

AMENITIES BLDG

MEP & STRUCTURAL DRAWING SET

4801 CEDAR CREEK DR.

LAKE FOREST, MCKINNEY, TX

REFERENCE SAMPLE

CETRIX DESIGN

A Cetrix Technologies LLC company

NO.	DATE	DESCRIPTION

AMENITIES BLDG
4801 CEDAR CREEK DR.
LAKE FOREST,
MCKINNEY, TX

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G000

ELECTRICAL SPECIFICATION

A. GENERAL
1. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL JURISDICTION REQUIREMENTS.

B. SHOP DRAWINGS
1. PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS: LIGHTING FIXTURES, OCCUPANCY SENSORS , RECEPTACLES AND FIRE ALARM DEVICES

C. EQUIPMENT AND DEFINITIONS
1. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.
2. UNLESS SPECIFICALLY NOTED ON THE PLANS ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC., NOT NOTED EXISTING TO REMAIN OR TO BE RELOCATED SHALL BE NEW.

D. JUNCTION BOXES LABELING REQUIREMENTS
1. ALL JUNCTION BOXES FOR BRANCH CIRCUITRY SHALL BE CLEARLY LABELED WITH PANEL DESIGNATION AND CIRCUIT NUMBERS.

E. PANELBOARDS
1. PROVIDE A TYPED CIRCUIT DIRECTORY FOR THE ENTIRE PANELBOARD REVISED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PHASE BALANCE ALL PANELBOARDS AS NECESSARY.
3. THE BRANCH CIRCUITS SHOWN FOR ITEMS SERVED AS INDICATED. CONTRACTOR SHALL FIELD COORDINATE ALL BRANCH CIRCUITS ACCORDINGLY.
4. BRANCH CIRCUITRY SHOWN ON FLOOR PLAN CONNECTED TO A DESIGNATED CIRCUIT EXACT POSITION OF CIRCUIT BREAKER SHALL BE AFTER REMOVAL OF OUTLETS UNDER DEMOLITION. CONTRACTOR SHALL UTILIZE ALL C/B'S BECOMING SPARE

F. CIRCUIT BREAKERS
1. ALL NEW CIRCUIT BREAKERS TO BE INSTALLED IN NEW PANELS SHALL BE BOLT-ON TYPE.

G. SWITCHES, RECEPTACLES, TELEPHONE OUTLETS AND DATA OUTLETS
1. WHERE TWO OR MORE DEVICES OF THE SAME VOLTAGE ARE SHOWN TOGETHER ON THE PLANS, A GANGED PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED HORIZONTALLY BY 6" BUT SHALL BE HORIZONTALLY OR VERTICALLY ALIGNED.
2. ALL RECEPTACLES, TELEPHONE, AND DATA OUTLETS SHOWN ON A WALL BACK TO BACK SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY.

H. LIGHTING FIXTURES
1. COORDINATE ALL LIGHTING FIXTURES WITH SPRINKLERS, MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN TO AVOID CONFLICT. GRID LAYOUT ON PLANS IS APPROXIMATE, ADJUST AND COORDINATE LIGHTING FIXTURES IN FIELD PER ARCHITECTS REFLECTED CEILING PLAN.
2. PROVIDE FINISHED FRAMES FOR ALL RECESSED LIGHTING FIXTURES, TYPE TO BE COORDINATE ALL FIXTURE TYPES WITH CEILING SYSTEM BEFORE ORDERING FIXTURES. PROVIDE ALL MOUNTING ATTACHMENTS FOR A COMPLETE INSTALLATION. LIGHTING FIXTURES SHALL BE SUPPORTED PER LOCAL CODE REQUIREMENTS.
3. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE LIGHTING FIXTURE SCHEDULE FOR LAMPS AND TYPE OF BALLASTS REQUIREMENTS AND/OR PLANS.
4. COLOR OF LIGHTING FIXTURES SHALL BE AS SELECTED BY THE ARCHITECT.

I. BRANCH CIRCUITRY AND FEEDER
1. ALL CONDUCTORS SHALL BE COPPER.
2. ALL BRANCH CIRCUITRY AND FEEDER SHALL COMPLY WITH THE UTEST NATIONAL ELECTRICAL CODE (N.E.C.) LOCAL JURISDICTION AND LOCAL STATE CODE REQUIREMENTS. THE FOLLOWING ARE SOME ACCEPTABLE WIRING METHOD REQUIREMENTS.

J. INDOOR USE BRANCH CIRCUITRY
1. METAL CLAD CABLE (MC CABLE) IS PERMITTED TO SERVE RECEPTACLES/LIGHTING AND OTHER EQUIPMENT LOAD. METAL CLAD CABLE MC IS PERMITTED TO RUN CONCEALED AREA SUCH AS CEILING SPACE AND FINISHED WALL AREA ONLY. CONTRACTOR SHALL FOLLOW ELECTRICAL SYMBOLS LIST ALL HOMERUN BRANCH CIRCUITRY FOR THE INDOOR EQUIPMENT SHALL BE INSTALLED IN EMT

K. GENERAL NOTES IN REGARDS TO BRANCH CIRCUITRY AND FEEDER
1. USE OF ALUMINUM CONDUIT SHALL NOT BE PERMITTED.
2. ALL BRANCH CIRCUITRY AND FEEDERS SHALL BE RUN CONCEALED.
3. ALL CIRCUITRY RUNS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN FIELD THE MOST SUITABLE ROUTES.
4. MINIMUM SIZE EMT OR CONDUIT SHALL BE 3/4''. UNLESS MULTIPLE HOMERUN CIRCUITS REQUIRES URGER SIZE CONDUIT.
5. NO NONMETALLIC CONDUIT SHALL BE USED FOR BRANCH CIRCUIT WORK ABOVE GRADE

L. WIRE AND CABLE
1. FEEDERS: FEEDER SHALL BE ALUMINUM . INSULATION SHALL BE THW OR THHN/THWN.
2. COLOR CODE: ALL WIRING SHALL BE COLOR CODED THROUGHOUT AS PER N.E.C. REQUIREMENTS.
3. ALL CONDUCTORS SHALL BE COPPER, MINIMUM #2 AWG.
4. ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC.. SHALL BE GROUNDED PER N.E.C. ALL RECEPTACLE CIRCUITS SHALL CONTAIN A #12 INSULATED GROUND CONDUCTORS
5. RUN MULTIPLE HOMERUNS TO ALTERNATELY NUMBERED PANELBOARD CIRCUITS (I.E., 1,3,5) SERVING LIGHTING, GENERAL RECEPTACLES, AND MOTORS. ANY CIRCUITS SERVING, ISOLATED GROUND RECEPTACLES OR RECEPTACLES SERVING COMPUTER EQUIPMENT, WHEN THE CONTRACTOR RUN CIRCUITRY IN MULTIPLE HOMERUNS. CONTRACTOR SHALL OVERSIZE THE NEUTRAL CONDUCTOR TO A MINIMUM 200% OF THE CAPACITY OF PHASE CONDUCTORS SIZE THE EMT/CONDUIT ACCORDINGLY WHERE NECESSARY.
6. ALL EMPTY RACEWAYS SHALL CONTAIN A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE SHALL HAVE A MAXIMUM OR 2 - 90 DEGREES BENDS PER RUN. WHERE REQUIRED, PROVIDE PULL BOXES PER N.E.C. REQUIREMENTS.
7. FINAL CONNECTION TO ALL MOTORS OR VIBRATING EQUIPMENT SHALL BE WITH FLEXIBLE CONDUIT OR LIQUID-TIGHT FLEXIBLE CONDUIT FOR OUTDOOR.
8. ALL 120 VOLT CIRCUIT HOMERUNS WHICH ARE OVER 100 LINEAR FEET SHALL BE A MINIMUM OF #10 CONDUCTORS OR AS SHOWN ON THE PLANS.
9. EXPOSED AND CONCEALED CIRCUITRY SHALL BE RUN TIGHT TO CEILING SLAB IN A NEAT WORKMANLIKE MANNER. ALL RUNS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING WALL.

M. GROUNDING
1. PROVIDE GROUND TO ALL DEVICES PER N.E.C. REQUIREMENTS.
2. PROVIDE SERVICE GROUND CONDUCTORS SIZE PER NEC REQUIREMENTS.
3. PROVIDE EQUIPMENT GROUND CONDUCTORS SIZE PER NEC REQUIREMENTS.

N. FIRE SEALANT MATERIALS
1. ANY PENETRATION TO THE FIRE WALLS. CONTRACTOR SHALL PROVIDE FIRE SEALANT MATERIALS AT EVERY POINT WHERE OCCURRED. FIRE SEALANT MATERIALS MANUFACTURER SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO APPLICATION.

O. WORK SCHEDULE
1. COORDINATE WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE FOR WORK SCHEDULE REQUIREMENTS

P. FINAL TESTING
1. AT THE TIME OF FINAL INSPECTION AND TEST, ALL CONNECTIONS AND TERMINATIONS AT PANELBOARDS, DEVICES, EQUIPMENT, AS WELL ALL SPLICES MUST BE ALL COMPLETED. EACH BRANCH CIRCUIT AND ITS RESPECTIVE CONNECTED EQUIPMENT MUST TEST FREE OF SHORT CIRCUIT COMPLETION OF THE WORK, CLEAN AND POLISH ALL EXPOSED SURFACES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ELECTRICAL SYMBOLS

PANELBOARD - SEE SCHEDULE. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 6' - 0 " TO TOP.

MOTOR CONNECTION - HORSEPOWER AS INDICATED, FRACTIONAL IF NO NOTED.

DISCONNECT SWITCH - SEE DRAWING FOR VOLTAGE, POLES AND AMPERAGE RATING.

A-1 HOMERUN TO PANELBOARD. NUMBER OF ARROWHEADS INDICATE NUMBER OF CIRCUITS. NUMERALS AND LETTERS ADJACENT TO ARROWHEADS INDICATE ASSIGNED PANEL AND CIRCUIT NUMBERS. SEE PANEL SCHEDULE FOR AMPERAGE RATING OF EACH CIRCUIT BREAKER AND CONDUCTOR SIZES

CIRCUITRY INSTALLED CONCEALED IN WALL OR ABOVE CEILING. NUMBER OF TICKS INDICATE NUMBER OF CONDUCTORS. IF NO TICKS MARK INDICATE 2 (TWO) CONDUCTORS IN RACEWAY. SEE PANEL SCHEDULE FOR CONDUCTOR SIZES.

S_M OCCUPANCY SENSOR FOR THE SMALL INDIVIDUAL OFFICE, +48" A.F.F. MOTION SENSOR SHALL BE AS MANUF. BY WATTSTOPPER WITH TIME DELAY SHALL BE SET @ LESS THAN 15 MINUTES WATTSTOPPER CAT# DW-100 COLOR TO BE SELECTED BY THE ARCHITECT.

(OC) OCCUPANCY SENSOR, CEILING MOUNTED AS MANUF. BY WATTSTOPPER.

SWITCH BANK

[DL] DAYLIGHT SENSOR

ELECTRICAL SYMBOLS

EXIT LIGHTING FIXTURE ON EMERGENCY CIRCUITRY ARROWS AS INDICATED. FIXTURES TO COMPLY WITH LOCAL JURISDICTION REQUIREMENTS - SEE SCHEDULE

S_T MOTOR RATED SWITCH WITH THERMAL OVERLOAD

WALL MOUNTED DUPLEX RECEPTACLE - 2P, 3W, 20A, 125V, GROUNDED (HUBBELL #5362). COLOR OF DEVICE AND FACE PLATE SHALL BE AS SELECTED BY THE ARCHITECT. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 18" UON.

WALL MOUNTED DOUBLE DUPLEX RECEPTACLE - 2P, 3W, 20A, 125V, GROUNDED (HUBBELL #5362). COLOR OF DEVICE AND FACE PLATE SHALL BE AS SELECTED BY THE ARCHITECT. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 18" UON.

2-HEAD BATTERY LIGHTING UNIT

(J) (J) JUNCTION BOX - CEILING OR WALL MOUNTED

S SINGLE POLE SWITCH - ARROW HART #1991. COLOR OF DEVICE AND FACE PLATE SHALL BE WHITE. MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 4' - 0".

S_3 THREE WAY SWITCH . COLOR OF DEVICE AND FACE SHALL BE WHITE MOUNTING HEIGHT TO CENTERLINE ABOVE FINISHED FLOOR 4' - 0"

(SD) SMOKE DETECTOR

SPECIAL OUTLET. COORDINATE EXACT NEMA CONFIGURATIONS OF OUTLET WITH OWNER'S REPRESENTATIVE AND EXACT MOUNTING HEIGHT PRIOR TO ROUGH-IN.

ABBREVIATIONS

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY C CONDUIT/EMT
C/B	CIRCUIT BREAKER
EC	EMPTY CONDUIT/EMT. PROVIDE PULL WIRE
EMT	ELECTRICAL METALLIC TUBING
G	GROUND
HP	HORSEPOWER
MCB	MAIN CIRCUIT BREAKER
MTD	MOUNTED
NIC	NOT IN CONTRACT
KW	KILOWATTS
P	POLE
PNL	PANEL
R	RECESSED
LF	LINEAR FEET
S	SURFACE
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
MTD	MOUNTED
OC	ON CEILING
EG	EQUIPMENT GROUND
IG	ISOLATED GROUND
FACP	FIRE ALARM CONTROL PANEL

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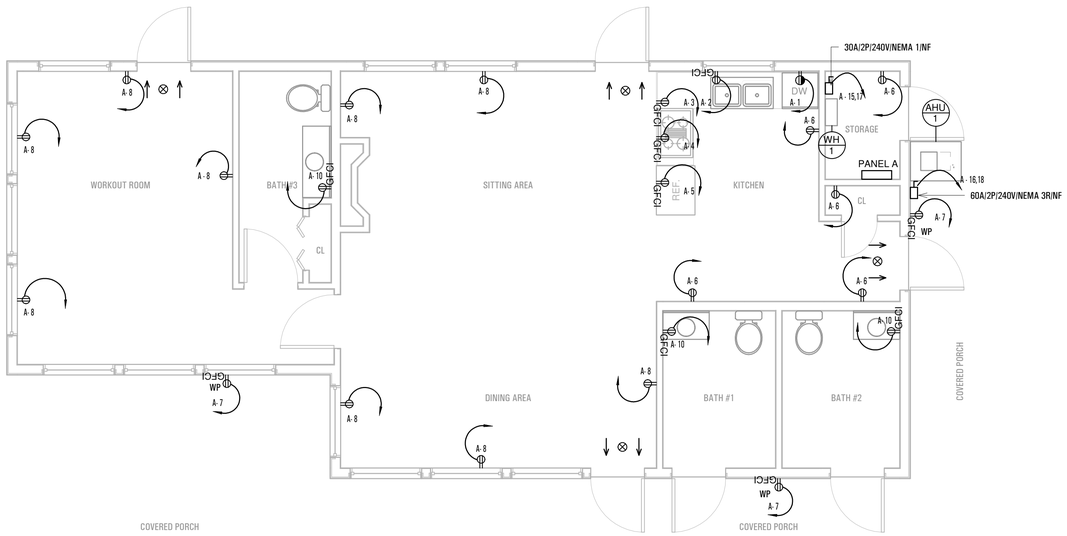
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ELECTRICAL NOTES

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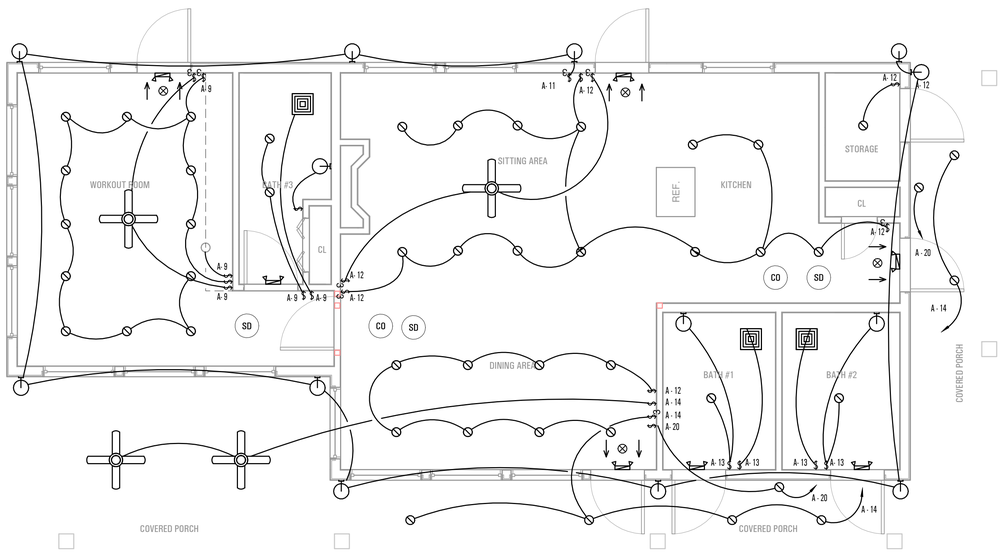
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1 GROUND LL POWER PLAN
1/4" = 1'-0"

LEGEND

	SWITCH
	THREE-WAY SWITCH
	DUPLEX
	RECEPTACLES WITH TOP SWITCH
GFCI	GROUND FAULT INTERUPTER
SD	SMOKE DETEKTOR
CO	CARBON MONOXIDE DETECTOR
	CEILING LIGHT
	WALL HUNG LIGHT
	CEILING FAN WITH LAMP
	EXHAUSTER FAN



2 GROUND LL LIGHTING PLAN
1/4" = 1'-0"

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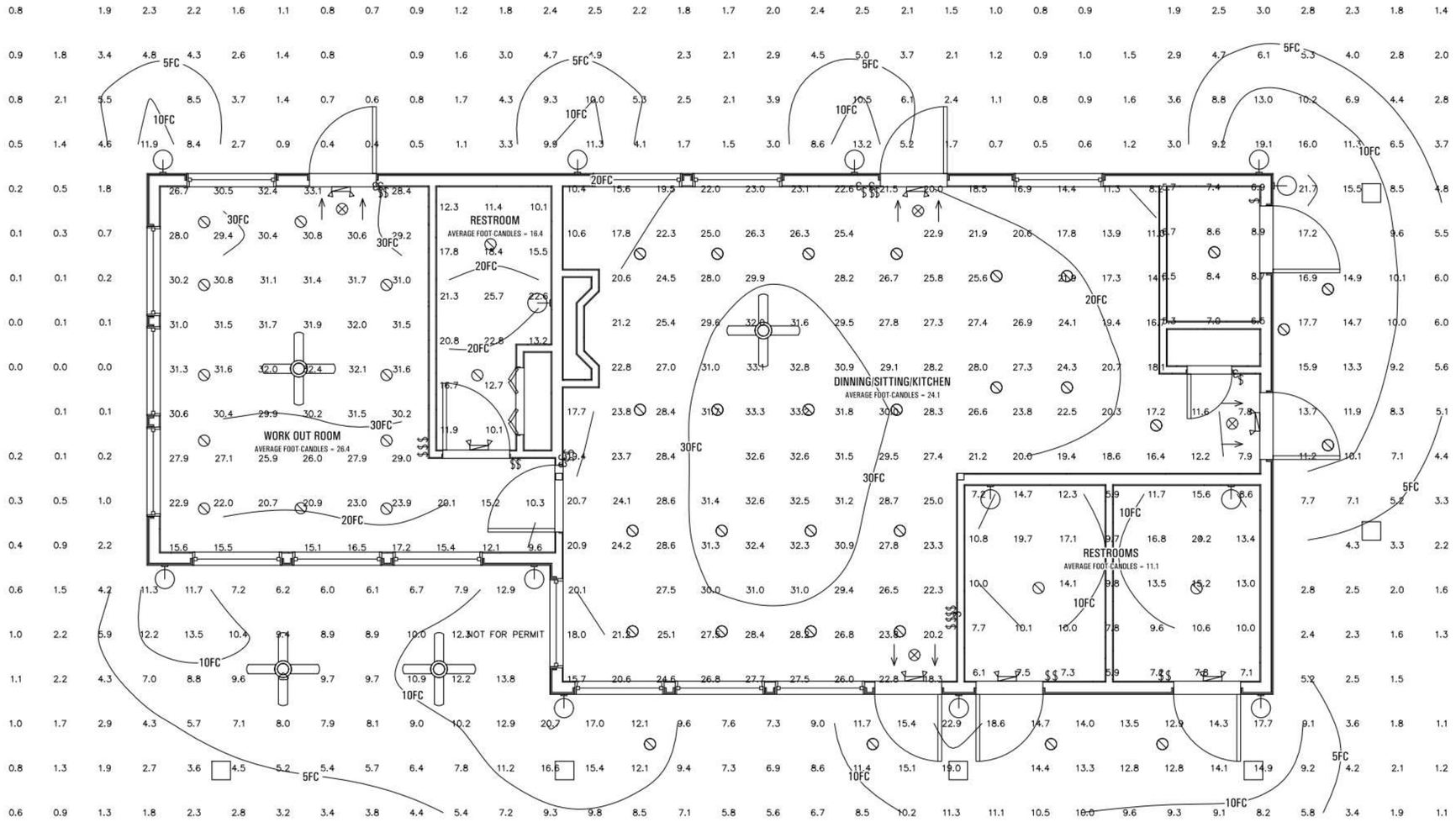
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FLOOR LIGHTING & POWER PLAN

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1 PHOTOMETRIC PLAN
3/8" = 1'-0"

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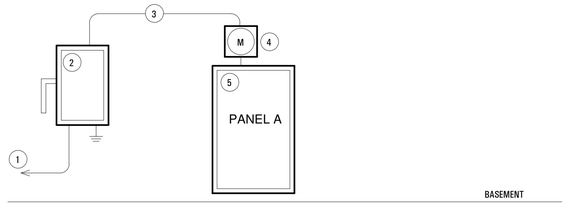
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PANEL TAG	A				
PANEL LOCATION	CL 66				
VOLTAGE	120/240 Single				
PHASE	1	WIRE	3		
RATED AMPS	200 A	AIC	25K		
MCB	200 A	MOUNTING	Recessed		

CIRCUIT	DESCRIPTION	NEW/ EXIST.	LOAD TYPE	BREAKER SIZE	POLES	Wire Size	A	B	A	B	Wire Size	POLES	BREAKER SIZE	LOAD TYPE	NEW/ EXIST.	DESCRIPTION	CIRCUIT
1	DISHWASHER		Recept...	20 A	1	1-#12, 1-#12, 1-#12	1.6		1.0		1-#12, 1-#12, 1-#12	1	20 A	R		DISPOSAL	2
3	RANGE		R	20 A	1	1-#12, 1-#12, 1-#12		1.0		3.5	1-#10, 1-#10, 1-#10	1	30 A	R		OVEN	4
5	REFRIGERATOR		R	20 A	1	1-#12, 1-#12, 1-#12	0.8		0.9		1-#12, 1-#12, 1-#12	1	20 A	R		KITCHEN RECEPTCLES	6
7	OUTDOOR RECEPTACLES		R	20 A	1	1-#12, 1-#12, 1-#12		0.5		1.6	1-#10, 1-#10, 1-#10	1	20 A	R		WORKOUT & DINING RECEPT.	8
9	WORKOUT ROOM LIGHTING		L; M	20 A	1	1-#12, 1-#12, 1-#12	1.2		0.5		1-#12, 1-#12, 1-#12	1	20 A	R		BATH RECEPTACLES	10
11	OUTDOOR LIGHTING		L	20 A	1	1-#12, 1-#12, 1-#12		1.0		1.3	1-#12, 1-#12, 1-#12	1	20 A	L		KITCHEN & DINING LIGHTING	12
13	BATH LIGHTING		L; M	20 A	1	1-#12, 1-#12, 1-#12	0.5		0.6		1-#12, 1-#12, 1-#12	1	20 A	L		OUTDOOR LIGHTING	14
15	WH-1		R	20 A	2	2-#12, 1-#12, 1-#12		1.0		3.5	2-#6, 1-#6, 1-#10	2	50 A	R		AHU-1	16
17	--		--	--	--	--	1.0		3.5		--	--	--	--		--	18
19	EMERGENCY LIGHT		L	20 A	1	1-#12, 1-#12, 1-#12		0.7		0.1	1-#12, 1-#12, 1-#12	1	20 A	L		OUTDOOR LIGHTING	20
21																	22
23																	24
25																	26
27																	28
29																	30
31																	32
33																	34
35																	36
37																	38
39																	40
41																	42
							A	B		TOTAL							
						CONNECTED LOAD	11.5	14.2		25.7							
						CONNECTED AMPS	95.8	118.0		106.9 A							

DEMAND LOAD CALCULATION	FACTOR	CONNECTED LOAD	DEMAND LOAD
CONTINUOUS LOADS (C)			
NON CONTINUOUS LOAD (NC)			
LIGHTING (L)	125%	5.1	6.4
RECEPTACLES (R) - UNDER / OVER 10kVA	76.46%	18.9	14.5
MOTOR LOADS (M)	100%	0.3	0.3
KITCHEN (K)			
WATER HEATER (WH)			
SUB PANEL (SP)			
DEMAND LOAD			22.5
DEMAND AMPS			93.6 A

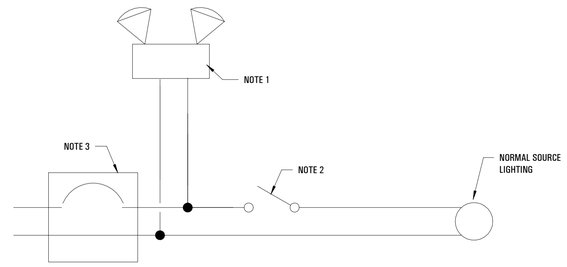


ELECTRICAL RISER DIAGRAM

NOT TO SCALE

FEEDER AND EQUIPMENT NOTES

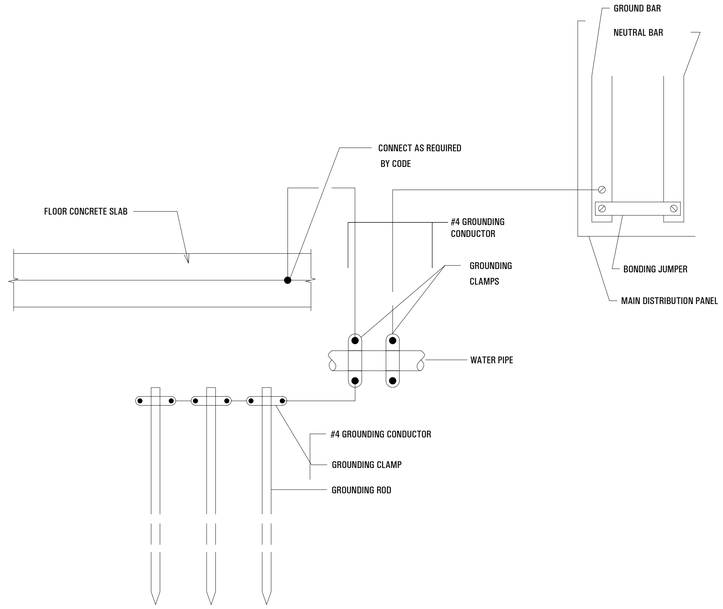
1. INCOMING ELECTRICAL FROM POWER CO.
2. MAIN SWITCH 200A 1PH.
3. COPPER FEEDERS 3 3/0 + 1 #4 GND IN 2" CONDUIT.
4. SOCKET METER 200A, 120/240V, 1PH.
5. PANEL "A" 200A, 120/240 V, 1PH, 3 W - SEE PANEL SCHEDULE.



NOTES

1. SELF CONTAINED UNIT WITH 2 HEAD LIGHT FIXTURE ON THE UNIT TO BE ENERGIZED UPON NORMAL SOURCE FAILURE.
2. LOCAL SWITCH SERVING NORMAL LIGHT.
3. CIRCUIT BREAKER IN NORMAL SOURCE PANELBOARD.

1 EMERGENCY WIRING SCHEMATIC DIAGRAM
NOT TO SCALE



GROUNDING DETAIL

NOT TO SCALE

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MECHANICAL GENERAL NOTES

1. GENERAL

1.1 THE MECHANICAL WORK SHALL CONFORM TO APPLICABLE STATE AND LOCAL CODES AND THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.

1.2 THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PAY FOR ALL PERMITS, FEES, CHARGES AND INSPECTIONS REQUIRED, AS WELL AS HAULING, RIGGING AND TRANSPORTATION CHARGES APPLICABLE TO HIS WORK.

1.3 THE PROJECT SHALL BE BID ON THE BASIS OF SPECIFIED PRODUCT(S) WHICH ESTABLISH MINIMUM QUALITY REQUIREMENTS. WHERE MORE THAN ONE PRODUCT NAME IS INDICATED, BIDS SHALL BE BASED ON ONE OF THE NAMED PRODUCTS. ALL MECHANICAL EQUIPMENT SHOWN ON CONTRACT DOCUMENTS SHALL BE NEW, SHALL BE ALL LISTED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

A). WHERE USE OF AN 'ACCEPTABLE EQUAL' PRODUCT REQUIRES CHANGES TO THE BASE DESIGN IN ORDER TO INCORPORATE THE PRODUCT INTO THE PROJECT, THE CONTRACTOR SHALL SUBMIT A LAYOUT SHOWING ALL CHANGES TO ARCHITECTURAL. STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL REQUIREMENTS. CHANGES DUE TO USE OF 'ACCEPTABLE EQUAL' PRODUCTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER AND THE COST OF CHANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR LAYOUT SHALL ACCOMPANY PRODUCT SUBMITTAL DATA.

B). SUBSTITUTIONS FOR 'ACCEPTABLE EQUAL' PRODUCTS NOT SPECIFIED WILL BE CONSIDERED WHEN INCLUDED WITH SUBMISSION OF THE BID AND SHALL BE SUBJECT TO ACCEPTANCE BY THE ENGINEER. PROPOSALS FOR SUBSTITUTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO: (1) ANY ADDED CREDIT OR COST. (2) PRODUCT IDENTIFICATION. (3) CODE COMPLIANCE. (4) REFERENCED STANDARD COMPLIANCE. (5) DESCRIPTION OF ALL CHANGES INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL, REQUIRED TO INCORPORATE SUBSTITUTED PRODUCT INTO THE PROJECT. THE OWNER/ENGINEER RESERVES THE RIGHT TO REJECT PROPOSED SUBSTITUTIONS.

C). WHERE 'OR EQUAL' PRODUCTS ARE INDICATED. THE CONTRACTOR SHALL SUBMIT A LIST OF PROPOSED EQUAL SUBSTITUTE PRODUCTS WITH THE BID. THE LIST SHALL INCLUDE ADEQUATE SUPPORTING INFORMATION AS PROOF OF EQUALITY IN ORDER TO BE CONSIDERED ACCEPTABLE. NO LATER SUBSTITUTES WILL BE CONSIDERED.

D). SUBSTITUTIONS SHALL PROVIDE THE SAME GUARANTEE AS SPECIFIED FOR BASE BID PRODUCTS.

1.4 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS FOR POINTS OF CONNECTIONS, CAPACITIES, AND LOCATIONS OF SYSTEMS. IN ALL AREAS AFFECTED BY THE PROJECT, CUT, PATCH, REPAIR, AND/OR REPLACE ALL MATERIALS DAMAGED AS A RESULT OF WORK. ALL REPAIRED FINISHES SHALL MATCH APPROPRIATE ADJACENT FINISHES. FILL VOIDS AROUND DUCTWORK PENETRATING WALLS WITH FIRE STOPPING MATERIAL.

1.5 MECHANICAL EQUIPMENT AND PRODUCTS SHALL BE LISTED AND/OR LABELED BY AN APPROVED TESTING OR INSPECTION AGENCY IN ACCORDANCE WITH LOCAL AND GOVERNING CODE REQUIREMENTS.

1.6 THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF WORK INCLUDED IN THE PROJECT. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL ESTABLISH FINAL DIMENSIONS FROM FIELD MEASUREMENTS, PRIOR TO STARTING WORK.

1.7 MECHANICAL WORK SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES PRIOR TO INSTALLATION, TO AVOID CONFLICTS AND ALLOCATE SPACE REQUIREMENTS.

1.8 MATERIALS SHALL BE RATES FOR THE OPERATING TEMPERATURE AND PRESSURE OF THE HYDRONIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE HYDRONIC SYSTEM.

1.9 PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK. PROVIDE ONE NEW SET OF CLEAN AIR FILTERS FOR ALL AIR MOVING EQUIPMENT AT PROJECT CLOSEOUT.

1.10 THE WORD 'PROVIDE' AS USED IN THE PROJECT SHALL BE DEFINED AS '"FURNISH AND INSTALL"

2. PIPING

2.1 PIPING SHOWN IS SCHEMATIC AND DOES NOT INDICATE EVERY OFFSET, ELBOW, UNION, VALVE, TRAP, ACCESS PANEL, ETC., THAT IS REQUIRED FOR A COMPUTE WORKING SYSTEM. PROVIDE ITEMS AND FITTINGS THAT ARE REQUIRED TO INSTALL THE PIPING SYSTEM WITHIN THE SPACE PROVIDED AND THAT ARE REQUIRED FOR A COMPUTE SYSTEM. PIPING SHALL BE PROPERLY SECURED IN ACCORDANCE WITH MSS STANDARD SP-69.

2.2 MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF DOMESTIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE DOMESTIC SYSTEM.

2.3 PIPE SUPPORTS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MSS SP-69 OR LOCAL CODES, WHICHEVER IS MORE STRINGENT. UTILIZE TRAPEZE HANGERS FOR PARALLEL RUNS OR PIPING, OTHER THAN SPRINKLER AND WASTE PIPING. COPPER PIPING SYSTEMS SHALL BE SUPPORTED ON COPPER OR COPPER-PLATED SUPPORTS. HANG PIPE FROM SUBSTANTIAL BUILDING STRUCTURE. PIPING SHALL NOT BE HUNG FROM OTHER PIPING, ALL RIGID HANGERS SHALL PROVIDED A MEANS OF VERTICAL ADJUSTMENT AFTER ERECTION. SHIELD SHALL BE PROVIDED BETWEEN HANGERS AND INSULATION.

2.4 WELDING SHALL CONFORM TO CURRENT STANDARDS AND RECOMMENDATIONS OF THE NATIONAL CERTIFIED PIPE WELDING BUREAU, NFPA 51B, STANDARD FOR FIRE PROTECTION; AND NFPA 241,STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS.

3. EQUIPMENT

3.1 ALL MECHANICAL EQUIPMENT SHOWN ON CONTRACT DOCUMENTS SHALL BE NEW, AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.

3.2 EQUIPMENT AND PRODUCT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR INSTALLATION AND OPERATION SHALL BE FOLLOWED IN PERFORMING MECHANICAL WORK, UNLESS OTHERWISE INDICATED OR DIRECTED. MATERIALS AND METHODS USED IN THE WORK SHALL BE COMPATIBLE WITH BUILDING CONDITIONS AND COMPLY WITH THE BUILDING CODE REQUIREMENTS, WHICH SHALL BE THE BASIS FOR MINIMUM PRODUCT QUALITY. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER BY SKILLED WORKMEN EXPERIENCED IN THEIR TRADE. THE WORK SHALL BE SUBJECT TO THE ACCEPTANCE OF THE OWNER OR THE DULY AUTHORIZED REPRESENTATIVE.

4. DUCTWORK

4.1 DUCTWORK SHALL BE FABRICATED OF GALVANIZED SHEET METAL WITH CONSTRUCTION AND INSTALLATION IN ACCORDANCE WITH SMACNA STANDARDS AND SYSTEM REQUIREMENTS. SHEET METAL GAUGES SHALL CONFORM TO THE INTERNATIONAL MECHANICAL CODE (IMC), ASHRAE STANDARDS, AND UL LISTED FIRE RESISTANCE DIRECTORY REQUIREMENTS AS APPLICABLE.

4.2 DUCT COVERINGS, DUCT LININGS, TAPES, AND CORE MATERIAL SHALL HAVE A FLAME SPREAD RATING NOT OVER 25, AND SMOKE DEVELOPMENT NOT OVER 50.

4.3 ALL NECESSARY ALLOWANCES AND PROVISIONS SHALL BE MADE BY CONTRACTOR FOR BEAMS. COLUMNS OR OTHER OBSTRUCTIONS OF THE BUILDING OR THE WORK OF OTHER CONTRACTORS. WHETHER OR NOT SAME IS INDICATED. WHERE NECESSARY TO AVOID OBSTRUCTIONS. THE DUCTS SHALL BE TRANSFORMED, DIVIDED OFFSET, RAISED OR LOWERED WITH THE REQUIRED FREE AREA BEING MAINTAINED IN ACCORDANCE WITH SMACNA STANDARDS.

4.4 ALL RECTANGULAR DUCTWORK ELBOWS 30 DEGREE OR GREATER SHALL BE PROVIDED WITH DOUBLE THICKNESS RADIUS TURNING VANES.

4.5 DUCTWORK SIZES SHOWN ARE NET CLEAR INSIDE DIMENSIONS. FOR INTERNALLY LINED DUCTS, FABRICATE SHEET METAL TO ALLOW FOR THICKNESS OF INSULATION AND MAINTAIN NET CLEAR DIMENSIONS.

4.6 DUCTWORK SHALL BE SEALED WITH AN APPROVED DUCT MASTIC OR LIQUID SEALANT AS MANUFACTURED BY UNITED MCGILL CORP., OR APPROVED EQUAL. DUCT SYSTEM LEAKAGE SHALL CONFORM TO SMACNA "HVAC DUCT LEAKAGE TEST MANUAL" FOR CLASS 2' W.C. SEAL CLASS A, LEAKAGE CLASS 24 FOR RECTANGULAR DUCTS AND CLASS 12 FOR ROUND DUCTWORK.

4.7 PROVIDE FIRE DAMPERS IN HVAC AIR DISTRIBUTION SYSTEMS THAT PENETRATE FIRE RATED ASSEMBLIES IN ACCORDANCE WITH THE INTERNATIONAL BUILDING AND MECHANICAL CODES. FIRE DAMPERS SHALL BE TYPE B IN ALL DUCTWORK, IN ADDITION TO SECONDARY FIRE DAMPERS FOR CEILING, WALL AND FLOOR MOUNTED AIR DEVICES.

4.8 COORDINATE SPECIFIC FIRE RESISTIVE CONSTRUCTION REQUIREMENTS WITH THE FIRE RATED ASSEMBLIES INDICATED ON ARCHITECTURAL DRAWINGS. THROUGH PENETRATIONS FIRESTOP SYSTEMS SHALL CONFORM TO UL LISTED FIRE RESISTANCE DIRECTORY OR OTHER METHODS ACCEPTABLE TO LOCAL GOVERNING CODE AUTHORITIES.

4.9 PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.

4.10 PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS. SMOKE DAMPERS, VOLUME DAMPERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK WHICH REQUIRE SERVICE AND/ OR INSPECTION. LABEL ACCESS WITH 1/2" LETTERING.

5. INSULATION

5.1 INSULATION MATERIALS SHALL BE CERTAIN-TEED OR APPROVED EQUAL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50. PROVIDE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS FOLLOWS:

6. DUCT INSULATION

1. SUPPLY/RETURN AIR DUCTWORK (CONCEALED): INSULATE WITH NOMINAL 1-INCH THICK TYPE 75 STANDARD DUCTWRAP WITH FSK FACING VAPOR BARRIER. MINIMUM 3/4-INCH INSTALLED THICKNESS WITH A 5.6 R VALUE.

2. SUPPLY/RETURN AIR DUCTWORK (INTERIOR EXPOSED WHERE INDICATED): INSULATE WITH 1-INCH THICK TYPE 200 ULTRA-LITE ACOUSTICAL DUCT LINER WITH 100 PERCENT ADHESIVE COVERAGE AND MECHANICAL FASTENERS. MINIMUM INSTALLED R VALUE OF 3.1.

3. SUPPLY/RETURN AIR DUCTS (CONCEALED IN ATTIC/CRAWL/ROOF CEILING SPACE): INSULATE WITH NOMINAL 3-INCH THICK TYPE 75 STANDARD DUCTWRAP WITH FSK FACING, VAPOR BARRIER. MINIMUM 2-1/4-INCH INSTALLED THICKNESS WITH 8.5 R VALUE.

4. SUPPLY/RETURN/EXHAUST/OUTSIDE AIR DUCTS (OA DUCTWORK & DUCTWORK EXPOSED TO WEATHER CONDITIONS): INSULATE DUCTWORK EXTERIOR WITH SEMI-RIGID FIBERGLASS BOARD INSULATION, TYPE 1B300, 3.0 LBS/CU. FT. DENSITY, MINIMUM 2-INCH INSTALLED THICKNESS WITH 8.5 R VALUE. PROVIDE WEATHERPROOF FINISH AS MANUFACTURED BY FOSTERS MONOLAR 60 -95 COATINGS (MINIMUM OF 3 COATS) OR APPROVED EQUAL.

5. PROVIDE ALL NECESSARY FOUNDATIONS, SUPPORTS, PADS AND BASES AS REQUIRED FOR MECHANICAL EQUIPMENT, PIPING, AND DUCTWORK AS PER INTERNATIONAL BUILDING AND MECHANICAL CODES. INSTALL EQUIPMENT, PIPING, AND DUCTWORK SO AS TO BE FREE FROM OBJECTIONABLE NOISE AND VIBRATIONS. CONTRACTOR SHALL COORDINATE WORK WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO ACTUAL WORK.

7. ELECTRICAL WORK

7.1 ELECTRIC MOTORS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER THE MECHANICAL WORK UNLESS OTHERWISE NOTED. ALL MOTORS SHALL BE NEMA STANDARD DESIGN FOR QUIET OPERATION AND SIZED TO PROPERLY OPERATE EQUIPMENT AT RATED LOAD. MOTORS WITH BELT DRIVES SHALL BE PROVIDED WITH ADJUSTABLE PULLEYS AND SHAFTS. ELECTRICAL POWER CONNECTIONS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER THE ELECTRICAL WORK.

7.2 MOTOR STARTERS, RELAYS, AND CONTACTORS SHALL BE FURNISHED UNDER THE MECHANICAL WORK AND INSTALLED AND POWERED UNDER THE ELECTRICAL WORK. STARTERS, RELAYS. AND CONTACTORS SHALL BE COMPUTE WITH LUGS SIZED FOR SPECIFIED CONDUCTORS AND INCLUDE REQUIRED ACCESSORIES (I.E. START-STOP PUSH BUTTON, PILOT LIGHTS, H.O.A. SWITCH, AUXILIARY CONTACTS AND OVERLOAD PROTECTION), GENERAL PURPOSE NEMA TYPE 1 ENCLOSURES INDOORS, NEMA TYPE 3R ENCLOSURES OUTDOORS. SINGLE PHASE MOTOR STARTERS SHALL BE MANUAL TYPE WITH OVERLOAD PROTECTION, UNLESS OTHERWISE NOTED. THREE PHASE STARTERS SHALL BE MAGNETIC FULL VOLTAGE, NON-REVERSING, UNLESS OTHERWISE NOTED. STARTERS FOR MECHANICAL SYSTEMS SHALL BE AS MANUFACTURED BY SQUARE-D, GENERAL ELECTRIC, OR CUTLER HAMMER. STARTERS SHALL CONFORM TO NEMA STANDARDS AND NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS. STARTER CONTROL AND INTERLOCK WIRING SHALL BE PROVIDED UNDER THE MECHANICAL WORK. ALL EQUIPMENT SHALL BE FURNISHED W/ MANUFACTURER PROVIDED DISCONNECT SWITCH.

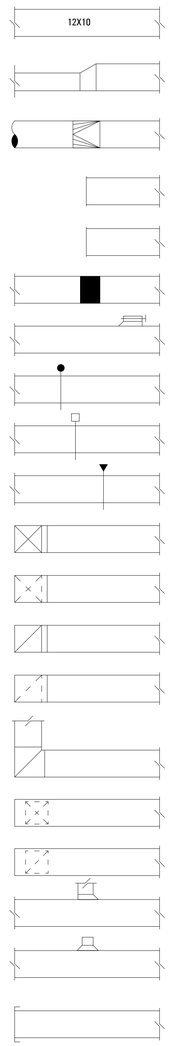
7.3 DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ALL AIR DISTRIBUTION SYSTEMS WITH A DESIGN CAPACITY OF 2000 CFM OR GREATER IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE SECTION 606 AND NATIONAL FIRE PREVENTION CODE NFPA 72 AND 90A. DUCT SMOKE DETECTORS SHALL BE "DUAL CONTAC"' TYPE (FOR TIE-IN TO FIRE ALARM SYSTEM AND FOR FAN SHUT-DOWN), COMPLETE WITH SAMPLING TUBE, REMOTE RESET, REMOTE PILOT INDICATOR (FOR CONCEALED APPLICATIONS), UL LISTED FOR INTENDED USE AND COMPLETELY COMPATIBLE WITH FIRE ALARM SYSTEM. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED UNDER THE MECHANICAL WORK AND WIRED AND POWERED UNDER THE ELECTRICAL WORK.

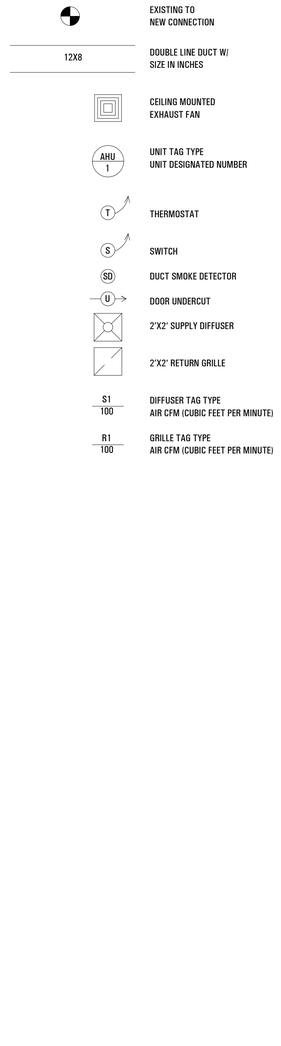
8 CONTROLS

8.1 PROVIDE AUTOMATIC TEMPERATURE CONTROL SYSTEM(S) FOR HVAC EQUIPMENT UNDER MECHANICAL WORK. CONTROL DEVICES SHALL BE PROVIDED BY UNIT MANUFACTURER, UNLESS OTHERWISE NOTED. HVAC EQUIPMENT NOT PROVIDED WITH CONTROL DEVICES SHALL BE PROVIDED WITH DEVICES AS MANUFACTURED TO MATCH BASE BUILDING CONTROLS OR APPROVED EQUAL AIR HANDLER SHALL HAVE NIGHT SET BACK CONTROLLED BY A PROGRAMMABLE THERMOSTAT. DEVICE(S) SHALL BE FULLY COMPATIBLE AND SUITABLE FOR INTENDED USE. CONTROL WIRING SHALL BE PROVIDED IN ACCORDANCE WITH THE NEC FOR 24-VOLT CONTROL SYSTEM(S). WIRING SHALL BE A MINIMUM 22 AWG, COLOR CODED AND INSTALLED IN CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE OR WHERE REQUIRED TO AVOID PLENUM SPACES. EXTEND ALL LOW VOLTAGE WIRING UNBROKEN BETWEEN EACH CONTROL DEVICE AND EQUIPMENT TERMINAL STRIP. INSTALLATION OF CONTROL SYSTEM(S), WIRING. AND DEVICES SHALL BE BY A CERTIFIED CONTROLS CONTRACTOR WITH A MINIMUM OF FIVE (5) YEARS EXPERIENCE IN THE INSTALLATION AND SERVICING OF CONTROLS.

8.2 UNLESS OTHERWISE INDICATED, ALL THERMOSTATS SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS.

SYMBOLS





ABBREVIATIONS

AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
ARCH	ARCHITECTURAL
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLW	BELOW
BTUH	BRITISH THERMAL UNIT PER HOUR
CC	
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CU	CONDENSING UNIT
CW	COLD WATER
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DI	DIGITAL INPUT
DN	DOWN
DO	DAMPER OPERATOR
DO	DIGITAL OUTPUT
DPS	DIFFERENTIAL PRESSURE SWITCH
DWG	DRAWING
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EXT	EXTERNAL
F	DEGREE FAHRENHEIT
FD	FIRE DAMPER
FL	FLOOR
FPM	FEET PER MINUTE
FT	FEET
GALV	GALVANIZED
HC	HEATING COIL
HP	HEAT PUMP
HW	HOT WATER
IN	INCH
IN. WG.	INCH WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LF	LINEAR FEET
MAX	MAXIMUM
MBH	1000 BTUH
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MIN	MINIMUM
MOT	MOTORIZED
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
No.	NUMBER
O.A.	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OED	OPEN END DUCT
PD	PRESSURE DROP
PS	PRESSURE SENSOR
PSI	POUND PER SQUARE INCH
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
REFRIG	REFRIGERANT
RLA	RUNNING LOAD AMPERE
RPM	REVOLUTION PER MINUTE
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SD	SMOKE DETECTOR
SF	SUPPLY FAN
STRUC	STRUCTURAL
TD	TRANSFER DUCT
TS	TEMPERATURE SENSOR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W	WATT
WB	WET BULB
WC	WATER COLUMN
WMC	WIRE MESH SCREEN
WPD	WATER PRESSURE DROP

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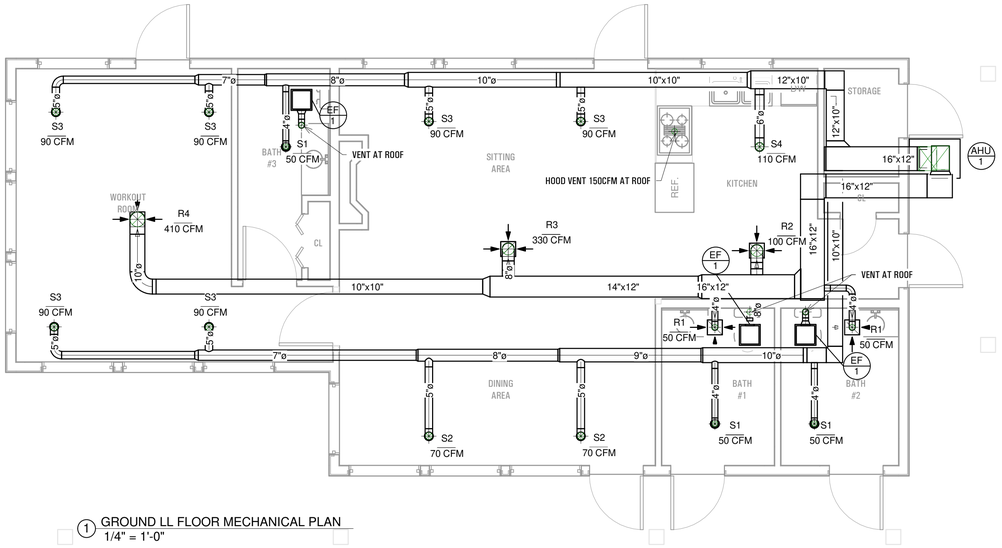
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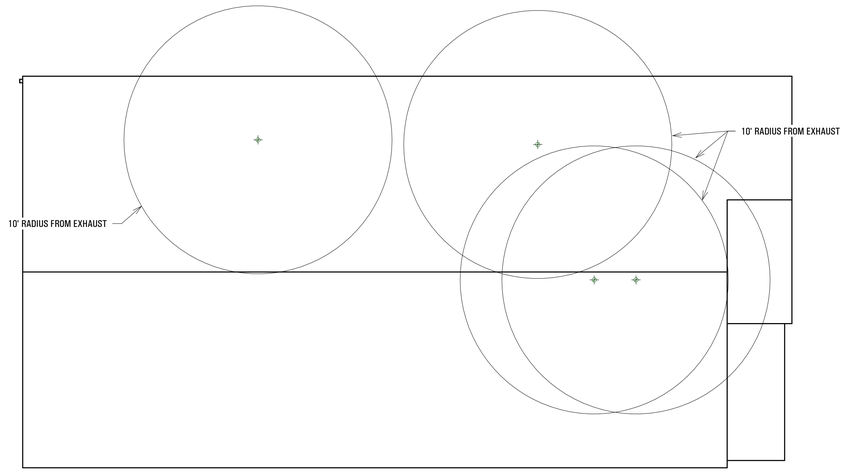
MECHANICAL NOTES

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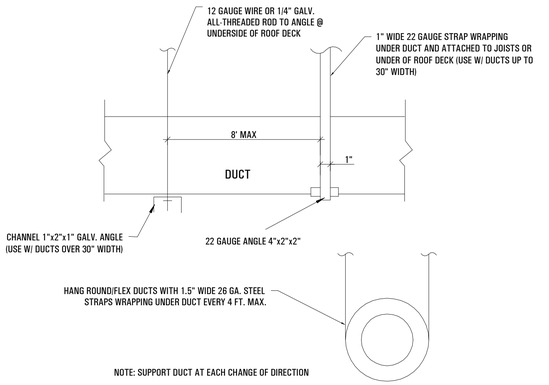
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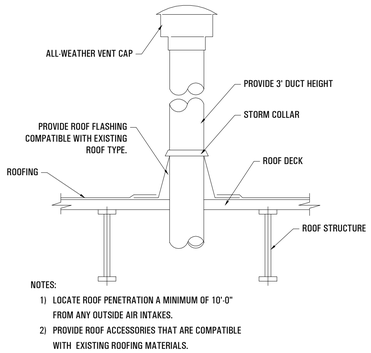
1 GROUND LL FLOOR MECHANICAL PLAN
1/4" = 1'-0"



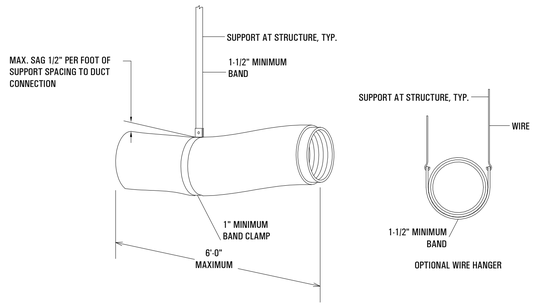
5 MECHANICAL ROOF PLAN
3/16" = 1'-0"



2 DUCT SUPPORT DETAIL.
NOT TO SCALE



3 EXHAUST ROOF PENETRATION DETAIL
NOT TO SCALE



NOTE:
FLEXIBLE INSULATED DUCT IS INDICATED. THIS DETAIL SHALL ALSO APPLY TO UNINSULATED FLEXIBLE DUCT.

4 FLEXIBLE DUCT SUPPORTS DETAILS
NOT TO SCALE

FAN SCHEDULE

UNIT NO.	LOCATION	SERVICE	COUNTS	CFM	ESP	WATTS	ELECTRICAL DATA			METHOD OF CONTROL	NOTES
							VOLTS	PHASE	CYCLE		
EF -1	CEILING	BATHROOM	3	75 CFM	0.5	50 W	120	1	60	SWITCH	

NOTES:
1) FAN SHALL INCLUDE DISCONNECT SWITCH AND BACKDRAFT DAMPER.
2) PROVIDE FACTORY SOLID STATE SPEED FAN CONTROLLER
3) PROVIDE FAN SUPPORT WITH VIBRATION ISOLATORS.

AIR DEVICE SCHEDULE

TYPE	SERVICE	CFM RANGE	MAX SP	MAX NC	TYPE	LOCATION	MODEL	NOTES
S4	Supply Air	110 CFM	0.1	30	10" Face 3" Neck	CEILING		
S3	Supply Air	90 CFM	0.1	30	10" Face 3" Neck	CEILING		
S2	Supply Air	70 CFM	0.1	30	10" Face 3" Neck	CEILING		
S1	Supply Air	50 CFM	0.1	30	10" Face 3" Neck	CEILING		
R4			0.1	30		CEILING		
R3	Return Air	330 CFM	0.1	30	10" Face 3" Neck	CEILING		
R2	Return Air	100 CFM	0.1	30	10" Face 3" Neck	CEILING		
R1	Return Air	50 CFM	0.1	30	10" Face 3" Neck	CEILING		

ROOM VENTILATION RATE SCHEDULE

ROOM NAME	ROOM AREA SQ.FT. (Az)	AREA OUTDOOR AIR RATE CFM/SQ.FT. TABLE 403.3 (RA)	AREA OUTDOOR AIR (RaAz)	OCCUPANT LOAD (PEOPLE /1000SF)	OCCUPANCY Az X Occ. LOAD/1000 (Pz)	OCCUPANT OUTDOOR AIR RATE (Rp)	OCCUPANT OUTDOOR AIR (RpPz)	BREATHING ZONE OUTDOOR AIR (Vbz = RpPz + RaAz)	ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez)	ZONE OUTDOOR AIR (Voz = Vbz / Ez)	SUPPLY AIR DESIGN (Vpz)	MIN. EXHAUST AIR	OUTDOOR AIR FRACTION (Zp = Voz / Vpz)	REMARKS
WORKOUT ROOM	221	0.06	13.26	35.00	8	10.00	77.4	90.61	0.8	113.3	360.00		0.31	
SITTING AREA	220	0.06	13.20	30.00	7	5.00	33.0	46.20	0.8	57.8	180.00		0.32	
DINING AREA	164	0.18	29.52	70.00	11	7.50	86.1	115.62	0.8	144.5	140.00		1.03	

NOTES:
1. OUTDOOR AIR VENTILATION RATE SCHEDULE BASED ON 2015 IMC SUPPLEMENTAL REQUIREMENT

AIR HANDLING UNIT SCHEDULE

UNIT NO.	SERVICE	MOUNTING	TOTAL CFM	OA CFM	FAN DATA			COOLING DATA							HEAT DATA				COMPRESSOR DATA			CONDENSER FAN DATA					POWER SUPPLY					UNIT WEIGHT, POUNDS	MFCR AND MODEL	NOTES
					TSP	HP	RPM	TOTAL BTUH	SENSIBLE BTUH	EAT °F		LAT °F		SEER	BTUH	EAT °F	LAT °F	AFUE	QTY	CIRCUIT		QTY	HP	RPM	FLA	LRA	MCA	MOCP	VOLTS	PHASE	CYCLE			
										DB	WB	DB	WB							RLA	LRA												
AHU -1	FIRST FLOOR	FLOOR	1044	60		1/6	850	40789	28200	80	67	55	54	18	33828	55	155			19	123				0		41	45	208	1	60		TAM7A0C42H31SD	NEW

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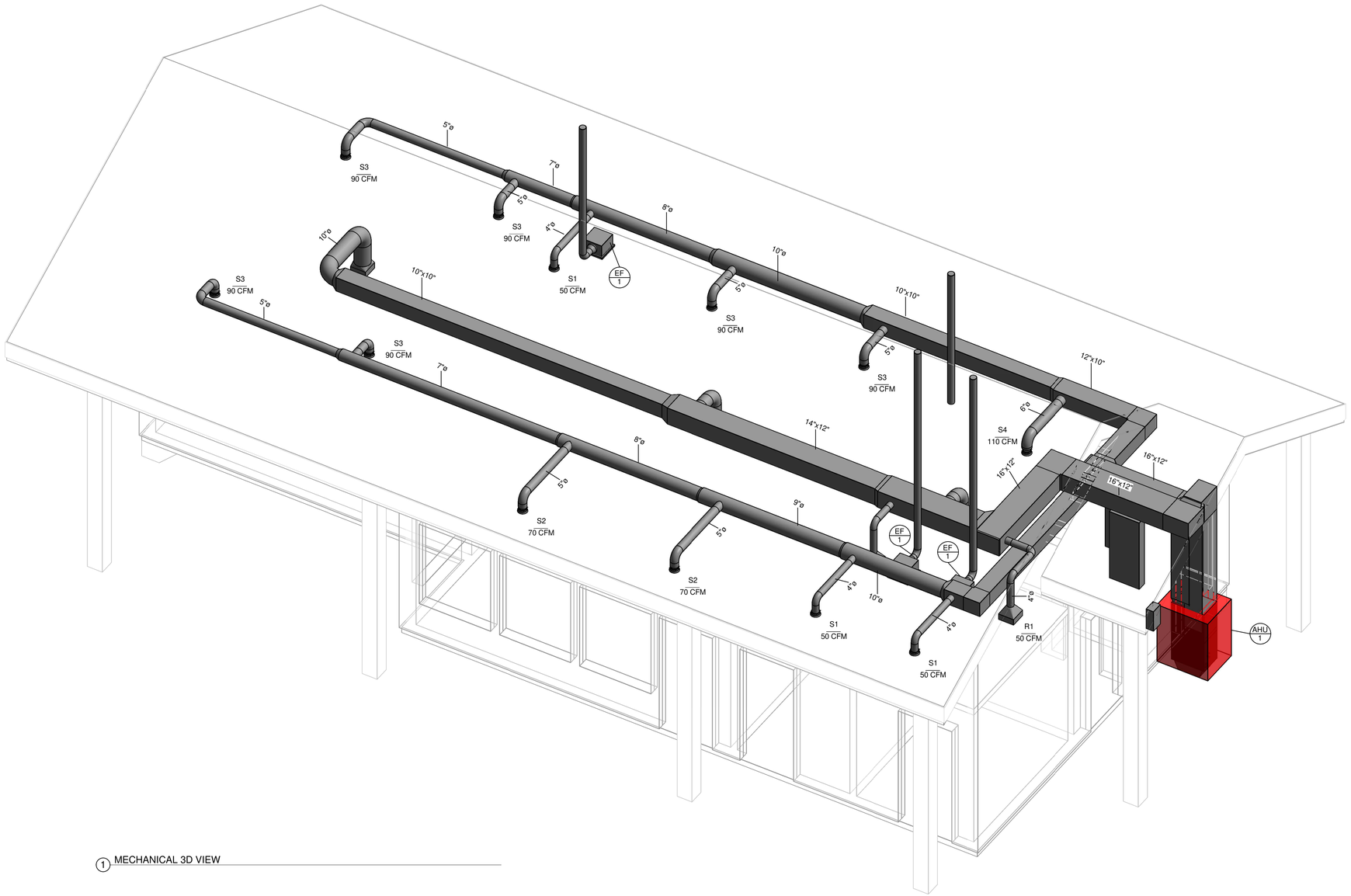
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1 MECHANICAL 3D VIEW

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1. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND VERIFYING ALL EXISTING FIELD CONDITIONS PRIOR TO SUBMISSION OF BID.

2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE WORK OF ALL OTHER TRADES AND MAKING ANY NECESSARY MODIFICATIONS TO WORK AT NO ADDITIONAL COST, INCLUDING ALL OFFSETS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OF ANY EXISTING MINOR INTERFERENCE'S. INCLUDING CONDUIT, HANGERS, ETC., AT NO ADDITIONAL COST.

4. CONTRACTOR SHALL REMOVE EXISTING EQUIPMENT AND MATERIALS PERTAINING TO CONTRACT AS SPECIFIED OR AS REQUIRED WHETHER SHOWN ON THE DRAWINGS OR NOT. TO PREPARE FOR THE NEW WORK.

5. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL CODES. THESE CODES SHALL BE FOLLOWED AS MINIMUM PROVIDING HIGHER GRADES OF MATERIAL AND WORKMANSHIP WHERE REQUIRED BY THESE DOCUMENTS. PROVIDE ALL TESTS REQUIRED BY LOCAL CODES.

6. ALL PERMITS. FEES. LICENSES. APPROVALS AND OTHER ARRANGEMENTS FOR WORK SHALL BE OBTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE.

7. SUBMIT ASSEMBLED PRINTED INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF EACH ITEM INSTALLED ALONG WITH EQUIPMENT CUTS AND CONTROL WIRING DIAGRAMS.

8. SUBMIT COORDINATED SHOP DRAWINGS FOR REVIEW. THE SHOP DRAWINGS SHALL INDICATE WORK OF OTHER TRADES AND MUST BE SUBMITTED PRIOR TO FABRICATION AND INSTALLATION.

9. SUBMIT EQUIPMENT SPECIFICATIONS FOR REVIEW BEFORE PURCHASE.

10. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR AFTER COMPLETION AGAINST ALL DEFECTS OF MATERIAL, EQUIPMENT AND WORKMANSHIP.

11. PROVIDE COMPETENT OPERATING TECHNICIAN TO INSTRUCT THE OWNER IN THE OPERATION AND MAINTENANCE OF THE INSTALLED EQUIPMENT.

12. PROVIDE ACCESS PANELS FOR ALL VALVES OR ANY PIECE OF EQUIPMENT WHEN NECESSARY TO LOCATE ABOVE NON-ACCESSIBLE CEILINGS. PROVIDE SUBMITTAL DRAWINGS FOR APPROVAL OF THE ARCHITECT. NO EQUIPMENT SHALL BE LOCATED DIRECTLY ABOVE WALLS.

13. PROVIDE ALL HOLES, SLEEVES AND CAULKING FOR INSTALLATION OF THIS WORK. CAULKING TO CONFORM TO FIRE RATING OF WALLS.

14. PIPING SHALL BE ABOVE CEILING AND CLEAR ANY EXISTING PIPING, LIGHTING FIXTURES, DUCTS, ETC.

15. RUN NEW WASTE PIPES AS CLOSE AS POSSIBLE TO UNDERSIDE OF FLOOR SLAB AND VENT PIPING AS CLOSE AS POSSIBLE TO SLAB ABOVE.

16. RUN ALL PIPING OCTAGONAL & PARALLEL TO CLOSEST WALL OR PRIMARY STRUCTURAL ELEMENTS.

17. CONTRACTOR SHALL SUBMIT SKETCH TO THE STRUCTURAL ENGINEER FOR APPROVAL, PRIOR TO MAKING REQUIRED BEAM PENETRATIONS.

18. DISRUPTION OF ANY EXISTING SERVICE SHALL BE COORDINATED WITH THE OWNER AND SHALL BE PERFORMED AT A TIME AND MANNER SO AS TO CAUSE THE OWNER A MINIMUM OF INCONVENIENCE.

19. FOR EXACT LOCATION OF PLUMBING FIXTURES, REFER TO ARCHITECTURAL PLANS AND ELEVATIONS.

20. INSULATION: DOMESTIC HOT AND COLD WATER PIPING SHALL BE INSULATED WITH 1'' THICK 4# DENSITY, GLASS FIBER PRE-FORMED, ALL PURPOSE FLAME RETARDANT JACKET WITH BUILT-IN VAPOR BARRIER. PROVIDE INSULATION PIPE HANGERS WHEN NECESSARY, ARMACELL, ARMAFIX IPH OR

21. MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF THE HYDRONIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE HYDRONIC SYSTEM.

22. PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK.

23. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER AND SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER ANY PART THEREOF WHICH MAY BECOME DEFECTIVE DURING THE PERIOD OF GUARANTEE, ORDINARY WEAR AND TEAR EXCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ANY DAMAGES RESULTING FROM OR CAUSED BY DEFECTS IN HIS/HER WORK.

24. PIPING SHOWN IS SCHEMATIC AND DOES NOT INDICATE EVERY OFFSET. ELBOW, UNION, VALVE, TRAP. ACCESS PANEL. ETC., THAT IS REQUIRED FOR A COMPLETE WORKING SYSTEM. PROVIDE ITEMS AND FITTINGS THAT ARE REQUIRED TO INSTALL THE PIPING SYSTEM WITHIN THE SPACE PROVIDED AND THAT ARE REQUIRED FOR A COMPLETE SYSTEM. PIPING SHALL BE PROPERLY SECURED IN ACCORDANCE WITH MSS STANDARD SP-69.

25. MATERIALS SHALL BE RATED FOR THE OPERATING TEMPERATURE AND PRESSURE OF DOMESTIC SYSTEM. MATERIALS SHALL BE SUITABLE FOR THE TYPE OF FLUID IN THE DOMESTIC SYSTEM.

26. PIPE SUPPORTS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MSS SP-69 OR LOCAL CODES, WHICHEVER IS MORE STRINGENT. UTILIZE TRAPEZE HANGERS FOR PARALLEL RUNS OR PIPING. OTHER THAN SPRINKLER AND WASTE PIPING. COPPER PIPING SYSTEMS SHALL BE SUPPORTED ON COPPER OR COPPER-PLATED SUPPORTS. HANG PIPE FROM SUBSTANTIAL BUILDING STRUCTURE, PIPING SHALL NOT BE HUNG FROM OTHER PIPING. ALL RIGID HANGERS SHALL PROVIDE A MEANS OF VERTICAL ADJUSTMENT AFTER ERECTION. SHIELD SHALL BE PROVIDED BETWEEN HANGERS AND INSULATION.

27. PLUMBING FIXTURES:

    A. FURNISH AND INSTALL PLUMBING FIXTURES INDICATED. FIXTURES TO BE FIRST QUALITY, CONNECTED, CLEANED AND READY FOR USE. PIPING TO BE PROPERLY SECURED TO WALLS AND STUDS.
    B. PROVIDE TRAPS AND SUPPLIES WITH STOPS. MAKE ALL FINAL CONNECTION TO EACH FIXTURE.

28. HANGERS:

    A. PIPE HANGERS ON HOT PIPING TO BE ON INSIDE OF INSULATION. PROVIDE WITH SADDLES AND/OR SHIELDS AS REQUIRED.

    B. PIPE HANGERS ON COLD PIPING TO BE ON OUTSIDE OF INSULATION. PROVIDE WITH SADDLES AND/OR SHIELDS AS REQUIRED.

29. PROVIDE ANY AND ALL ITEMS NECESSARY TO COMPLETE THE PLUMBING SYSTEM. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW ALL VALVES, FITTINGS, TRAPS, CONTROL DEVICE METHODS.

30. INSTALL ALL ADA FIXTURES IN AN ADA COMPLIANT MANNER.

31. INSTALL SKAL + GARD #SC-100B ON SINKS SUPPLIES AND TRAPS FOR HANDICAPPED USE.

GENERAL NOTES:

THE DRAWINGS PREPARED FOR THIS PROJECT ARE AN OUTLINE TO SHOW WHERE PIPES, DUCTS AND APPARATUSES MUST GO IN ORDER TO HARMONIZE WITH THE BUILDING AND INSTALLATION OF THE VARIOUS TRADES. WORK MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AS MUCH AS POSSIBLE. DRAWINGS SHALL BE CAREFULLY CHECKED DURING THE COURSE OF BIDDING AND CONSTRUCTION. IF DISCREPANCIES, ERRORS OR OMISSIONS ARE DISCOVERED PRIOR TO OR DURING CONSTRUCTION PHASE, NOTIFY THE ENGINEER IMMEDIATELY FOR INTERPRETATION OR CORRECTION. TAKE NECESSARY MEASUREMENTS AND RESPONSIBLE FOR SAME, INCLUDING CLEARANCES FOR EQUIPMENT THAT ARE TO BE FURNISHED. THE ARCHITECT /ENGINEER RESERVE THE RIGHT TO MAKE MINOR LOCATION CHANGES OF PIPING AND EQUIPMENT WHERE SUCH ADJUSTMENTS ARE DEEMED DESIRABLE FROM AN APPEARANCE OR OPERATIONAL STANDPOINT. SUCH CHANGES WILL BE ANTICIPATED SUFFICIENTLY IN ADVANCE OR AVOID EXTRA WORK OR DELAY THE PROGRESS OF THE PROJECT.

EXAMINATION OF EXISTING CONDITIONS:

32. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SHE AND/OR PRESENT BUILDINGS AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL ATTEND THE EXECUTION Of THE WORK BEFORE SUBMITTING PROPOSALS.

33. SUBMISSION OF A PROPOSAL WILL BE CONSTRUCTED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE DIFFICULTIES ENCOUNTERED. WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION HAD BEEN MADE, WILL NOT BE RECOGNIZED.

CONNECTIONS TO EXISTING WORK:

34. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.

35. PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTOR'S WORK AT PROJECT CLOSEOUT.

PLUMBING SYMBOL LIST

	GATE VALVE
	TRAP SEAL PRIMER VALVE
AP	ACCESS PANEL
BFP	BACKFLOW PREVENTER
C.O.P	CLEAN OUT PLUG
CW	COLD WATER
DW	DISHWASHER MACHINE
EX.	EXISTING
HW	HOT WATER
LAV	LAVATORY
OSD	OPEN SITE DRAIN
TPV	TRAP PRIMER VALVE
TV	TEMPERING VALVE
S.A.	SHOCK ABSORBER (WATER HAMMER)
SK	SINK
V	VENT
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
	PONT OF CONNECTION OF NEW WORK TO EXISTING WORK
	END OF DEMOLITION
	CROSS HATCH DEMOLITION
2	DEMOLITION KEYED NOTES
27	NEW WORK EQUIPMENT/FIXTURE TAG NUMBER
W 2	REFERENCE WATER RISER TAG NUMBER
4" CO	CLEANOUT
7	NEW WORK KEYED NOTES
FCO	FLOOR CLEANOUT
FCO	FLOOR DRAIN
WH 1	EQUIPMENT NUMBER
	NEW VENT
	NEW SANITARY
	NEW GRAY WATER SANITARY
	NEW HOT WATER
	NEW COLD WATER
-V-	BLACK/GRAY WATER VALUE
	REMOTE MANUAL PULL STATION

DISREGARD SYMBOLS WHICH ARE NOT APPLICABLE TO THIS PROJECT

CETRIX DESIGN
A Cetrix Technologies LLC company

AMENTIES BLDG
4801 CEDAR CREEK DR.
LAKE FOREST
MCKINNEY, TX

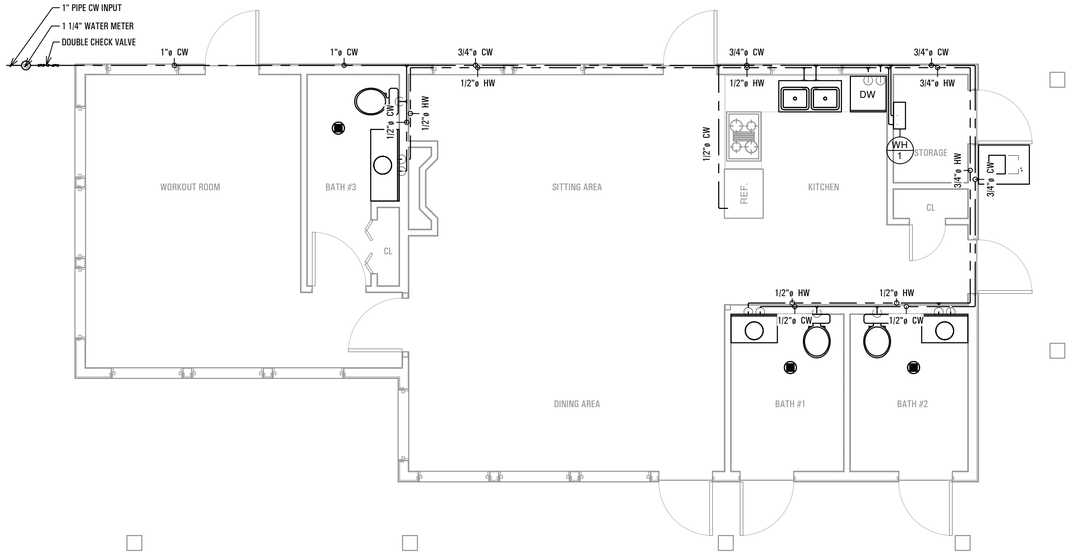
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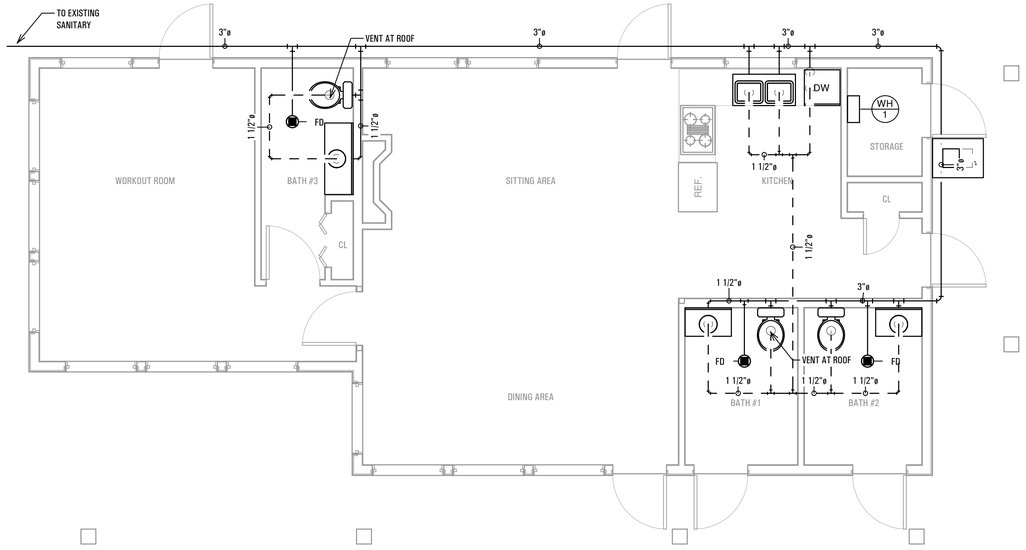
PLUMBING NOTES

DRAWING SHEET NO:

P000



1 GROUND LL FLOOR WATER SUPPLY PLAN
1/4" = 1'-0"



2 GROUND LL FLOOR SANIARY PLAN
1/4" = 1'-0"

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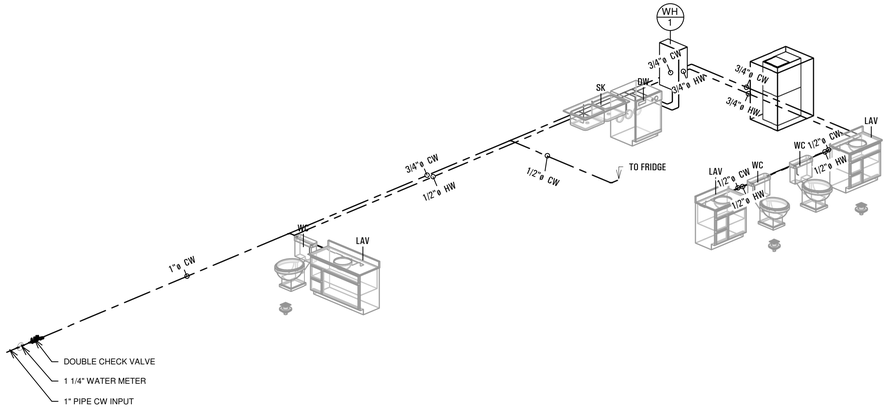
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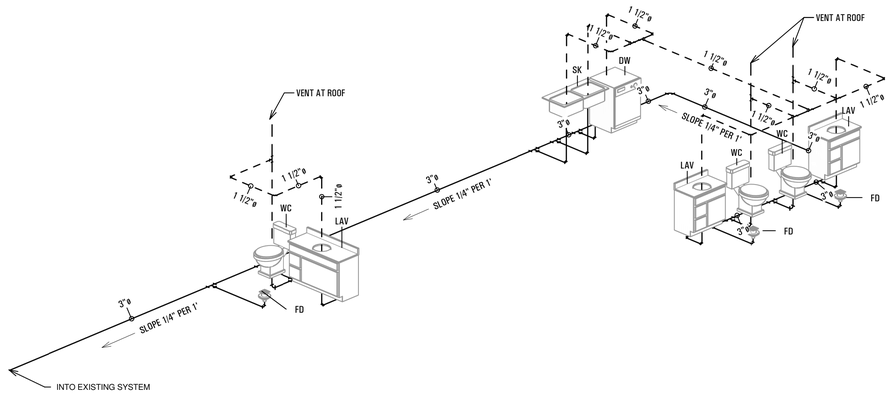
FLOOR SANITARY &
WATER SUPPLY PLAN

DRAWING SHEET NO:

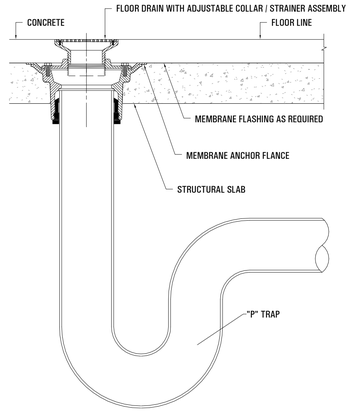
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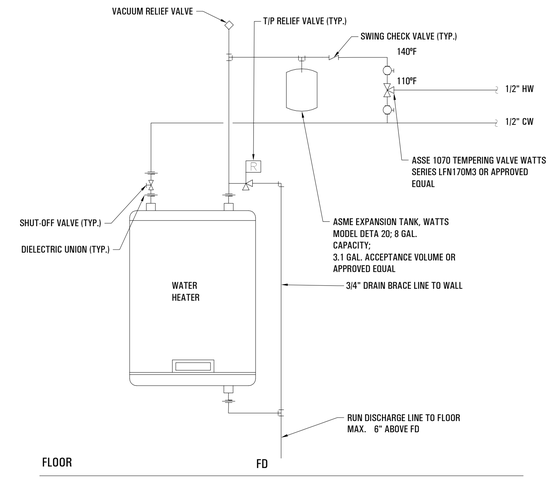
2 WATER SUPPLY RISER DIAGRAM



1 SANITARY RISER DIAGRAM



3 FLOOR DRAIN DETAIL
NOT TO SCALE



4 WATER HEATER DETAIL
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE	VENT	MATERIAL	CW	HW	GAS	FLOW	NOTES
SS	SERVICE SINK	1 1/2"	1 1/2"	PVC	1/2"	1/2"			
LAV	LAVATORY	1 1/4"	1 1/2"	PVC	1/2"	1/2"			NOTE 1
WC	WATER CLOSET	3"	1 1/2"	PVC	1/2"				
BT	BATHTUB	1 1/2"	1 1/2"	PVC	1/2"	1/2"			NOTE 1
HB	HOSE BIBB			PVC	1/2"				
DW	DISHWASHER	2"	1 1/2"	PVC	1/2"	1/2"			NOTE 2, 4
WS	WASHER/DRYER	2"	1 1/2"	PVC	1/2"	1/2"			NOTE 2, 4
F	FRIDGE			PVC	1/2"				
WH-1	WATER HEATER	1/2"		PVC	1"	1"			NOTE 3
									NOTE 3

NOTES:
1. PROVIDE WITH THERMOSTATIC MIXING VALVE, SET 100°F
2. PROVIDE WITH BACKFLOW PREVENTION
3. PROVIDE WITH INDIRECT AND INDEPENDENT HARD PLUMBING (COPPER/PVC) TO A FLOOR DRAIN
4. PROVIDE WITH WATER HAMMER ARRESTOR

CETRIX DESIGN
A Cetrix Technologies LLC company

AMENTIES BLDG
4801 CEDAR CREEK DR.
LAKE FOREST
MCKINNEY, TX

MARK	DATE	DESCRIPTION
ISSUE:		

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RISER DIAGRAMS & DETAILS

DRAWING SHEET NO:

P002

GENERAL NOTES

DESIGN DATA:
APPLICABLE DESIGN LOADS: PER ASCI/SEI 7-10

FLOOR LIVE LOAD: 40 PSF	FLOOR DEAD LOAD: 50PSF
ROOF LIVE LOAD: 20 PSF	ROOF DEAD LOAD: 20 PSF
BASIC WIND SPEED: 102 MPH	EXPOSURE: D
STRUCTURAL CATEGORY: II	SNOW LOAD: _5 PSF

ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN ,

SHEAR WALL SCHEDULE

SHEAR WALL SCHEDULE

S.W. TYPE	SHEAR PANEL DESCRIPTION	ALLOWABLE SHEAR (PLF)	SILL BOLT'G @ FOUNDATION	TOP PL. TO BLK'G.	SILL NAILING UPPER STORIES
1	7/8" STUCCO OVER PAPER BACKED LATH W/ 16 GA STAPLES AT 6" O.C. AT TOP & BOTTOM PLATES, EDGE OF SHEAR WALL AND ON FIELD SEE NOTE 3 BELOW.	180 *180	5/8" @ 48" O.C. 5/8" @ 24" O.C.	A35 @ 16" A35 @ 16"	16d @ 8" O.C. 16d @ 4" O.C.
2	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILS @ 6" O.C. AT EDGES & 12" O.C. FIELD SEE NOTES 1,2,8,9, AND 10 BELOW.	280 *560	5/8" @ 32" O.C. 5/8" @ 16" O.C.	A35 @ 16" A35 @ 8"	16d @ 6" O.C. 16d @ 3" O.C.
3	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILES @ 4" O.C. AT EDGES & 12" O.C. FIELD SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	430 *860	5/8" @ 24" O.C. 5/8" @ 14" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 4" O.C. 16d @ 2" O.C.
4	15/32" APA RATED PLYWOOD SHT'G STRUCT I WITH 8d COMMON NAILS @ 3" O.C. AT EDGES & 12" O.C. FIELD SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	550 *1100	5/8" @ 20" O.C. 3/4" @ 16" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 3" O.C. 1/4"□ X 3-1/2" LAG SC. @ 2" O.C.
5	15/32" APA RATED PLYWOOD SHT'G. STRUCT I WITH 8d COMMON NAILS @ 2" O.C. AT EDGES & 12" O.C. FIELD SEE NOTES 1,2,4,5,8,9, AND 10 BELOW.	730 *1460	5/8" @ 16" O.C. 3/4" @ 16" O.C.	A35 @ 8" LTP4 @ 6"	16d @ 2-1/2" O.C. 1/4" □ X 3-1/2" LAG SC. @ 2" O.C.
6	15/32" APA RATED STRUCT. I SHT'G. WITH 10d COMMON NAILS @ 2" O.C. AT EDGES & 12" O.C. FIELD OVER 3 X STUDS SEE NOTES 1,4,5,8,9, AND 10 BELOW.	870 *1740	3/4" @ 16" O.C. 3/4" @ 8" O.C.	A35 @ 6" LTP4 @ 4-1/2"	#12 X 3-1/2" WD. SC. @ 2" O.C. 1/4" □ X 3-1/2" LAG SC. @ 1-1/2" O.C.

NOTES:

1. ALL EDGES OF PLYWOOD SHEAR WALLS MUST BE BLOCKED WITH 2X SOLID BLOCKING.
2. DESIGNATES SILL BOLTING OR NAILING WHERE SHEAR WALL PANELS ARE TO BE APPLIED TO BOTH SIDES OF WALL.
3. PAPER BACKED SELF-FURRING EXPANDED METAL OR WOVEN WIRE LATH AND PORTLAND CEMENT PLASTER.
4. FRAMING AT ADJOINING PANEL EDGES SHALL BE 3-INCH NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED. (USE 3X SILL PLATE @ FOUND., FOR SHEAR LOADS LESS THAN 350 PLF 2X SILL PLATE MAY BE USED.)
5. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAILS SPACING IS LESS THAN 6" O.C. ON EITHER SIDE. PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER & NAILS ON EACH SIDE SHALL BE STAGGERED. (USE 3 X SILL PLATE @ FOUND.)
6. ALL CONTINUOUS EXTERIOR AND INTERIOR SHEAR/BEARING WALL FOOTINGS TO HAVE 5/8"□ A.B.'S @ 48" O.C. WITH 3" X 3" X 1/4" PLATE WASHERS U.N.O. MINIMUM OF TWO BOLTS PER EACH PIECE OF SILL PLATE AT 4" TO 12" CLEARANCE TO THE END AND 7" MINIMUM EMBEDMENT.(FOR TWO POUR SYSTEM,BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)

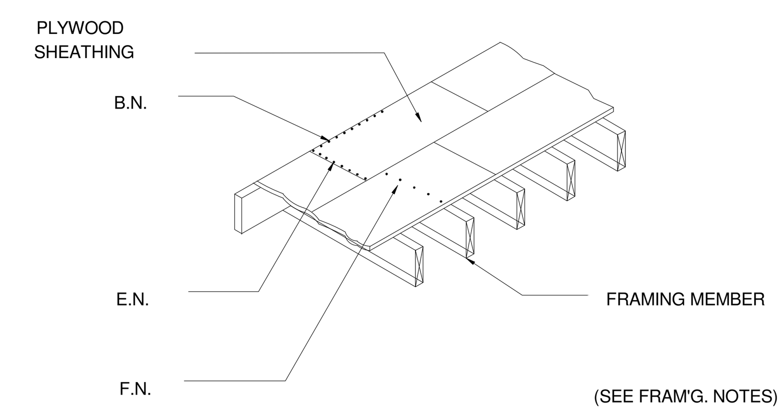
(SEE NOTE 12 FOR A.B. LENGTH.)

8. USE APA RATED PLYWOOD SHEATHING. OR O.S.B. PANEL. ALL PLYWOOD SHALL BE DOUGLAS FIR. 4-PLY MIN. OTHER SPECIES MAY REQUIRE CHANGES.
9. USE 3 X 3 X 1/4 PLATE WASHERS WITH 5/8"□ A.B. AT ALL SHEAR WALLS. USE 3 X 3 X 5/16 PLATE WASHERS WITH 3/4"□ A.B. AT ALL SHEAR WALLS.
10. AT EXISTING FOOTINGS, USE THREADED RODS W/ SIMPSON "SET-XP" EPOXY 7" MIN. EMB. W/MIN. EDGE DIST. OF 1-7/8" (ICC ESR-2508) (SPECIAL INSPECTION REQ'D.)
11. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A-307 U.N.O.

12. ANCHOR BOLT SPEC.:

	BOLT LENGTH	
	SINGLE POUR	DOUBLE POUR
2X SILL	12"	16"
3X SILL	14"	18"

PLYWOOD DIAPHRAGM



NAILING: (EXCEPT WHERE NOTED OTHERWISE)

	ROOF NAIL'G	FLOOR NAIL'G
B.N. = BOUNDARY NAILING	8d @ 6" O.C.	10d @ 6" O.C.
E.N. = EDGE NAILING	8d @ 6" O.C.	10d @ 6" O.C.
F.N. = FIELD NAILING	8d @ 12" O.C.	10d @ 10" O.C.

NOTES:

1. NAILS SHALL BE GALV. COMMON(HOT-DIPPED OR TUMBLED), PLACED NOT LESS THAN 3/8" FROM PANEL EDGES AND SHALL BE FIRMLY DRIVEN.
2. NO UNBLOCKED PIECE LESS THAN 12" SHALL BE USED.
3. WOOD STRUCTURAL PANELS SHALL COMPLY WITH APPLICABLE STANDARDS AND SHALL BE APA RATED EXPOSURE I.
4. WOOD STRUCTURAL PANELS, WHEN USED, SHALL COMPLY WITH THE REQUIREMENTS FOR THEIR TYPE IN DOC PSI-95 OR PS2-92.
5. ALL PANELS SHALL BE IDENTIFIED BY TRADE MARK OF AN APPROVED TESTING & GRADING AGENCIES, APA, TECO OR PITTSBURG.

NAILING SCHEDULE

CONNECTION:(TABLE 2304.9.1)

1.	JOISTS TO SILL OR GURDER, TOE NAIL	3 - 8d
2.	BRIDGING TO JOISTS, TOE NAIL EA. END	2 - 8d
3.	1X6 SUBFLR. OR LESS TO EA. JST., FACE NAIL	2 - 8d
4.	WIDER THAN 1X6 SUBFLR. TO EA. JST., FACE NAIL	3 - 8d
5.	2" SUBFLR. TO JST. OR GURDER, BUND & FACE NAIL	2 - 16d
6.	SILL PLATE TO JST. OR BLK'G., FACE NAIL	16d @ 16" O.C.
7.	TOP PLATE TO STUD, END NAIL	2 - 16 d
8.	RAFT. BLK'G TO TOP PLATE, FACE OR TOE NAIL	16d @ 8" O.C.
9.	STUD TO SILL PLATE, TOE NAIL	4 - 8d
10.	DOUBLE STUDS, FACE NAIL	16d @ 24" O.C.
11.	DOUBLE TOP PLATES, FACE NAIL	16d @ 16" O.C.
12.	TOP PLATES LAPS & INTERSECTIONS, FACE NAIL	2 - 16d
13.	CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EA. SIDE
14.	CEILING JOISTS TO PLATE, TOE NAIL	3 - 8d
15.	CONTINUOUS HEADER TO STUD, TOE NAIL	4 - 8d
16.	CEILING JOISTS, LAPS O/ PARTITIONS, FACE NAIL	3 - 16d
17.	CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3 - 16d
18.	RAFTER TO TOP PLATE, TOE NAIL	3 - 8d
19.	1" BRACE TO EA. STUD & PLATE, FACE NAIL	2 - 8d
20.	1X8 SHT'G. OR LESS TO EA. BEARING WALL FACE NAIL	2 - 8d
21.	WIDER THAN 1X8 SHT'G. TO EA. BEARING WALL FACE NAIL	3 - 8d
22.	BUILT-UP CORNER STUDS	16d @ 24" O.C.
23.	BUILT-UP GRADERS & BEAMS	20d @ 32" O.C. @ TOP & BOT. & STAGG. 2 - 20d @ END & @ EA. SPLICE
24.	2" PLANKS	2 - 16d @ EA. BRG.
25.	PARTICLE BD. - WALL SHTG. (TO FRMG.)	8d
26.	PLYWOOD -	
	SUBFLR. RF. & WALL SHTG. (TO FRMG.):	
	1/2" & LESS	8d
	5/8" - 3/4"	8d
	7/8" - 1"	8d
	1 1/8" - 1 1/4"	10d
	COMBINATION SUBFLR. / UNDERLAYMENT (TO FRMG.):	
	3/4" & LESS	8d
	7/8" - 1"	8d
	1 1/8" - 1 1/4"	10d
	FIBERBD. SHTG.:	
	1/2"	NO. 11 GA. 6d, NO. 16 GA.
	25/32"	NO. 11 GA. 6d, NO. 18 GA.

NOTE:

1. ALL NAILS SHALL BE COMMON WIRE NAILS. WHERE DRIVING OF NAILS CAUSES SPLITTING HOLES FOR THE NAILS SHALL BE SUB DRILLED.
2. FASTENERS IN PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

GENERAL NOTES:

1. CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ABIDING TO ALL APPLICABLE BUILDING CODES, LOCAL CITY ORDINANCES, ZONING REQUIREMENTS, AND LICENSING/PERMIT REQUIREMENTS. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES INCLUDING WITHOUT LIMITATION TO DEMOLITION, EXCAVATION AND ERECTION PROCEDURES.
2. THE CONTRACTOR SHALL EXAMINE THE CONSTRICTION DOCUMENTS AND NOTIFY THE PROJECT ENGINEER & ARCHITECT OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS SHE/HE MAY FIND BEFORE PROCEEDING WITH THE WORK.
3. NOTIFY THE PROJECT ENGINEER OF ANY DESIGN CHANGES PROPOSED BY OWNER OR THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION. SUCH CHANGES AFFECTING ROOM ADDITION DESIGN MAY ALSO AFFECT STRUCTURAL DESIGN.
4. ANY SUBCONTRACTOR WHICH AGREES TO CONSTRUCT THE PROJECT PURSUANT TO THESE PLANS FULLY ASSUMES THE RISK OF ALL ERRORS AND OMISSIONS WHICH SHOULD HAVE BEEN DETECTED BY A CAREFUL REVIEW BY A KNOWLEDGEABLE LICENSED CONTRACTOR, THAT WHICH FOR ANY REASON WERE NOT RESOLVED DURING THE BIDDING OR NEGOTIATION PROCESS. FURTHER, THE CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AS THE WORK PROGRESSES IN ORDER TO IDENTIFY ANY SIGNIFICANT ERRORS AND OMISSIONS AND TO ASCERTAIN ALL NECESSARY INFORMATION BEFORE PROCEEDING WITH THE AFFECTED WORK, AND ASSUMES THE RISK OF ANY AND ALL LOSS, INCLUDING DELAY, WHICH MAY BE CAUSED OR CONTRIBUTED TO BY THE FAILURE TO ASCERTAIN CORRECT OR NECESSARY INFORMATION IN A TIMELY MANNER.
5. ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK, AND AT THE COMPLETION OF THE WORK SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE JOBSITE AND ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE JOB BROOM CLEAN, INCLUDING REMOVING ALL LABELS, STICKERS, PAINT SMEARS, ETC.., FROM LIGHTING FIXTURES, PLUMBING FIXTURES, GLASS SURFACES, FINISH HARDWARE, CABINETS, COUNTER TOPS, ETC.
6. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE NOTED OR SHOWN ON THE PLANS, WORKMANSHIP & MATERIALS SHALL CONFORM, TO THE LATEST EDITION OF LOCAL CODE.
7. THE PLANS SHALL BE REVIEWED FOR DIMENSIONAL & EXISTING SITE CONFORMANCE WITH THE PLANS BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE ARCHITECT & ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
8. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD; AND ALL QUESTIONS AS TO DIMENSIONS AND FIELD CONDITIONS SHALL BE RESOLVED BEFORE THE AFFECTED WORK PROCEEDS. NO DIMENSIONS SHALL BE OBTAINED BY SCALING THESE PLANS.
9. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB.
10. THE PRECISE DIMENSIONS AND LOCATIONS OF ALL DOOR, WINDOW AND ROOF OPENINGS SHALL BE DETERMINED FROM DRAWINGS AND OTHER FLOOR, WALL OPENING REQUIRED BY MECHANICAL OR ELECTRICAL SHALL BE VERIFIED FROM SHOP DRAWINGS, EQUIPMENT DATA SHEETS, ETC. AS REQUIRED.
11. ITEMS IDENTIFIED BY TRADE NAMES MAY BE SUBSTITUTED BY APPROVED EQUALS.
12. NOTES & DETAILS ON DRAWINGS SHALL PRECEDE THESE GENERAL NOTES.
13. PROVIDE ANY SHORING & OR BRACING PRIOR TO REMOVING EXISTING WALLS, BEAMS, OR SUPPORTS FOR CONSTRUCTION. REMOVE SHORING ONLY WHEN NEW SUPPORTS ARE IN PLACE AND SECURED.
14. PROVIDE RED HEADS INTO EXISTING CONCRETE AT ALL SHEAR WALLS PER MFG. SPECIFICATIONS. SEE SHEAR WALL SCHEDULE FOR SIZE AND SPACING.
15. PROVIDE SIMPSON ST-6224 BETWEEN NEW WALLS AND EXISTING WALLS AT THE DOUBLE TOP PLATE.
16. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON DRAWINGS AND PROTECT THEM FROM DAMAGE
17. DO NOT CUT POST TENSION SLABS. CONTRACTOR TO DETERMINE EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.
18. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS FOR FOOTING, BEAMS AND JOISTS, SIZES, LOCATIONS, ETC., AND SHALL NOTIFY THE ARCHITECT & ENGINEER OF ANY DISCREPANCIES.
19. DOWEL NEW INTO EXISTING SLABS W/ #4 REBAR @ 24" O.C. AND FOOTINGS W/ DOWELS TO MATCH NEW REINF. SIZE/ LOCATION.

ENGINEERING NOTES

1. CONCRETE SLABS ON GRADE HAVE NOT BEEN DESIGNED BY THE STRUCTURAL ENGINEER.
2. THE VIBRATIONAL EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.
3. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING SHORING, TEMPORARY SUPPORTS ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE ENTIRE COURSE OF CONSTRUCTION. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR FIELD INSPECTION/OBSERVATION OF THE ABOVE ITEMS.
4. ALLOWABLE SOILS PRESSURE TO BE A MINIMUM OF 1500 PSF UNLESS A SOILS REPORT IS PROVIDED. SOILS IN THE BUILDING AREA & 5 FEET BEYOND SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION PER LOCAL CODE

REFER TO SOIL REPORT BY: ____

JOB NUMBER: ____ DATED:

STRUCTURAL SYMBOLS

△ INDICATES SHEAR WALL. SEE FOUNDATION, FRAMING PLAN AND SHEAR WALL SCHEDULE FOR TYPE, SILL BOLTING, SHTG., ETC. NOTE: FOR SILL BOLTING AT EXISTING FOOTINGS, USE 5/8" □ THREADED RODS W/ SIMPSON "SET-XP" EPOXY 7" MIN. EMB. PER ICC ESR-2508 THE SAME SIZE & SPACING AS CALLED FOR ON PLANS

☒ INDICATES POST (BELOW BEAM)

MIN. POST SIZE/TYPE AS FOLLOWS U.N.O.:

BEAM SIZE	POST SIZE
4 X 12 & SMALLER	2-2X4 W/16d NAILS @ 12" O.C.
4 X 14 & LARGER	4X4
6 X 10 & SMALLER	4X6
6 X 12 & LARGER	6X6 SEE HOLDDOWN DETAILS AND TYPICAL WALL

FRAMING FOR FURTHER POST SIZE REQUIREMENTS. POSTS ARE TO CONTINUE DOWN TO FOUNDATION.

FOUNDATION NOTES

GENERAL

1. SOIL BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED PER LOCAL CODE (90%) RELATIVE COMPACTION MINIMUM.
2. CONTINUOUS FOOTINGS AND GRADE BEAMS SHALL BE EXCAVATED TO THE DEPTH SHOWN ON THE DRAWINGS BELOW UNDISTURBED SOIL OR COMPACTED EARTH. PROVIDE 1-#4 HORIZONTAL BARS ON TOP AND BOTTOM U.N.O. ON FOUND. PLAN.
3. ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED TO BE 1500. PSF IF NO SOILS REPORT IS PROVIDED.
4. SLAB ON GRADE: 4 INCH. NET CONCRETE SLAB WITH #3 BARS @ 18" O.C. EACH @ CENTER OF SLAB OVER 2 INCH. OF SAND OVER 6 MIL. VISQUEEN OVER 2" SAND BED OVER COMPACTED SOIL. U.N.O.
5. NO TRENCHES OR EXCAVATIONS FIVE FEET IN DEPTH OR GREATER INTO WHICH A PERSON SHALL BE REQUIRED TO DESCEND SHALL BE MADE WITHOUT PROPER PERMIT.
6. THE MINIMUM BOLTING FOR SILL PLATES TO FOUNDATION SHALL BE AS FOLLOWS: 5/8" DIAMETER ANCHOR BOLTS WITH 7" MIN EMBEDMENT IN CONCRETE WITH SPACING NO GREATER THAN 4 FEET O.C. NOR FURTHER THAN 12" FROM CORNERS (MIN 2 BOLTS PER PIECE). SEE THE FOUNDATION PLAN & SHEAR WALL SCHEDULE FOR FURTHER BOLTING REQUIREMENTS.(FOR TWO POUR SYSTEMS,BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)
7. PIPES OR DUCTS THAT EXCEED ONE THIRD THE SLAB OR CONC. WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONC. UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
8. PIPES MAY PASS THRU STRUCTURAL CONC. IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN.
9. PROVIDE 3/4" CAMBERS AT ALL EXPOSED CORNERS.
10. SEE ARCHITECTURAL PLANS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE CAST IN CONCRETE, AND FOR LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.
11. LOCATION OF POUR JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE

1. UNLESS OTHERWISE NOTED ON PLANS, CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
2. FINE & COURSE AGGREGATE SHALL CONFORM TO A.S.T.M. C-33, USE 3000 P.S.I. CONC. @ GRADE BEAMS. CEMENT SHALL CONFORM TO A.S.T.M. C-150 (STANDARD BRAND PORTLAND CEMENT) TYPE II (USE TYPE V CEMENT IF NOTED IN SOILS REPORT)
3. CONCRETE SHALL BE MACHINE-MIXED USING A MAXIMUM OF '7' GALLONS OF WATER PER SACK OF CEMENT. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 MIXED AT A RATE OF 5 SACKS OF CEMENT PER CUBIC YARD. MAXIMUM SLUMP SHALL BE 4 INCH AS MEASURED BY THE ASTM "STANDARD METHOD OF TESTING FOR SLUMP OF PORTLAND CEMENT CONCRETE.
4. DRY PACK SHALL CONSIST OF 1 PART CEMENT, 4 PARTS SAND. BASED ON DRY LOOSE VOLUMES AND NOT LESS THAN 1/4 PART, NOR MORE THAN 1/2 PART, LINE PUTTY OR DRY HYDRATED LIME. DRY PACK SHALL OBTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
5. ADDING CALCIUM CHLORIDE TO CONCRETE OR GROUT IS NOT PERMITTED.
6. CONC. SHALL BE KEPT MOIST FOR 10 DAYS FOR PROPER CURING.

REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS (ACI 4.3)

SULFATE EXPOSURE	CEMENT TYPE	WATER-CEMENT RATIO	COMPRESSIVE STRENGTH
NEGLIGIBLE	NOT REGULATED	-	2500 psi
MODERATE	I, II	0.50	4000 psi
SEVERE	V	0.45	4500 psi
VERY SEVERE	V	0.45	4500 psi

CONCRETE BLOCK MASONRY

1. CONCRETE BLOCK SHALL CONFORM TO A.S.T.M. C-90 MED. WT. GRADE N UNITS, WITH MIN. COMP. STRENGTH OF 1500 PSI. ALL CMU BLOCKS SHALL BE LAID UP IN RUNNING OR COMMON BOND CONFIGURATION.
2. MORTAR SHALL CONFORM TO ASTM C-270, TYPE S, WITH MINIMUM COMPRESSIVE STRENGTH OF 2000. PSI AT 28 DAYS.

   MIX: 1 PART PORTLAND CEMENT.
   1/2 PART LIME PUTTY. } BY VOLUME
   4 PARTS SAND.

3. GROUT SHALL CONFORM TO ASTM C-476, WITH MINIMUM COMPRESIVE STRENGTH OF 2000. PSI AT 28 DAYS.

   MIX: 1 PART PORTLAND CEMENT.
   3 PARTS SAND } BY VOLUME
   2 PARTS PEA GRAVEL

   WATER SUFFICIENT TO ALLOW GROUT TO FLOW INTO ALL JOINTS.

4. CELLS SHALL BE IN VERTICAL ALIGNMENT TO PROVIDE A MIN. UNOBSTRUCTED CORE OF 3" X 3". DOWELS FROM FOOTINGS SHALL BE SET TO ALIGN WITH CORE REINFORCING.
5. ALL CELLS BELOW FINISHED GRADE AND ALL CELLS WITH REINFORCING, ANCHORS OR INSERTS SHALL BE FILLED SOLID WITH GROUT.
6. CONCRETE SURFACES SHALL BE CLEANED OF ALL LAITANCE PRIOR TO SETTING OF BLOCKS.
7. PROVIDE VERTICAL CONSTRUCTION JOINTS AT 40 FT. O.C.
8. MINIMUM LAP FOR ALL STEEL IS 40 BAR DIAMETER, OR 24 INCHES, WHICHEVER IS GREATER.
9. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINTS BY STOPPING GROUT 1-1/2 INCH BELOW THE TOP OF THE BLOCK.
10. CLEANOUT OPENINGS MUST BE PROVIDED IN CMU WALLS WHICH ARE TO BE HIGH LIFT GROUTED. (OVER 4 FEET).AT BOTTOM COURSE.
IN SOLID GROUTED WALLS CLEANOUTS MUST BE PROVIDED AT NO MORE THAN 32 INCHES ON CENTER.FOR PARTIALLY GROUTED WALLS CLEANOUTS SHALL BE PROVIDED NO MORE THAN 48 INCHES O.C. WHEN CLEANOUTS ARE REQUIRED, THEY SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING.

REINFORCING STEEL

1. REINFORCING STEEL, #3 AND #4 GRADE 40, #5 AND LARGER GRADE 60 PER A.S.T.M. A615.
2. LOW HYDROGEN WELDING RODS SHALL BE USED FOR ALL WELDING OF REINFORCING BARS.
3. BARS NOTED AS "CONT" TYPICAL WALL REINFORCING AND VERTICAL COLUMN REINFORCING SHALL HAVE A MINIMUM SPLICE OF 50 BAR DIAMETERS LAP IN MASONRY OR 40 BAR DIAMETERS MINIMUM IN CONCRETE.
4. REINFORCING SHALL BE SPLICED ONLY AS SHOWN OR NOTED. OTHER SPLICES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
5. SPLICES IN ADJACENT HORIZONTAL WALL REINFORCING BARS SHALL BE STAGGERED 4 FEET UNLESS OTHERWISE NOTED.
6. PROVIDE DOWELS IN FOOTINGS AND/OR GRADE BEAMS THE SAME SIZE AND NUMBER AS VERTICAL WALL OR COLUMN REINFORCING. DOWELS SHALL HAVE A MINIMUM PROJECTION EQUAL TO STANDARD LAP SPLICE UNLESS OTHERWISE NOTED.
7. ALL REINFORCING, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACEMENT OF CONCRETE OR GROUTING OF MASONRY.
8. PROVIDE THE FOLLOWING MINIMUM PROTECTIVE COVERING OF CONCRETE:

BELOW GRADE (UNFORMED)	3" CLEAR
BELOW GRADE (FORMED)	2" CLEAR
WALLS	1" CLEAR
COLUMNS	1.5" CLEAR
BEAMS AND GIRDERS	1.5" CLEAR
STRUCTURAL SLAB (ABOVE GRADE)	3/4" CLEAR

9. #5 OR LARGER REINFORCING BARS SHALL NOT BE RE-BENT WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

GRADING NOTES

1. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO ANY GRADING.
2. ALL FILL ONE FOOT & GREATER SHALL BE CERTIFIED AND TESTED AS TO RELATIVE COMPACTION
3. ALL FILL SHALL BE COMPACTED IN ACCORDANCE WITH ASTM D-1557, TO MAXIMUM OF 90% DENSITY.
4. ALL UTILITY TRENCH BACKFILLS SHALL BE IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36,(Fy=36.KSI) FOR PLATES AND TO ASTM A992,(Fy=50.KSI) FOR W-SHAPE STEEL SECTIONS.
2. CORTEN STEEL SHALL CONFORM TO ASTM A588, Fy=50. KSI.
3. STAINLESS STEEL SHALL CONFORM TO ASTM A276 TYPE 304-HOT ROLLED, Fy=18. KSI.
4. FABRICATION, ERECTION & PAINTING SHALL COMPLY WITH THE AISC SPECS. CHAPTER M. (THIRTEENTH EDITION).
5. ALL BOLTS FOR STEEL MEMBERS SHALL CONFORM TO ASTM A325 OR A490, UNLESS OTHERWISE NOTED.
6. HIGH TENSILE BOLTS WHERE INDICATED ON THE PLANS OR DETAILS SHALL BE THE FRICTION TYPE AND THERE SHALL BE NO PAINT, OIL, LAQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACES. HIGH TENSILE BOLTS SHALL CONFORM TO ASTM A325 OR A490.
7. HIGH STRENGTH BOLTS SHALL HAVE LOAD INDICATOR WASHERS TO SERVE AS A DIRECT TENSION INDICATOR INSTALLATION FOR HIGH STRENGTH BOLTS SHALL REQUIRE INSPECTION BY A DEPUTY INSPECTOR.
8. ANCHOR RODS SHALL BE ASTM F-1554 GRD. 55 KSI U.N.O. ALL ANCHOR RODS SHALL BE. HEADED RODS.ANCHOR ROD WASHER SHALL BE ASTM A436. NUTS SHALL BE ASTM A563.
9. PIPE COLUMNS SHALL CONFORM TO ASTM A-53 GRADE B.
10. STEEL TUBE SHAPED MEMBERS SHALL CONFORM TO ASTM A-501 OR OR A-500 GRADE B.
11. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL, PROVIDE HOLES FOR 1/2" WELDED STUDS AT 4 FEET O.C. FOR THE ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES.
12. OPEN WEB JOISTS SHALL COMPLY WITH THE STANDARDS OR "THE STEEL JOIST INSTITUTE".
13. STEEL STUDS, JOIST, TRACKS & BRIDGING:
    ASTM A-570 GRADE "E" Fy = 50 KSI 12, 14 & 16 GA.
    ASTM A-570 GRADE "C" Fy = 33 KSI 18 & 20 GA.
14. SPECIAL INSPECTION OF HIGH-STRENGTH A325 AND A490 BOLTS SHALL BE IN ACCORDANCE WITH APPROVED NATIONALLY RECOGNIZED STANDARDS AND REQUIREMENT OF SECTION 1701.
15. SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.

STRUCT. STEEL WELDING

1. WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC PROCESS W/E70-XX ELECTRODES AND SHALL COMPLY WITH A.W.S. SPECIFICATIONS FOR WELDING AND FABRICATION.
2. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS WHO ARE APPROVED BY THE LOCAL AUTHORITY USING ARC PROCESS WITH E70XX ELECTRODES.
3. ALL FIELD WELDS SHALL HAVE CONTINUOUS INSPECTION AS REQUIRED UNLESS OTHERWISE NOTED.
4. ALL BUTT WELDS SHALL BE FULL PENETRATION U.N.O.
5. A CERTIFICATE OF FABRICATION FROM THE SHOP PERFORMING WELDING OR A REPORT FROM THE SPECIAL INSPECTOR MUST BE FURNISHED TO THE JOB INSPECTOR PRIOR TO FRAMING APPROVAL.
6. WELDED, FULLY RESTRAINED CONNECTION BETWEEN MEMBERS OF ORDINARY MOMENT FRAMES OR SPECIAL MOMENT-RESISTING FRAMES SHALL HAVE SPECIAL CONTINUOUS INSPECTION AND CONNECTION TESTED BY NONDESTRUCTIVE METHODS PER SECTION 1703.
7. FIELD WELDING OF REINFOCING STEEL SHALL BE DONE BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL WELDING .BEFORE WELDING,THE "CARBON EQUIVALENT" (CE) OF STEEL SHALL BE DETERMINED. IF THE (CE) OF STEEL IS MORE THAN 0.75% , THEY SHALL NOT BE WELDED.

FRAMING NOTES

1. FRAMING SHALL COMPLY WITH APPLICABLE LOCAL CODE

FRAMING-GENERAL

1. USE SIMPSON U-HANGERS ON ALL JOIST/BEAM/BEAM CONNECTIONS UNLESS NOTED ON PLANS.
2. ALL POSTS SHALL HAVE SIMPSON "PC" CONNECTORS AT TOP AND SIMPSON "BC" OR "BCO" CONNECTORS AT BASES UNLESS OTHERWISE NOTED ON PLANS.
3. ALL CONNECTING HARDWARE, JOIST HANGERS, TIE STRAPS, ETC., SHALL BE SIMPSON "STRONG TIE" UNLESS OTHERWISE NOTED OR SHOWN ON PLANS.
4. FRAMING @ CHIMNEY ENCLOSURE SHALL BE 2x6 STUDS BALLOON FRAMED W/APPROVED STRAPS TO ROOF AND FLOOR DIAPHRAGMS.

FRAMING - WALL

1. SIZE, SPACING & HEIGHT LIMITS FOR WOOD STUDS ARE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS):

   2X4 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF ONE FLOOR AND ONE ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
   2X4 @ 16" OC (NON-BEARING WALL) SHALL HAVE A MAXIMUM HEIGHT OF 14 FEET

   2X6 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF TWO FLOORS AND A ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
   2X6 @ 16" OC (NON-BEARING WALL) MAXIMUM HEIGHT IS 20 FEET

2. RAKE WALLS ADJACENT TO SLOPED CEILINGS SHALL BE BALLOON FRAMED. DOUBLE TOP PLATES SHALL ALWAYS BE SUPPORTED BY A ROOF OR CEILING DIAPHRAGM.
3. SHEAR WALL PANELS MUST BE CONTINUOUS TO THE TOP PLATE AT ROOF FRAMING. SHEATHING SHALL HAVE ALL EDGES BLOCKED & THE APPROPRIATE SHEAR TRANSFER THRU CEILING OR SOFFIT FRAMING.
4. BORING AND NOTCHING OF WALL STUDS SHALL BE PER LOCAL CODE

   NOTCHING MAXIMUM: 25% OF WIDTH OF STUDS ON BEARING WALLS
   40% OF WIDTH OF STUDS ON NON-BEARING WALLS BORING

   MAXIMUM: 40% OF WIDTH OF STUDS ON BEARING WALLS
   60% OF WIDTH OF STUDS ON NON-BEARING WALLS

NOTE: A MIN. 5/8" CLEARANCE FROM EDGE OF STUD TO HOLE SHALL BE PROVIDED.

5. DOUBLE 2X TOP PLATE SHALL BE LAPPED 48" AT ALL SPLICES AND SHALL OVERLAP AT CORNERS.
6. WALL BRACING SHALL BE PROVIDED PER LOCAL CODE
7. HARDY FRAMES INSTALLATION PER MFR. SPECIFICATION (ICC ESR-2089)
8. STRONG WALL INSTALLATION PER MFR. SPECIFICATION (ICC-ESR-1267)

FRAMING - FLOOR

1. FLOOR SHEATHING (MIN) 5/8" STRUCTURAL I T & G PLYWOOD PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 10d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 10" O.C. FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN. ALL EDGES BLOCKED AT DECKS.
2. PROVIDE DOUBLE FLOOR JOISTS UNDER ALL PARALLEL NON- BEARING PARTITIONS.
3. PROVIDE CONTINUOUS BLOCKING BETWEEN FLOOR JOISTS UNDER BEARING WALLS WHICH ARE PERPENDICULAR TO JOISTS.
4. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER .

FRAMING - ROOF

1. ROOF SHEATHING (MIN) 15/32" STRUC. I PLYWOOD SHEATHING PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 8d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 12" OC FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN.
2. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER CODE

FRAMING - CEILING (PER TABLE 2308.10.2)

1. CEILING JOISTS SHALL BE 2X6 @ 16" O.C. (MAX SPAN= 17'-8")
2. CEILING JOISTS SHALL BE 2X8 @ 16" O.C. (MAX SPAN= 23'-0")

FRAMING - JOISTS/RAFTERS

1. BORING AND NOTCHING OF JOISTS SHALL BE AS FOLLOWS:

   BORING- MAX DIA OF HOLE SHALL NOT EXCEED 1/3 OF DRESSED DEPTH OF JOIST WITH A MINIMUM EDGE CLEARANCE OF TWO INCHES.

   NOTCHING- MAX NOTCH AT ENDS SHALL NOT EXCEED 1/4 OF DEPTH. NO NOTCHING IS ALLOWED IN THE CENTER THIRD OF THE JOIST SPAN. MAX NOTCH IN TOP OR BOTTTOM OF THE JOIST SHALL NOT EXCEED 1/6 OF THE JOIST DEPTH.

2. WHERE THREE OR MORE (MULTI JOISTS) ARE USED, THE JOISTS SHALL BE BOLTED TOGETHER WITH 1/2" DIA. MACHINE BOLTS W/ WASHERS AT 24" OC STAGGERED. BOLTS SHALL BE RETIGHTENED PRIOR TO APPLYING FINISH MATERIALS.
3. JOISTS/RAFTERS SHALL LAP AT SPLICES A MIN. OF 4 INCHES WITH 3-16d NAILS OR USE SIMPSON ST 2115 @ 48 INCHES O.C.
4. CROSS BRIDGING OR 2X BLDG. SHALL BE PROVIDED @ 8'-0" O.C. MAX. FOR ALL JOISTS AND RAFTERS MORE THAN 8" IN DEPTH.
5. 2X SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.

DRAINAGE NOTES

1. MINIMUM GRADIENTS ARE AS FOLLOWS: EARTH= 2%, PAVING= .5%
2. POSITIVE DRAINAGE AWAY FROM STRUCTURES SHALL BE AS FOLLOWS:

   2% MIN. TO 21% MAX
   SWALES TO BE 3 FEET MIN. AWAY FROM STRUCTURES.

FRAMING-BOLTING

1. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER HEAD OR NUT. SEE S.W. SCHEDULE.
2. ALL BOLTS SHALL BE RETIGHTENED, PRIOR TO APPLICATION OF PLYWOOD, PLASTER, ETC.
3. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN NOMINAL BOLT DIAMETER.
4. FASTENERS IN PRESSURE-TREATED AND FIRE-RETARDANT,TREATED WOOD SHALL BE OF HOT-DIPPED,ZINC-COATED GALVANIZED STEEL,STAINLESS STEEL,SILICON BRONZE OR COPPER.

LUMBER

1. ALL LUMBER SHALL BE DOUGLAS FIR-LARCH OR THE FOLLOWING GRADES UNLESS OTHERWISE NOTED (MAX MOISTURE CONTENT SHALL NOT EXCEED 19% & GRADED IN ACCORDANCE WITH THE (WEST COAST LUMBERMAN'S ASSOCIATION.)

   REPETITIVE USE MEMBERS

   STUDS & PLATES NO. 2

   JOISTS & RAFTERS:

   2X4 TO 4X4 INCLUSIVE N0. 2
   2X6 TO 3X16 INCLUSIVE NO. 2

   SINGLE USE MEMBERS

   BEAMS:
   4X N0. 2
   6X OR LARGER N0. 1

   POSTS & MULLION:
   4X4 & SMALLER N0. 2
   4X6 & LARGER N0. 2
   6X6 & LARGER N0. 1

   BLOCKING, FURRING, ETC. N0. 3
   DECKING & SHEATHING
   2X, 3X, 4X CONST. GRADE

2. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAN 4 FEET FROM GRADE SHALL BE PRESSURE TREATED DOUG. FIR.
3. GLUED-LAMINATED WOOD BEAMS SHALL BE DOUGLAS FIR COMB. 24F-V4 (*) DF/DF (Fb=2400 PSI, Fv=165 PSI, E=180,000 PSI) INDUSTRIAL APPEARANCE WITH EXTERIOR GLUE UNLESS OTHERWISE NOTED ON PLANS. A CERTIFICATE OF INSPECTION FOR EACH GLU-LAM BEAM FROM AN APPROVED TESTING AGENCY TO BE SUBMITTED AND APPROVED BY THE BUILDING DEPT. PRIOR TO ERECTION. (*) USE V8 FOR CANT. BEAMS AND V4 FOR SIMPLE SPANS BEAMS]
4. SHOP DRAWING SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.
5. ALL STRUCTURAL PLYWOOD SHALL BE IN ACCORDANCE WITH (PS 1-95)
6. PARALLAM PSL PER TRUS JOIST MACMILLAN (ICC ESR-1387) (Fb= 2900 PSI, Fv=290 PSI, E= 2,000,000 PSI)
7. TJI JOISTS INSTALLATION PER MANUFACTURE SPECIFICATION (ICC ES ESR-1153 AND ICC ES ESR-1387)

SPECIAL INSPECTION

1. SPECIAL INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR, APPROVED BY THE ARCHITECT AND THE CHECKING AGENCY, SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK. SEE PROJECT SPECIFICATIONS FOR SPECIFIC REQUIREMENTS. SPECIAL INSPECTIONS SHALL NOT BE REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.

ITEMS REQUIRE SPECIAL INSPECTION AS MARKED:

VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC
1. STRUCTURAL EPOXY BOLTING.	☒	
2. WELDING.		
2a: FIELD WELDING OF MOMENT RESISTING STEEL FRAMES.	☐	
2b: STRUCTURAL STEEL OR REINFORCING	☐	
2c: STEEL DECKING.	☐	
2d: SHEAR CONNECTORES.	☐	
3. PLACEMENT OF REINFORCING STEEL IN CMU WALL.	☐	
4. HIGH STRENGTH BOLTING	☐	
5. EXPANSION TYPE ANCHOR BOLTS.	☐	
6. HIGH STRENGTH BOLTING		☐
7. CONCRETE WHERE CONCRETE STRENGTH OF 3000 PSI OR GREATER IS SPECIFIED.		☐
8. DIAPHRAGM CONNECTION TO STEEL SUPPORT MEMBERS.		☐
10. WOOD SHEAR WALLS AND WOOD DIAPHRAGMS NAILING.		☐
11. WOOD STRUCTURAL PANEL SHEATHING.		☐
12. NOMINAL SIZE OF FRAMING MEMBERS AT PANEL EDGES.		☐
13. NAIL OR STAPLE DIAMETER AND LENGTH.		☐
14. COMPACTED FILL		☐
15. FOUNDATION -ANCHOR BOLT AND HOLD DOWN.		☒
16. INSPECTION OF LATERAL FORCE RESISTING ELEMENTS.		☐

"CONTRACTOR RESPONSIBILITY:

EACH CONTRACTOR OR SUB-CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE WIND AND/OR SEISMIC RESISTING SYSTEM THAT IS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK REQUIRING SPECIAL INSPECTION.
THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
1) ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
2) ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL;
3) PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, AND THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS;
4) IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION."

ABBREVIATIONS:

A.B.	ANCHOR BOLT
ABV.	ABOVE
BAR	REINF. BAR
BD	BOARD
BLKG.	BLOCKING
BLW.	BELOW
BM	BEAM
B.N.	BOUNDARY NAIL
B.W.	BOTH WAYS
CONT.FTG.	CONTINUOUS FOOTING
C.J.	CEILING JOIST
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
CLG.	CEILING
DP	DEEP
DBL	DOUBLE
D.F.	DOUGLAS FIR
DIA.	DIAMETER
DO	DITTO
(E)	EXISTING
E.W.	EACH WAY
E.J.	EXPANSION JOINT
E.N.	EDGE NAIL
EQ	EQUAL
FB	FLOOR BEAM
F.G.	FINISH GRADE
F.J.	FLOOR JOIST
FL	FLUSH
FMG.	FRAMING
F.N.	FIELD NAIL
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUDS
F.P.	FULL PENETRATION
FTG	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
GLB	GLUE-LAMINATED BEAM
GRD. BM.	GRADE BEAM
GWB	GYPSUM WALLBOARD
H	HIGH
HDR.	HEADER
HGT.	HEIGHT
HNGR.	HANGER
HORIZ.	HORIZONTAL
K.P.	KING POST
L	LENGTH
LT. WT.	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MAS.	MASONRY
M.B.	MACHINE BOLT
MLB	MICRO=LAM BEAM
(N)	NEW
N.G.	NATURAL GRADE
O.C.	ON CENTER
P.A.	POST ABOVE
PSL	PARALLAM PSL BEAM
PLWD	PLYWOOD
P.T.	PRESSURE TREATED
R.B.	RIDGE BEAM
REINF.	REINFORCING
REQ'D.	REQUIRED
RF	ROOF
R.R.	ROOF RAFTER
SIM.	SIMILAR
T.R.	THREADED ROD
TYP.	TYPICAL

THESE DRAWINGS AND SPECIFICATIONS AS INSTRUMENT OF SERVICE ARE PROVIDED FOR THE OWNER OR THE BUILDER, WHEN COMBINED WITH OTHER PLANS AND SPECIFICATIONS TO OBTAIN BUILDING PERMIT ONLY FOR THIS PROJECT. THEY ARE NOT INTENDED TO, NOR DO THEY, DETAIL ALL CONDITIONS, IDENTIFY ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT.
THE BUILDER ASSUMES RESPONSIBILITY TO SELECT ALL MATERIAL AND ALL SUB-CONTRACTORS AND INSTALLERS AND TO PROVIDE ENOUGH INFORMATION ABOVE AND BEYOND THESE DRAWINGS, TO COMPLETE THE PROJECT IN CONFORMANCE WITH ALL GOVERNING AGENCIES.

CETRIX DESIGN
A Cetrix Technologies LLC company

AMENTIES BLDG
4801 CEDAR CREEK DR.
LAKE FOREST
MCKINNEY, TX

MARK	DATE	DESCRIPTION

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PROJECT NO:

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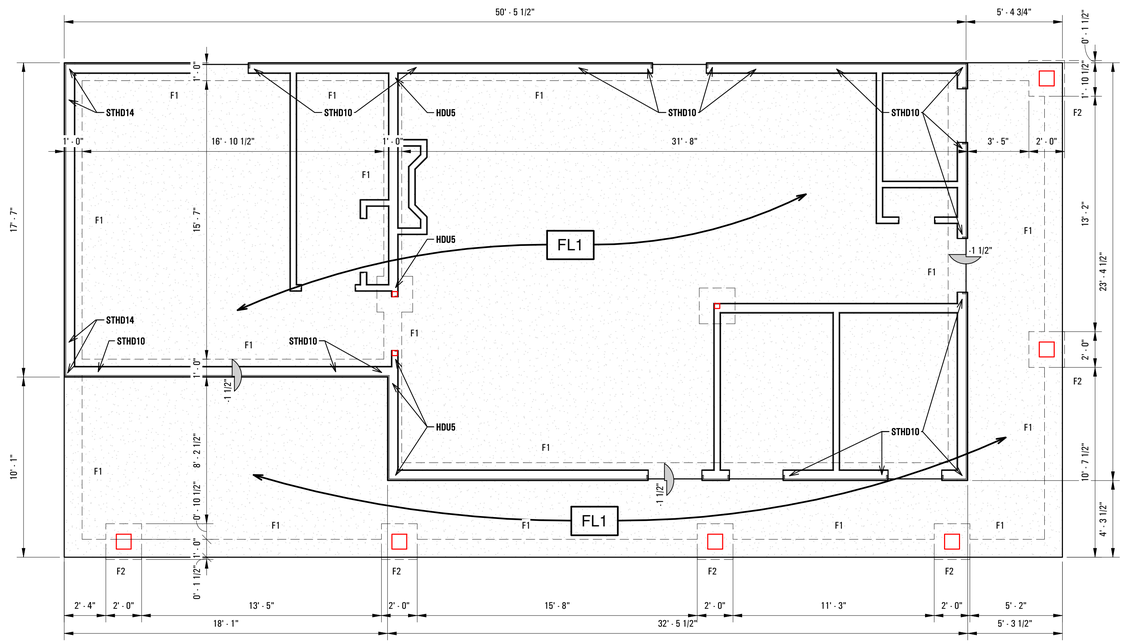
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SHEET TITLE:

STRUCTURAL NOTES

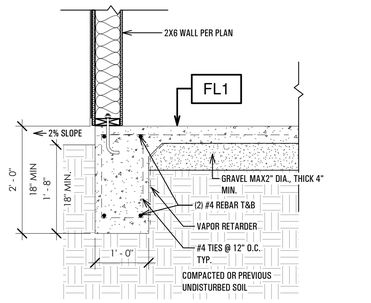
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S001



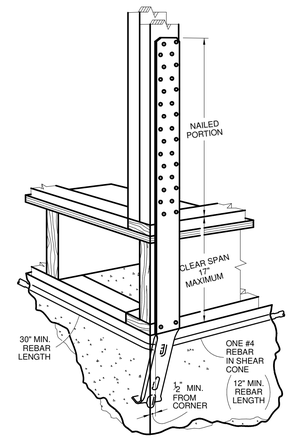
1 FOUNDATION & SLAB PLAN
1/4" = 1'-0"

FL1	4" CONCRETE SLAB W/ 6 X 6 X W1.4 X W1.4 W.W.F. 2,500 PSI CONCRETE OVER 6 MIL. VAPOR BARRIER LAPPED 36" AND TAPED OVER COMPACTED BACKFILL AS PER STRUCTURAL

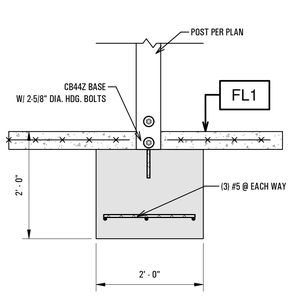


F1 12" X 24" CONT. FOOTING W/ (2) #4 CONT.

4 FOUNDATION DETAILS
3/4" = 1'-0"

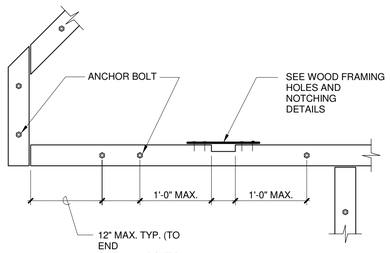


6 STRONG-TIE STHD14RJ
3/16" = 1'-0"



F2 24" X24" X 24" FOOTING PAD

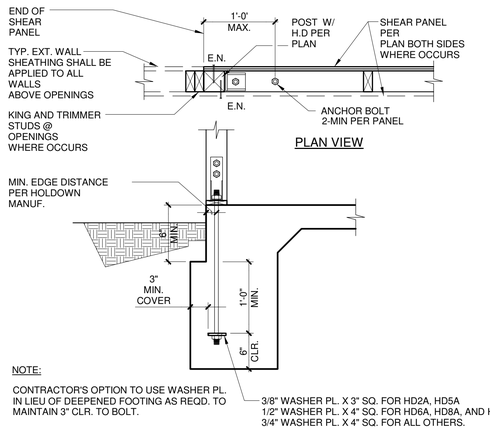
3 FOOTING PAD DETAIL
3/4" = 1'-0"



NOTES:

1. UNLESS OTHERWISE NOTED USE 1 5/8" DIA. A.B. x 10" LG. W/ 7" MIN. EMBEDMENT AT 48" O.C.
2. PROVIDE A MIN. OF TWO ANCHOR BOLTS FOR EACH PIECE OF SILL PLATE.
3. PROVIDE 2"x2"x3/16" THICK PLATE WASHER UNDER ALL ANCHOR BOLTS.

2 SILL PLATE ANCHORAGE
1" = 1'-0"

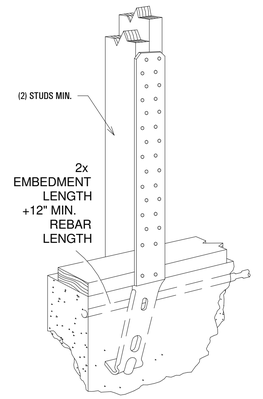


NOTE:

CONTRACTOR'S OPTION TO USE WASHER PL. IN LIEU OF DEEPENED FOOTING AS REQD. TO MAINTAIN 3" CLR. TO BOLT.

3/8" WASHER PL. X 3" SQ. FOR HD2A, HD5A
1/2" WASHER PL. X 4" SQ. FOR HD6A, HD8A, AND HD10A
3/4" WASHER PL. X 4" SQ. FOR ALL OTHERS.

7 ALT. HOLDOWN INSTALLATION
1" = 1'-0"



Simpson Strong-Tie
STHD Edge Installation

8 STRONG-TIE STHD
1 1/2" = 1'-0"

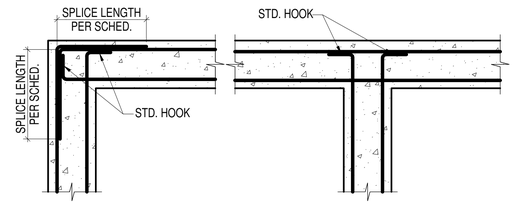
SPLICE LENGTH FOR DEFORMED BARS CLASS 'B' SPLICE (L_{sb})			
	MIN. f'c psi	#6 AND SMALLER BARS AND DEFORMED WIRES	#7 AND LARGER BARS
CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN d_b, CLEAR COVER, NOT LESS THAN d_b AND BEAM STIRRUPS OR COLUMN TIES THROUGHOUT L_{sb} NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN $2d_b$ AND CLEAR COVER NOT LESS THAN d_b	3000	$58d_b$	$72d_b$
	4000	$50d_b$	$62d_b$
	5000	$45d_b$	$55d_b$
	6000	$41d_b$	$51d_b$
	8000	$36d_b$	$45d_b$
	10000	$32d_b$	$39d_b$
OTHER CASES	3000	$86d_b$	$107d_b$
	4000	$75d_b$	$93d_b$
	5000	$67d_b$	$84d_b$
	6000	$60d_b$	$76d_b$
	8000	$52d_b$	$65d_b$
	10000	$49d_b$	$59d_b$

d_b = NOMINAL DIAMETER OF BAR

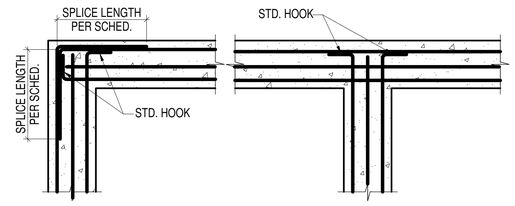
5 TYP. REINF. AT FOOTING INTERSECTION
1" = 1'-0"

NOTES:

1. FOR FOOTINGS WITH A SINGLE LAYER OF REINFORCEMENT, USE THE OUTER LAYER REINFORCING LAYOUT AND PLACE AT CENTER OF THE FOOTING.
2. FOR FOOTINGS WITH MORE THAN TWO LAYERS OF REINFORCEMENT, EXTEND THE MIDDLE LAYER REINFORCEMENT AS FAR AS POSSIBLE AND PROVIDE A STANDARD HOOK AT THE ENDS.
3. FOR DEVELOPMENT/SPLICE LENGTHS SEE SCHEDULE



DOUBLE LAYER OF HORIZ. REINFORCEMENT



MULTIPLE LAYER OF HORIZ. REINFORCEMENT

CETRIX DESIGN
A Cetrix Technologies LLC company

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LAKE FOREST
MCKINNEY, TX

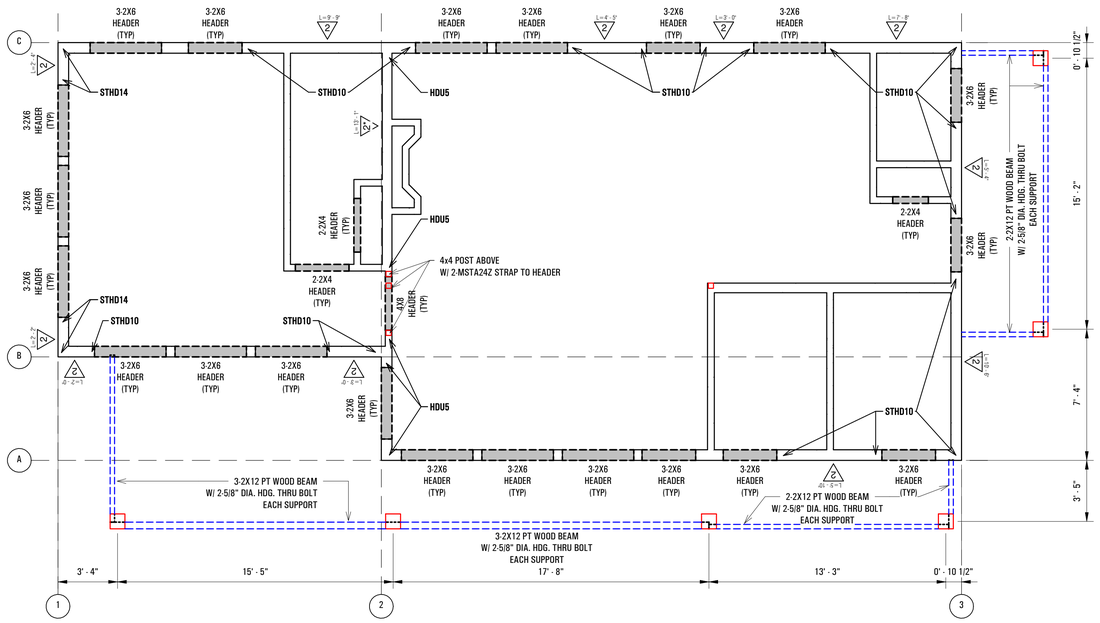
MARK	DATE	DESCRIPTION
ISSUE:		

PROJECT NO:
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FOUNDATION & SLAB PLAN

DRAWING SHEET NO:

S002



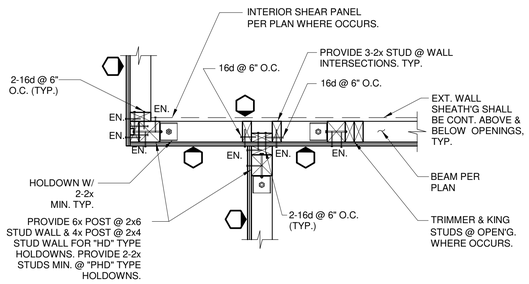
1 SRUCT WALL PLAN (SHOWING BEAMS ABOVE)
1/4" = 1'-0"

NOTES:

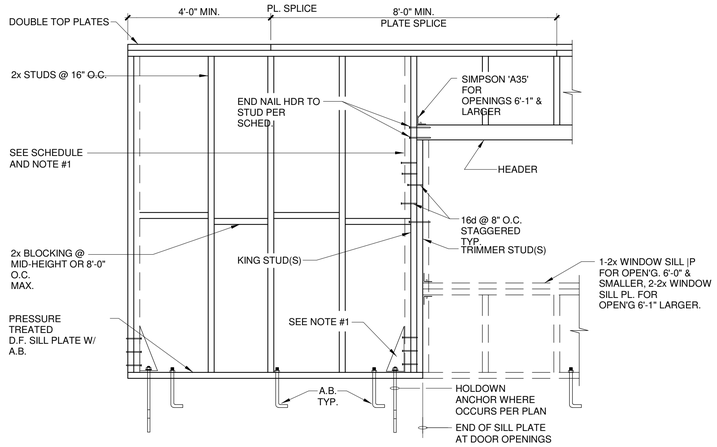
1. "MINIMUM MEMBER THICKNESS @ PANEL SEAM" REFERS TO FRAMING MEMBERS, INCLUDING PLATE AND BLOCKING, WHICH RECEIVE EDGE NAILING FROM ADJACENT PANELS.
2. 3x PLATES: USE 3x PLATES 5/8" DIAMETER ANCHOR BOLTS & 3"x3"x0.229" PLATE WASHERS AT ALL SHEAR WALL LOCATIONS.
3. LTP4 FRAMING CLIPS: LTP4 CLIPS MAY BE USED IN PLACE OF A35 CLIPS SHOWN IN SCHEDULE WERE LOCATION OF RIM OR BLOCKS ABOVE DOUBLE TOP PLATE ALLOWS. USE ONE LTP4 FOR EACH A35 CLIP.
4. SHEAR WALLS SHALL NOT BE OFFSET MORE THAN 4'-0" FROM EACH OTHER.
5. SHEAR PANELS TYPES SHALL NOT BE COMBINED IN THE SAME LINE OF RESISTANCE.
6. WALL STUDS SHALL BE 2X MIN @16" OC.
7. 10d NAILS SHALL BE PLACED NOT LESS THAN 3/8" FROM PANEL EDGES.
8. SPLICE TOP PLATES WITH ST6Z36, U.N.O.
9. 3"X3"X1/4" PLATE WASHERS, IN LIEU OF CUT WASHERS, SHALL BE PROVIDED FOR ALL PLYWOOD SHEAR WALL SILL PLATE ANCHOR BOLTS AND HOLD DOWNS.
10. BOLT HOLES THROUGH ANY HOLD DOWN POST SHALL BE OVERSIZED BY 1/16" AND SHALL BE VERIFIED BY INSPECTOR.
11. MUDSILL TO BE SILL GRADE REDWOOD OR SHALL BE PROTECTED WITH SODIUM BORATE. IF ANY OTHER PRESERVATIVE IS USED, PROTECT ALL FASTENERS IN THESE MATERIALS WITH 1.85 oz. OF ZINC GALVANIZED PER ASTM A653.
12. 8d = .131" DIA. X 2.5" COMMON NAIL.
13. 10d = .148" DIA X 3" COMMON NAIL

SHEAR WALL SYMBOL

SHEAR WALL TYPE — 1



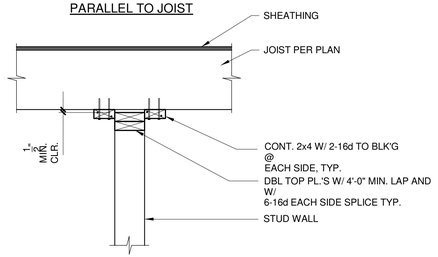
2 TYPICAL WALL INTERSECTION
1" = 1'-0"



NOTES:
1. USE DBL STUDS FOR SIMPSON "PHD" TYPE HOLDOWNS. USE 4x POST ADJACENT TO TRIMMER STUDS @ LOCATIONS WHERE A "HD" TYPE HOLDOWN IS SPECIFIED. EDGE NAIL PLYWOOD SHEATHING TO POST, KING AND TRIMMER STUDS.

WOOD STUD WALL FRAMING
NOT TO SCALE

PARALLEL TO JOIST

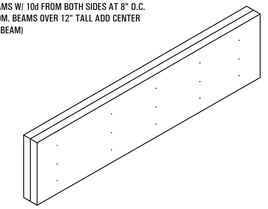


PERPENDICULAR TO JOIST

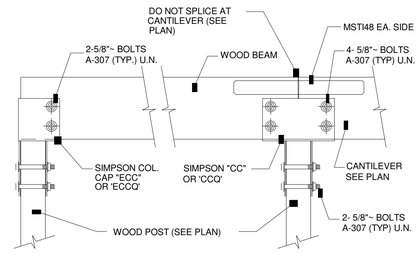
NON-BEARING PARTITIONAL WALL
NOT TO SCALE

4 TYP-WOOD-002
1" = 1'-0"

FASTEN MULTI-MEMBER WOOD BEAMS W/ 10d FROM BOTH SIDES AT 8" O.C. MAX., STAGGERED TOP AND BOTTOM. BEAMS OVER 12" TALL ADD CENTER ROW @ 12" O.C. MAX. (MAX. 3 PLY BEAM)



5 CONNECTION OF MULTIPLE PIECES OF TOP-LOADED BEAMS
1" = 1'-0"



6 TYPICAL BEAM TO COLUMN DETAILS
NTS

CETRIX DESIGN
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LAKE FOREST
MCKINNEY, TX

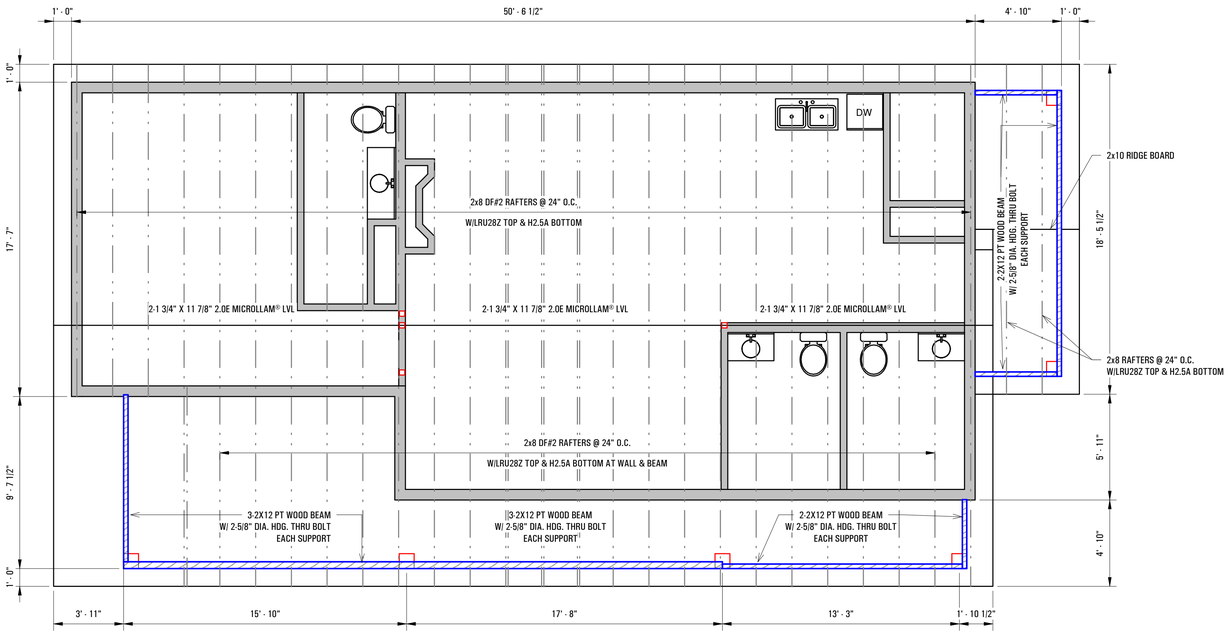
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ISSUE:		

PROJECT NO:
CAD FILE:
DATE:
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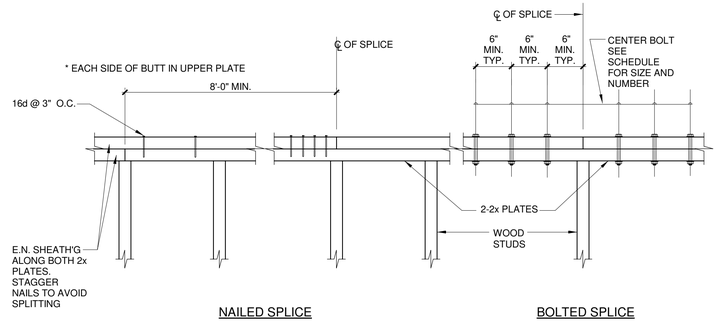
SRUCT WALL PLAN (SHOWING BEAMS ABOVE)

DRAWING SHEET NO:

S004

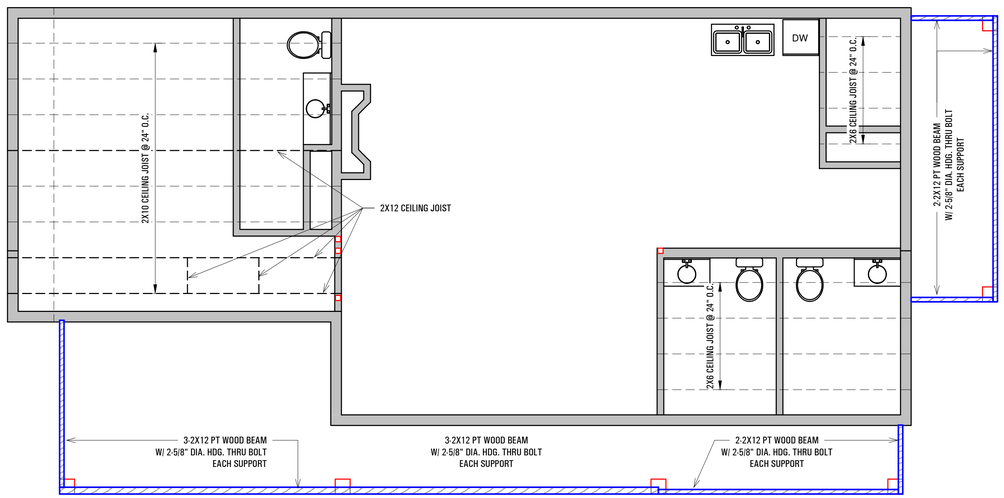


1 ROOF FRAMING PLAN
1/4" = 1'-0"

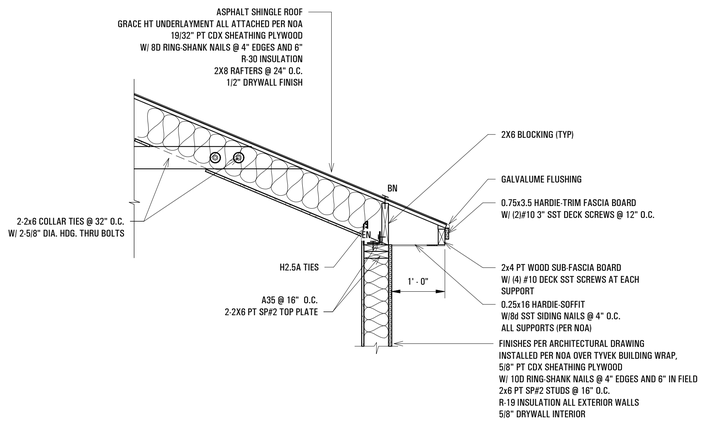


MARK	16d NAILS *	BOLTS *	REMARKS
A	12	-	ALL OTHERS
B	18	-	
C	24	-	USE TYPE "C" SPLICE U.O.N. FOR DRAGS & CHORDS
D	30	-	
E	-	2-3/4" DIA.	
F	-	3-3/4" DIA.	
G	-	4-3/4" DIA.	

TOP PLATE SPLICE
NOT TO SCALE



2 CEILING JOIST FRAMING PLAN
1/4" = 1'-0"



4 ROOF FRAMING EXTERIOR WALL
3/4" = 1'-0"

CETRIX DESIGN
A Cetrix Technologies LLC company

AMENTIES BLDG
4801 CEDAR CREEK DR.
LAKE FOREST
MCKINNEY, TX

MARK	DATE	DESCRIPTION
ISSUE:		

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SHEET TITLE:

ROOF FRAMING PLAN

DRAWING SHEET NO:

S005

COMcheck Software Version 4.1.2.1

Envelope Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Location: McKinney, Texas
Climate Zone: 3a
Project Type: New Construction
Vertical Glazing / Wall Area: 26%

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

On-site Renewable Energy

Building Area	Floor Area
1-Exercise center : Nonresidential	1066

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof 1: Attic Roof with Wood Joists, [Bldg. Use 1 - Exercise center]	1715	39.0	39.0	0.013	0.027
Exterior Wall 1: Wood-Framed, 16" o.c., [Bldg. Use 1 - Exercise center]	1716	19.0	19.0	0.028	0.064
Window 1: Wood Frame:Fixed, Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, PF 1.00, [Bldg. Use 1 - Exercise center]	392	---	---	0.550	0.460
Door 1: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Type: Energy code default, Double Pane, Clear , SHGC 0.70, PF 1.00, [Bldg. Use 1 - Exercise center]	63	---	---	0.800	0.770
Door 2: Wood, Non-Swinging, [Bldg. Use 1 - Exercise center]	84	---	---	0.250	0.179
Floor 1: Slab-On-Grade:Unheated, Horizontal with vertical 1 ft., [Bldg. Use 1 - Exercise center] (b)	1470	---	10.0	0.710	0.710

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.1.2.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version 4.1.2.1

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

On-site Renewable Energy

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Exercise center	1066	1.00	1066
		Total Allowed Watts =	1066

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Exercise center				
LED 1: LED MR 6W:	1	46	6	276
Incandescent 1: Incandescent 100W:	1	2	100	200
		Total Proposed Watts =		476

Interior Lighting PASSES: Design 55% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.1.2.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version 4.1.2.1

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Project Type: New Construction
Exterior Lighting Zone 3 (Other)

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Main entry	466 ft of	30	Yes	13980
			Total Tradable Watts (a) =	13980
			Total Allowed Watts =	13980
			Total Allowed Supplemental Watts (b) =	750

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 750 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Main entry (466 ft of door width): Tradable Wattage				
LED 1: LED Panel 33W:	1	13	33	429
			Total Tradable Proposed Watts =	429

Exterior Lighting PASSES: Design 97% better than code

Exterior Lighting Compliance Statement

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 exterior lighting systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.1.2.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version 4.1.2.1

Mechanical Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Location: McKinney, Texas
Climate Zone: 3a
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

On-site Renewable Energy

Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1 (Single Zone): Single Package Heat Pump Heating Mode: Capacity = 33828 kBtu/h, Proposed Efficiency = 4.00 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 40489 kBtu/h, , Air Economizer Proposed Efficiency = 10.00 EER, Required Efficiency: 9.50 EER + 9.6 IEER Fan System: FAN SYSTEM 1 | ALL -- Compliance (Motor nameplate HP method) : Fails: Fan system has no fans Fans:

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.1.2.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version 4.1.2.1

Inspection Checklist

Energy Code: 2012 IECC

Requirements: 100.0% were addressed directly in the COM*check* software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C406.4 [FI49][1]	On-site renewable efficiency package. One of the following levels of renewable energy must be satisfied: provide >= 1.75 Btu/h, or >= 0.50 watts per square foot of conditioned floor area or provide >= 3 percent of the energy used within the building for mechanical and service water heating equipment and lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C402.3.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.3.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.3.2 [PR14][1]	In enclosed spaces > 10,000 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C402.3.2.2 [PR15][1]	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value > 90 percent unless designed to exclude direct sunlight.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C104 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.2.6 [FO5][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C403.2.8.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.5 [FO9][3]	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.2.8 [FO12][3]	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply. *See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

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Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C402.4.3, C402.4.4 [FR18][3]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.4.7 [FR17][1]	Vestibules are installed on all building entrances. Doors have self-closing devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.3.3, C402.3.4 [FR8][1]	Vertical fenestration U-Factor.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.3.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.1.3 [FR13][1]	Fenestration products are certified as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

CETRIX DESIGN
A Cetrix Technologies LLC company

AMENTIES BLDG
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LAKE FOREST
MCKINNEY, TX

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CAD FILE:
DATE:
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CHECKED BY:
COPYRIGHT:
SHEET TITLE: Compliance Certificate
DRAWING SHEET NO: EC001

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.3 [ME55][2]	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*
C402.4.5.1 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.2.5.1 [ME59][1]	Demand control ventilation provided for spaces >500 sq.ft. and >25 people/1000 sq.ft. occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.7 [ME60][2]	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.2.8.1 [ME7][3]	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.8 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.7 [ME10][2]	Ducts and plenums sealed based on static pressure and location.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.7.1.3 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.1, C403.3.1.1 [ME62][1]	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.2.1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.2 [ME66][2]	VAV fan motors >=7.5 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.6 [ME57][1]	Exhaust air energy recovery on systems meeting Table C403.2.6	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.11 [ME71][2]	Unenclosed spaces that are heated use only radiant heat.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.2.1 [EL22][2]	Automatic controls to shut off all building lighting installed in all buildings.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.1.1 [EL23][2]	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.1.2 [EL15][3]	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.2.3 [EL16][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.3 [EL17][3]	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.2.2.2 [EL18][1]	Occupancy sensors installed in required spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.2.3 [EL20][3]	Primary sidelighted areas are equipped with required lighting controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.2.3 [EL21][1]	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.2.4 [EL25][2]	Automatic lighting controls for exterior lighting installed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.3 [EL4][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.3 [EL19][3]	Fluorescent luminaires with odd numbered lamp configurations that are within 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.4 [EL6][1]	Exit signs do not exceed 5 watts per face.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL24][1]	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.2.3 [EL8][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C402.4.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.4.2.1 [IN2][1]	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C303.2 [IN3][1]	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.2.1.1 [IN5][3]	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75, 3-year-aged solar reflectance index >= 64.0, initial year solar reflectance >= 0.70 and thermal emittance >= 0.75, or initial year solar reflectance index >= 82.0.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C104 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C303.1 [IN10][2]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.2.1 [IN14][2]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C402.4.6 [FI37][1]	Weatherseals installed on all loading dock cargo doors.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.2.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2 [FI38][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.2 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.3 [FI39][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.3 [FI40][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.2.4.1.1 [FI42][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.3, C408.2.5.3 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.3 [FI43][1]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.2 [FI10][1]	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.4.8 [FI26][3]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.2 [FI27][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.1 [FI16][3]	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.5.2 [FI18][1]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C405.6.2 [FI19][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
C408.2.1 [FI28][1]	Commissioning plan developed by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.4 [FI29][1]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.4 [FI30][1]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.1 [FI31][1]	HVAC equipment has been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.3 [FI32][1]	Economizers have been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.3 [FI48][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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