

GENERAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE IBC ADOPTED BY STATE AND APPLICABLE LOCAL CITY/TOWNSHIP/COUNTY CODES AND OTHER INDUSTRY STANDARDS.
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN, THE PLUMBING CONTRACTOR (P.C.) SHALL COORDINATE ALL OF HIS WORK WITH ALL OTHER CONTRACTORS.
- THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION, ALL DISCREPANCIES OR INTERFERENCE SHALL BE BROUGHT TO THE ENGINEERS ATTENTION.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS, FOR DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
- THE P.C. SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK, THE PATCHING SHALL BE BY THE P.C. AND FINISHING BY GENERAL CONTRACTOR (G.C.).
- WATER LINES BELOW GRADE SHALL BE TYPE "K" COPPER AND ABOVE GRADE TYPE "L", HARD DRAWN COPPER, SUPPORTED AS REQUIRED, AND SHALL BE HYDROSTATIC ALLY TESTED FOR TWO HOURS AT 135 PSI, TEST TO COMPLY WITH ALL EPA STANDARDS, THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE, "COP", OR "TRAP" PIPES ARE ACCEPTED SUBJECT TO LANDLORD'S ACCEPTANCE.
- COLD & HOT WATER PIPING SHALL BE INSULATED WITH R6.5, 2" GLASS FIBER.
- IF THE WATER PRESSURE EXCEEDS 60 PSI, A PRESSURE REDUCING VALVE SHALL BE INSTALLED WHERE THE WATER ENTERS THE BUILDING AND SHALL BE SET AT 50 PSI.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL AND CONTROL CONNECTIONS TO THE EQUIPMENT FURNISHED UNDER THE PLUMBING CONTRACT.
- SANITARY SEWER AND VENT LINES SHALL BE P.V.C., WASTE AND VENT PIPE UNDER SLAB AND DWV HUB-BUB (C) AND (D) DWV COPPER ABOVE SLAB, EXCEPT FOR CONNECTIONS TO POT/TOILETS, HUBBUB DRAIN & VENT SIZES ABOVE SLAB SHALL BE 2", P.V.C. PIPES ARE ACCEPTABLE IF APPROVED BY THE LANDLORD AND IT MAY USE IN CONCEALED WALLS OR ABOVE NON-PLENUM CEILING, ANY EXPOSED PLUMBING PIPES MUST BE CAST IRON.
- THE P.C. SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION OF ANY WORK.
- VERIFY THE LOCATION OF ALL EQUIPMENT SUPPLIED BY OTHERS.
- THE PLUMBING CONTRACTOR SHALL PROVIDE A DIELECTRIC UNIFORM WHEN CONNECTING DISSIMILAR METALS.
- ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ITEMS TO BE FURNISHED UNDER THIS CONTRACT WILL FIT THE SPACE AVAILABLE, THEY SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHARES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT DEVICES, ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER PRIME CONTRACTORS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL USE FIRE RATED SLEEVES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS ARE MADE, ALL OPENINGS WILL BE MADE FIREPROOF.
- ALL VENT LINES SHALL SLOPE UP TO VENT through ROOF, VENT through ROOF SHALL BE 1/8" MINIMUM FROM ANY FRESH AIR INTAKES.
- ALL WASTE STACKS & VENT SHALL HAVE A CLEANOUT AT THE BASE OF THE STACK, COORDINATE LOCATION OF CLEANOUTS WITH CASEWORK.
- THE CONTRACTOR SHALL PROVIDE SHOCK ABSORBERS AT EACH BRANCH, SHOCK ABSORBERS IN ACCORDANCE WITH ASSE 1210 AND SHALL BE ACCESSIBLE.
- HORIZONTAL DRAINAGE AND WASTE PIPING SHALL HAVE A MINIMUM SLOPE OR FALL OF 1/8" PER FOOT FOR SIZES GREATER THAN OR EQUAL TO 3" AND A MINIMUM SLOPE OF FALL OF 1/4" PER FOOT FOR SIZES LESS THAN 3".
- PROVIDE MANUAL SHUTOFF VALVES AT EACH BRANCH LINE OF ALL WATER PIPING.
- PROVIDE ISOLATION VALVES AT ALL FIXTURES.
- SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- PROVIDE POSITIVE FREEZE PROTECTION ON ALL WATER LINES SUBJECT TO FREEZING CONDITIONS.
- CONTRACTOR SHALL BE REQUIRED TO COMPLETELY ROD AND FLUSH OUT ALL SANITARY WASTE LINES AFTER BUILDING IS COMPLETED.
- PROVIDE CHROME ESCUTCHEON RINGS AT ALL EXPOSED CEILING AND WALL PENETRATIONS.
- PROVIDE BACKFLOW DEVICE WITH EACH EQUIPMENT CONNECTION.

MINIMUM FACILITY REQUIREMENTS

TABLE 403.1

SPACE CLASSIFICATION	MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES			
	WATER CLOSET	URINALS	LAVATORIES	SHOWERS/ TUB
CHILD CARE	1	0	3	0
TOTAL REQUIRED	1	0	3	0
EMPLOYEES	1	0	1	0
TOTAL REQUIRED	1	0	1	0

PLUMBING FIXTURE CALCULATIONS

Fixture Designation	Fixture	Occupancy	Type of Supply Control	Quantity	F.U. Cold	F.U. Hot	F.U. Total	Water F.U./F.I.K.	F.U. Waste	F.U. Total		
P1A	WATER CLOSET ADA	PUBLIC	FLUSH TANK	1.00	5.00	5.00	0.00	0.00	5.00	4.00	4.00	
P1B	WATER CLOSET ADA	PUBLIC	FLUSH TANK	3.00	5.00	15.00	0.00	0.00	5.00	4.00	11.00	
P2A	LAVATORY ADA	PUBLIC	FAUCET	2.00	1.50	3.00	1.50	3.00	2.00	4.00	1.00	2.50
P2B	LAVATORY	PUBLIC	FAUCET	2.00	1.50	3.00	1.50	3.00	2.00	4.00	1.00	2.50
P3A	EXISTING KITCHEN SINK	RESIDENTIAL	FAUCET	1.00	1.00	1.00	1.00	1.00	1.40	1.40	2.00	2.00
P4	WALL HAND SINK	RESIDENTIAL	FAUCET	2.00	1.00	2.00	1.00	2.00	1.40	1.40	2.00	2.00
P5	COUNTERTOP HAND SINK	RESIDENTIAL	FAUCET	5.00	1.00	5.00	1.00	5.00	1.40	1.40	2.00	10.00
P6	EX. RESTROOM HAND SINK	RESIDENTIAL	FAUCET	1.00	1.00	1.00	1.00	1.40	1.40	1.40	2.00	2.00
P7	EXISTING DISHWASHER	RESIDENTIAL	AUTOMATIC	1.00	0.50	1.40	1.40	1.40	1.40	1.40	2.00	2.00
P8	ELECTRIC WATER COOLER	RESIDENTIAL	3/8" VALVE	1.00	0.25	0.25	0.00	0.00	0.25	0.50	0.50	0.50
F.U. Cold Sub-Total							35					
F.U. Hot Sub-Total							16					
F.U. Water Sub-Total								42	WFU			
F.U. Waste Sub-Total										41	FU	

WATER DEMAND IN GPM(WALLUSH) TANK = 42 W.S.F. @ 24.86 GPM
MINIMUM WATER PIPE SIZE REQUIRED IS 1" - SPECIFIED 1"

PLUMBING FIXTURE SPECIFICATIONS

- P1A WATER CLOSET FLOOR MOUNTED (ADA)
- TYPE: FLOOR MOUNTED, VITREOUS CHINA, FLUSH TANK, 1.6 GPF MFR: AMERICAN STANDARD, MODEL#N61109, COLOR- WHITE, BIGHT HEIGHT, ELONGATED EXTRA HEAVY DUTY BOWL, 59.6" DIA, 17" A.F. TO RIM FRONT OR LEFT HAND SIDE LEVER TO BE DECIDED BY THE CONTRACTOR PER FIELD LOCATION, LEVER MUST BE ON OPEN SIDE OF THE TOILET
 - SEAT: PLASTIC OPEN FRONT SEAT COVER TO MATCH BOWL, SS HINGE
 - MOUNTING HEIGHT: RIM AT 17" ABOVE FINISHED FLOOR
- P1B CHILD WATER CLOSET FLOOR MOUNTED (ADA)
- TYPE: FLOOR MOUNTED, VITREOUS CHINA, FLUSH TANK, 1.6 GPF MFR: GERBER, MODEL#CLVETTE ARROUNDO QHE2003 ADA COMPLIANT, COLOR-WHITE, ROUND FRONT BOWL, 31 1/4" A.F. TO RIM FRONT OR LEFT HAND SIDE LEVER TO BE DECIDED BY THE CONTRACTOR PER FIELD LOCATION, LEVER MUST BE ON OPEN SIDE OF THE TOILET
 - SEAT: PLASTIC OPEN FRONT SEAT COVER TO MATCH BOWL, SS HINGE
 - MOUNTING HEIGHT: RIM AT 11 1/4" ABOVE FINISHED FLOOR
- P2A WALL LAVATORY
- TYPE: WALL HUNG, 4" CENTERS, OVAL, 20"x18", VITREOUS CHINA, SELF RIMMING
 - MFR: AMERICAN STANDARD MODEL#N680 0955.1232C (EXTRA LEFT-HAND HOLE) OR 0955.1232C (EXTRA RIGHT-HAND HOLE)
 - FAUCET: MFR: AMERICAN STANDARD METERING PILLAR TAP SINGLE HOLE FAUCET, ADA COMPLIANT, SINGLE HOLE, PROVIDE ASSE-1070 COMPLIANT TEMPERING VALVE (WATTS-MODEL USC-4)
 - DRAIN: CHROME PLATED GRID STRAINER WITH 1 3/4" TAILPIECE, SUDAN MODEL NO. ET-480-A
 - TRAP: AMERICAN STANDARD # 82700; 1/4" X 1/4" 1/2" GA. TUBULAR ADJUSTABLE P-TRAP, POLISHED CHROME, F. SUPPLIES: 2" X 3/8" POLISHED CHROME WHEEL HANDLE STOPS WITH 3/8" O.D., CHROME PLATED FLEX RISER AND ESCUTCHEON.
 - MTG. HEIGHT: COORDINATE WITH ARCHITECT PRIOR TO ROUGH IN
 - FURNISH WITH LAVATORY BRACKET KIT NO. K-9583, P-TRAP INSULATION, COLD AND HOT WATER ANGLE STOP INSULATION AND FASTENERS.
- P2B COUNTERTOP DROP-IN LAVATORY
- TYPE: COUNTERTOP DROP-IN, 4" CENTERS, RECTANGULAR 21 1/4" X 17 3/4", VITREOUS CHINA, SELF RIMMING
 - MFR: AMERICAN STANDARD MODEL-STUDIO (EXTRA LEFT-HAND HOLE) OR 0955.1232C (EXTRA RIGHT-HAND HOLE)
 - FAUCET: MFR: AMERICAN STANDARD METERING PILLAR TAP SINGLE HOLE FAUCET, ADA COMPLIANT, SINGLE HOLE, PROVIDE ASSE-1070 COMPLIANT TEMPERING VALVE (WATTS-MODEL USC-4)
 - DRAIN: CHROME PLATED GRID STRAINER WITH 1 3/4" TAILPIECE, SUDAN MODEL NO. ET-480-A
 - TRAP: AMERICAN STANDARD # 82700; 1/4" X 1/4" 1/2" GA. TUBULAR ADJUSTABLE P-TRAP, POLISHED CHROME, F. SUPPLIES: 2" X 3/8" POLISHED CHROME WHEEL HANDLE STOPS WITH 3/8" O.D., CHROME PLATED FLEX RISER AND ESCUTCHEON.
 - MTG. HEIGHT: 34" TO THE TOP OF COUNTER MAX, COORDINATE WITH ARCHITECT PRIOR TO ROUGH IN
 - FURNISH WITH LAVATORY BRACKET KIT NO. K-9583, P-TRAP INSULATION, COLD AND HOT WATER ANGLE STOP INSULATION AND FASTENERS.
- P3A REUSE EXISTING KITCHEN SINK
- COUNTERTOP SHALL BE 34" MAX MEASURED TO THE TOP.
- P4 WALL HAND SINK
- TYPE: WALL HUNG, 4" CENTERS, OVAL, 20"x18", VITREOUS CHINA, SELF RIMMING
 - MFR: AMERICAN STANDARD MODEL-STUDIO (EXTRA LEFT-HAND HOLE) OR 0955.1232C (EXTRA RIGHT-HAND HOLE)
 - FAUCET: MFR: AMERICAN STANDARD METERING PILLAR TAP SINGLE HOLE FAUCET, ADA COMPLIANT, SINGLE HOLE, PROVIDE ASSE-1070 COMPLIANT TEMPERING VALVE (WATTS-MODEL USC-4)
 - DRAIN: CHROME PLATED GRID STRAINER WITH 1 3/4" TAILPIECE, SUDAN MODEL NO. ET-480-A
 - TRAP: AMERICAN STANDARD # 82700; 1/4" X 1/4" 1/2" GA. TUBULAR ADJUSTABLE P-TRAP, POLISHED CHROME, F. SUPPLIES: 2" X 3/8" POLISHED CHROME WHEEL HANDLE STOPS WITH 3/8" O.D., CHROME PLATED FLEX RISER AND ESCUTCHEON.
 - MTG. HEIGHT: COORDINATE WITH ARCHITECT PRIOR TO ROUGH IN
 - FURNISH WITH LAVATORY BRACKET KIT NO. K-9583, P-TRAP INSULATION, COLD AND HOT WATER ANGLE STOP INSULATION AND FASTENERS.
- P5 COUNTERTOP DROP-IN HAND SINK
- TYPE: COUNTERTOP DROP-IN, 4" CENTERS, RECTANGULAR 21 1/4" X 17 3/4", VITREOUS CHINA, SELF RIMMING
 - MFR: AMERICAN STANDARD MODEL-STUDIO (EXTRA LEFT-HAND HOLE) OR 0955.1232C (EXTRA RIGHT-HAND HOLE)
 - FAUCET: MFR: AMERICAN STANDARD METERING PILLAR TAP SINGLE HOLE FAUCET, ADA COMPLIANT, SINGLE HOLE, PROVIDE ASSE-1070 COMPLIANT TEMPERING VALVE (WATTS-MODEL USC-4)
 - DRAIN: CHROME PLATED GRID STRAINER WITH 1 3/4" TAILPIECE, SUDAN MODEL NO. ET-480-A
 - TRAP: AMERICAN STANDARD # 82700; 1/4" X 1/4" 1/2" GA. TUBULAR ADJUSTABLE P-TRAP, POLISHED CHROME, F. SUPPLIES: 2" X 3/8" POLISHED CHROME WHEEL HANDLE STOPS WITH 3/8" O.D., CHROME PLATED FLEX RISER AND ESCUTCHEON.
 - MTG. HEIGHT: 34" TO THE TOP OF COUNTER MAX, COORDINATE WITH ARCHITECT PRIOR TO ROUGH IN
 - FURNISH WITH LAVATORY BRACKET KIT NO. K-9583, P-TRAP INSULATION, COLD AND HOT WATER ANGLE STOP INSULATION AND FASTENERS.
- P6 REUSE EXISTING WASHER WATER AND WASTE KIT
- P7 EXISTING DISHWASHER
- P8 ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION
- TYPE: WALL HUNG, HIGH-LOW UNIT WITH 8.0 GPH CAPACITY OF 50°F WATER WITH INLET TEMPERATURE OF 80°F AND ROOM TEMPERATURE OF 90°F, 370 WATTS, 4.0A, 115V AIR COOLED CONDENSER
 - MFR: EBAY MODEL: WCTC1200K
 - SUPPLY: 2" X 3/8" O.D. SWEAT ANGLE STOP
 - TRAP: 1/4" X 1/4" 1/2" GA. TUBULAR ADJUSTABLE P-TRAP, POLISHED CHROME
 - MTG. HEIGHT: COORDINATE WITH ARCHITECT PRIOR TO ROUGH IN
 - CARRIER: FURNISH WITH MOUNTING BRACKET
- HPE HOSE BIB (EXTERIOR APPLICATION)
- TYPE: NON FREEZE, BORED, SELF DRAINING, WALL FAUCET, ANTI CONTAMINATION, 3/4" MALLEABLE CONNECTION, ANTI-SIPHON VACUUM BREAKER, BRASS CONSTRUCTION, CHROME PLATED, INLET CONNECTION 3/4"
 - MFR: MIFAB M91-0

- FLOOR CLEANOUT
- TYPE: 4" CAST IRON CLEAN OUT WITH ADJUSTABLE HOUSING, FERRULE WITH PLUG AND ROUND NICKEL BRASS SECURED TOP RECESSED FOR TILE (OR SCORLATED TOP FOR CONCRETE FINISH), VANDAL PROOF COVER, SPIGOT OUTLET
 - MFR: ZURN NO. Z1-400
- WALL CLEANOUT
- TYPE: CAST IRON CLEAN OUT TEE WITH BRASS PLUG AND ROUND VANDAL PROOF ACCESS COVER.
 - MFR: WADE SERIES 8000

PLUMBING FIXTURE CONNECTION SCHEDULE

SYMBOL	FIXTURE	CW	HW	WASTE	VENT	REMARKS
P1A, P1B	WATER CLOSET	1/2"	-	3"	2"	
P2A, P2B	LAVATORY	1/2"	1/2"	2"	1 1/4"	
P3A	EX. KITCHEN SINK	1/2"	1/2"	2"	1 1/4"	
P4	WALL HAND SINK	1/2"	1/2"	2"	1 1/4"	
P5	COUNTERTOP HAND SINK	1/2"	1/2"	2"	1 1/4"	
P6	EX. WASHER	3/4"	3/4"	3"	2"	
P7	EX. DISHWASHER	-	1/2"	-	-	
P8	ELECTRIC WATER COOLER	1/2"	-	2"	1 1/4"	
HPE	EXTERIOR HOSE BIB	3/4"	-	-	-	
WCD	WALL CLEAN OUT	-	-	3"	-	
FCO	FLOOR CLEAN OUT	-	-	3"	-	

WATER HEATER SCHEDULE

WATER HEATER SCHEDULE-FV DAYCARE

DESIGNATION	WH-2
MFR:	A. O. SMITH
MODEL #	ENUB-30
STORAGE (USG)	28 USG
FIRST HR. RATING	47 GALLONS
RECOVERY RATE@90°F	21 GPH
ENERGY FACTOR	0.93
WATTAGE	4500W
VOLTAGE	240V, 1 PH
FOAM INSULATION	2"
PHYSICAL SIZE	22" DIA X 30" HIGH
WATER CONNECTION	3/4" IN, 3/4" OUT
EXPANSION TANK	WATTS MODEL-ETX-30
	2.1 GALLONS, 150 PSIG
WARRANTY	TANK- 6 YEARS

LEGEND	
-----	SANITARY SEWER PIPING
-----	VENT PIPING
-----	COLD WATER PIPING
-----	HOT WATER PIPING
FD	FLOOR DRAIN
HD	HUB DRAIN
GW	GATE VALVE
BP	BACK FLOW PREVENTER VALVE

ABBREVIATIONS

VTR	VENT THRU ROOF
W	WASTE
V	VENT
HW	HOT WATER
CW	COLD WATER
P/O	PLUMBING FIXTURE
FCO	FLOOR CLEAN OUT
WCD	WALL CLEAN OUT
GCD	GROUND CLEAN OUT
GPM	GALLONS PER MINUTE
HD	HUB DRAIN
PSI	POUNDS PER SQUARE INCH
KW	KILOWATTS
V	VOLTS
W	WATTS

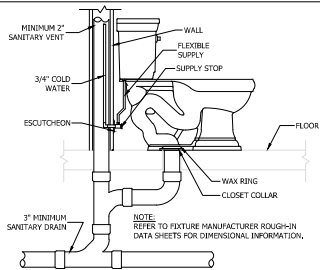
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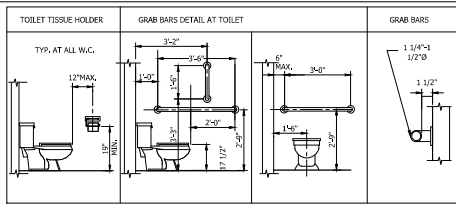


PLUMBING COVERSHEET
 LITTLE TREASURES DAYCARE
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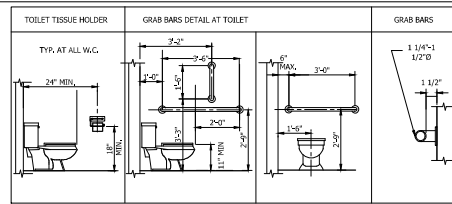
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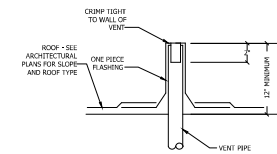
1 FLOOR MOUNTED WATER CLOSET DETAIL
SCALE: NTS



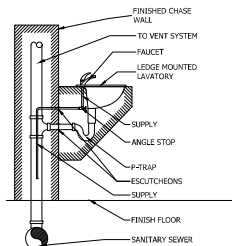
2 WATER CLOSET ACCESSORY MOUNTING DETAIL-ADULT TOILET
SCALE: NTS



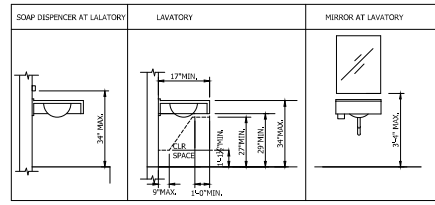
3 WATER CLOSET ACCESSORY MOUNTING DETAIL-CHILD TOILET
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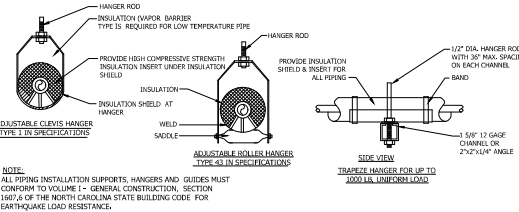
4 VENT THRU ROOF DETAIL
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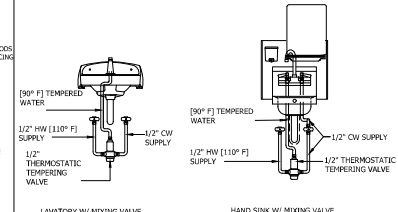
5 WALL LAVATORY DETAIL
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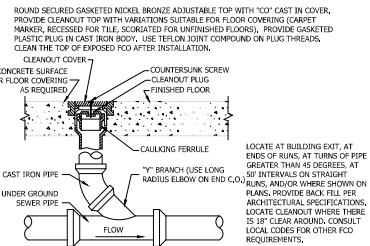
6 LAVATORY ACCESSORY MOUNTING DETAIL
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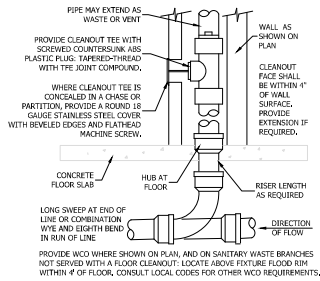
7 PIPING HANGERS DETAIL
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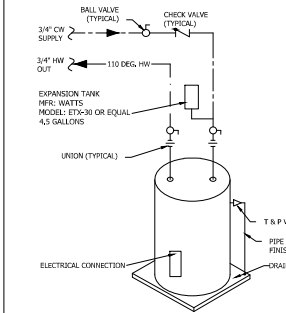
8 HAND SINK/LAVATORY MIXING VALVE DETAIL
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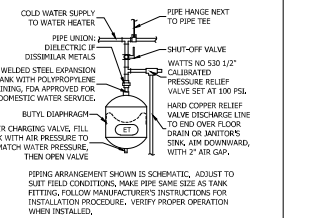
9 FLOOR CLEAN OUT DETAILS
SCALE: NTS



10 WALL CLEANOUT DETAIL
SCALE: NTS



11 ELECTRIC WATER HEATER DETAILS
SCALE: NTS



12 RECESSED WALL HYDRANT DETAIL
SCALE: NTS

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LITTLE TREASURES DAYCARE
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PLUMBING DETAILS

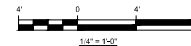
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P2
OF SHEETS



1 PLUMBING DEMOLITION PLAN
SCALE: 1/4"=1'-0"

PLUMBING DEMOLITION NOTES

- PC-1 REMOVE WATER CLOSET, ASSOCIATED WATER, WASTE AND VENT PIPING.
- PC-2 REMOVE LAVATORY, ASSOCIATED WATER, WASTE AND VENT PIPING.
- PC-3 REMOVE BATH TUB, ASSOCIATED WATER, WASTE AND VENT PIPING.
- PC-4 REMOVE SHOWER FAUCET, ASSOCIATED WATER, WASTE AND VENT PIPING.
- PC-5 FIELD VERIFY AND REPLACE EXISTING WATER LINE WITH NEW 1" LINE FROM WATER METERS. COORDINATE WITH UTILITY COMPANY.
- PC-6 FIELD VERIFY AND REMOVE EXPANSION TANK FROM CRAWL SPACE. REMOVE ALL WATER PIPING FROM CRAWL SPACE.
- PC-7 REMOVE SANITARY WASTE UP TO THE EXISTING SEPTIC TANK.
- PC-8 REMOVE ALL SANITARY WASTE PIPING FROM THE CRAWL SPACE.
- PC-9 REMOVE AND REINSTALL EXISTING KITCHEN SINK IN NEW COUNTERTOP. REMOVE ALL PIPING.
- PC-10 REMOVE EXISTING WATER AND WASTE PIPING ASSOCIATED WITH DISHWASHER.
- PC-11 REMOVE EXISTING WATER PIPING ASSOCIATED WITH REFRIGERATOR.



GRAPHIC SCALE

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PLUMBING DEMOLITION PLAN

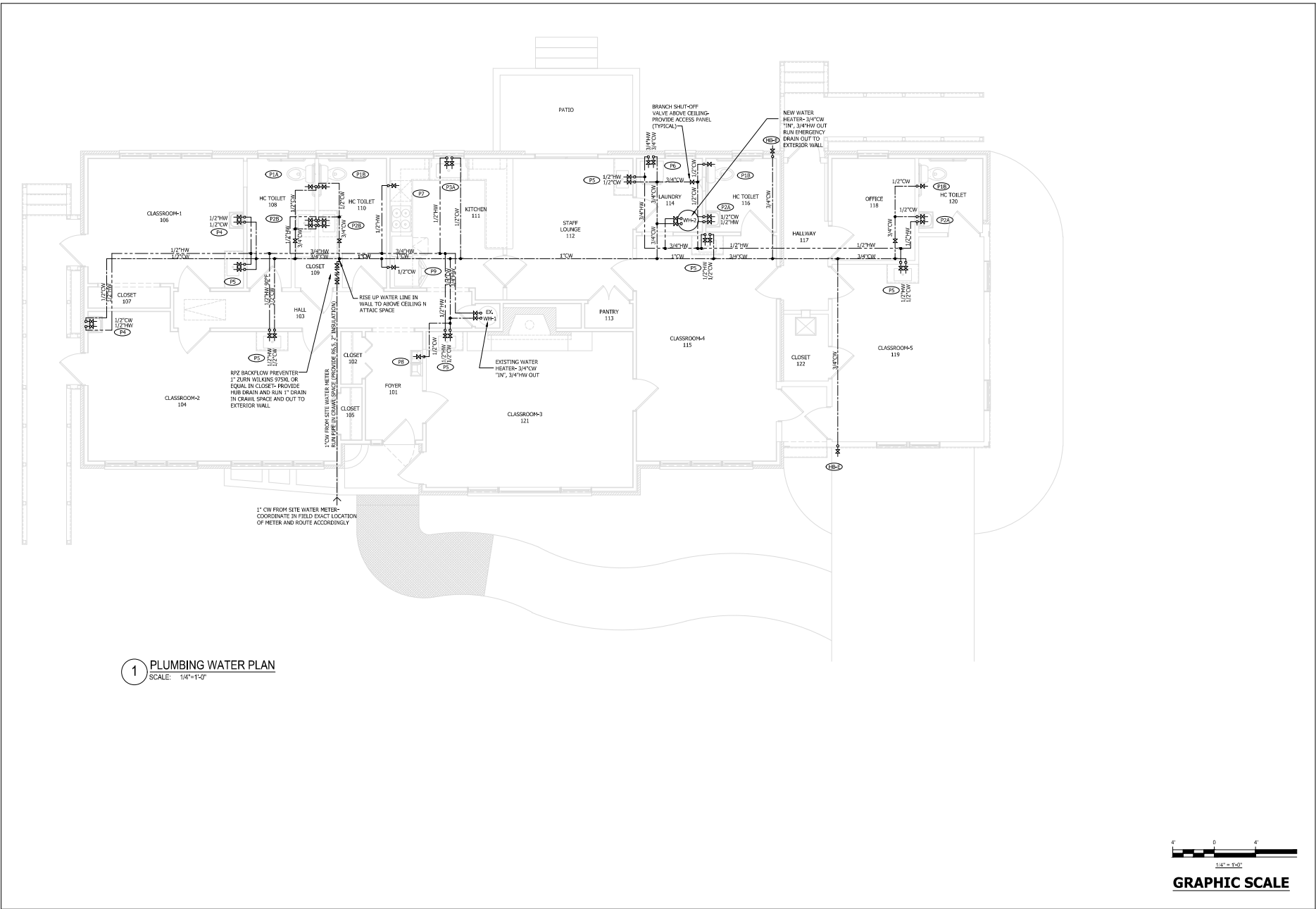
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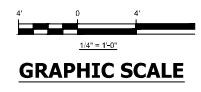
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P3
OF SHEETS



1 PLUMBING WATER PLAN
SCALE: 1/4"=1'-0"



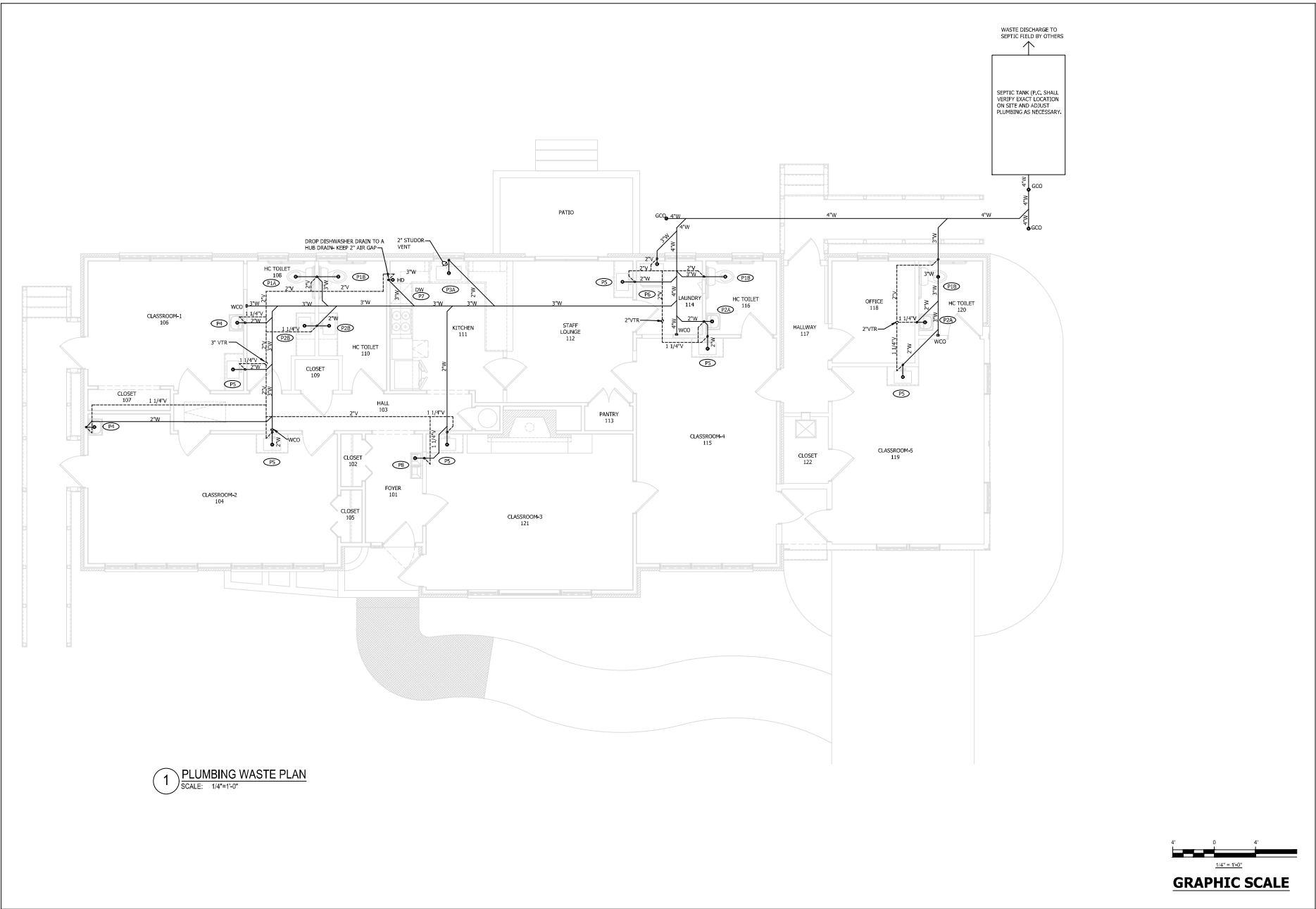
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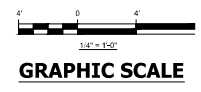


LITTLE TREASURES DAYCARE
12082 NC HWY. 42, FUQUAY VARINA, NC 27526
PLUMBING WATER PLAN

DATE:	04-10-26
SCALE:	AS SHOWN
DRAWN:	HCS
JOB:	2026-011
SHEET	P4
OF	SHEETS



1 PLUMBING WASTE PLAN
SCALE: 1/4"=1'-0"



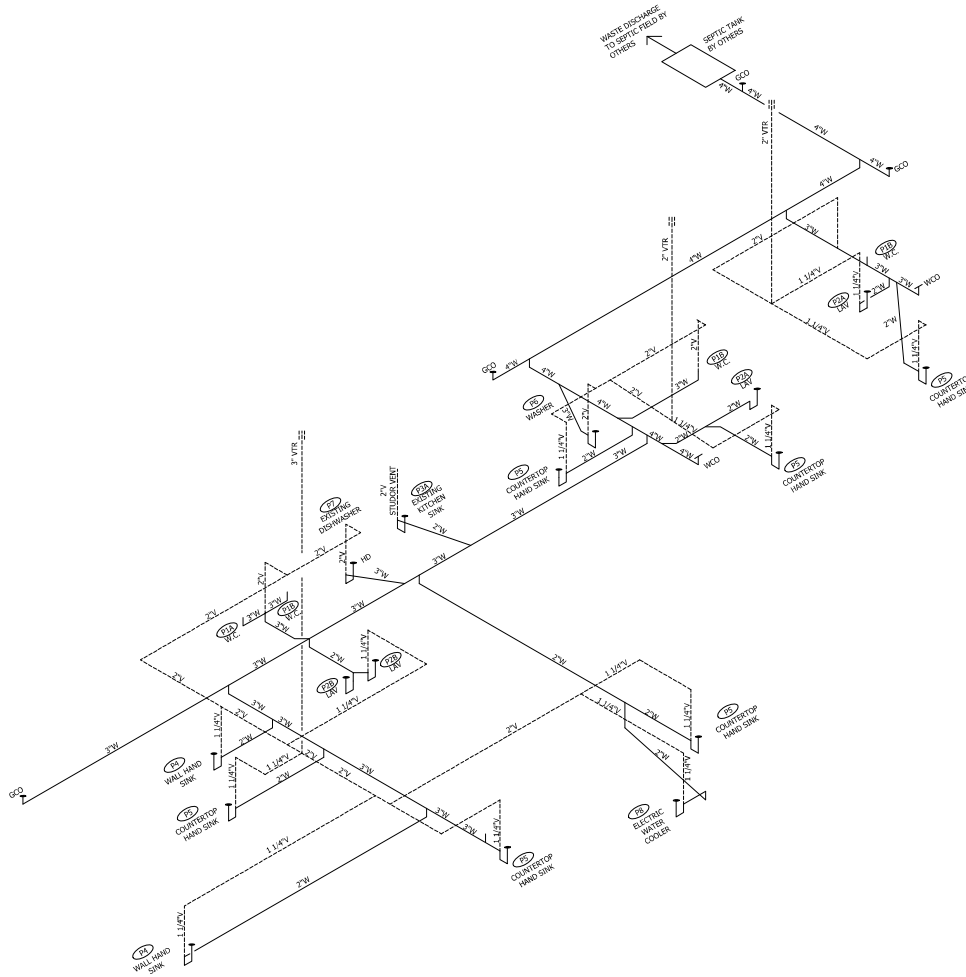
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LITTLE TREASURES DAYCARE
12082 NC HWY. 42, FUQUAY VARINA, NC 27526
PLUMBING WASTE PLAN

DATE:	04-10-26
SCALE:	AS SHOWN
DRAWN:	HCS
JOB:	2026-011
SHEET	P5
OF	SHEETS



1 PLUMBING WASTE RISER
SCALE: NTS

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LITTLE TREASURES DAYCARE
12082 NC HWY. 42, FUQUAY VARINA, NC 27526
PLUMBING WASTE RISER

DATE:	04-10-26
SCALE:	AS SHOWN
DRAWN:	HCS
JOB:	2026-011
SHEET	P7
OF	SHEETS

GENERAL NOTES

- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF THE OTHER TRADES PRIOR TO INSTALLATION OF ANY PIPING, DUCTWORK, OR EQUIPMENT.
- ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND RECOMMENDATIONS OF THE MANUFACTURERS, IF THERE IS A CONFLICT IN THE ABOVE REQUIREMENTS, THE MORE STRINGENT SHALL BE USED.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE HIS WORK UNDER THIS CONTRACT.
- THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
- IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS.
- ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR PROPER INSTALLATION, MAINTENANCE, AND SERVICE.
- ALL DUCTWORK, PIPING AND EQUIPMENT LAYOUTS AND LOCATIONS SHOWN ARE DIAGRAMMATIC. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PROJECT AND COORDINATE THE DUCT AND PIPING LAYOUTS WITH ALL CONTRACTORS PRIOR TO INSTALLATION. THIS CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST TO THE OWNER, ALL DUCT AND PIPING OFFSETS PROVIDED WHETHER OR NOT THOSE OFFSETS ARE INDICATED ON THE PLANS.
- ALL DISCONNECT, POWER WIRING AND ASSOCIATED CONDUIT SHALL BE PROVIDED TO HVAC EQUIPMENT BY THE ELECTRICAL CONTRACTOR.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT DEVICES. ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER TRADE CONTRACTORS PRIOR TO INSTALLATION. DO NOT SUPPORT PIPING FROM BAR JOIST BRIDGING. MECHANICAL CONTRACTOR SHALL REINFORCE BAR JOISTS WHEN HANGERS FOR MECHANICAL PIPING ARE NOT LOCATED WITHIN 4" OF BAR JOIST PANEL POINTS.
- THE MECHANICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
- INSTALL DUCTWORK IN CEILINGS HIGH ENOUGH TO AVOID LIGHTS, CONDUIT, & MISCELLANEOUS PIPING, BUT LOW ENOUGH TO ALLOW EASY ACCESS TO SYSTEM BALANCING DAMPERS.
- UPON COMPLETION OF THE WORK, A TEST AND BALANCE SHALL BE PERFORMED AND REPORT SHALL BE PROVIDED TO ARI, AIR FLOW AND STATIC PRESSURE SHALL BE MEASURED AND RECORDED FOR ALL OUTLETS OF EACH SYSTEM.
- ALL REFRIGERANT PIPING SHALL BE INSULATED PER NC ENERGY CODE. SUCTION LINES ON SPLIT SYSTEMS WILL BE INSULATED USING 1" THICK ARMAFLEX ON LINES UP TO 2" DIAMETER.
- EXHAUST DUCTS SHALL BE SINGLE WALL NON-INSULATED METAL WITH WALL CAPS AND BACKDRAFT DAMPERS. DRYER EXHAUST DUCTS ARE LIMITED TO LENGTH AS PRESCRIBED BY APPLICABLE BUILDING CODE.
- CONDENSATE PIPING IS TO BE ROUTED TO AN INTERIOR, INDIRECT DRAIN OR EXTERIOR DRY WELL AS INDICATED OR REQUIRED.
- OUTSIDE AIR SHALL PROVIDED THRU NATURAL VENTILATION PER NCMC SECTION 402.
- ALL WORK SHALL INCLUDE ONE (1) YEAR WARRANTY ON ALL LABOR AND MATERIAL. MINIMUM OR HIGHER AS CONTRACTED BY THE OWNER. MINIMUM MANUFACTURERS FIVE YEAR WARRANTY OR HIGHER SHALL ALSO APPLY.
- THE CONTRACTOR SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF PROJECT.
- CONTRACTORS AND SUBCONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DESIRED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SETS.
- ALL ENVIRONMENTAL/DRYER EXHAUST TO MAINTAIN CLEARANCES FROM OPENINGS INTO BUILDINGS INCLUDING WINDOWS AND DOORS UTILIZING NATURAL VENTILATION PER NCMC 404 and 501.3.

HVAC SPECIFICATIONS

- HVAC CONTRACTOR SHALL COMPLY WITH HVAC PROVISIONS OF THE LATEST VERSION OF THE STATE BUILDING CODE, AMERICANS WITH DISABILITIES ACT, APPROPRIATE NATIONAL STANDARDS, AND LOCAL ORDINANCES.
- VERTICAL AIR HANDLERS ARE TO BE SUPPORTED ON AN ANGLE STEEL FRAME SURROUNDING A RETURN PLenum. HORIZONTAL AIR HANDLERS ARE TO BE SUPPORTED FROM ROOF STRUCTURE OR CEILING JOISTS, SITUATED OVER A METAL DRAIN PAN WITH A DISCRETE OVERFLOW LINE ROUTED TO OUTSIDE AND TURNED DOWN WITH A 1" MINIMUM AIR GAP.
- ALL ROTATING EQUIPMENT SHALL BE FLICED ON NEOPRENE GASKETS OR SPRING ISOLATORS. DUCTWORK SHALL BE EQUIPPED WITH 3" (MINIMUM) FLEXIBLE COLLARS.
- COMPLETE LINE VOLTAGE POWER SUPPLY TO "LIVE" SIZE OF DISCONNECTS IS INCLUDED IN THE ELECTRICAL CONTRACT.
- PLANS ARE NOT TO BE SCALED AND REPRESENT GENERAL INTENT ONLY. FIELD VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND STRUCTURAL PLANS, ALL OFFSETS, STRUCTURAL SUPPORT, CLEARANCES, ETC. ARE NOT SHOWN, AND MUST BE FIELD VERIFIED. CONTRACTOR IS TO MAINTAIN DUCTWORK FREE AREA, BUT IS AUTHORIZED TO SLIGHTLY ALTER ASPECT RATIO, OR USE SHORT RUNS OF FLEXIBLE DUCT IN ORDER TO PRESERVE ROUND TIGHT AREAS.
- WHERE INDICATED, FLEXIBLE DUCT WITH INSULATION AND VAPOR BARRIER IS TO BE USED. INSULATION SHALL MEET REQUIREMENTS OF NCMC. FLEXIBLE DUCT ABOVE CEILING SHALL HAVE A MINIMUM R-VALUE OF .60.

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT DESIGNATION		AHU-1
UNIT SIZE		2.5 TON
BASIS OF DESIGN		GOODMAN
DESIGN CONDITIONS	MODEL#	AWST-30-LU-1-3-5
	SUMMER OUTSIDE DRY BULB	94.4°F
	SUMMER OUTSIDE WET BULB	74.8°F
	COOLING EAT DB (F)	79°F
	Cooling EAT WB (F)	64.1°F
LAT DB (F)	56.7°F	
LAT WB (F)	55.4°F	
COOLING DATA	TOTAL COOLING MBH	30
	SENSIBLE MBH	22.6
	SEER RATING	14.5

HEATING DATA		HP-1
EAT (F)	62.8°F	
LAT (F)	78.9°F	
HEATING MBH	30 MBH	
ELECTRIC HEAT MODEL #	HKS-05X	
SUPPLEMENTAL HEAT	5.0 KW	
SUPPLEMENTAL HEAT MBH	17.05 MBH	
HSPF	7.8	
COEFF	3.78	
EFFICIENCY	0.96	

FAN DATA		HP-1
MAX. SUPPLY FAN CFM	1000	
E.S.P. INCHES OF H2O	0.3	
DESIGN SUPPLY FAN	SEE UNIT PLAN	
DESIGN OUTSIDE AIR CFM	N.A.	
FAN FLA	3.8	
HEATER KW	5	
MINIMUM CIRCUIT AMPS (MCA)	20.8	
MOCF	30	
SYSTEM VOLTAGE	230	
SYSTEM PHASE	1Ø	

ELECTRICAL DATA		HP-1
HEATER KW	5	
MINIMUM CIRCUIT AMPS (MCA)	20.8	
MOCF	30	
SYSTEM VOLTAGE	230	
SYSTEM PHASE	1Ø	

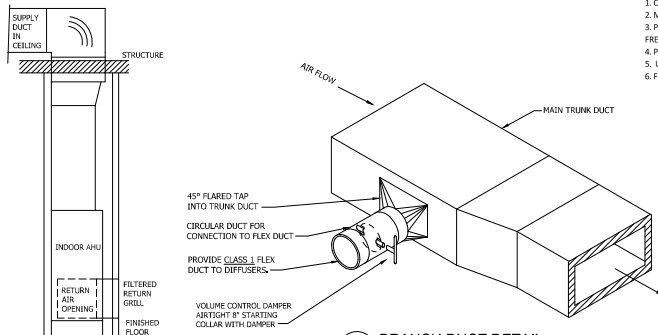
PHYSICAL DATA		HP-1
HEIGHT IN INCHES	36"	
WIDTH IN INCHES	24"	
DEPTH IN INCHES	21"	
WEIGHT IN LBS	109	

GENERAL DATA		HP-1
MODEL#	GL25-14.5-B-A-30-1	
REFRIGERANT	R32	
REFRIGERANT CHARGE (OZ)	86	
GAS LINE SIZE	3/4"	
LIQUID LINE SIZE	3/8"	
CONDENSATE DRAIN	3/4"	

ELECTRICAL DATA		HP-1
COMPRESSOR FLA	11.2	
OUTDOOR FAN FLA	0.95	
MINIMUM CIRCUIT AMPS (MCA)	15	
MOCF	25	
SYSTEM VOLTAGE	230	
SYSTEM PHASE	1Ø	

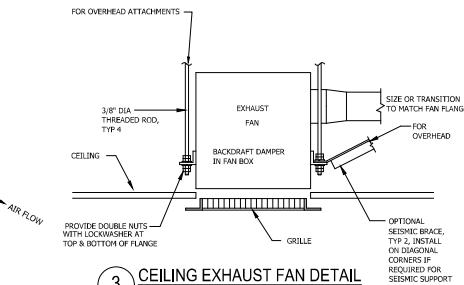
PHYSICAL DATA		HP-1
HEIGHT IN INCHES	39 1/2"	
WIDTH IN INCHES	29"	
DEPTH IN INCHES	29"	
WEIGHT IN LBS	175	

- NOTES:
- CHECK NAMEPLATE RATING PLATE FOR ELECTRICAL DATA ON THE UNIT BEING INSTALLED.
 - MUST USE TIME-DELAY FUSES OR HACR TYPE CIRCUIT BREAKERS OF THE SIZE INDICATED AS MOCF IN NAMEPLATE RATINGS.
 - PROVIDE HEAT PUMP WITH ANCHOR BRACKET KIT, ALL FUEL KIT, ANTI-SHORT CYCLE KIT, HARD START, FREEZE PROTECTION KIT, EMERGENCY HEAT RELAY KIT, OUTDOOR THERMOSTAT WITH LOCKOUT STAT.
 - PROVIDE LOCKING CAPS AT CONDENSERS PER NCMC 1101.10.
 - UNITS WITH A/R REFRIGERANTS ARE TO BE LISTED PER UL 60335-2-40.
 - FANCTORY INSTALLED PULL-TYPE DISCONNECT.



2. BRANCH DUCT DETAIL
SCALE: NTS

3. CEILING EXHAUST FAN DETAIL
SCALE: NTS



ENERGY CODE SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE
 Prescriptive Performance Energy Cost Budget

Thermal Zone: Zone 4A - Harnett County, North Carolina

Exterior design conditions:
 Winter Dry Bulb: 16°F
 Summer Dry Bulb: 90°F
 Summer Wet Bulb: 75°F

Interior design conditions:
 Winter Dry Bulb: 70°F
 Summer Dry Bulb: 74°F
 Relative Humidity: 50%

Building Cooling Load: 57.5 MBH
 Building Heating Load: 34.0 MBH

Mechanical Spacing Conditioning System Output:
 Cooling Provided: 66.0 MBH
 Heating Provided: 45.0 MBH

Equipment Efficiencies:
 COOLING (NEW AHU-1/HP-1): 14.5 SEER2 Cooling
 ELECTRIC HEAT: 96% efficiency

Performance Schedule for Motors (Mechanical Systems)
 Full-Load Minimum Efficiency for Single-Speed, Three Phase, Energy Efficient, Open Drip-Proof Motors

Motor Horsepower	RPM	Minimum Efficiency (%)	Power Factor (%)
1.0	1800	82	84
1.5	1800	84	85
2.0	1800	84	85

DESIGNER'S STATEMENT:
 To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of NCMC.

SUPPLY DIFFUSER SCHEDULE

MARK	CFM	NECK SIZE	REMARKS
SA	SEE PLAN	SEE PLAN	HART & COOLEY # 682 1200 WALL MOUNT - SECURE TO STRUCTURE, INSULATED BOOT
RA	-	-	HART & COOLEY # MODEL 94 SERIES 2000 WALL MOUNT - PROVIDE FILTER MEDIA

DRAWING LEGEND

SYMBOL	DESCRIPTION
[Symbol]	CEILING SUPPLY GRILL
[Symbol]	WALL RETURN GRILL
[Symbol]	FLEXIBLE DUCT INSTALLATION
[Symbol]	CIRCULAR EXHAUST GRILL
[Symbol]	FLEXIBLE DUCT INSTALLATION
[Symbol]	WALL MOUNTED PROGRAMMABLE THERMOSTAT
[Symbol]	ROUND DUCTWORK
[Symbol]	RECTANGULAR DUCTWORK
[Symbol]	DIFFUSER SYMBOL SA = TYPE (NEW DIFFUSER) NUMBER = CFM
[Symbol]	SA=DU100 SA=TYPE (EXISTING DIFFUSER) NUMBER = CFM

ABBREVIATIONS

ACC	ACROBATIC FINISHED CEILING
APP	ABOVE FINISHED FLOOR
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
CU. FT.	CUBIC FEET
DB	DRY BULB TEMPERATURE
EA	EXHAUST AIR FLOW
EAT	ENTERING AIR TEMPERATURE
ESP	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
FT	FOOT/FEET
EVWT	ENTERING WATER TEMPERATURE
F	FARRHENHEIT
HP	HORSEPOWER
HZ	HERTZ
IN, WC	INCHES OF WATER COLUMN
KW	TOTAL POWER INPUT, KILOWATTS
LST	LEAVING AIR TEMPERATURE
LBS	POUNDS
LOA	COOKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MC	MECHANICAL CONTRACTOR
MANUF.	MANUFACTURER
MCA	MINIMUM CIRCUIT AMPS
MOCF	MAXIMUM OVER CURRENT PROTECTION
PH	PHASE
PSS	POUNDS PER SQUARE INCH
RA	RETURN AIR FLOW
RPM	REVOLUTIONS PER MINUTE
RJA	RATED LOAD AMPS
SA	SUPPLY AIR FLOW
SP	STATIC PRESSURE
TEMP	TEMPERATURE
TON	12,000 BTUH OF COOLING CAPACITY
TR	TRIP
WB	WET BULB TEMPERATURE

REFRIGERANT CLACULATION AS PER ASHRAE 15 2024

EQUIPMENT ID	REFRIGERANT	REFRIGERANT TYPE	ALLOWED CHARGE (LBS)	IS CHARGE LESS THAN ALLOWED?
NEW HP-1/AHU-1	R-32	S-185(O2)	22	YES

FRESH AIR CALCULATIONS PER NORTH CAROLINA MECHANICAL CODE SECTION 402

SPACES	SQFT	NET WINDOW OPENINGS IN SQFT	NET EXTERIOR DOOR OPENINGS IN SQFT	PERCENTAGE OPENING	IS OPENINGS GREATER THAN OR EQUAL TO 4%
CLASSROOM-1	186	12	20	17%	YES
CLASSROOM-2	300	24	20	15%	YES
CLASSROOM-3	303	18	20	6%	YES
CLASSROOM-4	293	12	20	4%	YES
CLASSROOM-5	333	28	20	8%	YES
OFFICE	80	4.5	4.5	6%	YES
LAUNDRY	60	4.5	4.5	8%	YES
STAFF LOUNGE	358	4.5	40	12%	YES
HALLWAYS	130		40	31%	YES
TOTAL BUILDING SQFT	2700	107.5	120	8%	COMPLIES WITH CODE

EXHAUST FAN SCHEDULE

TAG	LOCATION	TYPE	FAN TYPE	CFM	E.S.P., IN. WG.	RPM	DRIVE	HP / WATTS	VOLTS	PHASE	REMARKS
EF-1	HC TOILET 108 CEILING	GREENWICK SP-A110 OR EQUAL	CEILING IN LINE CABINET	75	0.25	950	DIRECT	4W	120	1	⊙⊙
EF-2	HC TOILET 110 CEILING	GREENWICK SP-A110 OR EQUAL	CEILING IN LINE CABINET	75	0.25	950	DIRECT	4W	120	1	⊙⊙
EF-3	HC TOILET 116 CEILING	GREENWICK SP-A110 OR EQUAL	CEILING IN LINE CABINET	75	0.25	950	DIRECT	4W	120	1	⊙⊙
EF-4	HC TOILET 120 CEILING	GREENWICK SP-A110 OR EQUAL	CEILING IN LINE CABINET	75	0.25	950	DIRECT	4W	120	1	⊙⊙

- NOTES:
- FAN SHALL BE UL-705 CERTIFIED.
 - PROVIDE WITH INTEGRAL DISCONNECT AND GRILLE, BACKDRAFT DAMPER AND SPEED CONTROLLER, CONTROL BY WALL SWITCH PROVIDED BY E.C.

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04/10/26

LITTLE TREASURES DAYCARE
 12082 NC HWY. 42, FUQUAY VARINA, NC 27526
HVAC COVERSHEET

DATE: 04-10-26

SCALE: AS SHOWN

DRAWN: HCS

JOB: 2026-011

SHEET

M1
 OF SHEETS

ELECTRICAL SPECIFICATIONS

GENERAL PROVISIONS
PART 1 - GENERAL

1.1 CODES AND STANDARDS - THE LATEST EFFECTIVE PUBLICATIONS OF ALL APPLICABLE STANDARDS, CODES, ETC., AS THEY APPLY, FORM PART OF THESE SPECIFICATIONS AS IF WERE WRITTEN FULLY HEREIN AND CONSTITUTE MINIMUM REQUIREMENTS. THE FOLLOWING WILL BE REFERRED TO THROUGHOUT IN ABBREVIATED FORMS.

A. NATIONAL ELECTRICAL CODE (NECA) (NFPA 70E),
B. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE),
C. RULES AND REGULATIONS OF LOCAL ELECTRIC UTILITY COMPANY,
D. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA),
E. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI),
F. APPLICABLE LOCAL CODES,
G. UNDERWRITERS LABORATORIES, INC., (UL),

1.2 SCOPE OF WORK - PROVIDE ALL WORK REQUIRED FOR THIS DIVISION INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, APPURTENANCES AND SERVICES TO PROVIDE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION OF THE SPECIFICATIONS. THE WORD "PROVIDE" SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE".

1.3 THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE THE EXTENT OF THE WORK. LACK OF KNOWLEDGE OF EXISTING CONDITIONS WILL NOT BE CONSIDERED A BASIS FOR CHANGE ORDERS. PRIOR TO ORDERING EQUIPMENT, VERIFY THAT EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT IS ACCEPTABLE AND CAN FIT INTO BLDG. AND ROOM. EXPENSE INCURRED BY THE CONTRACTOR, WHICH IN THE ENGINEER'S OPINION SHOULD HAVE BEEN AVOIDED BY THIS STEP, SHALL NOT BE A BASIS FOR CHANGE ORDERS.

1.4 DRAWINGS AND SPECIFICATIONS - THE DRAWINGS ARE DIAGNOSTIC AND INDICATE THE GENERAL LAYOUT, CHARACTER AND ARRANGEMENT OF EQUIPMENT, FIXTURES AND CONDUIT AND WIRING SYSTEMS. IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO FULLY COVER ALL WORK AND MATERIALS FOR A COMPLETE, FIRST-COURSE ELECTRICAL INSTALLATION, AND ANY COVERS SUCH AS FILL BOXES AND DISCONNECT SWITCHES USUALLY EMPLOYED IN THIS CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS OR IN THIS SPECIFICATION WHICH ARE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF HIS TOTAL WORK UNDER THIS DIVISION. CONSULT THE SPECIFICATIONS AND DRAWINGS OF ALL OTHER TRADES AND PERFORM ALL ELECTRICAL WORK REQUIRED THEREIN. COOPERATE WITH ALL OTHER CONTRACTORS OR SUBCONTRACTORS TO FURNISH COMPLETE WORKABLE SYSTEMS.

1.5 DURING CONSTRUCTION, KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK AS SHOWN ON THE CONTRACT DRAWINGS AND THAT WHICH IS ACTUALLY DONE AS SET OUT IN BLUE LINE REVIEWS OF THE ELECTRICAL DRAWINGS AND NOTE CHANGES WITH RED MARKS, IN INK AND ADD THESE TO THIS DIVISION. WHEN ALL REVISIONS HAVE BEEN SHOWN ON THESE PRINTS TO INDICATE THE WORK AS FINALLY INSTALLED, THE PRINTS SHALL BE DELIVERED TO THE ENGINEER, BEFORE FINAL PAYMENT.

1.6 PERMITS, INSPECTION AND TESTS - THE RIGHT IS RESERVED TO INSPECT AND TEST ANY PORTION OF THE INSTALLATION/EQUIPMENT DURING THE PROGRESS OF ITS ERECTION. THIS CONTRACTOR SHALL TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. THIS CONTRACTOR SHALL TEST THE ENTIRE SYSTEM WHEN THE WORK IS FINALLY COMPLETED TO INSURE THAT ALL PORTIONS ARE FREE FROM SHORT CIRCUITS AND GROUNDS.

1.7 SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS, INSPECTION CERTIFICATES FROM LOCAL AUTHORITIES HAVING JURISDICTION SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT.

PART 2 - PRODUCTS

2.1 MANUFACTURING STANDARDS - MATERIALS SHALL BE NEW AND APPROVED AND LABELED BY UL. WHEREVER STANDARDS HAVE BEEN ESTABLISHED BY THAT AGENCY, DEFECTIVE EQUIPMENT OR DAMAGE(D) IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE OWNER. ALL ITEMS OF THE SAME TYPE AND RATINGS SHALL BE IDENTICAL.

2.2 TRADE NAMES - UNLESS SPECIFICALLY IDENTIFIED OTHERWISE, MANUFACTURERS' NAMES AND CATALOG NUMBERS INDICATED HEREIN AND ON THE DRAWINGS ARE NOT INTENDED TO BE RESTRICTIVE. HOWEVER, THEY ARE TO INDICATE GENERAL TYPE AND QUALITY OF MATERIALS AND EQUIPMENT REQUIRED. EQUIPMENT AND MATERIALS BY OTHER MANUFACTURERS WHICH IN THE OPINION OF THE ENGINEER ARE OF EQUAL QUALITY AND WHICH WILL PRODUCE THE SAME RESULTS WILL BE CONSIDERED ACCEPTABLE.

2.3 MOTORS - MOTORS SHALL HAVE DISCONNECTING MEANS AND CONTROLLERS, CONTROLLERS SHALL HAVE THERMAL OVERLOAD PROTECTION AND PHASE OUTAGE PROTECTION RELAYS.

2.4 DISCONNECT SWITCHES AND POWER WIRING UP TO AND INCLUDING MOTOR CONNECTIONS FOR ALL EQUIPMENT PROVIDED UNDER OTHER DIVISIONS OF THIS SPECIFICATION SHALL BE INCLUDED IN THIS DIVISION. WHERE MANUAL MOTOR CONTROL SWITCHES FOR SINGLE PHASE MOTORS ARE INDICATED, THEY SHALL BE PROVIDED AND WIRED COMPLETELY UNDER THIS DIVISION. MOTOR CONTROLLERS AND MOTOR STARTERS FURNISHED UNDER OTHER DIVISIONS SHALL BE SET IN PLACE AND CONNECTED TO SOURCE AND LOAD UNDER THIS DIVISION. IN GENERAL, MOTORS WILL BE PROVIDED WITH THE EQUIPMENT THEY DRIVE AND ARE NOT PART OF THIS WORK UNDER THIS DIVISION, EXCEPT THAT THEY SHALL BE CONNECTED HEREUNDER.

2.5 OBTAIN APPROVED SHOP DRAWINGS SHOWING WIRING DIAGRAMS, CONNECTION DIAGRAMS, ROUTING-IN AND HOOKUP DETAILS, FROM OTHER INVOLVED CONTRACTORS FOR ALL EQUIPMENT AND COMPLY THEREWITH.

2.6 CONTROL, INTERLOCK, AND INTERNAL EQUIPMENT WIRING REGARDLESS OF VOLTAGE WILL BE PROVIDED BY OTHERS UNLESS SPECIFICALLY SHOWN HERE.

2.7 GROUNDING - THE ENTIRE ELECTRICAL SYSTEM, INCLUDING EQUIPMENT FRAMES, CONDUITS, SWITCHES, CONTROLLERS, WIRWAYS, NEUTRAL CONDUCTORS, AND ALL OTHER SUCH EQUIPMENT SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDING IN ACCORDANCE WITH THE NEC. GROUND RODS SHALL BE COPPER CLAD STEEL, 3/4" DIAMETER BY 6'-10" LONG. GROUNDING OF EACH TRANSFORMER SECONDARY SHALL BE PROVIDED AND EACH SHALL BE CONSIDERED AS A SEPARATE SERVICE GROUND, PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL BRANCH CIRCUIT CONDUITS SIZED IN ACCORDANCE WITH THE NEC.

2.8 SCHEDULE OF WORK - THE SCHEDULE OF THE ELECTRICAL WORK SHALL BE ARRANGED TO SUIT THE PROGRESS OF WORK BY THE OTHER TRADES AND SHALL SO WORK RETARD PROGRESS OF CONSTRUCTION OF THE PROJECT.

2.9 WORK UNDER THIS DIVISION SHALL PROCEED IN ADVANCE OF THE WORK OF OTHERS WHENEVER POSSIBLE. ELIMINATING ALL CUTTING AND PATCHING, WHEN SUCH PROCEDURE IS IMPOSSIBLE, CUTTING AND PATCHING SHALL BE DONE IN AN APPROVED MANNER. CUTTING SHALL NOT ENDANGER STRUCTURAL INTEGRITY IN ANY WAY. PATCHING SHALL EXACTLY MATCH CONTIGUOUS WORK. ACTUAL WORK OF CUTTING AND PATCHING OF EXISTING SURFACES SHALL BE PERFORMED BY THE SUBCONTRACTOR WHO ORIGINALLY PREPARED THESE SURFACES. E.G., CUTTING AND PATCHING OF MASONRY WALL WILL BE PERFORMED BY THE MASONRY SUBCONTRACTOR. COSTS OF SUCH CUTTING AND PATCHING SHALL BE BORNE BY THE ELECTRICAL SUBCONTRACTOR. CUTTING SHALL BE CAREFULLY DONE AND DAMAGE TO BUILDING, PIPING, WIRING OR EQUIPMENT AS A RESULT OF CUTTING SHALL BE REPAIRED BY SKILLED MECHANICS OF TRADE INVOLVED.

2.10 LABELING OF EQUIPMENT - ALL PANELBOARDS, CABINETS, SAFETY SWITCHES, MOTOR DISCONNECT SWITCHES, AND MOTOR CONTROLLERS SHALL BE IDENTIFIED BY MACHINE ENGRAVED LAMINATED PLASTIC DESIGNATION PLATES PERMANENTLY ATTACHED HERETO WITH SCREW-DRIVING SCREWS OR NAILS. ALL COMPONENT PARTS OF EACH ITEM OF EQUIPMENT OR DEVICE SHALL BEAR THE MANUFACTURER'S NAMEPLATE, GIVING NAME OF MANUFACTURER, DESCRIPTION, SIZE, TYPE, SERIAL, AND MODEL NUMBER AND ELECTRICAL CHARACTERISTICS IN ORDER TO FACILITATE MAINTENANCE OR REPLACEMENT.

2.11 COORDINATION - COOPERATE AND COORDINATE EFFORTS WITH ALL CONTRACTORS ON THE PROJECT. THIS IS ESPECIALLY IMPORTANT IN DETERMINING EXACT LOCATIONS OF ALL SWITCHES, RECEPTABLES AND LIGHTING FIXTURES, ARRANGE LIGHTING FIXTURES IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTED CEILING PLANS UNLESS OTHERWISE INDICATED. COORDINATE LIGHTING FIXTURE LOCATIONS WITH GRILLES, DIFFUSERS, ACCESS PANELS, ETC. VERIFY CEILING AND WALL CONNECTIONS PRIOR TO ORDERING LIGHTING FIXTURES OR OTHER DEVICES TO ENSURE PROPER FITTING TO MATCH AND COORDINATION. THIS VERIFICATION MUST BE EXECUTED REGARDLESS OF INFORMATION PLACED ON THE DRAWINGS, ANY COST INCURRED WHICH IN THE OPINION OF THE OWNER, COULD HAVE BEEN AVOIDED BY THIS STEP SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

2.12 GUARANTEE OF WORK - CONTRACTOR GUARANTEES BY HIS ACCEPTANCE OF THE CONTRACT THAT ALL WORK INSTALLED IS FREE FROM ANY AND ALL DEFECTS IN WORKMANSHIP AND/OR MATERIALS, AND THAT THE APPARATUS WILL DEVELOP CAPACITIES AND CHARACTERISTICS SPECIFIED, AND THAT IT, DURING THE PERIOD OF ONE YEAR OR AS OTHERWISE SPECIFIED, FROM DATE OF CERTIFICATE OF COMPLETION AND ACCEPTANCE OF THE WORK, ANY SUCH DEFECTS IN WORKMANSHIP, MATERIALS OR WORKMANSHIP SHALL BE REPAIRED AT THE OWNER'S RISK. HEREBY SUCH DEFECTS WITHIN A REASONABLE TIME TO BE SPECIFIED IN NOTICE, IN DEFAULT THEREOF, THE OWNER MAY HAVE SUCH WORK DONE AND CHARGE COST TO CONTRACTOR. EQUIPMENT GUARANTEES FROM DATE OF "START-UP" WILL NOT BE RECONSIDERED.

RACEWAY, FITTINGS AND BOXES

- A. RACEWAYS - CONDUIT SHALL BE HOT-DIPPED, ZINC COATED OR SHEAROLIZED RIGID STEEL (RS), INTERMEDIATE METAL CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), OR SCHEDULE 40 POLYVINYL CHLORIDE (PVC).
- B. FLEXIBLE CONDUIT SHALL BE GALVANIZED, CONTINUOUS SPIRAL, SINGLE STRIP TYPE. FLEXIBLE CONDUIT SHALL BE COVERED WITH PVC JACKET IN WET OR DAMP LOCATIONS, PROVIDE SUITABLE FITTINGS WITH GROUNDING CONNECTION.
- C. FITTINGS - ALL CONDUIT ENTERING OR LEAVING OUTLET, JUNCTION OR PULL BOXES, AND CABINETS AND ALL CONDUIT STUBS SHALL HAVE BUSINESS, PROUBLE INSULATING BUSINESS WHERE REQUIRED BY NEC. PROVIDE EXPANSION FITTINGS WITH BONDING JAMBS WHERE CONDUITS CROSS EXPANSION JOINTS.
- D. FITTINGS FOR EMT SHALL BE THREADLESS, APPROVED FOR THE CONDITIONS ENCOUNTERED AND MAY BE CAST RESIN TYPE OR COMPRESSION TYPE.
- E. FITTINGS FOR PVC SHALL BE PVC, PRIMED AND GLEUED.
- F. OUTLET BOXES AND JUNCTION BOXES - OUTLET BOXES SHALL BE PRESSED STEEL, ELECTRO-GALVANIZED OR CADMIUM PLATED WITH CLEAN CUT, SMOOTH RIMMABLE KNOCKOUTS, EXCEPT AS NOTED HEREINAFTER MINIMUM SIZE OUTLET BOX SHALL BE 4" SQUARE, 1 1/2" DEEP, AND SHALL BE INCREASED IN DIMENSIONS TO ACCOMMODATE CONDUITS, CONDUITS, AND DEVICES AS REQUIRED BY THE NEC. SHALL BE SUITABLE PLAST-ADINGS TO MATCH WALL CONSTRUCTION AND DEVICE. CEILING AND BRACKET OUTLET BOXES SHALL BE NOT LESS THAN 4" OCTAGONAL, 1 1/2" DEEP EXCEPT THAT SMALLER BOXES MAY BE USED WHERE REQUIRED BY HAZARDOUS FUTURE BE INSTALLED.
- F. NON METALLIC OUTLET BOXES MAY BE PROVIDED IN PVC RACEWAY SYSTEMS. OUTLET BOXES IN WET OR DAMP LOCATIONS SHALL BE CAST-METAL, THREADED HUB-TYPE WITH GASKETS.
- G. JUNCTION OR PULL BOXES NOT OVER 100 CUBIC INCHES IN VOLUME SHALL BE STANDARD OUTLET BOXES, JUNCTION BOXES OVER 100 CUBIC INCHES IN VOLUME SHALL BE CONSTRUCTED OF CODE GAUGE, GALVANIZED SHEET STEEL. JUNCTION BOXES SHALL HAVE REMOVABLE COVERS AND SHALL BE ACCESSIBLE AFTER COMPLETION OF WORK.
- H. RACEWAY AND FITTING INSTALLATION - RUN CONDUITS CONCEALED WITHIN WALLS, ABOVE CEILING AND WITHIN OR BELOW FLOORS. CONDUIT SHALL BE SUPPORTED AT INTERVALS OF NOT MORE THAN 4'. RUN EXPOSED CONDUIT PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES.
- I. SUPPORT CONDUITS BY PIPE STRAPS, WALL BRACKETS, STRAP HANGERS, OR CEILING TRAPEZES.
- J. RUN ALL CONDUITS TOGETHER AS POSSIBLE IN A NEATLY MANNER.
- K. DO NOT INSTALL PVC IN OR THROUGH FIRE RATED ASSEMBLIES, IN OR THROUGH ANY WALLS, IN OR THROUGH ANY CELLINGS, IN HAZARDOUS AREAS, IN AREAS SUBJECT TO SEVERE PHYSICAL DAMAGE, OR EXPOSED ANYWHERE IN THE PROJECT.

CONDUCTORS

- A. CONDUCTORS AND INSULATION - WIRE AND CABLE SHALL BE SOFT DRAWN, ANNEALED COPPER WITH 600 VOLT COLOR CODED INSULATION. MINIMUM WIRE SIZE SHALL BE #12 AWG. INSULATION FOR CONDUIT SYSTEMS #12 AND #10 SHALL BE TYPE THW OR SEW. USE THW OR THHW FOR INSTALLATION IN ORDINARY DRY LOCATIONS AND TYPE THWN FOR INSTALLATION IN WET LOCATIONS. WET LOCATIONS WILL INCLUDE SERVICE CONDUITS, CONDUIT UNDERGROUND, RACEWAYS INSTALLED IN CONCRETE FLOOR SLABS IN CONTACT WITH THE EARTH, AND WIRINGS REGULARLY SUBJECT TO MOISTURE OR CONVECTION. CONDUCTORS SIZES LARGER THAN #10 SHALL HAVE TYPE THHN INSULATED. CONDUCTORS NO. 10 AWG AND LARGER DIAMETER SHALL BE STRANDED. CONDUCTORS NO. 10 AWG AND SMALLER DIAMETER SHALL BE SOLID, EXCEPT THAT CONDUCTORS FOR REMOTE-CONTROL, AND SIGNAL CIRCUITS, CLASSES 1, 2, AND 3, MAY BE STRANDED.
- B. NON METALLIC SHEATHED (NMC) CABLE IS ALLOWED FOR BRANCH CIRCUITING AS ALLOWED PER NEC.
- C. PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL RACEWAYS SIZED IN ACCORDANCE WITH THE NEC.
- D. JOINTS AND TERMINATIONS - FOR CONDUCTORS #12 AND #10 ALL FIXTURE AND BRANCH CIRCUITS JOINTS IN JUNCTION AND OUTLET BOXES SHALL BE MADE WITH UL LISTED PRESSURE TYPE CONNECTORS RATED AT 600 VOLTS AND 150 DEGREES C. CONNECTORS SHALL BE IDEAL INDUSTRIES "WINGMAUT" OR BUCHANAN "SACAP," OR "SCOTCHLOCK" CONNECTORS OR SOLAR. WIRE #8 AND LARGER SHALL BE JOINED OR TERMINATED WITH SOLDERLESS PRESSURE CONNECTORS PROPERLY TAPED IN LAYERS TO FORM A POSITIVE-TIGHT JOINT.

WIRING DEVICES

- A. WIRING DEVICES SHALL BE "SPECIFICATION GRADE" AS MANUFACTURED BY GENERAL ELECTRIC, SALTER (REDUCES), ARROW-MATH, BRYANT, HUBBELL OR PASS-A-SMOKER.
- B. DUPLEX CONVENIENCE RECEPTABLES SHALL 20 AMPERE, 125 VOLTS, 2 POLE, 3 WIRE NEMA AND ASA STANDARD, GROUNDING TYPE, WHERE REQUIRED BY NEC THEY PROVIDE TAMPER RESISTANCE RECEPTABLES, FINISH SHALL BE WHITE.
- C. GROUND FAULT CIRCUIT INTERRUPTING RECEPTABLES SHALL CONFORM TO NEC, SHALL BE UL LISTED, IVORY PLASTIC, SHALL HAVE A "PUSH-TO-TEST" BUTTON AND VISIBLE INDICATION OF A TRIPPED CONDITION.
- D. ON FINISHED WALLS, PLATES SHALL BE WHITE FINISHED.

SAFETY SWITCHES

- A. SAFETY SWITCHES - SAFETY SWITCHES SHALL BE RATED AT 240 VOLTS WITH NUMBER OF POLES AND CURRENT RATING AS INDICATED, SWITCHES SHALL BE FUSED OR NON-FUSED, WIRE SIZE AS INDICATED, NEARBY TO THE SWITCH AND WITH FULL COVER INTERLOCKS AND QUICK-BREAK MECHANISM.

PANELBOARDS

- A. PANELBOARDS - PROVIDE AS PER SCHEDULE.
- B. PROVIDE THREE(3) DIRECTORY CARD, CARD HOLDER, TRANSPARENT PROTECTION AND COMPLETE IDENTIFYING DATA ON INDEX OF DOOR.

LIGHTING FIXTURES

- A. FIXTURES - FIXTURES SHALL BE AS INDICATED IN SCHEDULE.
- B. LAMPS - UNLESS OTHERWISE NOTED, LAMPS SHALL BE PROVIDED AS SCHEDULED.
- C. LED LIGHTS - LIGHTS MUST BE UL LISTED, MEET IES STANDARDS (LM-79, LM80, TM-21), ALL LED FROM THE SAME BATCH AND COLOR WITH DIMMER.
- D. NO FIXTURES SHALL BE HUNG WITH ZIP-CLIPS.

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE, STATE CODE, & LOCAL AUTHORITY REQUIREMENTS.
2. THE CONTRACTOR SHALL VISIT THE PREMISES AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL DETAILS OF THE WORK AND WORKING CONDITIONS, VERIFY ALL FIELD CONDITIONS INCLUDING LOCATION OF UTILITY LINES, STRUCTURES, AND ADVISE THE ENGINEER OF ANY DISCREPANCY THAT MAY PREVENT OR HINDER THE SPECIFIED WORK FROM BEING COMPLETED.
3. THE CONTRACTOR SHALL STUDY THE STRUCTURE AND FINISH CONDITIONS AFFECTING HIS WORK AND SHALL COORDINATE HIS WORK ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES, HANGERS, AND ANCHORS AS NECESSARY TO MEET SUCH CONDITIONS WITHOUT ANY ADDITIONAL COST TO THE OWNER.
4. PRIOR TO APPLYING ANY WORK IN ANY AREA, ALL WORK SHALL BE PLANNED AND COORDINATED WITH OTHER TRADES AND THE OWNER. THE CONDUIT ROUTING SHALL BE COORDINATED WITH DUCT WORK, AND OTHER OBSTACLES SO AS TO PROVIDE THE MOST EFFICIENT AND AESTHETICALLY PLEASING INSTALLATION.
5. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE INSPECTIONS NECESSARY FOR THE INSTALLATION OF HIS WORK AND FURNISH THE ENGINEER WITH CERTIFICATES OF INSPECTIONS FROM ALL AUTHORITIES HAVING JURISDICTION.
6. PROPERTY'S SUPPORT ALL WORK AND EQUIPMENT INSTALLED UNDER THIS CONTRACT, STUDY ALL DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND CATALOG DATA TO DETERMINE HOW EQUIPMENT ACCESSORIES, AND RELATED ITEMS ARE TO BE SUPPORTED, MOUNTED, OR SUSPENDED. PROVIDE ALL BOLTS, INSERTS, BRACKETS, STRUCTURAL SUPPORTS, AND ACCESSORIES FOR PROPER SUPPORT OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
7. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR WITH ALL FEEDER AND BRANCH CIRCUITS.
8. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE, OR EQUIPMENT UNLESS NOTED OTHERWISE. RECEPTACLE AND DATA/TELEPHONE OUTLET SHOWN AS OADR ON DRAWING SHALL BE MOUNTED 4' AWAY ON CENTER HORIZONTALLY.
9. COORDINATE ALL DEVICES AND OUTLETS ABOVE, OR BELOW WITH CASEWORK INSTALLATION AND THE ARCHITECT IN ORDER TO POSITION AT THE PROPER LOCATION AND THE HEIGHT.
10. THE CONTRACTOR SHALL USE THE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS, DO NOT SCALE THESE PLANS.
11. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR.
12. ALL ELECTRICAL EQUIPMENT SHALL BE UL LABELED WHERE CATEGORY EXISTS FOR SUCH EQUIPMENT. OTHER THIRD PARTY LABELS APPLICABLE TO THE LOCAL INSPECTOR MAY BE USED.
13. ELECTRICAL DEVICES REQUIRED TO BE ADA ACCESSIBLE SHALL BE INSTALLED PER ANSI A117.1.
14. ELECTRICAL CONTRACTOR SHALL PROVIDE A PLaque ON ALL THE SERVICE DISCONNECTS PER NEC 110.24.
15. ELECTRICAL CONTRACTOR SHALL PROVIDE A PLaque ON EACH SERVICE DISCONNECT INDICATING WHICH SUITE IT SERVES PER NEC 230.14(E).

ENERGY CODE SUMMARY

ELECTRICAL SYSTEM & EQUIPMENT METHOD OF COMPLIANCE

ENERGY CODE PRESCRIPTIVE PERFORMANCE
ASHRAE 90.1 PRESCRIPTIVE PERFORMANCE

LOADING SCHEDULE (EACH FEATURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE
NUMBER OF LAMPS IN FIXTURE
BALLAST TYPE USED IN THE FIXTURE
NUMBER OF BALLASTS IN FIXTURE
TOTAL WATTAGE PER FIXTURE

REFER TO LUMINAIRE SCHEDULE
REFER TO LUMINAIRE SCHEDULE
REFER TO LUMINAIRE SCHEDULE
REFER TO LUMINAIRE SCHEDULE

1.650 KW SPECIFIED VS 2.35 KW ALLOWED
0.80 KW SPECIFIED VS 0.36 KW ALLOWED

TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED (WHOLE BUILDING OR SPACE BY SPACE METHOD)

TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED

SECTION C406
ADDITIONAL ENERGY EFFICIENCY PACKAGE

- C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT
- C406.3 REDUCED LIGHTING POWER DENSITY
- C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
- C406.5 ON SITE RENEWABLE ENERGY
- C406.6 DEDICATED OUTSIDE AIR SYSTEM
- C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

STANDARD ABBREVIATIONS

- A - AMPERES OR ABOVE COUNTER
- AFW - ABOVE FINISHED FLOOR
- AFG - ABOVE FINISHED GROUND
- C - CONDUIT
- E - EXISTING
- EC - ELECTRICAL CONTRACTOR
- EG - EQUIPMENT GROUNDING CONDUCTOR OR GROUND FAULT CIRCUIT INTERRUPTER
- GFIC - GROUND FAULT CIRCUIT INTERRUPTER
- GC - GENERAL CONTRACTOR
- MC - MECHANICAL CONTRACTOR
- HT - HEAVY TRUCK
- P - POLE
- PC - PLUMBING CONTRACTOR
- PE - PROTECTIVE RELAY
- PH - PHASE
- PMB - PANELBOARD
- REC - RECEPTACLE
- TC - TIME CLOCK
- TB - TELEPHONE TERMINAL BACKBOARD
- TP - TYPICAL
- UNO - UNLESS NOTED OTHERWISE
- V - VOLTS
- W - WATTS, WIRES

LIGHTING LEGEND:

	2x4 RECESSED FLAT PANEL LIGHT
	2x2 RECESSED FLAT PANEL LIGHT
	RECESSED 6\"/>
	EXTERIOR WALL LED LIGHT
	WALL MOUNT EMERGENCY LIGHT WITH 90 MIN BATTERY BACK-UP MAX. 6956 WATT
	WALL MOUNT EMERGENCY EXIT COMBINATION LIGHT WITH 90 MIN BATTERY BACK-UP MAX. 6956 WATT
	WALL/CEILING MOUNT EXTERIOR EMERGENCY LIGHT WITH 90 MIN BATTERY BACK-UP
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
	1\"/>
	1\"/>

POWER LEGEND:

	DUPLEX RECEPTACLE, 120 VOLT, MOUNT @ 18\"/>
	SPECIAL EQUIPMENT RECEPTACLE, MOUNT @ 18\"/>
	PANELBOARD, SEE PANELBOARD SCHEDULE
	DISCONNECT SWITCH
	GROUND FAULT PROTECTION THRU GF CIRCUIT BREAKER
	BRANCH CIRCUIT, OR FEEDER WIRING, RUN IN CONDUIT AND CIRCUIT BREAKER IN 1\"/>

COMMUNICATIONS LEGEND:

	VOICE/DATA OUTLET, MOUNT @ 18\"/>
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REVISIONS	BY

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BUILDING SYSTEMS ENGINEERING
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MORRISTOWN, NJ 07960
GREENTECH LICENSE # C-2720



04/10/25

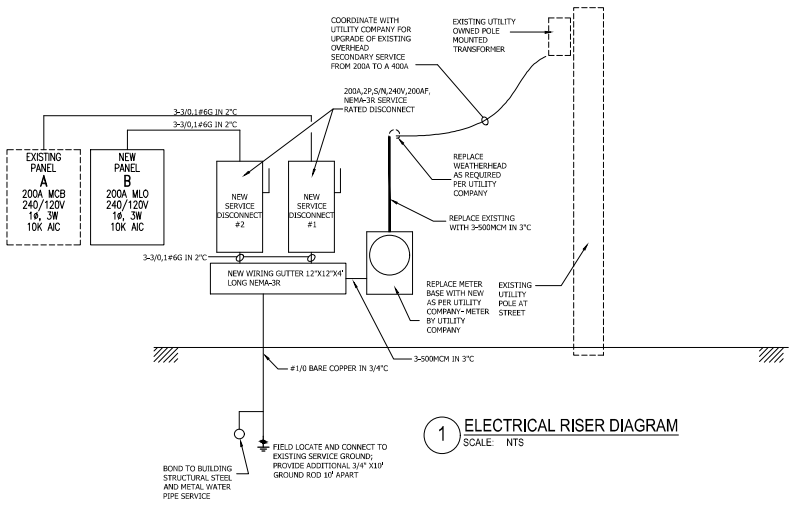
LITTLE TREASURES DAYCARE
12082 NC HWY. 42, FUQUAY VARINA, NC 27526
ELECTRICAL COVERSHEET

DATE:	04-10-26
SCALE:	AS SHOWN
DRAWN:	HCS
JOB:	2026-011
SHEET	E1
OF	SHEETS

ELECTRICAL LOAD SUMMARY

TYPE OF LOAD	NEC CODE REFERENCE	CONNECTED LOAD IN VA	NEC CODE REFERENCE	DEMAND FACTOR	DEMAND LOAD IN VA		
LIGHTING	NEC 220.12, 1.3 VA/SQFT	3525.6	NEC 220.12, NEC 220.42	2482	125%	3103	
OR ACTUAL WHEN MEETING ENERGY CODES							
GENERAL PURPOSE RECEPTACLES	NEC 220.14(D)	180 VA/RECE.	NEC 220.44	FIRST 100VA @ 100% REMAINING OVER 100VA @ 50%	9000	100%	10000
COMPUTER		0		0	100%	0	
HVAC LOAD		20744	NEC 430.24	133% OF LARGEST MOTOR 100% OF OTHERS	3520	125%	4400.0
OTHER LOADS		33650	WHY SIGN CIRCUIT OTHER	9000 1300 23450	100%	11250 1500 23450	
TOTAL CONNECTED LOAD IN VA			TOTAL DEMAND LOAD IN VA				
68,402			69,927				

400A, 240/120V, 1 PHASE, 3 WIRES SERVICE IS ADEQUATE. SYSTEM VOLTAGE = 240. DEMAND AMPS = 291.



1 ELECTRICAL RISER DIAGRAM
SCALE: NTS

FAULT CURRENT CALCULATIONS- FV DAYCARE

SCA-end (L-L) AT TRANSFORMER: 20,800 A Per DUKE ENERGY
SCA-end (L-N) AT TRANSFORMER: 31,300 A Per DUKE ENERGY

Short circuit current through each cable segment:

From	To	Parallel	Length	Voltage	Wire Size	Wire Type	Conduit Type	C	SCA-end (L-L)	SCA-end (L-N)	SCA-end (L-L)	SCA-end (L-N)
TRANSFORMER	METERBASE	1 Sags	150 FT	240 V	#500	Cu	Nonmetallic	20706	20,800 A	12,362 A	31,300 A	6,621 A
METERBASE	DISCONNECT	1 Sags	15 FT	240 V	#30	Cu	Metallic	12844	12,382 A	10,667 A	6,621 A	7,699 A
DISCONNECT	PANEL "A"	1 Sags	20 FT	240 V	#30	Cu	Metallic	12844	10,667 A	9,370 A	7,699 A	6,417 A
DISCONNECT	PANEL "B"	1 Sags	20 FT	240 V	#30	Cu	Metallic	12844	10,667 A	9,370 A	7,699 A	6,417 A

EXISTING PANELBOARD "A"

BRANCH CIRCUIT	WIRE SIZE	VA	TRIP/POLE	CKT	PHASE LOADS		TYPE	ETN	LOAD CENTER	225 A MAIN BUS RATING	200A MAIN CIRCUIT BREAKER	BRANCH CIRCUIT	LOAD			
					LEG-1	LEG-2								DEVICE	TRIP	VA
RECE. TLTS. 108,110	2#12, 1#12G #6 CABLE	360	20	1	1	1260	X	2	1	20	400	2#12, 1#12G #6 CABLE	RECE. CLASSROOM-4			
EX. WASHER	EXISTING TO REHAB	1500	20	1	3	X	2760	4	1	20	1260	2#12, 1#12G #6 CABLE	RECE. CLASSROOM-2			
EX. OUTSIDE RECE.	EXISTING TO REHAB	540	15	1	5	1172	X	6	1	20	632	2#12, 1#12G #6 CABLE	INTERIOR LIGHTS			
EX. MICROWAVE HOOD	EXISTING TO REHAB	1500	20	1	7	X	2300	8	1	20	800	EXISTING TO REHAB	EX. REFRIGERATOR			
RECE. CLASSROOM-1	EXISTING TO REHAB	720	20	1	9	900	X	10	1	20	180	EXISTING TO REHAB	EX. LAUNDRY RECE.			
RECE. CLASSROOM-3	2#12, 1#12G #6 CABLE	900	20	1	11	X	1260	12	1	20	360	EXISTING TO REHAB	EX. DEN ROOM RECE.			
EXISTING HVAC UNIT	2#4, 1#6	6038	70	2	13	7178	X	14	1	20	1140	EXISTING TO REHAB	EX. KIT. RECE. /DW			
SEE NOTE-2	3#1, 1" C	6038			15	X	6051	16	1	15	13	EXISTING TO REHAB	EX. CRAWL SPACE LTS.			
SPARE		0	15	1	17	3000	X	18	2	30	3000	EXISTING TO REHAB	EX. OVEN			
SPARE		0	30	2	19	X	3000	20			3000	TO REHAB				
		0			21	0	X	22	2	30	0		SPARE			
EX. ELECTRIC RANGE	EXISTING TO REHAB	3000	30	2	23	X	3000	24			0	EXISTING TO REHAB	EX. RECE. CRAWL SPACE			
		3000			25	3180	X	26	1	15	180		SPARE			
EX. FEEDER TO BARN	EXISTING TO REHAB	660	60	2	27	X	660	28	1/1	15/15	0		SPARE			
		660			29	660	X	30	2	50	0		SPARE			
INTERIOR LIGHTS	2#12, 1#12G #6 CABLE	437	20	1	31	X	437	32								
I/A LOAD										36.82	LOAD PER PH IN VA		17359	0	19468	10,000 AMPS
AMPERE LOAD										153.41	LOAD PER PH IN AMPS		144.6	0.0	162.2	MIN. INTERRUPTING CAP. (RMS SYM. AMPS)
DEMAND LOAD PER PH IN AMPS										144.4	0.0	162.0				

NEW PANELBOARD "B"

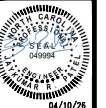
BRANCH CIRCUIT	WIRE SIZE	VA	TRIP/POLE	CKT	PHASE LOADS		TYPE	ETN	LOAD CENTER	200 A MAIN BUS RATING	200A MAIN LUGS ONLY	BRANCH CIRCUIT	LOAD			
					LEG-1	LEG-2								DEVICE	TRIP	VA
RECE. 117,118,120	2#12, 1#12G #6 CABLE	1440	20	1	1	1840	X	2	1	20	400	2#12, 1#12G #6 CABLE	FIRE ALARM CONTROL PANEL SEE NOTE-3			
RECE. 119	2#12, 1#12G #6 CABLE	900	20	1	3	X	2100	4	1	20	1200	2#12, 1#12G #6 CABLE	SIGN CIRCUIT			
NEW AHJ-1	2#12, 1#12G #6 CABLE	2937	30	2	5	5187	X	6	2	30	2250	2#12, 1#12G #6 CABLE	EXISTING WATER HEATER WH-1 (REWIRE)			
	IN 3/4" C	2937			7	X	5187	8			2250	IN 3/4" C				
NEW HP-1	2#12, 1#12G #6 CABLE	1397	25	2	9	3897	X	10	2	30	2500	2#12, 1#12G #6 CABLE	DRYER			
	IN 3/4" C	1397			11	X	3897	12			2500	IN 3/4" C				
NEW HP-2	2#12, 1#12G #6 CABLE	2250	30	2	13	2000	X	14	1	20	650	2#12, 1#12G #6 CABLE	EXTERIOR LIGHTS			
	IN 3/4" C	2250			15	X	2400	16	1	20	150	2#12, 1#12G #6 CABLE	EXTERIOR FLOOD LIGHTS			
ELECTRIC WATER COOLER	2#12, 1#12G #6 CABLE	600	20	1	17	650	X	18	1	20	50	2#12, 1#12G #6 CABLE	PHOTOCELL/TIMELOCK			
SPACE		0	1	19	X	0	0	20	1	0	0		SPACE			
SPACE		0	1	21	0	X	0	22	1	0	0		SPACE			
SPACE		0	1	23	0	X	0	24	1	0	0		SPACE			
SPACE		0	1	25	0	X	0	26	1	0	0		SPACE			
SPACE		0	1	27	X	0	0	28	1	0	0		SPACE			
SPACE		0	1	29	0	X	0	30	1	0	0		SPACE			
SPACE		0	1	31	X	0	0	32	1	0	0		SPACE			
I/A LOAD										28.06	LOAD PER PH IN VA		14474	0	13584	10,000 AMPS
AMPERE LOAD										116.91	LOAD PER PH IN AMPS		120.6	0.0	113.2	MIN. INTERRUPTING CAP. (RMS SYM. AMPS)
DEMAND LOAD PER PH IN AMPS										135.6	0.0	127.3				

NEW PANELBOARD "B"

CONNECTED	DEMAND	NOTES:
LIGHTING	800	1. PROVIDE TYPE WRITTEN PANEL DIRECTORY.
RECEPTACLES	2340	2. COPPER BUS
COMPUTERS	0	3. PROVIDE LOCKABLE BREAKER FOR FIRE ALARM PANEL PAINT RED.
HVAC	8668	LARGEST MOTOR AT 10%
OTHER	16250	EQUIPMENT AT 100% WH AT 120% SIGN CIRCUIT @120%
TOTAL DEMAND LOAD	31.55 kVA	DEMAND FACTOR = 1.12
DEMAND AMPS	131 AMPS	

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GREENTECH LICENSE # C-2720



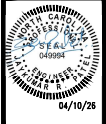
04/10/26

LITTLE TREASURES DAYCARE
12082 NC HWY. 42, FUQUAY VARINA, NC 27526
ELECTRICAL SCHEDULES & DETAILS

DATE: 04-10-26
SCALE: AS SHOWN
DRAWN: HCS
JOB: 2026-011
SHEET
E2
OF SHEETS

REVISIONS	BY

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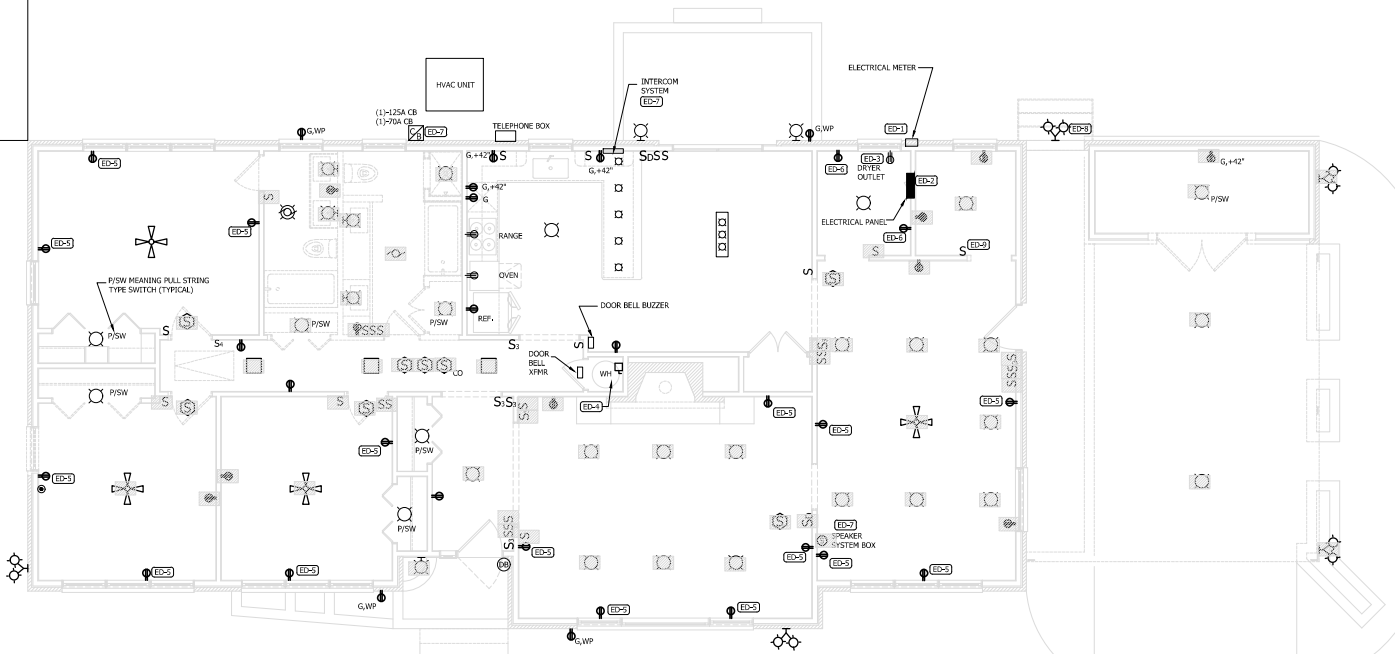


LITTLE TREASURES DAYCARE
 12082 NC HWY. 42, FUQUAY VARINA, NC 27526
ELECTRICAL DEMOLITION PLAN

DATE: 04-10-26
 SCALE: AS SHOWN
 DRAWN: HCS
 JOB: 2026-011
 SHEET **E3**
 OF SHEETS

ELECTRICAL LEGEND - EXISTING PLAN:

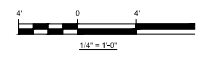
	RECESSED CAN OR SURFACE MOUNT LIGHT
	P1SW MEANING PULL STRING TYPE SWITCH
	4" RECESSED CAN
	WALL LIGHT
	FLOOD LIGHT
	CHANDELIER
	RECESSED SQUARE LIGHT
	LIGHT/EXHAUST FAN
	EXHAUST FAN
	CEILING FAN
	1 P TOGGLE SWITCH
	3 WAY, 1 P TOGGLE SWITCH
	4 WAY, 1 P TOGGLE SWITCH
	DIMMER SWITCH
	DUPLEX RECEPTACLE
	DUPLEX GFI RECEPTACLE AT +42" AFF
	DUPLEX GFI RECEPTACLE WEATHERPROOF
	QUADPLEX RECEPTACLE
	220V RECEPTACLE
	PANELBOARD
	CIRCUIT BREAKER BOX
	DISCONNECT
	SMOKE DETECTOR
	CO DETECTOR
	SPEAKER SYSTEM BOX
	DOOR BELL
	DEMOLITION HATCH- REMOVE ELECTRICAL LIGHT OR DEVICES AND ASSOCIATED WIRING BACK TO ITS ORIGINATION OR TO THE ELECTRICAL PANEL, VERIFY IN FIELD.



1 ELECTRICAL PLAN - DEMOLITION
 SCALE: 1/4"=1'-0"

ELECTRICAL DEMOLITION NOTES

- ED-1 COORDINATE WITH ELECTRIC UTILITY FOR REMOVAL OF EXISTING ELECTRICAL METER AND SECONDARY.
- ED-2 EXISTING ELECTRICAL PANEL IS TO REMAIN, REMOVE SERVICE GROUND AND BONDING, RECONNECT FEEDER THRU NEW SERVICE DISCONNECT, REFER ELECTRICAL RISER DIAGRAM.
- ED-3 REMOVE EXISTING DRYER OUTLET AND WIRING BACK TO THE EXISTING PANEL.
- ED-4 REMOVE EXISTING WATER HEATER WIRING AT EXISTING PANEL, PROVIDE JUNCTION BOX AND EXTEND WIRING TO THE NEW PANEL "B".
- ED-5 EXISTING RECEPTACLE TO BE REMOVED AND REPLACED WITH NEW TAMPER RESISTANCE RECEPTACLE, REFER NEW WORK PLAN NOTE E-1.
- ED-6 REMOVE EXISTING ENCLOSED BREAKERS SERVING EXISTING HEAT PUMP PACKAGED UNIT, REMOVE LINE SIDE WIRING BACK TO THE EXISTING PANEL, KEEP LOAD SIDE WIRING TO BE RECONNECTED BACK TO THE NEW DISCONNECT.
- ED-7 REMOVE INTERCOM SYSTEM AND ASSOCIATED WIRING, REMOVE ELECTRICAL CIRCUIT BACK TO THE PANELBOARD OR UPS ORIGINATION POINT.
- ED-8 REMOVE AND RELOCATE EXISTING FLOOD LIGHT AS SHOWN IN NEW WORK PLAN.
- ED-9 REPLACE EXISTING SWITCH WITH NEW SWITCH WITH BUILT-IN OCCUPANCY SENSOR, REFER NEW WORK PLAN.



GRAPHIC SCALE

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LITTLE TREASURES DAYCARE
 12082 NC HWY. 42, FUQUAY VARINA, NC 27526
 ELECTRICAL POWER PLAN

DATE:	04-10-26
SCALE:	AS SHOWN
DRAWN:	HCS
JOB:	2026-011
SHEET	E4
OF	SHEETS

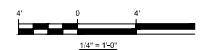
ALL RECEPTACLES INSTALLED IN KITCHEN AND SERVING AREAS SHALL HAVE GFI PROTECTION AS REQUIRED PER NEC 210.8(B)(2).
 GFCI RECEPTACLE MUST BE READILY ACCESSIBLE, PROVIDE GFCI BREAKERS WHERE THIS REQUIREMENT CAN NOT BE MET.

ELECTRICAL POWER- KEYED NOTES

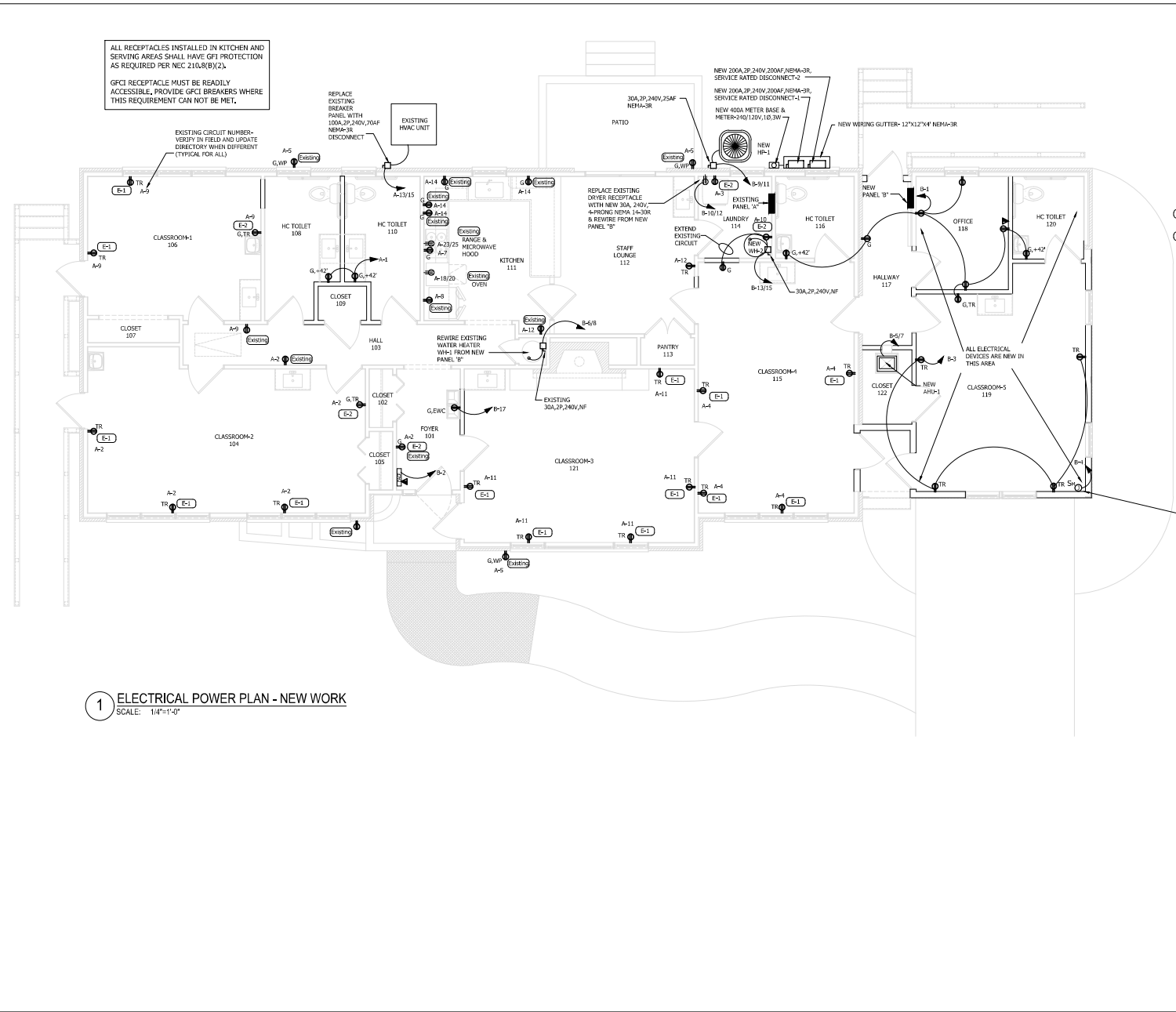
- (E-1) REPLACE EXISTING RECEPTACLE WITH NEW 20A, 120V TAMPER RESISTANCE RECEPTACLE, WHITE COLOR, PROVIDE NEW PHENOLIC COVERPLATE-WHITE COLOR.
- (E-2) REPLACE EXISTING RECEPTACLE WITH NEW 20A, 120V GFCI RECEPTACLE, WHITE COLOR, PROVIDE NEW PHENOLIC COVERPLATE-WHITE COLOR.

SIGN CIRCUIT, COORDINATE EXACT MOUNTING LOCATION AND HEIGHT OF ELECTRICAL JUNCTION BOX WITH SIGN PROVIDER/INSTALLER, EC SHALL INCLUDE FINAL CONNECTION TO SIGN IN HIS BID, WIRE CIRCUIT THRU PHOTOCELL TIMELOCK, MOUNT DISCONNECTING MEANS HIGH ON WALL (READILY ACCESSIBLE) FOR MAINTENANCE.

1 ELECTRICAL POWER PLAN - NEW WORK
 SCALE: 1/4"=1'-0"



GRAPHIC SCALE



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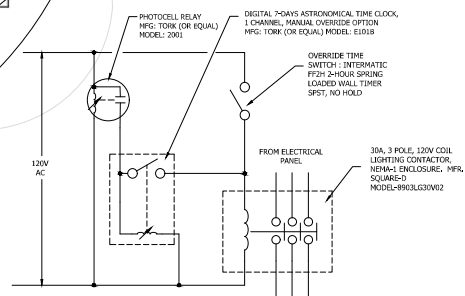
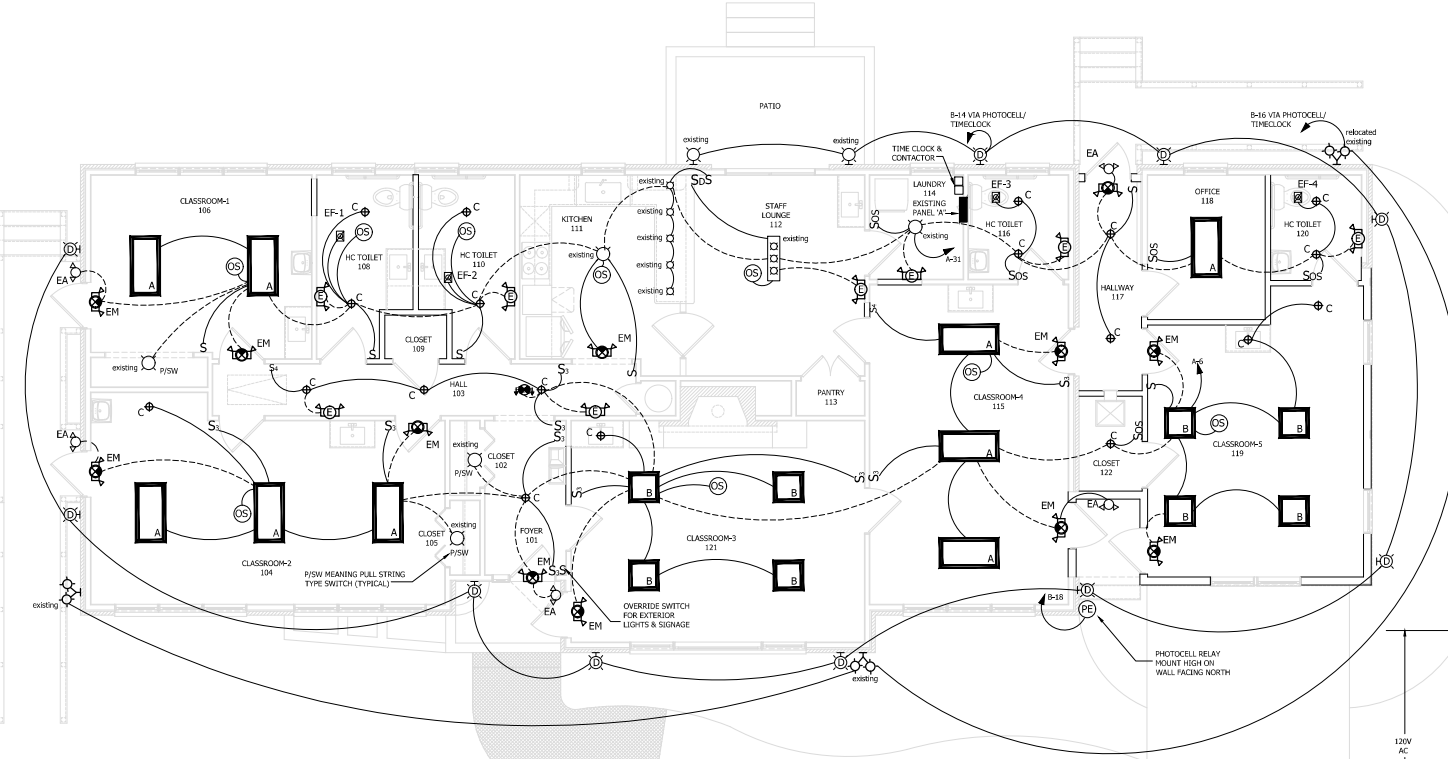


LITTLE TREASURES DAYCARE
 12082 NC HWY. 42, FUQUAY VARINA, NC 27526
LIGHTING PLAN

DATE: 04-10-26
 SCALE: AS SHOWN
 DRAWN: HCS
 JOB: 2026-011
 SHEET **E5**
 OF SHEETS

LIGHTING NOTES :

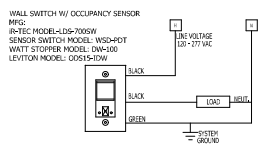
- CONNECT EMERGENCY AND EXIT LIGHT AHEAD OF LIGHT SWITCH TO AN UNSWITCHED CONDUCTOR.
- ALL DEVICES REQUIRED TO BE ADA ACCESSIBLE WILL BE INSTALLED PER ANSI A117.



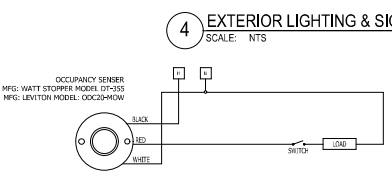
LIGHTING FIXTURE SCHEDULE (OTHER MANUFACTURER PRODUCTS ARE ACCEPTABLE)

DRAWING SYMBOL	MANUFACTURER	MODEL NUMBER	MOUNTING	LAMP TYPE	LAMP WATTAGE	VOLTAGE	DESCRIPTION
A	LITHONIA	EPANL-2X4-4800LM-80CRI-40K-ND DIMMING- MVOLT- SURFACE MOUNT KIT 2X4S/MKSH	SURFACE	LED	45	120/277	2X4 SURFACE FLAT PANEL LED, 4800 LUMEN OUTPUT, 4000K
B	LITHONIA	EPANL-2X2-3400LM-80CRI-40K-ND DIMMING- MVOLT- SURFACE MOUNT KIT 2X2S/MKSH	SURFACE	LED	30	120/277	2X2 RECESSED LED, 3400 LUMEN OUTPUT, 4000K
C	AMICO LIGHTING	8 inch SCOT Ultra-Thin LED Recessed Ceiling Light with Junction Box, 1050LM Brightness, Dimmable Canless Wafer Downlight, 12W, ETL&FCC	RECESSED	LED	12	120	8" SCOT Ultra-Thin LED RECESSED CEILING LIGHT WITH JUNCTION BOX, 1050LM, DIMMABLE CANLESS WAFER DOWNLIGHT, 12W, ETL&FCC
D	HIGHLINE	WPADJ-ND-UNV-50-40-80 CRI-BK-FC	WALL @90° TO BOTTOM	LED	50	120/277	EXTERIOR WALL MOUNT LED, ADJUSTABLE TO FULL CUT OFF, 6500 LUMEN, 4000K, BLACK FINISH, NO DIMMING
E	HIGHLINE	EM2200-ND-120-WH-NC-SD-EM	WALL	LED	6	120	EMERGENCY BATTERY WALL PACK WITH 90 MINUTE NI CAD BATTERY, SELF DIAGNOSTICS, CHARGE INDICATOR, TEST SWITCH, UL LISTED, 120V, WHITE FINISH
EA	HIGHLINE	EXWEM2-120-LED-WH-WH-NC-SD	WALL	LED	11	120	EXTERIOR EMERGENCY BATTERY WALL PACK WITH 90 MINUTE NI CAD BATTERY, SELF DIAGNOSTICS, CHARGE INDICATOR, TEST SWITCH, UL LISTED, 120V, BLACK FINISH
EM	HIGHLINE LED	DELW-15W-MCT-8K	WALL	LED	2	120	EXIT/EMERGENCY LIGHT, LED, RED, 90 MINUTE NI CAD BATTERY, SELF DIAGNOSTICS, AC INDICATOR, PUSH TEST SWITCH
X	EVENLITE	SOVII-EM-R-1M-WH-UC-IR	WALL	LED	6	120	EXIT SIGN WITH 90 MINUTE NI CAD BATTERY, SELF DIAGNOSTICS, CHARGE INDICATOR, TEST SWITCH, UL LISTED, 120V, WHITE FINISH, RED LETTERS

1 LIGHTING PLAN - NEW WORK
 SCALE: 1/4"=1'-0"

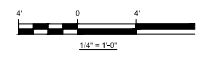


2 WALL SWITCH WITH OCCUPANCY SENSOR CONTROLS
 SCALE: NTS



3 CEILING OCCUPANCY SENSOR CONTROLS
 SCALE: NTS

4 EXTERIOR LIGHTING & SIGNAGE CONTROLS DETAIL
 SCALE: NTS



GRAPHIC SCALE
 1/4" = 1'-0"

