#	Rv #	ELECTRICAL CRITERIA - GENERAL CONDITIONS	Check Off
EC- 01	-	PERMITS & FEES: Secure & pay for all fees, licenses, permits, inspections. <u>Submit Copy</u> Of Each Permit	
EC- 02	-	LICENSE(S)-BUSINESS: This Contactor Shall Be Properly Licensed Business Wise, In This Project State, In Accordance With All Applicable State Laws. <u>Submit Copies</u> Of Business License(s).	
EC- 03	-	BONDING & INSURANCE(s): This Contactor Shall Be Properly Bonded And Insured In Accordance With The General & Supplements Requirement Of The Project Document. Submit Copies Of All Such Documents.	
EC- 04	_	COORDINATION OF OTHER TRADES- This contractor is responsible for coordinating with all other trades for the proper installation of this work, maintaining required clearances, and confirming the electrical characteristics and requirement of electrical power equipment of other trades (prior to ordering equipment). Submit Copies Of All Such Documents.	
EC- 05	-	MANUFACTURERS, ALTERNATES & SUBSTITUTIONS- Components & products are to be provided matching the prescribed characteristics, features, performance, types, etc. based on the Manufacturer & Series as given. NO After-"Bid" Alternates, Changes Or Substitutions Accepted Or Allowed. Prior-To-Bid Request For Acceptance Must Be Submitted To Architect & Engineer NO-LESS Than Two-Business-Weeks Prior To Bid Date. Request-For-Acceptance Must Include Complete & Marked Product Data Indicating Full Matching Compliance. Any Variations Must Be Marked & Noted. Acceptance Will Be At The Description Of The A/E Judgment.	
EC- 06	_	SUBMITTALS- Provide compete submittals on all items. Mark & indicate specific items to be used. Submit prior to finalizing orders. Submit three sets min., or per General Conditions.	
EC- 07	-	WARRANTY- This contractor shall warrant all materials, labor & installation for one full year from date of Substantial Completion. Any extended product warranties shall be passed onto the owner.	
-		End Of Electrical Criteria - General Conditions	I

#	Rv #	ELECTRICAL CRITERIA - BASICS CRITERIA
EB- 01	-	GENERAL- Provide a complete electrical system, left in proper working order. Provide herein means installed completely, including labor & materials.
EB- 02		LICENSE(S)-ELECTRICAL: This Contactor Shall Be Fully Licensed To Perform Electrical Work, In This Project State, For The Type Of Work To Be Performed In Accordance With All Applicable State Laws. Submit Copies Of Electrical License(s).
EB- 03	-	CODES - Meet & comply with all prevailing Federal, State, County & City Codes Including NEC (NFPA-70); ICC-IBC & any Ga Amendments; ICC-IEC & any Ga Amendments.
EB- 04	-	PERMITS & FEES: Secure & pay for all fees, licenses, permits, inspections. <u>Submit Copy</u> Of Each Permit
EB- 05	_	COORDINATION OF POWER UTILITY- Coordinate & verify, in writing, with the utility power company, confirming the electrical power arrangements, characteristics (Voltage, Phase, Transformer Type & KVA, Fault-Current, Etc.), metering arrangement and equipment locations. Copy Own/ Archt/ Engr.
EB- 06	-	COORDINATION OF LV COMMUNICATIONS UTILITY- Coordinate & verify, in writing, with the LV Communications Utility Company, confirming the LV Com Service routing, conduit quantity & sizes, termination locations, and other related requirements.
EB- 07	-	PROVISIONS TO BE INCLUDED- Labor, supplies and materials, tools, equipment, etc.; installation of all electrical equipment & connections; coordination with other trades; material shipping, delivery, receiving, storage, & protection; excavation, backfilling, cutting, patching and cleaning; guarantee for one year, plus any extended manufacturer's warranties; as-built reproducible Mylar record documents.
EB- 08	-	MATERIALS- All materials shall be new, currently manufactured, U.L. labeled, and meet all industry standards. Label all equipment. Provide 3000 PSI class concrete for bases and backfill. Provide 3/4" thick A/D fire retardant grade backboards. Provide all support hardware and systems for electrical work. Fire/smoke seal each penetration of any rated barrier (floor, wall, etc.).
EB- 09	-	MOTORS & CONTROLS- Motors are furnished and installed under other specification sections. Control and interlock wiring is furnished and installed under other specification sections. Individually mounted starters are furnished under other sections, mounted and power wiring connections provided under this section.
		ELECTRICAL CONNECTIONS- Provide power wiring complete to all items. Coordinate actual

EB- equipment characteristics with drawing. Provide backboards for equipment mounting. Label all equipment and over-current protective devices with equipment name, voltage, ratings,

INSTALLATION STANDARDS: All electrical work shall be installed in accordance with the NEC, NEIS (Nat. Electrical Installation Stds..), related codes and the manufacturer's

and O.C.P. ratings.

published requirements.

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		End Of Electrical Criteria - Basic Materials & Methods
#	Rv #	ELECTRICAL CRITERIA - BONDING & GROUNDING
EG-		BONDING & GROUNDING GENERAL: Provide components, conductors, fittings and
01	-	hardware to provide for an electrical system that is completely bonded and grounded with
		the NEC and these requirements
EG-	-	GENERAL REQUIRMENTS: Provide for the complete Bonding & Grounding of the entire
02		electrical system, including bonding for communication systems.
EG-		BUILDING BONDING: Provide for the Bonding together of all metallic systems in the facility,
03	-	including but not limited to, structural steel, slab rebar, water piping, fire-protection piping, gas piping, HVAC system piping.
EG-		SUBMITTALS- Provide compete submittals on all items. Mark & indicate specific items to be
04	-	used. Submit prior to finalizing orders. Submit three sets min., or per General Conditions.
EG-	_	GROUNDING IN-GRADE CONDUCTORS: Bare, Tin-Plated Copper Of Size & Rating As
05		Scheduled or Required.
EG-		BONDING & GROUNDING CONDUCTORS:- #10 and smaller - solid copper THHN/THWN
06	-	Green Jacket Color; #6 & 8 - stranded copper THHN/THWN black jacket; #4 & larger -
	-	stranded copper THHN/THWN identified with Green Tape.
EG-		CONNECTIORS, IN-GRADE TYPE: UL Labeled for the application, location & use. Heavy-
07	-	Duty Pure Wrought Copper fitting & devices. Compression type connections. BURNDY HYGROUND Series or Equivalent.
		CONNECTIONS, COPPER- Twist on type for #8 and smaller copper conductors. Set
EG-	_	screw/bolted type for #4 and larger copper conductors. Completely insulate each
-08		connection, splice, termination.
		GROUND RODS (ERITECH 683400 Rod): Provide 10 Foot Long, 0. 75 In Diameter, Tin-On-
F.C.		Copper 10 Mil. Plated Steel Pointed Ground Rod, driven into earth with top 18 Inches below
EG- 09	-	finished grade with inspection/ test well cover, top flush with grade. ANSI/UL-467 & ANSI/
09		NEMA-GR1. Mechancial Direct-Burial Ground Connector or Exothermic-Weld all ground
		cables to rods.
EG-	_	GROUND ROD INSPECTION WELLS/ ERITECH Wells - Where indicated or required, provide
10		Ground Rod Inspection/ Test Well & Cover, top flush with grade.
		MASTER GROUND BAR (MGB) (BURNDY BBB or ERICO TGB/TMGB)- Provide bare solid
		Alloy 110 Cu bus bar, electro-tin-plated, with pre-punched holes for two-bolt ground lugs,
EG-		mounted on stainless steel brackets with insulated flame-resistant stand-offs. 0.25 Inch Thick,
11	-	4 Inch High, 20 Inch Long. UL 467 & C22.2 Listed. Anchor to structural wall at height as
		indicated or noted. Connection to this bar shall be by two-hole bolt lugs, exothermic welded
		or irreversible crimp connected to the respective cable. Locate at or near the electrical
	-	service main disconnect. Label MASTER GROUND BAR ISBT (Inter-System-Bonding-Termination) GROUND BAR (ISBT) (ILSCO PET or Equal):
EG-	_	Provide dual-rated, 8-hole lug with 2-predrilled mounting holes. Attach to each TELCO
12		backboard for bonding of LV systems by others. Label ISBT GRND.
	-	INSTALLATION STANDARDS: All bonding & grounding shall be installed in accordance with
EG-	-	the NEC, NEIS (Nat. Electrical Installation Stds.), related codes and the manufacturer's
13		published requirements.
	<u> </u>	

End Of Electrical Criteria - Bonding & Grounding

#	Rv #	ELECTRICAL CRITERIA - CONDUITS, BOXES & FITTINGS	Chk Off
R-		GENERAL- All wiring for power and systems shall done in accordance with the applicable	
01	-	codes. All materials shall be U.L. labeled, matched for proper applications and installed in	
U I		accordance with U.L. & manufacturer's requirements.	
R-		SUBMITTALS- Provide compete submittals on all items. Mark & indicate specific items to be	
02	-	used. Submit prior to finalizing orders. Submit three sets min., or per General Conditions.	
R-	-	GENERAL UNDERGROUND- All underground, in-slab, exterior and exposed or surface	
03	-	mounted wiring shall be in conduits, unless otherwise directed.	
ER-	-	GENERAL CONCEALED- All wiring shall be concealed where possible (i. eabove	
04	-	ceilings, in walls, in slabs, or underground).	
ĒR-	-	GENERAL EXPOSED- Exposed conduits shall be routed as high as possible and parallel	
05	-	or perpendicular to structural elements.	
		GENERAL BOXES- Provide boxes for all connections, devices, system, etc. Coordinate	
R-	-	box sizes with structure to which it will be secured. Coordinate the exact final box location	
06		with the architectural/interior drawings prior to rough-in of box.	
ER-		CONDUITS, IMC- conduit & fittings shall be utilized for exterior exposed locations and interior	
07	-	exposed locations subject to damage.	
-1		CONDUITS, EMT- EMT conduit & fittings shall be utilized for in slabs not on grade,	
ER-		concealed dry interior locations, interior exposed locations above 10'0" A. F. F. with set	
08	-	screw fittings indoor concealed dry locations and compression raintight fittings in slabs, and	
-		damp locations.	
	-		
ER-	_	CONDUITS, PVC- conduit & fittings shall be utilized in slabs on grade, conduits in earth. PVC	
09		fittings, boxes, etc. shall be of same manufacture with solvent bond. Depth per code.	
	-	CONDUITS, FLEXIBLE- Flexible metallic conduit & fittings shall be utilized where motion or	
ER-		vibrations are encountered. Liquid-tight type flex shall be used in damp or wet locations, (i.	
10	-	e outdoors, kitchens, areas subject to wash down, shops & industrial areas, etc.).	
10		Provide ground wire in all flex.	
	-	CONDUIT MISC. FITTINGS- Conduit expansion/deflection fittings shall be utilized where	
		crossing expansion joints, floating slabs or isolated slabs. Conduit thru wall seals shall be	
ER-	_	utilized where crossing between interior/exterior or damp locations. Conduit fire seals shall	
11		be utilized where passing thru fire rated construction, U. L. fire and smoke seal to maintain	
		the fire rating of the barrier.	
	-	CONDUIT BOXES- Utilize interior stamped steel for indoors dry flush mounted devices.	
		Masonry/tile for indoors dry flush mounted devices. Concrete boxes for flush mounting in	
ER-	_	poured concrete. Cast metal boxes for surface mounted devices, or damp/wet locations.	
12	-	Junction & pull boxes as required or needed. Galvanized steel wire-ways with hinged front	
		cover, only permitted where noted.	
		FLOOR BOXES - Utilize flush-in-floor type, adjustable post-pour, PVC base with brass flip-lid	
ER-		covers. Gang qty to match application & conduit entries., Covers to match device types.	
13	-		
ER-		Hubbell, Steel City or Wiremold SIESMIC BRACING & SUPPORT- All work shall be anchored, braced & supported in	
	-	, , , , , , , , , , , , , , , , , , , ,	
14	-	accordance with he Local Seismic Zone rating requirements.	
R-		INSTALLATION STANDARDS: Each item shall be installed in accordance with the NEIS (Nat.	
15	-	Electrical Installation Stds.), NEC & related codes and the manufacturer's published	
	+-	requirements.	
	_	End Of Electrical Criteria - Conduits, Boxes & Fittings	
#	Rv	ELECTRICAL CRITERIA - LOW VOLTAGE CONDUCTORS	Chk
	#	ELECTRICAL CRITERIA - LOW VOLTAGE CONDUCTORS	Off
-C-	1		1 1

		End of Electrical officials, 2000 a Fittings			manual/electric trip open. GFCI on switches 1000A FUSES- Fuses shall be of
#	Rv #	ELECTRICAL CRITERIA - LOW VOLTAGE CONDUCTORS	Chk Off	ED-	three wire O.C.P. at a de
EC- 01	-	CONDUCTORS GENERAL: Provide conductors for all circuiting, wiring and systems.		21	L) for protection over 600 (600V) (U.L. 198E Class F
EC- 02	-	SUBMITTALS- Provide compete submittals on all items. Mark & indicate specific items to be used. Submit prior to finalizing orders. Submit three sets min., or per General Conditions.		ED- 30	PANELBOARDS GENER door, NEMA 1 cabinet un phase, ampacity and dev
EC- 03	_	CONDUCTORS COLOR CODED: Each conductor shall be properly color coded to represent it's respective phase, neutral, ground, etc. Wire sizes #12 thru #8 shall have continuous color-coded jacket. Larger wire sizes shall have colored tape at each termination, pull-box,			rated and labeled, unless All lugs & terminals 60/75 PANELBOARD STANDAR
EC-	_	etc. CONDUCTOR LABELING: Each circuit labeled on the conductor and at each box.		31	and PB1; NFPA 70-384 a & Fusible Switches- Type
04 EC- 05	-	CONDUCTORS, COPPER- #12 & #10 - solid copper THHN/THWN color coded; #6 & 8 - stranded copper THHN/THWN black jacket; #4 & larger - stranded copper THHN/THWN. No		ED- 32	SHORT CIRCUIT RATING Circuit Current available a Level & protective require
EC- 06	-	conductors less than #12 Cu allowed, unless specifically noted or control wiring. CONDUCTORS, ALUMINUM- Aluminum (AL) not permitted unless noted. Where noted, conductors shall be compact strand type, THHN/ THWN.		ED- 33	PANELBOARD INTERIOR numbering, sequence ph & neutral bus, 50% groun
EC- 07	-	CONNECTIONS, COPPER- U.L. Listed, 600V, 90C rated; Twist on type for #8 and smaller copper conductors. Set-Screw, Bolted or Compression type for #4 and larger copper conductors. Completely insulate each connection, splice, termination.		ED- 34	OCP DEVICES, COMPOI components and related Refer to Over-Current Pro
EC- 08	-	CONNECTIONS, ALUMINUM- U.L. Listed, 600V, 90C rated, compression, split-bolt, or set-screw type(s),for Aluminum or Dual-Rated. Completely insulate each connection, splice, termination.		ED- 35	PANEL DIRECTORIES - / NEC-110.22 & 408.4(A)
EC- 09	-	CONNECTIONS, DAMP & WET LOCATION- UL Listed 486D type connector for damp & wet locations, sealant filled type. IDEAL Model 66 or Equal		ED-	SWITCHBOARDS GENER scheduled. Voltage, phas
EC- 10	-	CONNECTIONS, IN-GRADE, UNDER-GROUND, SUBMERSIBLE, WATER-TIGHT- UL Listed 486D, 600V, 90C rated for In-Grade, Direct-Burial, Submersible.		40	applicable. Free-Standing terminals 60/75 deg. C ra
EC- 11	-	GROUNDING CONNECTIONS, IN-GRADE, UNDER-GROUND, SUBMERSIBLE- UL 467 Listed, 90C rated, Compress Or Bolt Type With Inhibiting compound; For Use In Earth or Concrete.		ED- 41	SWITCHBOARD STANDA Listed & Labeled. Labele Specs. W-P-115c; Circuit
EC- 12	_	METAL-CLAD (MC) CABLE (CONCEALED WIRING)- Contractor may utilize Metal-Clad (Type MC) for interior concealed branch circuit wiring in accordance with the code. All materials, fittings, hardware, etc. shall be U.L. labeled for use with MC cable and properly installed and		ED- 42	SHORT CIRCUIT RATING Circuit Current available a Level & protective require
		supported. Type MC cable shall have an integral full length ground conductor, bonded to a ground lug or terminal at each end. INSTALLATION STANDARDS: All wiring & connects shall be installed in accordance with the		ED- 43	SWITCHBOARD INTERIO aluminum busing unless obus.
13	-	NEIS (Nat. Electrical Installation Stds.), NEC & related codes and the manufacturer's published requirements.		ED- 44	OCP DEVICES, COMPOR components and related Refer to Over-Current Pro
		End Of Electrical Criteria - Low Voltage Conductors	•	ED-	CIRCUIT DIRECTORIES -
				45	NEC-110.22 & 408.4(A)

terminals 60/75 deg. C rated.

Level & protective requirements (PPE).

Refer to Over-Current Protective (OCP) devices criteria.

1/2% below normal full capacity winding taps.

SWITCHBOARD STANDARDS- The equipment and all installed components shall be UL Listed & Labeled Labeled UL 891; NEMA 250 and PB2; NFPA 70-384 and 373; Federal Specs. W-P-115c; Circuit Breakers- Type I Class 1 & Fusible Switches- Type II, Class 1. SHORT CIRCUIT RATING & ARC-FLASH LABELS: Match or exceed the Available Short Circuit Current available at the actual panel location; Properly label with Arc-Flash Energy

SWITCHBOARD INTERIOR- Factory preassembled, sequence phased. Tin-plated copper or aluminum busing unless otherwise noted. Full ampacity phase & neutral bus, 50% ground

components and related as scheduled and / or required. Refer to panel schedule for details.

CIRCUIT DIRECTORIES - All Circuit Directories Shall Be Current, Fully Detailed & Legible Per

TRANSFORMERS GENERAL- Provide dead-front dry-type transformer. Labeled per UL #506, conform with NEMA #250, #ST20 and TR27. General purpose air-cooled dry-type construction. Size, capacity, primary and secondary voltage, as indicated. NEMA 1

enclosure for indoor dry locations, NEMA 3R enclosure for damp/wet locations. Dead-front construction with removable covers. Maximum temperature rise by resistance of 115

degrees C. in a 40 degrees C. ambient. 75 degrees C. maximum terminal compartment with 60/75 degree C. lugs to match the conductor types. Two 2-1/2% above normal and four 2-

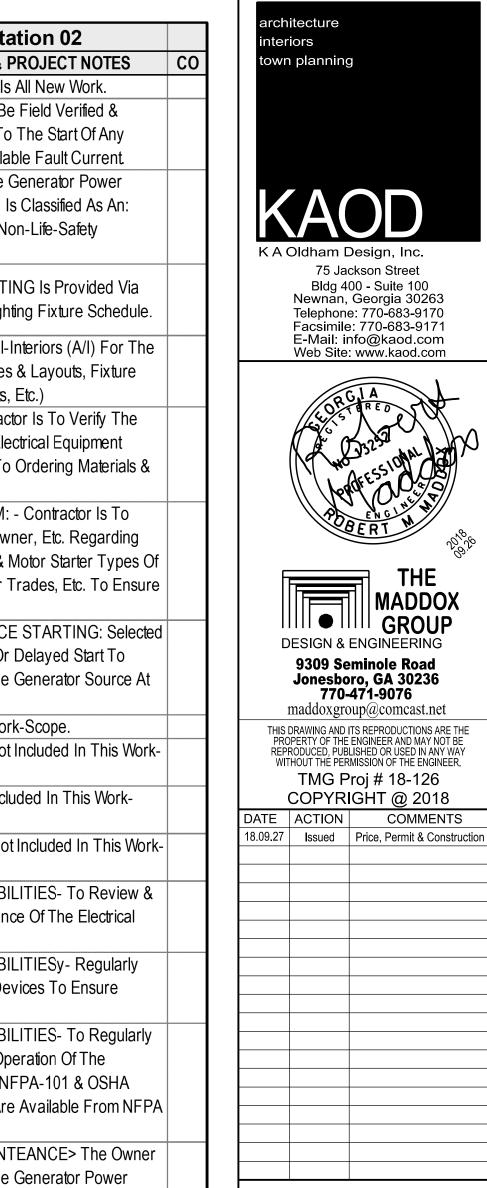
End Of Electrical Criteria - Low Voltage Electrical Distribution Gear

OCP DEVICES, COMPONENTS, ETC: Provide all over-current-devices and other

Rv #	ELECTRICAL CRITERIA - LOW VOLT. ELECT. DISTRIB. GEAR	#	R\ #	ELECTRICAL CRITERIA - LIGHTING FIXTURES
-	GENERAL ITEMS GENERAL- Provide Low-Voltage Electrical Distribution Gear as required to provide for a complete system to distribute electrical power.	EL- 01		GENERAL- Provide a complete system of lighting, including but not limited to, lighting fixtures, lamps, lighting controls, hardware, support and related wiring. The lighting system shall be installed complete & left in proper operation & function.
-	ELECTRICAL RATINGS- Prior to ordering or submitting any electrical distribution equipment, verify all equipment ratings (Voltages, Phase, Short-Circuit With-Stand & Interrupting Ratings).			PRE_SUBMITTAL COORDINATION - Prior to issuing product submittals and / or ordering th contractor shall review & coordinate the specific construction each fixture is to be installed
-	EQUIPM. DIMENSIONS, CLEARANCES & ACCESS: Prior to ordering or submitting any electrical distribution equipment, verify dimensions, space requirements, clearances, access and interference with work of other trades.	EL- 02	- 1	any Fire-Ratings, fixture mounting & support, & attachment methods, & ballast voltages. Dimmed fixtures shall be coordinated with their respective dimmer controls for comp ability Fixtures that are to be fitted to Architectural features (i.ecoves, slots, etc.) shall be coordinated with the respective trades prior to submitting.
-	SUBMITTALS- Provide compete submittals on all items. Mark & indicate specific items to be used. Submit prior to finalizing orders. Submit three sets min., or per General Conditions.	EL- 03	-	SUBMITTALS - Prepare & submit project specific product documentation, including but not limited to , fixture cut-sheets with all model numbers, features & option indicated; specific lamps type(s). Custom type fixtures shall include the manufacturers shop fabrication
	LABELING & INSTALLATION FOLIDMENT LADELS: Provide Engraved Melamine Equipment Labele, Adhesive Attached			drawings.
-	EQUIPMENT LABELS: Provide Engraved Melamine Equipment Labels, Adhesive Attached To The Items Face Or Interior Cover. Label To Include Equipment Name, Voltage(s) And OCP Device Ratings If Applicable.	EL- 04	-	CODES & REQUIRMENTS- Each fixture shall be U.L. Labeled. Comply with the requirement of the NEC. Installation shall comply with the N.E.I.S. Emergency Lighting & Egress Signag shall comply with NFPA-101.
-	SAFETY & WARNING LABELS: Provide Clear & Legible Safety & Warning Labels On Each Item Of Electrical Distribution Gear As Required By The NEC, OSHA & Other Regulations.	EL- 05	- 1	ENERGY EFFICENCY CODES- Each fixture shall conform with energy code requirements.
-	ARC-FLASH LABELS: Provide Clear & Legible Arc-Flash Labels On Each Item Of Electrical Distribution Gear, Giving The Minimum Ratings, Arc-Flash Energy Level & Required PPE For	EL- 06	- 1	MANUFACTURERS SERIES- The Lighting Fixture Schedule describes the fixture type, features, lamp(s), and other characteristics that is to be provided. The Manufacturer's Mode Number are provided as a reference to the grade, quality, features & components required
	Each Specific Location. SIESMIC BRACING & SUPPORT- Equipment shall be anchored, braced & supported in			It is the responsibility of this Contractor to verify with the Manufacturer the actual final correct fixture make & model number required and to be submitted.
_	accordance with he Local Seismic Zone rating requirements.	EL-	-	MANUFACTURER(S) BASIS - The projects base quote shall be based on the prescribed
_	INSTALLATION STANDARDS: Each item shall be installed in accordance with the NEIS (Nat. Electrical Installation Stds.), NEC & related codes and the manufacturer's published	07	−	Manufacturer(s) as identified in the Lighting Fixture Schedule.
	requirements.			ALTERNATE MANUFACTURER(S) - Alternate Manufacturer(s) products may be proposed a Add / Deduct Alternate to the Original Base Bid (Post Bid Proposals Not Accepted). The
	OCP GENERAL- Provide over-current-protective (O.C.P.) devices as required by code	EL- 08		alternate proposal shall be supported with complete fixture and lamp data / cut-sheets with
	and/or otherwise prescribed. All lugs and terminals 60/75 deg. C rated.			the specific model, features & characteristics indicated. Any variation from the Lighting Fixture Schedule shall be noted / indicated.
	MOLDED CASE (MC) CIRCUIT BREAKERS- Thermal-magnetic, bolt-in, quick-make/quick-break type. Trip free operation with ON, OFF & TRIPPED position. Monolithic tie-handle	EL-	+	LAMPS- Lamps shall be a scheduled & Full Light Output, Energy Saving. Lamps shall be
	common trip and common reset multi-pole breakers. Trip rating molded on handle or face.	09		General Electric, Philips, or Osram /Sylvania unless otherwise noted.
	Lugs to match cable type terminations. Single pole 15 and 20 ampere breakers to be	EL- 10	- 1	LAMPS COLOR & CRI- Lamps, unless otherwise noted, shall be a 30k-35k Color and CRI of 80+ for Fluorescents & 90+ for LEDs.
	"SWITCHING" rated.	EL-		LED LAMPS- Shall be UL Labeled (#8750 & 1598c), tested & performance rated per ANSI/
	DISCONNECT REQUIRMENTS - NEMA 1 enclosure indoors, NEMA 3R for damp/wet locations. Voltage, poles, amperage, fusible as required. Equipped with both isolated	11	-	ANSLG, CIE, FTC, FCC, IES (LM-79, LM-80 & Related), NEMA
	neutral and ground lugs. Class H, J, R or T fuse with rejection features. Provide switch label.	EL- 12		LINEAR FLUORESCENT BALLAST- Shall be rated & matched to the specific lamp type(s) is serves, High Power Factor, Full Light Output, Energy Saving Electronic Type. Ballast shall be Multi-Volt (120-480) or Universal Voltage (120/277) & 10% THD or less.
	DISCONNECTS 30AMP. – 200AMP (240V Max) - Labeled per UL #98. NEMA KS1 general duty type, load make/break rated. Interrupting rating of 100,000 RMS amps (with R/ T fuse).			COMPACT FLUORESCENT LAMP (CFL) BALLAST- Shall be rated & matched to the specific
	DISCONNECTS 400 & 600 AMPERES - Labeled per UL #98. NEMA KS-1 heavy duty type,	EL- 13	- 1	lamp type(s) it serves, High Power Factor, Full Light Output, Energy Saving Electronic Type Ballast shall be Multi-Volt (120-480) or Universal Voltage (120/277) & 10% THD or less.
	load make/break rated. Interrupting rating of 200,000 RMS amps (with fuse). DISCONNECT OVER 600 AMPERES- Labeled per Ulf #977, bolted pressure or high	EL-	-	HIGH INTENSTIY DISCHARG (HID) BALLAST- Shall be rated & matched to the specific lamp
	pressure contact type. NEMA heavy duty type, load make/break rated. Accept Class L fuses (as required). Interrupting rating of 200,000 RMS (with fusing). Manual close -	14		type(s) it serves, High Power Factor, Full Light Output, Energy Saving Type. Ballast shall be Multi-Volt (120-480) or Universal Voltage (120/277) & 10% THD or less.
	manual/electric trip open. Load side phase under voltage detection/trip. Zero sequence GFCI on switches 1000A @ 277 and greater.	EL- 15		DIMMING BALLAST & CONTROLS- Provide fixtures with dimming type ballast as prescribed. The Ballast & Controls shall be fully coordinate & matched for proper system operation.
	FUSES- Fuses shall be of same make, manufacturer, type & rating where providing two or three wire O.C.P. at a device. Provide Busman LOW-PEAK KRP-C. fuses (U.L. 198 C Class	*********	+	EBIS (EMERGENCY BATTERY/ INVERTERS SYSTEMS) FOR FLUORESCENT LAMPS-
	L) for protection over 600 amperes. Provide Busman LOW-PEAK LPN-RK (250V) or LPS-RK	EL-		Provide Battery/ Inverter units where shown or required for emergency egress lighting in
	(600V) (U.L. 198E Class RK1) for protection up to 600 amperes.	16		accordance with NFPA-101 & NEC. 90 Minute operation (min.) unless otherwise noted. U.L. Listed & Labeled.
	PANELBOARDS PANELBOARDS GENERAL- Provide dead front design with hinged & locking front cover	EL-		EBIS FEATURES- EBIS units shall be Self-Diagnostic, Automatic Testing with Audio & Visua
	door, NEMA 1 cabinet unless otherwise noted and with devices as scheduled. Voltage,	17		alarm notification of trouble conditions. If the above feature is not available, provide Manual Test Switch w/ Indicator Lamp.
	phase, ampacity and devices as scheduled. Service entrance rated as applicable. Series rated and labeled, unless indicated otherwise. Flush or surface mounted NEMA 1 enclosure.	EL-	+	EBIS TEST FEATURES- units shall be Self-Diagnostic, Automatic Testing with Audio & Visu
	All lugs & terminals 60/75 deg. C rated.	18	_	alarm notification of trouble conditions.
	PANELBOARD STANDARDS- Labeled UL 67 and 50 (Cabinets, Boxes & Trim); NEMA 250 and PB1; NFPA 70-384 and 373; Federal Specs. W-P-115c; Circuit Breakers- Type I Class 1	EL-		EBIS LINEAR LAMP PERFROMANCE - The EBIS shall provide the following minimum Lumen outputs. 48 Inch, 14-32 Watt lamps @ 1100-1400 Lumens. 48 Inch T5 20-55 Watt @
	& Fusible Switches- Type II, Class 1.	19		1800-3000 Lumens
	SHORT CIRCUIT RATING & ARC-FLASH LABELS: Match or exceed the Available Short	EL-	-	EBIS CFL LAMP PERFROMANCE - The EBIS shall provide the following minimum Lumen outputs. CFL 09-13 Watt, 2-Piin @ 350-650 Lumens. CFL 13-26 Watt, 2-Pin @ 500-950
	Circuit Current available at the actual panel location; Properly label with Arc-Flash Energy Level & protective requirements (PPE).	20		Lumens; CFL 09-42 Watt 4-Pin @ 1100-1400 Lumens.
	PANELBOARD INTERIOR- Factory assembled, double row construction. Staggered			FIXTURE MOUNTING & SUPPORT- Each fixture shall be supported from the ceiling structure
	numbering, sequence phased. Tin-plated copper or aluminum busing. Full ampacity phase & neutral bus, 50% ground bus.	EL- 21	-	(verify ceiling structural capacity) or directly from building structure. Secure fixture to ceiling structure in accordance with code. Pendant supported fixtures shall be supported from building structure.
	OCP DEVICES, COMPONENTS, ETC: Provide all over-current-devices and other components and related as scheduled and / or required. Refer to panel schedule for details.	EL-	+	building structure. SIESMIC BRACING & SUPPORT- Fixtures shall be braced & supported in accordance with
	Refer to Over-Current Protective (OCP) devices criteria.	22		he Local Seismic Zone rating requirements.
	PANEL DIRECTORIES - All Panel Directories Shall Be Current, Fully Detailed & Legible Per NEC-110.22 & 408.4(A)	EL-		INSTALLATION STANDARDS: Each item shall be installed in accordance with the NEIS (Na Electrical Installation Stds.), NEC & related codes and the manufacturer's published
	SWITCHBOARDS	23		requirements.
_	SWITCHBOARDS GENERAL- Provide equipment with dead front design and with devices as	-		End Of Electrical Criteria - Lighting Fixtures
	scheduled. Voltage, phase, ampacity and devices as scheduled. Service entrance rated as applicable. Free-Standing, NEMA 1 enclosure unless otherwise required. All lugs & terminals 60/75 deg. C rated.			

EL- 19		EBIS LINEAR LAMP PERFROMANCE - The EBIS shall provide the following minimum Lumen outputs. 48 Inch, 14-32 Watt lamps @ 1100-1400 Lumens. 48 Inch T5 20-55 Watt @ 1800-3000 Lumens
EL- 20		EBIS CFL LAMP PERFROMANCE - The EBIS shall provide the following minimum Lumen outputs. CFL 09-13 Watt, 2-Piin @ 350-650 Lumens. CFL 13-26 Watt, 2-Pin @ 500-950 Lumens; CFL 09-42 Watt 4-Pin @ 1100-1400 Lumens.
EL- 21		FIXTURE MOUNTING & SUPPORT- Each fixture shall be supported from the ceiling structure (verify ceiling structural capacity) or directly from building structure. Secure fixture to ceiling structure in accordance with code. Pendant supported fixtures shall be supported from building structure.
EL- 22		SIESMIC BRACING & SUPPORT- Fixtures shall be braced & supported in accordance with he Local Seismic Zone rating requirements.
EL- 23		INSTALLATION STANDARDS: Each item shall be installed in accordance with the NEIS (Nat. Electrical Installation Stds.), NEC & related codes and the manufacturer's published requirements.
-		 End Of Electrical Criteria - Lighting Fixtures
#	Rv #	ELECTRICAL CRITERIA - TELCO V/D/B RACEWAYS
		TELCO DA CEMAY COORE OF MODIC. Providing recovery backboards and well boxed with
ET- 01	-	TELCO RACEWAY SCOPE-OF-WORK: Providing raceways, backboards and wall boxes with conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco Voice Data Broadband Etc.)
01	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.)
	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others
01 ET-	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware,
01 ET- 02 ET-	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware, equipment & software & related installation is the responsibility of the owner or tenant. TELCO UTILITY COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco
01 ET- 02 ET- 03 ET-	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware, equipment & software & related installation is the responsibility of the owner or tenant. TELCO UTILITY COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SYSTEM PROVIDER COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes,
01 ET- 02 ET- 03 ET- 04 ET-	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware, equipment & software & related installation is the responsibility of the owner or tenant. TELCO UTILITY COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SYSTEM PROVIDER COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SERVICE CONDUITS: Quanity & size as required or shown, use long radius bends
01 ET- 02 ET- 03 ET- 04 ET- 05	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware, equipment & software & related installation is the responsibility of the owner or tenant. TELCO UTILITY COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SYSTEM PROVIDER COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SERVICE CONDUITS: Quanity & size as required or shown, use long radius bends (10X) on all raceway bends & turns. Install Pull-Strings, tagged & tied-off at each end. TELCO- V/D BACKBOARDS: 3/ 4" Thick A/D Grade fire-retardant plywood, painted with two coats of fire-retardant grey paint, bottom 18 In AFF, secured to wall structure. Provide 4-Hole
01 ET- 02 ET- 03 ET- 04 ET- 05 ET- 06	-	conduit stub-ups & pull-strings only for devices, cabling & equipment installation by others (Telco, Voice, Data, Broadband, Etc.) TELCO DEVICES, CABLING & EQUIPMENT: All cabling, jacks, devices, hardware, equipment & software & related installation is the responsibility of the owner or tenant. TELCO UTILITY COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SYSTEM PROVIDER COORDINATION: Prior to any rough in, coordinate, in writing, with the Telco Service Provider all related requirements- route, conduit qty & sizes, grounding, etc. TELCO SERVICE CONDUITS: Quanity & size as required or shown, use long radius bends (10X) on all raceway bends & turns. Install Pull-Strings, tagged & tied-off at each end. TELCO- V/D BACKBOARDS: 3/ 4" Thick A/D Grade fire-retardant plywood, painted with two coats of fire-retardant grey paint, bottom 18 In AFF, secured to wall structure. Provide 4-Hole ground lug with #6 ground extended to main service ground & bonded. V/D WALL BACKBOXES & STUB-UPS: Provide double gang wall boxes with plaster ring with 1" C. stub-up & turn-out into an accessible plenum. Jacks, devices & covers by owner

18.09		Fayette Co Fire Station 02	CC						
DN-	Rv	ELECTRICAL DISCLAIMERS & PROJECT NOTES							
01	-	CONSTRUCTION NEW> This Project Is All New Work.							
		UTILITY POWER> Utility Power Is To Be Field Verified &							
02	-	Documented By The Contractor Prior To The Start Of Any							
		Work. Confirm Voltages, Phase, & Available Fault Current							
		GENERATOR POWER SYSTEM> The Generator Power							
03		System Being Installed For This Facility Is Classified As An:							
03	-	OPTIONAL STANDBY SYSTEM (i.eNon-Life-Safety							
		Functions Per NFPA-101).							
		EMERGENCY EGRESS & EXIT LIGHTING Is Provided Via							
04	-								
		Battery Backup Units. Refer To The Lighting Fixture Schedule.							
		LIGHTING - Refer To The Architectural-Interiors (A/I) For The							
05	-	Complete Lighting Design (Ceiling Types & Layouts, Fixture							
		Selections & Lamping, Mounting Heights, Etc.)							
		EQUIPMENT VERIFICATION - Contractor Is To Verify The							
		Electrical Characteristics & Ratings Of Electrical Equipment							
06		Provided By Other Trades, Etc. Prior To Ordering Materials &							
		Any Rough-Ins.							
		EQUIPMENT ON GEN. PWR SYSTEM: - Contractor Is To							
		Coordinate Early With Other Trades, Owner, Etc. Regarding							
06	_	The Electrical Characteristics, Ratings & Motor Starter Types Of							
		Electrical Equipment Provided By Other Trades, Etc. To Ensure							
		Proper Generator Operation.							
_		GEN. PWR SYSTEM LOAD SEQUENCE STARTING: Selected							
		Loads Are Noted As Delayed Restart Or Delayed Start To							
07		Avoid All Loads Being Connecte To The Generator Source At							
		The Same Time.							
08		FIRE ALARM - Not Included In This Work-Scope.							
700		TELCO-VOICE-DATA SYSTEM(s)- Not Included In This Work-							
09	-	Scope.							
		TV-BROADBAND SYSTEM(s)- Not Included In This Work-							
10	-	Scope.							
		ACCESS CONTROL & SECURITY- Not Included In This Work-							
11	-								
		Scope. OWNER-TENANT-USER RESPONSIBILITIES- To Review &	-						
12									
۱۷	_	Train In Proper Operations & Maintenance Of The Electrical							
		Components & System.							
12		OWNER-TENANT-USER RESPONSIBILITIESy- Regularly							
13	_	Test (Every 3 Months) GFCI & AFCI Devices To Ensure							
		Proper Operation.	-						
		OWNER-TENANT-USER RESPONSIBILITIES- To Regularly							
		Check, Test & Document The Proper Operation Of The							
14		Emergency Lighting System. Refer To NFPA-101 & OSHA							
		Regulations. Documentation & Forms Are Available From NFPA							
		& OSHA							
		GENERATOR POWER SYSTEM MAINTEANCE> The Owner							
		Is Responsible For The Maintaining The Generator Power							
15	-	System In Proper Working Order And Conducting &							
		Documenting Regular Operational Testing Per Codes & Other							
		Agency Requirments.							



FAYETTE CO. FIRE STATION

1330 Highway 92 North Fayetteville, GA 30214

Prepared for

FAYETTE CO. FIRE DEPT.

COMMISSION / JOB NO:

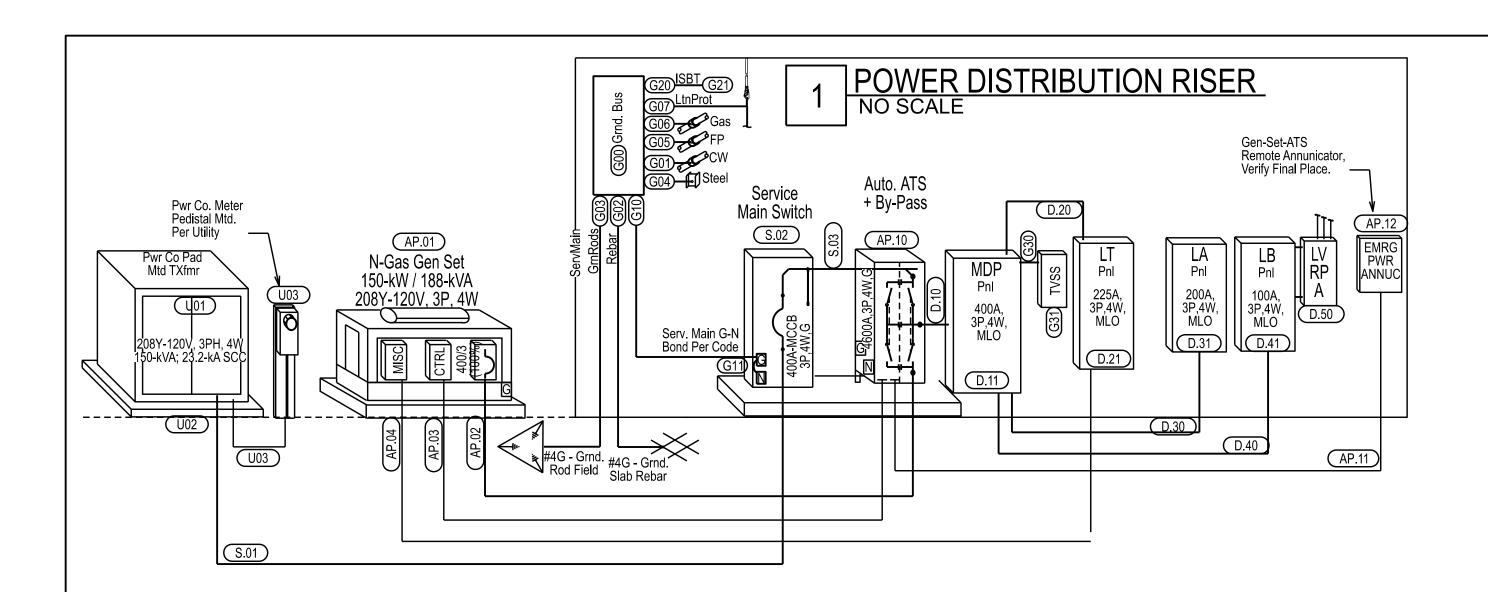
1852.00

SHEET TITLE: ELECTRICAL

CRITERIA

E-0.1 RELEASED FOR PERMIT OR CONSTRUCTION

SHEET NO:



Project:	Fayette Co Fire	Station 02					M	DP		Schd				Fayettev	ville, GA. 30241	City,	St.
Gen Nt 1	: Bkr Ties On Multi-Wire Ck	ts NEC 210.4B					Volt	- LL	208		End	closure-Mtg:	NEN	лА 1	Wall Surf Mtd.	-	
Gen Nt 2	: Seismic Certified & Seismic	Rated Anchors & S	uppor	ts Reqd.			Volt-	- LN	120		Cc	ver & Door:	Doc	r-In-Door, With Locks	3		
Gen Nt 3	: Main Distb Panel						Phs.	3	W.	4		OCP Types:	Mai	n - MCCB-60C/75C	Branch- MCCB, 60C/75C	Lugs	,
Gen Nt 4	:					E	Buss Ai	mps	600			All Busing:	CU	or AL	100% N & G Busing		
Gen Nt 5	:					,	Main C)CP	MLO			Arc-Flash:	Lab	eled Per NEC & OSH	IA		
18-127	MADDOX GROUP INC.			Spare % =	15%	KA	-AIC S	SCA	42			18.09.27	Date	ə <i>:</i>	Const	: Statu	is
Rv Nt	Description	Wiring	ID	W/VA	OCP	Р	#	Ρ	#	OCP	Р	W/VA	ID	Wiring	Description	Nt	F
	Pnl LA Fdr		Р	17,756	150	-	01	Α	02	225	-	14,920	Р		Pnl LT Fdr		
	208V, 3Ph, 4W, G	See Riser	Р	16,914	-	-	03	В	04	-	-	17,520	Р	See Riser	208V, 3Ph, 4W, G		
			Р	17,938	-	3	05	С	06	-	3	12,320	Р				
	Pnl LB Fdr		Р	8,505	100	-	07	Α	08	50	-	2,905	М	See Connect Data	Air-Compr Gen Use	1,2	Г
	208V, 3Ph, 4W, G	See Riser	Р	7,835	-	-	09	В	10	-	-	2,905	М	= = =	7.5 HP-208V-3Phs		Γ
			Р	7,470	-	3	11	С	12	-	3	2,905	М	= = =	Schultz 7580VV30X-3		
	< Space Only >			0	SP	-	13	Α	14	40	-	0			TVSS Surge Prot		
	< Space Only >			0	-	-	15	В	16	-	-	0		4# 8+ 8G-MC	208V, 3Ph, 4W, G		
	< Space Only >			0	-	3	17	С	18	-	3	0					
	< Space Only >			0	SP	-	19	Α	20	SP	-	0			< Space Only >		T
	< Space Only >			0	-	-	21	В	22	-	-	0			< Space Only >		
	< Space Only >			0	-	3	23	С	24	-	3	0			< Space Only >		
	< Space Only >			0	Sp	1	25	Α	26	20	1	0			< Space Only >		Γ
	< Space Only >			0	Sp	1	27	В	28	20	1	0			< Space Only >		T
	< Space Only >			0	Sp	1	29	С	30	20	1	0			< Space Only >		
Vt# 01-	HACR Listed & Labeled M	ICCB	,		Phs	-A =	33.9	9 %	367	Α		44,086	VA	8.7	' KVA Facotred End Use	24	Α
Vt# 02-	Verify Soft-Start & Time De	elay On Power Loss	Resta	rt	Phs	-B=	34.8	3 %	376	Α		45,174	VA	123.7	' KVA Pass Thru Load	343	A
Nt# 03-	Not Used				Phs	-C =	31.3	3 %	338	Α		40,633	VA	1.3	8 KVA Spare	4	l A
Nt# 04-	Not Used				S	umm	nary =		361	Α		129,893	VA	133.7	' KVA Total	371	Α

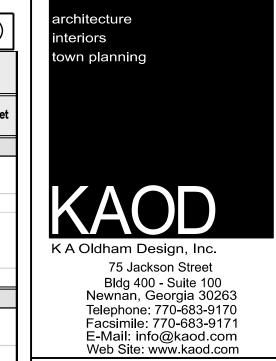
			ELECT	RICAL UTIL	LITY & LOAD DATA					
Proj:	Fayette Co Fire Station	02		Owner:	Fayette Co Fire Dept					
Street	1330 Hwy 92 N			Contact :	Capt. Scarboro					
City	Fayetteville, GA. 30241									
GSF:	8,136	18.10.31	-Date	Status-	Const					
			ELECTR	ICAL LOAD	DATA & SUMMARY					
Load	Connected	Conn	ected @	100%	Descriptions,	Rv				
ID	Load Type	kVA	%	W/SF	Comments & Notes	#				
•	Exist Demand	0.00	0%	0.00	Not Applicable - New Project	-				
L	Lighting	9.61	7%	1.18	Interior & Exterior With Occupancy Switches	-				
R	General Rcpts.	34.20	25%	4.20	General Use Receptacles	-				
Α	Appliances	20.10	15%	2.47	Residental Kitchen & Laundry Appliances	-				
Е	Electronics, PCs, Etc.	11.20	8%	1.38	Small UPS, Voice-Data-TV Equipment	-				
Н	HVAC- Mtrs	14.49	11%	1.78	HVAC- Fans, Blowers, & Similar	-				
С	HVAC-Refrig	11.55	8%	1.42	HVAC- Cooling Equipment, HPUs, CUs, Etc.	-				
G	HVAC- Heating	13.00	10%	1.60	HVAC- Space Heating & Related (Non-Simult With Refg)	-				
M	Misc- M	8.72	6%	1.07	Air Comprs> 7.5 HP	-				
T	Misc- T	13.53	10%	1.66	Misc Motors > OH Doors, Etc.	-				
	Spare	0.00	0%	0.00	-	-				
	Summary kVA >	136	100%	16.8	< W/SF Sum					
Su	pply Characteristics	Amps 100% >	379		General Comments					
208	Volts-LL		1-	N-Gas> Ma	jor Cooking Appliances					
120	Volts-LN		2-	N-Gas> HV	AC Space Heating (Gas Furnaces)					
3	Phase-1/3		3-							
4	Wire #		4-							
400 A	mps/ 1 Sets> 4# 500-CU	or 750-AL	5-	Back-Up Ge	enerator Set With Automatic Open-Transfer Switch.					
	Pre	fered Power	Co. Serv	ice, Transfo	rmer & Metering - Verify With Utility					
	Tfmr. kVA	Pwr Company	:	Cowetta-F	ayette EMC					
		Pwr. Co. Con	tact:		np, 770-252-7241					
					Under Ground Primary; Provided By Power Co. (Verify)					
		Pwr Co. TXfm	r:		sformer By Power Co. (Verify)					
	Secd. Phs-Grn kA SCCA	Pwr Co. Mete	ring:		Pedistal Mtd Mtr; Pedistal & 1.5"C Conduit By Contractor (Verify)					
12-101	MADDOX GROUP INC.	1			End Of Utility Load Data					

Lightning Prot. System (If Present) (NEC 250.52.4 & 250.60) Bldg. Steel- If Present (NEC 250.52.A.2) Gas Piping- If Present (NEC 250.104.B) F.P. Piping- If Present (NEC 250.104.B) C.W. Piping- If Present (NEC 250.52.A.1) Per NEC 250.66 C.W. Piping- If Present (NEC 250.52.A.1) Per NEC 250.66 Slab Rebar Or Cable (NEC 250.52.A.3)	That The Present Bonding-Grounding
(NEC 250.52.A3) (3) Rod Grnd. Field 10 Ft Apart Min. #4G-CU-0.5"C	That The Present Bonding-Grounding Is Properly Installed, Sized & In Working Condition, Document Findings In Writting To Owner, Archt & Engr.
	IDING & GROUNDING
DETAIL # - MG	NOT TO SCALE J

#	Rv #	ELECTRICAL CRITERIA - PROJECT CLOSE-0UT
	п	REVIEW REQUEST NOTICE(s)- This Contractor Shall Notify, In Writing, At Least 10 Days In
EZ-	_	Advance, To Own/ Archt/ Engr, Of The Desired Date To Request Having An On-Site Review
01		Performed.
EZ-		AHJ INSPECTION REPORTS- This Contractor Shall Submitt Copy(s) Of Each Inspection
02	-	Report As Given By The Authority Having Jurisdiction (AHJ) To The Own/ Archt/ Engr.
EZ-		ROUGH IN REVIEWS - Request Rough-In Reivew(s) Before Any Mateiral Or Work Is
03	-	Covered And Unobservable.
EZ-		CERTIFICATIONS & TEST REPORTS- Provide Copies Of All Required Certifications And Test
04	-	Results Prior To Requesting Final Review.
EZ-		CONTRACTOR REVIEW- This Contractor Shall Throughly Review & Document That The
05	-	Complete Work Is Properly Functioning & Opeating Prior To Requesting A Final Review.
EZ-		REVIEW ELECTRICAL BONDING & GROUNDS- Veirfy Each Service Ground & Bond Is
06	-	Properly Installed, Connected & Labled.\
EZ-		REVIEW ELECTRICAL SERVICE & VOLTAGE- Test & Record The Actual Voltages (L-L, L-
07	-	N,L-G, N-G) And Amperages Of Each Line, Netural & Ground At The Service Entrance
		REVIEW ELECTRICAL DISTRIBUTION- Review & Document Each Part Of The Electrical
EZ-	_	Distribution System. Verify Proper Size & Ratings Of Each Item, Proper Connections &
80	-	Torque Values. Verify Proper Bonding & Grounding.
		REVIEW ELECTRICAL PANEL DIRECTORIES - Review & Verify Detial Panel Directories Are
EZ-		Complete, Correct & Installed. Provide Complete "As-Built" Panel Schesule, In PDF Format
09	-	To Owner For Their Records.
		10 Owner For Their Necolds.
г 7		REVIEW ELECTRICAL EQUIPMENT WIRING- Review Each Equipment Connection, Verify
EZ-	-	Circuit Protection Complies With The Equipment UL Listings & Ratings. Verify Disconnects
10		Are Properly Labeled. Check For Proper Voltage & Phase Rotation For Equipment.
		DEVIEW ELECTRICAL MIDINO O DEVICEO Deview O Device et That All Device Circuit
		REVIEW ELECTRICAL WIRING & DEVICES- Review & Document That All Branch Circuit
EZ-	-	Wiring Is Properly Installed, Bonded & Operational. Test Each Outlet With For Proper
11		Contunity, Polarity & Grounding. Test Using An IDEAL INDUSTRIES SURE-TEST Model 61-
		165 Or Equal.
EZ-		REVIEW ELECTRICAL LIGHTING & CONTROLS- Review & Document That All LIGHTING
12	-	Fixtures Are Properly Operating And Clean. Verify Proper Operation Of All Lighting Controls.
		Program & Set An Control Operations And/ Or Schedules Per Owner.
		REVIEW ELECTRICAL EMERGENCY EGRESS LIGHTNG & EXIT SIGNS:- Review &
EZ-	_	Document That Each Emergency Lighting Fixture And / Or System And Each Exit Sign Is
13		Properly Functioning. Turn Off Building / Suite Power For 90 Minutes And Verify Emergency
		Lighting & Exit Are Operational Per Code.
EZ-	_	REVIEW ELECTRICAL SUB-SYSTEMS- Refer To The Specific Requirments Of Each "Sub-
14		Systems" (i.eFire Alalrm, Data-Voice, Etc.).
EZ-	_	KEYS & SPARE PARTS- Label & Turn Over All Keys To Owner's Personell. Review & Show
16		All Spare Components & Parts To Owner's Personell & Document With Transmittal.
EZ-		"AS_BUILTS" - Provide Copies, In Hard-Copy & PDF Format, Of The Field Recored
17	-	Documents With All "As-Built" Field Documentation Reflecting The Final Installed Conditions.
17		Copy To Own/ Archt/ Engr.
EZ-		WARRANTY- This contractor shall warrant all materials, labor & installation for one full year
18	-	from date of Certificate of Occupancy. Any extended product warranties shall be passed
10		onto the owner.
		INSTRUCTIONS & TRAINING:- Schedule & Provide A Instructional & Traning Session With
EZ-		The Owner's Designated Personell. Review The Project Manual, Perform A "Walk-Thru"
20	-	Review Of The All Electrical System(s) And Their Proper Operation, Including Resetting Of
		Breaker & Replacment Of Fuses.
		PROJECT MANUAL(S)- Provide Both A Bound "Hard-Copy" & PDF Version To The Owner &
		PDF Copy To The Archt/ Engr. The Project Manual Shall Include The Contractors Contact
EZ-		Information, Permits, Copies Of All "As-Builts", Product Submittal Data, Copies Of All
21		Inspection Reports, Certifications & Test Results. Include All Mainteance Data, Instructions, &
		Warranty Information.
EZ-		FINAL REVIEWS - Request A Final Reivew Once All Work & Systems Are Completed,
22		Checked And In Proper Operation
		onconce and in Fropor operation

End Of Electrical Criteia - Project Close-Out

Faye	tte Co Fi	ire Station 02	ELCT. D	ISTB. SYSTEM SCHEDULE			18.09	9.2
Faye	tteville, G	A. 30241	ELECTRIC	CAL DISTRIBUTION SYSTEM			Cor	nst
Rv#	Tag ID#	Description / Label	Volts/ Phase/ Wires	Wiring (#Sets,Cu/AI), Ratings, Size, Etc.	Item Nt #	Fault SCkA	Arc- Flash	F
			Elec	trical Utility Source				
-	U01	Utility Co. Transformer, Pad	208Y-120V,3P,4W	Verify - 150 kVA		23.2	Per Util	
_	U02	Mounted Type Transformer Pad	Structural Concrete Pad	Verify With Utility & Provide As Required		NA	NA	
-	002	Transionnei rau		, , , , , , , , , , , , , , , , , , , ,		INA	INA	
-	U03	Utility Co. Meter	Extend 1.5"C-Empty From Meter To Txfmr.	Contractor Provides Pedistal, Get Meter & Mount; Meter Wiring & Related Transformer Connects By Pwr Co.		NA	NA	
-	-		Service Bondin	g & Grounding (Each Service)	-	-	-	
	000	Marston One of Deep (MOD)	Ground-Bus, Mtd. High	Term. Cables With 2-Hole Cable Lugs & Label Each				
-	G00	Master Grnd Bus (MGB)	On Wall With Label	Cable; Burndy BBB or Erico TGB/ TMGB				
-	G01	Bond/Grnd- To CW Main	(1) #3/0G- 1"PVC	Clamp With-In 5 Ft Of Pipe Entrance				
-	G02	Grnd- To Slab Rebar	(1) #4G- 1"PVC	20 Ft 1/2" OD Rebar Or #4 Bare Cu				
-	G03	Grnd- To Grnd Rod Field	(1) #4G- 1"PVC	(3) 10 Ft SS Grnd Rods Space 10 Ft Apart				
-	G04	Bond/Grnd- To Bldg Steel	(1) #3/0G- 1"PVC	U.L Bond To Major Steel Member				
-	G05 G06	Bond/Grnd- To FP Main Bond- To Gas Main Pipe	(1) #3/0G- 1"PVC (1) #4G- 1"PVC	Clamp With-In 5 Ft Of Pipe Entrance Clamp With-In 5 Ft Of Pipe Entrance				
-	G07	Bond/Grnd- To Lightning Prot	(1) #3/0G- 1"PVC	Bond To Ltgn Prot (If Present)				
	501		(., 5.55 11 40					
-	G10	Grnd Electrode To Each Serv	(1) #3/0G- 1"PVC	Bond To Main Grnd @ Service				
-	G11	Main Bonding Jumper (G-N)	(1) #3/0G- 1"PVC	Unspliced Inside Each Serv Disc				
-	G20	Bond- To Telco ISBT	(1) #2G- 1"PVC	Grnd To Each LV Comm Service(s)				
-	G21	ISBT(Inter-System Bonding Terminal) Ground Bar	ILSOC PET Or Equal	Dual-Rated, 8-Hole Lug With 2-Mtg Holes				
-	-		TVSS	 6 (Surge Protection)	-	-	-	
	G30	TVSS Connection; NEC 280.25	(1) 4# 4+ 4G- 1.25"C	Keep Wring Leads Very Short				
-	G30	·	(1) 4# 4+ 4G- 1.20°C	, ,				
-	G31	TVSS Unit - Mount. Close As Possible To Protected Item /	208Y-120V,3P,4W,G	C-Class, 250 kA/ Phs; 125kA/ Mode: EMI/ RFI Filter, Disconnect, Alarm & Meters, NEMA-3R; LEA LS Plus Series				
-	G31	Equipment TVSS Unit - Mount. Close As Possible To Protected Item /	480Y-277V,3P,4W,G	C-Class, 250 kA/ Phs; 125kA/ Mode: EMI/ RFI Filter, Disconnect, Alarm & Meters, NEMA-3R; LEA LS Plus				
-	-	Equipment 		Series 	-	-	-	
		All Conducto	• • • • • •	s Specifically Noted As Aluminum (AI) (Compact Strand)				
		FL 10 ' M' O	Ele	ectrical Service(s)				
-	S01	Elect Service> Main Serv > 400 Amps	208Y-120V,3P,4W,G	(1Cu) 4# 500- 4.00"C <u>or</u> (1Al) 4# 750- 4.00"C				
_	S01	Elect. Service> Main Serv	208Y-120V,3P,4W,G	Main Service Entrance Rated MCCB In NEMA-1				
		Disc.> 400 Amps		Enclosure, Wall Mtd. 208Y-120V,3P,4W,G (1Cu) 4# 500+ 3/0G- 4.00"C or (1Al) 4# 750+ 4/0G-				
-	S03	Fdr To ATS-Norm > 400 Amps	208Y-120V,3P,4W,G	4.00"C Provide House-Keeping Pad For Floor Mounted Items.				
-	S04	House Keeping Pad	na	Secured Equipment Per Seismic Requirements				
-	-		Generator Sv	/stem Electrical Distribution	-	-	-	
-	AP.01	N-Gas Gen Set, 150-kW, 188- kVA	208Y-120V,3P,4W,G; 521 FLA, 400A-100%	See Detailed Criteria. Coordinate Structural Pad, Access Pad, Fencing & Protection With GC				
	AP.02	Feed Gen Set To ATS	Output MCCB 208Y-120V,3P,4W,G	(1Cu) 4# 500+ 3/0G- 4.00"C <u>or</u> (1Al) 4# 750+ 4/0G- 4.00"C				
	AP.03	Gen Set Control Wiring	Per Manuf	Prior To Any Rough-Ins, Verify Per Manufacture Cabling Requirements & Conduit Size (1.25"C Minimum)				
	AP.04	Ges Set Misc Power (Jacket Htr, Charger, Etc.)	208Y-120V,3P,4W,G	Prior To Any Rough-Ins, Verify Per Manufacture Cabling Wiring (3# 6+10G) & Conduit Size (1.25"C Minimum)				
	AP.05	Gen Set Grounding	Grnd	Ensure Gen Set, Housing, & All Components Are Fully Bonded Together & Grounded (3/0 Cu-Min)				
	AP.10	Automatic Transfer Switch (ATS); 400A, 3P, SN, By-Pass	208Y-120V,3P,4W,G; 400A-100%	See Detailed Criteria; Coordinate Structural Mounting, Provide House-Keeping Pad If Floor Mounted. Secured Per seismic Requirements				
	AP.11	Remote Annunicator Wiring	Per Manuf	Prior To Any Rough-Ins, Verify Per Manufacture Cabling Requirements & Conduit Size (1.25"C Minimum); Verify With Location Prior To Rough-In.				
	AP.12	Remote Annunicator, Verify Location Prior To Rough-In.	Per Manuf	See Detailed Criteria; Verify Location Prior To Rough- Ins, Wall Mounted. Secured Per seismic Requirements				
-	-		 Elec	ctrical Distribution	-	-	-	
	D 40	MDD [4.5.400.4		(1Cu) 4# 500+ 3/0G- 4.00"C <u>or</u> (1Al) 4# 750+ 4/0G-				
-	D.10	MDP Fdr > 400 Amps	208Y-120V,3P,4W,G	4.00"C				
-	D.11	MDP	208Y-120V,3P,4W,G	See Schedule				
-	D.20	LT Fdr > 225 Amps	208Y-120V,3P,4W,G	(1Cu) 4# 4/0+ 4G- 2.50"C or (1Al) 4# 300+ 2G- 3.00"C				
	D.21	LT	208Y-120V,3P,4W,G	See Schedule				
-								
-	D.30	LA Fdr > 200 Amps	208Y-120V,3P,4W,G	(1Cu) 4# 3/0+ 6G- 2.00"C <u>or</u> (1Al) 4# 250+ 4G- 2.50"C				
-	D.31	LA	208Y-120V,3P,4W,G	See Schedule				
-	D.40	LB Fdr > 100 Amps	208Y-120V,3P,4W,G	(1Cu) 4# 3+ 8G- 1.25"C <u>or</u> (1Al) 4# 1+ 6G- 1.25"C				
-	D.41	LB Low-Voltage Relay Pnl- A (LVRP-A)	208Y-120V,3P,4W,G 208Y-120V,3P,4W,G	See Schedle See Schedule; Extend LV Wiring (MC Cable) To LV Switches				







DESIGN & ENGINEERING 9309 Seminole Road Jonesboro, GA 30236 770-471-9076 maddoxgroup@comcast.net

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> FAYETTE CO. FIRE STATION

1330 Highway 92 North Fayetteville, GA 30214

Prepared for

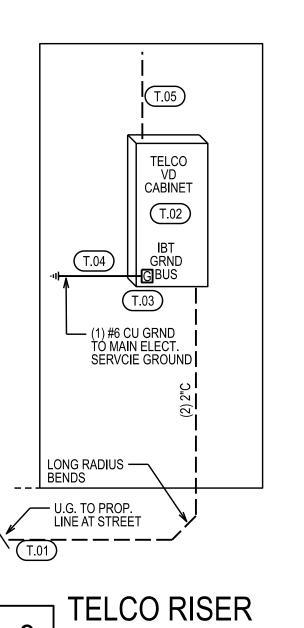
FAYETTE CO. FIRE DEPT.

COMMISSION / JOB NO: 1852.00

SHEET TITLE: ELECTRICAL RISER & SCHEDULES

E-02 RELEASED FOR PERMIT OR CONSTRUCTION

Project		Fayette Co Fire						L			Schd					ille, GA. 30241	City,	St
en Nt	1:	Bkr Ties On Multi-Wire Ck	s NEC 210.4B					Volt-	LL	208		End	closure-Mtg:	NEN	1A 1	Wall Surf Mtd.		
en Nt	2:	Seismic Certified & Seismic	Rated Anchors & Su	ippor	ts Reqd.			Volt-	LN	120		Co	ver & Door:	Doo	r-In-Door, With Locks			
en Nt	3:	Serves Truck Bays & Rela	ated					Phs.	3	W.	4	(OCP Types:	Mair	n - MCCB-60C/75C	Branch- MCCB, 60C/75C	Lugs	3
en Nt	4:	Matching Pnl. Wire Gutter	& Sectional Covers, F	nl To	Clg. With Tr	im	E	Buss An	nps	225			All Busing:	CU	or AL	100% N & G Busing		
en Nt	5:							Main O	ĊР	MLO			Arc-Flash:	Labe	eled Per NEC & OSH	A		
18-12	27	MADDOX GROUP INC.			Spare % =	0%	K/	A-AIC S	CA	42			18.10.31	Date) :	Const	Statu	JS
Rv N	lt	Description	Wiring	ID	W/VA	OCP	Р	#	Р	#	OCP	Р	W/VA	ID	Wiring	Description	Nt	
		Clothes Dry- Resd	See Connect Data	R	2,500	30	-	01	Α	02	20	-	1,500	G	See Connect Data	M.EWH.02	1	Ť
		208V, 1Phs		R	2,500	_	1	03	В	04	_	2	1,500		= = =	3.0 kW, 208V, 1Phs		1
		Clothes Wash- Resd	See Connect Data	R	1,500	20	1	05	С	06	20	_	1,000		See Connect Data	M.EWH.03	1	1
		< Space Only >		-	0	Sp	1	07	A	08	20	2	1,000		= = =	2.0 kW, 208V, 1Phs	-	1
		< Space Only >			0	Sp	1	09	В	10	20	_	1,500		See Connect Data	M.EWH.04	1	1
+	\dashv					· ·	1	-			20				= = =		-	1
		< Space Only >		١	0	Sp	1	11	C	12	-	2	1,500			3.0 kW, 208V, 1Phs		1
	1	M.AFU.01	See Connect Data	Н	555	20	-	13	Α	14	20	1	900	E	See Connect Data	Fir Prot Cntrl Pnl	1	1
_		1.0 HP, 208V, 3Phs Ea	= = =	Н	555	-	-	15	В	16	20	1	700		See Connect Data	M.F.09, 0.25 HP	1	1
		AirVac 911	= = =	Н	555	-	3	17	С	18	20	1	700	Н	See Connect Data	M.F.10, 0.25 HP	1	
-	1	M.AFU.02	See Connect Data	Н	555	20	-	19	Α	20	20	1	700	Н	See Connect Data	M.F.11, 0.25 HP	1	
		1.0 HP, 208V, 3Phs Ea	= = =	Н	555	-	-	21	В	22	20	1	1,600	Н	See Connect Data	M.GRH.xx Htr & Louver	1	
		AirVac 911	= = =	Н	555	-	3	23	С	24	20	1	1,600	Н	See Connect Data	M.GRH.xx Htr & Louver	1	
1	1	M.F.02	See Connect Data	Н	900	20	-	25	Α	26	20	1	1,600	Ε	See Connect Data	Truck Pwr Reel		
		2.0 HP, 208V, 3Phs Ea	= = =	Н	900	-	-	27	В	28	20	1	1,600	Ε	See Connect Data	Truck Pwr Reel		
		Ex Fan	= = =	Т	900	_	3	29	С	30	Sp	1	0			< Space Only >		
١.	1	Doors 4-Fold Truck Bay	See Connect Data	T	1,105	20		31	A	32	Sp	1	0			< Space Only >		
-	1	208V, 3Phs Ea	= = =	T	1,105	20	_	33	В	34	20	1	1,600	Е	See Connect Data	Truck Pwr Reel		-
-	-			T	-	-	-											-
\perp		1.0 HP Each Of 2	= = =		1,105	-	3	35	С	36	20	1	1,600		See Connect Data	Truck Pwr Reel		-
'	1	Doors 4-Fold Truck Bay	See Connect Data	T	1,105	20	-	37	Α	38	20	1	1,000		2# 10+ 10G- MC	Rcpts- Truck Bay Extr		
\perp		208V, 3Phs Ea	= = =	Т	1,105	-	-	39	В	40	20	1	1,000		2# 10+ 10G- MC	Rcpts- Truck Bay Extr		_
		1.0 HP Each Of 2	= = =	Т	1,105	-	3	41	С	42	20	1	800	R	2# 10+ 10G- MC	Rcpts- Truck Bay Intr		
		Gen Set Block Htg	2# 8+10G-1.25"C	Т	3,000	40	-	43	Α	44	20	1	1,000	R	2# 10+ 10G- MC	Rcpts- Truck Bay Intr		
		208V, 1Phs		Т	3,000	-	2	45	В	46	20	1	800	R	2# 10+ 10G- MC	Rcpts- Truck Bay Intr		
		> Spare MCCB <			0	20	1	47	С	48	20	1	900	R	2# 10+ 10G- MC	Rcpts- Truck Bay Wtr Ft		
		< Space Only >			0	Sp	1	49	Α	50	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	51	В	52	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	53	С	54	Sp	1	0			< Space Only >		1
+		< Space Only >			0	Sp	1	55	A	56	Sp	1	0			< Space Only >		1
	-	< Space Only >			0	-	1	57					-			< Space Only >		-
-					0	Sp	1	-	В	58	Sp	1	0					-
-		< Space Only >			0	Sp	1	59	С	60	Sp	1	0			< Space Only >		_
1		< Space Only >			0	Sp	1	61	Α	62	Sp	1	0			< Space Only >		_
		< Space Only >			0	Sp	1	63	В	64	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	65	С	66	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	67	Α	68	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	69	В	70	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	71	С	72	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	73	Α	74	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	75	В	76	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	77	С	78	Sp	1	0			< Space Only >		-
+	-	< Space Only >			0	Sp	1	79	A	80	Sp	1	0			< Space Only >		
-		< Space Only >			0	Sp	1	81	В	82	Sp	1	0			< Space Only >		
-	-				0	· ·	1	83										
	-	< Space Only >				Sp			C	84	Sp	1	0			< Space Only >		_
					0	na	-	Sub	A	Sub	na	-	0					_
		Not Used			0	-	-	Feed		Feed	-	-	0			Not Used		
					0	-	3	Load	С	Load	-	3	0					_
[‡] 01	-	HACR Listed & Labeled M	ICCB			Phs	-A =	34.0	%	145	Α		17,420	VA	52.8	KVA Facotred End Use	147	ŕ
# 02	2_	Not Used				Phs	-B=	39.1	%	167	Α		20,020	VA	0.0	KVA Pass Thru Load	0)
# 03		Not Used					-C =			115	Α		13,820			KVA Spare	0	
		Not Used					umn						,		310			4

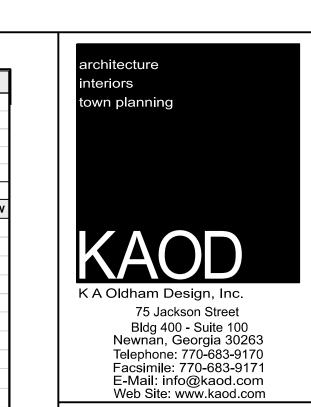


? NO SCALE

Faye	tte Co	o Fire Station 02		TV) SCHEDULE ata-Telco Distribution-Riser Schedule	18.09.27	Date
ayette	ville, GA.	. 30241		KAOD	Const	Status
Rv#	ID#	Comments / Descriptions	(Qty) Size, Etc	Description	Nt #	Run Ft
-	T01	Serivce Conduit	(2) 4.0"C	Empty Conduits With Long-Radius Bends, From Attic To Main Telco Board / Cabinet Per Utility- Field Verify In Writing		-
-	T02	Main Telco Backboard	4 Ft x 8 Ft, Btm 18" AFF	0.75" A/D Grade Plywood, 2-Coats Of Fire-Retardant Paint		
-	T03	Main Telco Backboard ITSB	Grnd Bar	Dual-Rated, 8-Hole Lug With 2-Mtg Holes. ILSCO PET or Equal		
-	T04	ITSB Bond/Grnd To Main	(1) #2G- 1"PVC	na		
-	T05	Conduits To Attic / Plenum	(5) 2.0"	From Top Of Bkbd Up & Into Plenum With 90 Degree Elbow(s)		
-	-					
Rv#	Nt #		Gene	eral Notes Applicable To All		
-	GN-01	· ·	•	ice / Data / Telco / Etc) The Specific Service Point(s), Service Rou Each And To The Owner, G.C., Architect & Engineer.	ute(s), Co	nduit
-	GN-02		* ''	nduits 2.0 Inch And Smaller, Trade Size, Shall Have Bends Of No lave A Minimum Bend Radius Of No Less Than 10X Times The T		
-	GN-03	All In-Slab Conduit(s) Stub-Up(s	s) Shall Extend A Minimum	Of 4 Inches Above The Slab.		
-	GN-04			nooth Bushing; Left With A Pull-Line Tied Off At Each End, & Label Ided To The Ground System. Mark Each Conduits Location & Ro		
-	GN-05	Properly Fire / Smoke Seal Eac	h Penetration Of Rated Bar	riers In Accordance With The Code(s).		
-	GN-06	Backboards & Cabinets Shall Be	Secured To The Building	Structural Members, Not To Wall Surfaces.		
- 18-127			E. 104D	-D-T Schedule		

Project		Fayette Co Fire							Α.		Schd					ille, GA. 30241	City,	St.
Gen Nt	t 1:	Bkr Ties On Multi-Wire Ckt	ts NEC 210.4B					Volt	- LL	208			closure-Mtg:			Wall Surf Mtd.		
		Seismic Certified & Seismic						Volt-	· LN	120		Co	over & Door:	Doo	r-In-Door, With Locks			
Gen Nt	t 3:	Matching Pnl. Wire Gutter	& Sectional Covers, P	nl To	Clg. With Tr	im		Phs.	3	W.	4		OCP Types:	Mair	n - MCCB-60C/75C	Branch- MCCB, 60C/75C	Lugs	š
Gen Nt								Buss Ai	•				All Busing:			100% N & G Busing		
	_	All 20A/ 1P MCCB To Ha	ve AFCI Protection	(NE				Main C							eled Per NEC & OSH			
18-12		MADDOX GROUP INC.			Spare % =			-AIC S					18.10.05			Const		
Rv N	Nt	Description	Wiring	ID	W/VA	OCP	Р	#	Р	#	OCP	Р	W/VA	ID	Wiring	Description	Nt	R۱
		M.CU.01, 2.0T	See Connect Data	С	1,186	20	-	01	Α	02	20	1	1,500		See Connect Data	Appl- Ice Maker		
		208V, 1Ph	= = =	С	1,186	-	2	03	В	04	20	1	1,500		See Connect Data	Appl- K-Range Hood		
		M.CU.02, 2.5T	See Connect Data	С	1,410	25	-	05	С	06	20	1	1,500	Α	See Connect Data	Appl- K-Refg		
		208V, 1Ph	= = =	С	1,410	-	2	07	Α	08	20	1	1,500	Α	See Connect Data	Appl- K-Freez		
		M.CU.03, 4.0T	See Connect Data	С	1,768	35	-	09	В	10	20	1	1,500	Α	2# 12+ 12G-MC	Appl- Kitch Island		
		208V, 1Ph	= = =	С	1,768	-	2	11	С	12	20	1	1,500	Α	See Connect Data	Appl- K-Microwave		
		M.CU.04, 2.5T	See Connect Data	С	1,410	25	-	13	Α	14	20	1	1,500	Α	See Connect Data	Appl- K_Dishwash UC		
		208V, 1Ph	= = =	С	1,410	-	2	15	В	16	20	1	1,500	Α	See Connect Data	Appl- K-Disposal UC		
		C-Dryer Resd	See Connect Data	Α	2,500	30	-	17	С	18	20	1	400	Α	See Connect Data	Appl- Kitch		
		208V, 1Ph	= = =	Α	2,500	-	2	19	Α	20	20	1	400	Α	See Connect Data	Appl- Kitch		
		M.EWH.01, 2.0kW	See Connect Data	G	1,000	20	-	21	В	22	20	1	400	Α	See Connect Data	Appl- Kitch		
		208V, 1Ph	= = =	G	1,000	-	2	23	С	24	20	1	1,500	Α	See Connect Data	Appl- Laundry		
		M.GF.01, 0.50 HP	See Connect Data	Н	750	20	1	25	Α	26	20	1	200	R	2# 12+ 12G-MC	Rcpt- Ded- Shwr		
		M.GF.02, 0.50 HP	See Connect Data	Н	750	20	1	27	В	28	20	1	200	R	2# 12+ 12G-MC	Rcpt- Ded- Shwr		1
		M.GF.03, 0.75 HP	See Connect Data	Н	1,060	20	1	29	С	30	20	1	200	R	2# 12+ 12G-MC	Rcpt- Ded- Shwr		
		M.GF.04, 0.50 HP	See Connect Data	Н	750	20	1	31	Α	32	20	1	800	R	2# 12+ 12G-MC	Rcpt- Sleep Area		
		C_Washer Resd	See Connect Data	R	1,500	20	1	33	В	34	20	1	1,200	R	2# 12+ 12G-MC	Rcpt- Sleep Area		1
		M.WH.01 Ignitor	See Connect Data	Е	900	20	1	35	С	36	20	1	1,200	R	2# 12+ 12G-MC	Rcpt- Sleep Area		
		M.F.08,03,13	See Connect Data	R	1,500	20	1	37	Α	38	20	1	1,200	R	2# 12+ 12G-MC	Rcpt- Misc		
		M.F.14 + KH.01(Hood)	See Connect Data	R	1,500	20	1	39	В	40	20	-	1,500	G	See Connect Data	M.EWH.01	1	
		M.F.05,06	See Connect Data	R	1,500	20	1	41	С	42	-	2	1,500	G	= = =	3.0 kW, 208V, 1Phs		
		M.GF.05, 0.50 HP	See Connect Data	Н	750	20	1	43	Α	44	20	1	400	Α	See Connect Data	Appl- Kitch		T
		> Spare MCCB <			0	20	1	45	В	46	Sp	1	0			< Space Only >		
		> Spare MCCB <			0	20	1	47	С	48	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	49	Α	50	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	51	В	52	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	53	С	54	Sp	1	0			< Space Only >		
Nt# 01	1-	HACR Listed & Labeled M	ICCB		I	<u> </u>	s-A =	33.8		148	A		17,756	VA	50.8	KVA Facotred End Use	141	Α
Nt# 02	2-	Not Used				Phs	s-B =			141	Α		16,914		0.0	KVA Pass Thru Load) A
Nt# 03		Not Used						34.1		149	Α		17,938			KVA Spare		1 A
Nt# 04		Not Used						ary =		146			52,608			KVA Total		2 A

Proje	ect:	Fayette Co Fire	Station 02					L	В		Schd				Fayettev	ille, GA. 30241	City,	St.
Gen	Nt 1:	Bkr Ties On Multi-Wire Ckt	s NEC 210.4B					Volt	- LL	208		End	closure-Mtg:	NEM	IA 1	Wall Surf Mtd.		
Gen	Nt 2:	Seismic Certified & Seismic	Rated Anchors & Su	pport	ts Reqd.			Volt-	LN	120		Cc	ver & Door:	Door	r-In-Door, With Locks			
Gen	Nt 3:	Matching Pnl. Wire Gutter 8	& Sectional Covers, P	nl To	Clg. With Tr	im		Phs.	3	W.	4	(OCP Types:	Main	- MCCB-60C/75C	Branch- MCCB, 60C/75C	Lugs	
Gen	Nt 4:							Buss A	•				All Busing:	CU (or AL	100% N & G Busing		
Gen	Nt 5:	All 20A/ 1P MCCB To Ha	ve AFCI Protection	(NE	,			Main C					Arc-Flash:	Labe	eled Per NEC & OSH			
18-	127	MADDOX GROUP INC.			Spare % =	15%	KA	-AIC S	SCA	25			18.10.05	Date);	Const	Statu	s
Rv	Nt	Description	Wiring	ID	W/VA	OCP	Р	#	Р	#	OCP	Р	W/VA	ID	Wiring	Description	Nt	R
	2	Ltg- Truck Hi-Bay (a)	#10+ 10G-MC	L	1,200	20	1	01	Α	02	20	1	710	L	#10+ 10G-MC	Ltg- Truck Bay Util		
	2	Ltg- Truck Hi-Bay (b)	#10+ 10G-MC	L	1,200	20	1	03	В	04	20	1	775	L	#12+ 12G-MC	Ltg- Sleep Area		
	2	Ltg- Truck Hi-Bay (r)	#10+ 10G-MC	L	1,200	20	1	05	С	06	20	1	610	L	#12+ 12G-MC	Ltg- Day Area		
	2	Ltg- Extr	#10+ 10G-MC	L	415	20	1	07	Α	08	20	1	880	L	#12+ 12G-MC	Ltg- Day Area		
	2	Ltg- Extr	#10+ 10G-MC	L	250	20	1	09	В	10	20	1	710	L	#12+ 12G-MC	Ltg- Offices		
	2	Ltg- Extr	#10+ 10G-MC	L	360	20	1	11	С	12	20	1	1,100	L	#12+ 12G-MC	Ltg-Exercise		
	2	Ltg-Step Lts	#12+ 12G-MC	L	200	20	1	13	Α	14	20	1	0			> Spare MCCB <		
		> Spare MCCB <			0	20	1	15	В	16	20	1	0			> Spare MCCB <		
		Relay PnI	2# 12+ 12G-MC	Е	300	20	1	17	С	18	20	1	0			> Spare MCCB <		
		Security Ctrl Pnl-Ded	2# 12+ 12G-MC	Е	900	20	1	19	Α	20	20	1	1,400	R	2# 12+ 12G-MC	Rcpt- Sleep Area		
		V-D Telco Ctrl Pnl-Ded	2# 12+ 12G-MC	Е	900	20	1	21	В	22	20	1	1,400	R	2# 12+ 12G-MC	Rcpt- Sleep Area		
		V-D Telco Ctrl Pnl-Ded	2# 12+ 12G-MC	Е	900	20	1	23	С	24	20	1	600	R	2# 12+ 12G-MC	Rcpt- Sleep Area		
		Rcpt- Ded Exercise	2# 12+ 12G-MC	R	200	20	1	25	Α	26	20	1	1,200	R	2# 12+ 12G-MC	Rcpt- Day Rm Area		
		Rcpt- Ded Exercise	2# 12+ 12G-MC	R	200	20	1	27	В	28	20	1	800	R	2# 12+ 12G-MC	Rcpt- Day Rm Area		
		Rcpt- Ded Exercise	2# 12+ 12G-MC	R	200	20	1	29	С	30	20	1	600		2# 12+ 12G-MC	Rcpt- Day Rm Area		
		Rcpt- Ded Exercise	2# 12+ 12G-MC	R	200	20	1	31	Α	32	20	1	600		2# 12+ 12G-MC	Rcpt- Offices		H
		Rcpt- Exercise	2# 12+ 12G-MC	R	1,000	20	1	33	В	34	20	1	600		2# 12+ 12G-MC	Rcpt- Offices		
		Ropts- Extr	2# 12+ 12G-MC	R	800	20	1	35	С	36	20	1	800		2# 12+ 12G-MC	Rcpt- Offices		
		Rcpts- Extr	2# 12+ 12G-MC	R	600	20	1	37		38	Sp	1	0			> Spare MCCB <		H
		> Spare MCCB <		- 1	0	20	1	39	В	40	Sp	1	0			> Spare MCCB <		H
		> Spare MCCB <			0	20	1	41	С	42	Sp	1	0			> Spare MCCB <		
		< Space Only >			0	Sp	1	43	Α	44	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	45	В	46	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	47	С	48	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	49		50	Sp	1	0			< Space Only >		
		< Space Only >			0	Sp	1	51	В	52	Sp	1	0			< Space Only >		
		< Space Only >			0		1	53	С	52 54		1	0			< Space Only >		
NI+++	01-	HACR Listed & Labeled M			U	Sp	-A =	35.7		71	Sp ^	1	8,505	٧/٨		KVA Facotred End Use	73	Λ
							-A = -B =				A					KVA Pass Thru Load		
Nt#		Thru LV Relay Pnl & LV S	wiching				-C =	32.9 31.4		65			7,835					A
Nt#		Not Used							+ %	62			7,470			KVA Spare	11	
Nt#	04-	Not Used				S	umm	nary =		66	Α		23,810	٧A	30.3	KVA Total	84	Α





THE MADDOX GROUP

DESIGN & ENGINEERING

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DATE ACTION COMMENTS

18.09.27 Issued Price, Permit & Construction

FAYETTE CO. FIRE STATION # 2

1330 Highway 92 North Fayetteville, GA 30214

Prepared for

FAYETTE CO. FIRE DEPT.

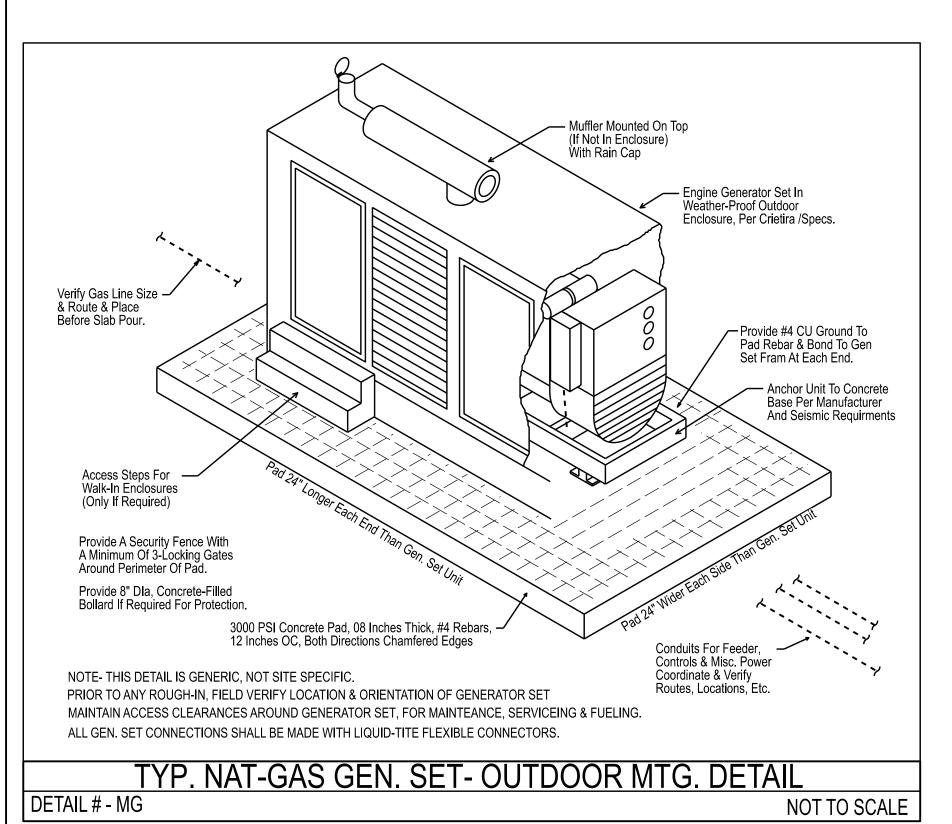
COMMISSION / JOB NO: 1852.00

ELECTRICAL RISER & SCHEDULES

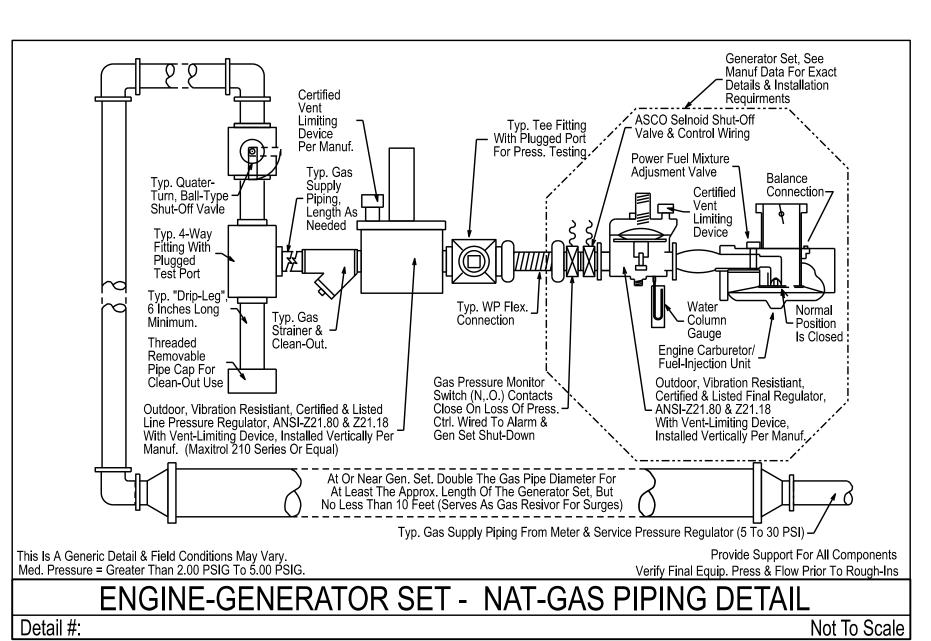
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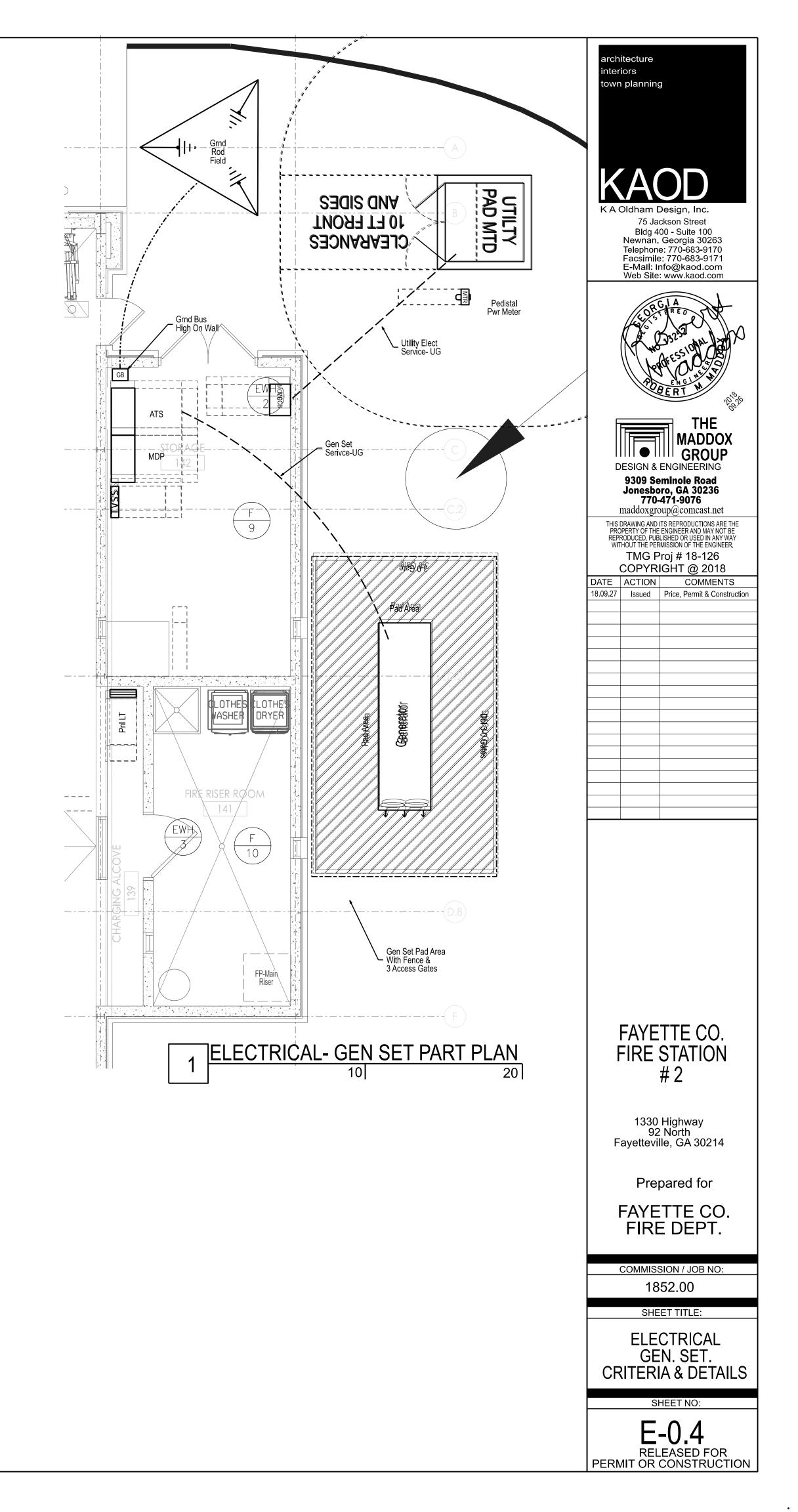
RELEASED FOR PERMIT OR CONSTRUCTION

18.09.2	7 Fayette Co Fire Station 02	
GS- R	NATURAL GAS GENERATOR SET / ATS CRITERIA	С
1	GENERAL ITEMS, SUBMITTALS & DOCUMENTATION	
1A	Provide a complete emergency power system consisting of a power generator (GenSet) with all related components and Automatic Transfer Switch (ATS). The contractor shall utilize the design service of the factory authorized system vendor to obtain the proper system operation, layout and function as required by the prevailing codes and these project criteria.	
1B	The contractor, with vendor / installer, shall thoroughly & completely review the complete system requirements, characteristics & conditions prior to quote, and provide for the complete & proper system equipment, installed & operation.	
1C	Provide all necessary installation, wiring, components, hardware, software, programming, testing and certifying to provide a complete, properly functioning systems.	
1E	These drawings & document represent only the minimum design internet. A complete system shall be provided in accordance with all standards, AHJ & Code requirements.	
1F	The contractor shall utilize the design service of the factory authorized system vendor to obtain the proper system layout(s), function, interoperability with systems of other trades, wiring & operation, as required by this specification, drawings, prevai	
1G	Coordinate with all other trades for the proper coordination and interfacing with their work, systems & control(s).	
1H	Submit complete product data & wiring diagrams showing the control panel(s), all devices, wiring and related items. All wiring & connection shall be labeled and identified. Submit plans and related data to other related trades and vendors for proper	
11	The system design, equipment & material, function & operation shall comply with - National Electrical Code; Underwriters Laboratory Labeled; & Local Codes & Authority Having Jurisdiction	
2	MANUFACTURERS & WARRANTY	
2A	All components shall be new, standard manufacturer cataloged items, and shall be fully compatible & provided by the Generator Set Provider so as to provide unit-responsibility for the complete & proper operation of the Emergency Generator System.	
2B	Basis-Of-Design: This criteria and design is based on manufacturer-matched components & products of Cummings Power. (404-765-5150)	
2C	Equivalent Product: Products providing the equivalent performance, characteristics and features may be quoted as Adds or Deducts to the base design package. Catipelair / Olympian, Generac, Kohler	
2D	Base Warranty: 5-Year Basic Power Warranty Service-Maintenance Agreement: Provided by the Generator Set Provider for the owner's optional acceptance.	
3	Provide A Complete Factory Assembled, Pre-Wired, Pre-Tested Engine Generator Set Mounted On A Steel Frame	
3A	With Vibration Isolators, Siesmic Rated, Complete With Anchoring Basis-Of-Design: This criteria and design is based on manufacturer-matched components & product of	
3B	Cummings Power: C150N6 Engine Generator Set.	
3C	Application (Per ISO & Related Standards): Emergency Stand-By (ESP)	
3D	EPA Application: NSPS Stationary Emergency Certified	
3E	NFPA: 101-Life Safety; NFPA-110 Type 10 (Level 1 & @ & Standby) & NFPA-70 (NEC)	
3F	UL: UL-2200 Certified	
3G	Location Environment Temperatures & Elevation: Atlanta, Ga (Metro Area)	
3H	Power Rating (60Hz): 150-kW/ 188- kVA (Nominal)	
31	Maximum Surge Power kW: 156-kW	
3J	Maximum Motor Starting kVA (Recovering to 90% Rated Voltage): 220-kVA	
3K	Output Voltage & Phase @ 60 Hz: 208Y-120V, 3-Phase, 4-Wire	
3L	Output FLA & OCP: 521 FL Amps; 400-Amp, 100%-Rated Circuit-Breaker	
3M 3N	Fuel Type & Use: Natural Gas, 1,175 SCFH @ 50% Load, 1,907 SCFH @ 100% Load. Digital Isochronous Regulator: ISO 8528 Part 1 Class G3 Digital Governor Regulation Class; +/- 1.0% Voltage Regulation (no Load to Full Load); Digital Isochronous Frequency Regulation; Complies With Standard Commercial &	
30	Industrial Radio Frequency Emissions Regulations. Engine:Naturally Aspirated or Turbocharged, Industrial Cast Iron Engine, 12 Volt Battery Charging Alternator, Replicable Industrial Engine Lube Filter, Unit Mounted Radiator & Cooling Pump.	
3P	Alternator: Reconnectable Type; 4-Pole Brushless Drip Proof Revolving Field Alternator; 2/3 Stator Pitch; NEMA MG1-1.65 Class-H Insulation System; Total Harmonic Distortion Less Than 5% (No Load To Full Load); Telephone	
	Influence Factor less than 50 Per NEMA MG1-22.43; Telephone Harmonic Factor Less Than 3	
3Q	Alternator Excitation: PMG- Permanent Magnet Generator Exciter	
3R	Alternator Temp. Rise: 120-C Temperature Rise Digital Control System: Industrial Grade, Surge-Protected, Control System, Complete With All Control Functions,	
38	Features, Metering With Alarms & NFPA-110 Level 1 Compliance.	
3T	Aux. Relays: Provide Auxiliary Dry-Contact Relay(s) Set For Remote Signaling.	
3U	Starting Battery: Provide Battery, Charger, Monitor & Battery Warmer, 0-F Rated	
01.4	Exhaust Silencer: Complete Exhaust System With Residential Grade Silencer	
3V	ZAMAGO ONOMO ZAMAGO O JOSE AMAGO O JOSE AMAG	



10.00	9.27	Fayette Co Fire Station 02
GS-	Rv	NATURAL GAS GENERATOR SET / ATS CRITERIA
4		AUTOMATIC TRANSFER SWITCH (ATS)
		Provide A Complete Factory Assembled, Pre-Wired, Pre-Tested Automatic Transfer Switch To Monitor Power
4A		Conditions, Automatically Start & Stop Generator, & Transfer Power Between Sources & Related Components &
		Functions.
4B		Basis-Of-Design: This criteria and design is based on manufacturer-matched components by Cummings Power: BTPC Series Automatic Transfer Switch
4C		Standards: CSA 282 Certified; IEEE 446 Compliant; ISO 9001 Certified.
4D		NEC & NEMA Stds: NEC 700 / 701 / 702; NEMA ICS 10 Compliant;
4E		NFPA: NFPA-20, 70, 99 & 110-Level 01 Compliant
4F		UL: UL-1008 Labeled
4G		Seismic: Seismic Certified With Attachment Instructions.
4H		Enclosure: NEMA 1 Indoor, Locking Cover, Front Mounted Controls & Meters
41		Auto. Transfer: Programmed-Delay (Both Directions) Open-Transition (Break-Before-Make)
4J		Manual Transfer of ATS: Feature Allowing Manual Transfer Of Switch If Auto Transfer Fails.
4K		Isolation By-Pass: Yes- DeEnergized Manual ByPass To Either Source Capability & Isolation of main ATS.
4L		Poles: 3-Pole Transfer, Solid Neutral, Ground Bus
4M		Voltage & Phase @ 60 Hz.: 208Y-120 Volts, 3 Phase, 4 Wire
4N 4O		Amperage: 400 Amps (Phase & Neutral) 100% Continuous Duty Rated Aux Relays: Equipped With Two Sets Of Auxiliary Contacts Rated 10 Amps @ 250VAC.
40 4P		Aux Relays. Equipped with two Sets of Auxiliary Contacts Rated to Amps @ 250 VAC. Application: Listed for Utility-To-Generator.
11		Digital Controller: Industrial Grade, Surge-Protected, Digital Microprocessor Providing Full-Authority Engine Protection
40		With RS-485 Port For PC-Monitoring & Networking. Including, But Not Limited To, Adjustable Time Delays,
4Q		Undervoltage & Overvoltage & Frequency & Voltage Imbalance Sensing, Automatic Generator Exerciser and Fully
		Meter & Function Indication; Date & Time Event Logging Feature.
		Aux. Relays: UL Listed, 600VAC, To Indicate ATS Positions
5		RELATED COMPONENTS, EQUIPMENT & ITEMS
J		Remote Annunciator: Provide A Complete Factor Pre-Assembled & Pre-Wired Wall-Flush-Mounted, Remote
5A		Generator Monitoring & Alarm Annunciator With Long-Life LED or Digital Display Providing Visual & Audible Alarms,
0, 1		Status & Warnings. UL Labeled; CSA Certified, CE Marked; NFPA 110 Compliant
		Remote Monitoring System: Provide complete hardware, software & set-up for teh remote monitoring fo the generator
		set, ATS & related items. This shall include, but not be limited to, Monitor-Communicator (Data & Event Logging,
5B		Reports, Diagnostics & Security, Etc.) Communicating via GSM / CDMA Cellular Antenna, Ethernet or USB (Verify
		With Owner). Rated for use in industrial & outdoor conditions. UL-60950-1; CSA Certified, CE Marked; FCC
		Compliant, RoHS Compliant.
50		Enclosure: Outdoor Type (that also houses silencer); Heavy-Duty, Steel, Treated-Premiered-Powder Top Coat
5C		Corrosion Resistant Protective Coatings; Locking Hinged & Removable Covers & Panels; Seismic-Rated; Wind-Rated
		to 100-MPH, Level-1 Sound Rated Fuel System (Natural Gas): See Engine Data, Coordinate & provide for a Natural Gas supply with the other trades
5D		and Gas Supply Company. Verify required pressure & flow requirements with all parties.
		and eac cappy company, vorny required procedure a new requirement with an particol
6		SYSTEM INSTALLATION:
6A		Provide for a complete & functioning installation in compliance with the National Electrical Code, NECA/ ANSI/ EGSA
OD.		NEIS-404 & the manufacturer's written requirements & recommendations.
6B		All wiring shall be installed in conduit.
6C		All exposed generator set related wiring in unfinished areas (I.e. no ceilings) shall be in EMT conduit (minimum) with matching boxes, etc. All generator set related conduits, concealed & exposed, shall be painted red unless otherwise
00		directed by architect
6D		All boxes, mountings & supports shall be labeled and approved for the purpose.
6E		Color code, number & label all wiring & conductors per point-to-point wiring diagram.
6F		Label each device with its ID, function & rating.
		Provide a complete concrete mounting pad with structural reinforcement. Anchor the generator set per the
6G		manufacturer's recommendations.
6H		Fully re-charge all batteries, test & report on their condition.
61		Change engine oil & all filters with new types as directed by the generator set manufacturer.
6J		Provide a complete Natural Gas fuel piping system complete with valves & regulators, properly sized to supply gas at
		proper pressure and flow rate.
7		SYSTEM TEST, VERIFICATION, DOCUMENTATION & SERVICE:
		The manufacturer's factory authorized & trained representative shall provide installation guidance and assistance, and
7A		system start-up.
7D		Prepare & provide 3 copies of bound operation manuals, part & service & "as-built" plans & wiring. Complete with the
7B		Company Names, Personnel Names with phone numbers & email address of all trades & parties involved.
		The manufacturer's factory authorized & trained representative shall provide a total system checkout of emergency
7C		generator system and testing, and shall send written certification of the system(s) proper operation to the owner,
		architect, engineer.
7D		The system shall be fully tested in the presence of the owner's representative(s), inspector(s), and AHJ . personnel.
7E		Perform a on-site 3 hour full-load test. Provide load bank as needed for the testing. Fully document the test.
7F		At the completion of the project, demonstrate proper system operation by turning off the normal power source to simulate normal source power failure. Observe & document the system operation, allow to run for 30 minutes minimum
1 [simulate normal source power failure. Observe & document the system operation, allow to run for 30 minutes minimum, then restore normal power, observing proper return to normal source power & system shut-down.
		INCH TESIOTE NOTITIAL DOWEL. ODSELVING DIODEL TERUM 10 NOTITIAL SOUTCE DOWEL & SYSTEM SNUT-GOWN.





18.09	.27	Fayette Co Fire Station 02	Cons
ID#	Rv #	LOW-VOLTAGE RELAY SWITCHING (LVRS) CX-HARDWIRED SYSTEM	Chec
	-"-	GENERAL - Providing complete Low-Voltage Switching System, consisting of LV Switching Panels with LV switching	0,1
7.01	-	relays, completely pre-assembled & pre-wired with relays, power supply, controls and all components for a complete	
		and properly operating system. Provide matching Hard-Wired LV switching devices, and controls.	
7.02	- 1	MANUFACTURER - The design is based on the products of Hubbell CX Lighting & Building Automation and shall be	
, 102		the manufacturer for the LV Relay Switching System.	
		ALTERNATE MANUFACTURERS - Products of other manufacturers, providing the equivalent level of product quality,	
7.03	-	operation, functionality and features, shall be submitted as add / deduct to this manufacture for owner's considerations,	
		complete with full product documentation and literature indicating complete compliance and performance.	
_		CODES & CERTIFICATIONS - All products shall be UL Listed, CSA approved, and comply with EEMAC / NEMA	
7.04	-	standards & NEC.	
7.05		WARRANTY - The system manufacturer shall warrant the complete system with a Full-Service-Warranty on all parts	
7.05		and labor for a minimum of 10 Years.	
		SUBMITTALS - Prepare & submit project specific product documentation, including but not limited to, manufacturer's	
7.06		qualifications & personnel contact information, component product data, complete relay & component schedules and	
		matching wiring diagrams for field use in the proper installation of the system.	
		RELAY PANELS - Provide pre-assembled 16 or 24 Pole relay panels, pre-finished steel with hinged & locking cover /	
7.07		door for surface of flush mounting. The interior shall divider for LV siring per code, control power transformer sized for	
,		125% of the load, LV devices and controls as required.	
		RELAYS - Provide relays as scheduled and required for proper operation. Relays shall be Heavy-Duty, Full Load	
		Rated, UL-508 Labeled, HID, breaker snap-in style, mechanically latching type with a manual ON/OFF switch that	
7.08		display the switches' ON/OFF state. 1-Pole, 20 Amp relays rated at 120 & 277 VAC. 1-Pole, 30 Amp relays rated at	
		120, 277 & 347 VAC. 2-Pole 20-Amp relays shall be rate for up to 480 VAC. UL 508 short-circuit rating of 14,000 Amps. Rated for switching of incandescent, fluorescent, electronic ballast & HID loads. 3,000 Amps inrush capability.	
		Relays shall have a 5 year warranty.	
		CONTROLLER- Solid-state, programmable relay controller to receive all control inputs and control all ouptus to relays.	
7.09		Controller shall include Astronomical Schedule 365-Day Time Clock-Scheduler, Automatic Daylight Saving Time &	
, .00		Leap-Year Compenstion. Controller to have built-in keypad for programming & non-volatile memory.	
7.10		LCD USER INTERFACE- Provide front-mounted LCD display with touch-button interface device with instructions.	
7.11		CONTROL WIRING- Hard-Wired LV Two-Wire Per Switch Or Input Control Device	
		SWITCHING STATIONS- Provide switching devices where shown and / or required. Devices shall be matching two-	
7.12		wire type. Each Switch Station shall provide for up to 6 Pilot-Light buttons. Devices located in wet locations shall be Wet-	
2		Location listed & labeled. Devices shall be of same manufacturer as the LV system manufacturer U.N.O.	
		·	
7.40		WALL SWITCH / LOCAL USE VANDAL RESISTIANT - Provide where shown or required heavy-duty, vandal	
7.13		resistant wet-location labeled switch & cover plate with tamper resistant screws. Engrave cover plate with switch	
		function (i.e. lights). Douglas WR-8321 Series WALL SWITCH / KEY OPERATED - Provide where shown or required heavy-duty, key-operated switch & cover	
7.14		plate. Engrave cover plate with switch function (i.e. lights).	
		WALL MASTER / GROUP SWITCHES - Provide where shown or required heavy-duty, multi-gang group mounted	
7.15		rocker type switches, complete with all switches, mounting hardware & cover plates. Label switches with their function	
		(i.e. lights).	
		INSTALLATION PER MANUFACTURER, NEC, NEIS - The LVRS shall be installed in accordance with the	
7.16		manufacturer's written documentation, NEC & NEIS. The manufacturer's factory authorized & trained agent shall	
		provide installation guidance and assistance and system start-up.	
		INSTALLATION CABLING - All wiring shall be CU in conduit or Type MC cable unless otherwise noted. The wire size	
7.17		shall be per the manufacturer. Wire size shall be increased to the next larger standard size for runs over 100 Feet.	
		<u> </u>	-
		INSTALLED MANUFACTURERS CHEK-OUT & CERTIFICATION: Prior to energizing the system, the Manufacturers	
7.18		Authorized Agent, shall perform and On-Site Check-Out of the completed systtem and provide written certification that	
		the components and installation are acceptable, that the system is fully programmed / scheduled and fully functional &	
		properly operating. INSTALLED DOCLIMENTATION. Provide three sets of As Installed Field Record decument of the completed system.	
7.19		INSTALLED DOCUMENTATION - Provide three sets of As-Installed Field Record document of the completed system,	
1.19		showing all equipment, components & wiring. Include complete manufacturer & product documentation and warranty forms.	
		INSTALLATION DEMONSTARTION & TRANING - The complete system(s) shall be fully demonstrated to the Owners	
7.20		Representative(s) to show full compliance and proper operation. Train the Owner's Personnel in the proper operation,	
20		programming and maintenance of the system.	
		programming and maintenance of the system.	1

						Enc	l Of Low Voltage Relay Switchir	ng Systen	ns					j
					ow-۱	OL1	AGE RELAY PANE	······			ULE			
Proj	_		ire Statio				LV Relay S	-		_			Pnl ID:	
Place	_		GA. 3024				Hubbell R						Issued	1 8.10.
For	KA Old	ham De	esign, Inc.					sure Type		1			Status:	Con
							LV Relay Schedule - Devices	, Contro	ls, Etc.					
Rv#	Rly #	Rly Type	Rly Amps	Rly Pole	PNL	CKT #	Circuit Load Description	LV Ctrl. Sta: LCA	LV Ctrl. Sta: LCB	LV Ctrl. Sta: LCC	LV Ctrl. Sta: LCD	LV Ctrl. Sta: LCE	LV Ctrl Function Abbrv.	Spec Item N
_	01		20	1	LB	01	Ltg- Truck Hi-Bay (a)	а	а	а	а	а	LLG, LSD	1,2
_	02	L	20	1	LB	03	Ltg- Truck Hi-Bay (b)	b	b	b	b	b	LLG	1
-	03	L	20	1	LB	05	Ltg- Truck Hi-Bay (c)	С	С	С	С	С	LL1	3
-	04	L	20	1	LB	05	Ltg- Truck Hi-Bay (d)	d	d	d	d	d	LL1	3
-	05	L	20	1	LB	07	Ltg- Extr	е	е	е	е	е	LASa, LLG	4,
-	06	L	20	1	LB	09	Ltg- Extr	е	е	е	е	е	LASa, LLG	4,5
-	07	L	20	1	LB	11	Ltg- Extr	е	е	е	е	е	LASa, LLG	4,
-	08	L	20	1	LB	13	Ltg- Step Lts						LASb	4
-	09	-	-	1	-	-	< Space Only >							-
-	10	-	-	1	-	-	< Space Only >							-
-	11	-	-	1	-	-	< Space Only >							-
-	12	-	-	1	-	-	< Space Only >							_
	_	-	_	-	-	_	Specific Item Not	es #			-		-	_
N01-	Local C	On / Off	Switching	From	Multiple l	ocation	s (Truck-Bay Normal Hi-Bay Lts	i)						
N02-		_		_			acent Truck-Bay Doors.							
N03-			•				s (Truck-Bay "Red Night Vision"	Hi-Bay L	.ts)					
N04-							different schedules per owner.							
N05-	"e" Sw	itch Pro	vides A T	imed (\	Verify 1-	Hr) Ove	er-Ride To Turn Lights On IF Th	ey Are Of	f.					
							Control Funtion & Dev	ice Type						
Rv#	Hub Dev Sei	/ice	Mtç	9	LV Fund Abb	tion	LV Ctrl Function Description	1		C	ommen	ts & Not	es	
-	LV-	·PnI	Ctrl F	² nl	LA	Sx	Astro-Time-Control, Schd-x		Built	In Featu	re Of LV	Relay Pa	anel Controller	
-	LV	SD	Wa		LC	M	0-10V Dimmer- Manual					•	Ballast / Driver	
-	CX	SW	Wa	I	LD)P	0-10V Dimm., 6-Button PreSet		•	-			-	
-	LVS	KEY	Wa	l	L	K	1-Gang 3-Pos.Key-Switch			-			-	
	1117													

Local Control Push-Button

Local Group Ctrl Push-Button Local Master Ctrl Push-Button

LV Push-Button
Occ. Sensor Type-A (On-Off)

Sun Day Lt Sensor

End Of LV Relaly Schedule

General Notes Applicabel To All

LSD

G04 Verify Final Device Color(s) With Archt-Owner Befor Ordering & Submittals

G06 Provide All Enviromental Return Air Cabling & Wriing Per Manufacturer.

G02 The Complete System(s) With All Comonets, Design, Etc. Shall Be Of Single Manufacturer Responsibility.

G05 LV Switch Devices To Be Labeled Or Color-Coded, Coordinate With Archt-Owner Before Ordering & Submittals

Wall / Clg

G01 Provide A Complete & Properly Functioning System.

G03 Provide Complete Product & Wiring Submittals For Review

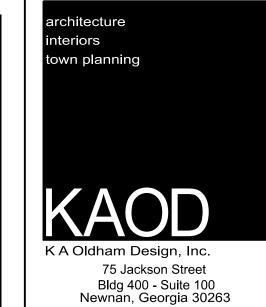
G07 Program System & Insturct User On Proper Operation.

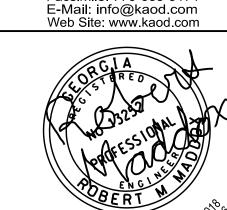
Verify Exact Mtg Location Per Manuf For Proper Operation

Verify Exact Mtg Location Per Manuf For Proper Operation

-	-			Station 02	ELECTR	ICA	L C	ONNEC	TIONS	DATA	18.10.31	Date
Place:	Fayettev	ille	, GA	. 30241								Status
# >	ID / TAG	Qty#	N,E,R, ×	Equipment / Description	Power Data- HP/ kW/ Etc	Volts	Phs	OCP A/P	Fed From	Wiring Data	Connection Data & Misc	Iten Note
						cht.	Iter	<u>ns</u>				
-	A-100	6	N	Doors 4-Fold	1.0 HP Each	208	3		LT	#10 + 10G- MC	Direct Conn Per Manuf	
-	A-200	1	N	C-Washer	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
-	A-201	1	N	C-Dryer	Typ Resd	208	1	30/1	LA	#10 + 10G- MC	Rcpt- NEMA 13-30R	
	A-300	1	N	Ice Maker		120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-301a	1	N	Kitchen Hood- Ex Fan	See Mech							
	A-302	1	N	Kitch- Refg	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-303	1	N	Kitch-Freez	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-304	1	N	Kitch- Microwave	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-305	1	N	Kitch- Dishwsher	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-306	1	N	Kitch- Disposal	Typ Resd	120	1	20/1	LA	#12+ 12G-MC	WP Toggle Switch & Rcpt Ded, GFCI	
	A-400a-d	4	N	Exercise Eqipment	Typ Resd	120	1	20/1	LB	#12+ 12G-MC	Rcpt- Ded	
	A-501	1	N	Clothes Wash-Resd	Typ Resd	120	1	20/1	LT	#12+ 12G-MC	Rcpt- Ded, GFCI	
	A-502	1	N	Clothes Dryer-Resd	Typ Resd - 5.0 kW	208	1	30/2	LT	#10+ 10G-MC	Rcpt- NEMA 14-30R (Verify)	
					<u>Buildin</u>	g Sy	ster	n Items				
	B-100	1	N	Fire Prot. Sprinkler Control Pnl		120	1	20/1	LA	#12+ 12G-MC	Rcpt- Ded, TVSS	
	B-200	1	N	Security Equipment		120	1	20/1	LB	#12+ 12G-MC	Rcpt- Ded, TVSS	
	B-300	1	N	Voice-Data-Telco Equipment		120	1	20/1	LB	#12+ 12G-MC	Rcpt- Ded, TVSS	
	B-300	1	N	Voice-Data-Telco Equipment		120	1	20/1	LB	#12+ 12G-MC	Rcpt- Ded, TVSS	
				A' 0	<u> </u>	EE I	tem	<u>s</u>		0// 0 100		
-	E-110	1	N	Air Compressor- Gen Use	7.5 HP	208	3	50	MDP	3# 8+ 10G- 0.75"C	DS- 60A,3P,NF,G,N-1R	
	D-201	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
	D-202	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
	D-203	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
	D-204	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
	D-205	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
	D-206	1	N	Truck Pwr	Charge Pwr	120	1	20/1	LT	#12+ 12G-MC	Via Clg Pwr Reel	
					<u>Notes</u>	- Iteı						
		elay	(5-10	Min) On Restart After P	ower Loss				-Start" Mot	or Starter		
03-					••							
C1	Coordinate	9 \/o	rif. D	ata w/ Other Trades Prix	Notes - A					iona Ta Equipment F	Por Equip Manuf Data	
G1- G3-		α ve	Tily Da	ala w/ Other Trades Frid	or To Orders, Rough-Ins	5	G2-		ai Conneci	ions to Equipment	Per Equip. Manuf. Data	
_	ABBREVAT	ΓΙΟΝ	S & T	ERMS			O1				ABBREVATIONS	
	Direct Conn				own Flow & Conn				MCCB	Molded Case Circu Fuse	uit Breaker	
				NEMA Encl., A&P As Sh IEMA Encl., A&P As Sh					F FHMS	1	Rated Toggle Switch	
					s Shown, Flex & Conn.				HACR		raied Toggie Swiich oner Rated (Breaker)	
				itch, 120V-277V, 20A, 1					MCP	Motor Ckt Protector	, ,	
N	NIERAA E	L T	/ 4	2D 4V 51					Px	Bus Plug- B/F/N	MA OD)	
				, 3R, 4X, Etc)					WP	Weather Proof (NE	MA-3K)	
PR		-		pe As Reqd Or Shown) O LE 1111	1.			N	New	Di	
	Recutacie:	ΝĿΝ	IA= N		C= Ground Fault Interrup				E	Existing, Remains I	n-Place	
Rcpt			1-1	J-4-4 JU V 4 V III	100 1/511 1 0 0 0 1 0	اء ما			_	Dalassts Coll (
Rcpt			10tor F	Rated, 30 Amp, 1.0 HP,	120-Volt, 1-2-3 Pole Ra	ted.			R X	Relocate Existing Demo- Remove		

Proj:	Fayette	Со	Fir	e Station 02	ELECTR	RICA	L C	ONNEC	TIONS	DATA	18.09.27	Date
Place	Fayettev	/ill	e, G	A. 30241								Status
R^	ID / TAG	# ^+0	N,E,R,	Equipment / Description	Power Data- HP/ kW/ Etc	Voits	Phs	OCP A/P	Fed From	Wiring Data	Connection Data & Misc	Ite No
					Mechanical H	VAC	& P	lumbino	Items			
-	M.AFU.0 >	2	N	HVAC> AFU (Air Filtering) Air-Vac-911	1.0 HP	208	3		LT	As Shown	DS- 30A, 3P, F-10A, G, N-1R	
		1	N	Cond Unit	2.0 Ton, 14.1 MCA	208	1	20	LA	#12+ 12G-MC	DS- 30A,2P,NF,G,N-3R	1
	M.CU.02	<u> </u>	N	Cond Unit	2.5 Ton, 16.8 MCA	208	1	25	LA	#12+ 12G-MC	DS- 30A,2P,NF,G,N-3R	1
		1	N		4.0 Ton, 20.9 MCA	208	1	35	LA	#10+ 10G-MC	DS- 30A,2P,NF,G,N-3R	1
		1	_	Cond Unit	2.5 Ton, 16.8 MCA	208	1	25	LA	#12+ 12G-MC	DS- 30A,2P,NF,G,N-3R	1
	M.GF.01	1	N	Furnace, Gas Heat	0.50 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.GF.02	1	N	Furnace, Gas Heat	0.50 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.GF.03	1	N	Furnace, Gas Heat	0.75 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.GF.04	1	N	Furnace, Gas Heat	0.50 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.GF.05	1	N	Furnace, Gas Heat	0.50 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.F.01	1	N	Fan, Switch W/ Lts	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.02	1	N	Fan, Switch W/ Lts	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.03	1	_	,	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.04	1	N	Fan, Switch W/ Lts	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.05	1	_	· ·	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
		1	_	Fan, Switch W/ Lts	0.25 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.07	1	N	Fan, Switch W/ Lts	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.08	1	N	Fan & T-Stat	0.10 HP	120	1			#12+ 12G-MC	DTS- 20A,1P	
	M.F.09	1	N	Fan & Switch	0.25 HP	120	1	20A,1P	LT	#12+ 12G-MC	DTS- 20A,1P	
		1		Fan & Switch	0.25 HP	120	1	20A,1P	LT	#12+ 12G-MC	DTS- 20A,1P	
	M.F.11	1	N	Fan, Mech Ctrls	0.25 HP	120	1	20A,1P	LT	#12+ 12G-MC	DTS- 20A,1P	
	M.F.12	1		Fan, Mech Ctrls	2.0 HP, 2-Speed	208	3	20A,3P	LT	#12 + 12G- MC	DS- 60A,3P,NF,G,N-1R	
	M.F.13	1	N	Fan & Switch	0.10 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.F.14	1	N	Fan, Range Exahust	0.50 HP	120	1	20A,1P	LA	#12+ 12G-MC	DTS- 20A,1P	
	M.KH.01	1	N	Kitchen Hood- Lts & Fire Supp	See Mech	120	1	20/1	LA	#12+ 12G-MC	J-Box Flex & Connect	
	M.EWH.01	1	N	Heat, Wall Heater	2.0 kW	208	1	20A,2P	LA	#12 + 12G- MC	Direct Conn	
	M.EWH.02	1	N	Heat, Wall Heater	3.0 kW	208	1	20A,2P	LT	#12 + 12G- MC	Direct Conn	
	M.EWH.03	1	N	Heat, Wall Heater	2.0 kW	208	1	20A,2P	LT	#12 + 12G- MC	Direct Conn	
	M CDII 04	F 4	NI NI	Car ID Haak Turk	Otto 9 0 405 UD 5	400	4	00 A 4 D	1.7	#40 . 400 MO	DTC 204 4D	
	M.GRH.01	-			Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.GRH.02	_		Gas IR Heat Tube	Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.GRH.03	_		Gas IR Heat Tube	Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.GRH.04	1	N	Gas IR Heat Tube	Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.GRH.05	1	N	Gas IR Heat Tube	Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.GRH.06	1	N	Gas IR Heat Tube	Ctrls & 0.125 HP Fan	120	1	20A,1P	LT	#12 + 12G- MC	DTS- 20A,1P	
	M.PWH.01	F 1	N	Wtr Htg, Tank, Gas	Ctrls, Gas Ignitor	120	1	20A,1P	LT	#12 + 12G- MC	DTS & GFCI Rcpt	
	M.HCP.01	_		Circ Pump, HW	Ctrls + 0.125 HP	120	1	20A,11	LT	#12 + 12G- MC	DTS & GFCI Rcpt	
				.,			n C	pecific			·	
01-	With Time-D)ela	y (5-	10 Min) On Restart After I		<u>- 1161</u>			-Start" Mot	or Starter		
03-			. (]	,								
-				D	Notes - A							
G1-		& V	erify	Data w/ Other Trades Pr	or To Orders, Rough-In	S			al Connect	ions To Equipment F	Per Equip. Manuf. Data	
\sim							G4-					





Telephone: 770-683-9170 Facsimile: 770-683-9171

THE MADDOX GROUP
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DATE ACTION COMMENTS
18.09.27 Issued Price, Permit & Construction

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FAYETTE CO. FIRE STATION # 2

1330 Highway 92 North Fayetteville, GA 30214

Prepared for

FAYETTE CO. FIRE DEPT.

COMMISSION / JOB NO: 1852.00

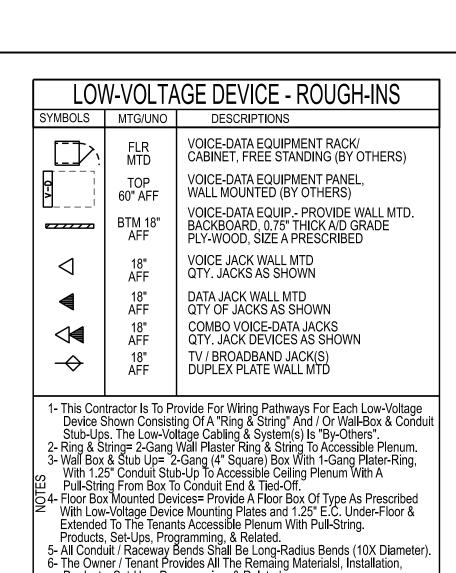
ELECTRICAL & LIGHTING PLAN

E-10

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LVS-x-PL

LVS-x-PL



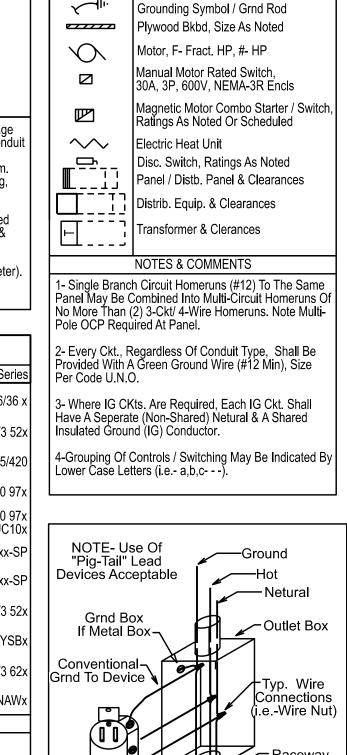
Products, Set-Ups, Programming, & Related.

				-		
RECEPTACLE DEVICES						
15A	20A	Mtg-UNO	Descriptions	LEGRAND-P&S Series		
-	-	18" AFF	Single Rcpt. HD Tamper Resistiant	TR 26/36 x		
—		18" AFF	Duplex Rcpt.	PT26 2/3 52x		
₩		18" AFF	Quad Rcpt. (2-Duplex)	415/420		
-		18" AFF	Duplex WR-ST-TR GFCI Rcpt	PT 15/20 97x		
		18" AFF	Duplex-WR-ST-TR-GFCI Rcpt.+ WP In-Use Cover	PT 15/20 97x & WIUC10x		
∷⊙ .		18" AFF	Duplex Surge Protected (See Wiring Notes)	PTTR-5262-xx-SP		
		18" AFF	Two Duplex Surge Prot. (See Wiring Notes)	(2)PTTR-5262-xx-SP		
		18" AFF	Dplx Rcpt-Top Switched	PT26 2/3 52x		
		18" AFF	TR Duplex Rcpt & 2-USB Type-A Ports, Class-2.0	TR5 2/3 62YSBx		
>	≥	18" AFF	Tamper Resistiant Duplex Rcpt.	PTTR 26 2/3 62x		
		18" AFF	Tamper Resistiant Duplex Rcpt. ST-GFCI	PT 15/20 97NAWx		

01- Devices To Be UL20, UL498 Listed & Labeled Where Applicable. 02- Devices To Be FSUL-WS896, FSUL-WC596 Compliant Where Applicable. 03- Devices To Be NFTA (Buy American) Where Avialable.
04- Devices To Be Legrand / P&S, PlugTail, Specification Grade Devices, UNO.
05- Devices To Be Decor Style Unless Not Available In Decor Style.
06- Provide Smooth Finish Matching P&S Trade-Master Grade Cover Plates. 7- Products Of Other Manufactures, Equivalent In Apperance, Features, Performance, Rating & Size, Are Acceptable. 08- Color As Selected By Owner / Tenant Or Architect. 09- Field Verify Final Exact Location Prior To Rough-In With Archt., Owner / User.
10- Multiple Adjacent Devices Shall Be Mtd In Multi-Gang Box With Multi-Gang Cover.
11- Surge Protective Recpts.> UL1449, 3-Mode, 340 Joules, LED & Audible Alarm.

COMMENTS & NOTES

	MISC. DEVICES & ITEMS							
SYMBOL	DESCRIPTIONS U.N.O.	COMMENTS - UNO						
	Outlet(s)- Special Type As Reqd., 48" AFF (Verify Final Mtg Htg)	As Noted Or Required						
	Power Pole, Type As Noted, Secure To Structure	Hubbell AL Serv Poles Series Or Equal						
	Poke-Thru Floor Device As Noted P-Power, D-Data, C-Comm	Hubbell FRPT Series Or Equal						
	Multi-Service Floor Box (P-V-D), Type As Reqd., Coord. Exact Placement	Hubbell 3-4-8 Gang Series Or Equal						
	1-Gang Floor Boxes, Type As Reqd., J-JBox, D-Data, P-Pwr, T-Telco	Hubbell System-One Series Or Equal						
	Plug-Mold Raceway, 2-Channel Type Lenght As Shown Or Reqd.	Wiremold 4000 Series Or Equal						
	Surface Raceway, 2-Channel Type Lenght As Shown Or Reqd.	Wiremold DS4000 Series Or Equal						
	Door Bell Button, Lighted, WP, 48"AFF Door Bell Chime, Multi-Tone	Nutone-BK142LWH Chime Kit						



To Devices

Not To Scale

TYP. OUTLET WIRING

Detail# - MG

WIRING & EQUIPMENT

J-Box Clg / Wall Mtd. @ 24" AFF UNO

DESCRIPTIONS

Flexible Conduit, LT Damp-Wet Areas

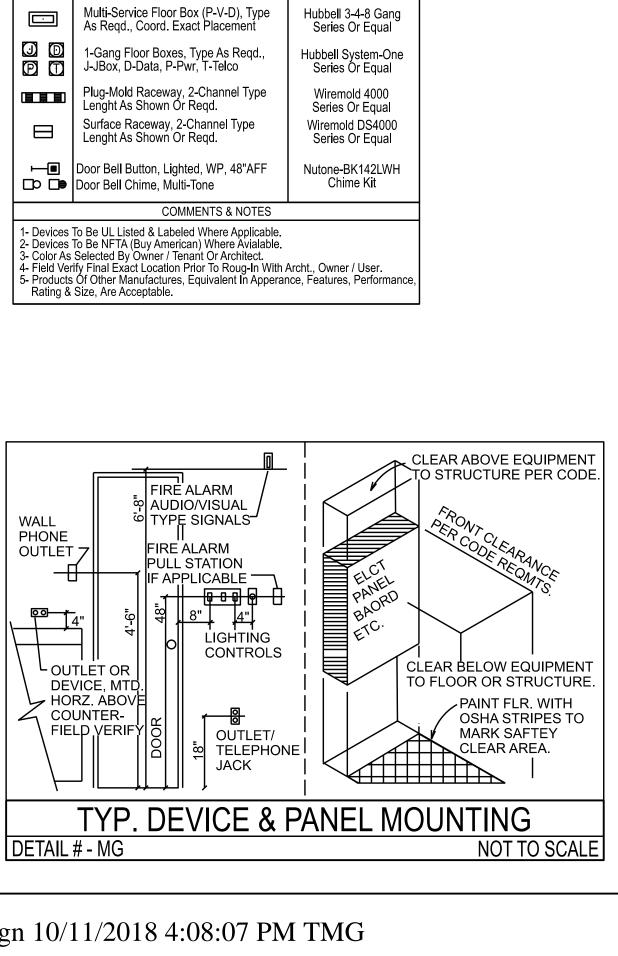
Solid Curved- Concealed Wiring

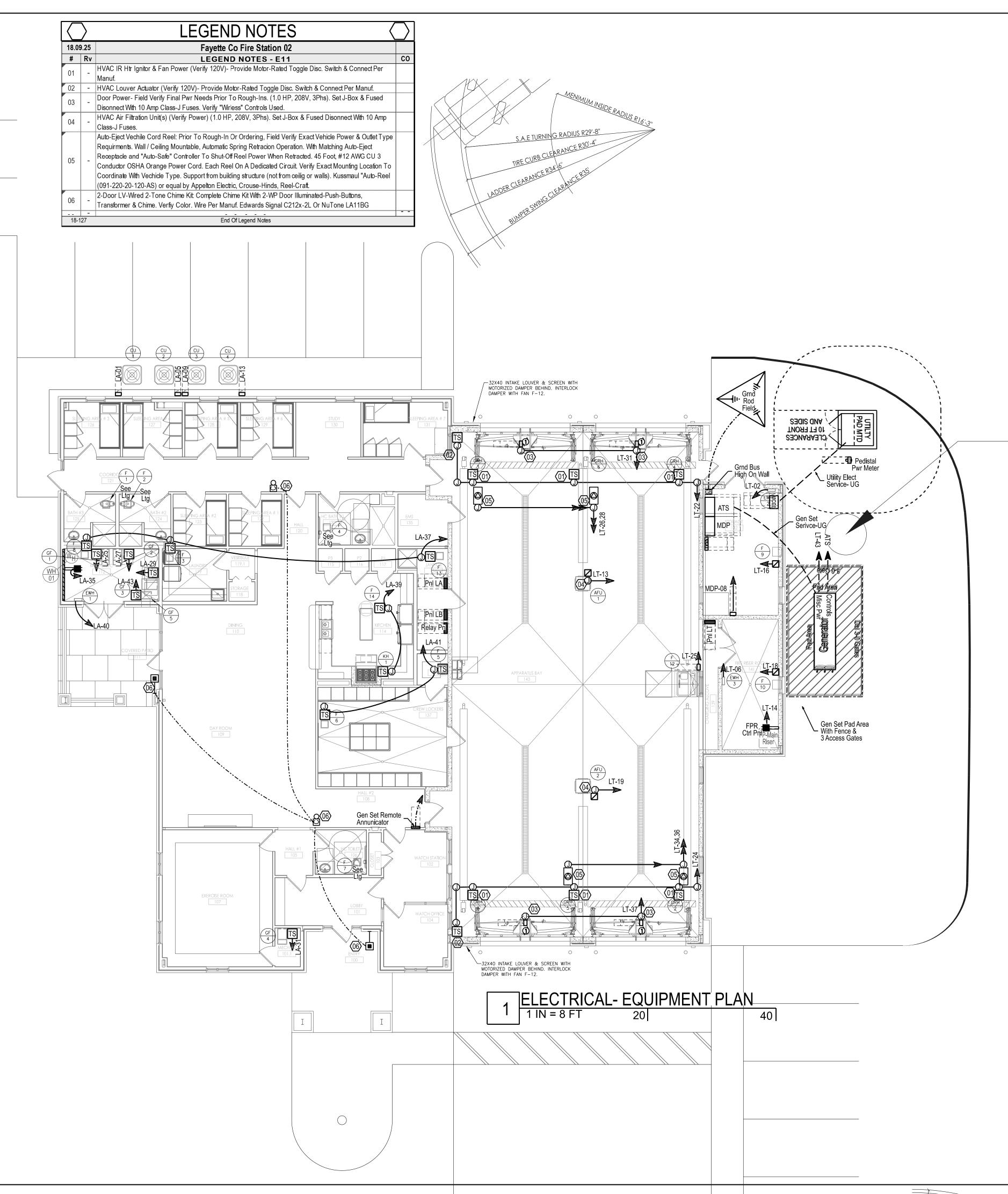
Solid Straight- Exposed Wiring

Dashed- In-Slab Or U.G. Wiring

Arrowhead- Home Run As Shwon

Surf. Mtd Multi-Channel Raceway





rchitecture own planning 75 Jackson Street

Bldg 400 - Suite 100 Newnan, Georgia 30263 Telephone: 770-683-9170 Facsimile: 770-683-9171 E-Mail: info@kaod.com Web Site: www.kaod.com



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DATE ACTION COMMENTS 18.09.27 | Issued | Price, Permit & Construction

> FAYETTE CO. FIRE STATION #2

1330 Highway 92 North Fayetteville, GA 30214

Prepared for

FAYETTE CO. FIRE DEPT

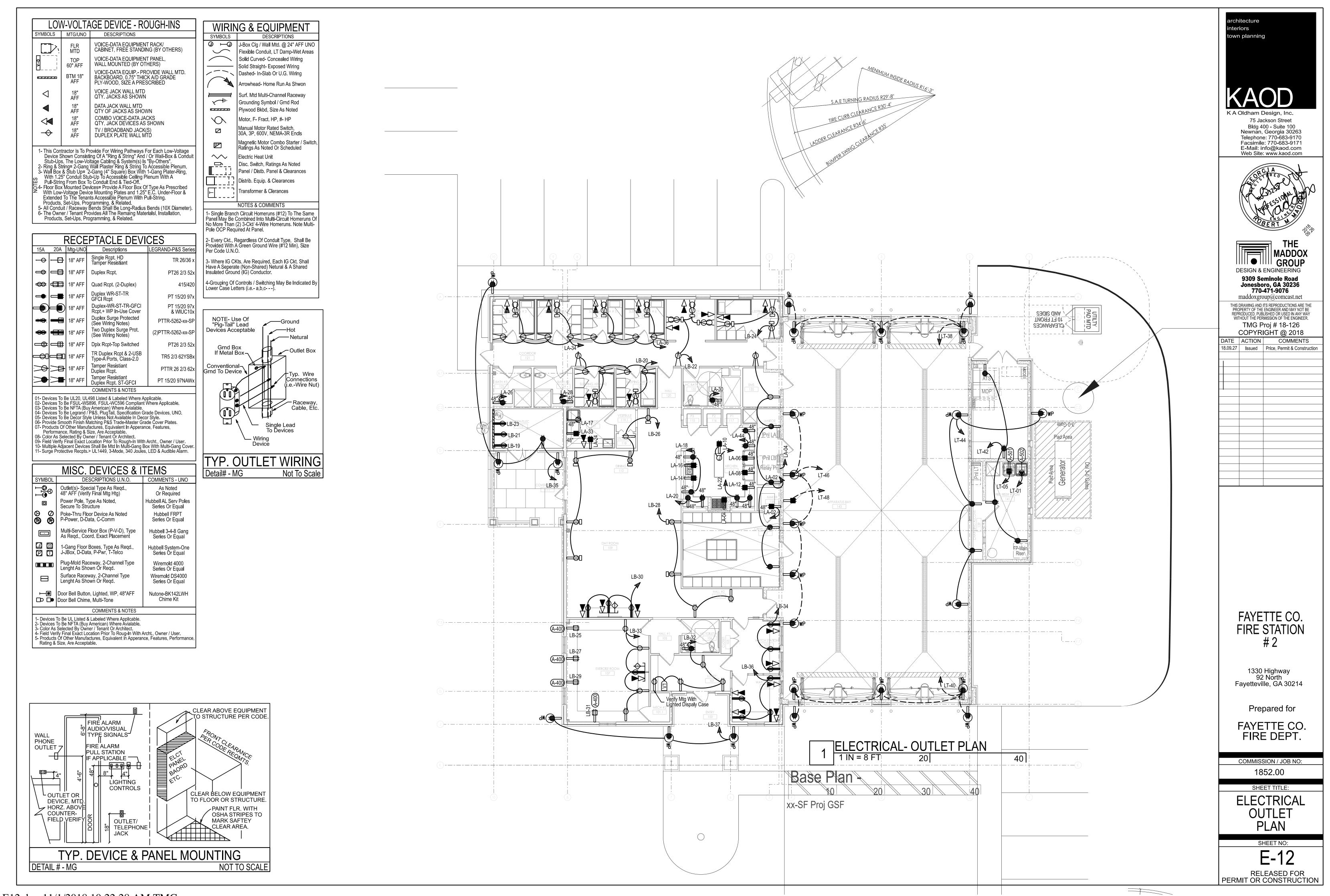
COMMISSION / JOB NO: 1852.00

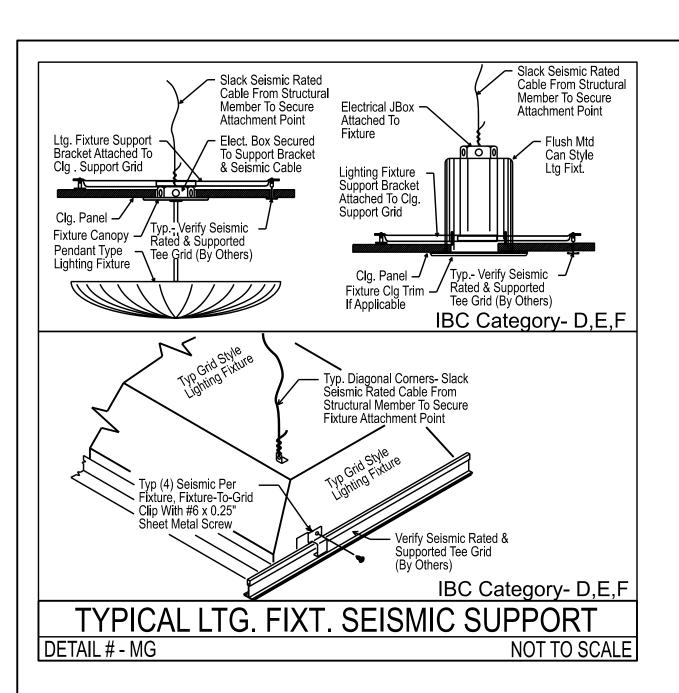
ELECTRICAL EQUIPMENT PLAN

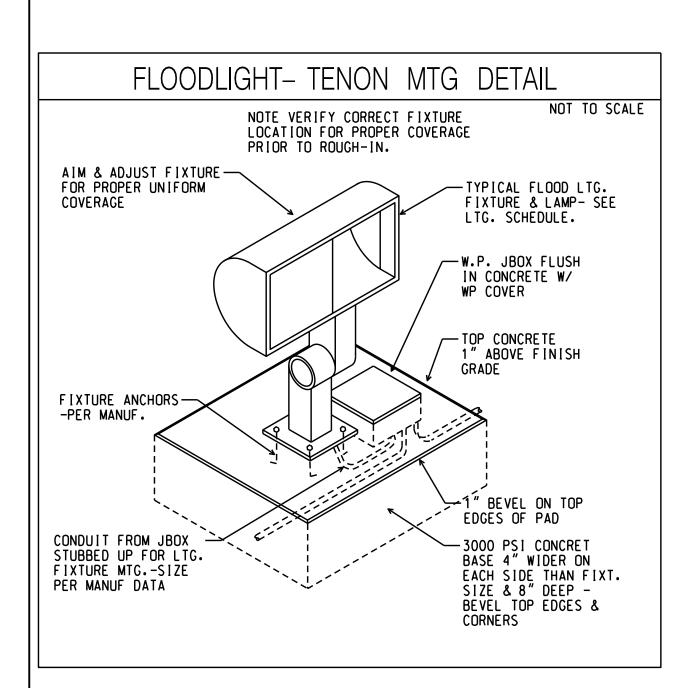
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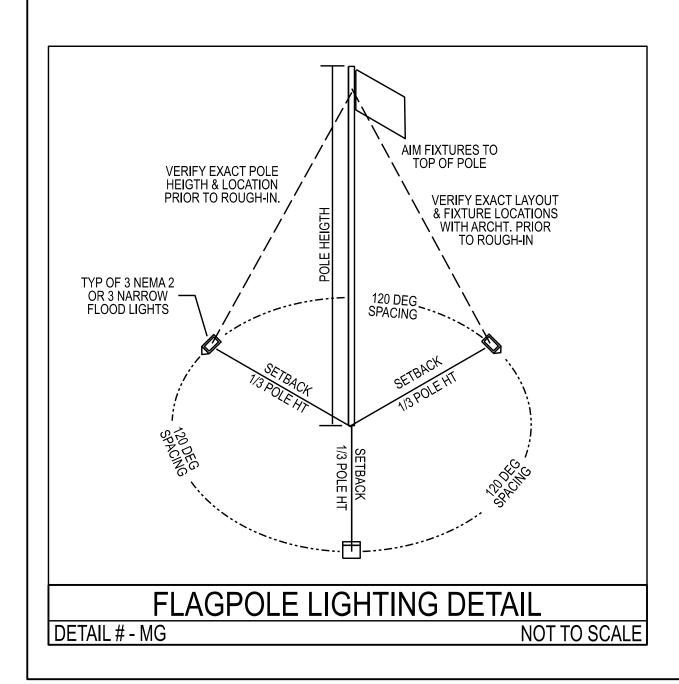
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RELEASED FOR PERMIT OR CONSTRUCTION











Section 1: Project Information

Energy Code: 2009 IECC Project Title: Fayette Co Fire Sta-02, Hwy92N

Project Type: New Construction Construction Site Designer/Contractor: Owner/Agent McElroy Road Fayetteville, Georgia

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C
Truck Bay (Police/Fire Station)	3682	1	3682
Living Area (Police/Fire Station)	4454	1	4454
	To	otal Allowed Watts =	8136

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Truck Bay (Police/Fire Station, 3682 sq.ft.)				
Living Area (Police/Fire Station, 4454 sq.ft.)				
LED: A: Other: Exemption:Sleeping Unit Lighting	1	16	32	Exempt
LED: B: Other: Exemption:Exit Signs, Safety or Emergency Lighting	1	23	3	Exempt
LED: C: Other:	1	21	29	609
LED: D: Other:	1	6	29	174
LED: E: Other:	1	4	15	60
LED: F: Other:	1	7	23	161
LED: G: Other:	1	4	20	80
LED: H: Other:	1	11	11	121
LED: I: Other:	1	35	55	1925
LED: J: Cove Lt By Archt: Other:	1	1	880	880
LED: K: Other:	1	12	42	504
LED: L: Other:	1	12	183	2196
LED: M: Other:	1	6	183	1098
LED: N: Other:	1	2	60	120
	To	tal Propose	ed Watts =	7928

Section 4: Requirements Checklist

Interior Lighting	PASSES: Design 3%	6 better than code.			
Lighting W 1. Total proper	•	ess than or equal to tot	al allowed watts.		
	Allowed Watts	Proposed Watts	Complies		

Project Title: Favette Co Fire Sta-02, Hwy92N	Report date: 10/03/1
	·
Data filename:	Page 1 of

- 2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to
- ☐ Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device. Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting. ☐ 4. Independent controls for each space (switch/occupancy sensor).
- ☐ Areas designated as security or emergency areas that must be continuously illuminated.

☐ 3. Daylight zones have individual lighting controls independent from that of the general area lighting.

- ☐ Lighting in stairways or corridors that are elements of the means of egress. ☐ 5. Master switch at entry to hotel/motel guest room. ☐ 6. Individual dwelling units separately metered.
- 7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.
- Only one luminaire in space. ☐ An occupant-sensing device controls the area. ☐ The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- 9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft. ☐ Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.
- ☐ 10. Photocell/astronomical time switch on exterior lights. Exceptions: Lighting intended for 24 hour use. 11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
- ☐ Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

☐ Areas that use less than 0.6 Watts/sq.ft.

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck-Web and to comply with the mandatory requirements in the Requirements Checklist.

Robert M. Maddox, PE

Project Notes: New Fire Station



Generated by COMcheck-Web Software **Exterior Lighting Compliance**

Section 1: Project Information

Energy Code: 2009 IECC Project Title: Fayette Co Fire Sta-02, Hwy92N Exterior Lighting Zone: 2 (Residential mixed use area)

Construction Site: Owner/Agent: Designer/Contractor: McElroy Road Fayetteville, Georgia

Section 2: Exterior Lighting Area/Surface Power Calculation

Section 3: Exterior Lighting Fixture Schedule

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Rear drive (Driveway)	2275 ft2	0.06	Yes	136	186
Front drive (Driveway)	2275 ft2	0.06	Yes	136	214
Flag Pole (Special feature area)	100 ft2	0.14	Yes	14	150
Entry canopy	200 ft2	0.25	Yes	50	165
Large Porch (Entry canopy)	365 ft2	0.25	Yes	91	108
Other door (not main entry)	15 ft of door width	20	Yes	300	84
Main entry	3 ft of door width	20	Yes	60	84
		Total Trad	able Watts* =	788	991
Total Allowed Watts =				788	
Total Allowed Supplemental Watts** =					

* Wattage tradeoffs are only allowed between tradable areas/surfaces. ** A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfac^{es}

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	(C X D
Entry canopy (200 ft2): Tradable Wattage				
LED: WA: Other:	1	3	28	84
LED: WF: Other:	1	3	27	8
Main entry (3 ft of door width): Tradable Wattage				
LED: WA: Other:	1	3	28	84
Other door (not main entry) (15 ft of door width): Tradable Wattage				
LED: WA: Other:	1	3	28	84
Large Porch (Entry canopy, 365 ft2): Tradable Wattage				
LED: WF: Other:	1	4	27	108
Front drive (Driveway, 2275 ft2): Tradable Wattage				
LED: WA: Other:	1	3	28	84
LED: WB: Other:	1	2	20	40
LED: WC: Other:	1	3	30	90
Rear drive (Driveway, 2275 ft2): Tradable Wattage				
LED: WA: Other:	1	2	28	56
LED: WB: Other:	1	2	20	40
LED: WC: Other:	1	3	30	90
Flag Pole (Special feature area, 100 ft2): Tradable Wattage				

Project Title: Fayette Co Fire Sta-02, Hwy92N Data filename:			ı	Report date: Paç	10/03/18 ge 3 of 4
LED: WE: Other:	1	3	50	150	
	Total Tradable	Total Tradable Proposed Watts =		991	

Section 4: Requirements Checklist

🞵 1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts. Compliance: Passes using supplemental allowance watts.

- n 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting. ☐ 3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time
- ☐ 4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor. □ 5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

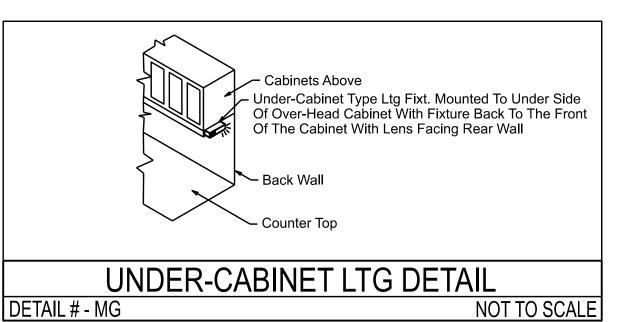
- Exceptions:
- Lighting that has been claimed as exempt and is identified as such in Section 3 table above. Lighting that is specifically designated as required by a health or life safety statue, ordinance, or regulation.
- ☐ Emergency lighting that is automatically off during normal building operation.

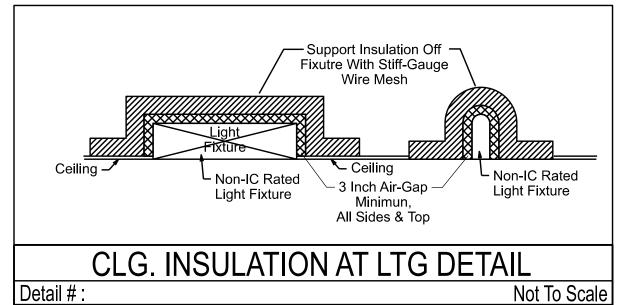
Section 5: Compliance Statement

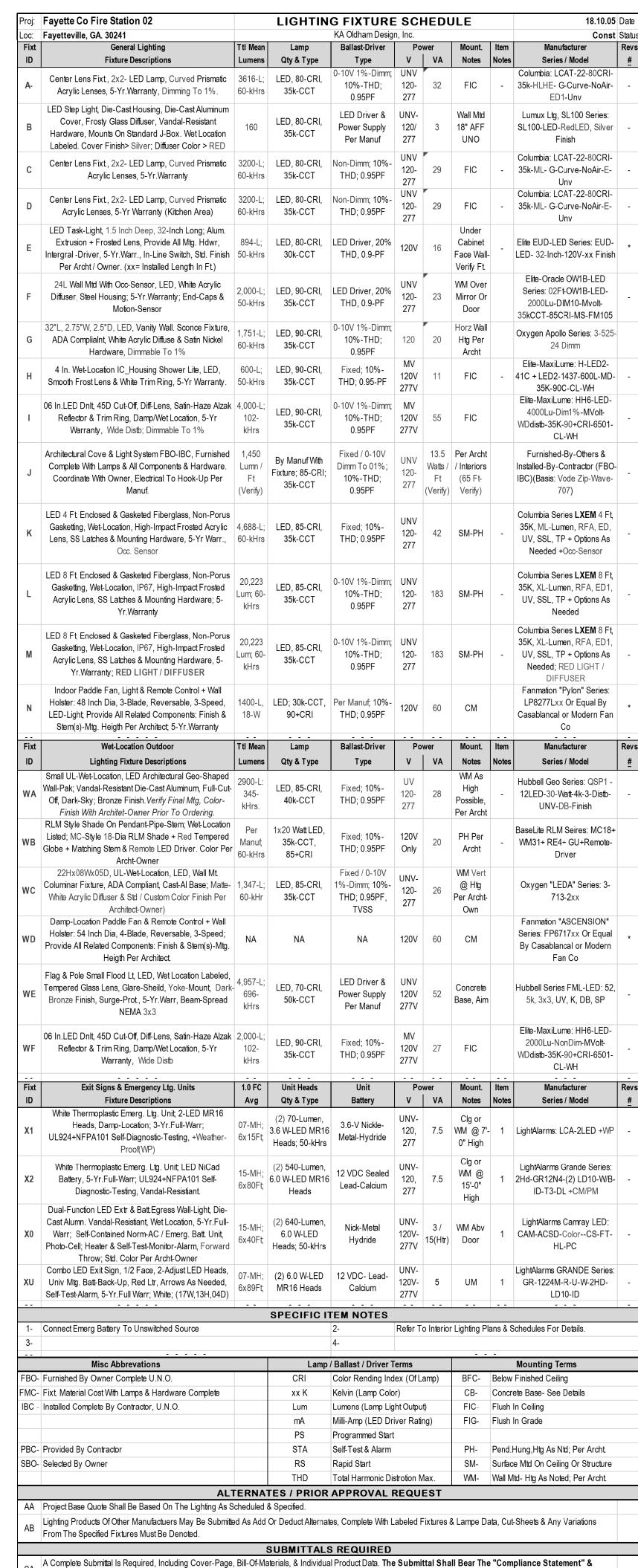
Lighting that is controlled by motion sensor.

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck-Web and to comply with the mandatory requirements in the Requirements Checklist.

e - Title	Signature	Date







Reviewed Stamp" Of The Supplier, Sub-Contractor & General Contractor. Failure To Do So Is Grounds For Automatic Rejection Of Submittals.

SB Each Items Cut-Sheet Shall be Labeled With Specific Choices Marked, Including Lamp Data, Indicating Full Compliance With The Criteria-Specification Requirements.

End Of Lighting Fix ture Schedule - See Lighting Criteria

MADDOX GROUP INC.



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town planning

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DATE ACTION COMMENTS

18.09.27 Issued Price, Permit & Construction

1330 Highway 92 North Fayetteville, GA 30214

Prepared for FAYETTE CO

COMMISSION / JOB NO:	
1852.00	
SHEET TITLE:	

FIRE DEPT.

LIGHTING **PLAN**

SHEET NO:

18127_E20.dgn 10/11/2018 3:56:49 PM TMG

RELEASED FOR PERMIT OR CONSTRUCTION

	LIGHTING FIXTURE SYMBOLS						
	SYMBOLS	MTG/UNO	DESCRIPTIONS				
		SEE SCHD.	LIGHTING FIXTURES, GENERALLY CEILING MOUNTED SHAPE GENERALLY INDICATES SHAPE OF FIXTURE				
		SEE SCHD.	FLUORESCENT STRIP TYPE FIXTURE				
	—O D	SEE SCHD.	WALL OR BRACKET MOUNTED TYPE FIXTURE				
	ΔΔΔ	SEE SCHD.	LIGHTING TRACK & FIXTURES				
	\otimes $-\otimes$	SEE SCHD.	EXIT SIGNAGE FIXTURE				
	1⊗1 —⊗‡	SEE SCHD.	EXIT SIGNAGE WITH DIRECTIONAL ARROWS				
	₩	SEE SCHD.	EXIT SIGNAGE WITH EMERGENCY FLOOD LIGHTS				
;	≌ ⊠ ⊻	SEE SCHD.	BATTERY TYPE EGRESS FIXTURES				
	XXX	SEE SCHD.	LIGHTING FIXTURE TYPE ID / TAG- SEE LTG FIXTURE SCHEDULE				
- 1		I					

LIGHTING GENERAL NOTES NOTES & COMMNETS

FIXTURE TYPES ARE INDICATED BY UPPER CASE CHARACTERS SWITCHING GROUPS SHOWN BY LOWER CASE LTRS. WHERE APPLICABLE. CIRCUIT GROUPING SHOWN BY NUMBERS, WHERE APPLICABLE. REFER TO REFLECTED CEILING PLANS FOR EXACT FIXTURE LOCATIONS. WP INDICATES WEATHER PROOF SWITCH COVER.

LIGHTING CONTROLS - MANUAL, LINE-VOLTAGE, HARD-WIRED						
SYMBOLS	MTG UNO	GENERIC DESCRIPTIONS	RATINGS	MANUF. & SERIES LEGRAND/P&S- UNO		
	MANL	JAL DEVICES - LINE	VOLTAG	E TYPE		
Tx	48" AFF	(T)oggle Switch, 1= SPST; 2= 2PST; 3= 3-Way; 4= 4-Way	20A; Grnd 120V & 277V	PT-262-XX		
[Kx]	48" AFF	(K)ey Operated Switch, 1= SPST; 2= 2PST; 3= 3-Way; 4= 4-Way	20A; Grnd 120V & 277V	PT-20AC-XX		
[x]	48" AFF	(I)lluminated When On Switch (UNO), 1= SPST; 2= 2PST; 3= 3-Way; 4= 4-Way	20A; Grnd 120V & 277V	PT-262-XX		
Ma	48" AFF	(M)omentary Contact Switch, 1-Pole 3-Position (a) Subscript Indicates Switching Group, Etc.	20A; Grnd 120V & 277V	TM811-DTMO-XX		
DL	48" AFF	(D)immer Line Volt, (1/3) Way,Full-Off, Incand., CFL & LED; NEMA-SSL7, Forward Phs Dim.	120V, G 150W-CFL, 600W-I	Lutron Maestro C-L Dimmers		
D0	48" AFF	(D)immer, 0-10V Analog Control; 1%-100%; On-Off Switch, Level Slider, Pwr-Fail Memory	0-10V Analog Control Wires	Lutron Diva Series		
WS	48" AFF	(W)eather-(P) Toggle Switch, 1-Pole & WP Cover	20A,120V,277V,G	PT-262-XX & CA1GL		
SM	48" AFF	Switch Motor Rated, NEMA 3R Enclosure	3 Pole, 30A, 600V	7803 Switch & 7833 Encls		
COMMENTS & NOTES						

1- Devices To Be UL20, Listed & Labeled Where Applicable. 2- Devices To Be NEMA WD-1 & WD-6 Compliant Where Applicable. 2- Devices To Be NEMA WD-1 & WD-6 Compliant Where Applicable.
3- Devices To Be NFTA (Buy American) Where Avialable.
4- Devices To Be Legrand / P&S, PlugTail, Spec. Grade Devices, UNO.
5- Device Face To Decor Style Unless Not Available In Decor Style.
6- Provide Smooth Finish Matching P&S Trade-Master Grade Cover Plates.
7- Color As Selected By Owner / Tenant Or Architect.
8- Products Of Other Manufactures, Equivalent In Apperance, Features, Performance, Rating & Size, Are Acceptable.

Rough-Ins Per Archt., Owner/ User.

10- Control / Grouping Indicated By Lower
Case Letters (i.e.-a,b,c)

11- Multiple Adjacent Devices Shall Be Mounted
In Multi-Gang Box With Multi-Gang Cover

09- Field Verify Exact Final Location Prior To

LIGHTING CONTROLS - SENSOR, LINE-VOLTAGE, HARD-WIRED						
SYMBOLS	MTG UNO	GENERIC DESCRIPTIONS	RATINGS	MANUF. & SERIES HUBBELL - UNO		
V1 V2	Wall Mt. 48" AFF	(V)acancy Sensor, (1/2) Ckt, PIR, Wall Mtd. Auto or Man On, Adjustable Time OFF	800W-F/I @ 120V 1200W-F @ 277V	(V1-1P) LHIRS1-xx-M (V2-2P) LHIRS2G-xx-M		
	Wall Mt. 48" AFF	(V)acancy Sensor - (D)immer, 1-Ckt, 0-10V Dimm, PIR, Auto or Man On, Self-Adjusting Time OFF	800W-CFL- @ 120V 1200W-CFL- @ 277V	LightHawk2- LHD-IRS-3-N		
U1) U2)	Wall Mt. 48" AFF	(U)ltra-Sonic/PIR Dual Sensor, (1/2) Ckt, Self-Adaptive, Off Warning, Man/ Auto Select 20x15 Minor & 35x30 Major Motion Range	800W-I @ 120V 800W-F @ 120V 1200W-F @ 277V	(U1-1P) LHMTS1G-xx (U2-2P) LHMTDS2G-xx		
P1 P2	Clg Mtd Per Manuf	(P)IR Occupancy Sensor, (1/2/x) Range, Power Pack, RFI & EMI Resistant, Adjust. Delay & Sensitivity P1- 500 Sq Ft, P2- 1200 Sq FT Coverage Range	24 VDC Sensor 20A, 120/ 277V Power Pack	(P1>500Sf) OMNI-IR (P2>1200Sf) OMNI-IRL		
U2 U1 U3	Clg Mtd Per Manuf	(U)ltra-Sonic Sensor, (1/2/x) Range, Power Pack, RFI & EMI Resistant, Adjust. Delay & Sensitivity U1- 500 SF, U2-1100 SF, U3- 2200 SF Range	24 VDC Sensor 20A, 120/ 277V Power Pack	(U1>500Sf) OMNI-US500 (U2>1100Sf) OMNI-US1000 (U3>2200Sf) OMNI-US2000		
(DL)	Clg Mtd Per Manuf	(D)ay(L)ight Switching (Non-Dim) Sensor, Closed-Loop Light Sensing,Matching Power Pack, RFI & EMI Resistant, Adjust. Delay & Sensitivity	24 VDC Sensor 20A, 120/ 277V Power Pack	NX-DS Sensor & NX-RC1RUNV Power-Pack		
C#)	Clg Mtd Per Manuf	(C)ombo (D)ual-Tech, US/PIR Sensor, Power Pack, RFI & EMI Resistant, Adjust. Delay & Sensitivity 360D-Sensing, 1000 & 2000 SF Range	24 VDC Sensor 20A, 120/ 277V Power Pack	(C1>1000Sf) OMNI-DT1000 (C2>2000Sf) OMNI-DT2000		
COMMENTS & NOTES						

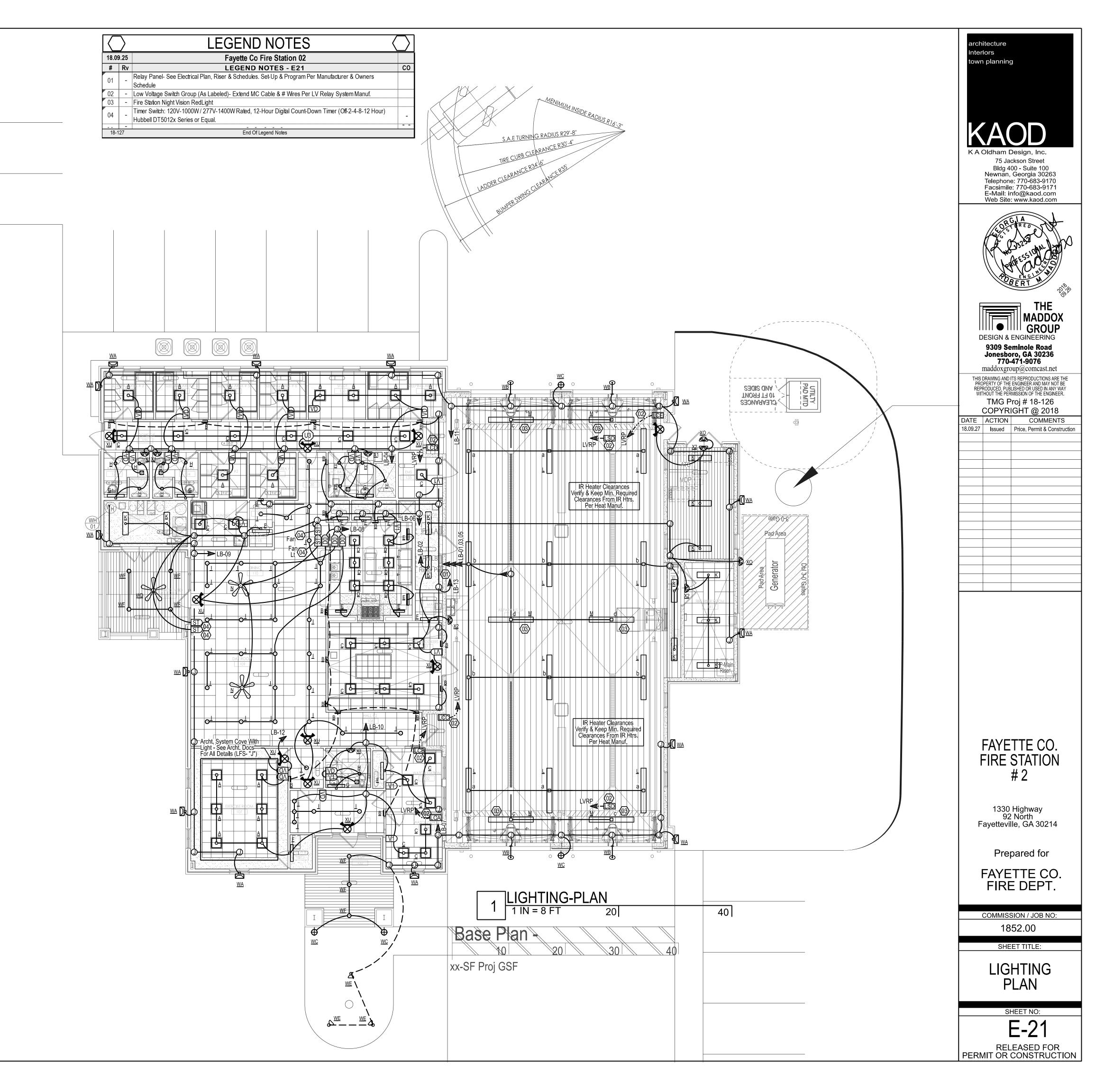
1- Devices To Be UL20, Listed & Labeled Where Applicable. 2- Devices To Be NEMA WD-1 & WD-6 Compliant Where Applicable. - Devices To Be NFTA (Buy American) Where Avialable. 04- Devices To Be Hubbell, Spec. Grade Devices, UNO.
05- Color, If Option, Selected By Owner / Tenant Or Architect.
06- Products Of Other Manufactures, Equivalent In Apperance,
Features, Performance, Rating & Size, Are Acceptable.

07- Field Verify Exact Final Location Prior To Rough-Ins Per Archt., Owner/ User. 08- Control / Grouping Indicated By Lower Case Letters (i.e.-a,b,c)
09- Multiple Adjacent Devices Shall Be Mounted
In Multi-Gang Box With Multi-Gang Cover

Rough-Ins Per Archt., Owner/ User.

07- Control / Grouping Indicated By Lower Case Letters (i.e.-a,b,c)

LIGHTING CONTROLS - WIRELESS TYPE					
SYMBOLS	MTG UNO	GENERIC DESCRIPTIONS	RATINGS	MANUF. & SERIES LUTRON - UNO	
WIRELESS DEVICES					
W#)	Wall Mtd 48" AFF UNO	(W)ireless Push-Button Remote (#= Qty Buttons), RF-Based, WireLess Comm, EMI Resistant, UL, FCC Approved, Color (WH,BL,IV,LA,WG) Per Archt-Owner.	WireLess 10 Year Batt Life	PICO PJ2 Series (01-03 Button - UNO)	
(WC)	Clg Or Wall Mtd High As Possbile	(W)ireless (C)orner Occupancy Sensor, RF-Based WireLess Comm, EMI Resistant, UL, FCC Approved, Ft. Range> 30 Ft Minor / 50 Ft Major Motion.	WireLess 10 Year Batt Life	LRF-2-O- 90 Deg Corner Mtd. Coverage	
WH	Clg Or Wall Mtd High As Possbile	(W)ireless (H)all-Way Occupancy Sensor, RF-Based WireLess Comm, EMI Resistant, UL, FCC Approved, Ft. Range> 6Wx50L; 8Wx100L;10Wx150L	WireLess 10 Year Batt Life	LRF-2-O- Hall-Way Long Coverage	
WO	Clg Or Wall Mtd High As Possbile	(W)ireless (O)pen Area Occupancy Sensor, RF-Based WireLess Comm, EMI Resistant, UL, FCC Approved, Ft. Range> 30Wx50LMinor; 50Wx60L Major	WireLess 10 Year Batt Life	LRF-2-O- 180 Deg Coverage	
WD	Clg Mtd Place & Aim Per Manuf	(W)ireless (D)aylight Compensating Sensor, RF-Based, WireLess Comm, EMI Resistant, UL, FCC Approved, 0-150FC Range.	WireLess 10 Year Batt Life	LRFX-DCRB-WH (White)	
WR)	Plenum Mtd On JBox	(W)ireless (R)eceiver-Power Pack-Switching Relay, Zero-Crossing Switching, RF-Based WireLess Comm, EMI Resistant, Plenum-Rated, UL, FCC Approved.	120/277 V~ 50/60 Hz, 1.0 W 1P-16 Amp Rated	RMJ-16R-DV-B (RMJ-16RCC01-DV-B Where Noted- LV (24V-1.0A) Dry-Contact Load Control)	
(WS)	Plenum Mtd On JBox	(W)ireles(S) Receiver-Power Pack-Dimming Module, Zero-Crossing Switching, RF-Based WireLess Comm, EMI Resistant, Plenum-Rated, UL, FCC Approved, 0-10V Compatable Dimming Ballast-Drivers Reqd.	120/277 V~ 50/60 Hz, 1.0 W; NEC Class I or II Ballast Ctrl. Wiring	RMJ-5T-DV-B (URMJ-5T-DV-B	
(WV)	Plenum Mtd On JBox	(W)ireless(V) Receiver-Power Pack-Dimming Module, Zero-Crossing Switching, RF-Based WireLess Comm, EMI Resistant, Plenum-Rated, UL, FCC Approved, EcoSystem Dimming Digital Ballast-Drivers Reqd.	120/277 V~ 50/60 Hz, 1.0 W; NEC Class I or II Ballast Ctrl. Wiring	RMJ-ECO32-DV-B (URMJ-ECO32-DV-B	
COMMENTS & NOTES					
1- All Wireless Devices & Componet To Be Of Same Manufacturer. 2- This Design & Products Are Based On Lutron "Radio-Powr-Savr" System. 3- Color As Selected By Owner / Tenant Or Architect. 05- Locate & Install All Product In Accordance With Manufacturer's Documented Instructions. 06- Field Verify Exact Final Location Prior To					



Supporting Documentation).

4- Products Of Other Manufactures, Equivalent In Apperance, Features, Performace, Ratings & Size May Be Submitted As Add / Deduct Alternates For Consideration (With Complete