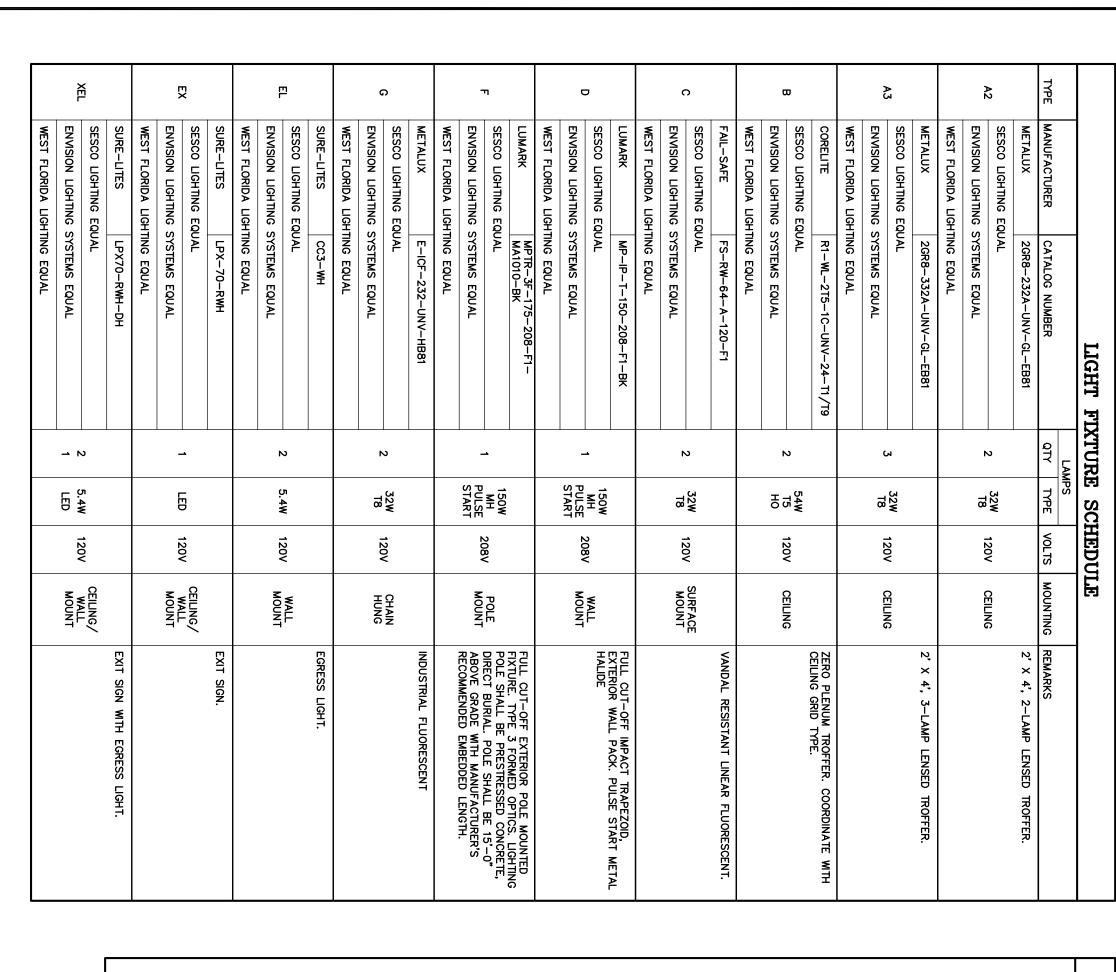
MANATEE COUNTY

MANATEE COUNTY
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PROCESSING CENTER





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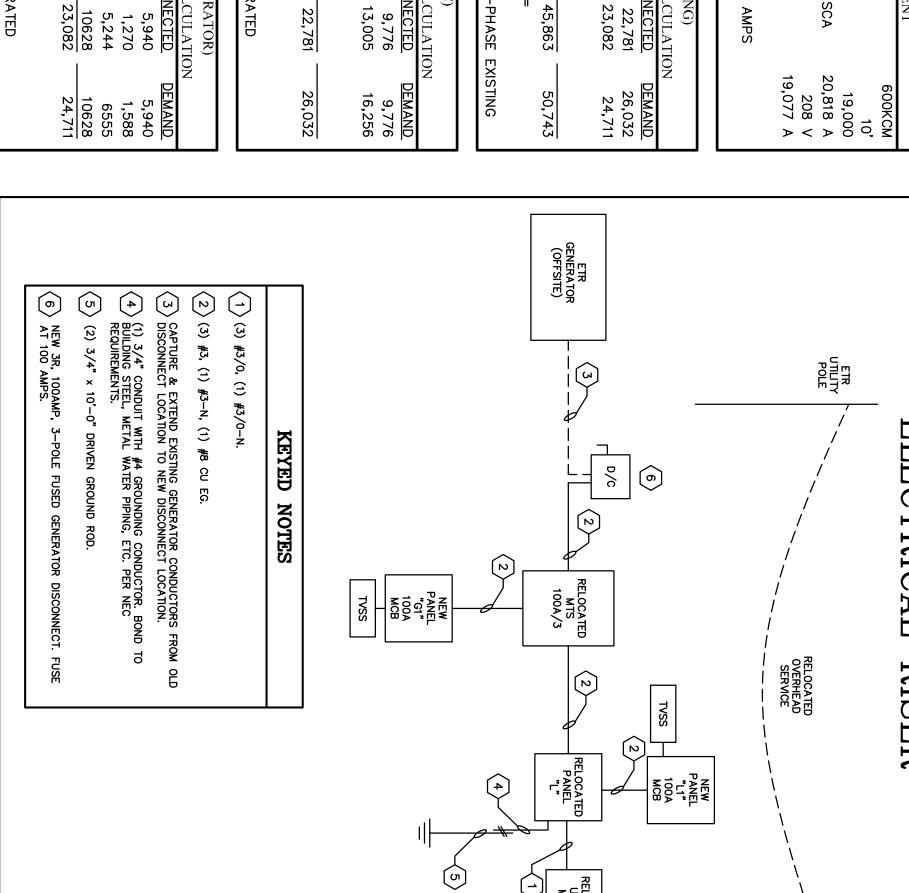
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NOTES: 1. VERIFY FUSE SIZES FOR ACTUAL EQUIPMENT SUBMITTED. 2. FUSES SHALL BE DUAL ELEMENT, TIME DELAY, 100,000 AIC MININUM. 3. FINAL CONNECTIONS TO MECHANICAL EQUIPMENT FROM DISCONNECT SHALL BE FLEX. FLEX SHALL BE WATERTIGHT AT EXTERIOR OR WET LOCATIONS. 4. PROVIDE POLE TO DISCONNECT NEUTRAL WHERE REQUIRED.		2	2	2	2	3	ч	SIZE POLES PHASE NEMA FUSE VOLT.	
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CONDUCTOR SIZE
CONDUCTOR LENGTH
CONDUCTOR "C"
ESTIMATED TRANSFORMER SCA

VOLTAGE FAULT CURRENT

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SHORT CIRCUIT AMPS AT PANEL



HVAC LOAD LARGEST MOTOR

ELECTRICAL .OAD

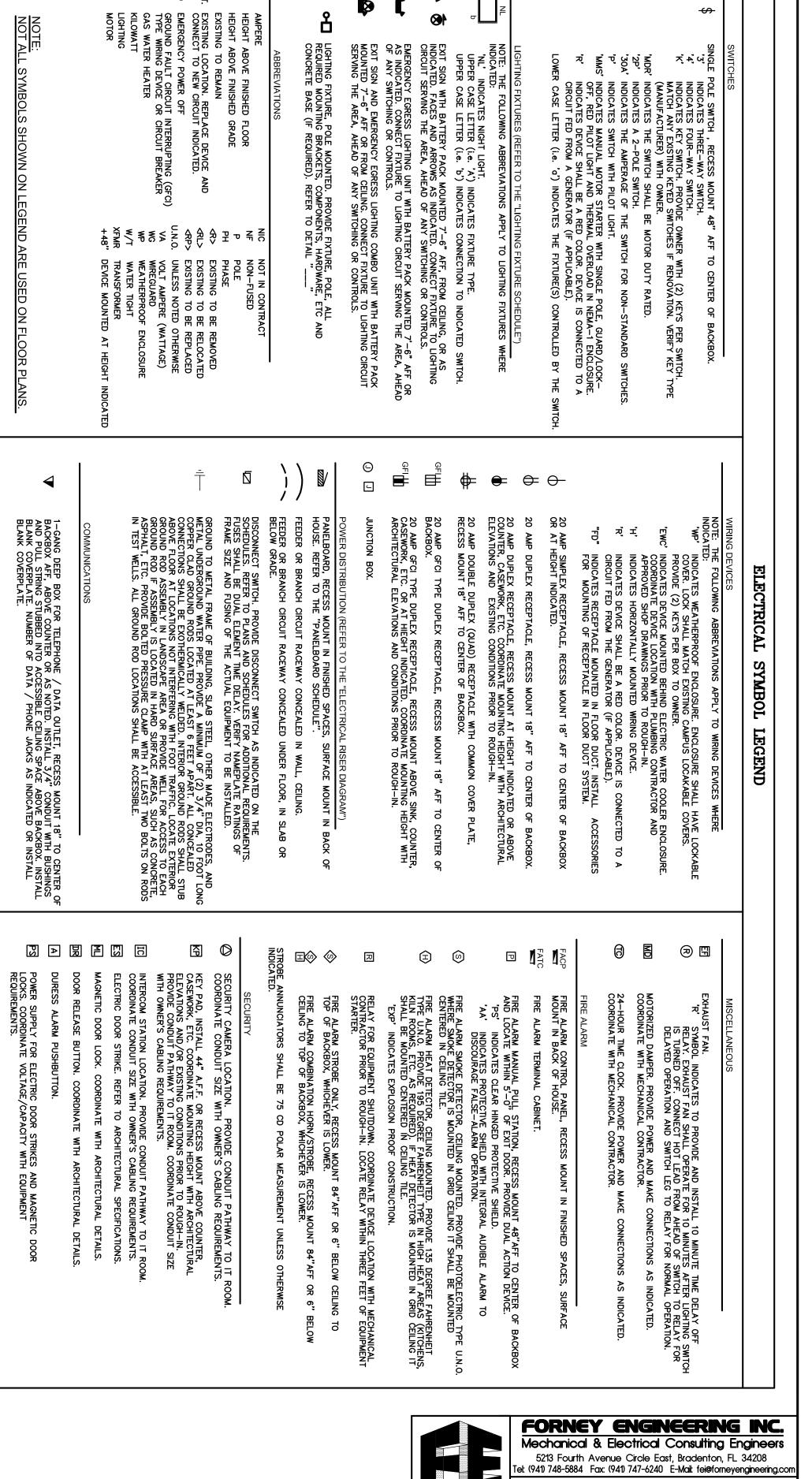
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C.O.A. # 00004049

MANATEE COUNTY

SHERIFF'S JUVENILE

PROCESSING CENTER

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BRADENTON, FLORIDA

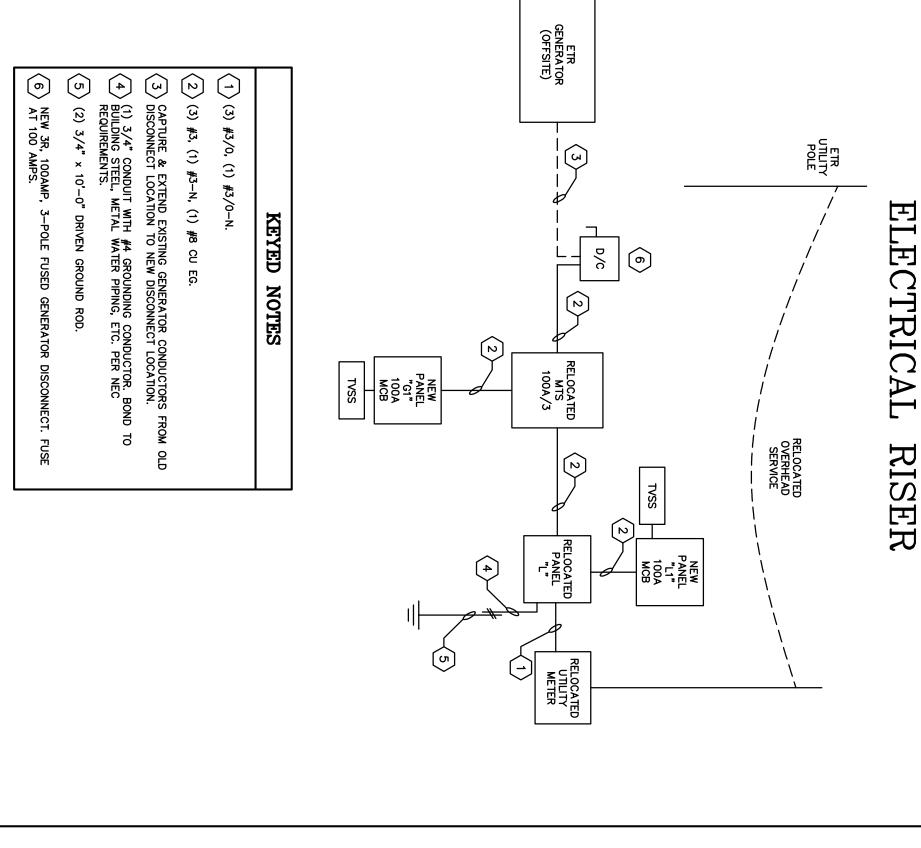
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MANATEE COUNTY

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architects

323 CENTRAL AVE., SARASOTA, FLORIDA 34236 PHONE (941) 365-6056 FAX (941) 955-2592 email: architects@bmkarchitects.com Copyright © 2006 BMK ARCHITECTS, INC. AA C000462

DESIGNED<u>PJF</u> DRAWN<u>PJF</u> CHECKED<u>PJF</u> JOB. NO.<u>09-2186</u> SCALE<u>AS SHOWN</u> DATE <u>11-23-09</u>

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PLOT SCALE CHECKED BY DATE RAWN BY 112309

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	ALL PROTECTION FOR SAFETY OF PERSONS AND PROPERTY. LOCAL OR STATE SAFETY CODES SHALL BE STRICTLY OBSERVED. IN ADDITION, IT SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR TO CHECK THE INDICATED ELEVATIONS OF THE UTILITIES ENTERING AND LEAVING THE BUILDING. IF SUCH ELEVATIONS REQUIRE EXCAVATIONS LOWER THAN THE FOOTING LEVELS, THE ENGINEER SHALL BE NOTIFIED OF SUCH CONDITIONS AND A REDESIGN SHALL BE MADE BEFORE EXCAVATIONS ARE COMMENCED. IT IS ALSO THE RESPONSIBILITY OF THE SUBCONTRACTOR TO MAKE THE EXCAVATIONS AT THE MINIMUM REQUIRED DEPTHS IN ORDER NOT TO UNDERCUT THE FOOTINGS. CONFORM TO THE REQUIREMENTS OF THE STATE OF FLORIDA "TRENCH SAFETY ACT".	PIT EXCAV. CTION OF THE S, INCLUDING SRACING, PU	SCAFFOLDING, RIGGING, HOISTING THE SUBCONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ANY EQUIPMENT AND APPARATUS FURNISHED. REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.	INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE THE NECESSARY CHANGES IN HIS WORK TO CORRECT THE CONDITIONS WITHOUT EXTRA CHANGES IN HIS WORK TO CORRECT THE CONDITIONS WITHOUT AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, SETTING PLANS, AND SHOP DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.	THE SUBCONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT SUITABLE SCALE, NOT LESS THAN 1/4" = 1'-0", CLEARLY SHOWING HOW HIS WORK IS TO BE INSTALLED IN RELATION TO THE WORK OF OTHER TRADES. IF THE SUBCONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES, OR SO AS TO CAUSE ANY	ENGINEER, ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY, WHERE THE WORK OF THE SUBCONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR WILL INTERFERE WITH WORK OR OTHER TRADES, HE SHALL ASSIST IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT. IF SO DIRECTED BY THE ENGINEER.	COOPERATION WITH OTHER TRADES THE SUBCONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE CONTRACTOR, WITH COPIES TO THE	SPACE CONDITIONS AT ALL POINTS. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, THE ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. IF DIRECTED BY THE ENGINEER, THE SUBCONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OF FOR BEODES EXECUTION OF THE WORK	TO BE SCALED. THE ARCHITECTURAL DRAWINGS AND DETAILS SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. WHERE THEY ARE NOT DEFINITELY LOCATED, THIS INFORMATION SHALL BE OBTAINED FROM THE ENGINEER. THE SUBCONTRACTOR SHALL FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED, MAINTAIN MAXIMUM HEADROOM AND	DRAWINGS OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DRAWINGS ARE NOT	MEASUREMENTS AND THOSE INDICATED, WHICH PREVENTS FOLLOWING GOOD PRACTICE OR THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, HE SHALL NOTIFY THE ENGINEER THROUGH THE GENERAL CONTRACTOR, AND SHALL NOT PROCEED WITH HIS WORK UNTIL HE HAS RECEIVED INSTRUCTIONS	ALL MATERIAL AND EQUIPMENT FOR THE ELECTRICAL PORTION OF THE MECHANICAL SYSTEMS SHALL BEAR THE APPROVAL LABEL, OR SHALL BE LISTED BY THE UNDERWRITERS' LABORATORIES, INC. SHOULD THE SUBCONTRACTOR DISCOVER ANY DISCORPPANCY RETWEEN ACTUAL	NATIONAL ELECTRIC CODE FLORIDA BUILDING CODE 2007 WITH CURRENT AMENDMENTS APPLICABLE STATE AND LOCAL CODES NATIONAL BUREAU OF FIRE UNDERWRITERS REGULI ATIONS OF THE SFRVING LITTLITY COMPANIES	THE SUBCONTRACTOR SHALL INCLUDE IN THE WORK, MITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, OR DRAWINGS NECESSARY TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS, WHETHER OR NOT SHOWN ON DRAWINGS AND/OR SPECIFIED. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE FOLLOWING:	COSTS INCLUDING UTILITY CONNECTIONS OR EXTENSIONS, IN CONNECTION WITH HIS WORK; FILE NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVER SAME TO THE ENGINEER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.	CODES, RULES, PERMITS, FEES THE SUBCONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND PAY ALL GOVERNMENT SALES TAXES.	WISHING TO SUBMIT FOR AN 'OR EQUIVALENT' SUBSTITUTION WILL SUBMIT WITH HIS REQUEST COMPLETE CATALOG INFORMATION TO PERMIT EVALUATION OF THE PRODUCT, AND IN THE CASE OF LIGHTING FIXTURES, AN INDEPENDENT TESTING LABORATORY (NOT MANUFACTURER'S) TEST REPORT(S) SHALL ACCOMPANY THE REQUEST.	NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED. SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT APPROVAL FOURTEEN (14) DAYS PRIOR TO BID DATE FROM THE ENGINEER. APPROVALS OF 'OR EQUIVALENT' SUBSTITUTIONS WILL BE SUBMITTED TO ALL BIDDERS AS DETERMINED NECESSARY BY ENGINEER/ARCHITECT. ANY CONTRACTOR	GENERAL DISTRIBUTION AND UTILIZATION EQUIPMENT SUBSTITUTION OF EQUIPMENT ('OR EQUIVALENT' CLAUSE) MATERIALS OR PRODUCTS SPECIFIED HEREIN AND/OR INDICATED ON DRAWINGS BY TRADE	IT STHE INTENT OF THESE DOCUMENTS TO DESCRIBE AND SHOW A COMPLETE ELECTRICAL SYSTEM. HOWEVER, THE WORK SHALL BE COMPLETE EVEN THOUGH MINOR ITEMS MAY NOT BE SPECIFICALLY CALLED FOR OR SHOWN. THE INSTALLATION MUST MEET ALL GOVERNING CODES AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER AND ALL AGENCIES HAVING JURISDICTION.	EXACT REQUIREMENTS AHEAD OF TIME. HE SHALL PAY THE COSTS OF ANY CUTTING OR PATCHING CAUSED BY HIS FAILURE TO DO SO. ALL SUCH REMEDIAL WORK SHALL BE DONE ONLY BY MECHANICS OF THE TRADES INVOLVED. CONTROLS AND STARTERS FOR AIR CONDITIONERS.	WORK NOT COVERED IN THIS SECTION RECESSES, CHASES, AND OTHER PROVISIONS TO BE MADE IN THE STRUCTURE REQUIRED TO ACCOMMODATE ELECTRICAL WORK, CONDUIT, PANELS, SWITCHES, ETC., SHALL BE PROVIDED BY THE TRADES CONCERNED. THE ELECTRICIAN SHALL, HOWEVER, NOTIFY ALL SUCH TRADES OF HIS	CONTRACTOR MUST BE COORDINATED WITH THE WORK OF ALL OTHER TRADES.	HEREIN OR NOT. S DIRECTED TO THE ARCHITECTURAL AND MENTY AFFECT THE WORK HEREIN THE WORK OF	• RECORD DRAWINGS ALL OTHER ITEMS NOTED HEREIN, SHOWN BY THE ELECTRICAL PLANS, OR REASONABLY TO BE INTERPRETED FROM THE PLANS NECESSARY TO COMPLETE THE ELECTRICAL SYSTEM SHALL BE PROVIDED AND INSTALLED UNDER THE WORK OF THIS DIVISION, WHETHER SAME ARE SPECIFICALLY	CONNECTION OF MOTORS, CONTROL DEVICES AND ELECTRICAL EQUIPMENT FURNISHED BY OTHERS TESTING FINAL ACCEPTANCE/WARRANTY	EM CONDUIT	ARILY LIMITED TO THE FOLLO	SCOPE OF WORK AND GENERAL CONDITIONS THE SCOPE OF THE WORK COVERED HEREIN CONSISTS OF FURNISHING ALL LABOR, MATERIALS, NECESSARY EQUIPMENT AND SERVICES TO COMPLETE THE ELECTRICAL WORK AND RELATED WORK IN FULL ACCORDANCE AS INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN OR BOTH AND SUBJECT
	PLASTIC NAMEPLATE WITH THE IDENTIFICATION NUMBER AS SHOWN ON THE PANEL SCHEDULE SHALL BE MOUNTED ON THE OUTSIDE OF THE DOOR WITH SHEET METAL SCREWS. NAMEPLATE SIZE SHALL BE 3" WIDE X 1-1/2" HIGH WITH 1/2" HIGH ENGRAVING.	- A CIRCUIT DIRECTORY FR TION CARD WITH A CLEAR I SIDE OF THE DOOR. THE CO AS SPECIFIED WHEN IT IS URFR. A LAMINATED BLACK	BREAK, THERMAL MAGNETIC MOLDED CASE OF FRAME SIZE, NUMBER OF POLES AND TRIP RATINGS AS SHOWN ON THE SCHEDULES. NEW CIRCUIT BREAKERS AT EXISTING PANELS SHALL MATCH EXISTING CIRCUIT BREAKER CHARACTERISTICS. ALL MULTI-POLE BREAKERS SHALL HAVE A SINGLE HANDLE TO TRIP ALL POLES AT ONCE. PROVIDE CIRCUIT BREAKERS WITH GROUND FAULT PROTECTION IF REQUIRED. SPARE CIRCUIT BREAKERS SHALL BE LEFT IN THE POSITION	THE SYMMETRICAL SHORT CIRCUIT AMPERES AS INDICATED ON THE PANEL SCHEDULES. SUCH RATINGS SHALL BE ESTABLISHED BY HEAT RISE TESTS, CONDUCTED IN ACCORDANCE WITH U.L. STANDARD 67. BUS STRUCTURE SHALL BE INSULATED. CIRCUIT BREAKERS — CIRCUIT BREAKERS SHALL BE QUICK—MAKE, QUICK—	KEYED ALIKE. PANELBOARDS SHALL BE AS MANUFACTURED BY SQUARE "D", G.E., SIEMENS, OR CUTLER—HAMMER. BUSING ASSEMBLY & TEMPERATURE RISE — PANELBOARD BUS STRUCTURE AND MAIN LUGS OR CIRCUIT BREAKER SHALL BE U.L. LISTED TO INTERRUPT	BE LESS THAN 20" WIDE AND FABRICATED FROM CODE GAUGE STEEL AND WITH A GRAY ENAMEL FINISH. WRE GUTTERING SPACE SHALL BE IN ACCORDANCE WITH U.L. STANDARD 67, AND NEC 373—6 FOR PANELBOARDS. THE PANEL FRONT SHALL BE SURFACE OR FLUSH AS SHOWN ON THE DRAWNG. EACH FRONT SHALL BE EQUIPPED WITH RECESSED HINGES FLUSH LOCK WITH CATCH AND SPRING LOADED DOOR PULL, ALL LOCKS SHALL BE	PANELBOARDS GENERAL — FURNISH AND INSTALL PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE PLANS. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION. ALL PANELBOARDS SHALL NOT	SHALL BE MADE WITH BRONZE GROUND CLAMPS. ALL CONDUIT SHALL HAVE THE GROUNDING CONDUCTOR INSTALLED. CONDUIT USED FOR GROUND IS NOT ACCEPTABLE. INSTALL #6 SOLID CU GROUND FROM SERVICE GROUND TO ANY COMMUNICATIONS BACKBOARDS.	PROVIDE A COMPLETE GROUNDING NETWORK FOR THE ENTIRE ELECTRICAL SYSTEM TO COMPLY WITH N.E.C. REQUIREMENTS. SERVICE NEUTRAL AND EQUIPMENT GROUND SHALL BE CONNECTED AT ONE POINT INSIDE OF THE MAIN DISTRIBUTION PANEL WITH BONDING FROM THIS LOCATION TO DRIVEN GROUND RODS, STRUCTURAL STEEL, BUILDING SLAB REINFORCING STEEL, AND ANY METAL WATER / OTHER PIPING. GROUND CONNECTIONS TO RODS	NCLUDING EQUIPMEN	SERVICE ENTRANCE THE SERVICE ENTRANCE SHALL BE UNDERGROUND FROM THE POWER COMPANY SERVICE POINT, HANDHOLE BY ELECTRICAL CONTRACTOR IF REQUIRED. ENTRANCE METER / EQUIPMENT AS SHOWN ON THE DRAWINGS.	유민요:	"NO EXCEPTION" RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVIEWED, SAID "NO EXCEPTION" DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL; SAID "NO EXCEPTION" DOES NOT IN ANY WAY RELIEVE THE SUBCONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS	\ \), CONTRACTOR'S NAME, AND NAME OF JOB. 1) ITEM IS SUBMITTED, A TABLE OF CONTENTS SHALL INDICATE ALL EQUIPMENT (PROPERLY ITHER WITH MANUFACTURER, COMPLETE CATAL PPROPRIATE. THE TABLE OF CONTENTS SHALL	AND SPECIAL CONDITIONS OF THE	IL MAILMAL REQUIRED TO COM LL MA IEMAL REQUIRED THE SUBCONTRACTOR HAS IN H WINGS FOR THE PARTICULAR MA WINGS SHALL BE COMPLETE AS TOR SHALL BE COMPLETE AS	GH A FIRE BARRIER WILL BE PROTECTE E SAFETY CODE BOOK 101. LL SUBMIT FOR REVIEW DETAILED SHOP	CONSTRUCTION.	• IN ALL AREAS WHERE PIPES ARE EXPOSED, EXTEND SLEEVES 2" • IN ALL AREAS WHERE PIPES ARE EXPOSED, EXTEND SLEEVES 2" ABOVE FINISHED FLOOR. SLEEVES SHALL BE CONSTRUCTED OF SCH. 40 STEEL PIPE. FASTEN SLEEVES SECURELY IN FLOORS AND WALLS SO THAT THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. TAKE PRECAUTIONS TO PREVENT CONCRETE, PLASTER OB OTHER MATERIALS EROM BEING FORCED INTO THE SEASOF BETWEEN BIBES	OVEMENT OF THE CONDUIT. CHECK FLO FINISHES TO DETERMINE PROPER LENG FIONS; MAKE ACTUAL LENGTHS TO SUITE SLEEVES FLUSH WITH WALLS, PARTILS WHERE PIPES ARE CONCEALED, AS IN ABOVE FIOOD	SLEEVES PASSING THROUGH FLOORS SHERE SLEEVES ARE PLACED IN EXTERIC ACE BETWEEN THE CONDUIT AND THE TIGHT. WHERE CONDUIT MOTION DUE TO MILL OCCUR, MAKE SLEEVES OF SUFFICION.	PROVIDED FOR ALL CONDUITS WHERE SLEEVES AND INSERTS WERE NOT INSTALLED, OR WHERE INCORRECTLY LOCATED. THE SUBCONTRACTOR SHALL DO ALL DRILLING REQUIRED FOR THE INSTALLATION OF HIS HANGERS. SLEEVES SHALL BE PROVIDED FOR ALL CONDUITS PASSING THROUGH ABOVE GRADE CONCRETE FLOOR SLABS AND CONCRETE, MASONRY, TILE AND GYPSUM WALL	SLEEVES AND PLATES THE SUBCONTRACTOR SHALL PROVIDE AND LOCATE ALL SLEEVES AND INSERTS REQUIRED BEFORE THE FLOORS AND WALLS ARE BUILT, OR SHALL BE BESSEONSBIE FOR THE COST OF CULTURE AND BATCHING BEOUBEN FOR	NECESSARY TO INSTALL THE WORK SPECIFIED IN THIS SECTION. PATCHING SHALL MATCH ADJACENT SURFACES. NO STRUCTURAL MEMBERS SHALL BE CUT WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER, AND ALL SUCH CUTTING SHALL BE DONE IN A MANNER DIRECTED BY THE STRUCTURAL ENGINEER.	MANUFACTURER. THIS INCLUDES THE PERFORMANCE OF SUCH TESTS AS THE MANUFACTURER RECOMMENDS. CUTTING AND PATCHING THE STREET AND STATE STATE STATE STREET AND DATCHING	HELPERS, AND LABOR REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECTS, WITH ALL SMILLED WITH ADJUST, START, OPERATE AND TEST EACH SYSTEM. UNLESS OTHERWISE SPECIFICALLY INDICATED ON THE PLANS OR SPECIFICATIONS, ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED WITH THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE LABOR OF THE LABOR OF THE STATE AND MATERIALS SHALL BE INSTALLED WITH THE RECOMMENDATIONS OF THE LABOR	TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST CLASS STANDARD ARTICLE, AS APPROVED BY THE ENGINEER, SHALL BE FURNISHED. THE SUBCONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO SHALL BE CONSTANTLY IN CHARGE OF THE INSTALLATION OF THE WORK,	MATERIAL AND WORKMANSHIP ALL MATERIALS AND APPARATUS REQUIRED FOR THE WORK, EXCEPT AS SPECIFICALLY SPECIFIED OTHERWISE, SHALL BE NEW, OF FIRST CLASS QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL AND SHALL BE SO SELECTED AND ARRANGED AS
	LIGHTING CONTROLS PROVIDE TIME CLOCK FOR EXTERIOR LIGHTING CONTROL. TIME CLOCKS SHALL PROVIDE TIME CLOCK FOR EXTERIOR LIGHTING CONTROL. TIME CLOCKS SHALL PROVIDE THE CARRYOVER BE 7-DAY, 24-HOUR MECHANICAL OR ELECTRONIC WITH CARRYOVER PROVISIONS FOR A MINIMUM OF 16 HOURS. PROVIDE A PHOTOCELL SHALL AUTOMATIC SWITCHING IN LOW LIGHT CONDITIONS (DUSK). PHOTOCELL SHALL BE RATED FOR REQUIRED LOAD AND VOLTAGE WITH BUILT IN DELAY FOR TRANSIENT LIGHT FLASHES AND LIGHT LEVEL ADJUSTMENT. MOUNT WHERE SHOWN ON THE PLANS.	THE ELECTRICAL CONTRACTOR SHALL SUPPLY, INSTALL, WIRE AND CONNECT ALL LUMINAIRES AND LAMPS AS SHOWN ON THE FIXTURE SCHEDULE. AT THE TIME OF SUBSTANTIAL COMPLETION, ELECTRICAL CONTRACTOR SHALL WIPE CLEAN OF DUST, DEBRIS, FINGERPRINTS, ETC. ALL LUMINARIES LENSES, LOUVERS, AND REFLECTORS AND REPLACE ANY LAMPS NOT OPERATING.	IRING DEN	TH NEMA CONFIGURATION 5-20R. LUTH-OUTLET ASSSEMBLY: INSTALL SURFACE MULTI-OUTLINGMOLD) WHERE INDICATED ON THE PLANS. SYSTEM SIPPLICE NON-METALLIC WITH RECEPTACLES AT SPACINGS E PLANS. PROVIDE ALL MOUNTING HARDWARE, FEEDS, EIGHT AS NOTED.	HEAVY—DUIT DUPLEX RECEPTACLES, CAPABLE OF PROJECTING CONNECTED DOWNSTREAM RECEPTACLES ON SINGLE CIRCUIT, AND OF BEING INSTALLED IN A 2-3/4" DEEP OUTLET BOX WITHOUT ADAPTER, GROUNDING TYPE UL-RATED CLASS A, GROUP 1, RATED 20-AMPERES, 120-VOLTS, 60 HZ; WITH SOLID-STATE GROUND-FAULT SENSING AND SIGNALING: WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL: FOUIP	125-VOLTS, WITH METAL PLASTER EARS, DESIGN FOR SIDE AND BACK WIRING WITH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE, WITH NEMA CONFIGURATION 5-20R UNLESS OTHERWISE INDICATED. 3. GROUND-FAULT INTERRUPTER: PROVIDE SPECIFICATION GRADE "FEED-THRU" TYPE GROUND-FAULT CIRCUIT INTERRUPTERS, WITH	TH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE, WITH NINFIGURATION 5-20R UNLESS OTHERWISE INDICATED. VERIFY NEM. PE AND RATING FOR MULTI-POLE RECEPTACLE APPLICATIONS. AVY-DUTY DUPLEX: PROVIDE SPECIFICATION GRADE HEAVY-DUTY DIPLEX: PROVIDED SPECIFICATION GRADE PROVIDED SPECIFICATION GRAD PROVIDED SPECIFICATION GRAD PROVIDED SPECIFICATION GRAD PROVIDED SPECIFICATION GRAD PROVIDE	B — RECEPTACLES: 1. HEAVY—DUTY SINGLE: PROVIDE SPECIFICATION GRADE SINGLE 1. HEAVY—DUTY TYPE RECEPTACLES, 2—POLE, 3—WIRE, GROUNDING, WITH GREEN HEXAGONAL EQUIPMENT GROUND SCREW, 20—AMPERES, 125 VOLTS, WITH METAL PLASTER EARS; DESIGN FOR SIDE AND BACK WIRING	INTAIN FULL RATING OF DIMMER. DO NOT PARATE CIRCUITS CONNECTED TO DIMMERS. BES SHALL HAVE KEYED OPERATION IF INDIFES SHALL BE KEYED ALIKE. JES SHALL HAVE PILOT LIGHT INTEGRAL WITTED ON THE PLANS.	MERS	STANCE ST	RS, S	THE EXTENT OF WRING DEVICE WORK IS INDICATED BY DRAWINGS AND SCHEDULES. PROVIDE FACTORY FABRICATED WIRING DEVICES, IN TYPES AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATED. PROVIDE WHITE COLORED DEVICES EXCEPT AS OTHERWISE INDICATED, FINAL COLOR SELECTION TO BE VENIED BY CONTRACTOR WITH ARCHITECT.	WITH SITY. SEQUIP	BUTION SYSTEM. ALL WIRE FILLS FOR CONDUIT SHOWN O NGS ARE BASED ON THW WIRE UNLESS NOTED OTHERWIS- ICTORS OF #8 AWG AND LARGER ARE TO BE STRANDED. ICTOR SIZE TO BE #12 AWG. CONDUCTORS FOR FEEDERS RICALLY CONTINUOUS. SPLICES ARE TO BE MADE ONLY II ON OR OUTLET BOXES. SPLICES ON #12 AND #10 WIRE	CTORS TED COPPE	CABLE IS ALLOWED FOR THE PROJECT MC CABLE MA EXPOSED LOCATIONS FOR BRANCHING TO FIXTURES AND INTO SERVING MC CABLE BRANCHES SHALL BE EMT VICTORS. DO NOT USE MC CABLE BELOW GRADE. SECURIFOLIRFMENTS.	DUIT 1-1/4 RICAL DEVIC IM SIZES RE REMENTS. LA BE PERMIT	ES ARE TO BE PROVIDED WHERE CONDUIT PASSES TH RUCTION AS IDENTIFIED IN OTHER PARTS OF THIS SE NTING BUSHINGS WITH DOUBLE LOCK—NUTS SHALL BE	POURED CONCRETE ABOVE GRADE NOT EXPOSED TO MOISTURE, AND EXPOSED INTERIOR WIRING NOT SUBJECT TO PHYSICAL DAMAGE. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, OR CEILINGS IN FINISHED AREAS. CONDUIT SHALL NOT BE EXPOSED EXCEPT WHEN ABSOLUTELY NECESSARY AND SHALL BE STRAIGHT AND PARALLEL TO BUILDING LINES. CONDUIT SHALL BE PROTECTED AGAINST DAMAGE AND ENTRANCE OF WATER, DIRT OR FOREIGN MATTER DURING CONSTRUCTION WITH WATERTIGHT CAPS.	BE WATERTIGHT AT LOCATIONS EXPOSED TO MOIST ES SHALL BE CONNECTED WITH A MAXIMUM 7' LENI IIT. TO BE USED FOR INTERIOR WIRING IN WALLS, ABO	ED EXTERIOR WIRING SHALL BE GALVANIZED IN ARE TO BE MADE WATERTIGHT.	FLEXIBLE CONDUIT, OR SCH. 40 PVC. WHERE CONDUIT TYPE IS NOT NOTED ON THE PLANS, TYPE SHALL BE AS PER THIS SPECIFICATION. SCHEDULE 40 PVC CONDUIT IS TO BE USED FOR UNDERGROUND SERVICE ENTRANCES, UNDERGROUND WIRING, UNDER SLAB WIRING, AND ALL NOW EXPOSED WIRING OF THE DINC.	SLASS J OR CLASS R FUSES, SHALL BE A MINIMUS AMMETRICAL. JATED WIRING IS TO BE INSTALLED IN GALVANIZEI	ALL FUSIBLE SWITCHES RATED 100 THROUGH 600 AMPERES AT 240 VOLTS SHALL HAVE THE CAPABILITY OF FIELD CONVERSION FROM STANDARD CLASS H FUSE SPACING TO CLASS J FUSE SPACING WITHOUT AFFECTING THE U.L. LISTING. THE SWITCH ALSO MUST ACCEPT CLASS R FUSES AND HAVE A FIELD INSTALLABLE U.L. LISTED REJECTION FEATURE TO REJECT ALL FUSES FXCFPT CLASS R U.L. LISTED SHORT CIRCUIT RATINGS. WHEN FOUILPEED	IL UNLESS NOTED OTHERWISE. SS - SWITCHES SHALL BE HORSEPOWER RATED F E DRAWINGS. ALL SWITCHES SHALL MEET I SQUA	CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER, WITH POSITIVE PADLOCKING PROVISIONS IN THE "OFF" SWITCH ENCLOSURES SHALL BE FURNISHED IN NEMA TYPE SPECIFIED ON THE PLANS. ALL EXTERIOR OR WET LOCATION SWITCHES SHALL BE A MINIMIUM NEMA 3R WHETHER INDICATED AS SUCH OR NOT OR AS SPECIFIED. FINISH OF ENCLOSURE SHALL BE GRAY BAKED	CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION AND PROMOTE COOL OPERATION. SWITCHES SHALL BE QUICK—MAKE, QUICK—BREAK SUCH THAT, DURING NORMAL OPERATION OF THE SWITCH, THE OPERATION OF THE CONTACTS SHALL NOT BE CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE	DISCONNECT SWITCHES EQUIPMENT DISCONNECT SWITCHES SHALL BE SQUARE "D", G.E., SIEMENS, OR CUTLER—HAMMER GENERAL SWITCHES AS LISTED BY UNDERWRITER'S LABORATORIES, INC. ALL SWITCHES SHALL HAVE SWITCH BLADES WHICH ARE FILLY VISIBLE IN THE "OFF" POSITION WITH THE DOOR OPEN. ALL CURRENT
ELECTRICA	DIAGRAM FOR MINIMUM CONDUIT SIZE), AND SHALL BE INSTALLED IN ACCORDANCE WITH NEC AND NFPA REGULATIONS #72A, B AND C. WIRING SHALL BE PROPERLY IDENTIFIED AND COLOR CODED. RACEWAY SHALL BE PAINTED RED AT SET INTERVALS. PROVIDE FINAL WIRING CONNECTION TO ALL SYSTEM COMPONENTS.	ND MANUAL IN HA HOW DEVICES, INCLUDING FIRE S. "FAAP" SHALL INCLUDE A MULTI-LINE, BACKLIT LE GRAMMING AND SYSTEM STATUS DISPLAY, "FAAP" SH ME MANUFACTURER AS THE "FACP". DE INCENTION OF THE STATUS DISPLAY. DISPLAY.	ATOR PANEL: LARM (REMOTE) ANNUNCIATOR GRAM AND/OR FLOOR PLANS "FACP". "FAAP" SHALL BE (MING OF ALL SYSTEM OPERAL	BACKUP FOR AT LE, BE CAPABLE OF ENE AT LEAST FIVE MINU	FACE SHALL PROVIDE GROUND FAULI SUPERVISION OF ALL SYSTEM WIRING AND SHALL PROVIDE BOTH AUDIBLE AND VISUAL TROUBLE INDICATION OF MALFUNCTIONS. FACE SHALL MONITOR ALL FIRE ALARM SYSTEM COMPONENTS, INCLUDING BATTERY, AND SHALL PROVIDE BOTH AUDIBLE AND VISUAL TROUBLE	IDE TRANSIENT VOLTAGE SURGE SUPPRE INCLUDING POWER AND TELEPHONE LINES, DIBLE AND VISUAL TROUBLE INDICATION	UDE A DIGITAL ALARM COMMUNICATION SEIZURE CIRCUITRY.	FACE SHALL PROVIDE SUPERVISION OF ALL AUTOMATIC AND MANUAL INITIATION DEVICES, INCLUDING FIRE SPRINKLER DEVICES. FACE SHALL OPERATE ALL NOTIFICATION APPLIANCES. FACE SHALL INCLUDE A MULTI-LINE. BACKLIT LCD DISPLAY FOR PROGRAMMING AND SYSTEM STATUS	72 REQUIREMENTS. ROL PANEL (FACP): HE ADDRESSABLE, MOD LOOPS AND 4 NOTIFICA CAPABILITY TO ADD MU ABBLIANCE CIBCLITS	INSTRUCTIONS IN LOCATIONS AND QUANTITIES AS SHOWN ON THE RISER DIAGRAM AND FLOOR PLANS. INSTALLATION SHALL COMPLY WITH NEC, NFPA, STATE AND LOCAL CODES AND ORDINANCES, AND THE "AHJ". INSTALLATION SHALL BE BY A FLORIDA CERTIFIED FIRE ALARM SYSTEMS CONTRACTOR (EF). THE COMPLETE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH	ON THE INPUT POWER LINE WITH AUTOMATIC SWITCH OVER TO BATTERY BACKUP. INSTALLATION: FIRE ALARM SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S PRINTED	UPON SILENCING. THE INPUT POWER SHALL BE 120 VOLTS, INDIVIDUALLY FUSED PER NEC ARTICLE #760 OF NFPA STANDARD. OPERATING POWER SHALL BE A SINGLE POWER SOURCE OF 24 VOLTS D.C., FILTERED AND REGULATED WITHIN 10% OF THE NORMAL RATING WITH CAPACITY TO POWER THE CONNECTED LOAD(S). CONTROL PANEL SHALL BE DOUBLE SUPERVISED THE CONNECTED LOAD(S).	OPERATION: ACTIVATION OF ANY INITIATION DEVICE SHALL CAUSE ALL NOTIFICATION APPLIANCES (VISUAL, AUDIO, AND VOICE EVACUATION DEVICES) TO OPERATE CONTINUOUSLY OR AS PRE-PROGRAMMED. ALARM DEVICES SHALL BE SILENCED ONLY BY ZONE AND PROVIDE NON-INTERFERING AND SUCCESSION	JURISDICTION (AHJ). CONTRACTOR SHALL PROVIDE ALL REQUIRED DRAWINGS, JURISDICTION (AHJ). CONTRACTOR SHALL PROVIDE ALL REQUIRED DRAWINGS, SUBMITTALS AND COMPONENT SAMPLES (IF REQUESTED) TO THE "AHJ". ALL COMPONENTS SHALL BE NEW, FROM THE SAME MANUFACTURER AS THE FIRE ALARM CONTROL PANEL (FACP) AND LISTED BY UNDERWRITERS' LABORATORIES (UL) FOR FIRE ALARM USE.	SYSTEM: AS FURNISH AND INSTALL) ALL LABOR, MATERIALS, SERVICES REQUIRED TO PROVIDE AN ELECTRONICALLY LARM SYSTEM AS INDICATED ON THE DRAWINGS, AS	DRAWINGS SHALL BE NO SMALLER THAN THE PLANS.	THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ACTUAL CONDITIONS THE CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ACTUAL CONDITIONS INCLUDING DEVICE LOCATIONS AND CONDUIT RUNS WHERE DIFFERENT FROM THE PLANS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A REPRODUCIBLE SET OF PLANS OF THE COMPLETE ELECTRICAL AND FIRE ALARM SYSTEMS AS INSTALLED (AS BUILT DRAWINGS). THE SCALE ON	VARRANTY FROM THE DATE OF FINAL ACCER RACTOR SHALL PROVIDE ALL OF THE ABOVE A WRITTEN STATEMENT ALONG WITH EQUIPWARRANTIES.	RIALS, EQUIPMENT AND LABOR FURI	AND OTHER AUTHORIZED PERSONS WITH THE ELECTRICAL CONTRACTOR. THE INSPECTION SHALL BE TO CHECK ALL PANELS ARE COMPLETE WITH NAMEPLATES AND CIRCUIT DIRECTORIES, ALL LUMINAIRES ARE PROPERLY CLEANED AND LAMPED, AND THAT ALL WORKMANSHIP HAS BEEN DONE IN A PROFESSIONAL MANNER. FINAL ACCEPTANCE OF THE PROJECT SHALL NOT PREJUDICE THE OWNER'S RIGHT TO REQUIRE REPLACEMENT AND/OR REPAIR OF ANY DEFECTIVE WORK OR MATERIALS.	DE MEGGER TESTS IN ACCORD S. E	SHALL DEMONSTRATE THAT IT SYSTEM FUNCTIONS PROPERLY. THROUGHOUT, THAT IT IS FREE FROM GROUNDS AND SHORTS, AND THAT ALL REQUIREMENTS HEREIN HAVE BEEN COMPLIED WITH. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND BERSONNEL FOR TESTS SHALL BE AS EDESCRIBED BY THE ENGINEER	PROJECT CLOSEOUT IESTING THAT ALL WORK HAS BEEN COMPLETED. WHEN SO DIRECTED, THE ELECTRICAL CONTRACTOR SHALL CONDUCT AN OPERATING TEST IN THE PRESENCE OF THE FUCINEER AND OTHER ALLTHORIZED PERSONS. TESTS	H RATED WALLS, FROM FLOOR OR STUB-U. INSTALL PULL STRINGS IN ALL CONDUIT. ALL OUTLET LOCATIONS.	PROVIDE CONDUIT AND BOXES FOR SYSTEMS AS INDICATED ON THE PLANS PROVIDE CONDUIT AND BOXES FOR SYSTEMS AS INDICATED ON THE PLANS INCLUDING OUTLETS, SERVICE ENTRANCE, AND DISTRIBUTION. DEVICES SHALL BE INSTALLED BY OTHERS. INSURE THERE IS AN ACCESSIBLE PATH FROM ALL OUTLETS TO THE RESPECTIVE HEAD END LOCATION INCLUDING A CONDUIT PATH ABOVE INACCESSIBLE CEILINGS. EXTEND CONDUIT FROM	IARTERS, CONTROL DEVICES AND PANELS OTHER TRADES FOR REQUIREMENTS. A / TELEVISION SYSTEM CONDUIT	SHORT AS POSS SHORT AS POSS BY OTHERS R SHALL PROVID TO CONNECT ELE	AT DISTRIBUTION PANELS	EXHAUST FAN CONTROLS PROVIDE TIME DELAY OFF RELAYS FOR EXHAUST FANS CONNECTED TO SWITCHED LIGHTING FIXTURES. INSTALL RELAY IN BOX ADJACENT TO THE FAN CONTROLLED. EXHAUST FAN SHALL RUN FOR AN ADDITIONAL 10 MINUTES AFTER THE SWITCH IS IN THE OFF POSITION. INSTALL AND WIRE
L SPECIFICATIONS																FICIAL ANTS	OPERATION SHALL BE REQUIRED PRIOR TO ACCEPTANCE BY THE OWNER. SYSTEM GUARANTEE: ALL COMPONENTS, PARTS AND ASSEMBLIES SUPPLIED BY THE MANUFACTURER SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS	SYSTEM TEST: THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PERFORM A QUALITY INSPECTION OF THE FINAL INSTALLATION AND, IN THE PRESENCE OF THE ELECTRICAL CONTRACTOR, FIRE MARSHAL AND OWNER'S REPRESENTATIVES, SHALL PERFORM A COMPLETE FUNCTIONAL TEST OF THIS SYSTEM. A SYSTEM CERTIFICATION VERIFYING THE PROPER SYSTEM	FOR FIRE ALARM USE BY UNDERWRITERS' LABORATORIES, INC. THE HORNS SHALL BE FLUSH MOUNTED AS INDICATED ON THE PLANS WITH AN APPROPRIATE FLUSH ENCLOSURE PROVIDED BY THE MANUFACTURER.	NOTIFICATION APPLIANCES: ALARM HORNS AND STROBE LIGHT SHALL BE THE MANUFACTURER'S STANDARD SERIES. HORNS SHALL BE OF THE VBRATING TYPE AND LISTED STANDARD SERIES. HORNS SHALL BE OF THE VBRATING TYPE AND LISTED	BASE ASSEMBLY, HAVING SCREW TERMINALS FOR EXTERNAL WIRE CONNECTIONS. AREA COVERAGE SMOKE DETECTORS SHALL BE WIRED ON A TWO-WIRE INITIATING CIRCUIT. THIS TWO-WIRE CIRCUIT SHALL PROVIDE POWER TO THE	FEATURE SHALL PROVIDE INDIVIDUAL LOCAL TESTING OF THE DETECTOR AND SHALL NOT REQUIRE GENERATION OF ACTUAL SMOKE WITHIN THE BUILDING. FOR EASE OF MAINTENANCE AND INSTALLATION, DETECTOR HEADS SHALL BE DESIGNED FOR TWISTLINGS TO A SEPARATE DETECTOR HOLISING.	REMOTE LED ALARM INDICATOR SHALL BE CONNECTED TO THE DETECTORS WHERE SHOWN ON THE PLANS. A CALIBRATED TEST FEATURE SHALL BE PROVIDED, CAPABLE OF SIMULATING A MAXIMIM ACCEPTABLE AMOUNT OF SMOKE FOR ALARM. THE TEST	INDICATOR. THE DETECTOR SHALL BE DESIGNED TO LATCH INTO ALARM FOLLOWING A THREE TO FOUR SECOND SIGNAL PROCESSING DELAY VERIFYING THE CONTINUED PRESENCE OF SMOKE WITHIN THE SENSING CHAMBER. AN ALARM CONDITION SHALL BE INDICATED BY A STEADY RED GLOW FROM THE LED INDICATOR.	DETECTOR SHALL BE LISTED BY UL AND APPROVED BY FACTORY MUTUAL UNDER CURRENT STANDARDS FOR PHOTO—ELECTRONIC TYPE SMOKE DETECTORS. DETECTOR SHALL BE EQUIPPED MITH A PULSED LED POWER SUPERVISORY	CONTROL PANEL SHALL ACCEPT 2-WIRE, 24V D.C. SMOKE DETECTORS WHICH UTILIZE THE SAME PAIR OF WIRES FOR POWER AND INITIATING CIRCUIT INTERFACE.	DETECTOR SHALL BE PHOTOELECTRIC, SOLID STATE AND OPERATE ON THE DETECTOR SHALL BE PHOTOELECTRIC, SOLID STATE AND OPERATE ON THE LIGHT SCATTERING/PHOTODIODE PRINCIPLE. DETECTOR SHALL BE FACTORY CALIBRATED TO DÉTECT SMOKE AT A NOMINAL 1.5% PER FOOT LIGHT OBSCURATION. COMPONENT SHALL BE FROM THE SAME MANUFACTURER AS THE "FACP".	CAPABLE OF BEING TESTED WITHOUT BREAKING OR REMOVING THE BREAK GLASS ROD. WHERE THE STATIONS ARE TO BE SURFACE MOUNTED, THE ENCLOSURES SHALL BE PROVIDED BY THE MANUFACTURER. COMPONENT SHALL BE FROM THE SAME MANUFACTURER AS THE "FACP".	INITIATION DEVICES: MANUAL FIRE ALARM (PULL) STATIONS: PULL STATIONS SHALL BE NON-CODED, DUAL ACTION, PULL LEVER TYPE. DEVICES SHALL BE COMPATIBLE WITH AUTOMATIC DETECTION DEVICES. THE MANUAL STATIONS SHALL BE OF BEACK GLASS TYPE AND SHALL BE MANUAL STATIONS SHALL BE OF BEACK GLASS TYPE AND SHALL BE

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Tel: (941) 748-5884 Fax: (941) 747-6240 E-Mait fei@forneyengineering.com DESIGNED___PJF___ DRAWN__PJF__ CHECKED___PJF JOB. NO.09-2186 SCALE_AS_SHOWN_DATE__11-23-09 COPYRIGHT 2008, FORNEY ENGINEERING, INC. ALL RIGHTS RESERVED C.O.A. * 00004049

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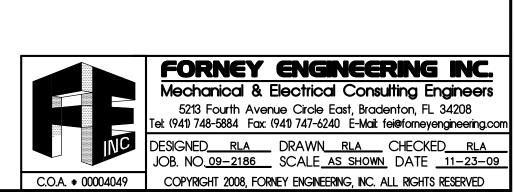
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ELECTRICAL SPECIFICATIONS

25. ALL ROOF ATTACHED EQUIPMENT AND APPURTENANCES INCLIDED IN THE SCOPE OF THIS PROJECT ARE REQUIRED TO BE SEQUED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTERING SYSTEMS SHALL BE DESIGNED TO WITHSTAND, A 130 MPH WIND LOAD, ALL ROOF MOUNTED COLUMBENT SHALL BE DESIGNED TO WITHSTAND. A 130 MPH WIND LOAD, ALL ROOF MOUNTED EQUIPMENT SHALL BE DESIGNED TO WITHSTAND. A 130 MPH WIND LOAD, ALL ROOF MOUNTED EQUIPMENT SHALL BE DESIGNED TO WITHSTAND TO WITHSTAND TO SHOW APPROVED ROOFING CONTRACT ITS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS SER PROVIDED WITH ALL NECESSARY EQUIPMENT. APPURTENANCES, AND CONTROLS, COORDINATE WITH ALL OTHER DISCIPLINES. ALL DEADER FOR COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL APPURABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ALL RELEAS AND LABOR REQUIRED FOR COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL APPURABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ALL APPURABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS AND SHALL COORDINATE WITH ALL APPURABLE FOR CONFERENCE SHALL RECHANGES, SURPLUS AND SHALL COORDINATE WITH ALL APPURABLE FOR CONFERENCE SHALL RECHANGES, SURPLUS AND SHALL CONFORMED WITH ANY THE TRANS AND LABOR REQUIRED FOR CONFERENCE SHALL SHOULD BE TO THE CONTRACT SHALL RECOVER SHALL BE TROVIDED WITH ANY THE RADES WHILE PREPARING THE MECHANICAL SYSTEMS INCLUDING SOOF FLOOR PRIVATE BENEFIC TO HE CONTRACT TO THE CONTRACT SHALL BENDED AND THE STANDED OVER TO THE OWNER. 28. WHEN COMPLICTS OCCUR IN SPECIFICATIONS ON IN THE DRAWNOS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED WITH A STRUCTURAL AND ELECTRICAL SYSTEMS INCLUDING ROOF-FLOOR PRIVATE AND SHALL PROVIDE AND INSTALL BLANCES SAND SHALL PROVIDE AND INSTALL BLANCES AND SHALL PROVIDE AND ANSTALL BLANCES AND SHALL PROVIDE AND ANSTALL BLANCES OF THE SHALL SHALL BLANCES OF THE SHALL BLANCES OF THE SHALL BLANCES OF THE SHALL BLANC	SECTION LETTER DRAWING NUMBER WHERE DRAWN POINT OF INTERFACE BETWEEN NEW & EXISTING POINT OF DEMOLITION POINT OF INTERFACE BETWEEN CONTRACTORS	4-WAY AIR FLOW		H HUMIDITY HB HOSE BIBB HC HEATING COIL
ALL ROOF ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT ARE REQUIRED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SYSTEMS SHALL BE DESIGNED TO MITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHALL MOUNTED TO MITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHALL MOUNTED TO MITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHALL MOUNTED TO MITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATION AS RECOMMENDED BY THE MANUFACTURER. WATERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS BE PROVIDED WITH ALL MECESSARY EQUIPMENT. APPURTENANCES, AND CONTROLS, COORDINATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED THESE DOCUMENTS SHALL BE FROVIDED MITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACT TO THE OWNER. UPON COMPLETION OF HIGHER COST SHALL SECONDATE WITH OTHER TRADES WHILE PREPARING THE TOMER AND SHALL COORDINATE ALL DUCTWORK, AND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER. OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED. CONTRACTOR SHALL COORDINATE ALL DUCTWORK, PIPING, PLUMBING AND FIRE PROTECTION PIPING WITH SITUATIONAL AND ELECTRICAL SYSTEMS INCLUDING ROOF/FLOOR PENETRATIONS AND SHALL PROVIDE AND INSTALL ALL NECESSARY OFFSETS OR FITTINGS REQUIRED TO AVOID CONFLICTS AND MAINTAIN EQUIPMENT ACCESS AND SERVICEABILITY.	m m ~	——————————————————————————————————————		H HUMIDITY H HOSE BIBB
ALL ROOF ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT ARE REQUIRED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SYSTEMS SHALL BE DESIGNED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SYSTEMS SHALL BE DESIGNED TO THE MINISTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHAM MOUNTED ON FACTORY FABRICATED ROOF CURBS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS RECOMMENDED BY THE MANUFACTURER. WATERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING. IT IS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ALL OTHER DISCIPLINES. AND THESE CONTRACT DOCUMENTS SHALL BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACT OF THE WORK UNDER THIS CONTRACT. THE CONTRACTS SHALL BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACT OF RECHANICAL SHOP DRAWINGS. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIALS, AND SCRAP. BE REMOVED SHALL BE TURNED OVER TO THE OWNER. WHEN CONFLICTS OCCUR IN SPECIFICATIONS OR IN THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED. CONTRACTOR SHALL COORDINATE ALL DUCTWORK, PIPING, PLUMBING AND FIRE PROTECTION PIPING WITH STRUCTURAL AND ELECTRICAL SYSTEMS INCLUDING ROOF/FLOOR PENETRATIONS AND MAINTAIN EQUIPMENT TO AVOID CONFLICTS AND MAINTAIN EQUIPMENT.	m ~	——————————————————————————————————————		GR GRAINS
ALL ROOF ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT ARE REQUIRED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SYSTEMS SHALL BE DESIGNED TO WITHSTAND A 130 MPH WIND LOAD, ALL ROOF MOUNTED EQUIPMENT SHALL MOUNTED ON FACTORY FABRICATED ROOF CURBS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS RECOMMENDED BY THE MANUFACTURER. WATERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS BE PROVIDED WITH ALL OTHER DISCIPLINES, ALL PARAMETERS INDICATED THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACT TO THE CONTRACT ON THE CONTRAC	A SECTION LETTER M5 DRAWING NUMBER WHERE DRAWN	——————————————————————————————————————		OD AINIO
INTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT DERLYING BUILDING STRUCTURE. THE FASTENING ID A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHAIDLERS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS ITERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING AT AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS ICAL SYSTEMS BE PROVIDED WITH ALL NECESSARY EQUIPMENT. ATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED HYDRIAD WITH. ANY ITEMS AND LABOR REQUIRED FOR COMPLETI ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES WHILE PREPARING THE HALL COORDINATE WITH OTHER TRADES WHILE PREPARING THE STAND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO THE OWNER.		_		GPH GALLONS PER HOUR GPM GALLONS PER MINUTE
INTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT DERLYING BUILDING STRUCTURE. THE FASTENING DERLYING BUILDING STRUCTURE. THE FASTENING DERLYING BUILDING STRUCTURE. THE FASTENING ID A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHAIDLERS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS TERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING TERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING ICAL SYSTEMS BE PROVIDED WITH ALL NECESSARY EQUIPMENT. ATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED INFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR COMPLETE ALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT HALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT SHALL COORDINATE WITH OTHER TRADES WHILE PREPARING THE	M5 DRAWING NUMBER WHERE DRAWN	DG DOOR GRILLE (18"X12" U.O.N.)		₿
PRTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT DERLYING BUILDING STRUCTURE. THE FASTENING DERLYING BUILDING STRUCTURE. THE FASTENING DERLYING BUILDING STRUCTURE. THE FASTENING STRUCTURES AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS CITERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING TERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING ATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED NIFORMED WITH. ANY ITEMS AND LABOR REQUIRED FOR COMPLETE HALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT AND APPLICABLE CODES STANDARDS, AND THESE CONTRACT.	DRAWING SYMBOLS	HS HUMIDITY SENSOR UC UNDERCUT (1" UON)		GA GAGE GAL GALLONS
PREVANCES INCLUDED IN THE SCOPE OF THIS PROJECT DERLYING BUILDING STRUCTURE. THE FASTENING DERLYING BUILDING STRUCTURE. THE FASTENING ID A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHAID A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT OF INTERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING TERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS ICAL SYSTEMS BE PROVIDED WITH ALL POSSIBLE CONDITIONS ICAL SYSTEMS BE PROVIDED WITH ALL POSSIBLE CONDITIONS	— <u>RPZBP</u> — REDUCED PRESSURE ZONE BACK FLOW PREVENTER	CARBON DIOXIDE SENSOR		FPM FEET PER MINUTE
ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT RED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SHAIL BE DESIGNED TO WITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHAI ON FACTORY FABRICATED ROOF CURBS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS ON FACTORY FABRICATED ROOF CURBS AND SHALL BE PROVIDED BY AN APPROVED ROOFING	**************************************	TEMPERATURE / HUMIDITY SENSOR		FPI FINS PER NOCH FPF FINS PER FOOT
ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SIRED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE.		(TS) TEMPERATURE SENSOR		FL FLOOR
TOOLATE THE OVER AN AND THAT AND AN AND THE PARTY THE PA	PRESSURE GAGE	THERMOSTAT		FLD FLOOR DRAIN
24. ROUTE FULL SIZE (MIN. 1") COPPER DRAIN PIPE FROM EACH AHU DRAIN PAN AS SHOWN ON PLAN.	THERMOMETER	YANE TURN ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF		FCU FAN COIL UNIT
23. PROVIDE DRAIN P-TRAPS IN THE CONDENSATE LINES AT ALL AIR HANDLING UNITS.	——II—————FLANGE	STANDARD RADIUS ELBOW		
OF THE STRUCTURE. COORDINATE ELEVATION AND LOCATION WITH RAIN LEADERS, WATER PIPING, PLUMBING VENTS, AND MAJOR ELECTRICAL CONDUITS OR CABLE TRAY.		VANED ELBOW (SHORT RADIUS)		EWC ELECTRIC WATER COOLER
SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS OF MECHANICAL SEE CONTROL OF MECHANICAL S	RIS	OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)		т і
BALANCING DAMPERS.	- CAF	VANED FIBOW (BBOY) OF ALL SOLIABE	WCO WALL CLEANOUT	EL ELEVATION
CEILING MOUNTED AIR DISTRIBUTIO	SID	MD NOTOBIZED DAMBER	WB WET BULB	EF EXHAUST FAN
19. COORDINATE THE TYPE AND LOCATION OF ALL DIFFUSERS, GRILLS, REGISTERS, ACCESS DOORS, ETC., WITH THE	- BC	DUCT HEATER	VTR VENT THRU ROOF W WASTE	EER ENERGY EFFICIENCY RATIO
18. PORTIONS OF DUCTWORK VISIBLE THROUGH GRILLS, REGISTERS, AND DIFFUSERS IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.		FIRE / SMOKE DAMPER © SMOKE DETECTOR	× _A	EAT ENTERING AIR TEMPERATURE
E) DUCT WRAP INSULATION — NOTED ABOVE MUST COMPLY WITH THE 2004 FLORIDA ENERGY EFFICIENCY CODE. THE INSULATION MUST HAVE A MINIMUM INSTALLED $R=6.0.$		YF/S SMOKE DAMPER	V _A F	EA EXHAUST AIR
AND OUTSIDE AIR DUCT - GALVANIZED SHEET METAL, NON-I	•	FIRE DAMPER	VAV VARIABLE AIR VOLUME	
FLEXIBLE ROUND DUCTS - FLEXIBLE, WIRE REINFORCED DUCT WITH EXTERNAL INSULATION	I I	▼ FD LOUVER	VAC VACUUM	DP DEW POINT
A) RECTANGULAR DUCTS — GALVANIZED SHEET METAL WITH A MINIMUM 2" THICK, 1# DENSITY EXTERNAL DUCT WRAP. B) RIGID ROUND DUCTS — GALVANIZED SHEET METAL WITH A MINIMUM 2" THICK, 1# DENSITY EXTERNAL INSULATION.	'	FLEXIBLE CONNECTION	V VENT	
TERMINAL UNITS, 1" PRESSURE CLASS FOR RETURN, SEAL CLASS "A" AND TH	'			DIA DIAMETER
17. DUCTWORK IS TO BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA MANUALS TO 2" PRESSURE	' '	III. R. II. INCLINED RISE, IN DIRECTION OF AIR FLOW	UG UNDERGROUND	DG DOOR GRILLE
HANDLING UNITS UPON FIRE ALARM ACTIVATION. COORDINATE WITH FIRE ALARM CONTRACTOR ACCORDINGLY. WHEN AIR HANDLING UNITS SHUT DOWN FOR FIRE ALARM OR MAINTENANCE, INTERLOCKED EXHAUST FANS SHALL ALSO SHUT DOWN.	MOTOR OPERATED GLOBE VALVE	ACOUSTICALLY LINED DUCT	UC UNDERCUT	
16. AIR HANDLING UNITS SHALL BE SHUT DOWN BY THE FIRE ALARM SYSTEM. WIRE THROUGH FIRE	1	### MANUAL VOLUME DAMPER	TYP TYPICAL	DEG DEGREE
15. MOUNT THERMOSTATS AND TEMPERATURE SENSORS WHERE INDICATED ON PLANS, AT 48" CL. A.F.F. UNLESS NOTED OTHERWISE. SEE INTERIOR DRAWINGS AND MECHANICAL DRAWINGS FOR LOCATION WHERE THERE IS A CONFLICT OF LOCATIONS BETWEEN THE DRAWINGS. NOTIFY THE ARCHITECT IMMEDIATELY.	ANGLE GLOBE VALVE	DUCT TRANSITION (RECTANGULAR TO ROUND)	큠	DB DRY BULB DDC DIRECT DIGITAL CONTROL
THE FLORIDA ENERGY CODE.	'	DUCT SIZE TRANSITION (ECCENTRIC) (SINGLE LINE)	ST	CWS CONDENSER WATER RETURN
14. ALL INSULATION SHALL BE FIRE RATED IN ACCORDANCE WITH ASHRAE 90A 50/25 SMOKE	l	SINGLE LINE)	Ω 9	CWR CONDENSER WATER RETURN
PURPOSES THROUGH ASSEMBLIES (FLOORS, ROOF, WALLS, PARTITIONS, ETC.) WITH A REQUIRED FIRE RESISTANCE RATING FIRE STOP MATERIAL. FIRE STOP SEALANTS SHALL BE UL LISTED. APPLY FIRE STOP AS RECOMMENDED BY THE MANUFACTURER AND IN ACCORDANCE WITH ITS LISTING TO MEET OR EXCEED THE FIRE RATING OF THE ASSEMBLY IN WHICH IT IS INSTALLED.	SAFETY OR PRESSURE RELIEF VALVE	SPIN-IN FITTING SPIN-IN FITTING (SINGLE LINE)	S DPR SMOKE DAMPER	CU CONDENSING UNIT CW COLD WATER
TRATIONS THROUGH FIRE RATED ASSEMBLIES, PENETRATIONS FOR PIPE	ı	ZINGE LINE)	RTU ROOF TOP UNIT	CT COOLING TOWER
ANGLES, CHANGES, RODS, UNISTRUE, ETC. AS MAY BE NECESSARY TO ADEQUATELY SUPPORT THE MECHANICAL PIPING, DUCTWORK, AND EQUIPMENT IN A MANNER APPROVED BY THE ARCHITECT THAT WILL NOT OVERLOAD THE BUILDING STRUCTURE SYSTEM.		PRESSURE TAKEOFF FITTING (RECTANGULAR TRUNK)	20 Z	CONT'R CONTRACTOR
BE BESDONSIBLE FOR DROWNING AND INSTALLING ALL N		PRESSURE TAKEOFF FITTING (ROUND TRUNK) SINGLE LINE)	RA RETURN AIR	CO CELANOUT
11. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS AND		(SINGLE LINE)	PRESSURE	CHWS CHILLED WATER SUPPLY
10. ALL PIPING SHALL BE SUPPORTED WITH COMMERCIAL MANUFACTURED CLAMPS. PROVIDE ISOLATION SLEEVES TO PREVENT CONTACT OF DISSIMILAR METALS.		ELEXIBLE DUCTWORK (INSULATED)		CHWR CHILLED WATER RETURN
ON CEILINGS AND SI	——————————————————————————————————————	EXISTING DUCT TO BE REMOVED (SINGLE LINE)		CH CHILLER
THE LOCATION OF ALL FIRE AND BALANCING DAMPERS. BE AFFIXED TO THE WALLS OR CELLINGS AND SHALL BE VISIBLE.		\(\frac{24\times12\infty}{24\times12\infty}\) NEW FLAT OVAL DUCT WIDTH × DEPTH	NO NORMALLY OPENED	OFH CUBIC FEET PER HOUR
8. METAL DUCTS WHICH PENETRATE 1 HOUR RATED FIRE WALLS AND ARE LESS THAN 100 SQUARE INCHES SHALL EXTEND A MINIMUM OF 5 FEET ON BOTH SIDES OF THE WALL WITHOUT AN OPENING (TO PRECLUDE THE REQUIREMENT OF A FIRE DAMPER). DUCTWORK SHALL IN NO CASE BE LIGHTER THAN 24 GAUGE STEEL.		EXISTING DUCT TO REMAIN (SINGLE LINE)		BTU BRITISH THERMAL UNIT
A SHALL BE SUITABLY		<pre>{ 10x8 } NEW DUCT - WIDTH X DEPTH ? (SINGLE LINE)</pre>	MO MOTORIZED DAMPER MAX MAXIMUM	BOT BOTTOM
PIPING SUBJECT TO THERMAL EXPANSION AND/	——HWR—— HOT WATER RETURN (HEATING)	RETURN WALL MTD GRILLE	: =	BFF BELOW FINISHED FLOOR
6. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 7"-0".	——HWS—— HOT WATER SUPPLY (HEATING)	SIDE WALL REGISTER OR GRILLE	_	AP ACCESS PANEL
CONICAL SPIN-IN OR PRESSURE FITTINGS WITH VOLUME DAMPER AT	RHG REFRIGERANT HOT GAS	RETURN CEILING GRILLE	IPS IRON PIPE SIZE KW KILOWATT	AO ANALOG OUTPUT
DINE S		RETURN CEILING GRILLE	₹	ALT ALTERNATE
3. TEST AND BALANCE SHALL BE PROVIDED BY A COMPANY SPECIALIZING IN THE TESTING AND BALANCING OF HYAC SYSTEMS AS SUBCONTRACTOR TO THE HYAC CONTRACTOR. THE TEST AND BALANCE CONTRACTOR SHALL BE A MEMBER OF EITHER AARC OR NERR	CONDENSATE LINE	ADMINISTRATION DIFFUSERS	ID INSIDE DIAMETER	AI ANALOG INPUT
FIVE (5) YEARS EXPERIENCE IN THE INSTALLATION OF DAKIN VRV SYSTEMS.	——CHWR—— CHILLED WATER RETURN		HWR HOT WATER SUPPLY	AFF ABOVE FINISHED FLOOK AHU AIR HANDLING UNIT
THE HVAC SYSTEM SHALL BE PROVIDED BY	——CHWS—— CHILLED WATER SUPPLY	UP [2] DN RETURN AIR DUCT (UP & DOWN)	HOT WATER	ADP APPARATUS DEW POINT
COMPLETE OPERATING SYSTEM AND AS INDICATED ON THE DRAMINGS. ALL WORK SHALL COMPLY WITH APPLICABLE CODES IN SPECIFICATIONS. IT IS THE INTENTION OF THE CONTRACT DRAWINGS AND SPECIFICATIONS TO CALL FOR COMPLETE, FINISHED WORK, TESTED, AND READY FOR OPERATION.		UP ZZ DN EXHAUST DUCT (UP & DOWN)		
WORK CONSISTS OF PROVIDING AND INSTALLING AIR CONDITIONING SY	—— CWS—— CONDENSER WATER SUPPLY	DUCT:WURK	HTR HEATER	ABBREVIATIONS AC AIR CONDITIONING



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DESIGNED__RLA__ DRAWN__RLA__ CHECKED__RLA

JOB. NO_09-2186 SCALE_AS SHOWN DATE __11-23-09

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MANATEE COUNTY
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BMK 20903

ISSUED FOR

BRADENTON, FLORIDA

MANATEE COUNTY

OWNER'S NAME AND ADDRESS

421 17TH AVE. WEST

SHEET NUMBER

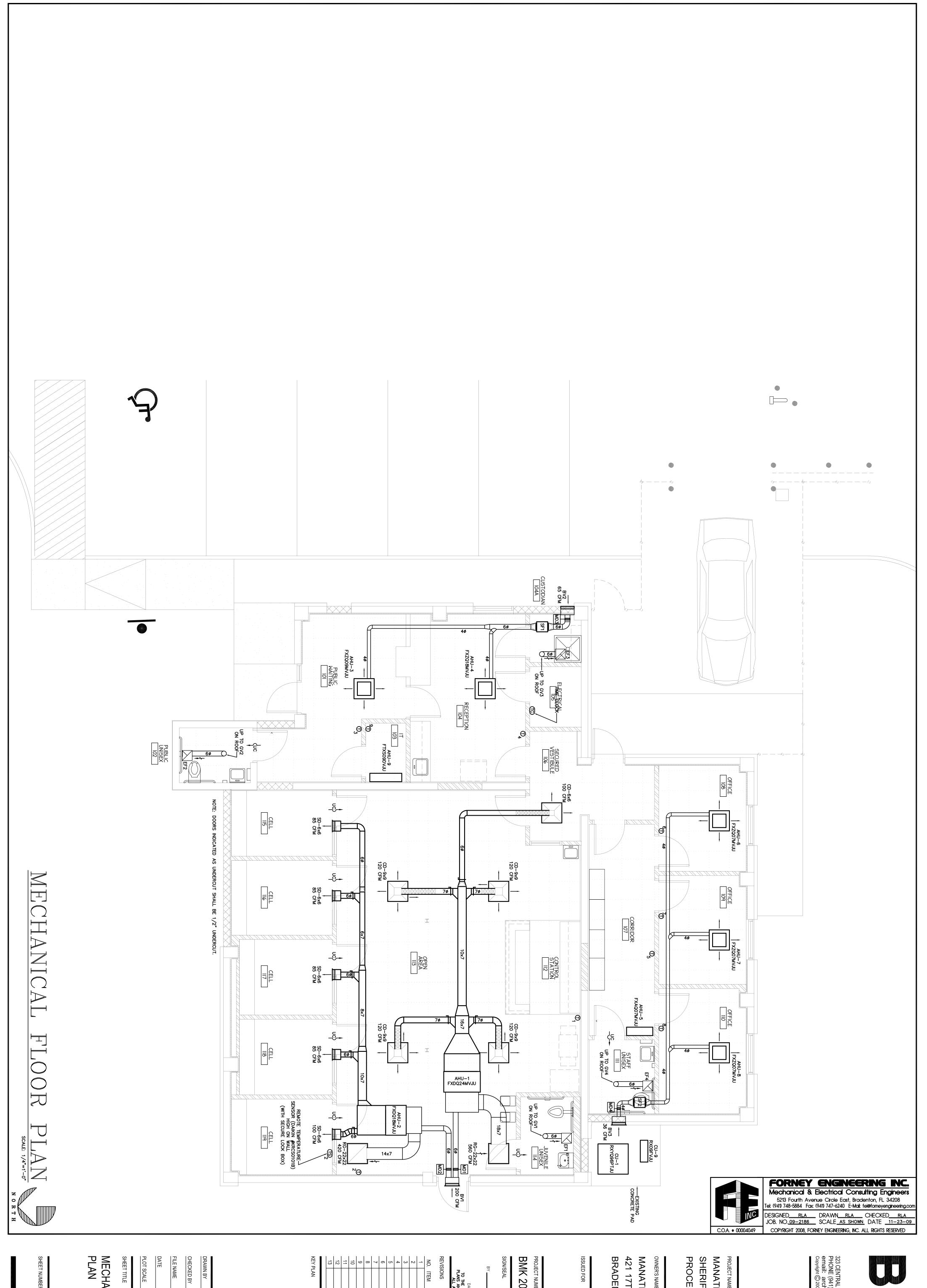
MECHANICAL

SCALE: NOT TO SCALE

MECHANICAL LEGEND

SHEET TITLE

M-0



MECHANICAL FLOOR PLAN



BMK 20903

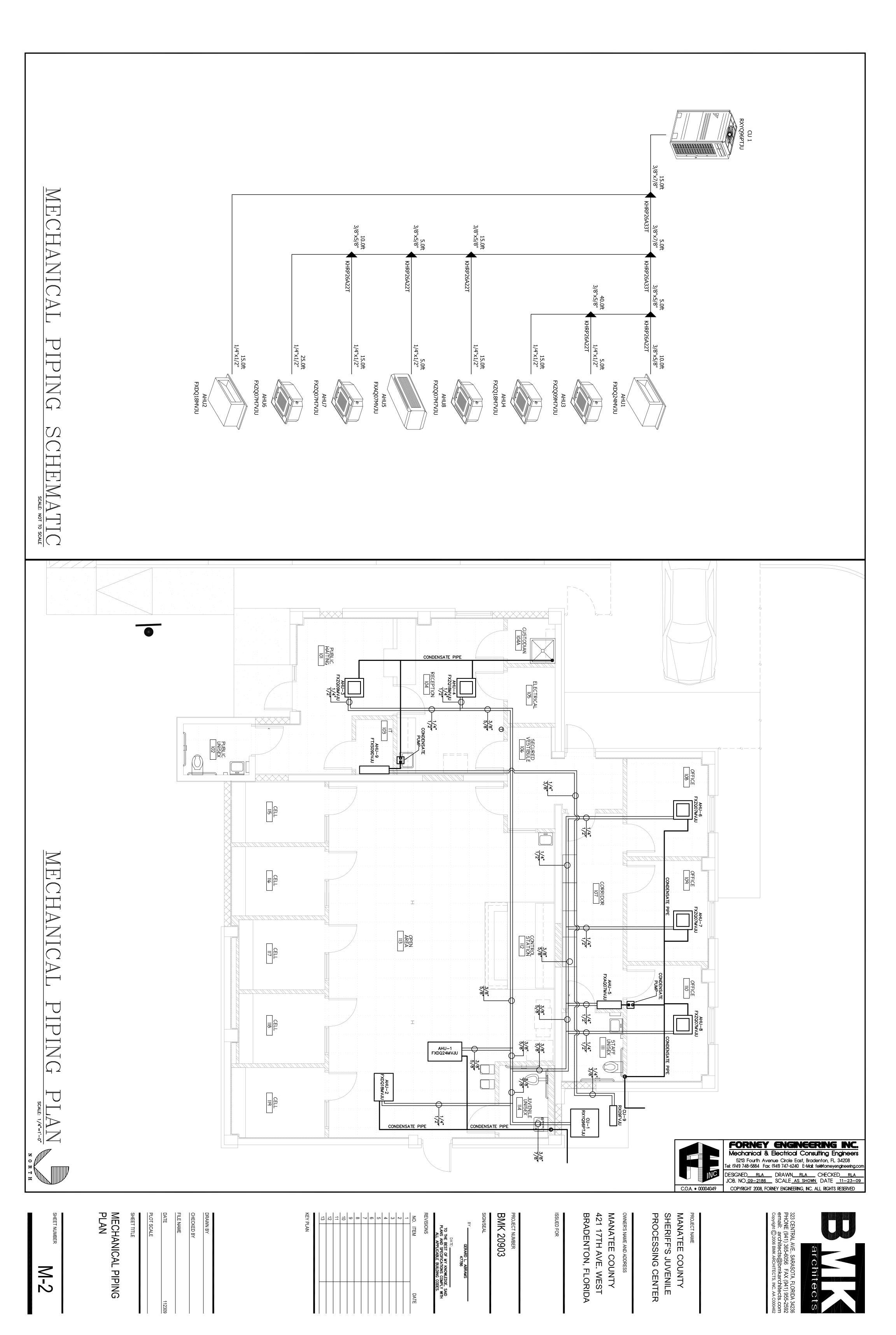
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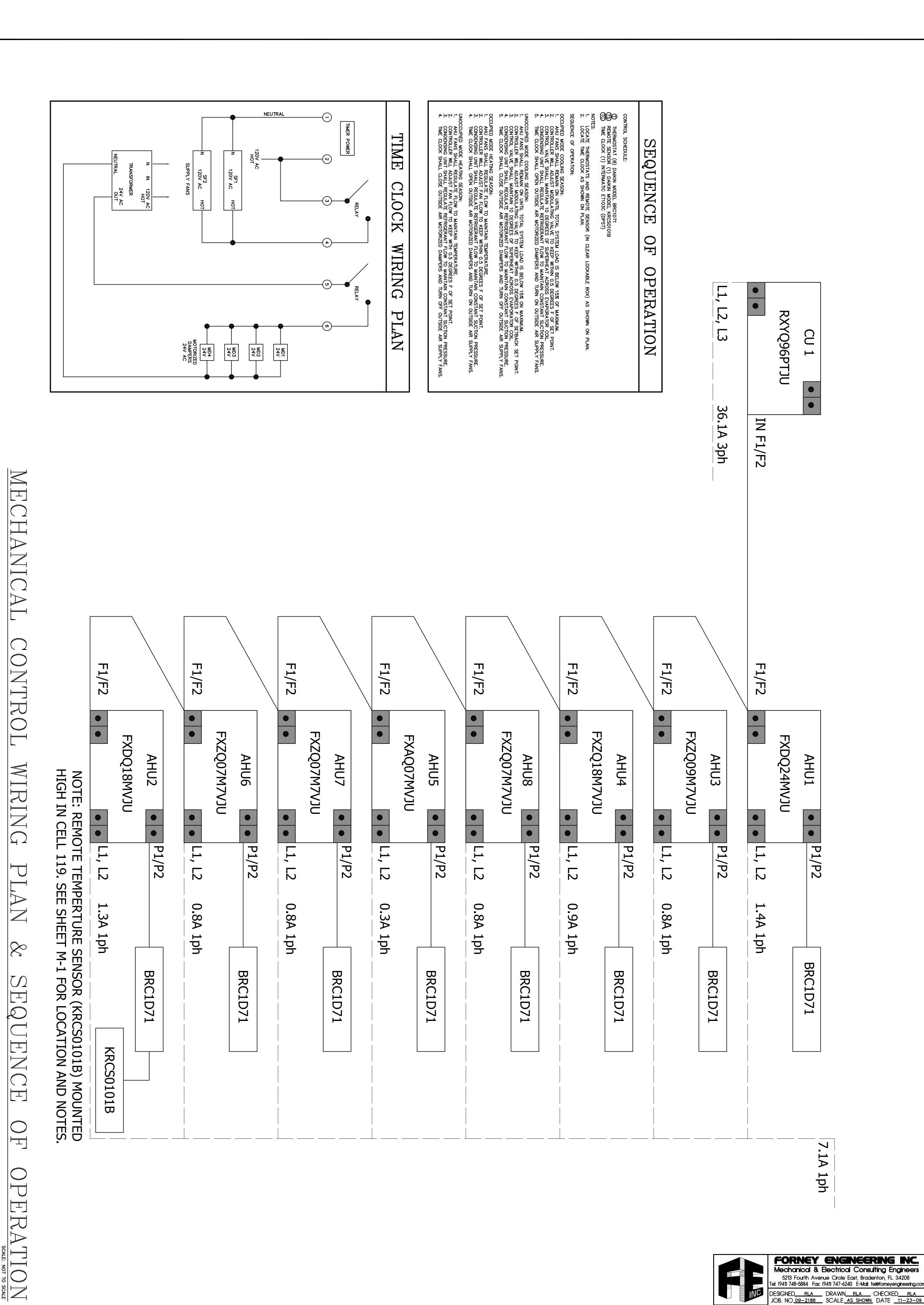
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WIRING PLAN & SEQUENCE OF OPERATION

M-3

MECHANICAL CONTROL

PLOT SCALE

DATE

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BMK 20903

GERARD L. ABI 47786

ISSUED FOR

BRADENTON, FLORIDA

421 17TH AVE. WEST

MANATEE COUNTY

OWNER'S NAME AND ADDR

OUTDOOR TEMP (DEG F)

ELECTRICAL SERVICE (V/PH/HZ)

MCA/MAX FUSE

LIQUID LINE (DIA)

SUCTION LINE (DIA)

WEIGHT (LBS)

COND. UNIT MODEL NO.

MANUFACTURER

UNITS SHALL HAVE AUTO—RESTART OPTION

* WITH FACTORY INSTALLED CONDENSATE PUMP, REMONDENTING.

AND TRIM KIT FOR SURFACE MOUNTING.

** WITH CONDENSATE PUMP, REMOTE THERMOSTAT SENSIBLE CAPACITY (BTUH)

LATENT CAPACITY (BTHU)

TOTAL AIR (CFM)

OUTSIDE AIR (CFM)

INTERING AIR (DB/WB)

LOWER MOTOR (WATTS)
(CA/MAX FUSE

LECTRICAL SERVICE (V/PH/HZ)

LITER (TYPE)

EIGHT (LBS)

OWER MODEL NO. REMOTE MARK MANUFACTURER MODEL CFM ESP

SF1 GREENHECK SQ-70-D 65 0.25

SF2 GREENHECK SQ-60-D 36 0.25

ACCEPTABLE MANUFACTURERS ARE: COOK, GREENHECK, AND PEI NOTES: (1) WITH FACTORY MOUNTED SPEED CONTROLS.

2) INTERLOCK WITH TIMER TO BE ON DURING OCCUPIED F MARK MANUFACTURER MODEL

MD1 RUSKIN CDRS25

MD2 RUSKIN CDRS25

MD3 RUSKIN CDRS25

MD4 RUSKIN CDRS25

ACCEPTABLE MANUFACTURERS ARE: RUSKIN, GI
NOTES: (1) INTERLOCK MITH TIMER TO BE ON DU THERMOSTAT ACCEPTABLE MANUFACTURERS ARE: COOK, GREENHECK, AND PENN.
NOTES: (1) WITH FACTORY MOUNTED SPEED CONTROLS.
(2) TIME DELAY SWITCH PROVIDED BY ELECTRICAL CONTRACTOR.
(3) PROVIDE WITH GRAVITY BACKDRAFT DAMPER. AHU-2
14843
11177
3666
440
100
80/67
130
130
1.3/15
208/1/60
WASHABLE
63
FXDQ18MVJU OCCUPIED GRAVITY VENTI MOTORIZED DAMPER SCHEDULE PERIODS AND OFF DURING UNOCCUPIED PERIODS. 0.3,
208/1/6
WASHABLE
25
FXAQ07MVJU**
CU-1
95
208/3/60
36.1/50
3/8"
7/8"
7/8"
560
RXYQ96PTJU
DAIKIN BRICK SIZE 16x8 16x8 AND OFF DUR T SCHEDULE DESCRIPTION

HOODED GRAVITY RELIEF
HOODED GRAVITY RELIEF
HOODED GRAVITY RELIEF AHU-6
6185
5009
1176
320
12
80/67
55
0.8/15
208/1/60
WASHABLE
42
FXZQO7MVJU* DESCRIPTION

EXTRUDED ALUMINUM BRICK VENT W/ BIRD SCREEN
EXTRUDED ALUMINUM BRICK VENT W/ BIRD SCREEN AHU-7
6185
5009
1176
320
12
80/67
55
0.8/15
208/1/60
WASHABLE
42
FXZQ07MVJU* CEILING EXHAUST FAN
CEILING EXHAUST FAN
CEILING EXHAUST FAN AHU-8 6185 5009 1176 320 12 80/67 55 0.8/15 208/1/60 WASHABLE

SCHEDULES SCALE: NOT TO SCALE

MANATEE COUNTY 421 17TH AVE. WEST

OWNER'S NAME AND ADDRESS

BRADENTON, FLORIDA

ISSUED FOR

BMK 20903

GERARD L. ABRAM 47786

C.O.A. # 00004049

MANATEE COUNTY
SHERIFF'S JUVENILE

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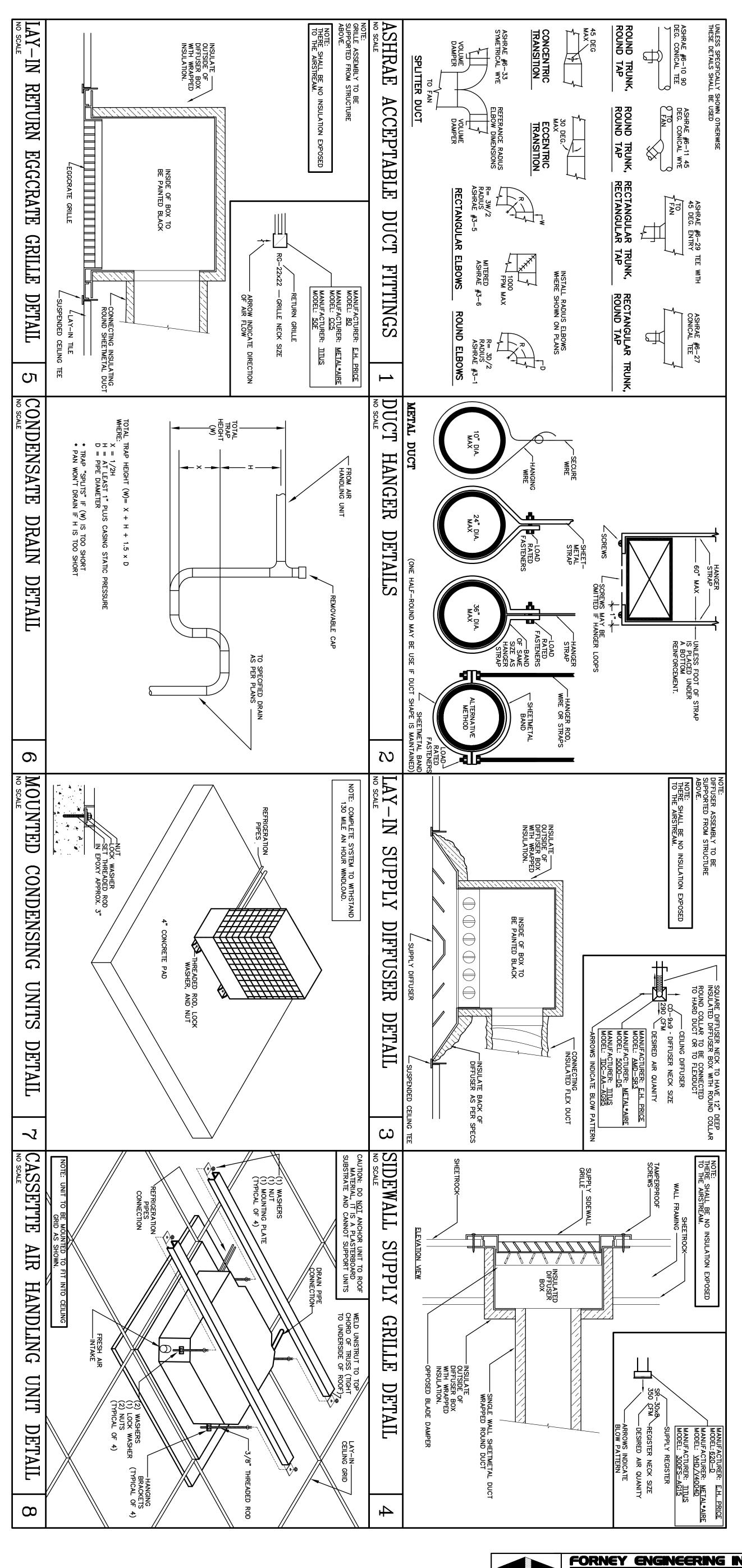
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MECHANICAL SCHEDULES

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SHERIFF'S JUVENILE **BMK 20903** BRADENTON, FLORIDA 421 17TH AVE. WEST MANATEE COUNTY PROCESSING CENTER architects

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MECHANICAL DETAILS

ALL ROUND RIGID METAL DUCTWORK CAN BE PREFABRICATED OR SHOP FABRICATED. FOLLOWING ARE THE SMACNA RECOMMENDATIONS FOR GAUGES AND SEAMS. ELBOWS SHALL HAVE CENTERLINE RADIUS OF 1–1/2 TIMES DUCT DIAMETER. THE CONTRACTOR MAY PROVIDE EQUIVALENT ROUND OR RECTANGULAR DUCT AS CONDITIONS AND SPACE PERMIT. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS — METAL AND FLEXIBLE." REFER TO TABLES FOR REINFORCEMENT OF DUCT LENGTHS OTHER THAN FIVE (5) FEET. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO DIRECT THE REMOVAL AND REPLACEMENT OF ANY ITEM WHICH, IN HIS OPINION, DOES NOT PRESENT AN ORDERLY OR REASONABLY NEAT OR WORKMANSHIP APPEARANCE, PROVIDED THAT SUCH ITEM CAN BE PROPERLY INSTALLED IN SUCH ORDERLY WAY BY METHODS USUAL IN SUCH WORK. SUCH REMOVAL OR REPLACEMENTS SHALL BE DONE BY THE CONTRACTOR WHEN SO DIRECTED IN WRITING BY THE ENGINEER AND AT THE CONTRACTOR'S EXPENSE. THE HVAC CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL GOVERNMENT FEES, SALES TAXES AND OTHER COSTS IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY APPROVALS WITH ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK; AND DELIVER TO THE ARCHITECT THE SAME CERTIFICATES BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. DRAWINGS ARE NOT TO BE SCALED. THE ARCHITECTURAL DRAWINGS AND DETAILS SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES AND EQUIPMENT. ANY CONFLICT SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER BEFORE PROCEEDING WITH THE WORK. DUCTWORK SHOP DRAWINGS OR CUT SHEETS REQUIRED INCLUDE: SUBMITTALS ARE REQUIRED FOR ALL MATERIAL AND EQUIPMENT WHICH THE HVAC CONTRACTOR PROPOSES TO FURNISH. SHOP DRAWINGS MUST BE APPROVED BY THE ARCHITECT PRIOR TO ORDERING AND INSTALLING EQUIPMENT. DATA SHALL BE COMPILED IN BROCHURE FORM AND ALL SUBMITTED AT ONE TIME. ALL RECTANGULAR METALLIC DUCTWORK SHALL BE SHOP FABRICATED OF BEST QUALITY GALVANIZED STEEL CONFORM TO THE RECOMMENDATIONS OF SMACNA AS TO SEAMS, JOINTS, CROSS BREAKS AND TRANSITIONS, THE HVAC CONTRACTOR SHALL SUBMIT SIX (6) COPIES FOR APPROVAL OF DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT TO THE ARCHITECT. MATERIALS OR PRODUCTS SPECIFIED HEREIN AND/OR INDICATED ON DRAWINGS BY TRADE NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED. THE HVAC CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE ARCHITECT ANY INFORMATION NECESSARY TO PERMIT THE WORK OF ALL TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY. UCT SHALL BE FABRICATED, INSTALLED AND SEALED IN ACCORDANCE WITH SMACNA 2" W.G. PRESSURE CLASS AND EAL CLASS A, AND MEET THE REQUIREMENTS OF THE FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING ONSTRUCTION, EXCEPT THAT TAPE SHALL NOT BE USED AS A SEALING METHOD FOR METAL DUCT. . IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS, LEFT IN GOOD WORKING ORDER EADY FOR OPERATION, INCLUDING NECESSARY LABOR AND MATERIALS, WHETHER OR NOT SPECIFICALLY SHOWN N THE DRAWINGS OR MENTIONED HEREIN. FLORIDA AMERICANS WITH DISABILITY IMPLEMENTATION ACT, 1993. FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, OCTOBER 2007. FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION, 2007 WITH 2009 SUPPLEMENTS. NATIONAL ELECTRICAL CODE, 2005. FLORIDA BUILDING CODE 2007, BUILDING. FLORIDA BUILDING CODE 2007, GAS-FUEL. FLORIDA BUILDING CODE 2007, MECHANICAL. FLORIDA BUILDING CODE 2007, PLUMBING. DUCT DIAMETER IN INCHES SPLIT DX A/C CONDENSING UNITS, AIR HANDLERS, ETC. CONTROLS, CONTROL WIRING DIAGRAM AIR DEVICES AND VOLUME DAMPERS EXHAUST FANS THERMOSTATS CONSTRUCTION OF THIS PROJECT 3 - 8 9 - 14 15 - 26 27 - 36 37 - 50 51 - 60 61 - 84REFER TO SMACNA TABLES FOR REINFORCEMENT FOR DUCT LENGTHS OTHER THAN FIVE (5) FEET. DRAWINGS SPECIFICATIONS 3 - 14 15 - 26 27 - 36 37 - 50 UCT DIAMETER IN INCHES 0 - 12 13 - 14 15 - 18 19 - 20 21 - 26 27 - 28 29 - 30 31 - 36 37 - 42 43 - 60 DUCT SIZE IN INCHES MECHANICAL GENERAL: SHALL BE IN COMPLETE CONFORMANCE WITH THE FOLLOWING:: STANDING "S" SLIP SI B 1" × 26 GA C 1" × 22 GA D 1-1/8" × 22 GA E 1-1/8" × 18 GA G 1-5/8" × 18 GA RECTANGULAR STEEL DUCT GAGE SPIRAL SEAM IN INCHES SPIRAL SEAM IN INCHES WITH FLAT "S" SLIP ON 5' SPACING (GA) STEEL 26 224 220 118 116 116 SIZE WITH STANDING "S" SLIP ON 5' SPACING (GA) 28 26 24 22 20 18 2244 GEDCCCBBB TEST AND BALANCE: CONDENSATE PIPING: ALL CONDENSATE DRAINAGE PIPING SHALL BE HARD DRAWN COPPER TUBING. PIPING SHALL BE RUN FULL SIZE OF CONNECTION AND THE PIPING SHALL HAVE AN ADEQUATE AIR SEAL TRAP AT EACH UNIT CONNECTION. RUN CONDENSATION DRAINS TO FLOOR DRAINS. REFRIGERANT PIPING: THE HVAC CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL CONDENSATE DRAIN PIPING. CONDENSING UNITS SHALL BE MOUNTED ON 4" THICK CONCRETE PADS UNLESS NOTED OTHERWISE. THE CONTRACTOR WILL PROVIDE OVERSIZE REFRIGERANT LINE SETS FOR ANY AIR HANDLER THAT IS IN EXCESS OF 60 FEET FROM IT'S RESPECTIVE CONDENSING UNIT. THE CONTRACTOR WILL ADVISE THE ENGINEER IMMEDIATELY IF THE MANUFACTURER SUGGESTS DOWNGRADING OF THE A/C SYSTEM PERFORMANCE BECAUSE OF EXCESSIVE SEPARATION OF AIR HANDLER AND CONDENSING UNITS. RECTANGULAR DUCTS — GALVANIZED SHEET METAL WITH 2" THICK 1 PCF DENSITY EXTERNAL DUCT WRAP. FIBERGLASS DUCTBOARD DUCTS AND DUCT LINER ARE NOT TO BE USED ON THIS PROJECT. FACTORY STARTUP: CONDENSATE DRAIN INSULATION: MISCELLANEOUS: OUTSIDE AIR DUCT — GALVANIZED SHEET METAL, INSULATED.

ALL FLEXIBLE DUCTS FROM TRUNK TO AIR DEVICE SHALL BE COLD ROLLED, CORROSION RESISTANT SPRING STEEL WIRE COVER WITH 14 OZ. VINYL COATED GLASS FABRIC PRE INSULATED WITH FIBERGLASS INSULATION AND WITH ALUMINIZED REINFORCED VAPOR BARRIER. THE FLEXIBLE DUCTS SHALL BE UL LABELED AND MEET NFPA STANDARDS, PAMPHLET 90A. MAXIMUM DUCT LENGTH SHALL NOT EXCEED 7 FEET.

ALL DUCTS ARE TO BE PROPERLY SUPPORTED FREE OF SAG OR BULGE, LINED PROPERLY, FREE OF VIBRATION AND AIR LEAKAGE AND IN ACCORDANCE WITH FIRST CLASS CONSTRUCTION. ALL RUBBISH AND TRASH ARE TO BE REMOVED FROM DUCTS BEFORE INSTALLING GRILLES AND SETTING DAMPERS. JOINTS OF ROUND DUCTS SHALL BE SLIP TYPE WITH A MINIMUM OF THREE SHEET METAL SCREWS. JOINTS SHALL BE SEALED. TAPE SHALL NOT BE USED. ALL SEAMS AND

MECHANICAL

SPECIFICATIONS

RIGID ROUND DUCTS — GALVANIZED SHEET METAL WITH 2" THICK 1 PCF DENSITY EXTERNAL DUCT WRAP.

FLEXIBLE ROUND DUCTS — FLEXIBLE WIRE REINFORCED DUCT WITH R=6.0 EXTERNAL INSULATION WITH VAPOR BARRIER AND FOIL FACED SHALL BE USED IN CONCEALED CEILINGS ONLY. MAXIMUM FLEXIBLE DUCT LENGTH TO BE 7'-0". FOR LONGER BRANCH RUNS, USE A COMBINATION OF RIGID ROUND METAL DUCT WITH A SHORT PIECE OF FLEXIBLE DUCT.

EXHAUST AIR DUCTS - GALVANIZED SHEET METAL, UNINSULATED.

DIFFUSERS AND REGISTERS, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH FACTORY DETAILS. ALL DUCT SIZES INDICATE "FREE AREA" DIMENSIONS. ALL TAKE—OFFS AND DIVIDED FLOWS SHALL HAVE VOLUME DAMPERS. PROVIDE SPIN—IN COLLARS WITH INTEGRAL SCOOPS AND DAMPERS FOR ALL BRANCH TAKEOFFS.

FACTORY MADE OPPOSED BLADE DAMPERS WITH FRONT ACCESSIBLE OPERATOR WITH DUCT RING SHALL BEFURNISHED FOR EACH DIFFUSER UNLESS OTHERWISE SPECIFIED.

PROVIDE FLEXIBLE CONNECTORS WHERE METAL DUCTWORK CONNECTS TO FANS OR AIR HANDLERS. WHERE IT IS POSSIBLE TO SEE THROUGH DIFFUSERS, GRILLES OR REGISTERS TO DUCTWORK, LIGHT COLORED INSULATION OR PLENUMS, THE INTERIOR DUCTWORK OR PLENUM SHALL BE PAINTED FLAT BLACK.

THERMOSTATS:

HVAC CONTRACTOR IS RESPONSIBLE FOR ALL CONTROLS AND CONTROL WIRING.

PROVIDE AND INSTALL PROGRAMMABLE AUTO/MANUAL CHANGEOVER THERMOSTATS AND WIRING FOR AIR CONDITIONING UNITS. PROVIDE BOX FOR MOUNTING THERMOSTAT PER MANUFACTURER'S INSTRUCTIONS.

LUBRICATION:
WHERE NECESSARY, PROVIDE MEANS FOR LUBRICATING ALL BEARINGS AND OTHER MACHINE PARTS. IF A PART REQUIRING LUBRICATION IS CONCEALED OR INACCESSIBLE, EXTEND A LUBRICATION TUBE WITH SUITABLE FITTING TO AN ACCESSIBLE LOCATION AND SUITABLY IDENTIFY IT.

AFTER INSTALLATION, PROPERLY LUBRICATE ALL PARTS REQUIRING LUBRICATION AND KEEP THEM ADEQUATELY LUBRICATED UNTIL FINAL ACCEPTANCE.

PROVIDE A COMPLETE VIBRATION CONTROL SYSTEM CONSISTING OF ISOLATION PADS FLEXIBLE CONNECTORS, LEVELING BOLTS, ETC. COMPLETE VIBRATION CONTROL SYSTEM FOR AIR HANDLING UNITS AND DUCTWORK SHALL BE REVIEWED BY ENGINEER PRIOR TO INSTALLATION.

ALL REFRIGERANT LINES INSIDE BUILDING TO BE TYPE ACR HARD COPPER TUBING WITH WROUGHT COPPER FITTINGS AND 15% SILVER SOLDER JOINTS. THE USE OF ACIDS WILL NOT BE PERMITTED WITH EITHER SOLDER OR FLUX. ALL ELBOWS USED IN REFRIGERANT LINES SHALL BE LONG RADIUS. ALL REFRIGERANT CIRCUITS PENETRATING CONCRETE WALLS SHALL BE RUN IN A 6" SLEEVE. USE LONG RADIUS ELBOWS AND SEAL EXTERIOR CONDUIT WITH SILICONE CAULKING.

REFRIGERANT PIPE INSULATION:

REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH ARMSTRONG ARMAFLEX TYPE FLEXIBLE TUBING INSULATION 1/2" WALL THICKNESS. ALL PIPES SHALL BE INSULATED BY SLIPPING MOLDED INSULATION OVER THE LINES. FITTINGS SHALL BE FABRICATED FROM THE FOAM PLASTIC INSULATION, SEALING MITERED JOINTS AND ALL BUTT ENDS WITH ARMSTRONG 520 ADHESIVE. ALL FOAM PLASTIC INSULATION SHALL BE INSTALLED IN A COMPRESSED CONDITION; THAT IS A 6' LENGTH OF INSULATION SHALL MEASURE 5'6" WHEN INSTALLED. INSULATION INSTALLED OUTDOORS SHALL BE COATED WITH A WEATHER—RESISTANT PROTECTIVE FINISH SUCH AS ARMAFLEX FINISH.

INSULATE ALL CONDENSATE DRAIN PIPING WITHIN THE BUILDING WITH 3/8" WALL THICKNESS ARMAFLEX TYPE INSULATION. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS AND ONE YEAR GUARANTEE, COMMENCING ON DATE OF ACCEPTANCE BY OWNER.

WORK SHALL INCLUDE STARTUP BY DAIKIN FACTORY REPRESENTATIVE.

WORK SHALL INCLUDE TESTING AND BALANCING OF THE AIR SIDE OF THE HVAC SYSTEM BY A AABC CERTIFIED CONTRACTOR. HVAC CONTRACTOR SHALL SUBMIT COPIES OF TEST AND BALANCE REPORTS SHOWING RESULTS OF BALANCING OF AIR QUANTITIES TO PLAN REQUIREMENTS. MAKE ALL ADJUSTMENTS REQUIRED TO PROVIDE DESIGN AIR FLOW.

RECORD DRAWINGS:

THE HVAC CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MARKED—UP SET OF PLANS OF THE COMPLETE HVAC SYSTEMS AS INSTALLED (AS—BUILT DRAWINGS). THE SCALE ON THESE AS—BUILT DRAWINGS SHALL BE NO SMALLER THAN THE SCALE USED ON THE ORIGINAL PLANS. THE HVAC CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ACTUAL LOCATIONS, IF DIFFERENT FROM THE PLANS. INAL TESTS SHALL BE MADE ONLY AFTER THE ARCHITECT IS SATISFIED THAT ALL WORK HAS BEEN COMPLETED, INCLUDING CLEANING, REPLACEMENT OF AIR FILTERS AND TEST AND BALANCE REPORTS. CONSTRUCTION INCLUDING DEVICE

TESTING: TESTS SHALL DEMONSTRATE THAT THE SYSTEM FUNCTIONS PROPERLY THROUGHOUT, THAT IT IS BALANCED PROPERLY, IS FREE FROM VIBRATION, AND THAT ALL REQUIREMENTS HEREIN HAVE BEEN COMPLIED WITH. THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS.

ALL PIPING SHALL BE PRESSURE TESTED AT 150% OF THE WORKING PRESSURE LEAKS BEFORE THE PIPE IS COVERED, CONCEALED OR INSULATED.

AND FOUND FREE OF

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AFTER TESTING AND BEFORE TURNOVER OF AIR HANDLERS. THE HVAC SYSTEM TO THE OWNER, INSTALL CLEAN FILTERS Z

EVACUATION AND CHARGING OF REFRIGERANT STALLED, IT SHALL BE LEAK TESTED WITH OIL-ALLOW IT TO REMAIN UNDER PRESSURE FOR T CHANGE, THE SYSTEM MAY BE CONSIDERED LE MICRONS AS INDICATED BY A RELIABLE VACUU NOT BE ACCEPTABLE), THEN BREAK THE VACULET SYSTEM STAND FOR 12 HOURS. IF THE V THE SYSTEM IS READY FOR CHARGING, WITH N SYSTEM: AFTER THE COMPLETE REFRIGERANT SYSTEM IS IN-L-PUMPED, DRY NITROGEN AT A PRESSURE OF 150 PSIG AND TWO (2) HOURS. IF THERE IS NO APPRECIABLE PRESSURE EAK FREE. THE SYSTEM SHALL THEN BE EVACUATED TO 500 IUM GAUGE (A STANDARD TESTING AND CHARGING GAUGE WILL YUUM. NOW RE-EVACUATE THE SYSTEM TO 500 MICRONS AND VACUUM READING CHANGES BY LESS THAN 250 MICRONS THEN NEW DEHYDRATED FREON 22.

ACCEPTANCE: IADE BY THE

WARRANTY: FINAL ACCEPTANCE OF THE PROJECT SHALL AND/OR REPAIR OF ANY DEFECTIVE WORK C AFTER TESTING A FINAL REVIEW SHALL BE NITHE HVAC CONTRACTOR. L NOT PREJUDICE OR MATERIALS. ARCHITECT AND OTHER 蓔 OWNER'S RIGHT AUTHORIZED 70 REQUIRE REPLACEMENT PERSONS WITH

ALL PARTS, MATERIALS, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE (1) YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE. ALL WORK PERFORMED UNDER THIS WARRANTY SHALL BE AT NO COST TO THE OWNER. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL OF THE ABOVE WARRANTY REQUIREMENTS IN A WRITTEN STATEMENT ALONG WITH EQUIPMENT MANUFACTURER'S WARRANTIES. ALL COMPRESSORS SHALL BEAR AN ADDITIONAL 4 YEAR PARTS WARRANTY.

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FORNEY ENGINEERING INC. Mechanical & Electrical Consulting Engineers 5213 Fourth Avenue Circle East, Bradenton, FL 34208 et: (941) 748-5884 Fax: (941) 747-6240 E-Mail: fei@forneyengineering.co DESIGNED<u>RLA</u> DRAWN<u>RLA</u> CHECKED<u>RLA</u> JOB. NO<u>.09-2186</u> SCALE<u>AS SHOWN</u> DATE <u>11-23-09</u> COPYRIGHT 2008, FORNEY ENGINEERING, INC. ALL RIGHTS RESERVED C.O.A. # 00004049

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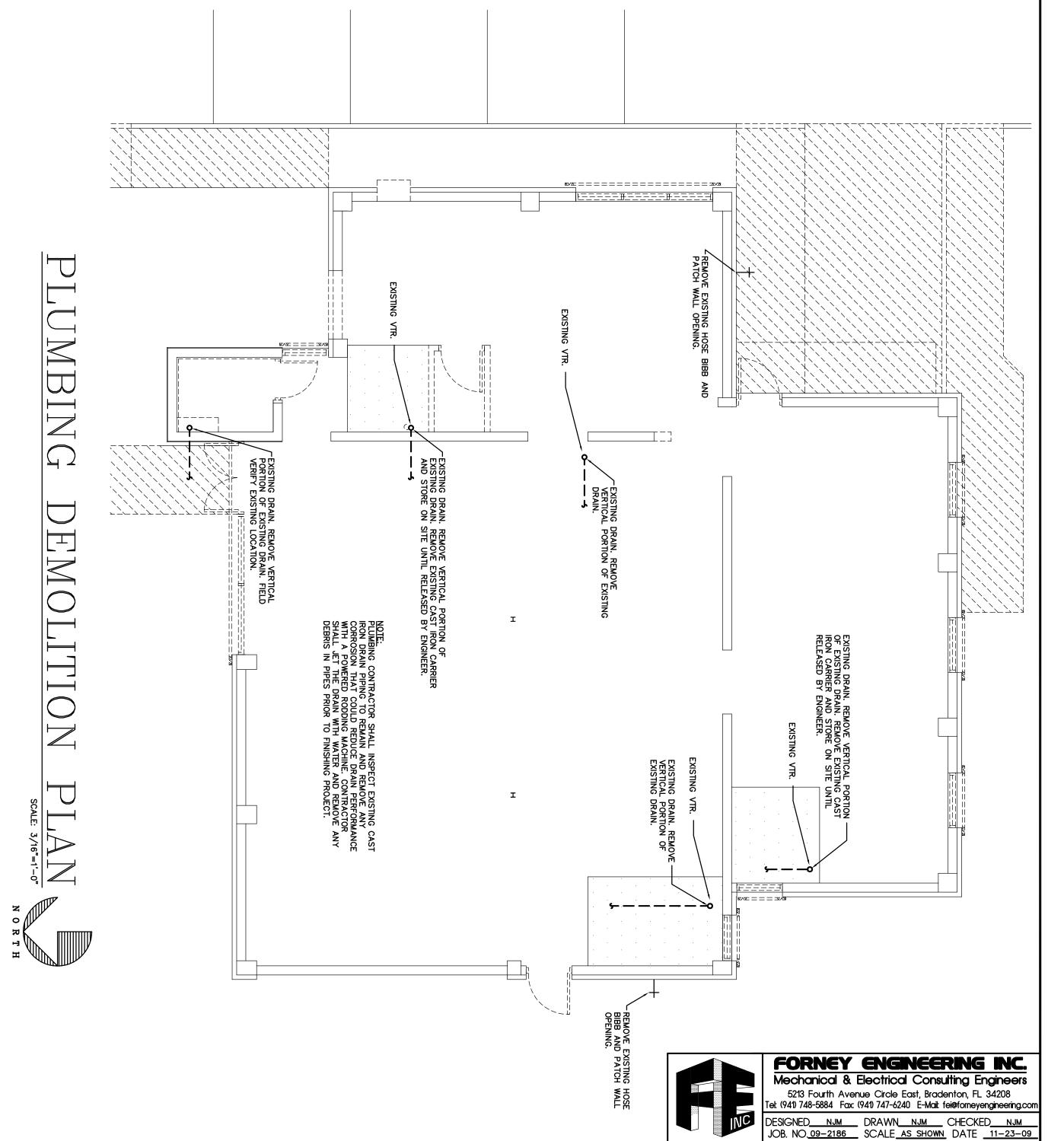
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SPECIFICATIONS

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SPECIFICATIONS
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ARRANGE, INSTALL PIPING APPROXIMATELY AS INDICATED, STRAIGHT, PLUMB FORM RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS. SUBMITTALS ARE REQUIRED FOR ALL MATERIAL AND EQUIPMENT WHICH THE CONTRACTOR PROPOSES TO FURNISH. SHOP DRAWINGS MUST BE APPROVED BY THE ARCHITECT PRIOR TO ORDERING AND INSTALLING EQUIPMENT. DATA SHALL BE COMPILED IN BROCHURE FORM AND ALL SUBMITTED AT ONE TIME. PROVIDE WATER HAMMER ARRESTORS ON WATER LINES AT QUICK CLOSING VALVES AS REQUIRED TO PREVENT WATER HAMMER. INSTALL WATER HAMMER ARRESTORS AT EACH FIXTURE OR BATTERY OF FIXTURES WHERE REQUIRED. ARRESTORS SHALL BE FACTORY—FABRICATED. INSTALL ARRESTORS AND SIZE PER PLUMBING AND DRAINAGE INSTITUTE STANDARD (PDI) WH—201. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER HAMMER ARRESTORS AS SPECIFIED. CONCEAL ALL PIPING IN BUILDING CONSTRUCTION OR UNDERGROUND. INSTALL SUCH PIPING IN TIME SO AS NOT TO CAUSE DELAY TO WORK OF OTHER TRADES AND TO ALLOW AMPLE TIME FOR TESTS AND APPROVAL; DO NOT COVER BEFORE APPROVAL IS OBTAINED. CLOSE OPEN ENDS OF WORK WITH TEMPORARY COVERS OR PLUGS DURING STORAGE AND CONSTRUCTION TO PREVENT ENTRY OF OBSTRUCTING MATERIAL. KEEP PIPES CLOSE TO WALLS, PARTITIONS, CEILING; OFF—SET ONLY WHERE NECESSARY TO FOLLOW WALLS AS DIRECTED. LOCATE GROUPS OF PIPES PARALLEL TO EACH OTHER; SPACE THE PIPES AT DISTANCE TO PERMIT APPLYING FULL INSULATION AND TO PERMIT ACCESS FOR SERVICING VALVES. PLUMBING FIXTURES AND TRIM PLUMBING TUBE, PIPE, AND FITTINGS FLOOR DRAINS AND FLOOR SINKS WATER FOUNTAIN WATER HAMMER ARRESTORS NO ASBESTOS CONTAINING BUILDING MATERIAL (ACBM) HAS BEEN SPECIFIED AS A BUILDING MATERIAL IN ANY CONSTRUCTION DOCUMENT FOR THE BUILDING. NO ASBESTOS CONTAINING BUILDING MATERIAL (ACBM) SHALL BE INSTALLED. THE INSTALLATION OF A COMPLETE SYSTEM FOR SUPPLYING DOMESTIC HOT AND COLD WATER TO ALL LOCATIONS SHOWN OR CALLED FOR HEREIN. MAKE CONNECTIONS TO WATER SERVICE AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. SLEEVES THROUGH POURED CONCRETE SHALL BE STANDARD WEIGHT PVC OR GALVANIZED MILD STEEL PIPE. SLEEVES THROUGH BRICK, CONCRETE BLOCK, ETC., MAY BE 22 GAUGE GALVANIZED SHEET METAL. SLEEVES THROUGH WALLS, PARTITIONS, CEILINGS, AND FLOORS ON GRADE SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH FINISHED SURFACE. ALL SLEEVES SHALL BE OF ADEQUATE SIZE TO PERMIT CLEARANCE FOR PIPE MOVEMENT AND PROPER GRADING OF PIPES. SLEEVES FOR INSULATED PIPE SHALL BE ADEQUATELY SIZED TO CLEAR THE INSULATION. PROVIDE A SUFFICIENT NUMBER OF HANGERS PROPERLY LOCATED TO SUPPORT THE PIPHANGERS SHALL BE PLACED TO PERMIT EXPANSION AND CONTRACTION OF THE PIPING. BE SPLIT RING HANGERS CAPABLE OF VERTICAL ADJUSTMENT AFTER ERECTION OF THE HANGERS MAY BE USED FOR MULTIPLE PIPE RUNS INSTALLED AT THE SAME LEVEL AND BE SECURED TO TRAPEZE USING U-BOLTS. WHERE FURRED SPACES ARE INDICATED, KEEP PIPES AS CLOSE TO STRUCTURAL AS TO REQUIRE MINIMUM FURRINGS. KEEP FIXTURE BRANCHES CONCEALED TO POINTS ABOVE FLOOR CLOSE TO FIXTURES; EXPOSE ONLY AS MUCH AS NECESSARY FOR FINAL CONNECTION. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES AND OTHER CONSTRUCTION DOCUMENTS. PROVIDE AND INSTALL WATER HEATER, FIXTURES, TRIM, CLEANOUTS AND ACCESSORIES AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. THE INSTALLATION OF A COMPLETE SYSTEM OF SOIL, WASTE, AND VENT PIPING TO ALL FIXTURES AND LOCATIONS SHOWN ON THE DRAWINGS OR CALLED FOR HEREIN. MAKE CONNECTIONS TO SANITARY SERVICES AS SHOWN ON THE DRAWINGS. THE WORK COVERED INCLUDES ALL LABOR, MATERIAL AND TESTING COMPLETE AND READY FOR OPERATION AND AS SPECIFIED HEREIN, AND SHALL INCLUDE BUT WATER HAMMER ARRESTORS THE SIZE OF THE HANGER CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE. INSTALL SOIL AND VENT PIPING PITCHED TO DRAIN AT MINIM PIPING 2" AND SMALLER, AND 1/8" PER FOOT (1 PERCENT) REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. PLASTIC PIPING SHALL BE CLEANED AND PRIMED WITH A PURPLE CLEANER/PRIMER PRIOR TO SOLVENT WELDING. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS AND OWNER SHALL PAY FOR ALL UTILITY IMPACT AND TAPPING FEES. SHOP DRAWINGS OR CUT SHEETS THE DESIGN AND CONSTRUCTION OF THIS PROJECT FOLLOWING: MERE PIPING PASSES INTO A FINISHED SPACE OR INTO A CABINET, SUCH AS PIPING TO A SERVICE LASTIC PIPING SHALL TRANSITION TO COPPER PIPE AND BE SECURELY FASTENED BEFORE LEAVING LASTIC TO METAL PIPING TRANSITIONS SHALL BE MADE USING CPVC OR PVC ONE-PIECE FITTINGS VIANUFACTURER'S SCHEDULE 80 EQUIVALENT DIMENSIONS; ONE END WITH THREADED BRASS INSERT COLVENT-CEMENT-SOCKET END. MANUFACTURE CHRONOMITE PLUMBING CONTRACTOR SHALL PROVIDE ESCUTCHEONS AT EACH POINT WHERE AN UNINSULATED PIPE, DUIT OR TUBING PASSES THROUGH A FINISHED SURFACE. ESCUTCHEONS WILL NOT GENERALLY BE JIRED FOR INSULATED PIPE AND CONDUIT OR TUBING PASSING THROUGH EQUIPMENT ROOM WALLS UNLESS, HE OPINION OF THE ENGINEER, THE INSTALLATION OF SUCH PIPE, CONDUIT OR TUBING HAS NOT BEEN ALLED IN A NEAT AND ACCEPTABLE MANNER. ESCUTCHEONS SHALL BE CONSTRUCTED OF OME-PLATED BRASS UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ARCHITECT. EACH ESCUTCHEON OME-PLATED WALL OR FLOOR AND SHALL FIT SNUGLY AROUND THE PIPE. LIFE SAFETY CODE NFPA 101-2006. NATIONAL ELECTRIC CODE NFPA 70-2005. FLORIDA BUILDING CODE 2007, BUILDING. FLORIDA BUILDING CODE 2007, MECHANICAL. FLORIDA BUILDING CODE 2007, PLUMBING. FLORIDA BUILDING CODE 7007, PLUMBING. INSTALLATION WATER SHALL BE ONE OF THE FOLLOWING: CPVC PIPE, SCH 40 OR SCH 80, ASTM F 441/F PVC PIPE, SCH 40 OR SCH 80, ASTM D 1785 ARRESTORS SHALL BE SUITABLE FOR THE PIPE SIZE AND APPLICATION. REQL SHALL BE IN COMPLETE CONFORMANCE WITH THE AND EQUIPMENT REQUIRED FOR FURNISHING, INSTALLING ALL THE WORK SHOWN ON THE PLUMBING DRAWINGS NOT NECESSARILY BE LIMITED TO THE FOLLOWING ITEMS: SLOPE OF 1/4" PER FOOT (2 PERCENT) PIPING 3" AND LARGER. AND FLOOR MEMBERS S ELECTRICAL 208/1/60 208/1/60 DIRECT AS **PLUMBING** S WATER HEATER SCHEDULE POSSIBLE SO E VALVE, THE WALL. WITH AND ONE **SPECIFICATIONS** SOIL AND WASTE STACKS S RUN THROUGH THE ROOF A SURFACE. THIS CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR THE SLOPING OF ALL FLOORS WHICH HAVE FLOOR DRAINS. ALL FLOOR DRAIN STRAINERS SHALL BE SET LEVEL (FLUSH) WITH FINISHED FLOOR WITH THE SURROUNDING FLOOR SLOPING FROM ALL DIRECTIONS TOWARDS THE FLOOR DRAIN STRAINER. FLOOR DRAINS SHALL COMPLY WITH ASME A112.21.1M. COMPLETION OF WORK EACH FIXTURE SHALL BE SEPARATELY TRAPPED, UNLESS WITH A WATER SEAL TRAP PLACED NOT MORE THAN 24" SHALL NOT BE DOUBLE TRAPPED. BALL VALVES SHALL BE TWO PIECE BRASS 1/4 TURN WITH BLOW OUT PROOF STEM. PROVIDE CHROMIUM PLATED BALL, 600 PSI MAXIMUM COLD WATER PRESSURE. MATERIALS AFTER THE TESTS ARE COMPLETED AND BEFORE THE SYSTEM IS PUT IN OPERATION THE ENTIRE WATER PIPE SYSTEM SHALL BE FILLED WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE AND ALLOWED TO STAND 6 HOURS BEFORE FLUSHING. DURING THIS PERIOD A PRESSURE OF NOT LESS THAN 40 PSI SHALL BE MAINTAINED ON THE SYSTEM AND ALL VALVES SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER DISINFECTION A SAMPLE SHALL BE DRAWN AND TESTED BY THE LOCAL HEALTH DEPARTMENT AND A LETTER CERTIFYING THE ADEQUACY OF THE WATER FOR HUMAN CONSUMPTION SHALL BE SENT TO THE ENGINEER FOR APPROVAL. WALL CLEANOUTS(WCO) SHALL HAVE PVC TEE, PVC PLUG, SHALL BE CAST IRON WITH ROUND TOPS. CLEANOUTS MUST BE READILY ACCESSIBL TRAPS AND CLEANOUTS AVAILABLE MANUFACTURERS FOR SUPPLY STOP VALVES: NI AVAILABLE MANUFACTURERS FOR TOILET SEATS: OLSONITE, ALL EXPOSED METAL PARTS OF FIXTURES SHALL BE POLISH ALL VALVES AND SPECIALTY ITEMS MAY NOT BE SHOWN IN EVERY INSTANCE ON THE DRAWINGS, BUT ARE TO BE PROVIDED WHETHER SHOWN OR NOT WHEN NECESSARY FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEM. SERVICE VALVES (STOPS) FOR HOT AND COLD SHALL BE 1/4 TURN CHROME PLATED BRASS 'SHALL HAVE COMPRESSION INLET, SERVICE VAL DOMESTIC WATER PIPING SHALL BE SUBJECT TO STATIC WATER PRESSURE OF 50 PSI ABOVE OPERATING PRESSURE FOR A PERIOD OF 4 HOURS WITHOUT LEAKS OR LOSS OF TEST PRESSURE. REPEAT TEST AFTER REPAIRING LEAKS AND DEFECTS UNTIL SYSTEM PASSES TEST. PIPE CLEANOUTS SHALL BE PIPE SIZE; HOWEVE UNLESS OTHERWISE NOTED, VALVES AND SPECIALTY ITEMS ARE TO BE RATED AT 125 PSIG. DEVICES AND VALVES 2—1/2" AND SMALLER ARE TO HAVE THREADED CONNECTIONS AND THOSE 3" AND LARGER ARE TO HAVE FLANGED CONNECTIONS. FLASHING VENT AT ROOF THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OF THE STATEMENT ALONG WITH EQUIPMENT MANUFACTURER'S WA ALL PARTS, MATERIAL, EQUIPMENT AND LABOR FURNISHED BEAR A ONE (1) YEAR, NO COST TO THE OWNER, WARRAI SHOULD THE SAMPLE NOT PASS THE HEALTH DEPARTMEN' DISINFECTED UNTIL THE WATER PASSES INSPECTION BY TH ADEQUACY OF THE WATER FOR HUMAN CONSUMPTION SH! LEAKS DEVELOPING SUBSEQUENT TO THESE TESTS SHALL MEANS. ALL LEAKS SHALL BE REPAIRED BY REMOVAL OF LEAKING AND REINSTALLING NEW MATERIAL WITH JOINTS . WHEN DELICATE CONTROL MECHANISMS ARE INSTALLED IN THE TESTS TO PREVENT SHOCK DAMAGE. THIS DOES NOT DELICATE CONTROLS WASTE AND VENT PIPING SHALL BE TESTED BY CLOSING OPENINGS IN THE PIPING SYSTEM AND FILLING PIPING WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10—FOOT HEAD OF WATER. FROM 15 MINUTES BEFORE INSPECTION STARTS TO COMPLETION OF INSPECTION, WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS. ALL PIPING INSTALLED ON THE PROJECT, UNLESS SPECIFICALLY SHOWN OTHERWISE, SHALL BE HYDRAULICALLY TESTED AS SPECIFIED HEREIN. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL EQUIPMENT REQUIRED TO MAKE THE TESTS SPECIFIED HEREIN. ALL PIPING SHALL BE TESTED PRIOR TO BACKFILLING OR CONCEALING. AVAILABLE MANUFACTURERS FOR TRIM: SYMMONS, KOHLER ZURN. VALVES AND SPECIALTY ITEMS ALL VENT PIPES PASSING THROUGH THE ROOF SHALL BE EVERY TRAP SHALL BE PROTECTED AGAINST SIPHONAGE ASSURED BY MEANS OF A SOIL OR WASTE STACK VENT, WITH SOLVENT WELDED HOSE BIBBS SHALL BE MOUNTED AT 14" AFG FOR EXTERIO COORDINATED WITH CASEWORK AND FIXTURES FOR INTERIO SHALL BE RUN AS DIRECT AND AND TERMINATE NOT LESS THAN 쁀 JOSAM OR 6 . NOT BE REPAIRED BY MASTIC OR OTHER TEMPORARY THE VALVE, FITTING, JOINT, OR SECTION THAT IS AS SPECIFIED HEREIN BEFORE. WADE ARE ACCEPTABLE. AND BACK PRESSURE. AIR CIRCULATION SHALL BE A CONTINUOUS SOIL OR WASTE VENT OR CIRCUIT VENT. ABOVE WARRANTY REQUIREMENTS IN A WRITTEN RRANTIES. T TEST, THEN THE SYSTEM SHALL BE DRAINED AND HE HEALTH DEPARTMENT AND A LETTER STATING THE ALL BE SENT TO THE ENGINEER. FLASHED AND COUNTER-FLASHED. FLASHING SHALL NOT PIPE AND TURN DOWN INSIDE THE VENT 3". OR LOCATIONS. HOSE BIBBS LOCATION SHALL BE UNDER THIS SECTION OF THE SPECIFICATIONS SHALINTY FROM DATE OF SUBSTANTIAL COMPLETION. AND STAINLESS STEEL COVER. FLOOR CLEANOUTS FREE FROM BENDS AS POSSIBLE. SOIL STACKS SHALL 6" OR MORE THAN 12" ABOVE THE FINISHED ROOF THE PIPING SYSTEM, THEY SHALL BE REMOVED DURING APPLY TO CONTROL VALVES. OTHERWISE SPECIFICALLY DETAILED OR CALLED FOR, FROM THE OUTLET TO THE TRAP WEIR. FIXTURES IIBCO, BRASSCRAFT CHURCH, BEMIS & BENEKE HED CHROME OR BRASS.



BMK 20903

ISSUED FOR

BRADENTON, FLORIDA

421 17TH AVE.

WEST

MANATEE COUNTY

VNER'S NAME AND

					WHA	P-10	P-9	P-8	P-7	P-6	P-5	P-4	P-3	P-2	P-1	MARK	
1 DRINKING FOUNTAIN		QUANTITY		F	SHOCK ARRESTORS	TRAP PRIMER	SINK- DROP-IN 19X19	SERVICE SINK	FLOOR DRAIN	HOSE BIBB (WALL TYPE)	WATER COOLER	STAINLESS STEEL LAVATORY	LAVATORY-ADA	WATER CLOSET - WALL MTD FLUSH VALVE - TOP SPUD	WATER CLOSET-ADA- FLOOR MTD FLUSH TANK	DESCRIPTION	
		DESCRIPTION		FLORIDA BUILDING CODE	SIOUX CHIEF WILKINS ZURN	PPP	ELKAY	ZURN	WATTS	ZURN	ELKAY	BRADLEY	AMERICAN STANDARD	BRADLEY	AMERICAN STANDARD	FIXTURE MFG.	
				DING CODE	SIZE AS PER PDI STANDARDS.	P-1 OR P-2	LR191910	Z-1996-24-HH- MH-WG-SD-SF	FD-390-E-63	Z-1341-P34-RC	VRCSCTL8SC	LAV6101FM-BCA- 4" SET	0355.012	WC7249FM-TOP- PSEAT	2467.016	CATALOG NO.	
0.25	COLD	FIXTUI		2007 - F	-	-	T&S BRASS	-	1	ı	-	BRADLEY	SYMMONS	SLOAN	-	TRIM MFG.	PLUI
0	НОТ	FIXTURE UNIT (F.U.) (EACH)		PLUMBING	ı	ı	B-2866/B-0199 -07F-05	ı	1	ı	ı	S53-053	S-61-G	111-1.6-YK	ı	CATALOG NO.	PLUMBING FIXTURE
0.25	COMB.	асн)	WATER DEMAND	FIXTURE U	WATER HAMMER AI 3/4" SIOUX CHIEF	PROVIDE STAINL	P-TRAPS	PLUMBER TO PE BRACKET AND I	PROVIDE TRAP	PROVIDE LOOSE KEY HANDLE	VANDAL RESISTAN LOUVERS. PROVIDE MOUNTING POINTS.	STAINLESS LAV BOTTOM COVER 2X4 BRACING, F	MCGUIRE CAST WHITE HANDICA FIXTURE SHALL	PROVIDE WATTS	AMERICAN STAN		TURE SCHE
0.25	COLD	FIXTURE	EMAND	UNIT SCHEDULE	RESTOR 653-B	ESS STEEL, VAND	IN CONCEALED SPACES	ROVIDE INSTALLAT HOSE.	TRAP PRIMER ADAPTER.	KEY HANDLE.	VANDAL RESISTANT ELECTRIC WATER COOLER WITH PERFORATED STAINLESS STEEL LOUVERS. PROVIDE 2X4 WOOD BACKING AND UTILIZE LAG BOLTS IN ALL POSSIBLE MOUNTING POINTS.	ATORY, NO EXPOS FIXTURE SUPPLY FIXTURE SHALL BI	MCGUIRE CAST BRASS P-TRAP W/ TUBLAR W WHITE HANDICAP LAV-GUARD INSULATION KIT FIXTURE SHALL BE SECURED WITH LAG BOLTS.	#ISCA-141 CARRIER.	STANDARD 5901.100 SEAT.		SCHEDULE
0.00	нот	JRE UNITS (TOTAL))ULE	IG ILKINS 1250—B O	DAL PROOF ACCE	SPACES MAY BE PVC.	TION OF FAUCET,	•		ATER COOLER WIT	SED MOUNTING F/ Y SHALL BE ROU E SECURED WITH	W/ TUBLAR WALL SULATION KIT #11 H LAG BOLTS.		SEAT.	REMARKS	
0.25	COMB.	L)			R SIZING OR WILKINS 1250-B OR ZURN Z1700-200	SS PANEL. PROV		MOP HANGER, W			H PERFORATED S JZE LAG BOLTS I	ASTENERS. METER GHED INTO LAVA LAG BOLTS.	. BEND (SIZE AS 02. PROVIDE 2X4	SECURE FLUSH VALVE WITH HANGER			
1.50	F.U. (EACH) F.	FIXTURE UNIT	SANITAR		200	PROVIDE STAINLESS STEEL, VANDAL PROOF ACCESS PANEL. PROVIDE SHUT OFF VALVE, UNION, AND PIPING TO $P\!-\!7$.		TO PROVIDE INSTALLATION OF FAUCET, MOP HANGER, WALL GUARDS, HOSE AND HOSE.			STAINLESS STEEL IN ALL POSSIBLE	STAINLESS LAVATORY, NO EXPOSED MOUNTING FASTENERS. METERING FAUCET AND BOTTOM COVER. FIXTURE SUPPLY SHALL BE ROUGHED INTO LAVATORY CAVITY. PROV 2X4 BRACING, FIXTURE SHALL BE SECURED WITH LAG BOLTS.	MCGUIRE CAST BRASS P—TRAP W/ TUBLAR WALL BEND (SIZE AS REQUIRED). TRUEBRO WHITE HANDICAP LAV—GUARD INSULATION KIT #102. PROVIDE 2X4 WOOD BRACING, FIXTURE SHALL BE SECURED WITH LAG BOLTS.	HANGER.			
1.50	F.U. (TOTAL)	(F.U.)	Y		AS REQUIRED	Æ, 1/2"	1/2"	1/2"	-	3/4"	1/2"	VIDE 3/4"	RO 1/2"		1/2"	CW	
					1	ı	1/2"	1/2"	1	1	ı	ı	ı	1	1	НW	
					ı	ı	2"	3"	3"	ı	2"	I	2*	3,"	3"	W	
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	WATER CLOSET, PUBLIC FLUSH VALVE	KITCHEN SINK, DOMESTIC	WATER CLOSET, PUBLIC FLUSH TANK	SINK SERVICE	LAVATORY (PUBLIC)	FLOOR DRAINS	DRINKING FOUNTAIN		_					9			TYPE)		LAVATORY		WALL MTD FLUSH VALVE -	- FLOOR MTD FLUSH	ESCRIPTION	
	JSH VALVE		JSH TANK						DESCRIPTION		FLORIDA BUIL	SIOUX CHIEF WILKINS ZURN	PPP	ELKAY	ZURN	WATTS	ZURN	ELKAY	BRADLEY	AMERICAN STANDARD	BRADLEY	AMERICAN STANDARD	FIXTURE MFG.	
											BUILDING CODE	SIZE AS PER PDI STANDARDS.	P-1 OR P-2	LR191910	Z-1996-24-HH- MH-WG-SD-SF	FD-390-E-63	Z-1341-P34-RC	VRCSCTL8SC	LAV6101FM-BCA- 4" SET	0355.012	WC7249FM-TOP- PSEAT	2467.016	CATALOG NO.	
	10.00	1.00	5.00	2.25	1.50	0	0.25	COLD	FIXTU		2007 - F	ı	I	T&S BRASS	1	-	ı	ı	BRADLEY	SNOMMYS	SLOAN	ı	TRIM MFG.	PLU
	0	1.00	0	2.25	1.50	0	0	НОТ	FIXTURE UNIT (F.U.) (E		PLUMBING I	I	ı	B-2866/B-0199 -07F-05	-	ı	1	ı	S53-053	S-61-G	111-1.6-YK	1	CATALOG NO.	PLOMBING FIXIORE
TOTAL:	10.00	1.40	5.00	3.00	2.00	0	0.25	COMB.	(EACH)	WATER DI	FIXTURE U	WATER HAMMER 3/4" SIOUX CHI	PROVIDE STAINLESS UNION, AND PIPING	P-TRAPS	PLUMBER TO PR BRACKET AND H	PROVIDE TRAP I	PROVIDE LOOSE	VANDAL RESISTAN LOUVERS. PROVIDE MOUNTING POINTS.	STAINLESS LAVA BOTTOM COVER. 2X4 BRACING, F	MCGUIRE CAST WHITE HANDICAR FIXTURE SHALL	PROVIDE WATTS	AMERICAN STAN		
29.50	10.00	1.00	10.00	2.25	6.00	0.00	0.25	COLD	FIXTURE	DEMAND	UNIT SCHEDULE	WATER HAMMER ARRESTOR SIZING 3/4" SIOUX CHIEF 653-B OR WILKINS 1250-B	ESS STEEL, VANDAL PROOF	IN CONCEALED SPACES	TO PROVIDE INSTALLATION AND HOSE.	TRAP PRIMER ADAPTER.	KEY HANDLE.	VANDAL RESISTANT ELECTRIC WATER COOLER WITH PERFORATED STAINLESS STEEL LOUVERS. PROVIDE 2X4 WOOD BACKING AND UTILIZE LAG BOLTS IN ALL POSSIBLE MOUNTING POINTS.	STAINLESS LAVATORY, NO EXPOSED MOUNTING FASTENERS. METERING FAUCET AND BOTTOM COVER. FIXTURE SUPPLY SHALL BE ROUGHED INTO LAVATORY CAVITY. PROVIDE 2X4 BRACING, FIXTURE SHALL BE SECURED WITH LAG BOLTS.	MCGUIRE CAST BRASS P-TRAP W/ TUBLAR WALL BEND (SIZE AS WHITE HANDICAP LAV-GUARD INSULATION KIT #102. PROVIDE 2X4 FIXTURE SHALL BE SECURED WITH LAG BOLTS.	IDE WATTS #SCA-141 CARRIER. SECURE FLUSH VALVE WITH HANGER	STANDARD 5901.100 9		SCHEDULE
9.25	0.00	1.00	0.00	2.25	6.00	0.00	0.00	НОТ	JRE UNITS (TOTAL))ULE	G LKINS 1250-B OR	AL PROOF ACCESS	MAY BE PVC.	ION OF FAUCET, MOP			TER COOLER WIT	SECURED WITH	W/ TUBLAR WALL SULATION KIT #10 H LAG BOLTS.	NER. SECURE FLU	SEAT.	REMARKS	
32.65	10.00	1.40	10.00	3.00	8.00	0.00	0.25	COMB.	L)			R ZURN Z1700-200	SS PANEL. PROVIDE					H PERFORATED S	ASTENERS. METER GHED INTO LAVA LAG BOLTS.	. BEND (SIZE AS 02. PROVIDE 2X4	JSH VALVE WITH			
<u> </u>	6.00	2.00	4.00	2.00	2.00	2.00	1.50	F.U. (EACH)	FIXTURE UNIT (F.U.)	SANITARY		200	SHUT OFF		HANGER, WALL GUARDS, HOSE			STAINLESS STEEL IN ALL POSSIBLE	RING FAUCET AND TORY CAVITY. PR	REQUIRED). TRUEBRO WOOD BRACING,	HANGER.			
29.50	6.00	2.00	8.00	2.00	8.00	2.00	1.50	F.U. (TOTAL)	IT (F.U.)	RY		AS REQUIRED	VALVE, 1/2"	1/2"	SE 1/2"	ı	3/4"	1/2"	OVIDE 3/4"	EBRO 1/2"	1,	1/2"	CW	ı
												ı	ı	1/2"	1/2"	ı	ı	ı	ı	ı	1	ı	HW	
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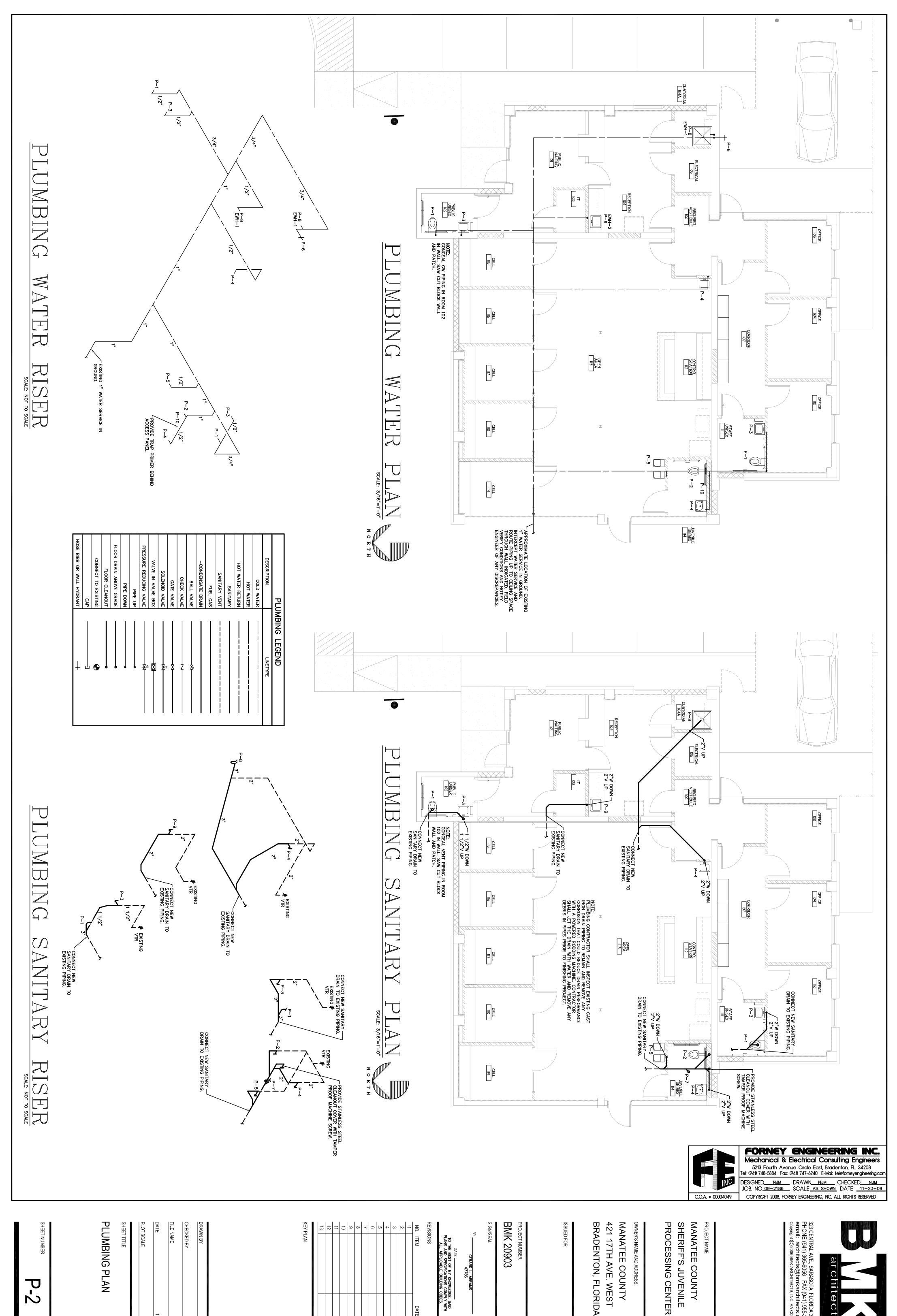
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