GENERAL NOTES

THESE GENERAL NOTES ARE TO BE USED AS A SUPPLEMENT TO THE SPECIFICATIONS. ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THE SPECIFICATIONS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ARCHITECT, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE REQUIRED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY; ERECTION MEANS, METHODS, AND SEQUENCES; TEMPORARY SHORING, FORMWORK, AND BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES. PROVIDE ADEQUATE RESISTANCE TO LOADS ON THE STRUCTURES DURING CONSTRUCTION PER SEI/ASCE STANDARD NO. 37-02 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION."

CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH DESIGN ASPECTS ONLY AND IS NOT INTENDED IN ANY WAY TO REVIEW THE CONTRACTOR'S CONSTRUCTION PROCEDURES.

STANDARDS
ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2003 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

CONTRACT DRAWINGS / DIMENSIONS

ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. CONSULTANT DRAWINGS BY OTHER DISCIPLINES ARE SUPPLEMENTARY TO ARCHITECTURAL DRAWINGS. REPORT DIMENSIONAL OMISSIONS OR DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND STRUCTURAL, MECHANICAL, ELECTRICAL OR CIVIL DRAWINGS TO ARCHITECT PRIOR TO PROCEEDING WITH WORK.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. PRIMARY STRUCTURAL ELEMENTS ARE DIMENSIONED ON STRUCTURAL PLANS AND DETAILS AND OVERALL LAYOUT OF STRUCTURAL PORTION OF WORK. SOME SECONDARY ELEMENTS ARE NOT DIMENSIONED SUCH AS, WALL CONFIGURATIONS, INCLUDING EXACT DOOR AND WINDOW LOCATIONS, ALCOVES, SLAB SLOPES AND DEPRESSIONS, CURBS, ETC. VERTICAL DIMENSIONAL CONTROL IS DEFINED BY ARCHITECTURAL WALL SECTIONS AND BUILDING SECTIONS. STRUCTURAL DETAILS SHOW DIMENSIONAL RELATIONSHIPS TO CONTROL DIMENSIONS DEFINED BY ARCHITECTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN **BOTH** ARCHITECTURAL AND STRUCTURAL DRAWINGS.

DESIGN CRITERIA

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD (2)	PARTITION LOAD	CONCENTRATED LOADS
ROOF	20 PSF	25 PSF (1)		
CLASSROOM	ACTUAL	40 PSF		1,000#
OFFICE	ACTUAL	50 PSF	+20 PSF	2,000#
CORRIDORS (1ST FLOOR)		100 PSF		2,000#

(1) DRIFT LOAD PER ASCE 7-02, SECTION 7.7.
(2) LIVE LOADS EXCEPT SNOW LOADS ARE REDUCED PER IBC SECTION 1607.9.

LATERAL FORCES

LATERAL FORCES ARE TRANSMITTED BY DIAPHRAGM ACTION OF ROOF AND FLOORS TO SHEAR WALLS. LOADS ARE THEN TRANSFERRED TO FOUNDATION BY SHEAR WALL ACTION WHERE ULTIMATE DISPLACEMENT IS RESISTED BY PASSIVE PRESSURE OF EARTH AND/OR SLIDING FRICTION. OVERTURNING IS RESISTED BY DEAD LOAD OF THE STRUCTURE.

WIND:

THE BUILDING MEETS THE CRITERIA TO USE THE "METHOD 1 - SIMPLIFIED PROCEDURE" PER ASCE 7-02.

- EXPOSURE CATEGORY = B
- BASIC WIND SPEED, Vss = 85 MPH
- WIND IMPORTANCE FACTOR, Iw = 1.15
- BUILDING CATEGORY PER TABLE 1604.5 = II
- INTERNAL PRESSURE COEFFICIENT (ENCLOSED) = ± 0.18
- COMPONENTS AND CLADDING LOADS (BASED ON EFFECTIVE WIND AREA = 10SF)

ZONE	NET DESIGN WIND PRESSURE
ROOF OVERHANG	-18.7 PSF
1	+10.0 PSF / -13.0 PSF
2	+10.0 PSF / -21.8 PSF
3	+10.0 PSF / -32.8 PSF
4	+13.0 PSF / -14.1 PSF
5	+13.0 PSF / -17.4 PSF

SEISMIC: $V = CsW$

WHERE $Cs = \frac{Sds}{(\frac{R}{Ie})}$; WITH

Cs MINIMUM $= 0.044\ Sds\ Ie$

& Cs MAXIMUM $= \frac{Sd1}{(\frac{R}{Ie})T}$

SEISMIC IMPORTANCE FACTOR, Ie = 1.0
SEISMIC USE GROUP PER TABLE 1604.5 FOOTNOTE A = II
SPECTRAL RESPONSE ACCELERATIONS Ss = 1.22 S1 = 0.37
SITE CLASS PER TABLE 1615.1 = D
SPECTRAL RESPONSE COEFFICIENTS Sds=0.813 & Sd1=0.353
SEISMIC DESIGN CATEGORY = D
W = DEAD LOAD OF BUILDING = 257 kips
ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE ANALYSIS
RESPONSE MODIFICATION FACTOR PER TABLE 1617.6.2 R = 6.5
Cs = 0.156
DESIGN BASE SHEAR, V = 40.3 kips ULT., 28.8 kips ALLOWABLE

PIPES, DUCTS AND MECHANICAL EQUIPMENT SUPPORTED OR BRACED FROM STRUCTURE: CONFORM TO SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC. PUBLICATION "SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL SYSTEMS". SPRINKLER LINE ATTACHMENTS SHALL CONFORM TO NFPA PAMPHLET 13.

FOUNDATION DESIGN CRITERIA (GEOTECHNICAL REPORT BY HWA GEOSCIENCES INC., DATED SEPT. 27, 2005).

SOIL BEARING PRESSURE: 4000 PSF

ACTIVE PRESSURE - RESTRAINED: 50 PCF (ASSUMED)
ACTIVE PRESSURE - UNRESTRAINED: 35 PCF (ASSUMED)
PASSIVE RESISTANCE: 275 PCF
COEFFICIENT OF FRICTION: 0.40
*1/3 INCREASE ALLOWED FOR SEISMIC OR WIND LOADING

ALL FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED EARTH OR "STRUCTURAL BACKFILL". NATIVE EARTH BEARING SHALL BE SURFACE COMPACTED. AREAS OVER-EXCAVATED SHALL BE BACKFILLED WITH LEAN CONCRETE (F'c=2000 PSI) OR "STRUCTURAL BACKFILL". AREAS DESIGNATED "STRUCTURAL BACKFILL" SHALL BE FILLED WITH APPROVED WELL-GRADED BANKRUN MATERIAL. MAXIMUM SIZE OF ROCK 4". FROZEN SOIL, ORGANIC MATERIAL AND DELETERIOUS MATTER NOT ALLOWED. COMPACT TO AT LEAST 95% OF ITS MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION TO AVOID DAMAGE TO BURIED LINES, TANKS, AND OTHER CONCEALED ITEMS. UPON DISCOVERY, DO NOT PROCEED WITH WORK UNTIL RECEIVING WRITTEN INSTRUCTIONS FROM ARCHITECT. A COMPETENT REPRESENTATIVE OF THE OWNER SHALL INSPECT ALL FOOTING EXCAVATIONS FOR SUITABILITY OF BEARING SURFACES PRIOR TO PLACEMENT OF REINFORCING STEEL. PROVIDE DRAINAGE AND DEWATERING AROUND ALL WORK TO AVOID WATER-SOFTENED FOOTINGS. PILE SHALL CONFORM TO THE REQUIREMENTS OF IBC SECTIONS 1808 & 1810.

FREE DRAINING BACKFILL MATERIAL FOR RETAINING & BASEMENT WALLS

A CLEAN, FREE DRAINING, WELL GRADED GRANULAR MATERIAL CONFORMING TO ASTM D2487 GW OR SW WHOSE MAXIMUM PARTICLE SIZE DOES NOT EXCEED 3/4" AND WHOSE FINES CONTENT (MATERIAL PASSING THE NO. 200 SIEVE) DOES NOT EXCEED 5%,

WITH A MAXIMUM DUST RATIO = $\frac{\%\ \text{PASSING U.S. NO. 200 SIEVE}}{\%\ \text{PASSING U.S. NO. 40 SIEVE}}$ = 2/3 MAX.

CONCRETE

CAST-IN-PLACE CONCRETE

CODES, SPECIFICATIONS, AND STANDARDS; CONCRETE WORK SHALL CONFORM TO THE FOLLOWING CODES, SPECIFICATIONS, AND STANDARDS, AND THE STANDARDS AND SPECIFICATIONS THEY REFERENCE. THE CONTRACTOR SHALL OBTAIN AND HAVE READILY AVAILABLE ON SITE THE LATEST VERSION OF THE "ACI MANUAL OF CONCRETE PRACTICE":

ACI:
1. ACI-116 'CEMENT AND CONCRETE TERMINOLOGY'.
2. ACI-301 'STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE'.
3. ACI-302 'GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION'.
4. ACI-304 'GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE'.
5. ACI-305 'HOT WEATHER CONCRETING'.
6. ACI-306 'COLD WEATHER CONCRETING'.
7. ACI-308 'STANDARD SPECIFICATION FOR CURING CONCRETE'.
8. ACI-309 'STANDARD PRACTICE FOR CONSOLIDATION OF CONCRETE'.
9. ACI-311 'GUIDE FOR CONCRETE INSPECTION'.
10. ACI-315 'DETAILS AND DETAILING OF CONCRETE REINFORCEMENT'.
11. ACI-318 'BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE'.
12. ACI-506 'GUIDE FOR SHOTCRETING'.
13. ACI-117 'STANDARD SPECIFICATIONS FOR TOLERANCES'
14. ACI-347 'GUIDE TO FORMWORK OF CONCRETE'

ASTM:
1. ASTM C33 'STANDARD SPECIFICATION FOR CONCRETE AGGREGATES'.
2. ASTM C94 'STANDARD SPECIFICATION FOR READY-MIX CONCRETE'.
3. ASTM C150 'STANDARD SPECIFICATION FOR PORTLAND CEMENT'.
4. ASTM C260 'STANDARD SPECIFICATION FOR AIR-ENTRAINED ADMIXTURES FOR CONCRETE'.
5. ASTM C309 'STANDARD SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS FOR CURING CONCRETE'.
6. ASTM C494 'STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE'.
7. ASTM C595 'STANDARD SPECIFICATION FOR BLENDED HYDRAULIC CEMENTS'.
8. ASTM C618 'STANDARD SPECIFICATION FOR ... FLY-ASH...', MAXIMUM LOSS ON IGNITION SHALL BE 1.0%.
9. ASTM C1017 'STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR USE IN PRODUCING FLOWING CONCRETE'.
10. ASTM C-1116 'SYNTHETIC FIBER REINFORCED CONCRETE AND SHOTCRETE'.
11. ASTM C-1218 'STANDARD TEST METHOD FOR WATER-SOLUBLE CHLORIDE IN MORTAR AND CONCRETE'.

MIX DESIGNS: THE CONTRACTOR SHALL DESIGN CONCRETE MIXES THAT, MEET OR EXCEED THE REQUIREMENTS OF THE CONCRETE MIX TABLE. THE MIX DESIGNS SHALL FACILITATE ANTICIPATED PLACEMENT METHODS, WEATHER, REBAR CONGESTION, ARCHITECTURAL FINISHES, CONSTRUCTION SEQUENCING, STRUCTURAL DETAILS, AND ALL OTHER FACTORS REQUIRED TO PROVIDE A STRUCTURALLY SOUND, AESTHETICALLY ACCEPTABLE FINISHED PRODUCT. WATER REDUCING ADMIXTURES WILL LIKELY BE REQUIRED TO MEET THESE REQUIREMENTS. CONCRETE MIX DESIGNS SHALL CLEARLY INDICATE THE TARGET SLUMP. SLUMP TOLERANCE SHALL BE ± 1-1/2 INCHES.

AGGREGATE: COARSE AND FINE AGGREGATE SHALL CONFORM TO ASTM C-33

CEMENT: CEMENT SHALL CONFORM TO ASTM-150, TYPE II PORTLAND CEMENT, UNLESS NOTED OTHERWISE.

ALTERNATE MIX DESIGNS: VARIATIONS TO THE MIX DESIGN PROPORTIONS MAY BE ACCEPTED IF SUBSTANTIATED IN ACCORDANCE WITH ACI-318, CHAPTER 5. PROVIDE SUBMITTALS A MINIMUM OF TWO WEEKS PRIOR TO BID FOR DETERMINATION OF ACCEPTABILITY.

ADMIXTURES: ADMIXTURES SHALL BE BY MASTER BUILDERS, W.R. GRACE, OR PRE-APPROVED EQUAL. ALL MANUFACTURERS RECOMMENDATIONS SHALL BE FOLLOWED.

WATER: SHALL BE CLEAN AND POTABLE.

MAXIMUM CHLORIDE CONTENT: THE MAXIMUM WATER SOLUBLE CHLORIDE CONTENT SHALL NOT EXCEED 0.15% BY WEIGHT OF CEMENTITIOUS MATERIAL UNLESS NOTED OTHERWISE.

CONCRETE EXPOSED TO WEATHER: PROVIDE 5.0% TOTAL AIR CONTENT FOR ALL CONCRETE EXPOSED TO WEATHER. TOTAL AIR CONTENT IS THE SUM OF ENTRAINED AIR PROVIDED BY ADMIXTURES AND NATURALLY OCCURRING ENTRAPPED AIR. AIR CONTENT SHALL BE TESTED PRIOR TO BEING PLACED IN THE PUMP HOPPER OR BUCKET; IT IS NOT REQUIRED TO BE TESTED AT THE DISCHARGE END OF THE PUMP HOSE. THE TOLERANCE ON ENTRAPPED AIR SHALL BE +2.0% AND -1.5% WITH THE AVERAGE OF ALL TESTS NOT LESS THAN THE SPECIFIED AMOUNT.

ITEM	DESIGN f'c (PSI)	MAX. W/C RATIO	MIN. (2) FLYASH (PCY)	MAX. AGGREGATE SIZE (IN)	NOTES	MIN. CEMENTITOUS (1) MATERIAL (SACKS/YARD)
STEM WALLS	4000 @ 28 DAYS	0.45	100	3/4		5-1/2
FOUNDATIONS	3000 @ 28 DAYS	0.50	--	3/4		5
SLAB ON GRADE	4000 @ 28 DAYS	0.45	100	3/4	3	5-1/2
ALL OTHER CONCRETE	4000 @ 28 DAYS	0.50	--	3/4		5-1/2

CONCRETE MIX NOTES:

1. TOTAL CEMENTITOUS MATERIAL IS THE SUM OF ALL CEMENT PLUS FLYASH.

2. AT THE CONTRACTORS OPTION FLYASH MAY BE SUBSTITUTED FOR CEMENT BUT SHALL NOT EXCEED 25% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL.

3. FIBROUS CONCRETE REINFORCEMENT SHALL BE "FIBERMESH" MANUFACTURED BY SI CONCRETE SYSTEMS OR PRE-APPROVED EQUAL AND SHALL CONFORM TO ASTM C-1116 TYPE III 4.1.3, PERFORMANCE LEVEL 1, AND SHALL BE 100 PERCENT VIRGIN POLYPROPYLENE, FIBRILLATED FIBERS CONTAINING NO REPROCESSED OLEFIN MATERIALS AND SPECIFICALLY MANUFACTURED FOR USE AS CONCRETE SECONDARY REINFORCEMENT. DOSAGE SHALL FOLLOW MANUFACTURER'S RECOMMENDATION BUT NOT LESS THAN 1.5 LB/CU. YD.

CONCRETE PLACEMENT

PLACE CONCRETE FOLLOWING ALL APPLICABLE ACI RECOMMENDATIONS. CONCRETE SHALL BE PROPERLY CONSOLIDATED PER ACI 309 USING INTERIOR MECHANICAL VIBRATORS, DO NOT OVER-VIBRATE. CONCRETE SHALL BE POURED MONOLITHICALLY BETWEEN CONSTRUCTION OR EXPANSION JOINTS. IF CONCRETE IS PLACED BY THE PUMP METHOD, HORSES SHALL BE PROVIDED TO SUPPORT THE HOSE, **THE HOSE SHALL NOT BE ALLOWED TO RIDE ON THE REINFORCING.** WEATHER FORECASTS SHALL BE MONITORED AND ACI RECOMMENDATIONS FOR HOT AND COLD WEATHER CONCRETING SHALL BE FOLLOWED AS REQUIRED. CONCRETE SHALL NOT FREE FALL MORE THAN 5 FEET DURING PLACEMENT WITHOUT WRITTEN APPROVAL OF STRUCTURAL ENGINEER.

FORMWORK STRIPPING

COLUMNS & WALLS - COLUMNS AND WALLS NOT SUPPORTING FRAMING WEIGHT MAY BE STRIPPED AS SOON AS FORMS CAN BE REMOVED WITHOUT DAMAGING THE CONCRETE AND THE CONCRETE HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 500 PSI.

COLD WEATHER PLACEMENT

1. COLD WEATHER IS DEFINED BY ACI 306 AS "A PERIOD WHEN FOR MORE THAN 3 SUCCESSIVE DAYS THE MEAN DAILY TEMPERATURE DROPS BELOW 40° F."

2. NO CONCRETE SHALL BE PLACED ON FROZEN OR PARTIALLY FROZEN GROUND. THAWING THE GROUND WITH HEATERS IS PERMISSIBLE.

3. CONCRETE MIX TEMPERATURES SHALL BE AS SHOWN BELOW. HEATING OF WATER AND/OR AGGREGATES MAY BE REQUIRED TO ATTAIN THESE TEMPERATURES.

4. THE CONCRETE MAY REQUIRE PROTECTION FOR 4-7 DAYS AFTER POURING. IF TEMPERATURES REMAIN BELOW FREEZING, INSULATING BLANKET COVERAGE IS REQUIRED. IF TEMPERATURES ARE SLIGHTLY BELOW FREEZING (30° F MIN.) AT NIGHT AND ABOVE FREEZING DURING THE DAY, KRAFT PAPER WITH COMPLETE COVERAGE MAY BE USED IN LIEU OF INSULATED BLANKETS.

5. NO ADDITIVES CONTAINING CHLORIDES SHALL BE USED. USE "POZZUTEC 20+" BY MASTER BUILDERS OR "POLARSET" BY W.R. GRACE OR PRE-APPROVED EQUAL.

CONDITION OF PLACEMENT AND CURING		WALLS & SLABS	FOOTINGS
MIN. TEMP. FRESH CONCRETE AS MIXED FOR WEATHER INDICATED, DEGREES F.	ABOVE 30° F.	60	55
	0 TO 30° F.	65	60
	BELOW 0° F.	70	65
MIN. TEMP. FRESH CONCRETE AS PLACED AND MAINTAINED, DEGREES F.		55	50
MAX. ALLOWABLE GRADUAL DROP IN TEMP. THROUGHOUT FIRST 24 HOURS AFTER END OF PROTECTION, DEGREES F.		50	40

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REVISIONS:

REVISION NUMBER	IN PROGRESS	CONSTRUCTION DOCUMENTS	THIS SHEET	REVISION EDITION CLOSING DATE

date FEBRUARY 2006

Sheet Title
GENERAL NOTES

Sheet No.
S1.01

Job No.
2005-124 G (1-1)

CONSTRUCTION DOCUMENTS

HOT OR WINDY WEATHER PLACEMENT

HOT WEATHER IS DEFINED BY ACI 305 AS "ANY COMBINATION OF HIGH AIR TEMPERATURE, LOW RELATIVE HUMIDITY, AND WIND VELOCITY, TENDING TO IMPAIR THE QUALITY OF FRESH HARDENED CONCRETE." ACI 305 FIGURE 2.1.5 SHALL BE USED BY THE CONTRACTOR TO ESTIMATE THE RATE OF EVAPORATION. WHEN THE ESTIMATED RATE OF EVAPORATION IS GREATER THAN 0.2 PSF/HOUR THE PLACEMENT SHALL BE CONSIDERED A HOT WEATHER PLACEMENT. PRECAUTIONS AGAINST PLASTIC SHRINKAGE CRACKING ARE NECESSARY. PRECAUTIONS TAKEN BY THE CONTRACTOR VARY DEPENDING UPON THE FACTORS ASSOCIATED WITH WATER EVAPORATION AND INCLUDE BUT ARE NOT LIMITED TO:

1. LIMITING CONCRETE TEMPERATURE TO 100°F AT TIME OF PLACEMENT.
2. APPLICATION OF AN EVAPORATION RETARDER.
3. USE OF FOG SPRAY.
4. REDUCTION OF POUR SIZE.
5. PLACING CONCRETE AT NIGHT.

CONTROL AND CONSTRUCTION JOINTS

CONSTRUCTION JOINTS SHALL MEET THE REQUIREMENTS OF ACI 301 SECTIONS 2.2.2.5 AND 5.3.2.6. SPECIAL BONDING METHODS PER SECTION 5.3.2.6 SHALL BE SATISFIED BY ITEM 6 BELOW UNLESS OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN ON PLAN OR ADDITIONAL CONSTRUCTION JOINTS ARE REQUIRED SUBMIT PROPOSED JOINTING FOR STRUCTURAL ENGINEERS APPROVAL. PROVIDE CONSTRUCTION JOINTS AS INDICATED BELOW UNLESS NOTED OTHERWISE ON THE PLANS:

1. SLABS ON GRADE: PROVIDE CONSTRUCTION AND/OR CONTROL JOINTS AT 16 FEET O.C. MAXIMUM FOR UNEXPOSED SLABS ON GRADE AND 12 FEET O.C. FOR EXPOSED SLABS ON GRADE.

2. WALLS AND COLUMNS: COORDINATE CONSTRUCTION JOINTS WITH ARCHITECTURAL REVEALS.

3. ATTACHMENT OF NEW CONCRETE TO EXISTING: WHERE SHOWN, ROUGHEN CONCRETE TO A MINIMUM AMPLITUDE OF 1/4" USING IMPACT HAMMER. REMOVE ALL LOOSE OR DAMAGED CONCRETE, THOROUGHLY FLUSH ALL SURFACES WITH POTABLE WATER, AIR BLAST WITH OIL FREE COMPRESSED AIR TO REMOVE ALL WATER.

EMBEDDED ITEMS

EMBEDDED CONDUIT IS NOT PERMITTED IN SLAB EXCEPT WHERE SPECIFICALLY SHOWN. WHERE ALLOWED IT SHALL BE PLACED AND REINFORCED PER THE TYPICAL CONCRETE DETAILS. NO ALUMINUM ITEMS SHALL BE EMBEDDED IN ANY CONCRETE. ALL EMBED PLATES SHALL BE SECURELY FASTENED IN PLACE. ALL EMBEDDED STEEL ITEMS EXPOSED TO EARTH OR WEATHER SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.

CONCRETE CURING AND SEALING

CURING PROCEDURES SHALL COMMENCE IMMEDIATELY AFTER FINISHING CONCRETE TO MAINTAIN CONCRETE IN A MOIST CONDITION. VERIFY CURING AND/OR SEALING PRODUCTS ARE COMPATIBLE WITH FLOOR COVERINGS SHOWN ON THE ARCHITECTURAL DRAWINGS. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS.

GROUT

NON-SHRINK GROUT: MASTER BUILDERS "MASTERFLOW 555" OR PRE-APPROVED EQUAL. GROUT SHALL CONFORM TO CRD-C621 AND ASTM C1107 GRADE B WHEN TESTED AT A FLUID CONSISTENCY PER CRD- C611-85 FOR 30 MINUTES. GROUT MAY BE PLACED FROM A 25 SECOND FLOW TO A STIFF PACKING CONSISTENCY. FILL OR PACK ENTIRE SPACE UNDER PLATES OR SHAPES. NO GROUTING SHALL BE DONE BELOW 40° F. PREPARE THE EXISTING CONCRETE SURFACES TO PREVENT PREMATURE LOSE OF WATER FROM THE GROUT THAT WOULD AFFECT PROPER CURING.

EPOXY GROUT: MASTER BUILDERS "PASTE LPL", OR HILTI "HY-150", OR SIMPSON "S.E.T.", OR COVERT OPERATIONS "CIA-GEL 7000", OR PRE-APPROVED EQUAL. TWO PART LOW SAG EPOXY. GROUT MAY CONTAIN QUARTZ SAND AGGREGATE AS PROPORTIONED BY THE MANUFACTURER. USE EQUIPMENT WHICH WILL ACCURATELY MIX AND DISPENSE THE COMPONENTS. HOLE SHALL BE DRY AND CLEANED WITH WIRE BRUSH AND PRESSURIZED AIR JUST PRIOR TO INSTALLING GROUT. THE REBAR OR ROD SHALL BE CLEAN AND INSTALLED SLOWLY, AND SHALL BE ROTATED AS IT IS PUSHED INTO THE HOLE. COLD WEATHER GROUTING SHALL BE DONE WITH PROPER GROUT FORMULA. FIRST STAGES OF THE GROUTING OPERATION SHALL BE INSPECTED BY AN AGENT AS RECOMMENDED BY THE OWNER.

REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60 (GRADE A706 FOR WELDED BARS UNLESS OTHERWISE NOTED, GRADE 40 FOR BEND OUT BARS). DETAIL, FABRICATE AND PLACE PER ACI 315 AND ACI 318.

WELDED WIRE FABRIC REINFORCEMENT. SHALL CONFORM TO ASTM A-82 AND A-185. LAP ONE FULL MESH ON SIDES AND ENDS.

REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE

BAR SIZE	MINIMUM LAP SPLICE LENGTHS ("Ls") TOP BARS(1)	MINIMUM LAP SPLICE LENGTHS ("Ls") OTHER BARS	MINIMUM DEVELOPMENT LENGTHS ("Ld") TOP BARS(1)	MINIMUM DEVELOPMENT LENGTHS ("Ld") OTHER BARS	MINIMUM EMBEDMENT LENGTH FOR STANDARD END HOOKS ("Ldh")
#3	2'-0"	1'-6"	1'-6"	1'-3"	0'-7"
#4	2'-8"	2'-0"	2'-0"	1'-7"	0'-9"
#5	3'-4"	2-7"	2-7"	2-0"	1'-0"
#6	4'-0"	3'-1"	3'-1"	2'-4"	1'-2"

SPLICE TABLE NOTES:

1. "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.

REINFORCING STEEL COVER

PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE.

CONCRETE CAST AGAINST EARTH ---------- 3"
EXPOSED TO WEATHER OR EARTH ---------- 2"
TIES ON BEAMS AND COLUMNS ---------- 1-1/2"
WALLS AND SLABS NOT EXPOSED TO WEATHER---- 3/4"

CONCRETE INSERTS: THREADED DOWEL BAR SUBSTITUTIONS SHALL BE MANUFACTURED BY RICHMOND SCREW ANCHOR CO., INC., OR PRE-APPROVED EQUAL AND SHALL BE CAPABLE OF DEVELOPING THE FULL TENSILE CAPACITY OF THE BAR.

STRUCTURAL STEEL

DETAILING, FABRICATION AND ERECTION

ALL WORKMANSHIP SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION, 9TH EDITION, THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN, JUNE 1, 1989 INCLUDING SUPPLEMENT NO. 1, DECEMBER 17, 2001 AND THE AISC CODE OF STANDARD PRACTICE, MARCH 2000.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES, AND OTHER AIDES, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, WELD EXTENSION TABS, COPES, SURFACE ROUGHNESS VALUES AND TAPERS OF UNEQUAL PARTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLIANCE WITH ALL CURRENT OSHA REQUIREMENTS.

HOLES, COPES OR OTHER CUTS OR MODIFICATIONS OF THE STRUCTURAL STEEL MEMBERS SHALL NOT BE MADE IN THE FIELD WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

MATERIAL PROPERTIES

WIDE FLANGE SECTIONS: ASTM A992 (Fy = 50 KSI)

OTHER SHAPES AND PLATES: ASTM A36 (Fy = 36 KSI)

STRUCTURAL STEEL PIPES: ASTM A53, GRADE B, TYPE E OR S (Fy =35 KSI).

STEEL STRUCTURAL TUBING: ASTM A500, GRADE B, (Fy =46 KSI).

MACHINE BOLTS (M.B.): ASTM A307, GRADE A

HIGH-STRENGTH BOLTS: A325-ASTM F1852, A490-ASTM A490

ANCHOR BOLTS (A.B.): ASTM F1554, GRADE 36, CLASS 2A

WELDING

STRUCTURAL STEEL: WELD IN ACCORDANCE WITH "STRUCTURAL WELDING CODE" AWS D-1.1.

REINFORCING STEEL: WELD IN ACCORDANCE WITH "REINFORCING STEEL WELDING CODE" AWS D-1.4. WELD ONLY WITH SPECIFIC APPROVAL OF THE STRUCTURAL ENGINEER. IN NO CASE SHALL A WELD BE MADE WITHIN 6 BAR DIAMETERS OF A "COLD BEND".

CERTIFICATION: ALL WELDING SHALL BE PERFORMED BY WABO/AWS CERTIFIED WELDERS. WELDERS SHALL BE PREQUALIFIED FOR EACH POSITION AND WELD TYPE WHICH THE WELDER WILL BE PERFORMING.

WELDED CONNECTIONS INSPECTION:

1. ALL WELDING SHALL BE CHECKED BY VISUAL MEANS AND BY OTHER METHODS DEEMED NECESSARY BY THE WELDING INSPECTOR.

GENERAL REQUIREMENTS

EPOXY GROUTED ANCHORS: "ALL-THREAD" - ASTM A36 (FY = 36 KSI)

EXPANSION ANCHORS: "KWIKBOLT II" BY HILTI, INC., OR "POWER-BOLT" BY POWERS/RAWL FASTENING, INC., OR PRE-APPROVED EQUAL. EMBED BOLT INTO CONCRETE OR MASONRY 8 BOLT DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE. INSTALL ANCHOR PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.

FINISH: STRUCTURAL STEEL SHALL BE PRIME PAINTED, UNLESS NOTED OTHERWISE, AND SHALL BE CLEAN OF LOOSE RUST, LOOSE MILL SCALE, OIL, GREASE AND OTHER FOREIGN SUBSTANCES AND SHALL MEET THE REQUIREMENTS OF SSPC-SP1. WHERE STRUCTURAL STEEL IS NOTED TO BE PAINTED, ALL AREAS COMPROMISING THE FAYING SURFACES OF BOLTED CONNECTIONS MADE WITH SLIP-CRITICAL TYPE BOLTS (A325SC OR A490SC) SHALL COMPLY WITH THE REQUIREMENTS OF THE RCSC SPECIFICATION. WHERE STRUCTURAL STEEL IS NOTED TO BE GALVANIZED, IT SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, A384, AND A385. ALL SURFACES WITHIN TWO INCHES OF ANY FIELD WELD LOCATION SHALL BE FREE OF MATERIALS THAT WOULD PREVENT PROPER WELDING OR PRODUCE OBJECTIONABLE FUMES. FIELD TOUCH-UP OF PRIMED, PAINTED, AND GALVANIZED SURFACES SHALL BE PERFORMED TO REPAIR COATING ABRASIONS, AS WELL AS TO PROTECT ALL AREAS AT CONNECTIONS.

CARPENTRY

NAILS: CONNECTION DESIGNS ARE BASED ON "COMMON WIRE" NAILS WITH THE FOLLOWING PROPERTIES:

PENNYWEIGHT	DIAMETER (INCHES)	LENGTH (INCHES)
8d	0.131	2-1/2
10d	0.148	3
16d	0.162	3-1/2
20d	0.192	4

FOR DIAPHRAGM OR SHEAR WALL NAILING THE FOLLOWING FASTENER TYPES MAY BE USED AT EQUIVALENT SPACING TO THAT SPECIFIED ON PLANS

FASTENER TYPE	DIAMETER (INCHES)	LENGTH (INCHES)	EQUIVALENT SPACING		
8d COMMON WIRE	0.131	2-1/2"	6"	4"	3"
8d "DIPPED GALV. BOX"	0.131	2-1/2"	6"	4"	3"
8d "SHINY BOX"	0.113	2-1/2"	4-1/2"	3"	2-1/2"
12 GA. STAPLES	0.1055	1-7/8"*	6"	5-1/2"	4"
14 GA. STAPLES	0.080	1-1/2"*	6"	4"	3"
15 GA STAPLES	0.072	1-1/2"*	5"	3"	2-1/2"
10d COMMON WIRE	0.148	3	6"	4"	3"
10d "HOT DIPPED GALV. BOX"	0.148	3	6"	4"	3"
10d "SHINY BOX"	0.128	3	4-1/2"	3"	2-1/4"

*BASED ON 1/2" PLYWOOD OR OSB

WOOD SHEATHING (STRUCTURAL): **SHEATHING ON ROOF SURFACES SHALL BE PLYWOOD ONLY.** SHEATHING ON FLOOR AND WALLS SHALL BE PLYWOOD OR ORIENTED STRAND BOARD (OSB). PLYWOOD SHEATHING SHALL BE 5-PLY MINIMUM WHERE INDICATED AS 3/4" OR THICKER. WOOD SHEATHING SHALL BE "STRUCTURAL I" CONFORMING TO PS1-95 AND/OR PS2-92. ALL PANELS SHALL BEAR THE STAMP OF AN APPROVED GRADING AGENCY. SPAN RATING SHALL BE PROVIDED AS FOLLOWS: ROOF FRAMING AT 32"O.C. (48/24); ROOF FRAMING AT 24"O.C. (32/16); WALLS (32/16); FLOORS (20"O.C.) ALL WOOD SHEATHED WALLS SHALL BE BLOCKED AT ALL PANEL EDGES UNLESS OTHERWISE NOTED.

GLUE-LAMINATED MEMBERS: CONFORM TO ANSI/AITC A190.1. MEMBERS SHALL BE COMBINATION 24F-V4 DOUGLAS FIR FOR SIMPLE SPANS AND 24F-V8 DOUGLAS FIR FOR CANTILEVERED SPANS AND TRUSS CHORDS (FB=2400 PSI, FV=240 PSI, E=1.8X10^6 PSI) AND 22F-V/POC1 FOR COLUMNS, ALL WITH EXTERIOR GLUE. ARCHITECTURAL APPEARANCE GRADE WHERE EXPOSED TO VIEW; INDUSTRIAL APPEARANCE WHERE NOT EXPOSED TO VIEW. ALL MEMBERS TO HAVE AITC OR APA-EWS STAMP. CAMBER AS SHOWN ON STRUCTURAL DRAWINGS.

FRAMING LUMBER:
STANDARDS: EACH PIECE SHALL BEAR THE GRADE TRADEMARK OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), OR OTHER AGENCY ACCREDITED BY THE AMERICAN LUMBER STANDARD COMMITTEE (ALSC) TO GRADE UNDER ALSC CERTIFIED GRADING RULES.

SPECIES AND GRADE (BASE DESIGN VALUE)
1. 6x BEAMS AND HEADERS: "DOUG FIR-LARCH" NO. 1 (Fb=1350 PSI, Fv=170 PSI)
2. 2x TO 4x JOISTS, PURLINS AND HEADERS: "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fv=180 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fv=150 PSI)
3. 6x POSTS AND COLUMNS: "DOUG FIR-LARCH" NO. 1 (Fc=1000 PSI)
4. EXTERIOR STUDS, INTERIOR BEARING WALLS AND 4x COLUMNS: "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fc=1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI)
5. INTERIOR NON-BEARING STUD WALLS: "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fc=1350 PSI) OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI)
6. 2x & 3x T&G DECKING: "DOUG FIR-LARCH" SELECT (Fb=1650 PSI, E=1700 KSI)
7. THE MINIMUM GRADE OF ALL OTHER STRUCTURAL FRAMING: "DOUG FIR-LARCH" NO. 2 (Fb=900 PSI, Fc=1350 PSI), OR "HEM-FIR" NO. 1 (Fb=975 PSI, Fc=1350 PSI).
8. UTILITY & STANDARD GRADES NOT PERMITTED.

PRESERVATIVE TREATED WOOD REQUIREMENTS:
TREATMENTS OTHER THAN THOSE LISTED BELOW ARE NOT PERMITTED.

EXPOSURE		APPLICATION	SPECIFIED MATERIAL	PRESERVATIVE TREATMENT (1)	CONNECTORS & FASTENERS (2)(3)
DRY		FOUNDATION SILL PLATES, TOP PLATES & LEDGERS ON CONCRETE OR MASONRY WALLS (4)	2x, 4x, 6x, OR GLU-LAM (FIR)	CCA, SBX	GALV (G60)
				ACQ, CBA, CA	GALV (G185)
WET		FRAMING, DECKING, POSTS & LEDGERS	2x, & 4x (FIR)	CCA	GALV (G90)
				ACQ, CBA, CA	GALV (G185)
			2x, & 4x (CEDAR)	NONE	GALV (G90)
		BEAMS & COLUMNS	6x OR GLU-LAM (FIR)	CCA	GALV (G90)
				ACQ, CBA, CA	GALV (G185)
			6x OR GLU-LAM (CEDAR)	NONE	GALV (G90)

1. CCA: CHROMATED COPPER ARSENATE
   SBX: DOT SODIUM BORATE
   ACQ: ALKALINE COPPER QUAT
   CBA & CA: COPPER AZOLE

2. CONNECTORS: JOIST HANGERS, STRAPS, FRAMING CONNECTORS, COLUMN CAPS AND BASES, ETC. FASTENERS: MACHINE BOLTS, ANCHOR BOLTS AND LAG SCREWS WITH ASSOCIATED PLATE WASHERS AND NUTS. NAILS, SPIKES, WOOD SCREWS, ETC.

3. G60, G90 & G185 PER ASTM A653
   BATCH/POST HOT-DIP GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 FOR FASTENERS
   MECHANICALLY GALVANIZED FASTENERS PER ASTM B695, CLASS 55 OR GREATER.

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CONSTRUCTION DOCUMENTS

GENERAL REQUIREMENTS: PROVIDE MINIMUM NAILING PER 2003 IBC TABLE 2304.9.1 OR MORE, AS OTHERWISE SHOWN. STAGGER ALL NAILING TO PREVENT SPLITTING OF WOOD MEMBERS. PRESSURE-TREAT ALL WOOD IN CONTACT WITH CONCRETE OR MASONRY WITH THE EXCEPTION OF INTERIOR CONCRETE TOPPINGS ON WOOD FLOOR SYSTEMS. HOLES AND CUTS IN 3x OR 4x PLATES SHOULD BE TREATED WITH A 20% SOLUTION OF COPPER NAPHTHENATE. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. PROVIDE CUT WASHERS WHERE BOLT HEADS, NUTS AND LAG SCREW HEADS BEAR ON WOOD. PROVIDE A MINIMUM 3"x3"x1/4" PLATE WASHER ON ALL ANCHOR BOLTS WHICH CONNECT MUD SILLS TO FOUNDATION. DO NOT NOTCH OR DRILL STRUCTURAL MEMBERS, EXCEPT AS ALLOWED BY IBC SECTIONS 2308.9.10, 2308.9.11, AND 2308.10.4.2 OR AS RESTRICTED BY PLANS OR DETAILS, OR AS APPROVED PRIOR TO INSTALLATION. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

FRAMING CONNECTORS: SHALL HAVE ICC APPROVAL AND BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, SAN LEANDRO, CA., OR PRE-APPROVED EQUAL. PROVIDE MAXIMUM SIZE AND QUANTITY OF NAILS OR BOLTS PER MANUFACTURER, EXCEPT AS NOTED OTHERWISE. PROVIDE LEAD HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD MEMBERS. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

LAG SCREWS: SHALL BE OF A DIAMETER INDICATED ON DRAWINGS WITH A MINIMUM OF 8x DIA. EMBEDMENT IN SUPPORTING MEMBER UNLESS NOTED OTHERWISE. CLEARANCE HOLE FOR THE SHANK SHALL BE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE UNTHREADED PORTION OF THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60 TO 75 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER. SOAP OR OTHER LUBRICANT SHALL BE USED ON THE SCREWS OR IN THE LEAD HOLE TO FACILITATE INSERTION AND PREVENT DAMAGE TO THE SCREW. REFER TO PRESERVATIVE TREATED WOOD REQUIREMENTS IN THESE GENERAL NOTES FOR GALVANIZING REQUIREMENTS FOR CONNECTORS AND FASTENERS.

PRE-APPROVED SUBSTITUTIONS

SUBSTITUTIONS MAY BE ALLOWED ONLY IF THEY MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND THE SPECIFICATIONS, AND IF COMPLETE WRITTEN ENGINEERING DATA FOR EACH CONDITION REQUIRED FOR THIS PROJECT IS PROVIDED TO THE STRUCTURAL ENGINEER TWO WEEKS PRIOR TO BID DATE AND APPROVED IN WRITTEN ADDENDA BY THE ARCHITECT. DATA IS TO INDICATE CODE BASIS BY YEAR, AUTHORITY FOR STRESSES AND STRESS INCREASES, IF ANY, AND AMOUNT OF EXPECTED DEFLECTION FOR FLEXURAL MEMBERS UNDER (1) TOTAL LOAD AND (2) LIVE LOAD ONLY. ALL INCREASED COSTS IN MECHANICAL, SPRINKLER, ELECTRICAL OR GENERAL INSTALLATION AND ANY ARCHITECTURAL OR STRUCTURAL REDESIGN RESULTING FROM SUBSTITUTION SHALL BE BORNE BY THE GENERAL CONTRACTOR.

SHOP DRAWINGS

THE FOLLOWING SHOP DRAWINGS/SUBMITTALS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION OR DELIVERY.

		STRUCTURAL ENGR.	BLDG. DEPT.
1.	CONCRETE MIX DESIGNS	X	X
2.	REINFORCING STEEL SHOP DRAWINGS	X	
3.	STRUCTURAL STEEL	X	X
4.	MISCELLANEOUS STEEL	X	X
5.	GLU-LAMINATED MEMBERS	X	X

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING LABORATORY PER THE REQUIREMENTS OF IBC CHAPTER 17 AND THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION AND THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND A FINAL SIGNED REPORT TO THE BUILDING OFFICIAL FOR THE ITEMS LISTED IN THE QUALITY ASSURANCE/SPECIAL INSPECTION SECTION:

QUALITY ASSURANCE/SPECIAL INSPECTION:

QUALITY ASSURANCE PLAN: QUALITY ASSURANCE SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1705.2 AND AS NOTED HEREIN.

STRUCTURAL SYSTEM	VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	COMMENTS	REFERENCES
SOILS	PRIOR TO PLACEMENT OF PREPARED FILL, THE SPECIAL INSPECTOR SHALL DETERMINE THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE APPROVED SOILS REPORT.		X	SOIL SPECIAL INSPECTION IS NOT REQUIRED WHERE FILL PLACEMENT IS LESS THAN 12 IN.	IBC 1704.7
	DURING FILL PLACEMENT AND COMPACTION OF FILL MATERIAL	X			
	EVALUATION OF IN-PLACE DENSITY OF COMPACTED FILL		X		
STEEL CONSTRUCTION	STRUCTURAL STEEL WELDING 1. COMPLETE AND PARTIAL PENETRATION WELDS 2. MULTI-PASS FILLET WELDS 3. SINGLE-PASS FILLET WELDS >5/16" 4. SINGLE-PASS FILLET WELDS <5/16"	 X X X	 X	SPECIAL INSPECTIONS IN THIS SECTION ARE WAIVED WHERE FABRICATION IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED IN ACCORDANCE WITH IBC SECTION 1704.2	AWS D1.1 IBC 1704.3.1
	MATERIAL VERIFICATION OF STRUCTURAL STEEL 1. IDENTIFICATION MARKINGS CONFORM TO ASTM STANDARDS LISTED IN GENERAL NOTES 2. MANUFACTURER'S CERTIFIED MILL TEST REPORTS		 X X	MANUFACTURER TO PROVIDE CERTIFIED MILL TEST REPORTS	IBC 1708.4 ASTM A6 OR A568
	MATERIAL VERIFICATION OF WELD FILLER MATERIALS. 1. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATIONS LISTED IN GENERAL NOTES 2. MANUFACTURE'S CERTIFICATE OF COMPLIANCE		 X X	MANUFACTURER TO PROVIDE CERTIFICATE OF COMPLIANCE	AISC, ASD, SECTION A3.6 AISC LRFD, SECTION A3.5
CONCRETE	REINFORCING STEEL AND PLACEMENT		X	SPECIAL INSPECTIONS NOT REQUIRED FOR THE FOLLOWING CONDITIONS: NON-STRUCTURAL SLAB ON GRADE CONCRETE FOUNDATION WALLS ISOLATED SPREAD FOOTINGS FOR BUILDINGS THREE-STORIES AND LESS CONTINUOUS FOOTINGS SUPPORTING WALLS OF THREE-STORIES AND LESS WHERE WALLS ARE LIGHT-FRAME CONSTRUCTION AND F'C=2500 PSI	ACI 318:3-5,7.1-7.7 IBC 1903.5, 1907.1, 1907.7, 1914.4
	BOLTS TO BE INSTALLED IN CONCRETE-PRIOR TO AND DURING PLACEMENT OF CONCRETE	X			IBC 1912.5
	VERIFY USE OF REQUIRED DESIGN MIX		X		ACI 318, CH4,5.2-5.4 IBC 1904,1905.2-1905.4 1914.2, 1914.3
	SAMPLING OF FRESH CONCRETE, SLUMP TEST, AIR CONTENT, TEMPERATURE OF CONCRETE AT TIME OF MAKING SPECIMENS	X			ASTM C172, C31 ACI 318:5.6, 5.8 IBC 1905.6, 1914.10
	CONCRETE PLACEMENT FOR PROPER APPLICATION	X			ACI 318:5.9, 5.10 IBC 1905.9, 1905.10 1914.6, 1914.7, 1914.8
	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X		ACI 318:5.11-5.13 IBC 1905.11, 1905.13 1914.9
	MATERIAL VERIFICATION OF REINFORCEMENT STEEL			MANUFACTURER SHALL PROVIDE MILL TEST REPORTS	IBC 1708.3
	ANCHORS TO BE INSTALLED IN HARDENED CONCRETE	X			IBC 1912.5
WOOD FRAMING	SHEAR WALL NAILING		X		IBC 1707.3
	PLYWOOD ROOF DIAPHRAGM NAILING		X		IBC 1707.3
	NAILING, BOLTING, AND ANCHORAGE OF COMPONENTS THAT ARE PART OF DRAG STRUTS, BRACES AND HOLD-DOWNS THAT ARE PART OF THE SEISMIC RESISTING SYSTEM		X		IBC 1707.3
	PREFABRICATED WOOD STRUCTURAL ELEMENTS		X	SHOP INSPECTION FOR TRUSSES	IBC 1704.6
SUSPENDED CEILINGS	ANCHORAGE AND SEISMIC BRACING		X		IBC 1621, 1705.1 ASCE 9.6.2.6
EMERGENCY OR STANDBY POWER SYSTEMS	ANCHORAGE OF EQUIPMENT TO STRUCTURE		X		IBC 1707.7

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CONSTRUCTION DOCUMENTS

TESTING AND SPECIAL INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO OWNER, CONTRACTOR, BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER.

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE WITH IBC 1709. STRUCTURAL OBSERVATION SHALL BE PERFORMED AS FOLLOWS:

- O PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES.
- O REVIEW OF TESTING AND INSPECTION REPORTS.
- O REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT.

GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:

- O ACKNOWLEDGMENT OF AWARENESS OF REQUIREMENTS OF QUALITY ASSURANCE PLAN.
- O ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
- O PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION AND THE METHOD AND FREQUENCY OF REPORTING AND DISTRIBUTION.
- O IDENTIFICATION OF PERSONS EXERCISING SUCH CONTROL AND THEIR POSITIONS IN THE ORGANIZATION.

ABBREVIATION LIST

ADD'L	ADDITIONAL	HORIZ.	HORIZONTAL
A.B.	ANCHOR BOLT	HSS	HOLLOW STRUCTURAL SECTION
A.F.F.	ABOVE FINISH FLOOR	INT.	INTERIOR
ALT.	ALTERNATE	JT	JOINT
ARCH.	ARCHITECTURAL	JST	JOIST
@	AT	L	ANGLE
BM	BEAM	LGR	LEDGER
BRG	BEARING	L.L.	LIVE LOAD
BTWN	BETWEEN	LOC.	LOCATION
BLK'G	BLOCKING	LSL	TIMBERSTRAND
BOT.	BOTTOM	LVL	MICROLAM
B.O.F.	BOTTOM OF FOOTING	MAX.	MAXIMUM
BLD'G	BUILDING	M.B.	MACHINE BOLT
B.U.	BUILT UP	MFR	MANUFACTURER
(C=)	CAMBER	MECH.	MECHANICAL
C.I.P.	CAST IN PLACE	MEZZ.	MEZZANINE
C.J.	CONTROL/CONSTRUCTION JOINT	MIN.	MINIMUM
C.P.	COMPLETE PENETRATION	MISC.	MISCELLANEOUS
℄	CENTERLINE	NOM.	NOMINAL
CLR	CLEAR	N.S.	NEAR SIDE
COL.	COLUMN	NTS	NOT TO SCALE
CONC.	CONCRETE	O.C.	ON CENTER
CONFIG.	CONFIGURATION	OPN'G	OPENING
CMU	CONCRETE MASONRY UNIT	OPP.	OPPOSITE
CONN.	CONNECTION	OSB	ORIENTED STRAND BOARD
CONST.	CONSTRUCTION	PL	PLATE
CONT.	CONTINUOUS	PAF	POWDER ACTUATED FASTENER
CONTR.	CONTRACTOR	PERP.	PERPENDICULAR
COORD.	COORDINATE	P.L.F.	POUNDS PER LINEAL FOOT
CTR'D	CENTERED	P.P.	PARTIAL PENETRATION
CU.	CUBIC	P.S.F.	POUNDS PER SQUARE FOOT
D.L.	DEAD LOAD	PSL	PARALLAM
DIA. OR ϕ	DIAMETER	PW.	PLYWOOD
DO	DITTO	REINF.	REINFORCING
DBL.	DOUBLE	REQ'D	REQUIRED
D.F.	DOUGLAS FIR	R.O.	ROUGH OPENING
DWG	DRAWING	SHT'G	SHEATHING
DWL	DOWEL	SHT	SHEET
EA.	EACH	SIM.	SIMILAR
EL.	ELEVATION	S.O.G.	SLAB ON GRADE
ENGR.	ENGINEER	SQ.	SQUARE
EQ.	EQUAL	STD	STANDARD
EXIST. OR (E)	EXISTING	STL	STEEL
EXT.	EXTERIOR	STIFF.	STIFFENER
EXP.	EXPANSION	STRUCT.	STRUCTURAL
FTG	FOOTING	T&G	TONGUE AND GROOVE
FDN	FOUNDATION	T.O.F.	TOP OF FOOTING
FLG	FLANGE	T.O.S.	TOP OF STEEL
FLR	FLOOR	TRT'D	TREATED
F.S.	FAR SIDE	TYP.	TYPICAL
FRM'G	FRAMING	U.N.O.	UNLESS NOTED OTHERWISE
GALV.	GALVANIZED	U.T.	ULTRASONIC TESTED
GA.	GAGE	VERT.	VERTICAL
GL.	GLULAM	W.P.	WORK POINT
GR.	GRADE	WT	WEIGHT
GWB	GYPSUM WALL BOARD	W.W.F.	WELDED WIRE FABRIC
HGR	HANGER	W/	WITH
HDR	HEADER	YD	YARD
HT	HEIGHT		

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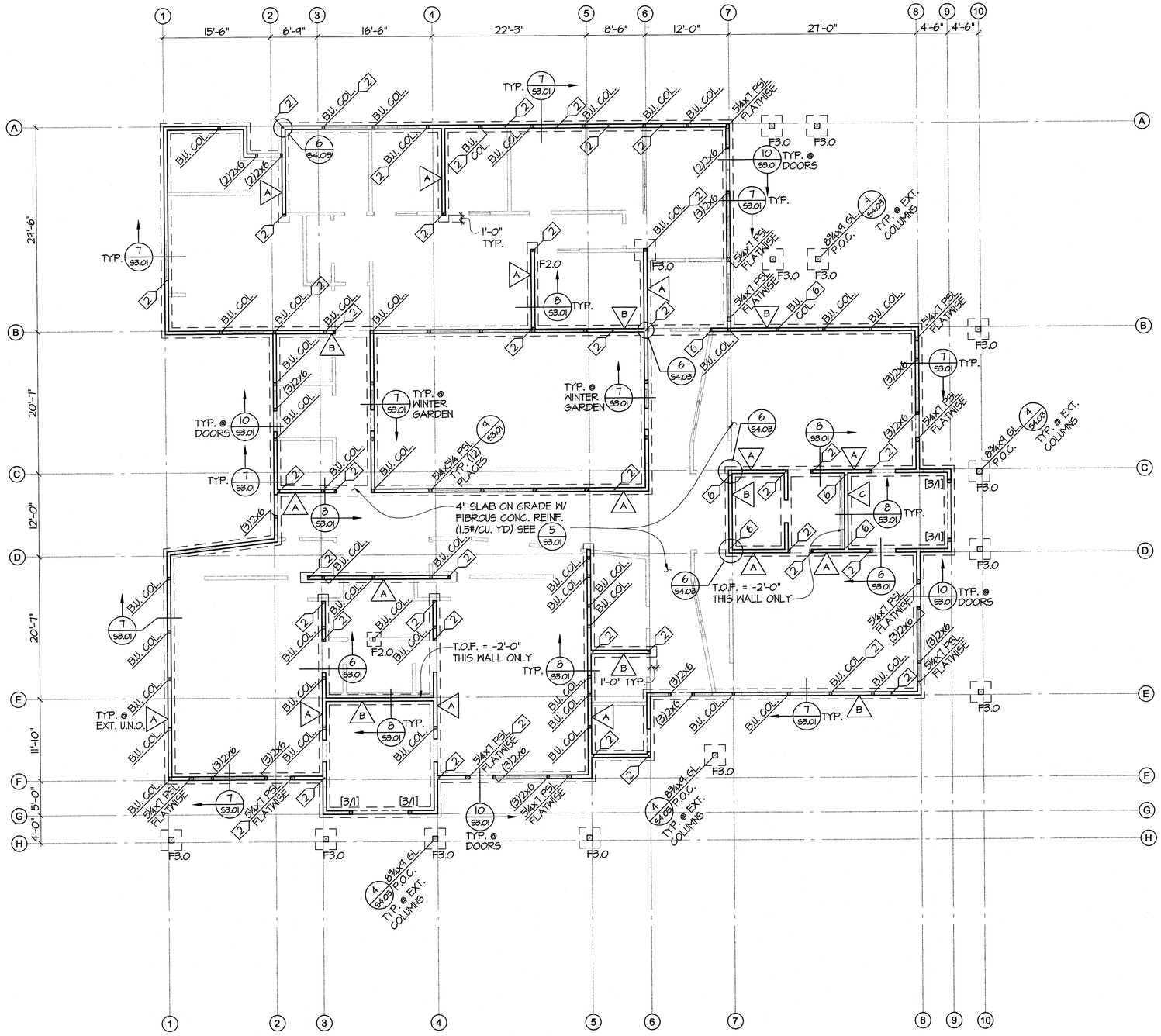

FOUNDATION PLAN

1/8"=1'-0"

1 S2.01

NORTH

FOUNDATION NOTES

1. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. FINISH FLOOR = 0'-0" A.F.F. UNLESS NOTED OTHERWISE.
2. INDICATES WOOD STUD BEARING/SHEAR WALL. WALLS SHALL BE DF#2 2x6 STUDS @ 16" O.C. U.N.O. PROVIDE 1/2" WOOD SHEATHING AT ALL EXTERIOR WALLS NAILED WITH 8d @ 6" O.C. AT ALL PANEL EDGES (PROVIDE 2x BLOCKING AT UNSUPPORTED PANEL EDGES) & 8d @ 12" O.C. AT INTERMEDIATE FRAMING TYPICAL UNLESS NOTED OTHERWISE.
3. INDICATES CONCRETE WALL FOOTING 1'-6" UNLESS NOTED OTHERWISE. SEE S3.01 FOR DETAILS.
4. "F_" INDICATES CONCRETE SPREAD FOOTING. SEE 3/S4.03 FOR SCHEDULE.
5. B.U. COL. INDICATES WOOD STUD BUILT-UP COLUMN. SEE SHEET S4.01 FOR TYPICAL FRAMING REQUIREMENTS AT OPENING IN STRUCTURAL WALLS.
6. INDICATES HOLDOWN PER 1/S4.03.
7. INDICATES SPECIAL SHEARWALL. SEE 5/S4.01..
8. 5¼x14 PSL INDICATES FULL HEIGHT COLUMNS. (CONTINUOUS FROM SILL PLATE TO ROOF DECKING) REQUIRED AT OPENINGS.
9. 8¾x14 GL. P.O.C. INDICATED FULL HEIGHT GLULAM COLUMN. P.O.C. INDICATES PORT ORFORD CEDAR PER GENERAL NOTES.
10. [ ] INDICATES SPECIAL BUILT-UP WOOD STUD COLUMN REQUIREMENTS UNDER HEADER. FOR TYPICAL FRAMING REQUIREMENTS AT OPENING IN STRUCTURAL WALLS SEE 1/S4.01 FOR TYPICAL DETAIL.
11. FOR TYPICAL CONCRETE SLAB-ON-GRADE DETAILS SEE S3.01.
12. FOR TYPICAL PLACEMENT OF STEM WALL REINFORCEMENT, STEPS IN FOOTING AND FOUNDATION CONSTRUCTION JOINTS SEE DETAILS 1/S3.01, 3/S3.01 & 6/S3.01.
13. FOR TYPICAL EXCAVATION LIMITATIONS IN THE PROXIMITY OF FOUNDATIONS SEE 2/S3.01.
14. T.O.F. INDICATES TOP OF FOOTING ELEVATION.

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date FEBRUARY 2006

Sheet Title
FOUNDATION PLAN

Sheet No.
S2.01

Job No.
2005-124 G (1-1)

CONSTRUCTION DOCUMENTS

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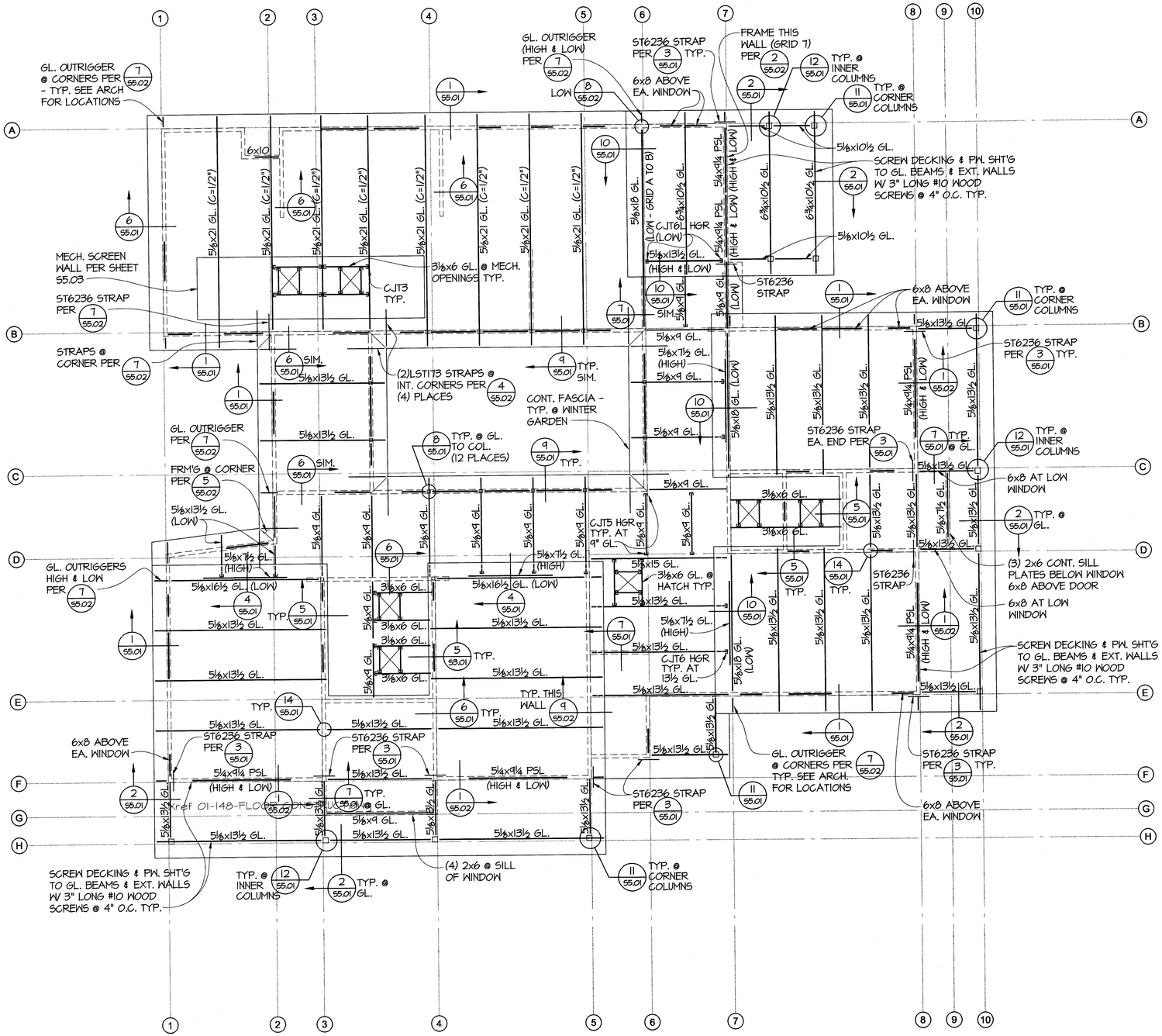

ROOF FRAMING PLAN

1/8"=1'-0"

NORTH

ROOF FRAMING NOTES

1. PROVIDE 3/8" SHEATHING OVER 2x6 T&G SELECT DECKING THROUGHOUT ROOF. INSTALL DECKING USING CONTROLLED RANDOM LAYUP PATTERN. STAPLE 3/8" SHEATHING TO DECKING WITH STAPLES PER TABLE ON SHEET S1.02.
2. GLULAM MEMBERS SHALL BE ARCHITECTURAL GRADE MATERIAL. INSTALL MEMBERS PLUMB, BEVEL CUT TOP SURFACE TO MATCH ROOF SLOPE.
3. MISCELLANEOUS HEADERS AT EXTERIOR AND INTERIOR WALLS ARE 6x8 UNLESS NOTED OTHERWISE, SEE SHEET S4.01.
4. "(C=_")" / "(C=0")" — INDICATES CAMBER FOR GLULAM BEAMS. C=0" UNLESS NOTED OTHERWISE.
5. BU. COL. — INDICATES SPECIAL BUILT UP WOOD STUD COLUMN REQUIREMENTS UNDER HEADER. FOR TYPICAL FRAMING REQUIREMENTS AT OPENING IN STRUCTURAL WALLS SEE DETAILS 1/S4.01 & 2/S4.01.
6. [ ] — INDICATES WOOD STUD BUILT-UP COLUMN. SEE 4/S4.01 FOR TYPICAL DETAIL AND STUD REQUIREMENTS.
7. INDICATES WALL BELOW EXTENDING TO ROOF STRUCTURE.
8. INDICATES PENETRATION IN ROOF. PROVIDE 3-1/8x6 GLULAM WITH CJT3 HANGERS TYPICAL WHERE SHOWN.
9. FRAME ALL INTERIOR AND EXTERIOR STRUCTURAL WALLS WITH DF#2 2x6 STUDS @ 16" O.C. UNLESS NOTED OTHERWISE. OPTIONAL TO USE 1-1/2x5-1/2 LSL STUDS.
10. PROVIDE GLULAM OUTRIGGERS AT BUILDING CORNER PER 7/S5.02 TYPICAL. SEE ARCHITECT FOR LOCATIONS.
11. STRAP LOW WALL TO TALL WALLS PER DETAIL 10/S5.02 TYPICAL.
12. ALL COLUMNS & PLATES SHALL BE BEVEL CUT TO MATCH THE SLOPE OF THE MEMBER THEY SUPPORT.

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Sheet Title
ROOF FRAMING PLAN

Sheet No.
S2.02

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2005-124 G (1-1)

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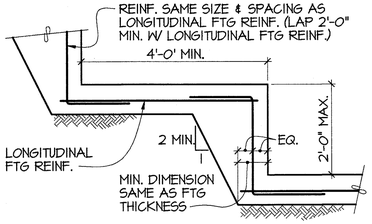
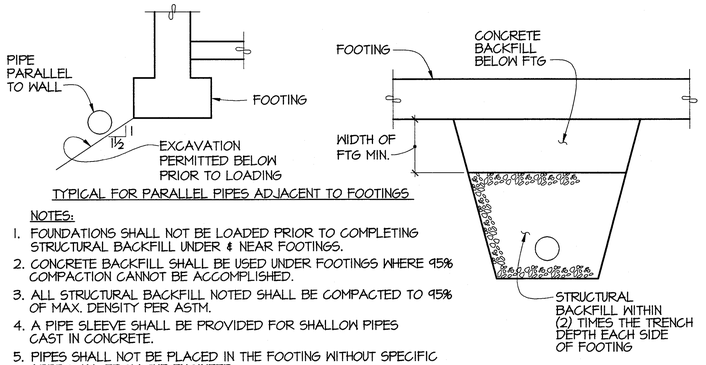


TYPICAL STEPPED FOOTING

DETAIL 1/S3.01

NO SCALE



TYPICAL FOR PARALLEL PIPES ADJACENT TO FOOTINGS

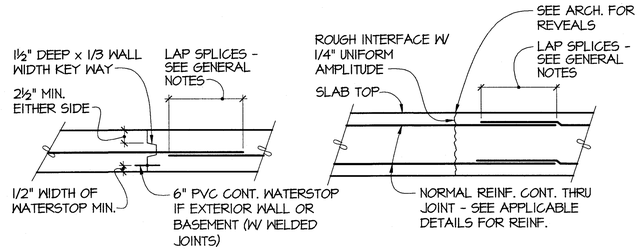
TYPICAL FOR PERPENDICULAR PIPES UNDER FOOTINGS

NOTES:

1. FOUNDATIONS SHALL NOT BE LOADED PRIOR TO COMPLETING STRUCTURAL BACKFILL UNDER & NEAR FOOTINGS.
2. CONCRETE BACKFILL SHALL BE USED UNDER FOOTINGS WHERE 95% COMPACTION CANNOT BE ACCOMPLISHED.
3. ALL STRUCTURAL BACKFILL NOTED SHALL BE COMPACTED TO 95% OF MAX. DENSITY PER ASTM.
4. A PIPE SLEEVE SHALL BE PROVIDED FOR SHALLOW PIPES CAST IN CONCRETE.
5. PIPES SHALL NOT BE PLACED IN THE FOOTING WITHOUT SPECIFIC APPROVAL FROM THE ENGINEER.
6. FOR VARIATIONS CONTACT ENGINEER.

SECTION 2/S3.01

NO SCALE



TYPICAL AT VERTICAL WALL JOINTS

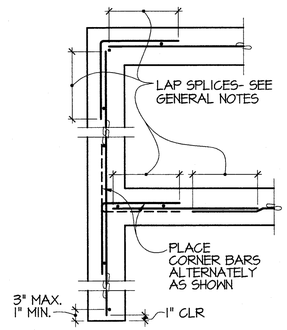
TYPICAL AT CONCRETE GRADE BEAMS & FOOTINGS

NOTE:
OBTAIN APPROVAL OF ENGINEER FOR LOCATION OF ANY CONST. JOINTS.

TYPICAL FOR CAST IN PLACE CONCRETE WALLS, GRADE BEAMS AND FOOTINGS

CONSTRUCTION JOINTS 3/S3.01

NO SCALE



NOTES:

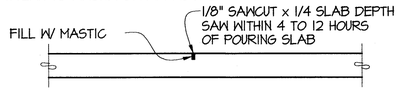
1. VERT. REINF. SHOWN IS ADD'L IF NORMAL STEM WALL REINF IS NOT IN PROPER LOCATION.
2. CORNER BARS ARE SAME SIZE & SPACING AS HORIZ REINF.
3. STD HOOK MAY BE SUBSTITUTED FOR CORNER BARS

TYPICAL REINFORCING PLACEMENT PLAN FOR CONCRETE STEM WALLS

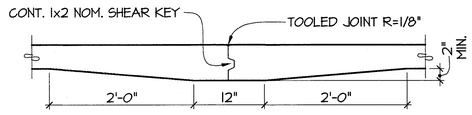
SECTION 4/S3.01

NO SCALE

NOTE:
LOCATE JOINTS AT NON-BEARING WALLS WHERE POSSIBLE-SUBMIT PATTERN TO ARCH. FOR APPROVAL



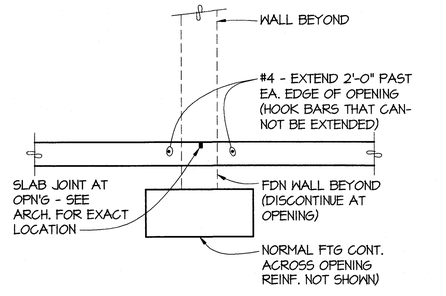
TYPICAL CONTROL JOINT FOR FIBER REINFORCED SLAB ON GRADE



TYPICAL CONSTRUCTION JOINT FOR FIBER REINFORCED SLAB ON GRADE

SECTION 5/S3.01

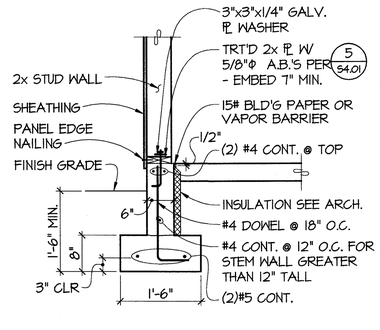
NO SCALE



TYPICAL FIBER REINFORCED SLAB AT INTERIOR BEARING WALL OPENING

SECTION 6/S3.01

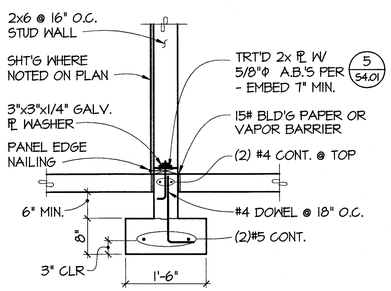
NO SCALE



TYPICAL FOUNDATION AT EXTERIOR STUD WALL

SECTION 7/S3.01

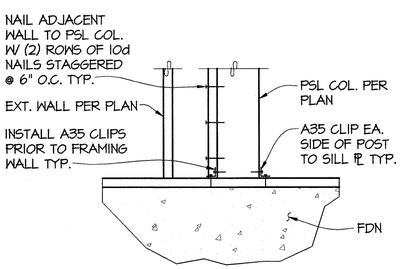
NO SCALE



TYPICAL FOUNDATION AT INTERIOR BEARING STUD WALL

SECTION 8/S3.01

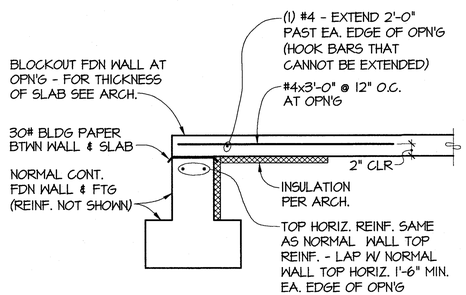
NO SCALE



TYPICAL PSL COLUMN BASE CONNECTION

DETAIL 9/S3.01

1"=1'-0"



TYPICAL SLAB AT EXTERIOR OPENING

SECTION 10/S3.01

NO SCALE

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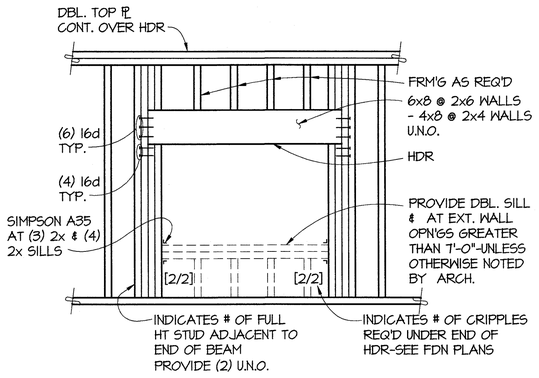
Sheet Title
FOUNDATION DETAILS

Sheet No.
S3.01

Job No.
2005-124 G (1-1)

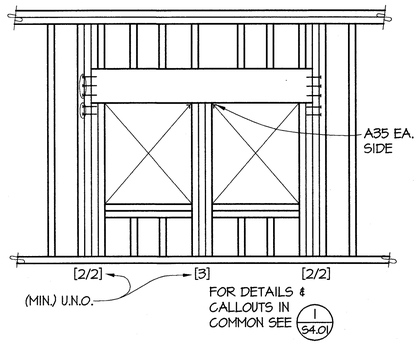
CONSTRUCTION DOCUMENTS



NOTE: PROVIDE (1) CRIPPLE MIN. UNDER END OF EA. HDR UNLESS NOTED THUS [ ] ON FOUNDATION PLAN

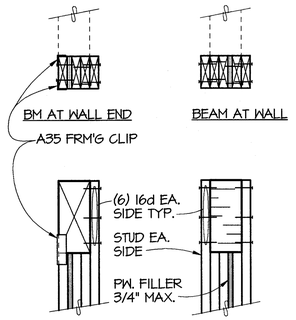
TYPICAL STUD WALL CONSTRUCTION AT HEADER

SECTION 1/S4.01
NO SCALE



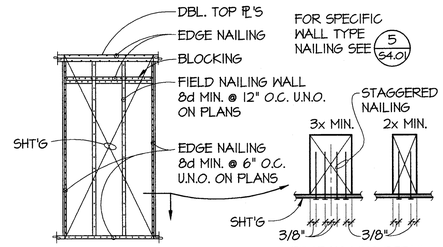
TYPICAL STUD WALL CONSTRUCTION AT HEADER WITH INTERMEDIATE MULLION

SECTION 2/S4.01
NO SCALE



TYPICAL BUILT-UP COLUMN AT BEAM PERPENDICULAR TO WALL

DETAIL 3/S4.01
NO SCALE



NOTES:
1. PANEL EDGE NAILING AND PLATE NAILING SHALL BE STAGGERED IN ALL CASES.
2. SHEATHING JOINT SHALL OCCUR AT COMMON MEMBER.
3. EDGE NAILING AS CALLED FOR ON PLANS & DETAILS APPLIES TO AREAS INDICATED AND AT HOLDOWN ANCHORED STUDS.

EDGE NAILING DETAIL

TYPICAL SHEARWALL NAILING

DETAIL 4/S4.01
NO SCALE

STUD WALL CONSTRUCTION SCHEDULE

SHEAR WALL REQUIREMENTS					
MARK	SHEATHING REQUIREMENTS	2 EDGE NAILING	FIELD NAILING	SOLE NAILING	5/8" ANCHOR BOLT SPACING
A	1/2" PLYWOOD OR OSB	8d @ 6" O.C.	8d @ 12" O.C.	16d @ 6" O.C.	48"
B	1/2" PLYWOOD OR OSB	8d @ 4" O.C.	8d @ 12" O.C.	16d @ 4" O.C.	40"
C	1/2" PLYWOOD OR OSB	8d @ 3" O.C.(5)	8d @ 12" O.C.	16d @ 3" O.C.	40" (6)

NOTES:

1. ALL WALLS SHOWN ON STRUCTURAL DRAWINGS ARE 2x6 AT 16" O.C. UNLESS DESIGNATED SPECIAL. STUD LAYOUT SHALL MATCH FRM'G MEMBER LAYOUT ABOVE WHERE APPLICABLE. ALL EXTERIOR WALLS SHALL HAVE 1/2" WOOD SHT'G AND BE NAILED WITH 8d AT 6" O.C. AT EDGES AND 12" O.C. IN FIELD UNLESS DESIGNATED SPECIAL.
2. ALL EXTERIOR WALLS AND ALL DESIGNATED SHEAR WALLS SHALL BE BLOCKED AT ALL SHEATHING EDGES. EDGE NAILING APPLIES TO ALL TOP AND BOTTOM PLATES, VERTICAL JOINTS, HORIZONTAL BLOCKED JOINTS, WALL CORNERS, AND HOLDOWN ANCHORED STUDS.
3. WHERE BEAMS OR HEADERS FRAME INTO WALLS AND A COLUMN IS NOT CALLED OUT, PROVIDE BUILT-UP COLUMN PER 3/S4.01 FOR BEAM PERPENDICULAR TO WALL.
4. [X/X] INDICATES BUILT-UP STUD COLUMNS AT HEADERS IN WALLS - SEE 1/S4.01 FOR BEAM PARALLEL TO WALL.
5. PROVIDE 3x MEMBERS AT ALL ABUTTING PANEL EDGES WHERE INDICATED.
6. PROVIDE 3x SILL PLATE WHERE INDICATED.
7. USE LSL STUDS WHERE SOLID SAWN STUD LENGTH CANNOT BE OBTAINED.

SCHEDULE 5/S4.01
NO SCALE

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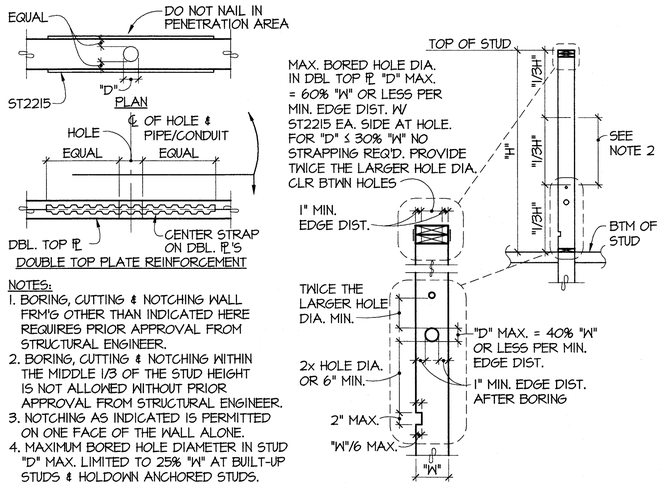
Sheet Title
FRAMING DETAILS

Sheet No.
S4.01

Job No.
2005-124 G (1-1)

CONSTRUCTION DOCUMENTS

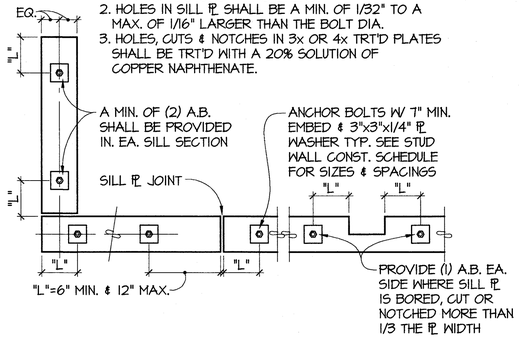


DOUBLE TOP PLATE REINFORCEMENT

NOTES:
1. BORING, CUTTING & NOTCHING WALL FRM'G OTHER THAN INDICATED HERE REQUIRES PRIOR APPROVAL FROM STRUCTURAL ENGINEER.
2. BORING, CUTTING & NOTCHING WITHIN THE MIDDLE 1/3 OF THE STUD HEIGHT IS NOT ALLOWED WITHOUT PRIOR APPROVAL FROM STRUCTURAL ENGINEER.
3. NOTCHING AS INDICATED IS PERMITTED ON ONE FACE OF THE WALL ALONE.
4. MAXIMUM BORED HOLE DIAMETER IN STUD "D" MAX. LIMITED TO 25% "W" AT BUILT-UP STUDS & HOLDOWN ANCHORED STUDS.

TYPICAL LOAD BEARING/SHEARWALL STUD BORING, CUTTING & NOTCHING

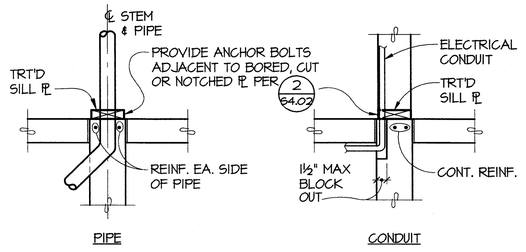
DETAIL 1 / S4.02
NO SCALE



NOTES:
1. SILL PL SHALL BE PRESERVATIVE PRESSURE TRT'D - REFER TO GENERAL NOTES FOR GALV. REQUIREMENTS FOR CONNECTORS & FASTENERS.
2. HOLES IN SILL PL SHALL BE A MIN. OF 1/32" TO A MAX. OF 1/16" LARGER THAN THE BOLT DIA.
3. HOLES, CUTS & NOTCHES IN 3x OR 4x TRT'D PLATES SHALL BE TRT'D WITH A 20% SOLUTION OF COPPER NAPHTHENATE.

TYPICAL SILL PL ANCHORAGE

DETAIL 2 / S4.02
NO SCALE



TYPICAL VERTICAL PENETRATIONS IN STEM WALL

SECTION 3 / S4.02
NO SCALE

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FRAMING DETAILS

Sheet No.
S4.02

Job No.
2005-124 G (1-1)

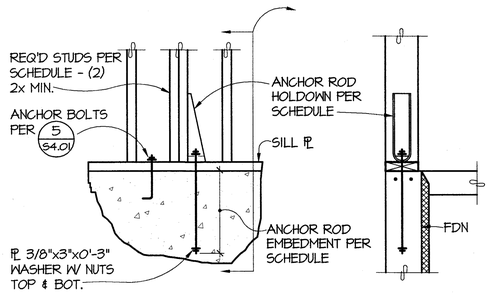
CONSTRUCTION DOCUMENTS

HOLDOWN SCHEDULE

MARK	HOLDOWN	FOUNDATION ANCHOR ROD TYPE[1] ANCHOR ROD[2] DIA.	ANCHOR ROD[2] EMBEDMENT[3]	REQ'D STUDS	REF. DETAILS
⟨2⟩	PHD2	5/8"	1'-3"	(2) 2x	2/S4.03 & 4/S4.02
⟨6⟩	PHD6	7/8"	1'-3"	4x6	2/S4.03 & 4/S4.02

1. ALL HOLDOWNS SHALL BE INSTALLED PER MFR'S RECOMMENDATIONS
2. ALL-THREAD ROD ASTM A36 W/ 3"x3"x3/8" PLATE W/ DBL. NUTS @ FOUNDATION
3. INDICATED EMBEDMENT MAY REQUIRE ANCHOR ROD PLACEMENT WITHIN FOOTING POUR AND/OR STEPPING DOWN FOOTING PER 1/S3.01 TO ACHIEVE REQUIRED EMBEDMENT.

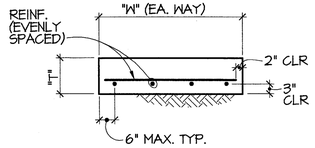
SCHEDULE — NO SCALE — 1/S4.03



TYPICAL FOUNDATION ANCHOR ROD HOLDOWN

DETAIL — NO SCALE — 2/S4.03

MARK	DIMENSIONS "W"	DIMENSIONS "T"	REINF. EACH WAY
F3.0	3'-0"	11"	(3)#5
F3.5	3'-6"	11"	(4)#5
F4.0	4'-0"	11"	(4)#5

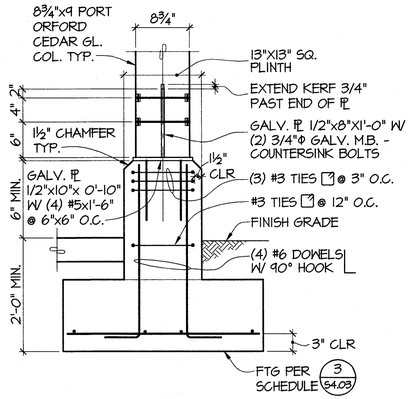


SECTION

NOTES:
1. CENTER ALL FOOTINGS ON COLUMN ABOVE EXCEPT AS SHOWN OTHERWISE.
2. FOOTINGS SHALL BEAR ON UNDISTURBED OR COMPACTED MATERIAL, SEE GENERAL NOTES.

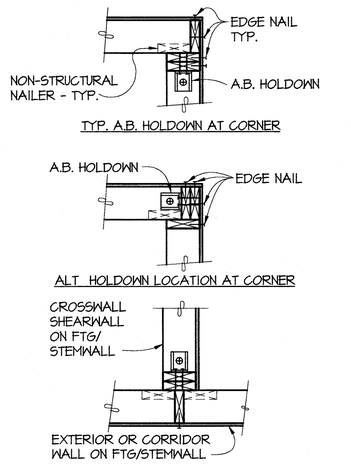
TYPICAL CONCRETE SPREAD FOOTING DETAILS

SECTION — NO SCALE — 3/S4.03



POST/PLINTH FOOTING AT ENTRY

DETAIL — NO SCALE — 4/S4.03



TYPICAL CROSSWALL HOLDOWN LOCATIONS

SECTION — NO SCALE — 5/S4.03

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REVISIONS:

REVISION NUMBER	IN PROGRESS	NO CHANGES THIS SHEET	REVISION EDITION CLOSING DATE

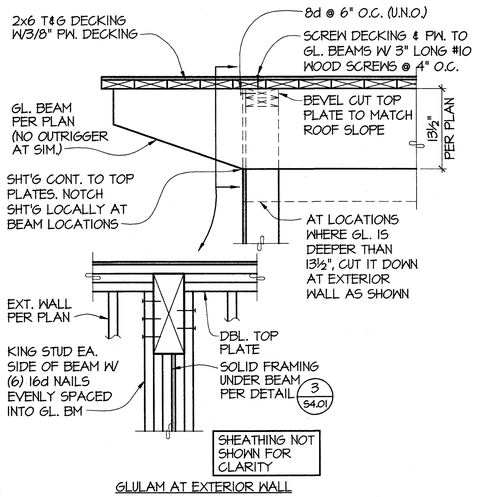
date FEBRUARY 2006

Sheet Title
FRAMING DETAILS

Sheet No.
S4.03

Job No.
2005-124 G (1-1)

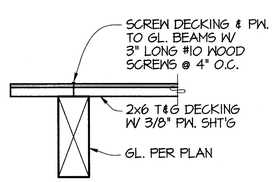
CONSTRUCTION DOCUMENTS



GLULAM AT EXTERIOR WALL

SECTION 1 / 55.01

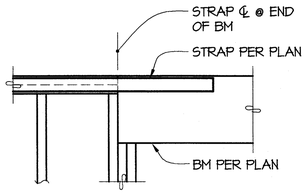
1"=1'-0"



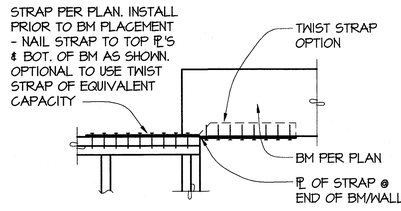
TYPICAL DECK/SHEATHING TO EXT. GLULAM CONNECTION

SECTION 2 / 55.01

1"=1'-0"



DROPPED BEAM CONDITION

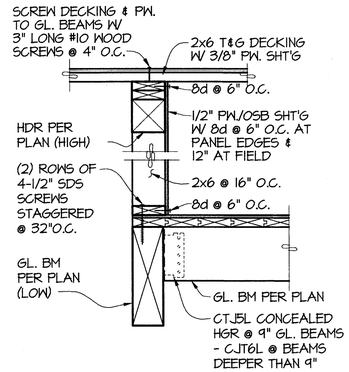


FLUSH FRAMED OR PLATE BEARING BEAM CONDITION

BEAM TO WALL DRAG STRAP CONNECTION

DETAIL 3 / 55.01

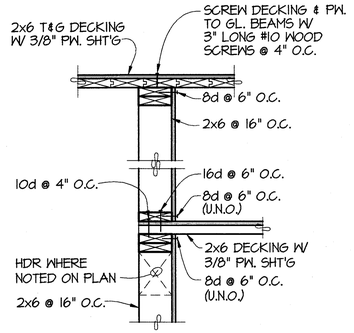
1"=1'-0"



TYPICAL FRAMING AT STEPPED ROOF

SECTION 4 / 55.01

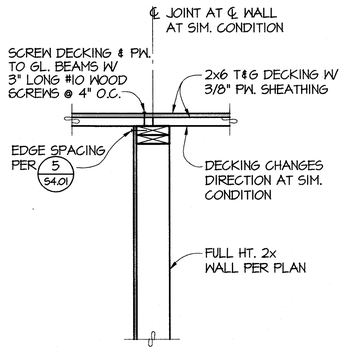
1"=1'-0"



FRAMING @ STEPPED ROOF

SECTION 5 / 55.01

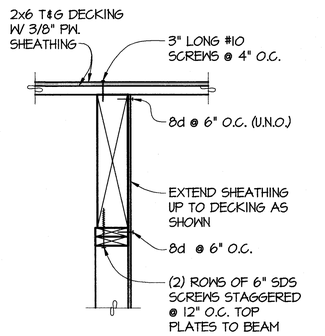
1"=1'-0"



TYPICAL ROOF TO SHEARWALL CONNECTION

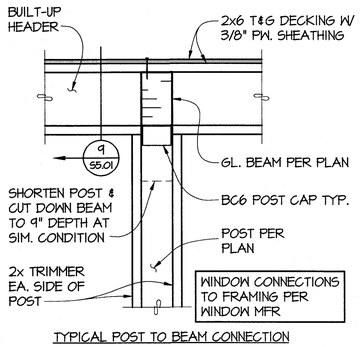
SECTION 6 / 55.01

1"=1'-0"



SECTION 7 / 55.01

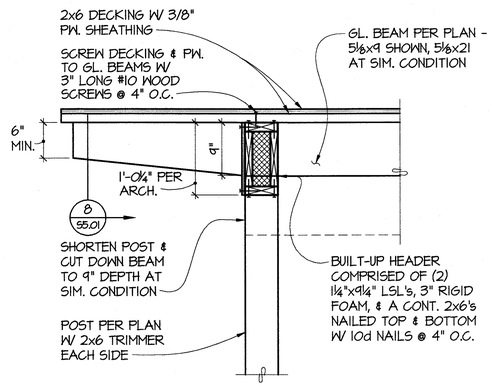
1"=1'-0"



TYPICAL POST TO BEAM CONNECTION

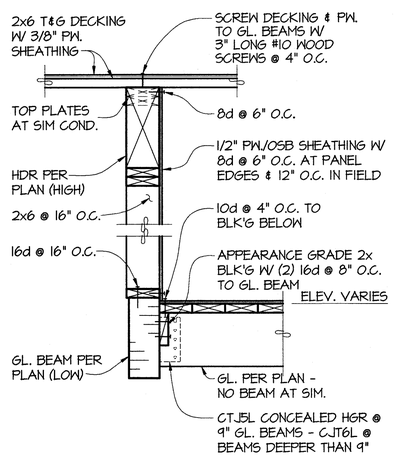
SECTION 8 / 55.01

1"=1'-0"



SECTION 9 / 55.01

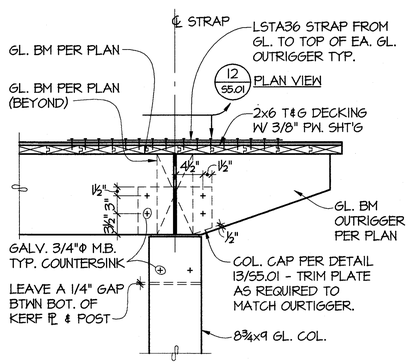
1"=1'-0"



FRAMING AT STEPPED ROOF

SECTION 10 / 55.01

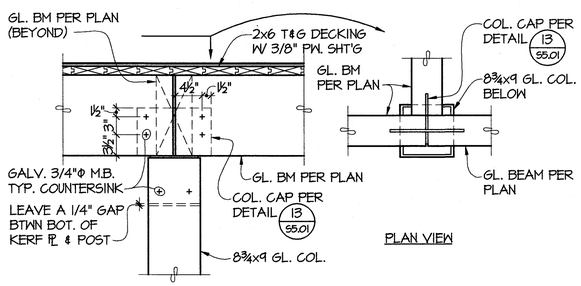
1"=1'-0"



CORNER COLUMN TO BEAM CONNECTIONS

SECTION 11 / 55.01

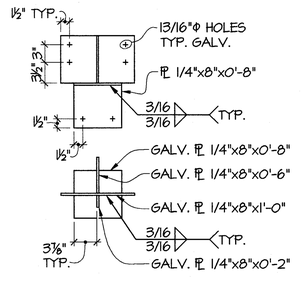
1"=1'-0"



INNER COLUMN TO BEAM CONNECTIONS

SECTION 12 / 55.01

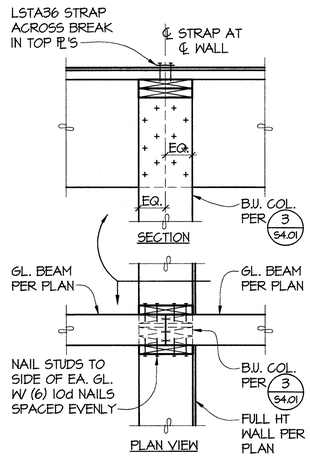
1"=1'-0"



COLUMN CAP

DETAIL 13 / 55.01

1"=1'-0"



FRAMING & CONNECTIONS AT COMMON GLULAM BEAM SUPPORT

DETAIL 14 / 55.01

1"=1'-0"

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REVISIONS:

REVISION NUMBER	IN PROGRESS NO CHANGES THIS SHEET	REVISION EDITION CLOSING DATE

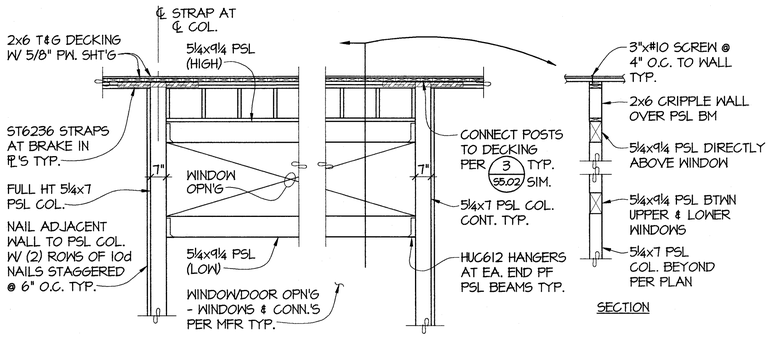
date FEBRUARY 2006

Sheet Title
FRAMING DETAILS

Sheet No.
S5.01

Job No.
2005-124 G (1-1)

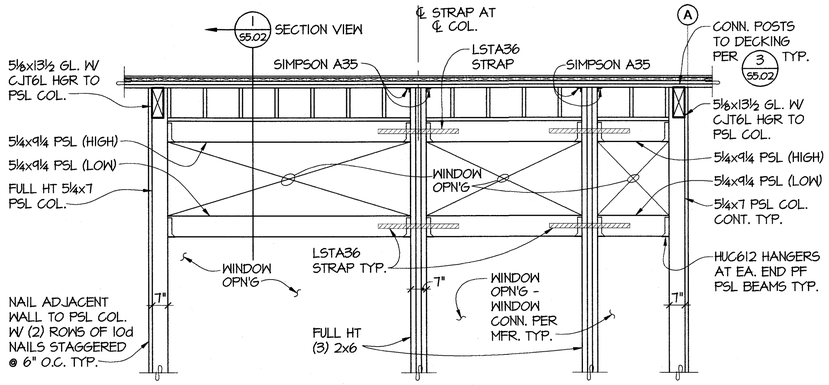
CONSTRUCTION DOCUMENTS



NOTE: DETAIL APPLIES TO WINDOWS BTWN THE FOLLOWING GRIDS:
EAST. EL. - GRIDS B&C, D&E
SOUTH EL. - GRIDS 1&2, 4&5

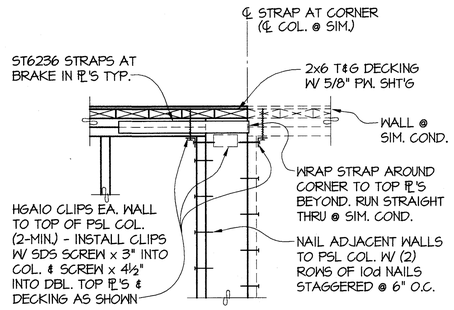
FULL HEIGHT FRAMING AT ENTRIES

ELEVATION
3/8"=1'-0"
1 / 55.02



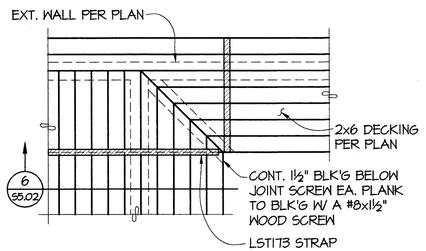
FULL HEIGHT FRAMING AT EAST ENTRY BETWEEN GRIDS A & B

ELEVATION
3/8"=1'-0"
2 / 55.02



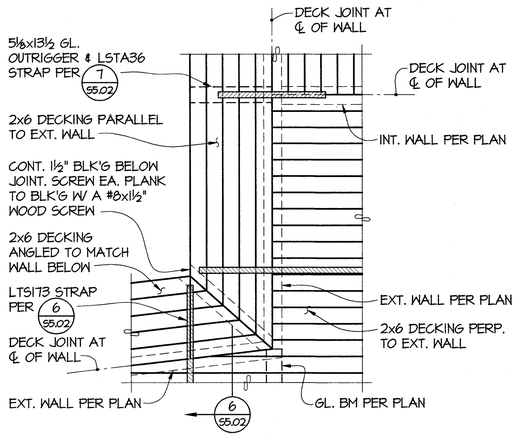
TYPICAL UPPER PSL COLUMN CONNECTION

SECTION
1"=1'-0"
3 / 55.02



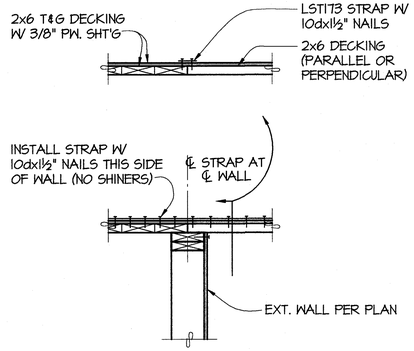
WINTER GARDEN ROOF STRUCTURE AT CORNER

DETAIL
1/2"=1'-0"
4 / 55.02



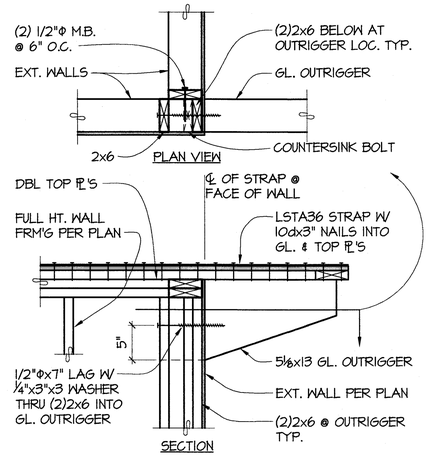
ROOF FRAMING GRID C2 TO D2

DETAIL
1/2"=1'-0"
5 / 55.02



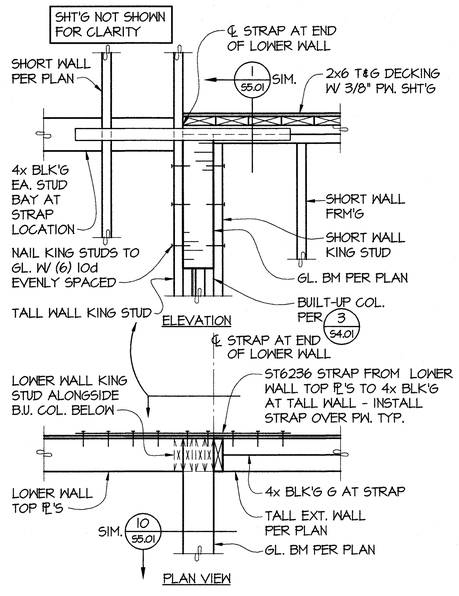
DECK JOINT SUPPORT AT OVERHANG

SECTION
1"=1'-0"
6 / 55.02



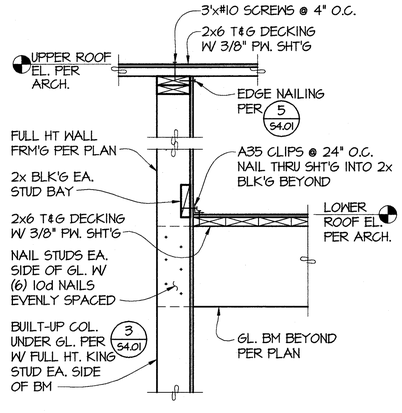
TYPICAL GL OUTRIGGER CONNECTIONS

SECTION
1"=1'-0"
7 / 55.02



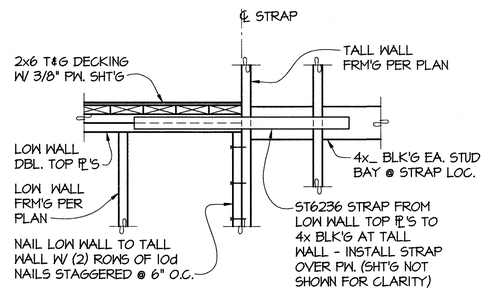
LOW TO TALL WALL CONNECTIONS AT GRID A6

SECTION
1"=1'-0"
8 / 55.02



LOW ROOF TO FULL HEIGHT WALL CONNECTIONS

SECTION
1"=1'-0"
9 / 55.02



TYPICAL STRAP AT LOW TO TALL WALLS

SECTION
1"=1'-0"
10 / 55.02

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REVISIONS:

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date FEBRUARY 2006

Sheet Title
FRAMING DETAILS

Sheet No.
S5.02

Job No.
2005-124 G (1-1)

CONSTRUCTION DOCUMENTS

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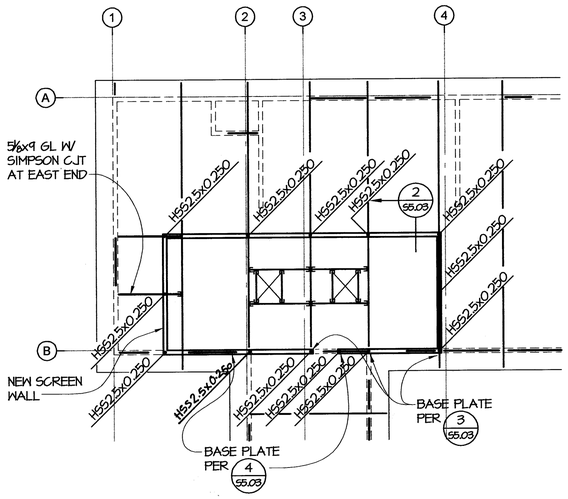
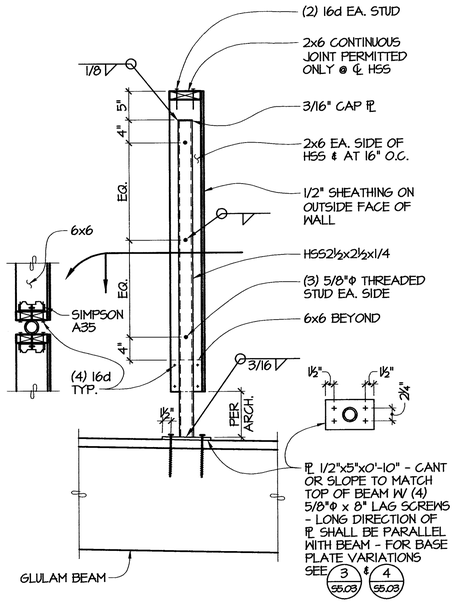


MECHANICAL SCREEN WALL

PARTIAL PLAN

1/8"=1'-0"

1 S5.03

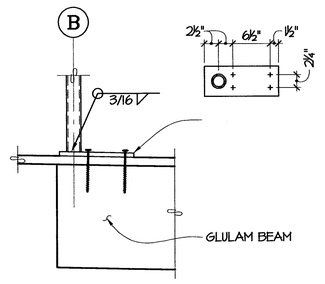


TYPICAL AT SCREEN WALL

SECTION

1"=1'-0"

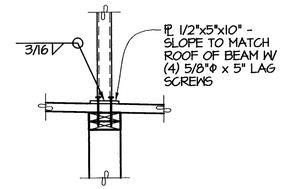
2 S5.03



SECTION

1"=1'-0"

3 S5.03



SECTION

1"=1'-0"

4 S5.03

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date FEBRUARY 2006

Sheet Title

FRAMING DETAILS

Sheet No.

S5.03

Job No.
2005-124 G (1-1)

CONSTRUCTION DOCUMENTS

G:\2002 Jobs\2160 Pierce College Puyallup Childcare Bldg\Dwgs\2160s503.dwg Plotted: Mar 15, 2006 - 1:32pm By: dougm

GRILLES–REGISTERS–DIFFUSERS SCHEDULE

UNIT NO	DESCRIPTION	MFR.	MODEL	CFM	AIR PATTERN	MOUNTING	FACE SIZE	NECK SIZE	COLOR	REMARKS
CD-1	CEILING DIFFUSER	TITUS	TDC-1	PER PLANS	2 WAY	T-BAR	23¾ x 23¾	PER PLANS	WHITE	FRAME 3
CD-2	CEILING DIFFUSER	TITUS	TDC-2	PER PLANS	2 WAY	T-BAR	23¾ x 23¾	PER PLANS	WHITE	FRAME 3
CD-3	CEILING DIFFUSER	TITUS	TDC-3	PER PLANS	3 WAY	T-BAR	23¾ x 23¾	PER PLANS	WHITE	FRAME 3
CD-4	CEILING DIFFUSER	TITUS	TDC-4	PER PLANS	4 WAY	T-BAR	23¾ x 23¾	PER PLANS	WHITE	FRAME 3
CDH-	CEILING DIFFUSER	TITUS	(1)	PER PLANS	(1)	SURFACE	NECK SIZE +5¾"TOTAL	PER PLANS	WHITE	(2) FRAME 6
RGH	RETURN GRILLE	TITUS	50F-A	PER PLANS	–	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(2)
SDS	SIDEWALL SUPPLY DIFFUSER	TITUS	300RL	PER PLANS	DBL.DEFLECTION	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(2)(3)
RGS	SIDEWALL RETURN/ RELIEF GRILLE	TITUS	355 RL	PER PLANS	–	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(2)(3)
EGS	SIDEWALL RETURN/ EXHAUST GRILLE	TITUS	355 RL	PER PLANS	–	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(2)(3)
EGH	EXHAUST GRILLE	TITUS	50F-A	PER PLANS	–	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(2)
RGR	SIDEWALL RELIEF GRILLE	TITUS	355 RL	PER PLANS	–	SURFACE	NECK SIZE +1¾"TOTAL	PER PLANS	WHITE	(3)

NOTES FOR GRILLES, REGISTERS, DIFFUSERS SCHEDULE:

(1) MODEL No. & AIR PATTERN SHALL BE SAME AS CD-1 THRU CD-4, EXCEPT PROVIDE FOR MOUNTING INDICATED.

(2) FURNISH WITH OPPOSED BLADE DAMPER.

(3) FURNISH WITH HORIZONTAL FRONT BLADES.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY DUCT UP	M	MOTORIZED DAMPER
	SUPPLY DUCT DOWN		FLEXIBLE CONNECTION (DUCT)
	RETURN, RELIEF, TRANSFER, OSA DUCT UP		TURNING VANES (TV)
	RETURN, RELIEF, TRANSFER, OSA DUCT DOWN		BACKDRAFT DAMPER (BD)
	EXHAUST DUCT UP		FLEXIBLE DUCT
	EXHAUST DUCT DOWN		VOLUME DAMPER (VD)
	RECTANGULAR DUCT SQUARE ELBOW UP	T	THERMOSTAT (T'STAT)
	RECTANGULAR DUCT, RADIUS ELBOW UP	TG	THERMOSTAT WITH GUARD (T'STAT)
	RECTANGULAR DUCT, SQUARE ELBOW DOWN	AFF	ABOVE FINISHED FLOOR
	RECTANGULAR DUCT, RADIUS ELBOW DOWN	BFF	BELOW FINISHED FLOOR
	ROUND DUCT ELBOW DOWN	POC	POINT OF CONNECTION
	ROUND DUCT ELBOW UP	MC	MECHANICAL CONTRACTOR
	CEILING AIR TERMINAL – SQUARE	EC	ELECTRICAL CONTRACTOR
12 X 12 CD / 300 CFM	AIR TERMINAL SIZE, TYPE & CFM	GC	GENERAL CONTRACTOR

EXHAUST FAN SCHEDULE

UNIT NO	MFR.	MODEL	CONFIGURATION	AREA SERVED	PERFORMANCE CFM	PERFORMANCE EX. S.P.	PERFORMANCE RPM	BACKDRAFT DAMPER	SPEED CONTROL	CONTROLLED BY OR INTERLOCKED WITH	ELECTRICAL HP (WATTS)	ELECTRICAL VOLTS	ELECTRICAL ø	STARTER FURN. BY	DISCONNECT FURN. BY	WEIGHT (LBS.)	REMARKS
EF-1	COOK	ACED-100CD10DH	ROOFTOP	PANTRY 124/LOUNGE 126	260	0.25	950	YES	YES	HP-1	(99)	120	1	(2)	(2)	100	(1)(3)
EF-2	COOK	GC-144	CEILING	ELECT. 125	100	0.25	925	NO	YES	T-STAT	(98)	120	1	(2)	(2)	50	(1)(3)(4)(6)
EF-3	COOK	GC-144	CEILING	TOILET 122	100	0.25	925	NO	YES	HP-1	(98)	120	1	(2)	(2)	50	(1)(3)(6)
EF-4	COOK	GC-144	CEILING	TOILET 120	100	0.25	925	NO	YES	HP-1	(98)	120	1	(2)	(2)	50	(1)(3)(6)
EF-5	COOK	GN-182	INLINE	STORAGE 115/RESTROOM 116	200	0.35	1325	NO	YES	HP-6	(189)	120	1	(2)	(2)	50	(1)(3)
EF-6	FANTECH	DBF 4XL	INLINE	STORAGE 115 DRYER	90	0.75	–	NO	YES	(5)	(75)	120	1	(2)	(2)	50	(1)(3)
EF-7	COOK	GN-182	INLINE	TOILET 108/109	200	0.35	1325	NO	YES	HP-5	(189)	120	1	(2)	(2)	50	(1)(3)
EF-8	COOK	GN-182	INLINE	STORAGE 104/RESTROOM 105	200	0.35	1325	NO	YES	HP-4	(189)	120	1	(2)	(2)	50	(1)(3)
EF-9	FANTECH	DBF 4XL	INLINE	STORAGE 104 DRYER	90	0.75	–	NO	YES	(5)	(75)	120	1	(2)	(2)	50	(1)(3)
EF-10	COOK	ACRU-210HP	ROOFTOP	KITCHEN HOOD	2200	1.75	1225	YES	NO	SWITCH	1.5	460	3	E.C.	E.C.	350	(1)

NOTES FOR EXHAUST FAN SCHEDULE

(1) ALL EXHAUST FANS TO BE WIRED FROM MOTOR TO BOX ON EXTERIOR OF FAN ENCLOSURE.

(2) EC TO PROVIDE A MANUAL STARTER (INCLUDING DISCONNECT). MC TO PROVIDE AND INSTALL A MOTOR RATED RELAY FOR INTERLOCK.

(3) SPEED CONTROL TO BE FACTORY WIRED TO THE INSIDE HOUSING OF ROOFTOP FANS AND TO THE OUTSIDE CABINET OF INLINE AND CEILING FANS.

(4) EC TO PROVIDE AND INSTALL LINE VOLTAGE, REVERSE ACTING THERMOSTAT.

(5) PROVIDE WITH MODEL DB10 PRESSURE SENSING SWITCH KIT AND VIBRATION ISOLATING CLAMPS.

(6) PROVIDE WITH WHITE ALUMINUM GRILLE.

ROOF MOUNTED AIR TERMINALS SCHEDULE

UNIT NO	MFR.	MODEL	AREA SERVED	CURB SIZE WIDTH	CURB SIZE LENGTH	HOOD SIZE WIDTH	HOOD SIZE LENGTH	THROAT SIZE WIDTH	THROAT SIZE LENGTH	WEIGHT	REMARKS
RH-1	COOK	GR	HALL 112	41.5	41.5	48	54	36	36	250	
RH-2	COOK	GR	HALL 101	41.5	41.5	48	54	36	36	250	
RH-2	COOK	GI	KITCHEN 123	21.5	29.5	32	36	16	24	250	

ELECTRIC WALL HEATER SCHEDULE

SYMBOL	MANUF.	MODEL	LOCATION	WATTS	VOLTS	PHASE	REMARKS
EWH-1	KING	WHF1215	TOILET 108	1500	120	1	(1)(2)
EWH-2	KING	WHF1210	HALL 101	1000	120	1	(1)(2)
EWH-3	KING	WHF1210	TOILET 109	500	120	1	(1)(2)
EWH-4	KING	WHF1210	HALL 112	1000	120	1	(1)(2)
EWH-5	KING	WHF1210	TOILET 120	500	120	1	(1)(2)
EWH-6	KING	WHF1210	ALCOVE 121	1000	120	1	(1)(2)
EWH-7	KING	WHF1210	TOILET 122	500	120	1	(1)(2)

NOTES FOR ELECTRIC WALL HEATER SCHEDULE:

(1) PROVIDE WITH SINGLE POLE THERMOSTAT KIT.

(2) PROVIDE WITH RECESS WALL CAN.

HEAT PUMP ROOFTOP PACKAGED UNIT SCHEDULE

UNIT NO	MFR.	MODEL	LOCATION	AREA SERVED	EER (SEER)	COOLING CAPACITY TOTAL MBH	COOLING CAPACITY SENS. @ 80°F	COOLING CAPACITY ECONOMIZER	HEATING TOTAL MBH	HEATING COP (HSPF)	HEATING AUX. KW	HEATING STEPS	BLOWER CFM	BLOWER MIN. OSA	BLOWER EX. S.P. (IN. WC)	BLOWER HP	EXHAUST MOTOR (HP)	WEIGHT (lbs)	ELECTRICAL MCA	ELECTRICAL VOLTS	ELECTRICAL ø	STARTER FURN. BY	DISCONNECT FURN. BY	DUCT SMOKE DETECTOR FURN. BY	REMARKS
HP-1	TRANE	WSC048	ROOF	KITCHEN	(10.5)	52.2	36.7	100%	46.8	(6.90)	12	2	1500	315	0.68	0.6	–	725	30.9	460	3	MFR	EC	–	(1)(2)(6)
HP-2	TRANE	WSC072	ROOF	OFFICE	10.6	74.7	59.9	100%	68.9	3.3	18	1	2440	575	0.68	1.0	1.0	1150	43.8	460	3	MFR	EC	EC (3)	(1)(6)(7)
HP-3	TRANE	WSC036	ROOF	TODDLERS	(10.2)	38.1	28.5	100%	34.8	(6.95)	12	2	1250	340	0.65	0.33	–	700	29.3	460	3	MFR	EC	–	(1)(2)(6)
HP-4	TRANE	WSC048	ROOF	TODDLERS	(10.5)	50.8	38.0	100%	46.8	(6.90)	12	2	1550	260	0.66	0.6	–	725	30.9	460	3	MFR	EC	–	(1)(2)(6)
HP-5	TRANE	WSC060	ROOF	PRESCHOOL	(10.1)	63.1	47.5	100%	58.8	(7.00)	12	2	2000	350	0.68	0.9	–	750	34.2	460	3	MFR	EC	EC (3)	(1)(2)(6)
HP-6	TRANE	WSC060	ROOF	PRESCHOOL	(10.1)	63.1	47.5	100%	58.8	(7.00)	17.4	2	2000	430	0.67	0.9	–	750	42.3	460	3	MFR	EC	EC (3)	(1)(2)(6)

NOTES FOR ROOFTOP PACKAGED UNIT SCHEDULE

(1) PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION.

(2) PROVIDE WITH BAROMETRIC RELIEF.

(3) EC TO PROVIDE AND WIRE. MC TO INSTALL IN RETURN DUCT.

(4) COOLING CAPACITY BASED ON ARI STANDARD 210/240: 95°F OUTDOOR AIR TEMPERATURE AND 80°F db/67°F wb ENTERING EVAPORATOR COIL AIR.

(5) HEATING CAPACITY BASED ON 47°F OUTDOOR AIR TEMPERATURE AND 70°F INDOOR.

(6) BELT DRIVE MOTOR.

(7) PROVIDE WITH FIELD INSTALLED POWER EXHAUST.

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Sheet Title

MECHANICAL LEGEND & SCHEDULES

Sheet No.

M1.01

Job No. 2005-124 G (1-1)

BID SET

PLUMBING FIXTURE SCHEDULE

UNIT NO	FIXTURE	MOUNTING	MANUFACTURER AND MODEL NUMBERS	W	V	HW	CW	REMARKS
P-1	WATER CLOSET ADA	FLOOR	TOILET: ELJER SIGNATURE 111-2145-00 SEAT: CHURCH 9500C FLUSH VALVE: SLOAN ROYAL 111	4"	2"	-	1"	ADA COMPLIANT, SEAT MUST BE 17" HIGH MINIMUM 19" HIGH MAXIMUM.
P-1A	WATER CLOSET CHILD HEIGHT	FLOOR	TOILET: ELJER KINDERGARTEN 111-1000 SEAT: BEMIS 1580C FLUSH VALVE: SLOAN ROYAL 111	4"	2"	-	1"	PROVIDE BOLT CAPS
P-2	LAVATORY ADA	WALL	SINK: ELJER BLAIR 051-1304 FITTINGS: TOTO 5GSC-10 SUPPLIES: EBC LAH16 TRAP: DEARBORN BRASS 17GA W/ GROUND JOINT	2"	1½"	½"	½"	ADA COMPLIANT, PROVIDE WITH EBC INSTITUTIONAL ADA INSULATOR KIT.
P-3	SINGLE COMPARTMENT STAINLESS SINK	COUNTER	SINK: JUST #SL-2125-A-GR FITTINGS: CHICAGO FAUCETS 1201-ACP SUPPLIES: EBC #LAH16 WASTE: JUST #J-35 TRAP: EBC #TS150	2"	1½"	½"	½"	
P-4	SERVICE SINK	FLOOR	FIXTURE: FLORESTONE #MSR-2424 FITTINGS: CHICAGO FAUCETS #897VB WASTE: FLORESTONE #MR-375 TRAP: CAST IRON	3"	2"	¾"	¾"	PROVIDE WITH WEDGE-LOK SEAL #MR-374
P-5	INFRARED SENSOR WASHFOUNTAIN	FLOOR	FIXTURE: BRADLEY MF2949/IR SUPPLIES: EBC #LAH16 TRAP: EBC #TS150	2"	1½"	½"	½"	
P-6	TWO-LEVEL ADA DRINKING FOUNTAIN	WALL	HAWS #1119.14 STAINLESS STEEL FURNISH WITH TRAP, SERVICE SUPPLY STOP AND SUPPORT SYSTEM	2"	1½"	-	½"	BARRIER FREE, DUAL HEIGHT
P-7	CLOTHES WASHER WALL BOX	WALL	FIXTURE: OATEY WMOB	2"	1½"	½"	½"	PROVIDE W/ INTEGRAL WATER HAMMER ARRESTORS
P-8	STORAGE SINK	COUNTER	FIXTURE: FLORESTONE SR FITTINGS: CHICAGO FAUCETS #897VB WASTE: FLORESTONE #MR-375 TRAP: EBC #TS150	3"	2"	¾"	¾"	
P-9	FLOOR SINK	WALL	FIXTURE: ZURN Z1901	SIZE PER PLANS		-	-	
P-10	ICE MACHINE WALL BOX	WALL	FIXTURE: OATEY IMOB	-	-	-	½"	

KITCHEN PLUMBING FIXTURE SCHEDULE

P-100 FIXTURES ARE SUPPLIED BY THE G.C. – ALL CONNECTIONS TO BE MADE BY THIS CONTRACTOR, FITTING STOPS, RISERS, TRAPS, AND ALL OTHER APPURTENANCES ARE TO BE PROVIDED BY THIS CONTRACTOR.

P-101	HAND SINK	COUNTER	SINK BY OTHERS, INSTALLATION AND CONNECTION BY THIS CONTRACTOR WASTE: JUST #J-35-FS	2"	1½"	½"	½"	
P-102	PREP SINK	COUNTER	SINK BY OTHERS, INSTALLATION AND CONNECTION BY THIS CONTRACTOR WASTE: JUST #J-35-FS (2 EACH)	2"	1½"	¾"	¾"	INDIRECT WASTE PROVIDE CONCEALED STOPS
P-103	TWO COMP SINK	COUNTER	SINK BY OTHERS, INSTALLATION AND CONNECTION BY THIS CONTRACTOR WASTE: JUST #J-35-FS (2 EACH)	-	-	½"	½"	INDIRECT WASTE PROVIDE CONCEALED STOPS
P-104	TRIPLE SINK	COUNTER	SINK BY OTHERS, INSTALLATION AND CONNECTION BY THIS CONTRACTOR WASTE: JUST #J-35-BLA (3 EACH) & JUST JCW-203	2"	1½"	½" (2)	½" (2)	PROVIDE CONCEALED STOPS
P-105	DISHWASHER	COUNTER	DISHWASHER BY OTHERS, INSTALLATION AND CONNECTION BY THIS CONTRACTOR	-	-	¾"	-	INDIRECT WASTE PROVIDE CONCEALED STOPS INSTALL PER MANUFACTURERS RECOMMENDATIONS.

PUMP SCHEDULE

UNIT NO	MFR.	MODEL	LOCATION	MOTOR HP	MOTOR RPM	HEAD (FT)	FLOW (GPM)	ELECTRICAL MCA	ELECTRICAL VOLTS	ELECTRICAL Ø	STARTER FURN. BY	DISCONNECT FURN. BY	REMARKS
CP-1	ARMSTRONG	E7B	JANITOR 110	1/12	3000	10	12	1.5	120	1	(1)	(1)	

NOTES FOR CIRCULATION PUMP SCHEDULE

(1) EC TO PROVIDE A MANUAL STARTER (INCLUDING DISCONNECT). MC TO PROVIDE AND INSTALL A MOTOR RATED RELAY FOR CONTROLS INTERLOCK.

WATER HEATER SCHEDULE

UNIT NO	MFR.	MODEL	LOCATION	TANK SIZE (GAL)	AMPS	RECOVERY (GPH) @ 100° F RISE	WET WEIGHT (LB)	ELECTRICAL KW	ELECTRICAL VOLTS	ELECTRICAL Ø	DISCONNECT FURN. BY	REMARKS
HWT-1	LOCHINVAR	HVX-30-150	JANITOR 110	150	36	123	2075	30	480	3	EC	(1)(2)

NOTES FOR WATER HEATER SCHEDULE

(1) SINGLE POINT POWER CONNECTION. PROVIDE ALL POWER TRANSFORMERS AS NECESSARY.

(2) SET TEMPERATURE AT 120° F.

ELECTRIC DUCT COIL SCHEDULE

UNIT NO	MFR.	MODEL	LOCATION	COIL KW	COIL SIZE	FACE VEL.	DESIGN CFM	INTERLOCK	ELECTRICAL VOLTS	ELECTRICAL Ø	STARTER FURN. BY	DISCONNECT FURN. BY	REMARKS
DC-1	INDEECO	QUA	KITCHEN	20.0	20"x20"	1000	1800	(3)	460	3	MFR.	MFR.	(1)(2)(4)

NOTES FOR ELECTRIC DUCT COIL SCHEDULE

(1) PROVIDE DUCT COILS WITH INTERNAL FUSED SUBDIVISIONS PER NEC.

(2) PROVIDE WITH A SINGLE POINT POWER CONNECTION.

(3) PROVIDE UNIT WITH DOOR INTERLOCKING DISCONNECT AND SCR CONTROL.

(4) PROVIDE AIRFLOW SWITCH AND INSTALL PER MANUFACTURERS RECOMMENDATIONS.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER (CW)
	DOMESTIC HOT WATER (HW)
	DOMESTIC HOT WATER CIRCULATING (HWC)
	SOIL, WASTE (S, W)
	VENT (V), OR HIDDEN BELOW WASTE
E	EXISTING PIPING
G	NATURAL GAS PIPING
	PIPE DOWN
	PIPE UP
	WASTE UP
	WALL CLEANOUT
	FLUSH CLEANOUT (FCO/SCO)
	CLEAN OUT (CO)
	IN LINE WASTE CONNECTION
	P-TRAP
	TEE PIPE DOWN
	TEE PIPE UP
	TEE DOWN AND OUT
	TEE UP AND OUT
	TEE DOWN
	TEE
	ELBOWS, 45° & 90°
	CAP
	PUMP
	FREEZE PROOF WALL HYDRANT (FWH)
	STRAINER
	UNION
T	THERMOMETER
P	PRESSURE GAGE
	FLEXIBLE PIPE CONNECTION
	FLOOR DRAIN
	FLOOR FUNNEL DRAIN
	CROSSING LINES, NON CONNECTIONING
	PIPE CONTINUATION
	FLOW DIRECTION
	TRAP PRIMER WITH ACCESS PANEL
A	AQUASTAT
	GATE VALVE (GV)
	GLOBE VALVE
	CHECK VALVE (CV) ARROW SHOWN IN DIRECTION OF FLOW
	FLOW CONTROL VALVE
	TEMP./PRESS. RELIEF VALVE (T&PRV)
	BALL VALVE
	GAS COCK
	BUTTERFLY VALVE
P	PRESSURE REDUCING VALVE
	DRAIN VALVE
	BALANCING COCK (BC)

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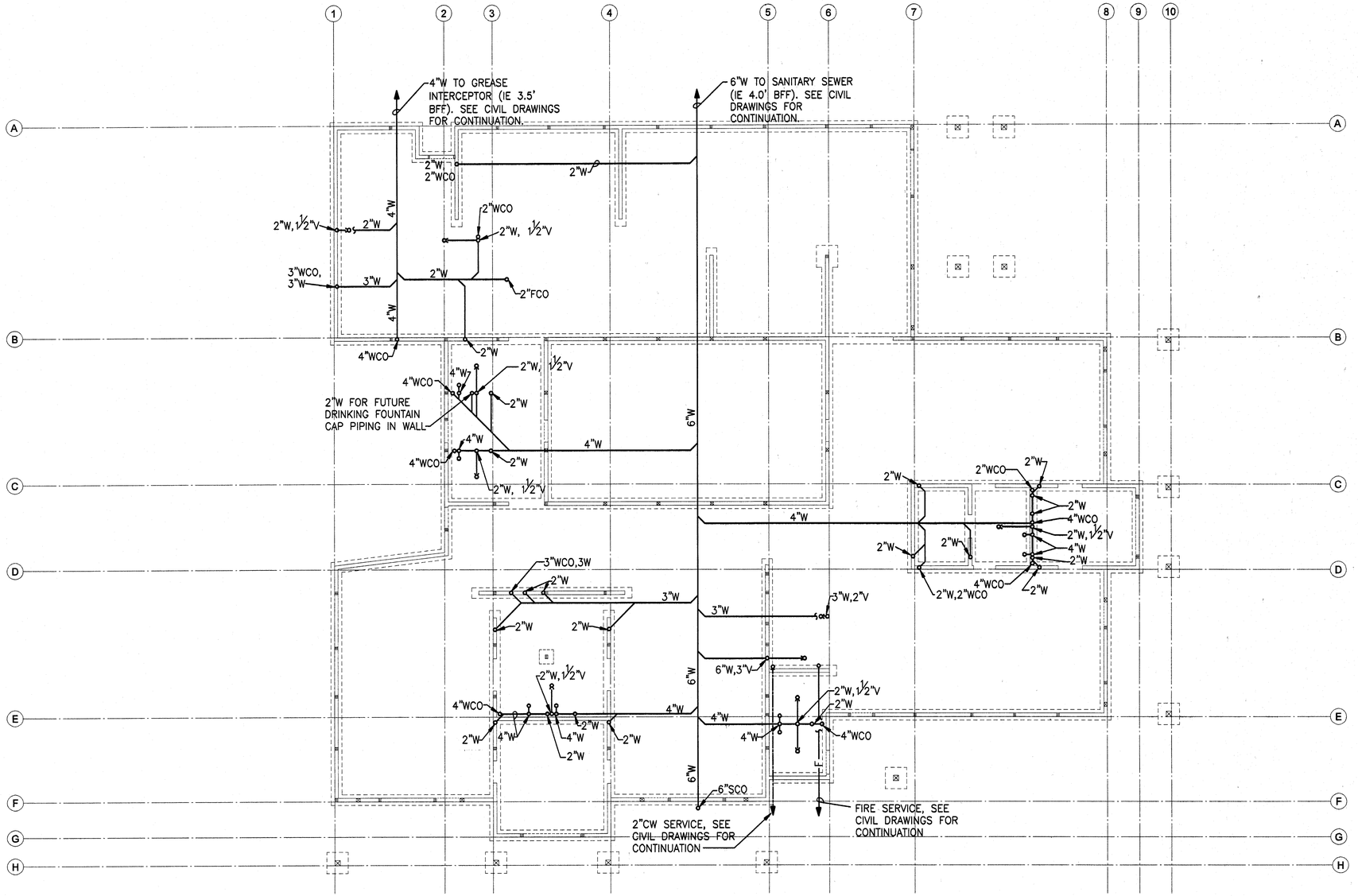
MECHANICAL LEGEND & SCHEDULES

Sheet No.

M1.02

Job No.
2005-124 G (1-1)

BID SET



MECHANICAL FOUNDATION PLAN

1/8"=1'-0"

0 4' 8' 16'

N

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Sheet Title

MECHANICAL FOUNDATION PLAN

Sheet No.

M2.01

Job No.
2005-124 G (1-1)

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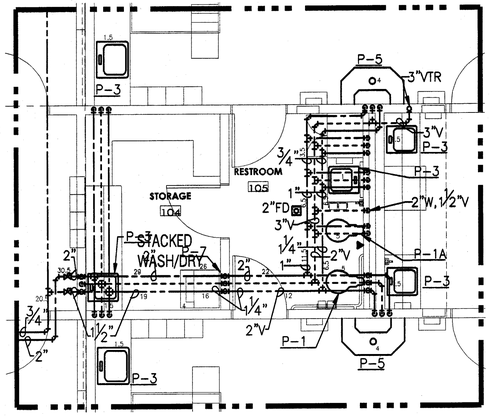

PARTIAL PLUMBING PLAN (TODDLERS)

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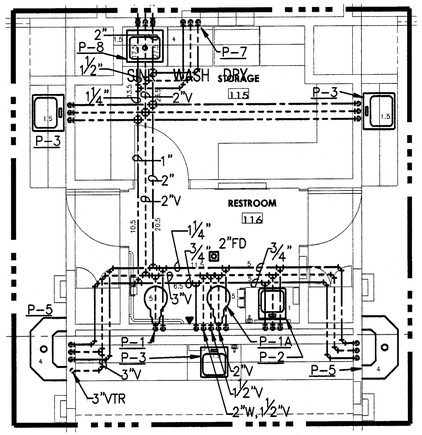

PARTIAL PLUMBING PLAN (PRE-SCHOOL)

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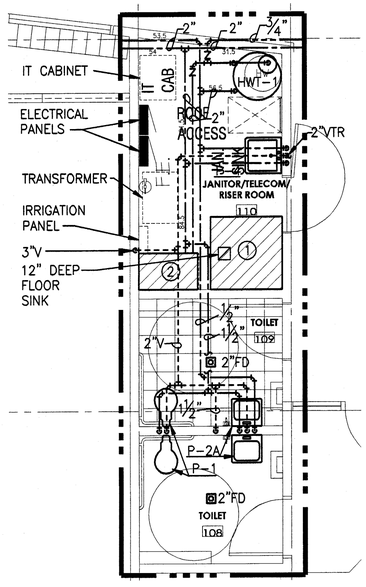

PARTIAL PLUMBI9NG PLAN (JANITOR 110)

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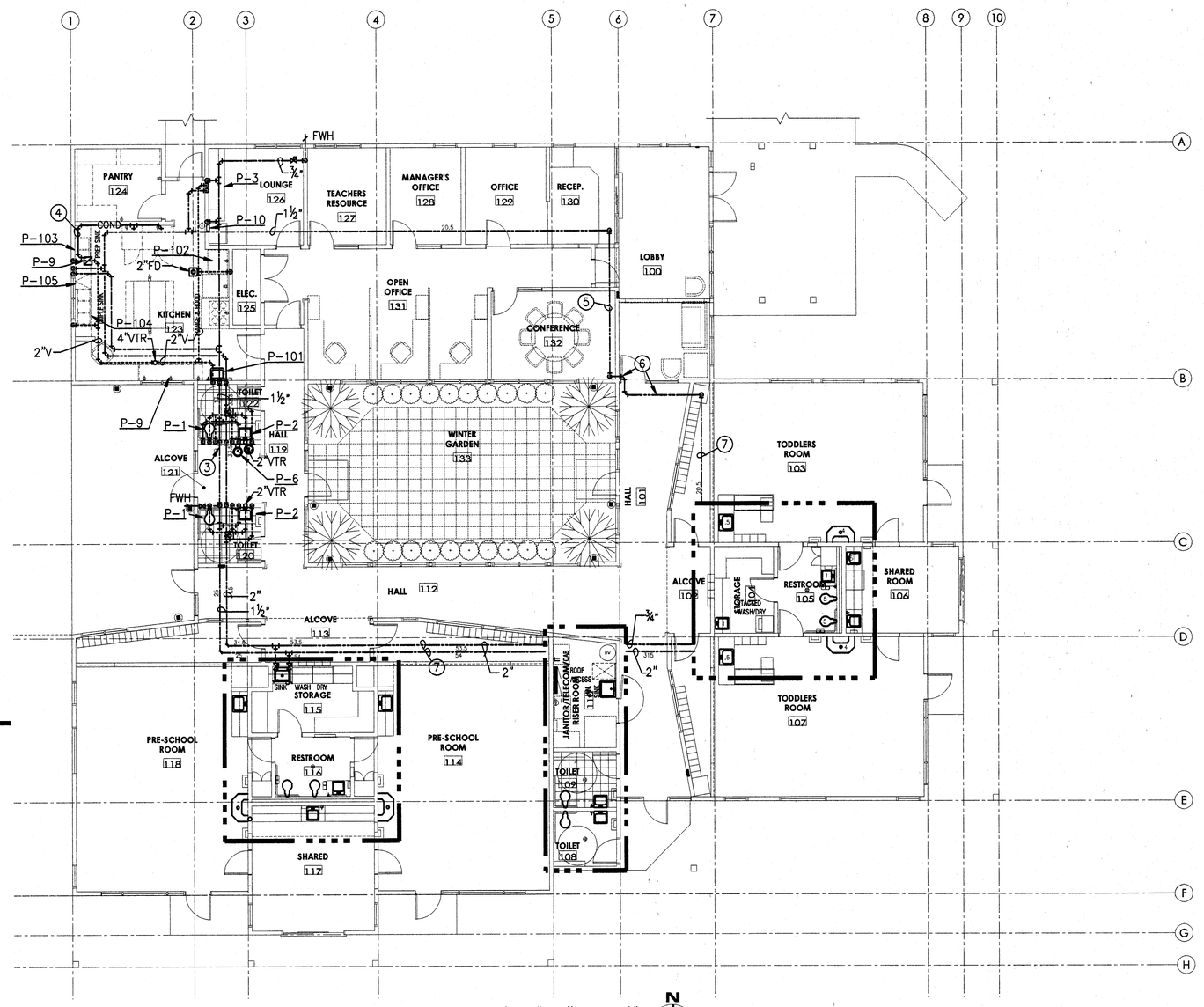

PLUMBING PLAN

1/8"=1'-0"

0 4' 8' 16'

N

CONSTRUCTION NOTES

1. AREA RESERVED FOR FIRE SPRINKLER RISER, SEE SHEET M4.01 FOR CONFIGURATION.
2. AREA RESERVED FOR DOMESTIC WATER HEADER, SEE SHEET M5.01 FOR DETAIL.
3. PROVIDE ½"CW & 2"V ROUGH IN AND WALL CARRIER FOR FUTURE DRINKING FOUNTAIN. SEE ARCHITECTURAL DRAWINGS FOR LOCATION.
4. ROUTE ¾" CONDENSATE FROM FREEZER AND REFRIGERATOR TO FLOOR SINK UNDER P-103. PROVIDE ½" CONNECTION W/ UNION TO EACH PIECE OF EQUIPMENT.
5. ROUTE PIPING IN JOIST SPACE.
6. ROUTE PIPING PARALLEL TO FIRE SPRINKLER PIPING, UNDER BEAM&FIRE SPRINKLER MAIN, SEE SHEET M4.02 FOR FIRE SPRINKLER ROUTE. COORDINATE INSTALLATION WITH GC.
7. ROUTE PIPING IN SOFFIT.

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PLUMBING PLAN

Sheet No.

M2.02

Job No. 2005-124 G (1-1)

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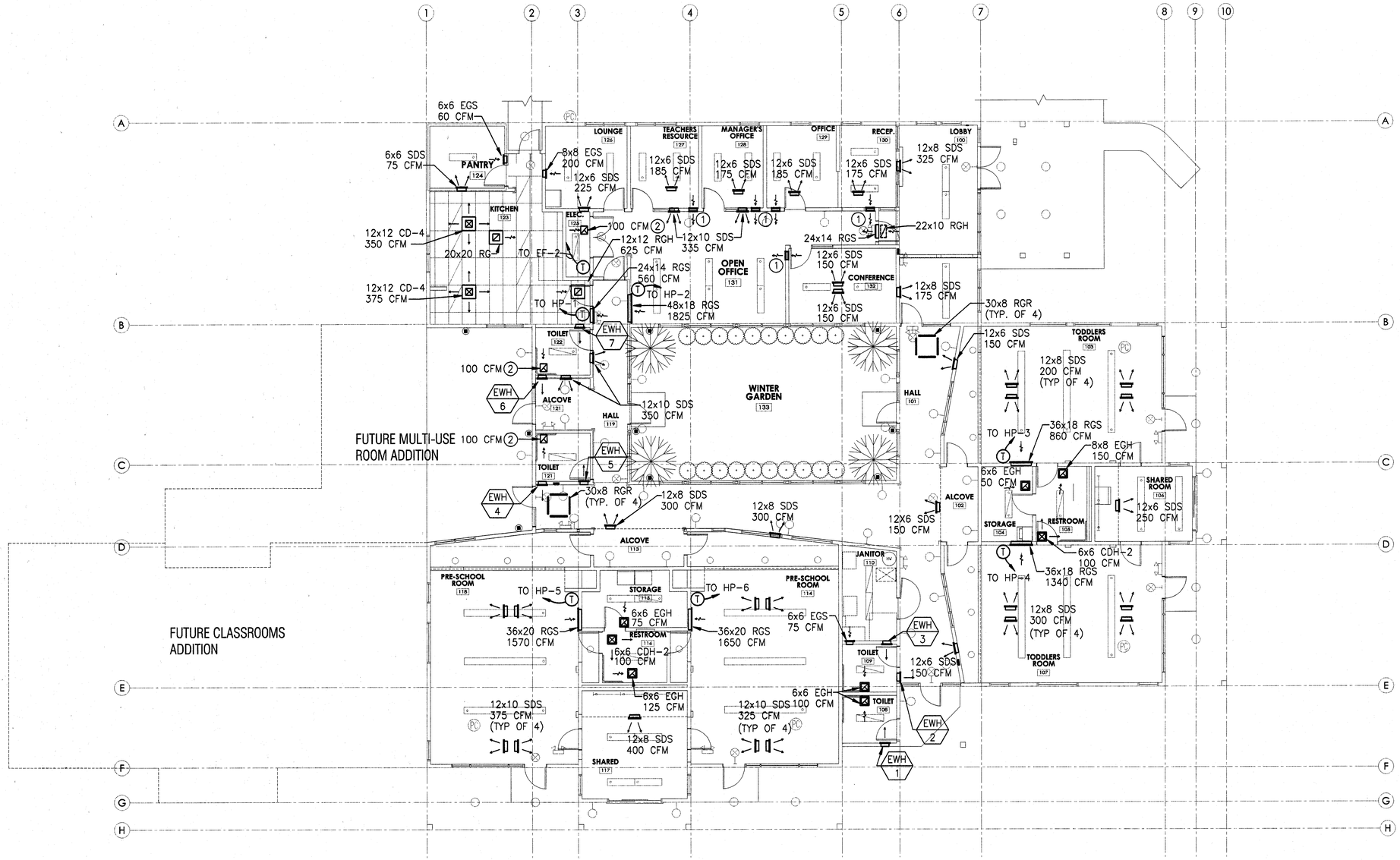

MECHANICAL REFLECTED CEILING PLAN

1/8"=1'-0"

0 4' 8' 16'

CONSTRUCTION NOTES

1. TRANSFER GRILLE ASSEMBLY, INSTALL PER INSTALLATION DETAIL ON SHEET M5.02.
2. EXHAUST GRILLE PROVIDED WITH FAN.

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MECHANICAL REFLECTED CEILING PLAN

Sheet No.

M3.01

Job No. 2005-124 G (1-1)

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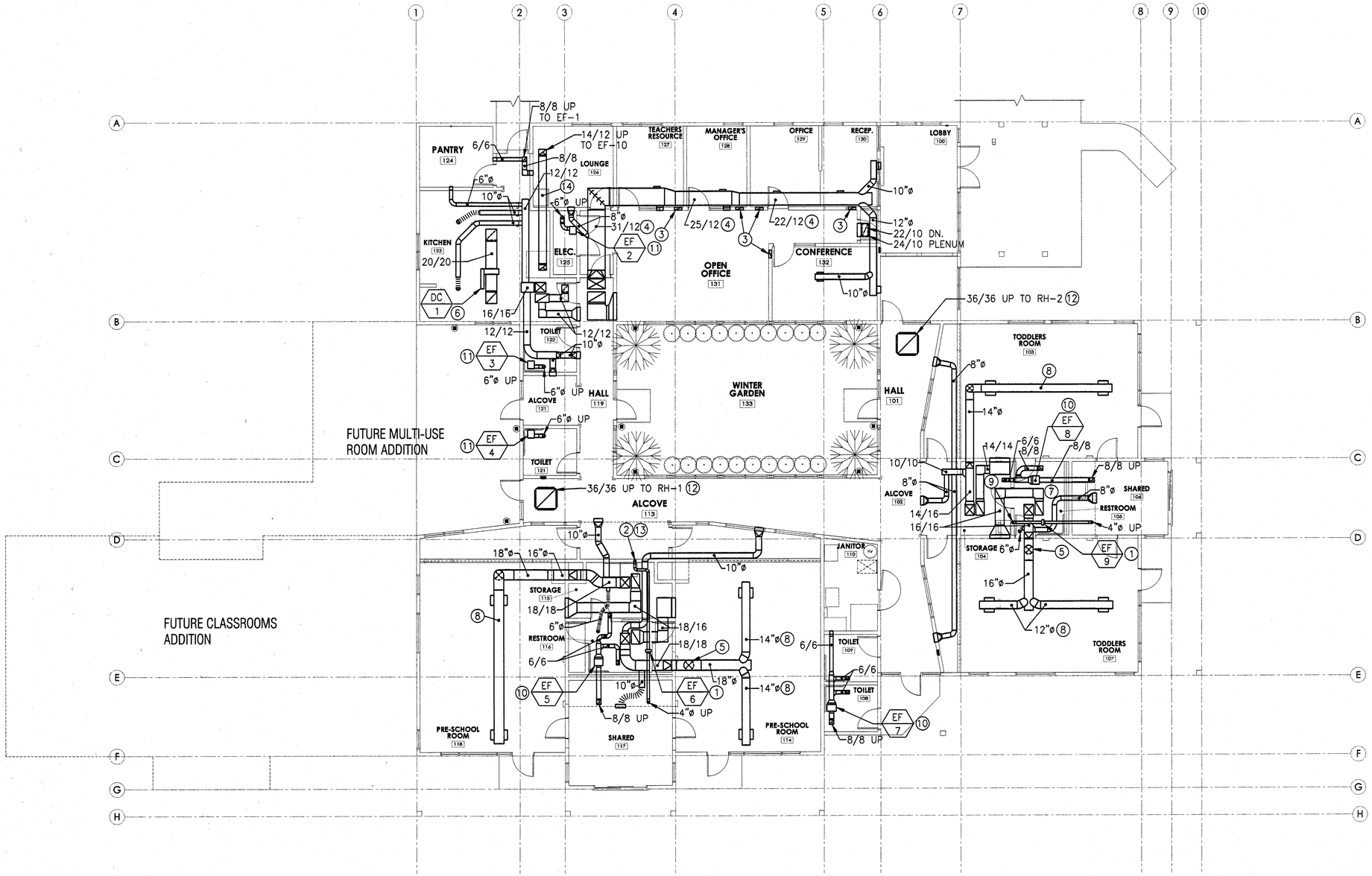

MECHANICAL FURRED CEILING PLAN

1/8"=1'-0"

0 4' 8' 16'

GENERAL NOTES

1. ALL EXPOSED ROUND DUCT SHALL BE LINED SPIRAL DUCT.

CONSTRUCTION NOTES

(1) SEE DRYER BOOSTER FAN INSTALLATION DETAIL ON SHEET M5.02.

(2) 4"ø DUCT DOWN TO DRYER, COORDINATE HEIGHT OF OUTLET WITH DRYER CONNECTION. INSTALL SECONDARY LINT FILTER ABOVE DRYER WITH ACCESS IN STORAGE 115. SEE INSTALLATION DETAIL ON SHEET M5.02.

(3) TRANSFER GRILLE ASSEMBLY, INSTALL PER INSTALLATION DETAIL ON SHEET M5.02.

(4) FLAT OVAL DUCT, ROUTE AS TIGHT TO UNDERSIDE OF BEAMS AS POSSIBLE.

(5) HOLD UP ELBOW AS TIGHT TO WALL AS POSSIBLE.

(6) DUCT COIL PANEL SHALL BE INSTALLED ON BOTTOM OF DUCT FOR ACCESS.

(7) INSTALL DUCTWORK UNDER LOW ROOF WITH AN 8" CLEARENCE BETWEEN STRUCTURE AND DUCTWORK TO ALLOW FIRE SPRINKLER PIPING TO ROUTE ABOVE.

(8) BOTTOM OF DUCT AT 12'-0" ABOVE FINISHED FLOOR.

(9) 4"ø DUCT DOWN TO DRYER, COORDINATE HEIGHT OF OUTLET WITH DRYER CONNECTION. INSTALL SECONDARY LINT FILTER ABOVE DRYER WITH ACCESS IN RESTROOM 105. SEE INSTALLATION DETAIL ON SHEET M5.02.

(10) SEE INLINE EXHAUST FAN INSTALLATION DETAIL ON SHEET M5.02.

(11) SEE CEILING MOUNTED EXHAUST FAN INSTALLATION DETAIL ON SHEET M5.02.

(12) RELIEF ASSEMBLY, BOTTOM OF PLENUM SHALL NOT EXTEND BELOW GLULAM BEAM. PAINT PLENUM WITH COLOR SELECTED BY THE ARCHITECT.

(13) COORDINATE LOCATION OF DROP IN WALL WITH PARENT CUBBIES, SEE SHEET A2.01.

(14) DUCT SHALL BE FIRE WRAPPED PER SPECIFICATION SECTION 15870.

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Sheet Title

MECHANICAL FURRED CEILING PLAN

Sheet No.

M3.02

Job No. 2005-124 G (1-1)

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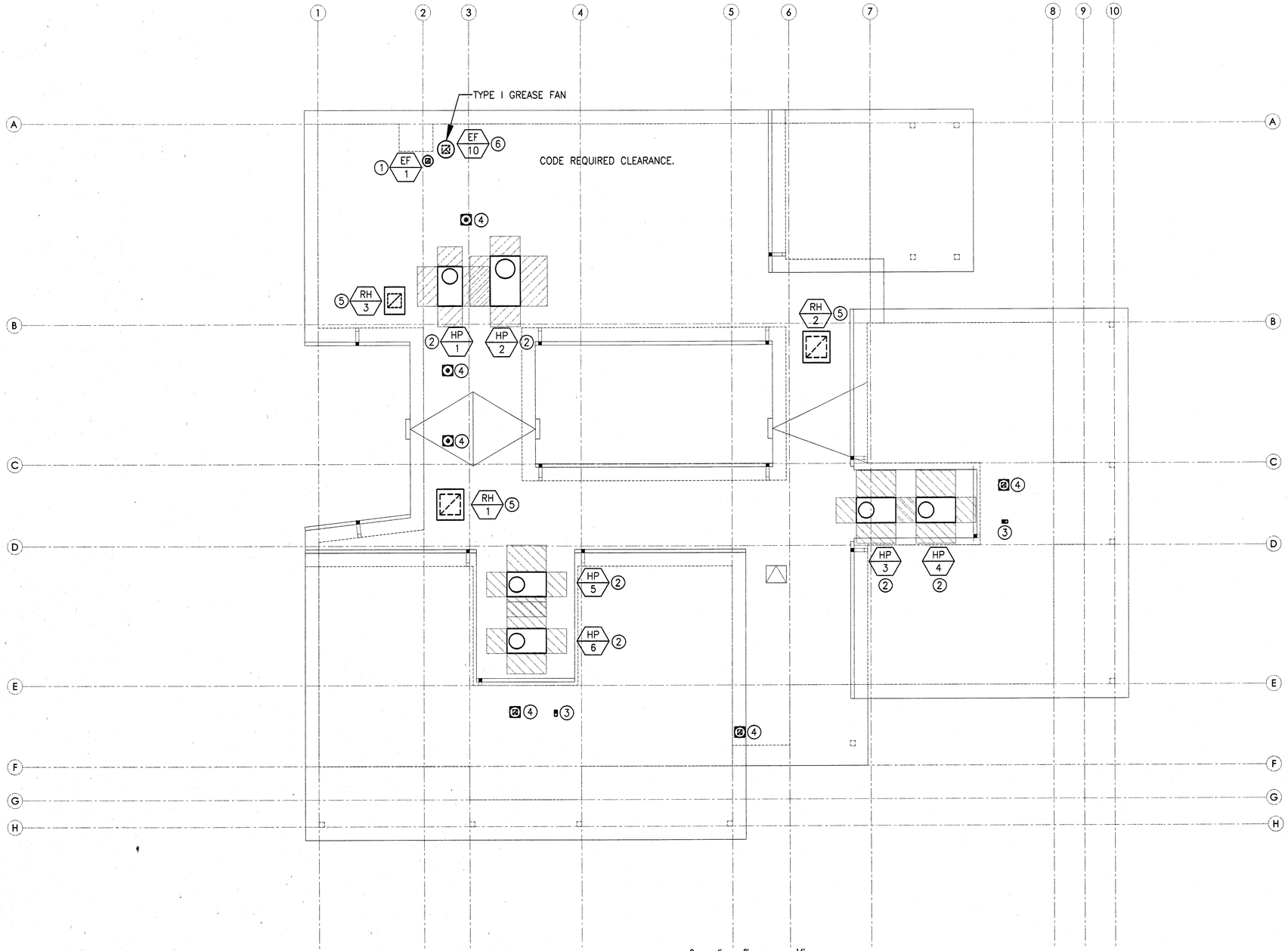

MECHANICAL ROOF PLAN

1/8"=1'-0"

0 4' 8' 16'

CONSTRUCTION NOTES

1. SEE TYPICAL ROOF MOUNT EXHAUST FAN INSTALLATION DETAIL ON SHEET M5.02.
2. SEE TYPICAL ROOF MOUNTED HVAC UNIT INSTALLATION DETAIL ON SHEET M5.02.
3. VERTICAL DRYER VENT, PROVIDE FLASHING AND COUNTERFLASHING AS REQUIRED FOR WATER TIGHT INSTALLATION.
4. EXHAUST ROOF CAP, COOK MODEL PR8 WITH BIRDSCREEN. PROVIDE FLASHING AND COUNTERFLASHING AS REQUIRED FOR WATER TIGHT INSTALLATION.
5. SEE ROOF HOOD INSTALLATION DETAIL ON SHEET M5.02.
6. SEE KITCHEN RANGE HOOD EXHAUST FAN INSTALLATION DETAIL ON SHEET M5.02.

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MECHANICAL ROOF PLAN

Sheet No.

M3.03

Job No. 2005-124 G (1-1)

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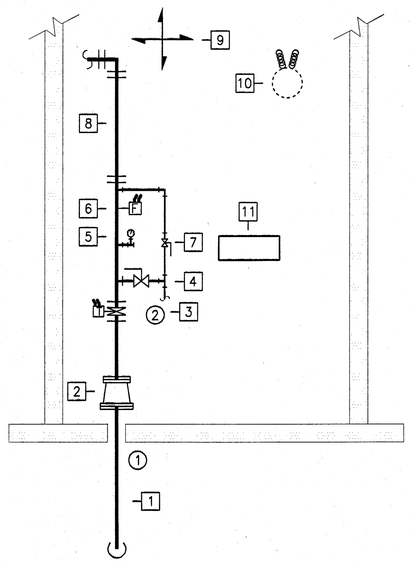

RISER DETAIL – ELEVATION VIEW

SCALE:1/2"=1'-0"

RISER EQUIPMENT LIST

ITEM	QTY.	SIZE	DESCRIPTION
1	1	6"	UNDERGROUND FIRE PROTECTION SUPPLY PIPE
2	1	6" X 4"	FLANGED REDUCER (IF REQUIRED)
3	1	--	GROOVED BUTTERFLY VALVE WITH INTEGRAL TAMPER SWITCH
4	1	2"	MAIN DRAIN VALVE
5	1	¼"	WATER PRESSURE GAUGE
6	1	--	WATER FLOW INDICATOR
7	1	1"	INSPECTOR'S TEST ASSEMBLY
8	1	--	FIRE PROTECTION WET SYSTEM SUPPLY PIPING
9	1	1"	4-WAY SEISMIC BRACE ASSEMBLY LOCATED AT THE TOP OF THE SYSTEM RISER
10	1	10"	24 VOLT D.C. ELECTRIC BELL MOUNTED ON THE BUILDINGS EXTERIOR WALL AND POWERED THROUGH THE FIRE ALARM PANEL
11	1	12 HEAD	SPARE HEAD CABINET WITH STOCK OF SPARE SPRINKLERS AND HEAD WRENCHES

MINIMUM FIRE PROTECTION DESIGN CRITERIA

ROOM NAME	HAZARD CLASSIFICATION	DESIGN DENSITY (G.P.M. / SQ. FT.)	MINIMUM REMOTE AREA (SQ. FT.) UNMODIFIED	HOSE STREAMS (G.P.M.)	MINIMUM REMOTE AREA MODIFICATIONS THAT APPLY
SCHOOL ROOMS SHARED ROOMS RESTROOMS HALLWAYS OFFICE AREAS LOBBIES	LIGHT HAZARD OCCUPANCY	0.10	1,500	100	1, 2, AND 5
JANITORS ROOMS STORAGE ROOMS KITCHEN PANTRY ELECTRICAL ROOM	ORDINARY HAZARD GROUP II OCCUPANCY	0.20	1,500	250	1, 2, AND 5

SYSTEM MODIFICATIONS THAT ARE REQUIRED TO BE PERFORMED ON THE MINIMUM REMOTE AREA SIZE

MODIFICATION NUMBER	REASON FOR MODIFICATION	REMOTE AREA MODIFICATION
1	WET PIPE SYSTEM, Q.R. SPRINKLERS, 20' OR LESS CEILING, CEILING POCKETS PROTECTED	USE FIGURE 11.2.3.2.3.1 OF THE 2002 EDITION OF N.F.P.A. #13
2	CEILING OR ROOF SLOPE EXCEEDS A 2 IN 12 PITCH	INCREASE REMOTE AREA 30%
3	DRY PIPE SPRINKLER SYSTEM OR DOUBLE INTERLOCK PRE-ACTION SPRINKLER SYSTEM	INCREASE REMOTE AREA 30%
4	UTILIZING HIGH TEMPERATURE SPRINKLERS IN AN EXTRA HAZARD OCCUPANCY	REDUCE REMOTE AREA 30%, BUT NOT LESS THAN 2,000 SQ. FT.
5	COMBUSTIBLE CONCEALED SPACE (INCLUDING ROOF VENTING SPACES)	3,000 SQ. FT. AFTER ALL OTHER MODIFICATIONS HAVE BEEN MADE

FLOW TEST INFORMATION

BASE HYDRAULIC CALCULATIONS FOR THE BID ON A FLOW TEST PERFORMED ON MARCH 20, 2004 BY THE COSCO FIRE PROTECTION INC. AFTER AWARD OF THE PROJECT, THE CONTRACTOR SHALL VERIFY THE AVAILABLE WATER SUPPLY WITH A FLOW TEST PERFORMED BY COSCO FIRE PROTECTION INC. SEE PROJECT SPECIFICATIONS FOR MORE DETAIL.

TEST HYDRANT #1
STATIC PRESSURE: 65 P.S.I.
RESIDUAL PRESSURE: 57 P.S.I.
RESIDUAL FLOW: 2,149 G.P.M.

TEST HYDRANT IS LOCATED AT 1601 39TH AVENUE SOUTHEAST IN PUYALLUP, WASHINGTON.

TEST INFORMATION PROVIDED BY: COSCO FIRE PROTECTION INC.

CONSTRUCTION NOTES

1. 2" ANNULAR SPACE REQUIRED AROUND UNDERGROUND PIPING AT PENETRATION OF FINISHED FLOOR.
2. THE FIRE PROTECTION SPRINKLER CONTRACTOR SHALL COMBINE THE MAIN DRAIN DISCHARGE AND INSPECTORS TEST DISCHARGE TOGETHER AND ROUTE DISCHARGE TO THE 6" FLOOR DRAIN ADJACENT TO SPRINKLER RISER.

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FIRE PROTECTION RISER DETAIL AND DESIGN CRITERIA PLAN

Sheet No.

M4.01

Job No.
2005-124 G (1-1)

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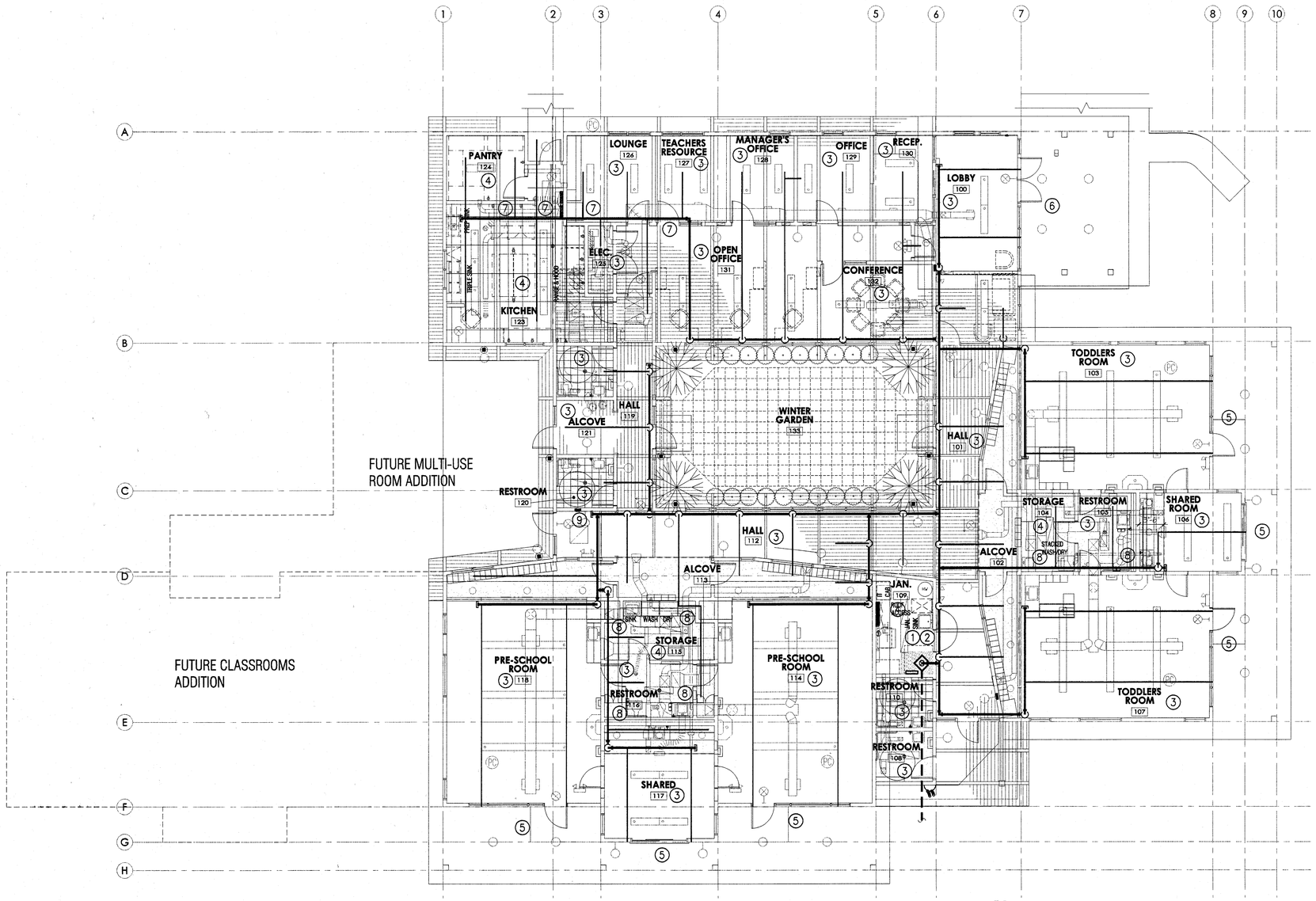

FIRE PROTECTION FLOOR PLAN

1/8"=1'-0"

0 4' 8' 16'

N

CONSTRUCTION NOTES

1. SEE ENLARGED RISER DETAIL – ELEVATION VIEW ON SHEET M4.01 FOR ADDITIONAL NOTES.
2. SHADED AREA REPRESENTS THE CLEARANCE AREA REQUIRED AROUND THE FIRE PROTECTION EQUIPMENT IN WHICH STORAGE OF COMMODITIES IS NOT ALLOWED.
3. FIRE PROTECTION SPRINKLER SYSTEM DESIGN SHALL BE BASED ON LIGHT HAZARD OCCUPANCY. SEE PROJECT SPECIFICATIONS AND MINIMUM FIRE PROTECTION DESIGN CRITERIA TABLE ON SHEET M4.01 FOR DESIGN DENSITY AND REMOTE AREA REQUIREMENTS.
4. FIRE PROTECTION SPRINKLER SYSTEM DESIGN SHALL BE BASED ON ORDINARY HAZARD GROUP I OCCUPANCY. SEE PROJECT SPECIFICATIONS AND MINIMUM FIRE PROTECTION DESIGN CRITERIA TABLE ON SHEET M4.01 FOR DESIGN DENSITY AND REMOTE AREA REQUIREMENTS.
5. EXTERIOR CANOPY SHALL BE PROTECTED BY DRY HORIZONTAL SIDEWALL SPRINKLER HEADS.
6. EXTERIOR CANOPY SHALL BE PROTECTED BY DRY HORIZONTAL SIDEWALL SPRINKLER HEADS. THE DEFLECTOR SHALL BE PLACED AT 12" BELOW THE DECK TO ALLOW THE SPRINKLER HEAD TO DISCHARGE BELOW THE GLU-LAM BEAM.
7. FIRE PROTECTION SPRINKLER SYSTEM PIPING TO PENETRATE THE STRUCTURAL GLU-LAM BEAMS.
8. FIRE PROTECTION SPRINKLER PIPING TO BE RAN AT A CENTERLINE ELEVATION OF 6" BOTTOM OF DECK.
9. THE FIRE PROTECTION SPRINKLER CONTRACTOR SHALL PROVIDE CAPACITY WITHIN THE MAIN TO EXTEND THE SPRINKLER SYSTEM INTO THE FUTURE CLASSROOM ADDITION AND INTO THE FUTURE MULTI-USE ROOM ADDITION. THE INTENT IS TO REMOVE THE GROOVED CAP FOR THE FUTURE EXPANSION. THE FUTURE EXPANSION SPACES ARE SHOWN ON THE BACKGROUNDS FOR PROPOSED SIZES ONLY.

GENERAL NOTES

1. GENERAL CONTRACTOR SHALL COORDINATE ALL SHORT TERM SCHEDULES WITH OWNER PRIOR TO COMMENCING WORK.
2. ALL SPRINKLER MAINS ARE ASSUMED TO BE 4" SCHEDULE 10 STEEL PIPE. ALL BRANCH LINES ARE ASSUMED TO BE 2" SCHEDULE 40 STEEL PIPE. THE FIRE PROTECTION SPRINKLER SYSTEM CONTRACTOR SHALL PERFORM HYDRAULIC CALCULATIONS FOR ACTUAL PIPE SIZING.
3. THE FIRE PROTECTION SPRINKLER CONTRACTOR SHALL PROVIDE A MAXIMUM OF A 4" CORE THROUGH THE STRUCTURAL GLU-LAM BEAMS WHERE INDICATED. THE FIRE PROTECTION CONTRACTOR SHALL ALSO PROVIDE A FLEXIBLE COUPLING ON EACH SIDE OF THE PENETRATION LOCATED NO FARTHER THAN 1 FOOT ON EACH SIDE. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO CREATING ANY CORE.
4. THE FIRE PROTECTION SPRINKLER SYSTEM MAIN PIPING SHALL BE INSTALLED BELOW THE STRUCTURAL GLU-LAM BEAMS, EXCEPT FOR THE LOCATIONS DENOTED OTHERWISE.
5. THE FIRE PROTECTION SPRINKLER SYSTEM BRANCH LINE PIPING SHALL BE INSTALLED WITHIN THE BEAM POCKETS AND SHALL UTILIZE PENDENT STYLE SPRINKLER HEADS.

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Sheet Title

FIRE PROTECTION FLOOR PLAN

Sheet No.

M4.02

Job No.
2005-124 G (1-1)

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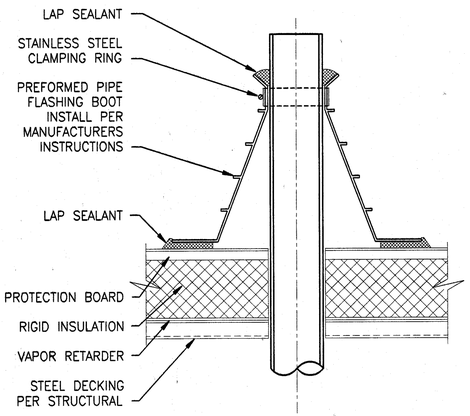
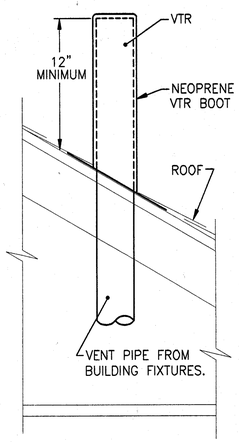


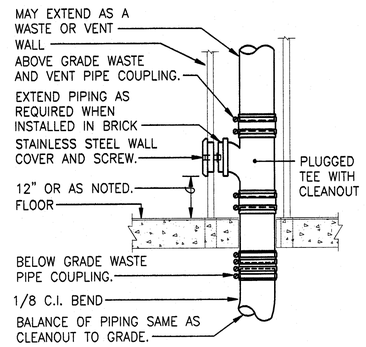
PIPE PENETRATION @ EPDM MEMBRANE

NOT TO SCALE



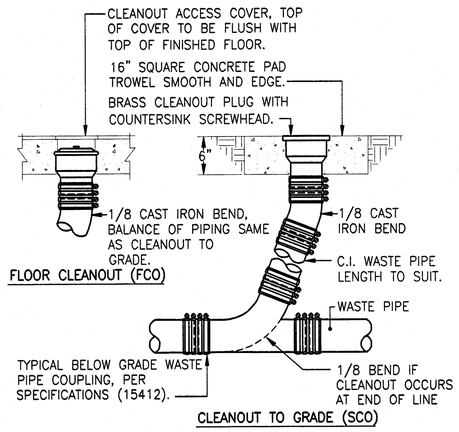
VENT THROUGH ROOF DETAIL

NOT TO SCALE



WALL CLEANOUT DETAIL

DIAGRAMMATIC



CLEANOUT DETAILS

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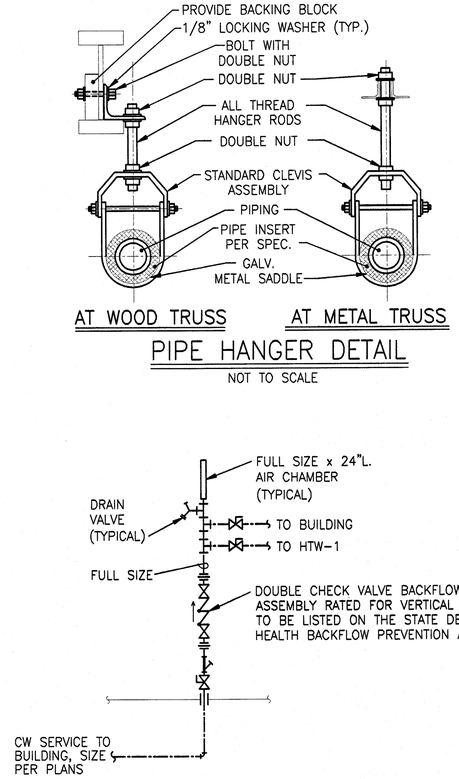
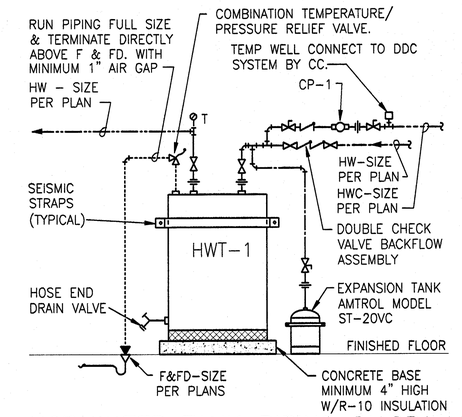


PIPE HANGER DETAIL

NOT TO SCALE

DOMESTIC WATER HEADER DETAIL

NOT TO SCALE



HOT WATER TANK PIPING DIAGRAM

DIAGRAMMATIC

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MECHANICAL DETAILS

Sheet No.

M5.01

Job No. 2005-124 G (1-1)

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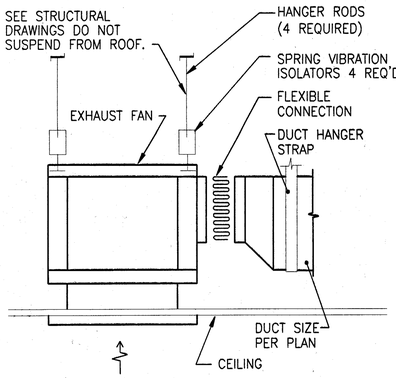

CEILING MOUNTED EXHAUST FAN INSTALLATION DETAIL

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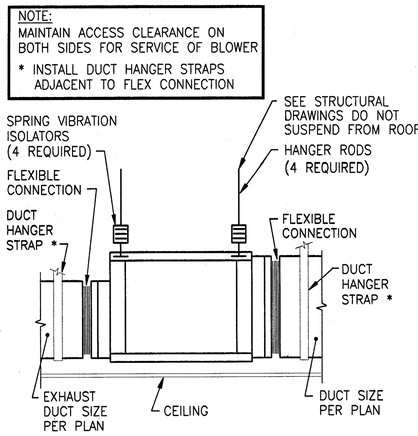

TYPICAL EXHAUST FAN INSTALLATION DETAIL

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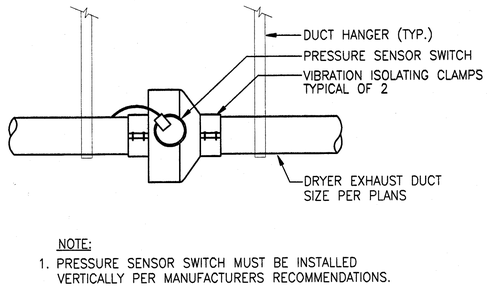
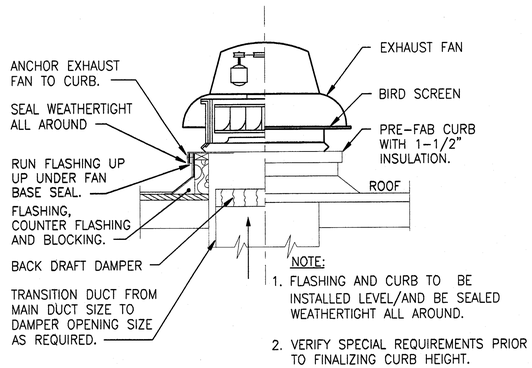


NOTE:

1. PRESSURE SENSOR SWITCH MUST BE INSTALLED VERTICALLY PER MANUFACTURERS RECOMMENDATIONS.

DRYER BOOSTER FAN INSTALLATION DETAIL

NOT TO SCALE



NOTE:

1. FLASHING AND CURB TO BE INSTALLED LEVEL/AND BE SEALED WEATHERTIGHT ALL AROUND.
2. VERIFY SPECIAL REQUIREMENTS PRIOR TO FINALIZING CURB HEIGHT.

TYPICAL ROOF MOUNT EXHAUST FAN INSTALLATION DETAIL

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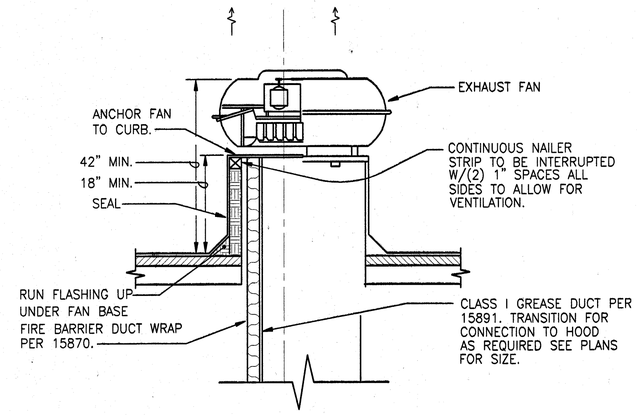

ROOF MOUNT CLASS I EXHAUST FAN – INSTALLATION DETAIL

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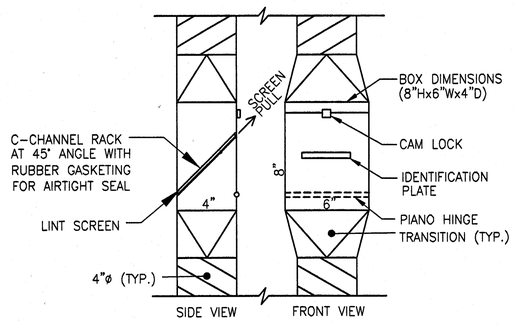

SECONDARY LINT FILTER DETAIL

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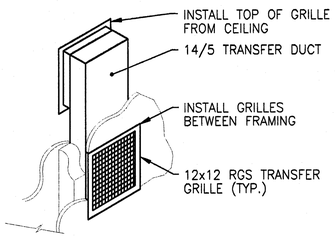
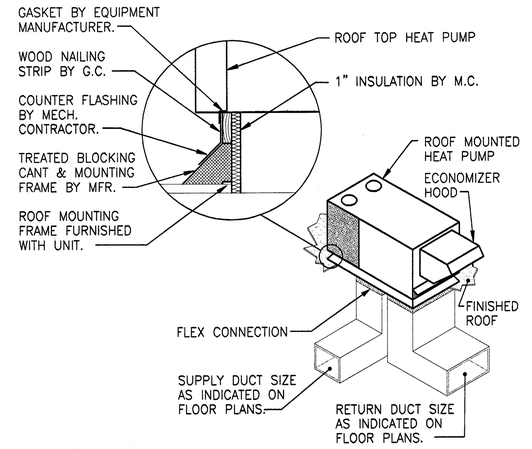


NOTES

1. INSTALL TOP OF BOTTOM GRILLE 12" BELOW BOTTOM OF TOP GRILLE.
2. PAINT WALL DUCT BLACK BEHIND GRILLE.

TRANSFER GRILLE INSTALLATION DETAIL

NOT TO SCALE



TYPICAL ROOF MOUNTED HVAC UNIT INSTALLATION DETAIL

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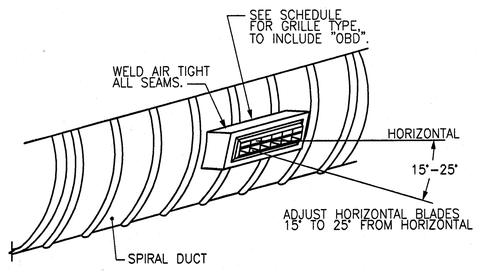
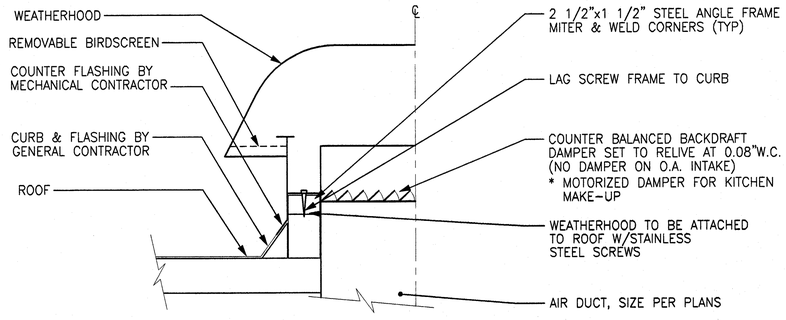


SUPPLY REGISTER ON SPIRAL DUCT INSTALLATION DETAIL

NOT TO SCALE



TYPICAL ROOF HOOD INSTALLATION DETAIL

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Sheet Title

MECHANICAL DETAILS

Sheet No.

M5.02

Job No.
2005-124 G (1-1)

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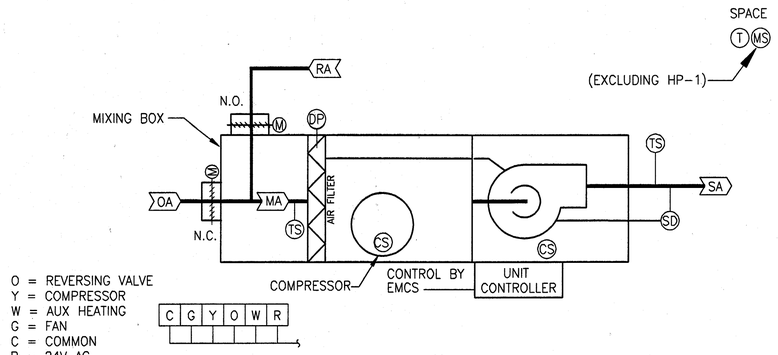


SINGLE ZONE AIR TO AIR HEAT PUMPS

GENERAL
1. (VAR) IS AN ABBREVIATION THAT INDICATES THE PROCEEDING NOUN IS AN EMCS VARIABLE VALUE.
2. EACH HEAT PUMP CONTROLLED BY A DEDICATED EMCS CONTROLLER.
3. SPACE TEMPERATURE SENSORS EQUIPPED WITH PUSHBUTTONS TO PROVIDE UNOCCUPIED OVERRIDE REQUEST AND SPACE TEMPERATURE SETPOINT ADJUSTMENT AS REQUIRED.
4. DAMPER ACTUATORS SHALL 0-10VDC PROPORTIONAL CONTROL SIGNAL AND SPRING RETURN.

FAN
1. FAN STARTS VIA:
   A. SCHEDULE (VAR),
   B. WARM-UP MODE COMMAND (VAR). GENERATED BY EMCS OPTIMIZATION ROUTINE.
   C. OVERRIDE COMMAND (VAR). TRIGGERED BY SPACE TEMPERATURE SENSOR UNOCCUPIED OVERRIDE REQUEST (TYPICAL 4 HOUR DURATION (VAR)), UNOCCUPIED HEATING OR COOLING MODE ACTIVATION, OR EMCS USER INTERFACE.

2. FAN ALARMS:
   A. EMCS SOFTWARE GENERATED FAN ALARM ACTIVATES IF FAN STATUS FAILS TO ACTIVATE AFTER FAN HAS BEEN STARTED.
   B. FAN STOPS IF EMCS SOFTWARE GENERATED LOW LIMIT ALARM ACTIVATES. FAN REMAINS OFF UNTIL ALARM HAS BEEN RESET.
   C. HARDWIRE FAN SHUTDOWN UPON ACTIVATION OF FIRE/SMOKE ALARM. EMCS RECORDS FIRE/SMOKE ALARM

ECONOMIZER
1. ECONOMIZER CONSISTS OF THE MIXED AIR DAMPER AND OUTSIDE AIR DAMPER WORKING IN OPPOSITION. OUTSIDE AIR DAMPER SPRINGS NORMALLY CLOSED AND MIXED AIR DAMPER SPRINGS NORMALLY OPEN.
2. ECONOMIZER IS CLOSED WHEN FAN IS OFF OR WHEN SYSTEM IS IN WARM-UP MODE.
3. ECONOMIZER CLOSES TO A MINIMUM DAMPER POSITION AS DETERMINED BY AIR BALANCER (VAR) IN HEATING MODE.
4. ECONOMIZER MODULATES AS FIRST STAGE OF COOLING TO MAINTAIN SPACE TEMPERATURE SETPOINT (VAR).
5. ECONOMIZER CLOSES TO MINIMUM DAMPER POSITION WHEN OSA TEMPERATURE EXCEEDS RETURN AIR TEMPERATURE.

POWER EXHAUST (HP-2 ONLY)
1. UPON OUTSIDE AIR DAMPER POSITION AT 50% (VAR) OR GREATER THE POWERED EXHAUST FAN SHALL ENERGIZE TO MAINTAIN BUILDING PRESSURIZATION.

MECHANICAL HEATING
1. COMPRESSOR IS OFF WHEN FAN STATUS IS OFF.
2. USE REVERSING VALVE AND COMPRESSOR FOR FIRST STAGE HEATING TO MAINTAIN SPACE TEMPERATURE SETPOINT.
3. USE AUXILIARY ELECTRIC HEAT AS SECOND STAGE IF AVAILABLE.
4. USE DELAY TIMERS TO PREVENT SHORT CYCLING.

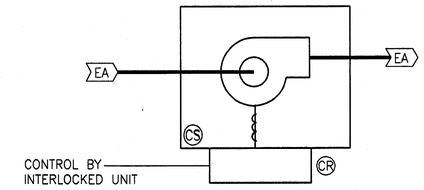
MECHANICAL COOLING
1. COMPRESSOR IS OFF WHEN FAN STATUS IS OFF
2. USE REVERSING VALVE AND COMPRESSOR FOR SECOND STAGE COOLING TO MAINTAIN SPACE TEMPERATURE SETPOINT.
3. USE DELAY TIMERS TO PREVENT SHORT CYCLING.

TEMPERATURE SETPOINT
1. SET HEATING MODE ACTIVATION TEMPERATURE AT 69 DEGREES F. (VAR)
2. SET COOLING MODE ACTIVATION TEMPERATURE 4 DEGREES (VAR) ABOVE HEATING MODE ACTIVATION SETPOINT.
3. SUPPLY AIR TO REMAIN BETWEEN 55 (VAR) AND 85 (VAR) DEGREES F. LOW LIMIT FOR SUPPLY TEMPERATURE IN HEATING OR DEADBAND MODE IS 70°F (VAR)

MANUAL SHUTDOWN (EXCLUDING HP-1)
1. A MANUAL PUSH-BUTTON UNIT SHUTDOWN SHALL BE PROVIDED TO SHUT DOWN UNIT OPERATION. WITH BUTTON ENGAGED, THE UNIT SHALL REMAIN OFF UNTIL BUTTON IS PRESSED AGAIN OR NORMAL UNOCCUPIED TIME IS REACHED, WHERE THE UNIT WILL REVERT TO NORMAL OPERATION. THIS FUNCTIONALITY SHALL BE PROVIDED BY THE ROOM TEMPERATURE SENSOR.

INFORMATION AT THE TERMINAL:

SPACE TEMPERATURE	EMCS GENERATED ALARMS
MIXED AIR TEMPERATURE	EQUIPMENT FAILURES
ALL SETPOINTS	LOW LIMIT STATUS
DAMPER POSITION	FAN START/STOP
FILTER STATUS	COMPRESSOR STATUS
TIME SCHEDULES	SUPPLY TEMPERATURE
OCCUPIED/UNOCCUPIED MODE	FIRE ALARM
HOLIDAY SCHEDULES	REVERSING VALVE
OVERRIDE TIMER STATUS	FAN STATUS
OVERRIDE TIMER VALUE	MANUAL SHUTDOWN STATUS (EXCLUDING HP-1)

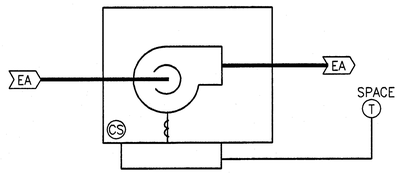


TYPICAL INTERLOCKED EXHAUST FAN

1. EXHAUST FAN SHALL BE INTERLOCKED WITH ITS ASSOCIATED UNIT VIA HARDWIRE OR EMCS CONTROL RELAY AS SHOWN ON SCHEDULE.

2. EMCS SHALL MONITOR FAN AND GENERATE ALARM.

INFORMATION AT TERMINAL:
FAN ON/OFF STATUS (BY CURRENT SENSING RELAY)
FAN FAILURE ALARM; (I.E. NO CURRENT ON WHEN EF OR ASSOCIATED UNIT COMMANDED ON)

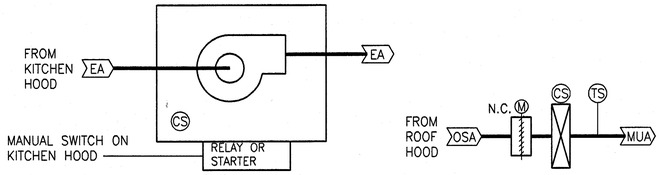


ELECTRICAL ROOM EXHAUST FAN

1. FAN SHALL START UPON SENSING TEMPERATURE IN THAT SPACE ABOVE SETPOINT (85°F, ADJUSTABLE) AND SHALL STOP UPON SENSING SPACE TEMPERATURE 5°F LESS THAN SETPOINT.

2. CURRENT SENSING STATUS OF FAN MOTOR SHALL BE MONITORED.

INFORMATION AT TERMINAL: FAN STATUS



TYPICAL KITCHEN HOOD EXHAUST FAN W/ BAROMETRIC MAKE-UP

1. EXHAUST FAN: CONTROL IS BY A MANUAL SWITCH ON THE KITCHEN HOOD AND MONITOR STATUS BY THE EMCS SYSTEM.

2. OSA DAMPER: OPENS WITH OPERATION OF KITCHEN HOOD FAN, SPRING CLOSED WHEN FAN IS NOT IN OPERATION.

3. ELECTRIC COIL: ENABLED BY AIR FLOW SWITCH, SHALL BE REGULATED BY SCR CONTROLLER TO MAINTAIN A SETPOINT OF 60°F (ADJUSTABLE). MANUFACTURER TO PROVIDE AIR FLOW SWITCH AND SCR CONTROLLER INTEGRAL TO DUCT COIL.

INFORMATION AT TERMINAL

FAN STATUS	ELECTRIC COIL (ON/OFF)
DAMPER POSITION	MAKE-UP AIR TEMPERATURE
ELECTRIC COIL ENABLED (AIRFLOW SWITCH)	

PUMPS

DOMESTIC HW RECIRCULATION PUMPS: PUMP SHALL BE ENABLED TO OPERATE BY TIME CLOCK SCHEDULE. WHEN ENABLED, PUMP SHALL BE CONTROLLED IN CONJUNCTION WITH A SENSOR IN THE HOT WATER RECIRCULATION LINE. WHEN HWC FALLS TO 5 DEGREES F BELOW SETPOINT, THE PUMP SHALL RUN; WHEN TEMPERATURE RETURNS TO SETPOINT, PUMP SHALL BE OFF. SETPOINT AND DIFFERENTIAL SHALL BE ADJUSTABLE. INITIAL SETPOINT SHALL BE 5 DEGREES LESS THAN DOMESTIC HOT WATER SETTING FOR SYSTEM USED ON.

INFORMATION AT TERMINAL:
PUMP ON/OFF STATUS (BY DIFFERENTIAL PRESSURE DEVICE OR CT).
PUMP FAILURE ALARM; (I.E. NOT "PROVEN" ON WHEN COMMANDED ON).

MISCELLANEOUS CONTROLS

A. GENERAL: PROVIDE AND INSTALL ALL NECESSARY DEVICES, RELAYS, SWITCHES, SENSORS, DAMPERS, CONDUIT, AND WIRING TO PROVIDE A COMPLETE AND OPERATING DDC SYSTEM.

B. WATER HEATERS: SHALL BE CONTROLLED BY INTEGRAL PANEL OR THERMOSTAT PROVIDED WITH UNIT.

C. FIRE ALARM SYSTEM SHUTDOWN: PROVIDE NECESSARY CONDUIT, WIRING, AND ACCESSORIES TO SHUTDOWN EACH UNIT UPON ACTIVATION OF THAT UNIT'S SMOKE DETECTORS (SMOKE DETECTORS ARE BY DIVISION 16). CONNECTIONS SHALL BE HARDWIRED, INDEPENDENT OF ANY CONTROL SYSTEM LOGIC, SO THAT FAILURE OF CONTROL SYSTEM OR LOSS OF CONTROL SYSTEM WILL IN NO WAY PREVENT THE FIRE ALARM SHUTDOWN OF THE SYSTEM. IN ADDITION TO SHUTTING DOWN THE UNIT WITH THE ALARMED SMOKE DETECTOR, ALL EQUIPMENT INTERLOCKED OR SERVED BY THAT UNIT SHALL BE OFF. OTHER UNITS SHALL ALSO SHUT OFF AS REQUIRED TO AVOID BUILDING PRESSURE DIFFERENTIALS AND SIMILAR UNDESIRABLE EFFECTS. UPON RESET OF ALARMED DEVICE, SYSTEM SHALL AUTOMATICALLY RETURN TO NORMAL, PROVIDE TIME DELAY START OF EQUIPMENT TO PREVENT EXCESS LOAD STARTING AT THE SAME TIME.

IN ADDITION TO THE ABOVE SPECIFIED HARDWIRED FIRE ALARM SHUTDOWN (WHICH PERTAINS TO EQUIPMENT WITH SMOKE DETECTORS), PROVIDE THE FOLLOWING: SHUT DOWN ALL AIR HANDLING EQUIPMENT WHEN THE BUILDING FIRE ALARM SYSTEM GOES INTO ALARM. ZONE CONTACTS IN THE FIRE ALARM SYSTEM ARE AVAILABLE FOR THIS PURPOSE. THIS ADDED SHUT-DOWN MAY BE ACCOMPLISHED BY USE OF CONTROL LOGIC AND IS NOT REQUIRED TO BE HARDWIRED BUT SHALL BE OF A FAIL-SAFE NATURE SO AS TO PROVIDE THE NECESSARY SHUT-DOWN IN CASE OF CONTROL FAILURE. RESET SHALL BE SAME AS THAT SPECIFIED FOR HARDWIRED UNIT SMOKE-DETECTOR SHUTDOWN

D. INTERLOCKS: PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, WIRING AND PROGRAMMING FOR INTERLOCK OF EQUIPMENT AS SHOWN ON THE EQUIPMENT SCHEDULES.

E. PHASE FAILURE SAFETY:
1. IN THE EVENT OF AN ELECTRICAL POWER PHASE LOSS, PHASE UNBALANCE, UNDER OR OVER VOLTAGE, OR PHASE REVERSAL, ALL CONNECTED MECHANICAL EQUIPMENT SHALL BE SHUT DOWN WITHIN A 15 SECOND PERIOD AND AN ALARM REQUIRING ACKNOWLEDGMENT SHALL BE GENERATED AT THE OWS.

2. SIGNAL IS PROVIDED TO THE EMCS SYSTEM FOR A POWER SYSTEM MONITOR RELAY CONNECTED TO THE MAIN DISTRIBUTION SWITCHBOARDS AND PROVIDED BY THE ELECTRICAL CONTRACTOR. THE VOLTAGE MONITOR RELAY SHALL INCLUDE ADJUSTABLE TIME DELAY, VISUAL TRIP INDICATORS AND SHALL BE AUTOMATICALLY RESETTING. FOLLOWING RESTORATION OF SUITABLE POWER AND A ONE MINUTE TIME DELAY, ALL MECHANICAL EQUIPMENT SHALL BE SEQUENTIALLY STARTED TO AVOID POWER SURGES. DATE AND TIME OF OCCURRENCE AND RESTORATION SHALL BE PRINTED ON THE EMCS PRINTER. VOLTAGE SENSING TAPS SHALL BE AHEAD OF ALL BRANCH DISCONNECTS AND SHALL BE INDIVIDUALLY FUSED WITH CURRENT LIMITING FUSE. COORDINATE INSTALLATION WITH DIVISION 16 CONTRACTOR.

F. EXTERIOR LIGHTING CONTROL: PROVIDE ALL INTERFACE RELAYS, WIRING AND PROGRAMMING NECESSARY FOR CONNECTION OF ONE EXTERIOR LIGHTING CONTROL ZONE. LIGHTING CONTACTORS AND PHOTO-SENSOR ARE PROVIDED BY ELECTRICAL CONTRACTOR. REFER TO DETAIL ON E6.01 FOR ADDITIONAL INFORMATION. PROVIDE GRAPHICS SCREEN WITH ASSOCIATED TIME SCHEDULE FOR AUTOMATIC ON/OFF/OVERRIDE CONTROL. COORDINATE FINAL CONNECTIONS WITH E.C. MOUNT CONTROL PANEL IN ELECTRICAL ROOM.

G. POWER MONITORING: PROVIDE ALL INTERFACE RELAYS, WIRING AND PROGRAMMING NECESSARY FOR CONNECTION TO MAIN DISTRIBUTION BOARD, COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR. SET UP TRENDING PROGRAMMING WITH ADJUSTABLE SAMPLING FREQUENCY.

CONTROL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(T)	THERMOSTAT (T'STAT)	(SD)	SMOKE DETECTOR
(TS)	TEMPERATURE SENSOR	(DP)	DIFF. PRESSURE SENSOR
RA	RETURN AIR	(PS)	PRESSURE SENSOR
SA	SUPPLY AIR	AFF	ABOVE FINISHED FLOOR
OA	OUTSIDE AIR	BFF	BELOW FINISHED FLOOR
EA	EXHAUST AIR	POC	POINT OF CONNECTION
M	MOTORIZED DAMPER	MC	MECHANICAL CONTRACTOR
(CR)	CONTROL RELAY	EC	ELECTRICAL CONTRACTOR
(CS)	CURRENT SENSOR	GC	GENERAL CONTRACTOR
(MS)	MANUAL SHUTDOWN		

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Sheet Title
MECHANICAL CONTROLS SEQUENCES

Sheet No.
M6.01

Job No.
2005-124 G (1-1)

BID SET

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LIGHTING
	RECESSED FLUORESCENT LIGHT FIXTURE
	SURFACE OR PENDANT MOUNT FLUORESCENT LIGHT FIXTURE (CIRCLE INDICATES RECESSED OR CONCEALED JUNCTION BOX)
	WALL MOUNT H.I.D. LIGHT FIXTURE
	WALL MOUNT COMPACT FLUORESCENT LIGHT FIXTURE
	SURFACE OR RECESSED H.I.D. OR FLUORESCENT LIGHT FIXTURE
	SURFACE OR RECESSED H.I.D. OR COMPACT FLUORESCENT LIGHT FIXTURE
	SURFACE OR PENDANT MOUNT STRIP LIGHT (CIRCLE INDICATES RECESSED OR CONCEALED JUNCTION BOX)
	FIXTURE ON EMERGENCY GENERATOR
	INCANDESCENT LIGHT FIXTURE
	WALL MOUNTED INCANDESCENT LIGHT FIXTURE
	EXIT LIGHT FIXTURE (PROVIDE DIRECTION ARROWS AS INDICATED)
	WALL MOUNTED EXIT LIGHT FIXTURE (PROVIDE DIRECTION ARROWS AS INDICATED)
	EMERGENCY BATTERY PACK WITH TWIN HEAD FLOOD
	RECEPTACLES
	DUPLEX RECEPTACLE (E INDICATES EXISTING TO BE REPLACED)
$_G$	DUPLEX RECEPTACLE (G INDICATES GROUND FAULT CIRCUIT INTERRUPTER AT +45")
$_C$	DUPLEX RECEPTACLE (C INDICATES ABOVE COUNTER)
	FLOOR MOUNTED DUPLEX RECEPTACLE
	FOURPLEX RECEPTACLE
	SPECIAL PURPOSE OUTLET – 1ø, VOLTAGE AND AMPERES AS INDICATED
	SPECIAL PURPOSE OUTLET – 3ø, VOLTAGE AND AMPERES AS INDICATED
$_{G,T}$	TAMPERPROOF RECEPTACLE PROTECTED BY GFCI CIRCUIT BREAKER. PROVIDE LABEL ON RECEPTACLE COVER STATING "GFCI PROTECTED".
	EQUIPMENT AND WIRING
	CONDUIT STUB OUT
	HOMERUN TO PANEL & CIRCUIT NUMBERS AS INDICATED ON PLANS
	RACEWAY CONCEALED IN WALL OR CEILING
	RACEWAY CONCEALED UNDERGROUND OR UNDER FLOOR SLAB, P = PRIMARY , S = SECONDARY
	MARKS INDICATE NUMBER OF #12 AWG UNLESS NOTED OTHERWISE
	GROUNDING CONDUCTOR
	FLEXIBLE CONDUIT
	SURFACE METAL RACEWAY
	GROUNDING SYSTEM PER CODE
	JUNCTION BOX – SIZE PER CODE (F INDICATES FIRE ALARM SYSTEM)
	MOTOR CONNECTION (D INDICATES FIRE/SMOKE DAMPER)
$_M$	MANUAL STARTER
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION DISCONNECT / MAGNETIC MOTOR STARTER
	277/480 VOLT PANELBOARD
	120/208 VOLT PANELBOARD (OR AT RATED VOLTAGE AS NOTED)
	MAIN DISTRIBUTION BOARD
T	TRANSFORMER
HH	HANDHOLE
MH	MANHOLE – PRE-CAST CONCRETE W/COVER
TVSS	SURGE PROTECTOR
	POWER POLE
EF 1	MECHANICAL EQUIPMENT SYMBOL. SEE MECHANICAL EQUIPMENT SCHEDULE ON SHEET E0.02 FOR ELECTRICAL REQUIREMENTS.
1	KITCHEN EQUIPMENT SYMBOL. SEE KITCHEN EQUIPMENT SCHEDULE ON SHEET E0.02 FOR ELECTRICAL REQUIREMENTS.

SYMBOL	DESCRIPTION
	SWITCHES
$	SINGLE POLE SWITCH
$_T$	TIMER SWITCH
$_{OS}$	COMBINATION SWITCH / OCCUPANCY SENSOR
$_3$	THREE WAY SWITCH
$_4$	FOUR WAY SWITCH
$_a$$_b$	MULTI-GANGED SWITCH (LOWER CASE LETTERS INDICATES SWITCHING)
LC	LIGHTING CONTACTOR AND ENCLOSURE
PC	PHOTOCELL CONTROL
OS	OCCUPANCY SENSOR (LIGHTING CONTROL)
	FIRE ALARM SYSTEM
	SMOKE DETECTOR WITH BASE (C INDICATES WITH ELEVATOR RECALL CONTACT) (D INDICATES DUCT DETECTOR)
	HEAT DETECTOR – RATE OF RISE AND FIXED TEMPERATURE TYPE(F INDICATES FIXED ONLY) (RC INDICATES RATE COMPENSATION TYPE)(R INDICATES RATE OF RISE ONLY)
F	PULL STATION – MOUNT AT +48" AFF
	COMBINATION HORN/STROBE – MOUNT AT +80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER (L INDICATES LOW TAP)
	STROBE ONLY – MOUNT AT +80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER
FACP	FIRE ALARM CONTROL PANEL
FSA	FIRE SYSTEM ANNUNCIATOR
PIV	POST INDICATOR VALVE
FS	FLOW SWITCH
TS	TAMPER SWITCH
	ACCESS CONTROL SYSTEM
CR	CARD READER
EXIT	REQUEST TO EXIT DEVICE
ES	ELECTRIC STRIKE
D	INTRUSION ALARM – DOOR CONTACT SENSOR
	INTRUSION ALARM SYSTEM
IACP	INTRUSION ALARM CONTROL PANEL
KP	KEYPAD/ANNUNCIATOR
MS	PIR MOTION SENSOR
	TELEVISION AND COMMUNICATION SYSTEM
▲	TELEPHONE JUNCTION BOX (4/S BOX WITH SINGLE GANG MUDRING AND COVER PLATE) PROVIDE TELEPHONE PORT AND CABLE.
△	COMMUNICATION / DATA JUNCTION BOX (4/S BOX WITH SINGLE GANG MUDRING AND COVER PLATE) NUMBER REPRESENTS QUANTITY OF DATA PORTS AND CABLES TO BE PROVIDED. IF NO NUMBER IS PRESENT, PROVIDE 1 DATA PORT AND CABLE.
TV	TELEVISION OUTLET – MOUNT AT +18".
	MISCELLANEOUS
1	CONSTRUCTION NOTES
W	W INDICATES WEATHERPROOF FOR ALL DEVICES, PROVIDE LOCKING COVER ON RECEPTACLES.
A E2 E3	DETAIL CALL OUT – A INDICATES DETAIL IDENTIFICATION, E2 INDICATES SHEET TAKEN FROM, E3 INDICATES SHEET DRAWN ON
$	ALL DEVICES WITH LIGHT LINE WEIGHT INDICATES EXISTING TO BE RETAINED
B	DOOR EXIT/ENTRY ALARM – BATTERY OPERATED. 95 dB ALARM. SHALL AUTOMATICALLY RESET AFTER 45 SECONDS. UNIT SHALL HAVE AN ON/OFF SWITCH TO ACTIVATE THE ALARM WHEN NEEDED. MOUNT AT MANUFACTURER RECOMMENDED MOUNTING HEIGHT. KODIAK SECURITY PRODUCTS, INC. – 80201

LIGHTING FIXTURE SCHEDULE

Type	Manufactuer/Model Number	Lamp Type	Wattage/Voltage	Remarks
PF1	CORELITE NB-S-B-2-T8-1-C-277-A-C-120AC-JB-8'-DL4-CBL	(4) FO32T8/35K	122W/277V	8' LONG DIRECT/INDIRECT LINEAR (20% UP/80% DOWN). PROVIDE WITH CLEAR LENSE ABOVE PARABLADE.
PF2	CORELITE NB-S-B-2-T8-1-C-277-A-C-120AC-JB-12'-DL4-CBL	(6) FO32T8/35K	366W/277V	12' LONG DIRECT/INDIRECT LINEAR (20% UP/80% DOWN). PROVIDE WITH CLEAR LENSE ABOVE PARABLADE.
PF3	CORELITE NB-S-B-2-T8-1-C-277-A-C-120AC-JB-4'-DL4-CBL	(2) FO32T8/35K	61W/277V	4' LONG DIRECT/INDIRECT LINEAR (20% UP/80% DOWN). PROVIDE WITH CLEAR LENSE ABOVE PARABLADE
PM1	GARDCO 300-O-P-R-70MH-277	(1) 70W MH	84W/277V	18" PENDANT MOUNT - EXTERIOR. ARCHITECT TO SELECT COLOR.
RF1	PRESCOLITE CFT632HEB-STF602H	(1) 32WQCF	35W/277V	6" DIAMETER DOWNLIGHT
RF2	DAY-BRITE SP-2-32-FS-12-1W	(2) FO32T8	61W/277V	2X4, LENSED TROFFER
SF1	DAY-BRITE 1SM-2-32-FS-01-W-277-	(2) FO32T8/35K	61W/277V	1X4 SURFACE MOUNT
UC1	DAY-BRITE 8UC-1-32WT8-S-UNV-	(1) FO32T8	35W/277V	4' LONG UNDERCABINET
WF1	ALERA GR-2CFQ26-WS-OA-EB-UNV	(2) 26WQCF/35K	52W/277V	WALL SCONCE. ARCHITECT TO SELECT COLOR. MOUNT AT +7'-0" AFF TO THE TOP.
WM1	GARDCO 301-E-W-L-70MH-277-OC	(1) 70W MH	84W/277V	WALL MOUNT UP/DOWN - EXTERIOR. ARCHITECT TO SELECT COLOR. MOUNT AT 7'-0" TO THE BOTTOM.
EX1	COOPER SURE-LITES TRX-1-G-XX-10	-	-	SELF ILLUMINATING EXIT SIGN. ARCHITECT TO SELECT HOUSING & FRAME FINISH
EX2	McPHILBEN CT6H-277	(2) 6W HALOGEN	18W/277V	EMERGENCY EGRESS LIGHTS

LIGHTING FIXTURE NOTES

1. COMMISSIONING REQUIREMENTS: FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT–OFF CONTROLS, OCCUPANCY SENSORS OR AUTOMATIC TIME SWITCHES, THE LIGHTING CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO ENSURE THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER.

2. DAYLIGHTING CONTROL SCENARIOS:
   CLASSROOMS: ALL LIGHT FIXTURES INDICATED WITHIN A DAYLIGHTING ZONE TO BE CONTROLLED BY A SEPARATE SWITCH. THE LIGHT FIXTURE WITHIN THE DAYLIGHT ZONE CLOSEST TO THE WINDOW TO BE CONTROLLED BY A PHOTOCELL. ALL ROOMS TO HAVE OCCUPANCY SENSORS.

   ALL EXTERIOR LIGHTING TO BE ROUTED THROUGH A TIMECLOCK AND PHOTOCELL. ZONES SHALL BE AS FOLLOWS:
   ZONE 1 – BUILDING MOUNTED EXTERIOR LIGHTS

3. PROVIDE AN UNSWITCHED HOT LEG TO EACH BATTERY PACK AND EMERGENCY EGRESS LIGHTING.

4. E.C. TO COORDINATE WITH THE MECHANICAL CONTROLS CONTRACTOR FOR INTERFACE OF ALL EXTERIOR LIGHTING TO EMCS SYSTEM.

GENERAL NOTES (APPLY TO ALL DRAWINGS)

1. ONLY BRANCH CIRCUIT HOMERUNS ARE SHOWN WITH NUMBER OF CONDUCTORS/WIRES. E.C. SHALL PROVIDE ALL REQUIRED CONDUCTORS/WIRES TO ALL DEVICES AS NECESSARY IN ORDER TO INSTALL ALL CIRCUITS, SWITCHING AND GROUNDING COMPLETE. PANEL CIRCUIT NUMBERS ARE SHOWN TO CLARIFY CIRCUITING CONFIGURATION. CONDUCTOR HASH MARKS ARE NOT SHOWN FOR WIRE, SWITCH LEGS OR GROUNDING CONDUCTORS BETWEEN DEVICES.

2. ALL CONDUITS MUST BE A MINIMUM OF 6'–6" ABOVE ALL MECHANICAL EQUIPMENT AND MECHANICAL CLEARANCE SPACES. E.C. WILL BE RESPONSIBLE TO MOVE ANY CONDUITS WHICH DO NOT COMPLY.

3. ALL CONDUITS ROUTED UNDER THE CONCRETE SLAB, SHALL BE ROUTED PARALLEL TO ONE ANOTHER AND MAY NOT CROSS OVER EACH OTHER UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER.

4. CONTRACTOR SHALL REFER TO STRUCTURAL DRAWINGS FOR BRACE FRAMED WALLS. CONTRACTOR SHALL MOUNT DEVICES AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH THE STRUCTURAL INTEGRITY OF THE WALL.

5. FEED THROUGH GFCI RECEPTACLES SHALL NOT BE USED.

6. PROVIDE DEDICATED NEUTRALS FOR ALL DEDICATED COMPUTER RECEPTACLE CIRCUITS.

7. ALL SPARE CONDUITS (FUTURE) SHALL BE LABELED WITH INTENDED USE IN PERMANENT MARKER

8. CONDUITS ARE NOT ALLOWED TO BE ROUTED IN ANY CONCRETE SLAB. CONDUITS MAY BE ROUTED UNDER THE SLAB ONLY.

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Sheet Title

ELECTRICAL LEGEND, FIXTURE SCHEDULE

Sheet No.

E0.01

Job No. 2005-124 G (1-1)

BID SET

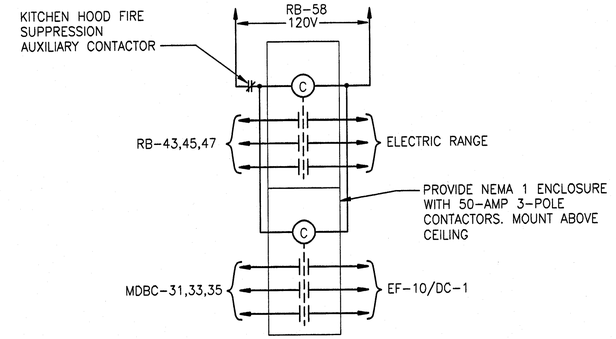
MECHANICAL EQUIPMENT SCHEDULE

EQUIPMENT NUMBER	HP (W)	FLA	VOLT/PH	MAGNETIC STARTER & DISCONNECT SWITCH	FUSED DISCONNECT SWITCH	MOTOR RATED DISCONNECT SWITCH	CIRCUIT	CONDUIT/WIRE SIZE	REMARKS
EF-1	(99)		120/1			BY E.C.	RB-21		PROVIDE WEATHERPROOF DEVICES
EF-2	(98)		120/1			BY E.C.	RB-21		
EF-3	(98)		120/1			BY E.C.	RB-21	1/2"C.,2#12	PROVIDE LINE VOLTAGE T-STAT. SEE NOTE 1.
EF-4	(98)		120/1			BY E.C.	RB-21	1/2"C.,2#12	
EF-5	(189)		120/1			BY E.C.	RA-31	1/2"C.,2#12	
EF-6	(75)		120/1			BY E.C.	RA-31	1/2"C.,2#12	
EF-7	(189)		120/1			BY E.C.	RA-31	1/2"C.,2#12	
EF-8	(189)		120/1			BY E.C.	RA-33	1/2"C.,2#12	
EF-9	(75)		120/1			BY E.C.	RA-33	1/2"C.,2#12	
EF-10	1.5	3	480/3	BY E.C.			MDBC-31,33,35	1/2"C.,4#12	PROVIDE WEATHERPROOF DEVICES.
EF-11	(528)		120/1	BY E.C.			RB-25	1/2"C.,2#12	PROVIDE WEATHERPROOF DEVICES
HP-1		30.9	480/3		BY E.C. - 40A		MDBC-2,4,6	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES
HP-2		44.4	480/3		BY E.C. - 50A		MDBC-8,10,12	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES. PROVIDE DUCT SMOKE DETECTORS.
HP-3		29.3	480/3		BY E.C. - 40A		MDBC-14,16,18	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES
HP-4		30.9	480/3		BY E.C. - 40A		MDBC-20,22,24	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES
HP-5		34.2	480/3		BY E.C. - 40A		MDBC-13,15,17	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES. PROVIDE DUCT SMOKE DETECTORS.
HP-6		42.3	480/3		BY E.C. - 50A		MDBC-19,21,23	1"C.,4#8	PROVIDE WEATHERPROOF DEVICES. PROVIDE DUCT SMOKE DETECTORS.
HWT-1	(30000)	36	480/3				MDBC-25,27,29	1"C.,4#8	
CP-1	1/6	4.4	120/1			BY E.C.	RB-19	1/2"C.,2#12	ROUTE THROUGH AQUA-STAT
EWH-1	(1500)	12.5	120/1				RA-25	1/2"C.,2#12	
EWH-2	(1000)	8.3	120/1				RA-27	1/2"C.,2#12	
EWH-3	(500)	4.12	120/1				RA-29	1/2"C.,2#12	
EWH-4	(1000)	8.3	120/1				RB-20	1/2"C.,2#12	
EWH-5	(500)	4.12	120/1				RB-22	1/2"C.,2#12	
EWH-6	(1000)	8.3	120/1				RB-24	1/2"C.,2#12	
EWH-7	(500)	4.12	120/1				RB-26	1/2"C.,2#12	
DC-1	(20000)	24	480/3		BY E.C. - 40A		MDBC-31,33,35	1"C.,4#8	

NOTES:
1. LINE VOLTAGE T-STAT FOR EF-2 SHALL BE WHITE-RODGERS 151-6.

KITCHEN EQUIPMENT SCHEDULE

EQUIP. NUMBER	EQUIPMENT DESCRIPTION	KW	AMPS	VOLT/PH	CIRCUIT	CONDUIT/WIRE SIZE	REMARKS
1	REACH-IN FREEZER	1.12	9.3	120/1	RB-53	1/2"C.,2#12	PROVIDE NEMA 5-20P RECEPTACLE
2	REACH-IN REFRIGERATOR	1.03	8.6	120/1	RB-55	1/2"C.,2#12	PROVIDE NEMA 5-20P RECEPTACLE
4	ELECTRIC RANGE	17	47	208/3	RB-43,45,47	1"C.,3#6 & 1#8 GR.	ROUTE THRU - CONTACTOR FOR SHUT DOWN UPON ALARM.
8	DISHWASHER	9.24	25.7	208/3	RB-50,52,54	1"C., 4#10	
9	CONVECTION OVEN	11	31	208/3	RB-44,46,48	1"C.,3#8 & 1#10 GR.	
11	RANGE HOOD	0.6	5	120/1	RB-56	1/2"C.,2#12	PROVIDE SWITCH FOR CONTROL OF LIGHT
12	MICROWAVE	1.2	17.8	120/1	RB-57	1/2"C.,2#12	PROVIDE NEMA 5-20P RECEPTACLE



RANGE & FAN SHUT-DOWN CONTROL DIAGRAM
NO SCALE

ABBREVIATIONS

G	GROUND FAULT CIRCUIT INTERRUPTER	MW	MICROWAVE
C	MOUNT ABOVE COUNTER	REF	REFRIGERATOR
D	DRYER	UC	UNDERCOUNTER
DF	DRINKING FOUNTAIN	UG	UNDERGROUND
DW	DISHWASHER	C.	CONDUIT
WS	WASHER	CO	CONDUIT ONLY
VM	VENDING MACHINE	GR	GROUND
WGD	WIRE GUARD	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
EC	ELECTRICAL CONTRACTOR	CU	COPPER
MC	MECHANICAL CONTRACTOR	XFMR	TRANSFORMER
REQ'D	REQUIRED	LCC	LIGHTING CONTROL CABINET
TTB	TELEPHONE TERMINAL BOARD	GC	GENERAL CONTRACTOR
PP	POWER POLE	SMR	SURFACE MOUNTED RACEWAY
BAS	BASEBOARD HEATER		

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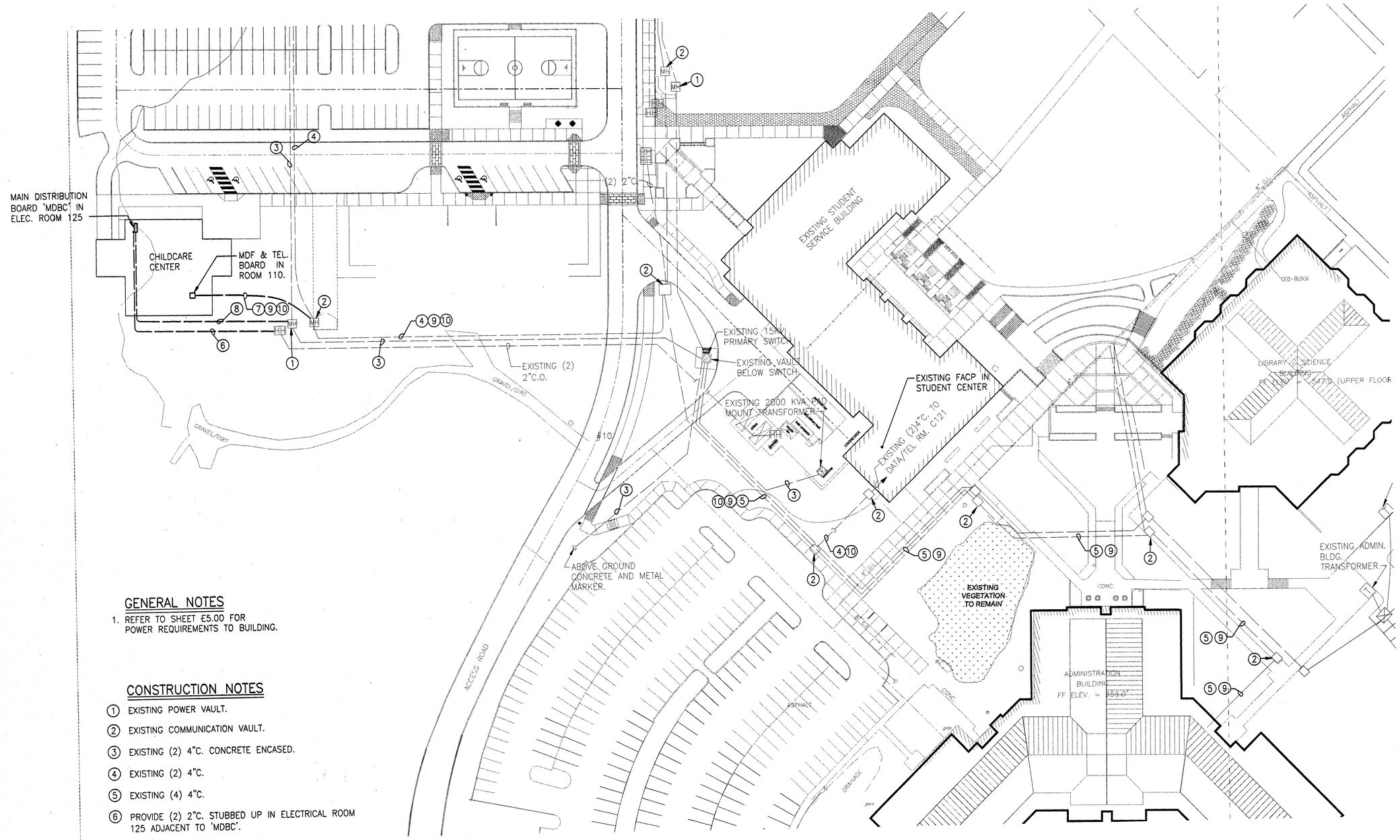
Sheet Title
MECHANICAL EQUIPMENT SCHEDULE
KITCHEN EQUIP. SCHEDULE

Sheet No.
E0.02

Job No.
2005-124 G (1-1)

ESD



GENERAL NOTES

1. REFER TO SHEET E5.00 FOR POWER REQUIREMENTS TO BUILDING.

CONSTRUCTION NOTES

1. EXISTING POWER VAULT.
2. EXISTING COMMUNICATION VAULT.
3. EXISTING (2) 4"C. CONCRETE ENCASED.
4. EXISTING (2) 4"C.
5. EXISTING (4) 4"C.
6. PROVIDE (2) 2"C. STUBBED UP IN ELECTRICAL ROOM 125 ADJACENT TO 'MDBC'.
7. PROVIDE (2) 4"C. STUBBED UP AT TELEPHONE BOARD.
8. 4"C., (4)#600 MCM CU. & (1)#2/0 CU. GR.
9. PROVIDE (1) 50-PAIR CATEGORY 3 AND (1) 12-STRAND FIBER IN INNERDUCT. ROUTE FROM MDF ROOM IN THE ADMINISTRATION BUILDING THROUGH EXISTING 4"C. TO CHILDCARE CENTER MDF.
10. PROVIDE FIRE ALARM NETWORK FIBER OPTIC CABLE IN 1" INNERDUCT FROM NEW FACP IN CHILDCARE CENTER TO EXISTING FACP IN STUDENT CENTER. TERMINATE AS REQUIRED FOR FIRE ALARM NETWORK OPERATION.

N

ELECTRICAL SITE PLAN

1" = 40'

0 20' 40' 80'

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Sheet Title

ELECTRICAL SITE PLAN

Sheet No.

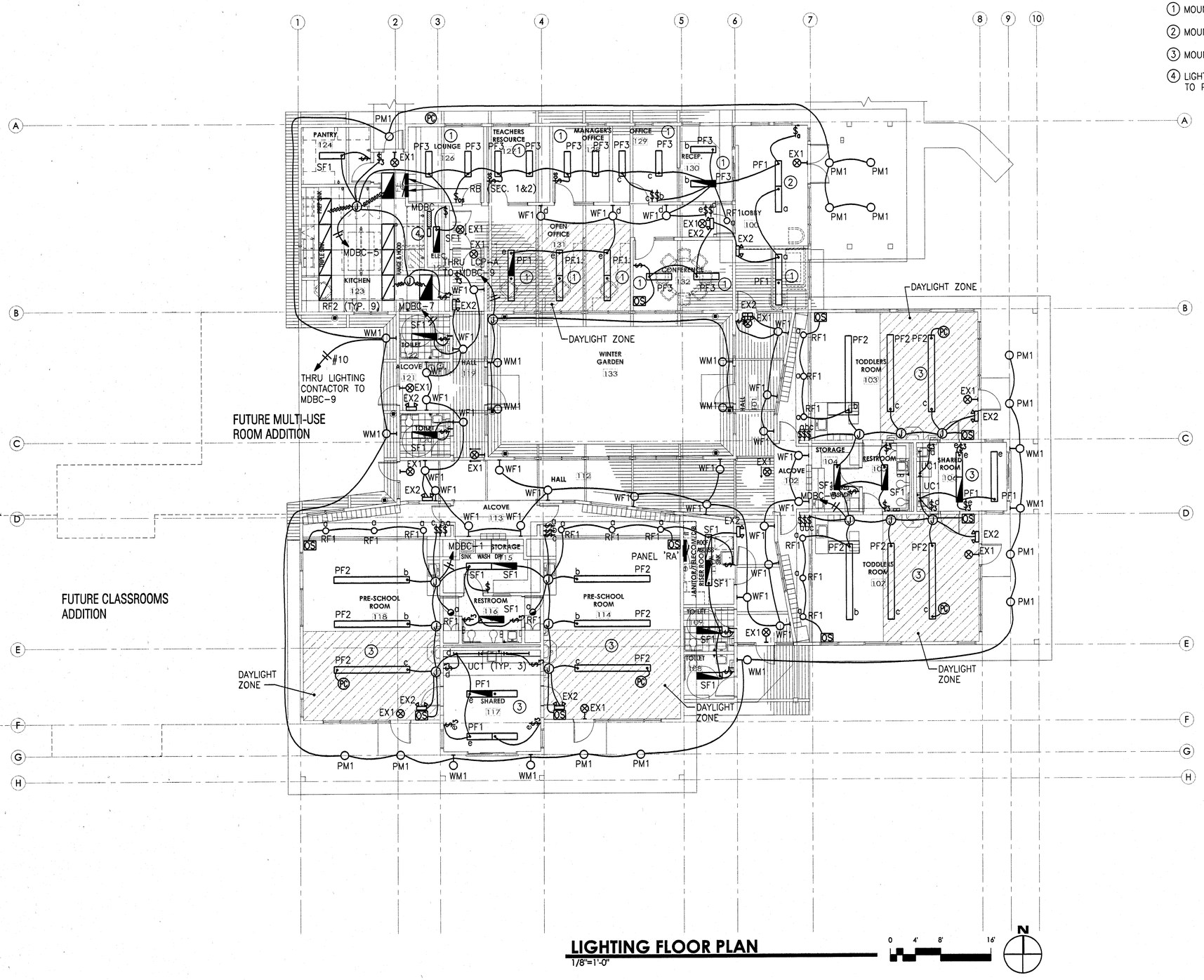
E1.00

Job No. 2005-124 G (1-1)

BIDSET

CONSTRUCTION NOTES

1. MOUNT AT +8'-0" AFF TO BOTTOM
2. MOUNT AT +11'-0" AFF TO BOTTOM
3. MOUNT AT +12'-0" AFF TO BOTTOM
4. LIGHTING CONTACTOR. PROVIDE CONNECTION TO PHOTOCELL AND EMCS FOR CONTROL.



LIGHTING FLOOR PLAN
1/8"=1'-0"

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Sheet Title
LIGHTING
FLOOR PLAN

Sheet No.
E2.01

Job No.
2005-124 G (1-1)

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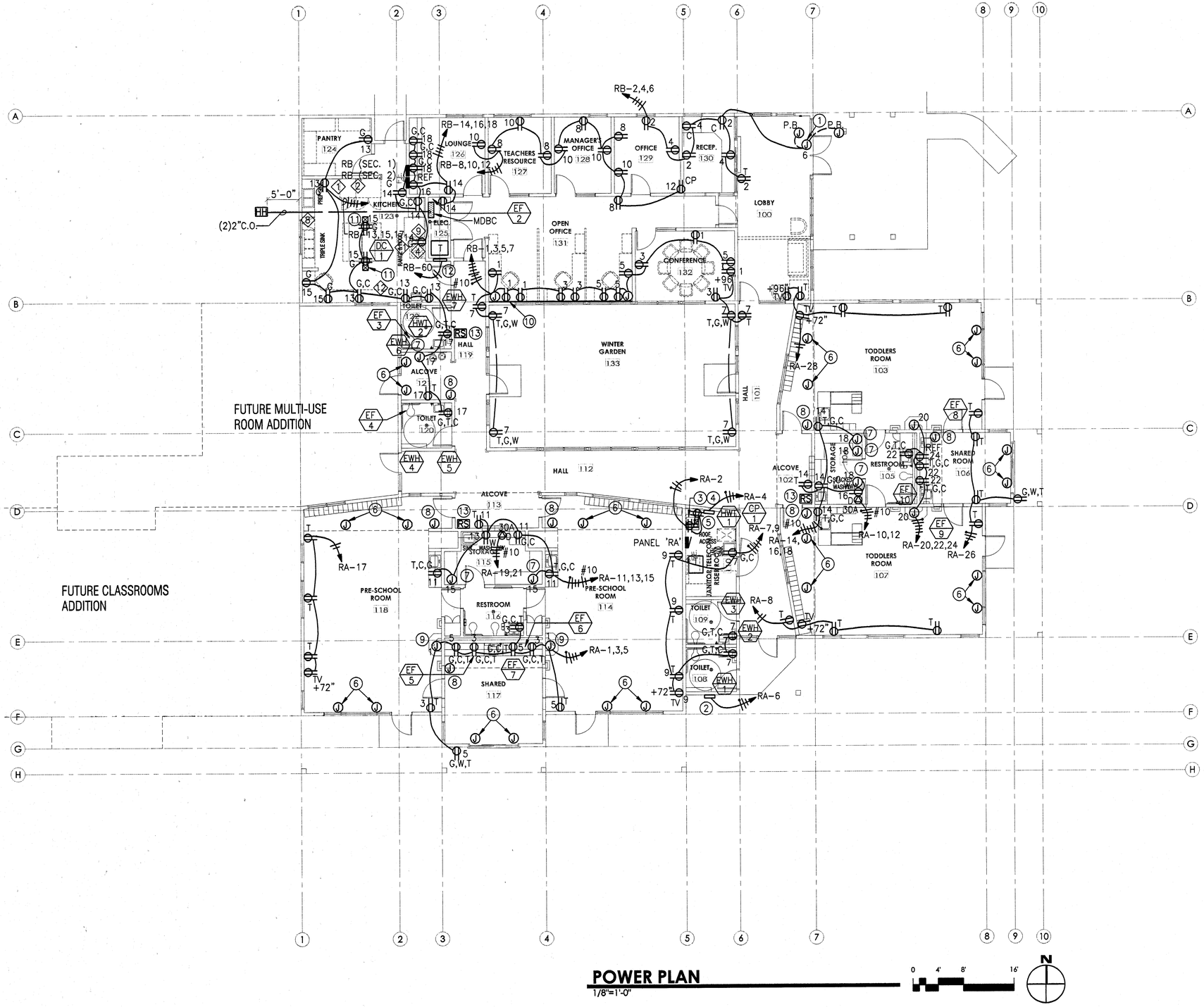

POWER PLAN
1/8"=1'-0"

GENERAL NOTES

1. REFER TO MOTORIZED WINDOW WIRING DIAGRAM ON SHEET E6.00 FOR ADDITIONAL REQUIREMENTS.

CONSTRUCTION NOTES

1. PROVIDE CONNECTION TO HANDICAP PUSH BUTTON DOOR OPERATOR AND CONTROLLERS.
2. IRRIGATION CONTROL PANEL.
3. IT CABINET.
4. DOOR ACCESS CONTROLLER AND POWER SUPPLY MOUNTED ABOVE IT CABINET.
5. FIRE ALARM CONTROL PANEL AND BATTERY CABINET.
6. PROVIDE CONNECTION TO MOTORIZED WINDOW CONTROLLER. PROVIDE 1/2"C. (2)#14 TO WINDOW POWER SUPPLY.
7. MOTORIZED WINDOW POWER SUPPLY. MOUNT AT 7'-6" AFF.
8. SWITCH FOR MOTOR OPERATED WINDOWS. PROVIDE 1/2"C. (3)#14 TO WINDOW POWER SUPPLY. MOUNT AT +60" AFF.
9. PROVIDE CONNECTION TO INFRARED CONTROL AT SINK.
10. DUAL CHANNEL WIREMOLD ALONG BASE OF WINDOW.
11. DUAL CHANNEL POWER POLE. (WIREMOLD 30TP-2V)
12. FIRE SUPPRESSION PANEL FOR HOOD.
13. RAIN SENSOR FOR MOTORIZED WINDOWS. MOUNT ON ROOF. PROVIDE 1/2"C., (2) #22 SHIELDED TWISTED PAIR TO MOTORIZED POWER SUPPLY.

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Sheet Title

POWER FLOOR PLAN

Sheet No.

E3.01

Job No.
2005-124 G (1-1)

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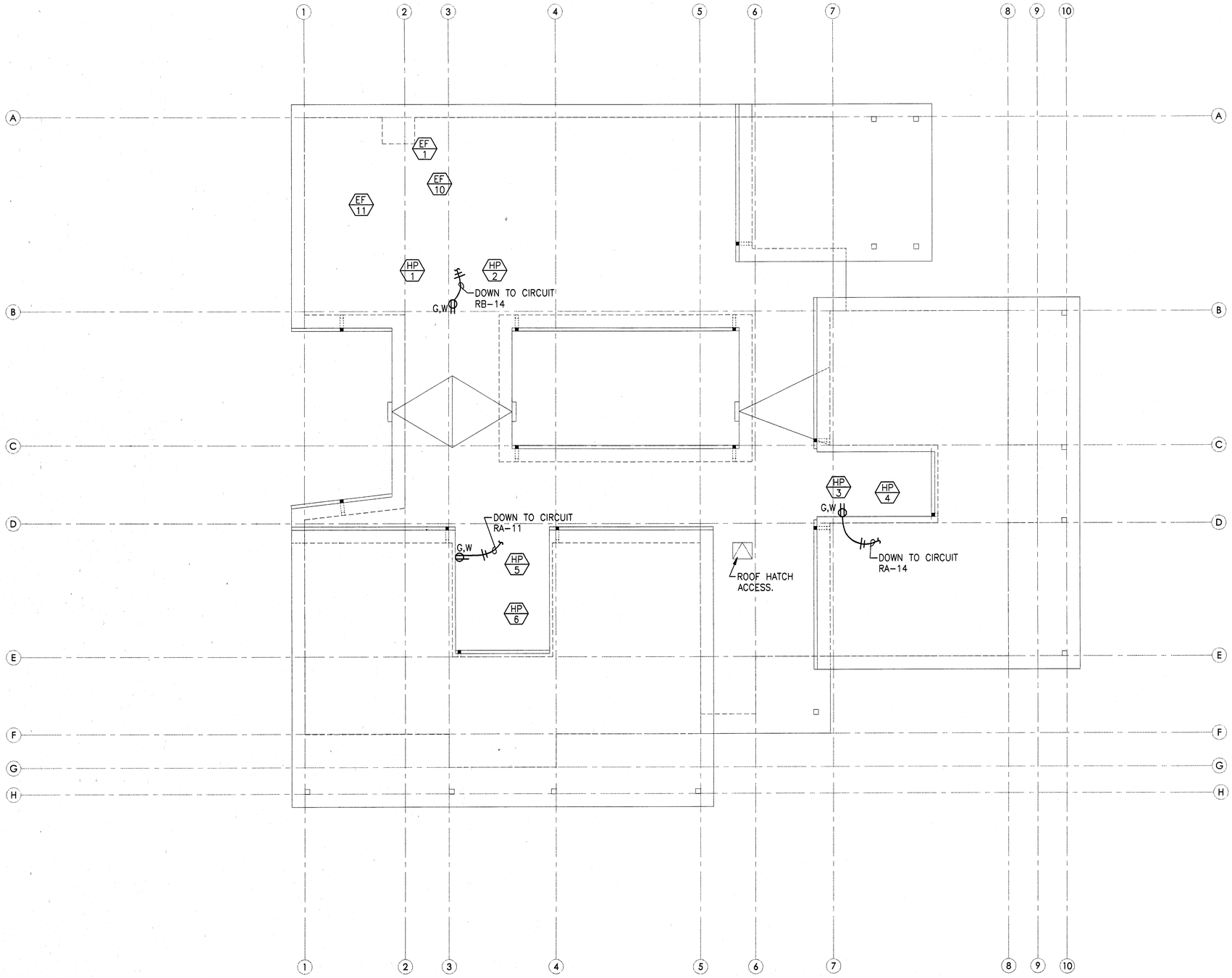

POWER AND SYSTEMS ROOF PLAN

1/8"=1'-0"

0 4' 8' 16'

N

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Sheet Title

POWER AND SYSTEMS ROOF PLAN

Sheet No.

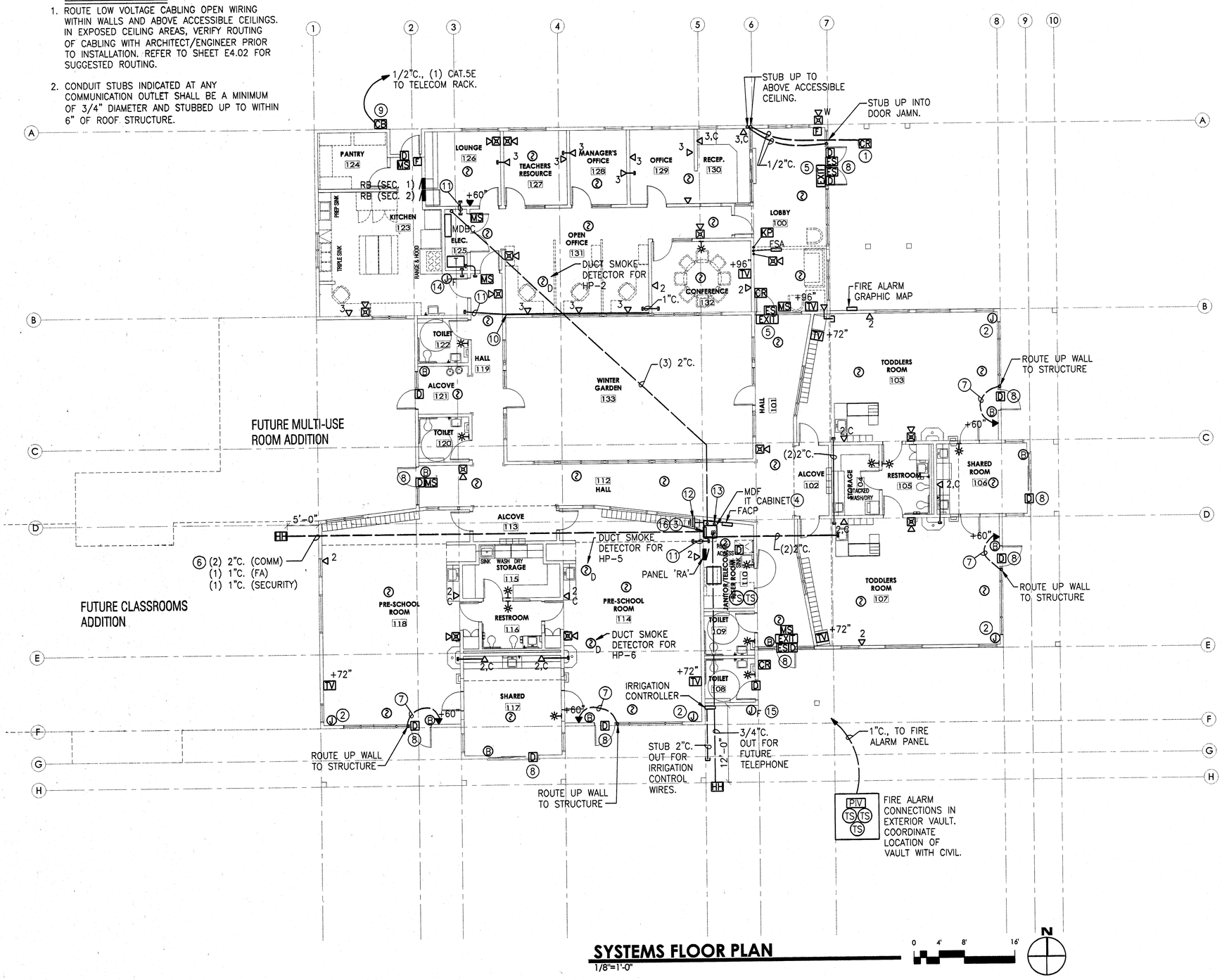
E3.02

Job No.
2005-124 G (1-1)

BID SET

GENERAL NOTES

1. ROUTE LOW VOLTAGE CABLING OPEN WIRING WITHIN WALLS AND ABOVE ACCESSIBLE CEILINGS. IN EXPOSED CEILING AREAS, VERIFY ROUTING OF CABLING WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION. REFER TO SHEET E4.02 FOR SUGGESTED ROUTING.
2. CONDUIT STUBS INDICATED AT ANY COMMUNICATION OUTLET SHALL BE A MINIMUM OF 3/4" DIAMETER AND STUBBED UP TO WITHIN 6" OF ROOF STRUCTURE.



SYSTEMS FLOOR PLAN

1/8"=1'-0"

CONSTRUCTION NOTES

1. CARD READER TO MOUNT ON PEDESTAL BELOW HANDICAP PUSH BUTTON DOOR OPERATOR.
2. FUTURE CAMERA. PROVIDE 1-GANG BACKBOX WITH COVER AT +8'-0" AFF. STUB 1/2" CONDUIT UP TO UNDERSIDE OF ROOF DECK.
3. DOOR ACCESS CONTROLLER, POWER SUPPLY AND SECURITY PANEL MOUNTED ABOVE IT CABINET.
4. SEE DETAIL ON SHEET E6.00 FOR LAYOUT OF EQUIPMENT RACK & ONE LINE DIAGRAM.
5. SEE DOOR ROUGH-IN DETAIL ON SHEET E6.00. SEE DOOR ACCESS ONE-LINE DIAGRAM ON SHEET E6.00.
6. STUB CONDUIT FOR COMM AT BACK OF RACK. STUB FIRE ALARM CONDUIT INTO A FIRE ALARM TERMINAL CABINET. STUB SECURITY CONDUIT UP INTO SECURITY CABINET. LABEL ALL CONDUITS WITH THE WORDING "SPARE FOR FUTURE ADDITION".
7. 3/4" CONDUIT UNDER SLAB.
8. ROUTE WIRING UP BESIDE DOOR JAMB. DRILL HORIZONTALLY IN HEADER, THEN VERTICALLY AT DOOR CONTACT LOCATION(S).
9. EMERGENCY CALL BOX GAI-TRONICS 294AL-001.
10. 1-1/4"C. STUBBED UP TO WITHIN 6" OF ROOF STRUCTURE.
11. (2) 2"C. STUBBED THROUGH WALL AT UNDERSIDE OF ROOF STRUCTURE.
12. PROVIDE (2) 4'X8'X3/4" FIRE RETARDANT PLYWOOD BACKBOARD. PROVIDE 10"X4" GROUND BAR WITH STAND-OFF'S & 1#6 CU. GROUND WIRE TO BUILDING SERVICE GROUNDING SYSTEM.
13. (2) 4"C. STUBBED THROUGH FLOOR FROM COMMUNICATION VAULT.
14. PROVIDE FIRE ALARM CONNECTION TO CLASS 1 HOOD SUPRESSION SYSTEM.
15. PROVIDE FIRE ALARM CONNECTION TO 24VDC SPRINKLER ALARM BELL.
16. PROVIDE FIRE ALARM CONNECTION TO ACCESS CONTROL SYSTEM.

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Sheet Title

SYSTEMS FLOOR PLAN

Sheet No.

E4.01

Job No. 2005-124 G (1-1)

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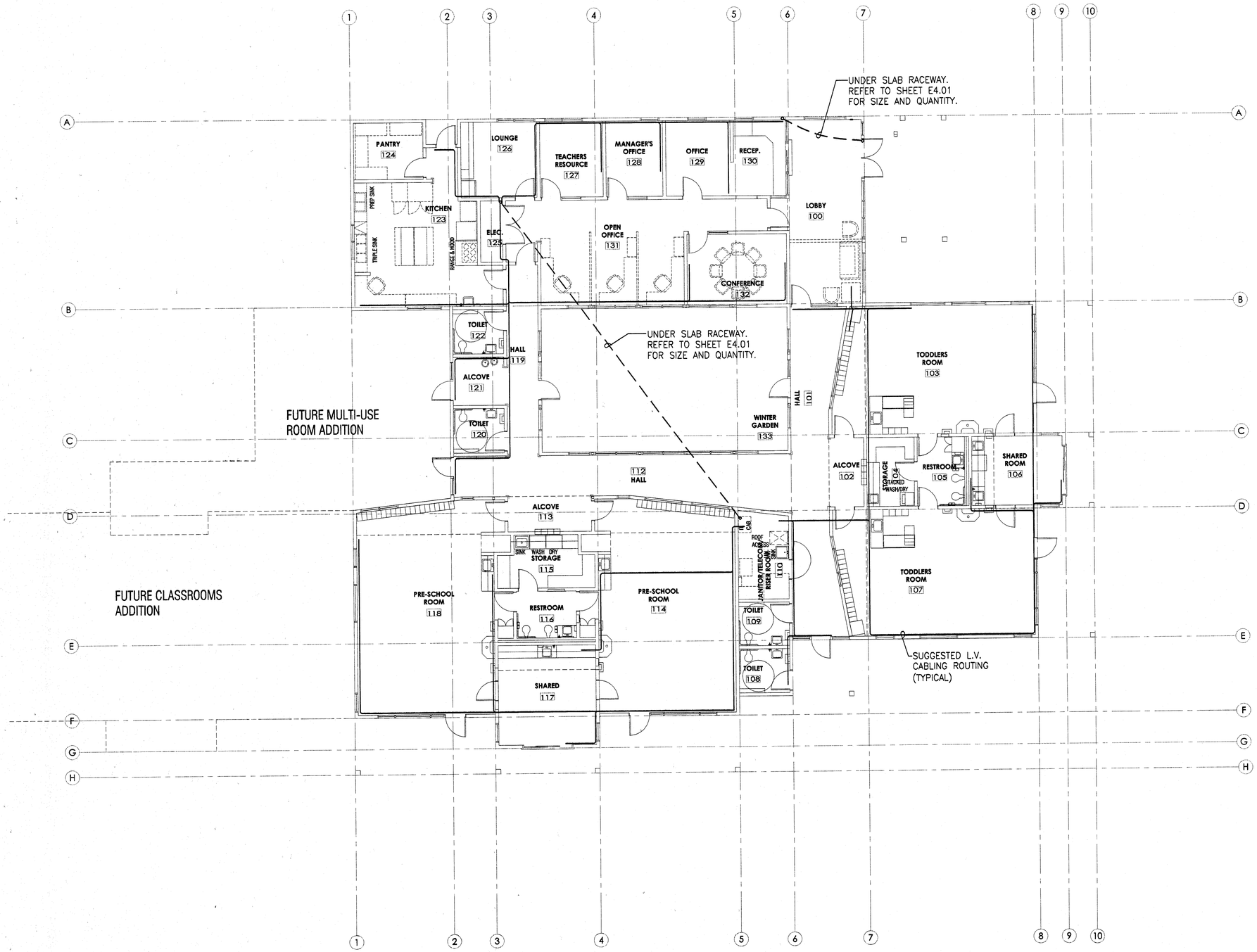

LOW VOLTAGE WIRING SUGGESTED ROUTING PLAN

SCALE:1/8"=1'-0"

GENERAL NOTES

1. THIS SHEET IS A SUGGESTED LOW VOLTAGE WIRING ROUTING PLAN. THIS PLAN WAS CREATED TO INDICATE TO THE CONTRACTOR AN ACCEPTABLE OPEN CABLING ROUTING IN THE EXPOSED STRUCTURAL AREAS. LOW VOLTAGE WIRING INCLUDES DATA/TELEPHONE COMMUNICATIONS, SECURITY, CARD ACCESS AND TELEVISION.
2. THE CONTRACTOR CAN SUGGEST AN ALTERNATIVE ROUTING METHOD FOR REVIEW BY ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
3. ALL CABLING TO BE ROUTED AS CLOSE AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURAL CEILING AND ALONG BEAMS.

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Sheet Title

LOW VOLTAGE WIRING SUGGESTED ROUTING PLAN

Sheet No.

E4.02

Job No. 2005-124 G (1-1)

BIDSET

PANEL LOAD CALCULATION

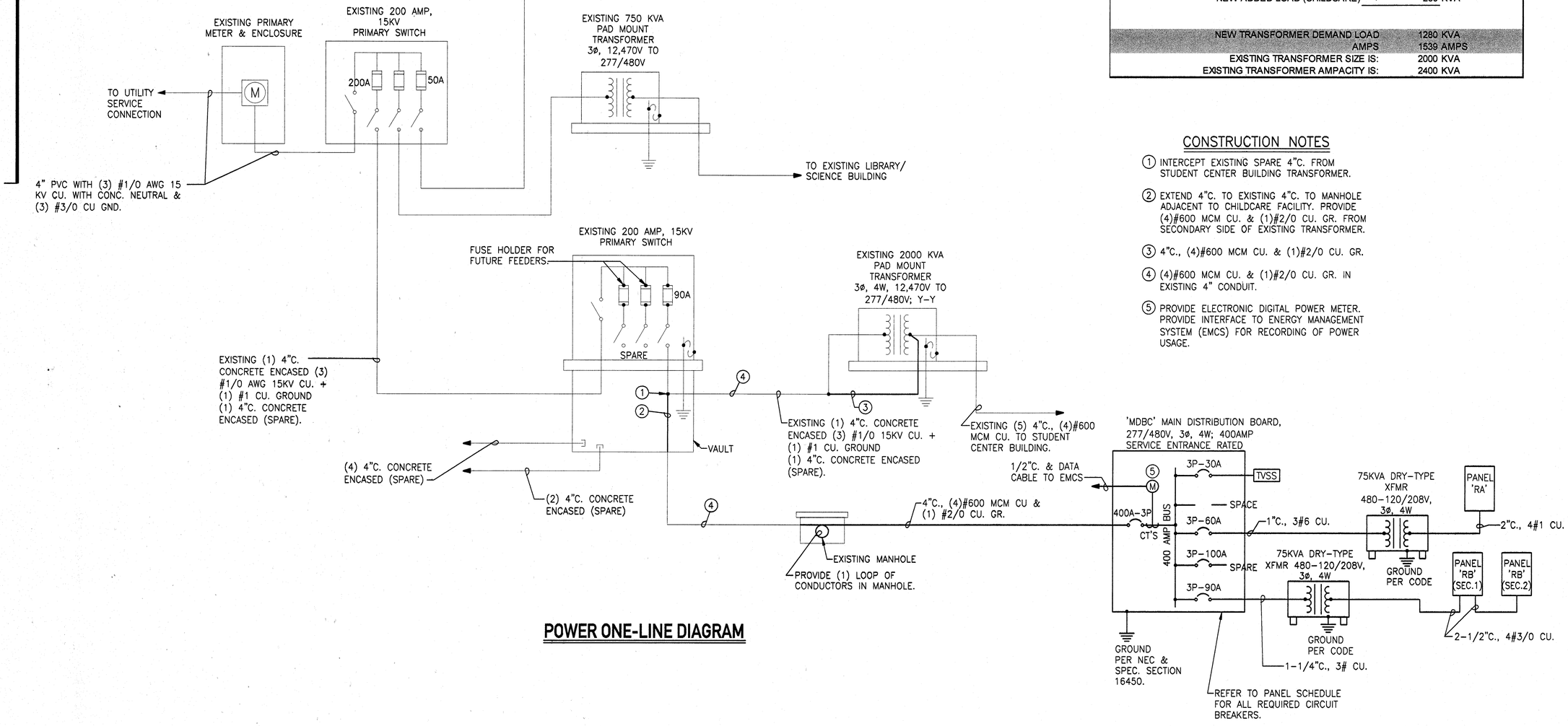
PROJECT: PIERCE COLLEGE PUYALLUP - CHILD DEVELOPMENT CENTER

PANEL MDBC DATE 13-Mar-06

VOLTAGE 277/480 PANEL SIZE:

PHASE 3 PHASE

CONNECTED LOAD			DEMAND FACTOR		DEMAND LOAD
LIGHTING	9201	X	125%	=	11,501
RECEPTACLES					
THRU 10,000	10000	X	100%	=	10,000
OVER 10,000	8400	X	50%	=	4,200
TOTAL	18400				
MOTORS/COMPRESS					
LARGEST	11600	X	125%	=	14,500
	51527	X	100%	=	51,527
HEATING	139400	X	100%	=	139,400
KITCHEN	40594	X	65%	=	26,386
APPLIANCES	11800	X	100%	=	11,800
DED. (COMPUTERS)	10210	X	100%	=	10,210
TOTAL CONNECTED LOAD	292.732		TOTAL DEMAND LOAD		279.524
AMPS	352.10		AMPS		336.22



POWER ONE-LINE DIAGRAM

SEASONAL ADJUSTMENT CALCULATION

DEMAND PEAK PER PSE BILLING-MONTH OF NOV 05 -	497 KW
MONTH OF READING (JUNE-JULY)-	451 KW
SEASONAL ADJUSTMENT FACTOR	1.10 %

CAMPUS LOAD CALCULATION

12,470V, 3-PHASE, 4-WIRE

PSE SERVICE DEMAND READING (NOV.2005) -	+	497 KW
DEMAND FACTOR	X	1.25
EXISTING PANEL MDPH DEMAND LOAD		621 KW
POWER FACTOR ADJUSTMENT (.90)		690 KVA
NEW ADDED LOAD FOR CHILDCARE BUILDING	+	280 KVA
NEW DEMAND LOAD		970 KVA
AMPS		45 AMPS
EXISTING SERVICE IS:		200 AMPS

TRANSFORMER AT STUDENT SERVICES BUILDING LOAD CALCULATION

277/480V, 3-PHASE, 4-WIRE

METER READING		800 KVA
DEMAND FACTOR	X	1.25
EXISTING TRANSFORMER DEMAND LOAD		1000.0 KVA
NEW ADDED LOAD (CHILDCARE)	+	280 KVA
NEW TRANSFORMER DEMAND LOAD		1280 KVA
AMPS		1539 AMPS
EXISTING TRANSFORMER SIZE IS:		2000 KVA
EXISTING TRANSFORMER AMPACITY IS:		2400 KVA

CONSTRUCTION NOTES

1. INTERCEPT EXISTING SPARE 4"C. FROM STUDENT CENTER BUILDING TRANSFORMER.
2. EXTEND 4"C. TO EXISTING 4"C. TO MANHOLE ADJACENT TO CHILDCARE FACILITY. PROVIDE (4)#600 MCM CU. & (1)#2/0 CU. GR. FROM SECONDARY SIDE OF EXISTING TRANSFORMER.
3. 4"C., (4)#600 MCM CU. & (1)#2/0 CU. GR.
4. (4)#600 MCM CU. & (1)#2/0 CU. GR. IN EXISTING 4" CONDUIT.
5. PROVIDE ELECTRONIC DIGITAL POWER METER. PROVIDE INTERFACE TO ENERGY MANAGEMENT SYSTEM (EMCS) FOR RECORDING OF POWER USAGE.

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Sheet Title

POWER ONE-LINE DIAGRAM

Sheet No.

E5.00

Job No. 2005-124 G (1-1)

PANEL MDBC	3 ø 4 WIRE	480 /277 VOLTS	400 AMPS MAIN
SERVICE ENTRANCE RATED	SURFACE MOUNT	42 POLES	42000 AIC 400A/3P BREAKER

LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIRC. BRKR.	A	B	C	CIRC. BRKR.	CIR. NO.	CIRCUIT DIRECTORY	LOAD
2186	LIGHTS - 114-118	1	1P-20A	•			3P	2		
1881	LIGHTS - 103-107	3	1P-20A		•			4	HP-1	20600
1972	LIGHTS - 100, 123-132	5	1P-20A			•	40A	6		
1146	LIGHTS - 101, 102, 112, 113, 119	7	1P-20A	•			3P	8		
2016	EXT. LIGHTING	9	1P-20A		•			10	HP-2	29600
	SPARE	11	1P-20A			•	50A	12		
		13	3P	•			3P	14		
22800	HP-5	15			•			16	HP-3	19533
		17	40A			•	40A	18		
		19	3P	•			3P	20		
28200	HP-6	21			•			22	HP-4	20600
		23	50A			•	40A	24		
		25	3P	•			3P	26		
30000	HWT-1	27			•			28	TVSS	
		29	50A			•	30A	30		
		31	3P	•			3P	32	SPACE	
22500	EF-10/DC-1	33			•			34	SPACE	
		35	40A			•	100A	36	SPACE	
		37	3P	•			3P	38		
29907	XFMR T-1 (PANEL RA)	39			•			40	XFMR T-2 (PANEL RB)	59791
	45 KVA	41	60A			•	90A	42	75 KVA	
142608	TOTAL VA= 292732						CURRENT		352.10 AMPS	150124
	DEMAND VA= 279,524						DEMAND CURRENT		336.22 AMPS	

PANEL RA	3 ø 4 WIRE	208 /120 VOLTS	125 AMPS MAIN
SURFACE MOUNT		42 POLES	22,000 AIC 125A-3P BREAKER

LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIRC. BRKR.	A	B	C	CIRC. BRKR.	CIR. NO.	CIRCUIT DIRECTORY	LOAD
1000	WASH FOUNTAINS 114, 118	1	*20A/1P	•			20A/1P	2	MDF RACK	360
720	RECEPTACLES 116-118	3	*20A/1P		•		20A/1P	4	FIRE ALARM PANEL (SEE NOTE 1)	1000
720	RECEPTACLES 114, 117, EXT	5	*20A/1P			•	20A/1P	6	IRRIGATION CONTROL PANEL	1000
560	RECEPTACLE 108-110	7	*20A/1P	•			20A/1P	8	RECEPTACLE 101, 107	720
720	RECEPTACLE 114	9	20A/1P		•		2P	10	DRYER	5000
900	RECEPTACLE 113-115, 118	11	*20A/1P			•	30A	12		
450	WASHER 115	13	20A/1P	•			*20A/1P	14	RECEPTACLE 102, 104, 107	720
1260	MOTORIZED WINDOWS	15	30A/1P		•		20A/1P	16	WASHER 104	450
720	RECEPTACLE 118	17	20A/1P			•	30A/1P	18	MOTORIZED WINDOWS	1260
5000	DRYER 115	19	2P	•			*20A/1P	20	WASH FOUNTAINS 103, 107	1000
		21	30A		•		*20A/1P	22	RECEPT 105, 106	560
	SPARE	23	20A/1P			•	20A/1P	24	REFRIGERATOR 106	450
1500	EWH-1	25	20A/1P	•			*20A/1P	26	RECEPT 103, 106, 107, EXTERIOR	720
1000	EWH-2	27	20A/1P		•		20A/1P	28	RECEPT 100, 103	900
500	EWH-3	29	20A/1P			•	20A/1P	30	SPARE	
453	EF-5 THRU EF-7	31	20A/1P	•			20A/1P	32	SPARE	
264	EF-8, EF-9	33	20A/1P		•		20A/1P	34	SPARE	
	SPARE	35	20A/1P			•	20A/1P	36	SPARE	
	SPACE	37		•				38	SPACE	
	SPACE	39			•			40	SPACE	
	SPACE	41				•		42	SPACE	
15767	TOTAL VA= 29907						CURRENT		83.01 AMPS	14140
	DEMAND VA= 29,907						DEMAND CURRENT		83.01 AMPS	

* PROVIDE GFCI TYPE CIRCUIT BREAKER

NOTE 1: PROVIDE 'RED' LOCK-ON CIRCUIT BREAKER HANDLE.

PANEL RB	3 ø 4 WIRE	208 /120 VOLTS	225 AMPS MAIN
SECTION 1 FLUSH MOUNT		42 POLES	22,000 AIC 200A-3P BREAKER

LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIRC. BRKR.	A	B	C	CIRC. BRKR.	CIR. NO.	CIRCUIT DIRECTORY	LOAD
900	RECEPTACLE 131, 132	1	20A-1P	•			20A-1P	2	RECEPTACLE 129, 130	720
720	RECEPTACLE 131, 132	3	20A-1P		•		20A-1P	4	RECEPTACLE 129, 130	540
720	RECEPTACLE 131, 132	5	20A-1P			•	20A-1P	6	AUTOMATIC DOOR OPENER	500
1080	EXTERIOR RECEPT	7	*20A-1P	•			20A-1P	8	RECEPTACLE 127-129	900
	SPARE	9	20A-1P		•		20A-1P	10	RECEPTACLE 126-129	900
	SPARE	11	20A-1P			•	20A-1P	12	COPIER 130	1000
900	RECEPTACLE 123, 124	13	*20A-1P	•			20A-1P	14	RECEPTACLE 123, 125, 126, ROOF	1080
900	RECEPTACLE 123, 124	15	*20A-1P		•		20A-1P	16	REFRIGERATOR 126	450
1170	RECEPTACLE 120-122	17	*20A-1P			•	20A-1P	18	RECEPTACLE 126	540
528	CP-1	19	20A-1P	•			20A-1P	20	EWH-4	1000
393	EF-1 THRU EF-4	21	20A-1P		•		20A-1P	22	EWH-5	500
528	SPARE	23	20A-1P			•	20A-1P	24	EWH-6	1000
528	EF-11	25	20A-1P	•			20A-1P	26	EWH-7	500
	SPARE	27	20A-1P		•		20A-1P	28	SPARE	
	SPARE	29	20A-1P			•	20A-1P	30	SPARE	
	SPACE	31		•				32	SPACE	
		33			•			34		
		35				•		36		
		37		•				38		
		39			•			40		
		41				•		42		
									LOAD FOR PANEL RB - SECTION 2	41794
8367	TOTAL VA= 59791						CURRENT		165.96 AMPS	51424
	DEMAND VA= 45,363						DEMAND CURRENT		125.92 AMPS	

* PROVIDE GFCI TYPE CIRCUIT BREAKER

PANEL RB	3 ø 4 WIRE	208 /120 VOLTS	225 AMPS MAIN
SECTION 2 RECESS MOUNT		42 POLES	22,000 AIC LUGS ONLY

LOAD	CIRCUIT DIRECTORY	CIR. NO.	CIRC. BRKR.	A	B	C	CIRC. BRKR.	CIR. NO.	CIRCUIT DIRECTORY	LOAD
		43	3P	•			3P	44		
17000	ELECTRIC RANGE	45			•			46	ELECTRIC CONVECTION OVEN	11000
		47	60A			•	40A	48		
	SPACE	49	2P	•			3P	50		
		51	20A		•			52	DISHWASHER	9244
1120	REACH-IN FREEZER	53	20A-1P			•	30A	54		
1030	REACH-IN REFRIGERATOR	55	20A-1P	•			20A-1P	56	RANGE HOOD	600
1200	MICROWAVE	57	20A-1P		•		20A-1P	58	SHUT-DOWN CONTACTOR	100
	SPARE	59	20A-1P			•	20A-1P	60	HOOD FIRE SUPPRESSION	500
	SPACE	61		•				62	SPACE	
		63			•			64		
		65				•		66		
		67		•				68		
		69			•			70		
		71				•		72		
		73		•				74		
		75			•			76		
		77				•		78		
		79		•				80		
		81			•			82		
		83				•		84		
20350	TOTAL VA= 41794						CURRENT		116.01 AMPS	21444
	DEMAND VA= 27,586						DEMAND CURRENT		76.57 AMPS	

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Sheet Title

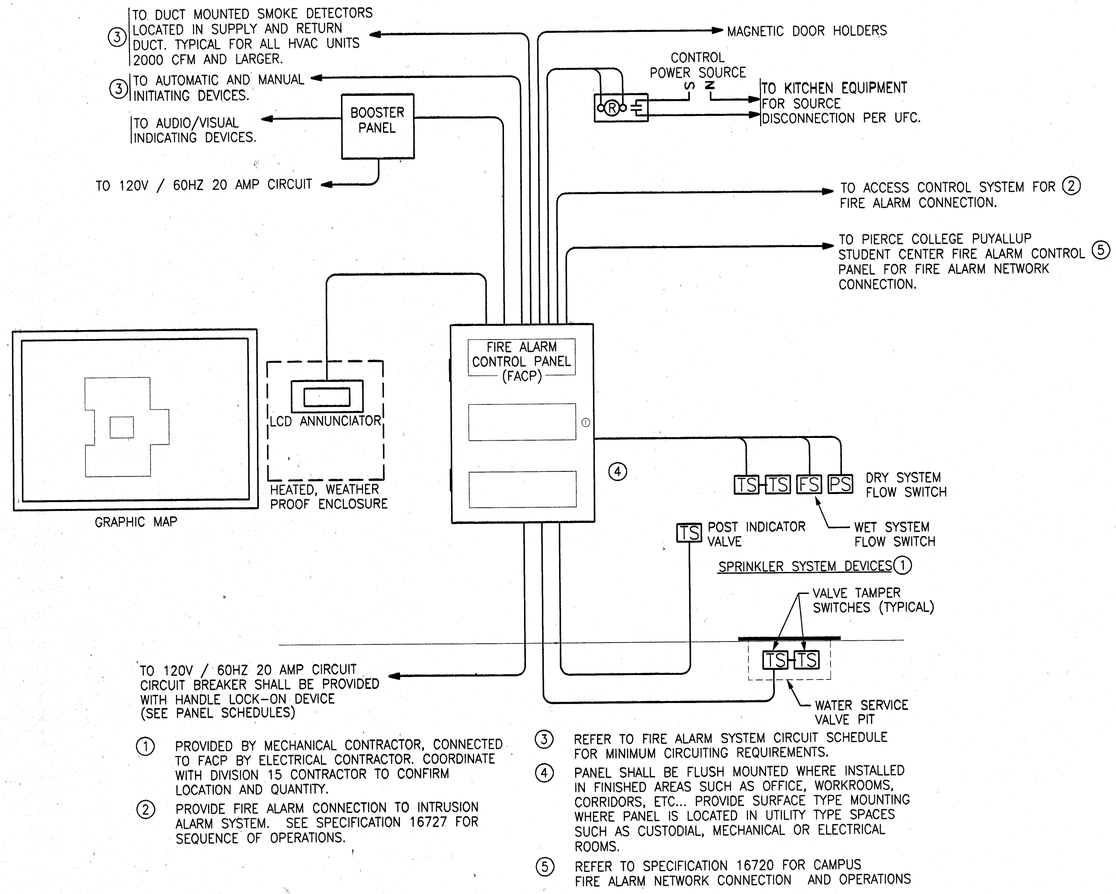
PANEL SCHEDULES

Sheet No.

E5.01

Job No. 2005-124 G (1-1)

BIDSET



(1) PROVIDED BY MECHANICAL CONTRACTOR, CONNECTED TO FACP BY ELECTRICAL CONTRACTOR. COORDINATE WITH DIVISION 15 CONTRACTOR TO CONFIRM LOCATION AND QUANTITY.

(2) PROVIDE FIRE ALARM CONNECTION TO INTRUSION ALARM SYSTEM. SEE SPECIFICATION 16727 FOR SEQUENCE OF OPERATIONS.

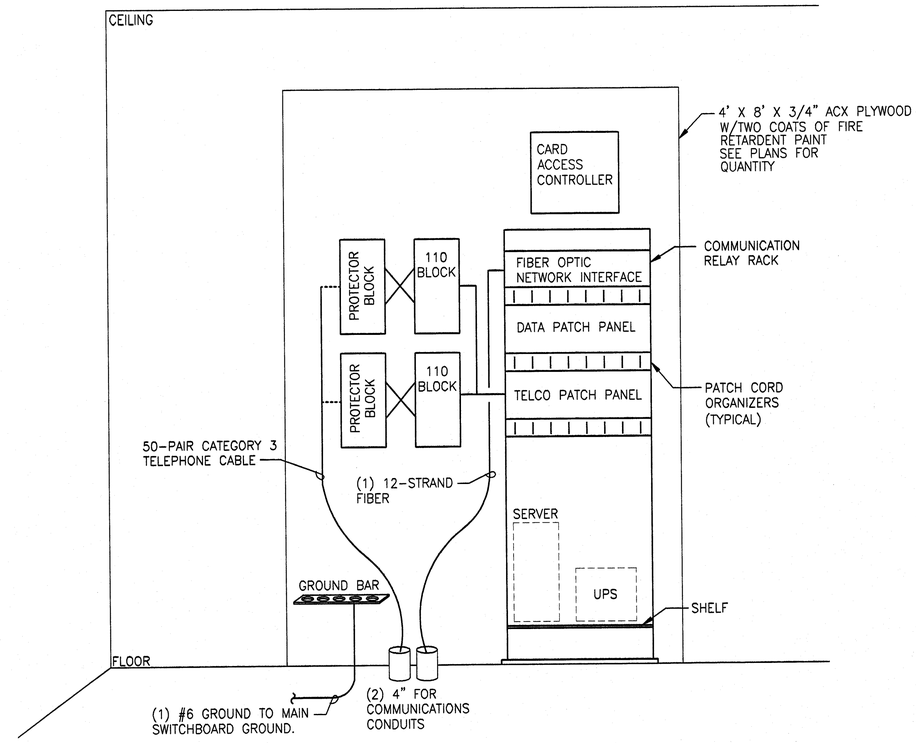
(3) REFER TO FIRE ALARM SYSTEM CIRCUIT SCHEDULE FOR MINIMUM CIRCUITING REQUIREMENTS.

(4) PANEL SHALL BE FLUSH MOUNTED WHERE INSTALLED IN FINISHED AREAS SUCH AS OFFICE, WORKROOMS, CORRIDORS, ETC... PROVIDE SURFACE TYPE MOUNTING WHERE PANEL IS LOCATED IN UTILITY TYPE SPACES SUCH AS CUSTODIAL, MECHANICAL OR ELECTRICAL ROOMS.

(5) REFER TO SPECIFICATION 16720 FOR CAMPUS FIRE ALARM NETWORK CONNECTION AND OPERATIONS

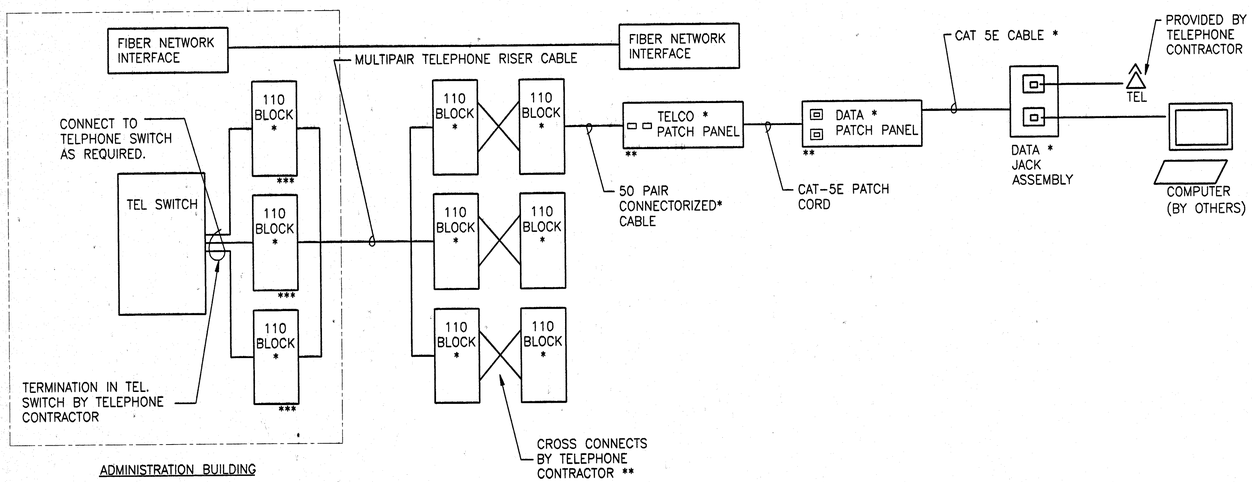
FIRE ALARM SYSTEM – BLOCK DIAGRAM

DIAGRAMMATIC



TELEPHONE HEADEND – BLOCK DIAGRAM

DIAGRAMMATIC

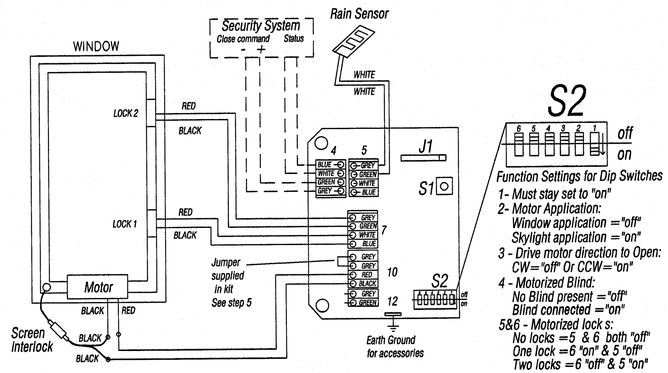


* DENOTES BY DATA CONTRACTOR. QUANTITIES AS REQUIRED. SEE DATA/VOICE RISER DIAGRAM.

** LOCATED AT MDF OR IDFS. QUANTITIES AS REQUIRED.

*** LOCATED IN SYSTEM/DATA ROOM. QUANTITIES AS REQUIRED.

TELEPHONE BACKBONE BLOCK DIAGRAM



Wire Size (Class 2)	Total distance from Control to farthest motor
14 AWG	100 ft (30m) Max.

Main Wiring Diagram

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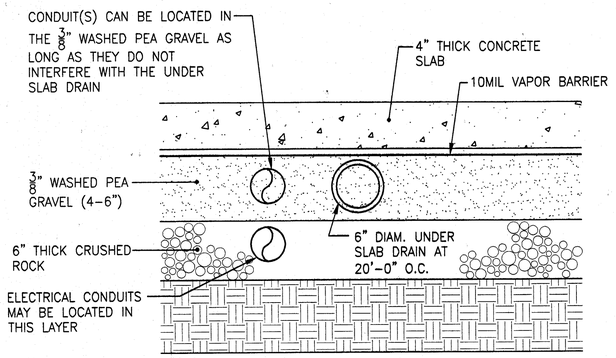
DETAILS

Sheet No.

E6.00

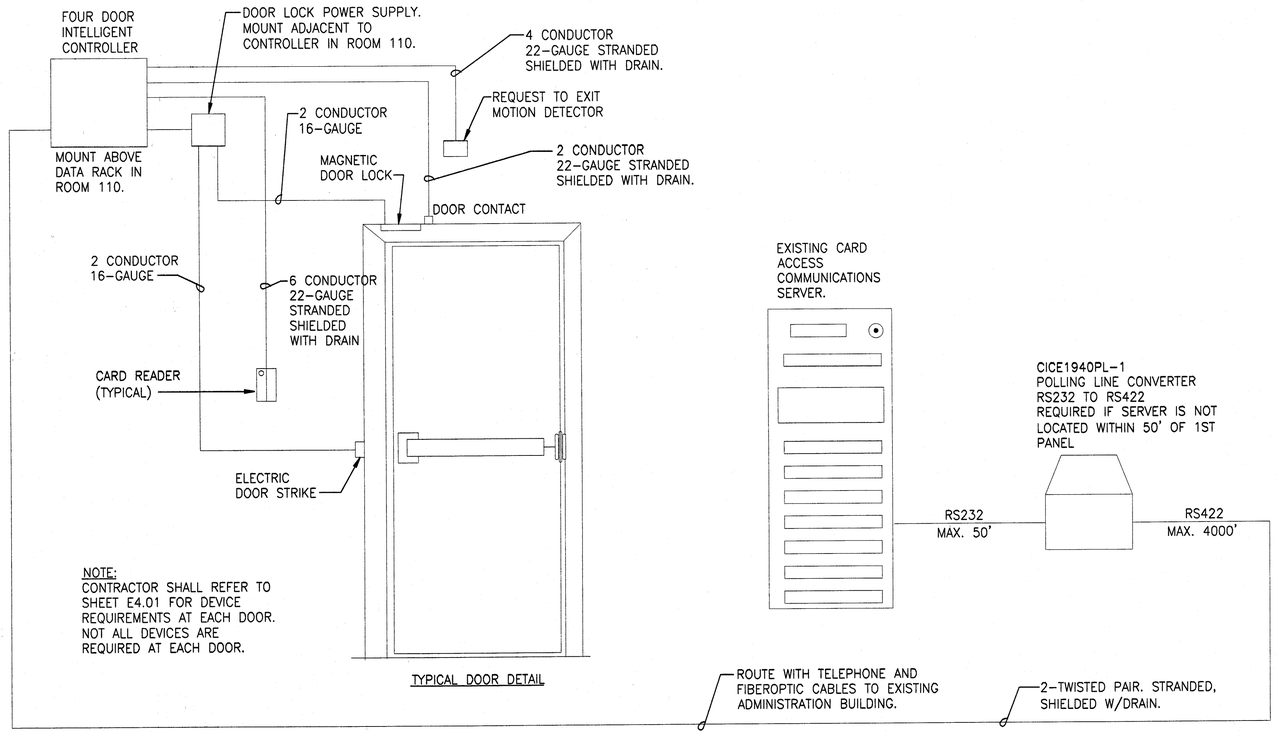
Job No. 2005-124 G (1-1)

BIDSET



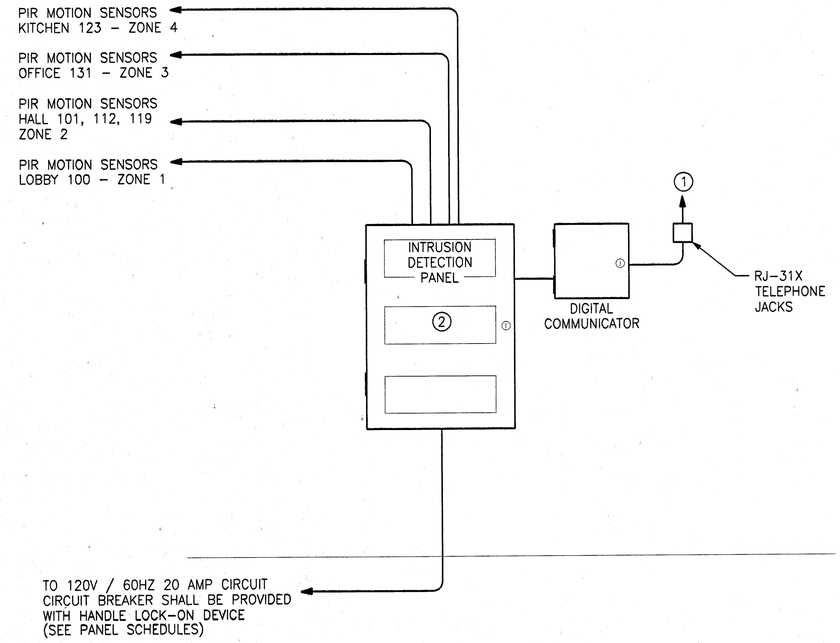
CONDUIT INSTALLATION DETAIL BELOW FLOOR SLAB

NOT TO SCALE



ACCESS CONTROL ONE–LINE DIAGRAM

NOT TO SCALE

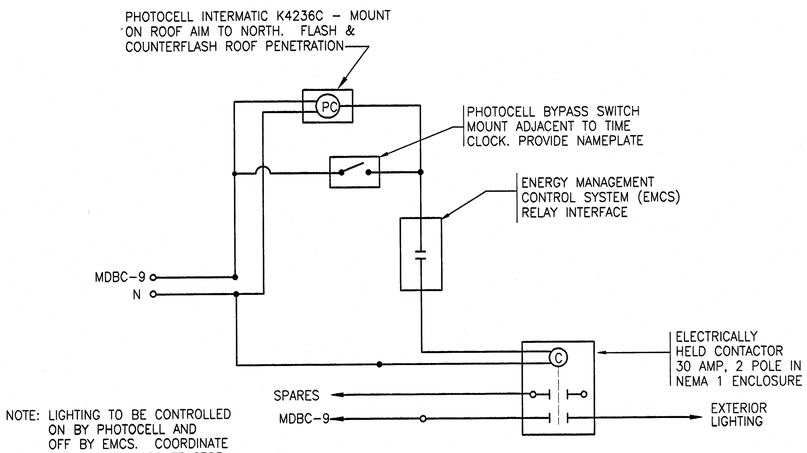


① (2) 4 PAIR/22 GAUGE TELEPHONE CABLES TO RJ–21X PUNCHBLOCK LOCATED AT TELEPHONE TERMINATION BOARD. TELEPHONE LINE SERVICE PROVIDED BY OWNER.

② PROVIDE SURFACE TYPE MOUNTING. MOUNT ADJACENT TO INTRUSION CONTROL PANEL.

INTRUSION DETECTION SYSTEM – BLOCK DIAGRAM

DIAGRAMMATIC



NOTE: LIGHTING TO BE CONTROLLED ON BY PHOTOCELL AND OFF BY EMCS. COORDINATE WITH CONTROL CONTRACTOR FOR INTERFACE.

EXTERIOR LIGHTING CONTROL DIAGRAM

NOT TO SCALE

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