

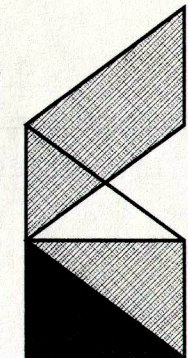
CITY OF GRAND JUNCTION
VISITORS AND CONVENTION BUREAU

VISITORS CENTER ADDITION

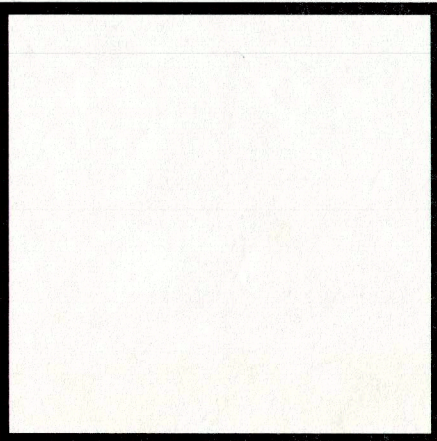
740 HORIZON DRIVE
GRAND JUNCTION, COLORADO

Revision/Date

GS ROBSON - ARCHITECTURE, INC.



529 25 1/2 Road, Suite B109, Grand Junction, Colorado 81505
970.257.7600 • 970.257.1031 (fax) • architect@GSR-architect.com



GENERAL NOTES

The Visitors Center **MUST** remain in operation during the construction process. Close coordination with the Visitor Center administration staff is required to minimize disruption of operation and to minimize interruption of services (power, communication, etc.).

For all questions regarding the intent of the drawings, contact the Architect for an interpretation.

The overall intent of the project is to have the work match the existing construction as much as possible. New windows, doors, door frames, hardware, et. are to match the existing to the greatest extent possible. The re-use of existing product noted as "to be removed" is preferred, but not required. Standard construction methods and means are to be used, except as noted. Other general requirements of the Project are as follows:

1. All new cabinetry is to be standard Light Commercial quality with plastic laminate veneer doors (front and back), face frame and shelves.
2. All exterior walls are to have kraft-faced R-19 batt insulation. The ceiling is to have kraft-faced R-30 batt insulation.
3. New roof shingles are to be asphalt composition shingles to match existing.
4. Flat roof membrane to be 60 mil single-ply elastomeric. Cap flashing to be paintable galvanized steel.
5. All new gypsum wallboard (walls and ceilings) to be 5/8" Type X. Tape and texture to match existing.
6. All office areas, except as noted, are to receive new carpet squares, similar to the carpet in the existing display area. Contact the City of Grand Junction Purchasing Department for the name of the City's contract carpet supplier.
7. Storage 116, Storage 117, Janitor/Mechanical 119, and Break Room 120 are to receive new Mannington Adura, or approved equal, vinyl flooring. Provide transition strips between all different flooring types. Removal of the existing vinyl tiles is not required if the existing surface can be prepared to accept the new vinyl flooring.
8. All walls and ceilings in the office area are to be painted, including existing office spaces.

DESIGN TEAM

- ARCHITECT**
GS ROBSON-ARCHITECTURE, INC.
529 25 1/2 Road, Suite B109
Grand Junction, CO 81505
phone: 970-257-7600 fax: 970-257-1031
- STRUCTURAL ENGINEER**
LINDAUR-DUNN, INC.
802 Rood Ave.
Grand Junction, CO 81501
phone: 970-241-0900 fax: 970-243-2430
- MECHANICAL ENGINEER**
BIGHORN CONSULTING ENGINEERS, INC.
569 S. Westgate Dr., Suite 1
Grand Junction, CO 81505
phone: 970-241-8709 fax: 970-241-9514
- ELECTRICAL ENGINEER**
GRAND VALLEY ENGINEERING SOLUTIONS, LLC
334 Dakota Circle
Grand Junction, CO 81503
phone: 970-256-0353 fax: 970-245-6319

DRAWING INDEX

T1.1 COVER SHEET

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ELECTRICAL

- E1 ELECTRICAL SITE PLAN
- E2 DEMOLITION PLAN
- E3 LIGHTING PLAN
- E4 POWER & SYSTEMS PLAN
- E5 SPECIFICATIONS

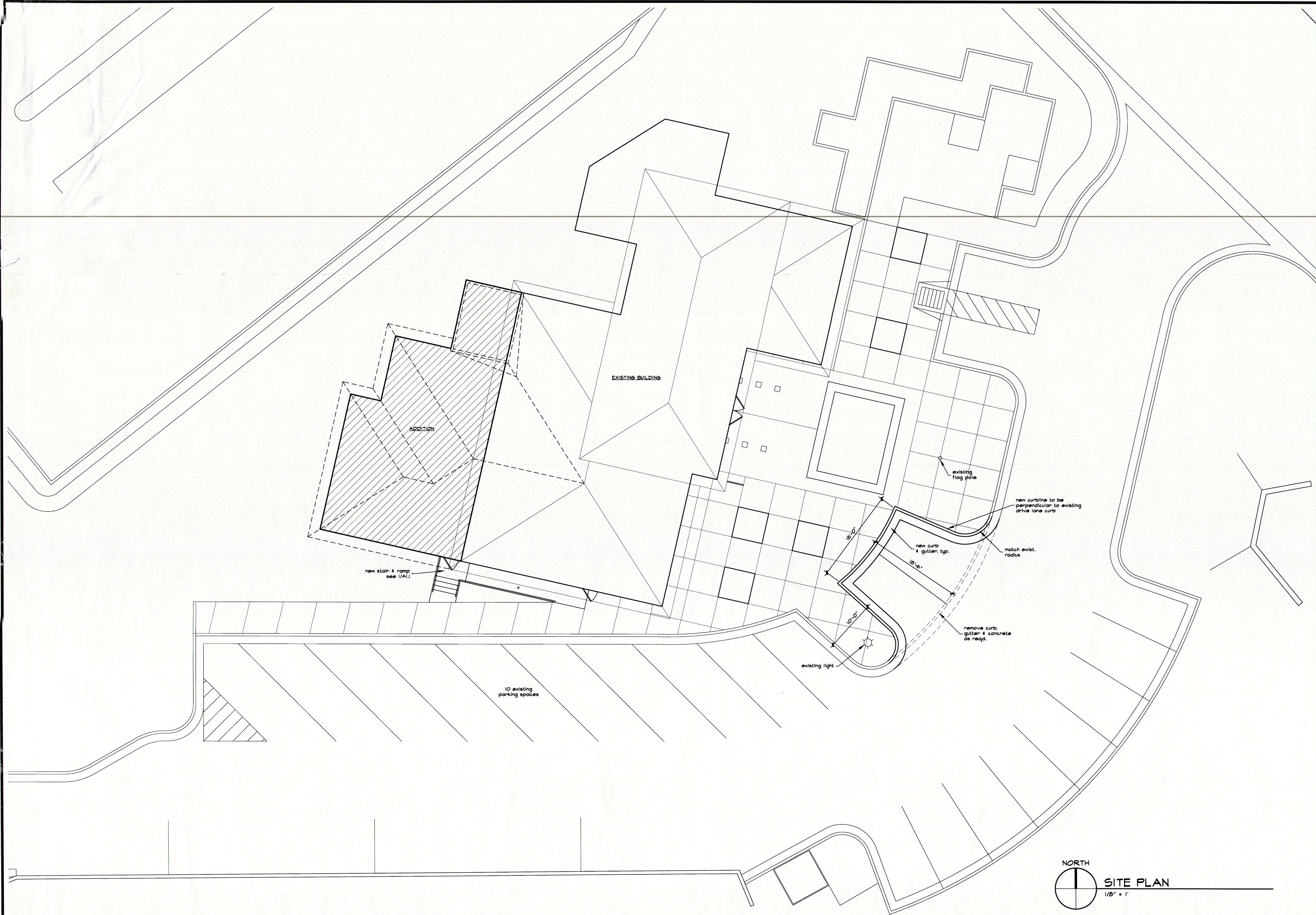
SET 1

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740 HORIZON DRIVE & I-70
GRAND JUNCTION, CO

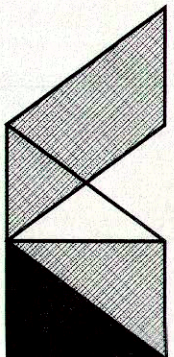
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September 22, 2006

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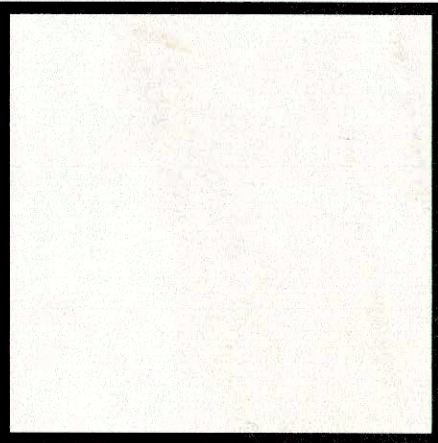


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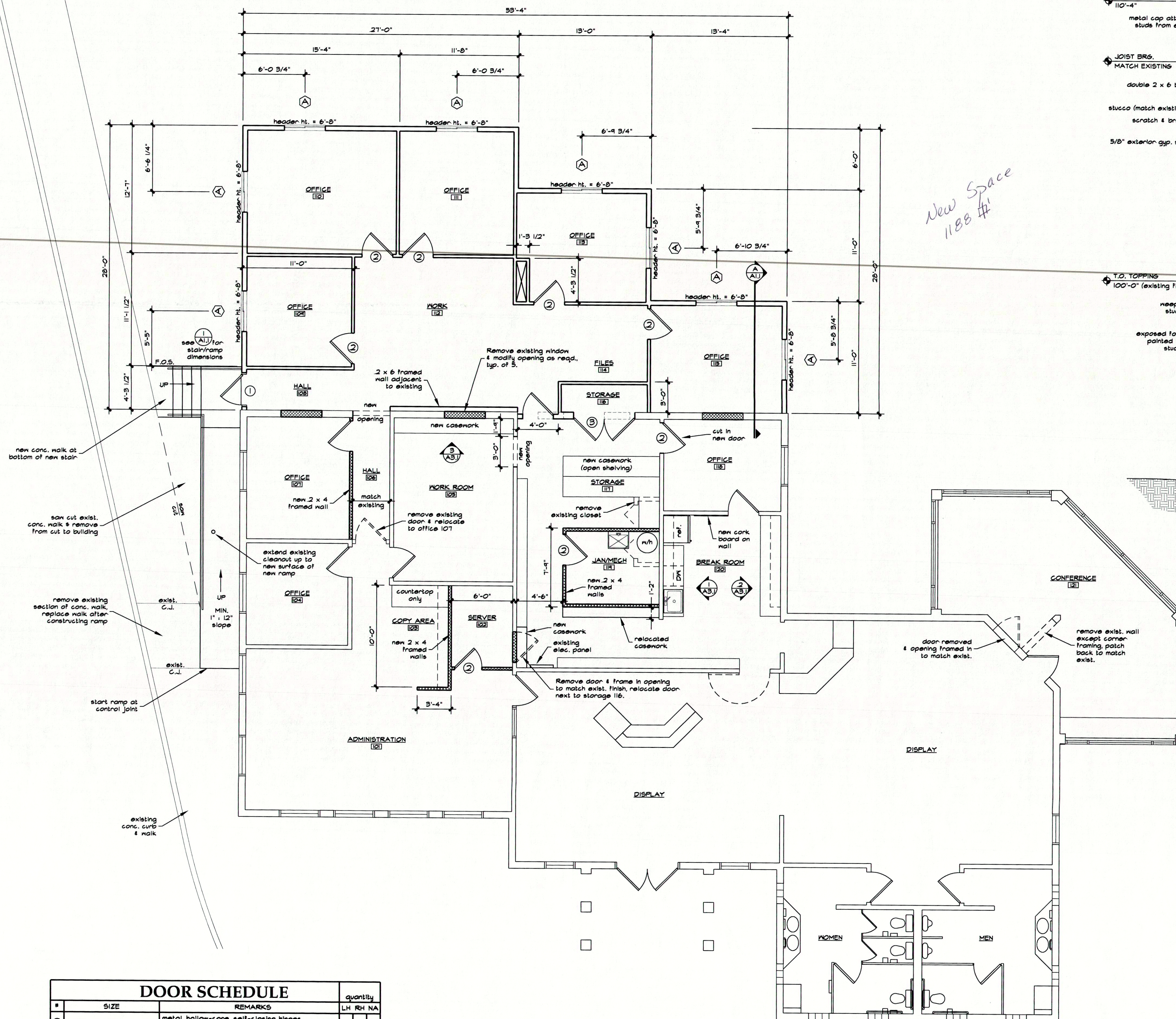
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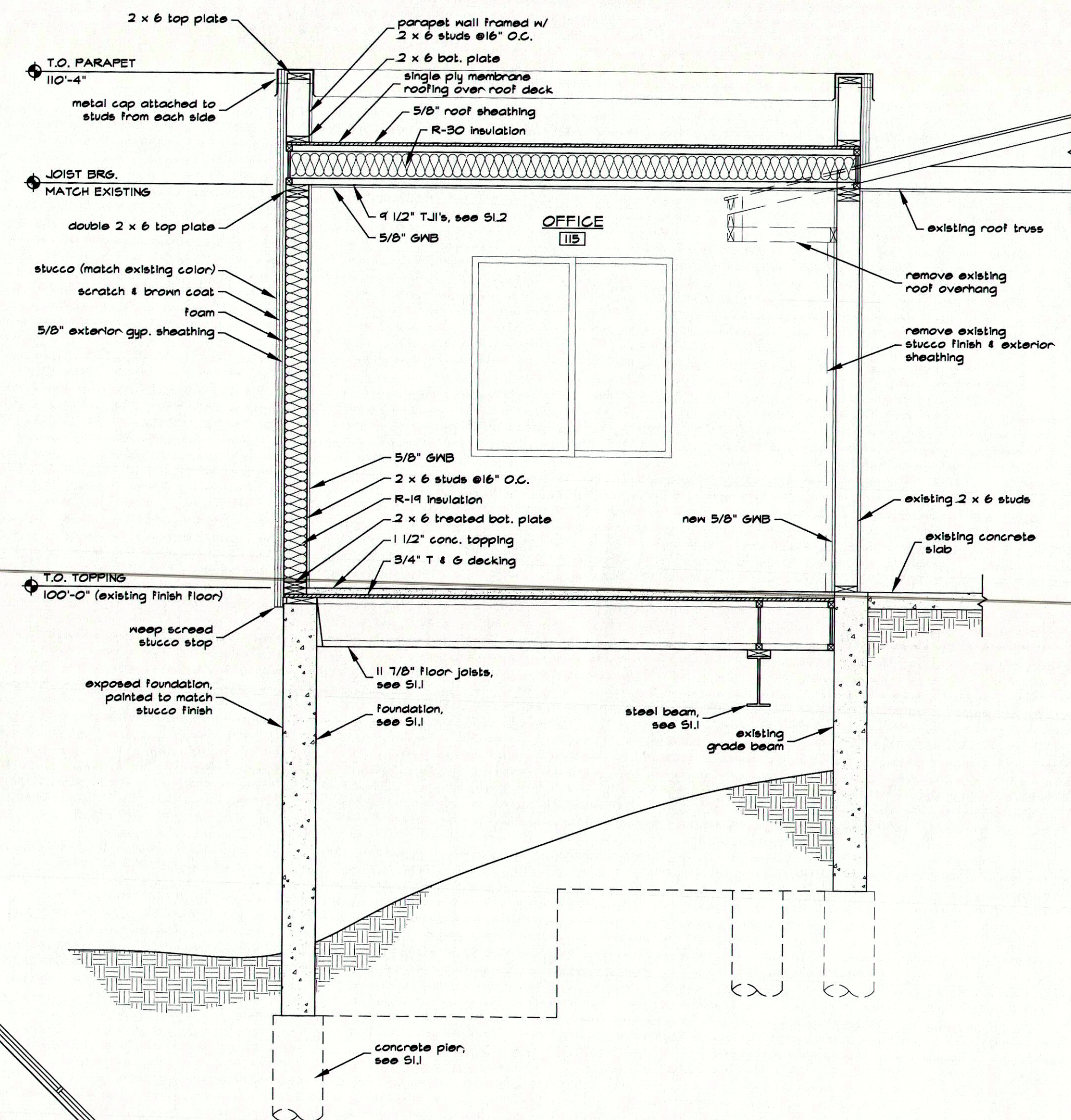
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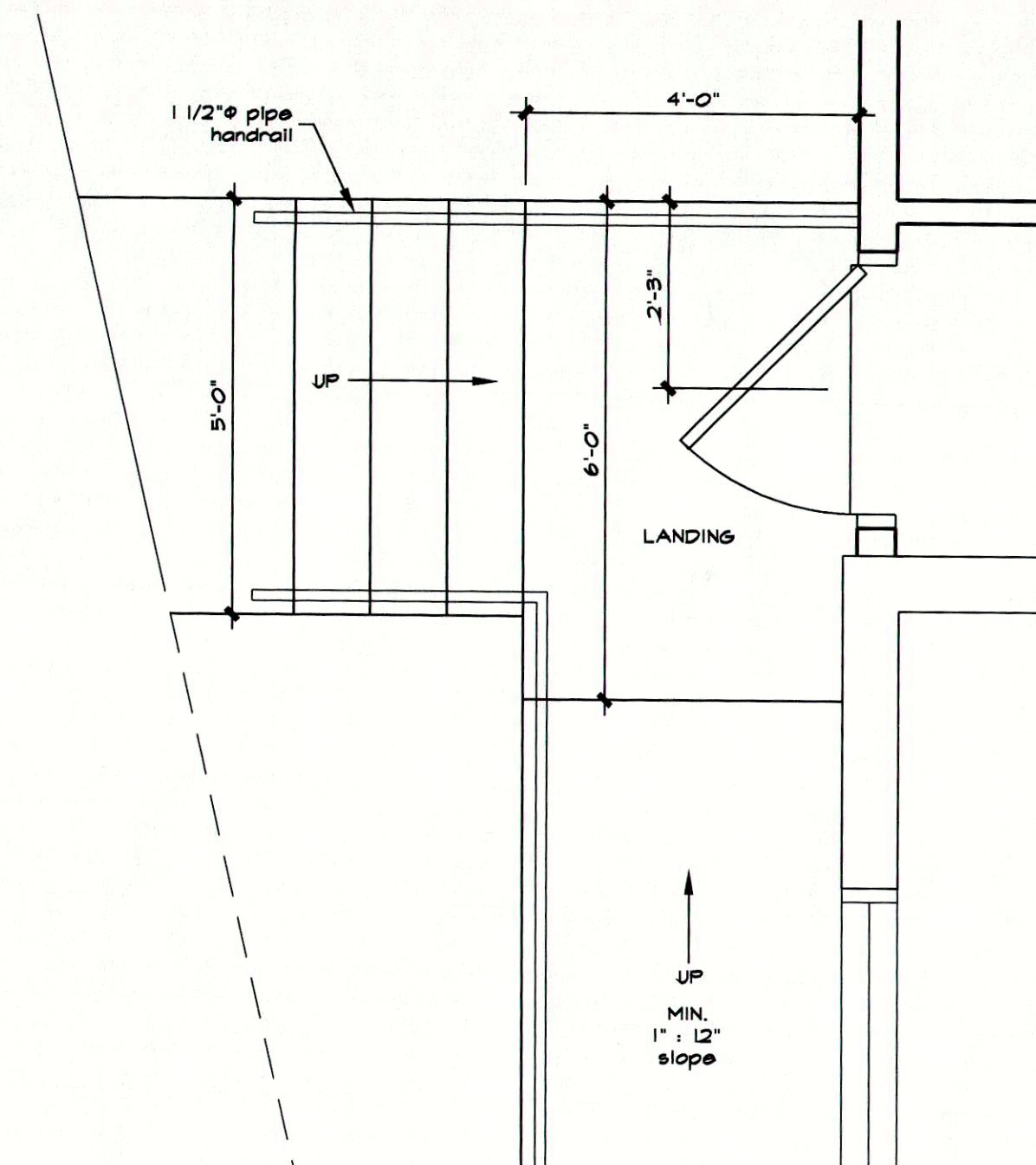
DOOR SCHEDULE				quantity		
#	SIZE	REMARKS		LH	RH	NA
1	3'-0" x 6'-8" x 1 3/4"	metal, hollow-core, self-closing hinges, weather-stripping, adjustable threshold		-	1	-
2	3'-0" x 7'-0" x 1 3/8"	interior, solid core		7	1	-
3	6'-0" x 7'-0" x 1 3/8"	interior, palm, two 36" leaves, 2 x 6 wall		-	-	1

WINDOW SCHEDULE				quantity	
#	SIZE	REMARKS		Qty	
1	4'-0" x 4'-0"	horizontal slider		8	

FLOOR PLAN
 3/16" = 1'-0"
 EXISTING BUILDING: 3,751 S.F.
 PROPOSED EXPANSION: 1,188 S.F.
 TOTAL: 4,940 S.F.



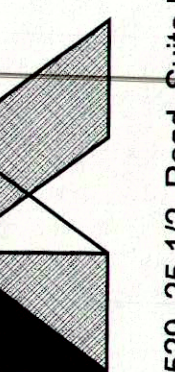
A SECTION
 1/2" = 1'-0"



1 STAIR & RAMP DIMENSIONS
 1/2" = 1'-0"

Revision/Date

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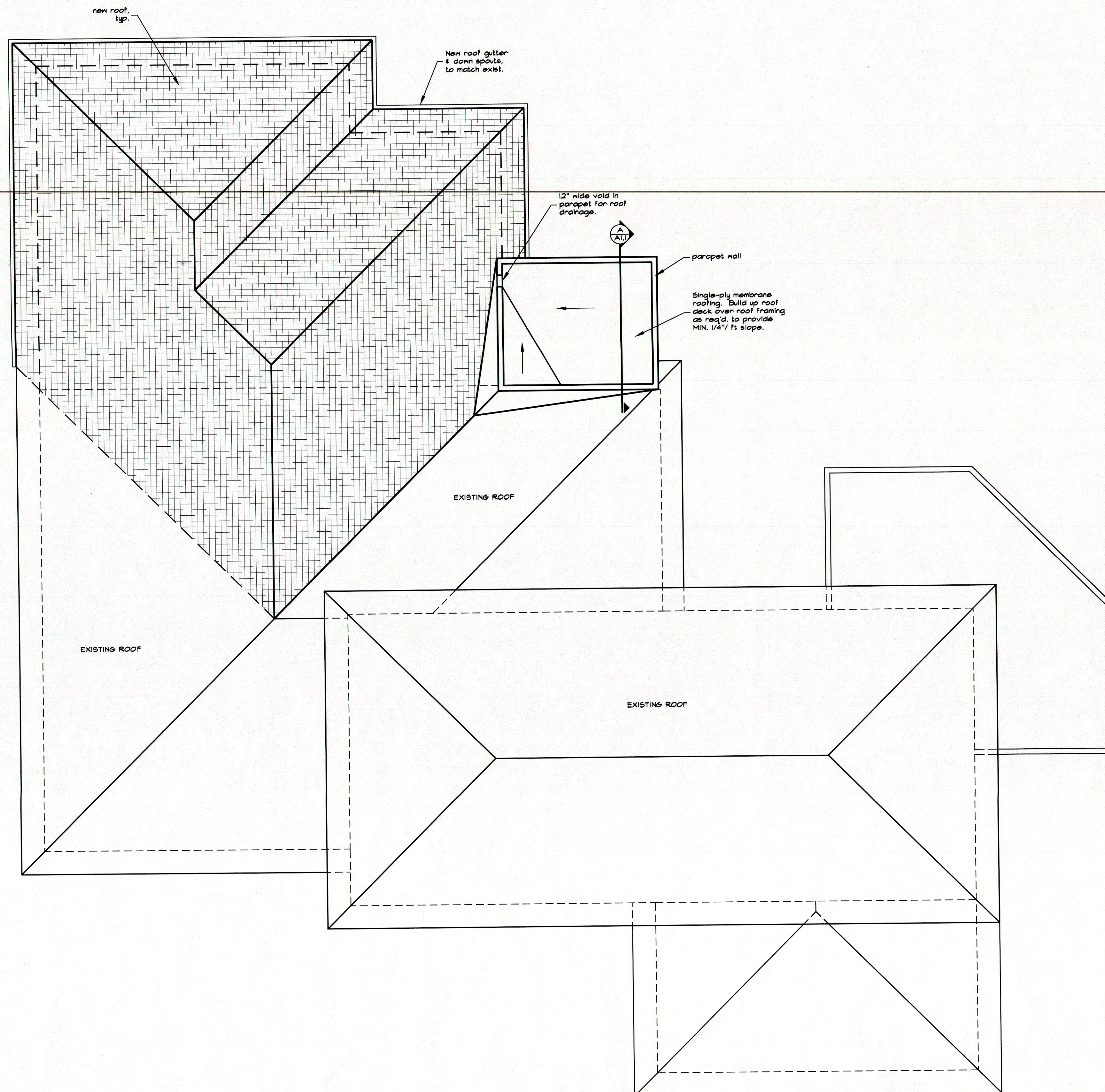


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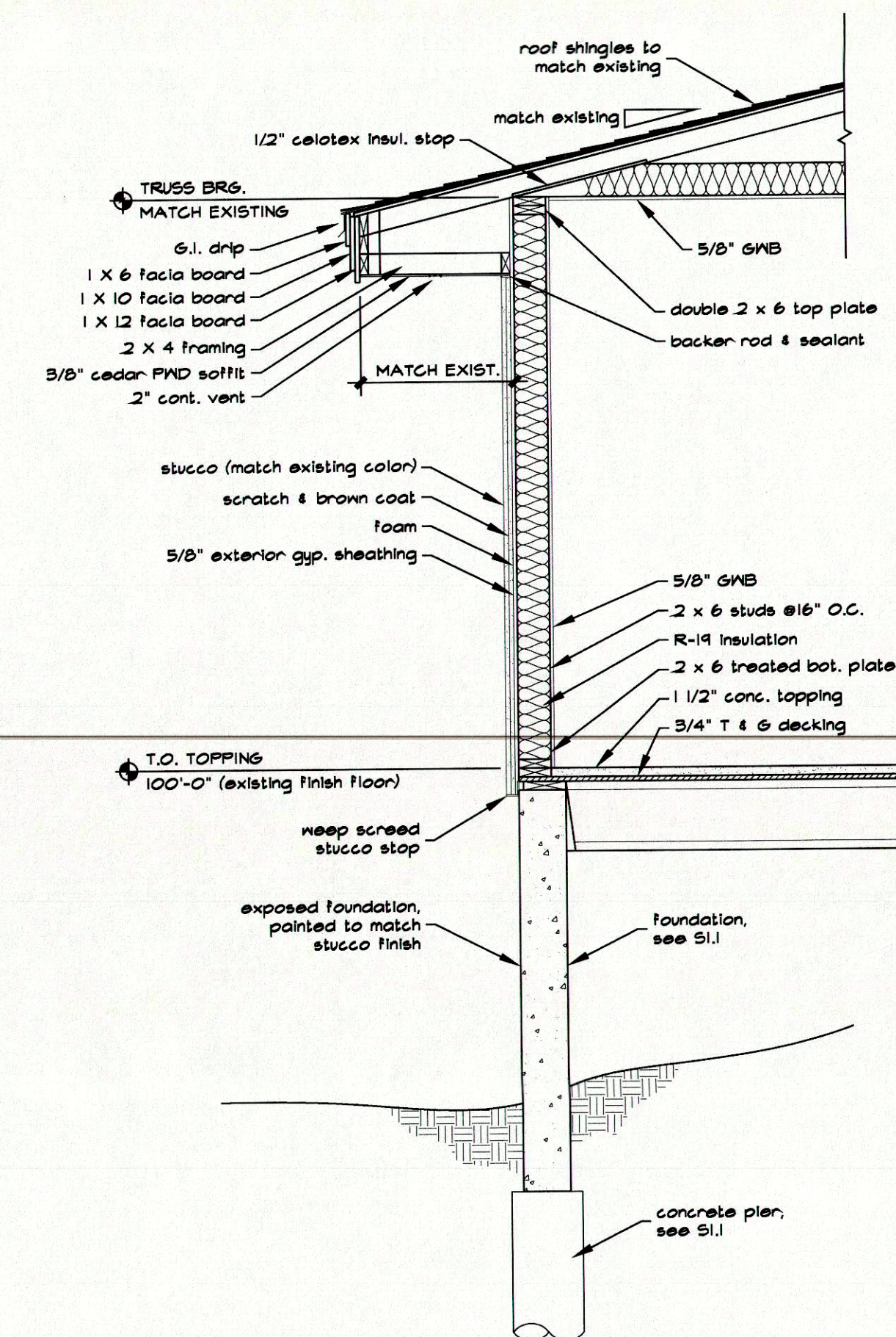
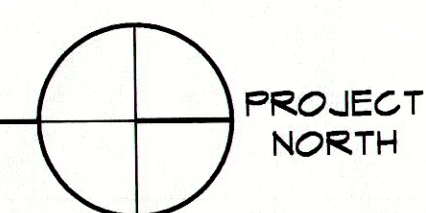
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issue date:
 September 22, 2006

A1.1



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



DETAIL MATCHES ORIGINAL SOFFIT DETAIL.
ALL WORK TO MATCH EXISTING.
1 TYPICAL WALL SECTION
1/2" = 1'-0"

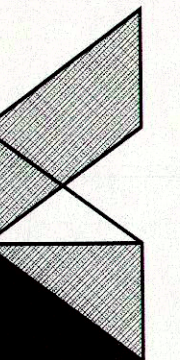
VISITORS CENTER ADDITION

740 HORIZON DRIVE & I-70
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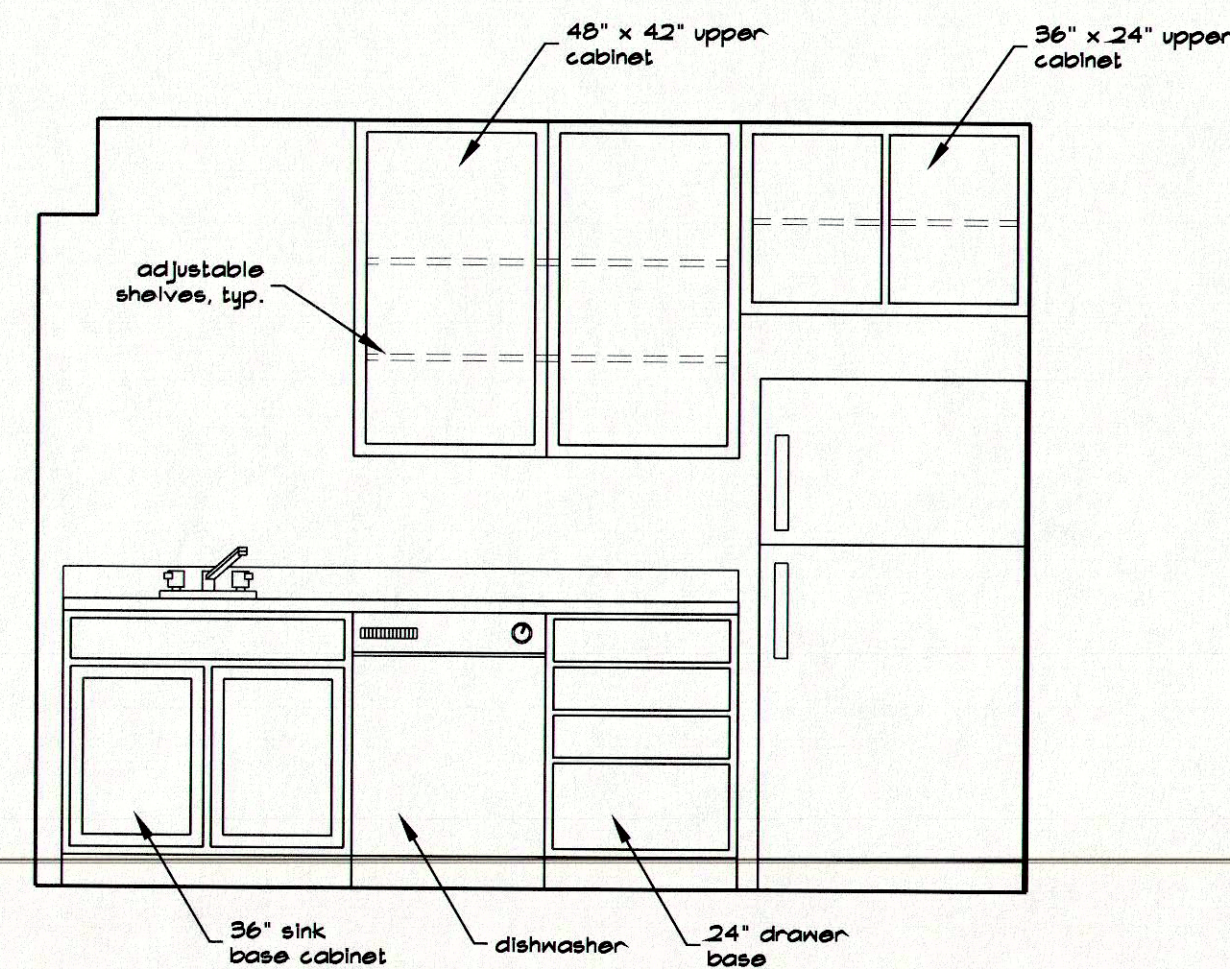
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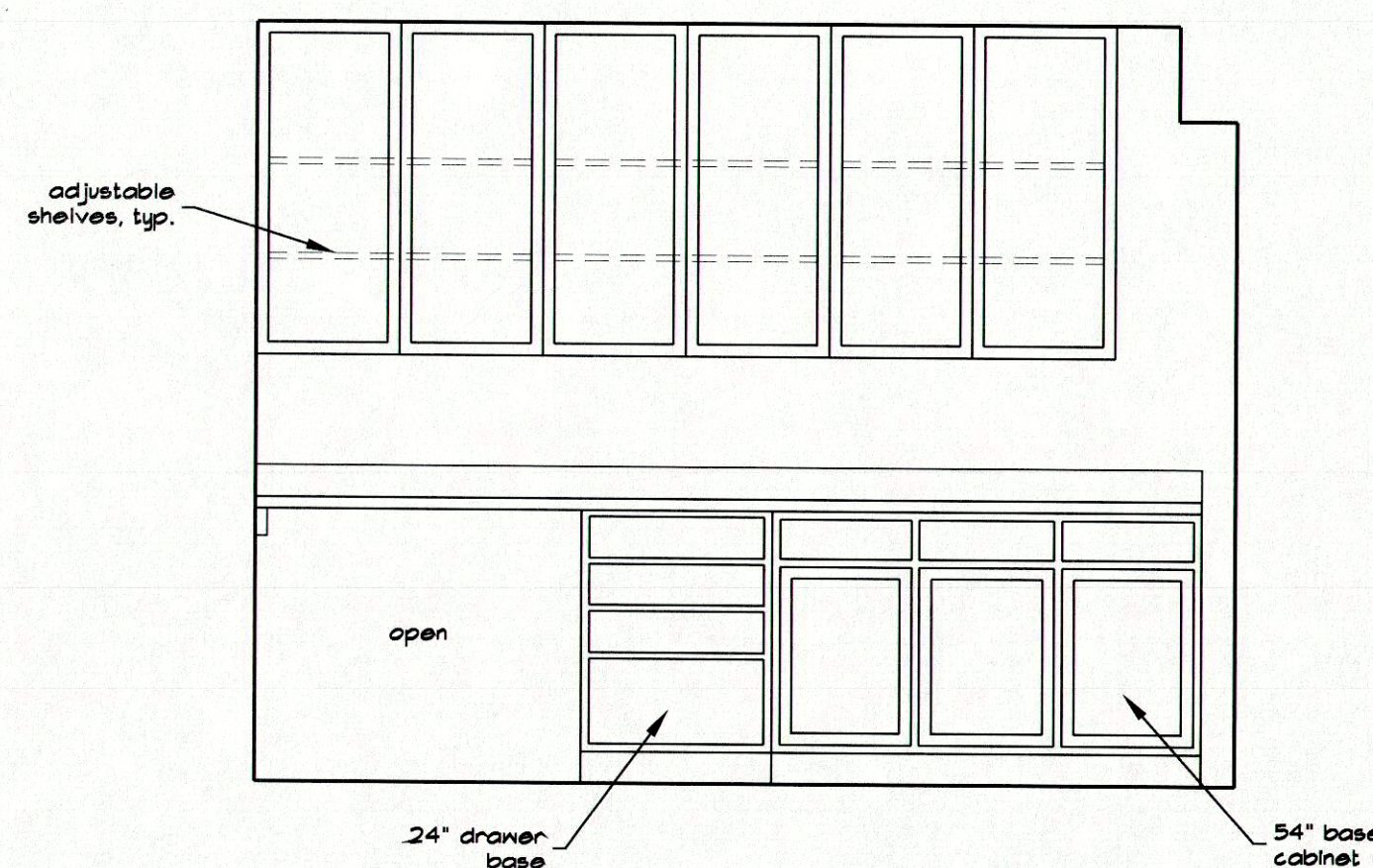


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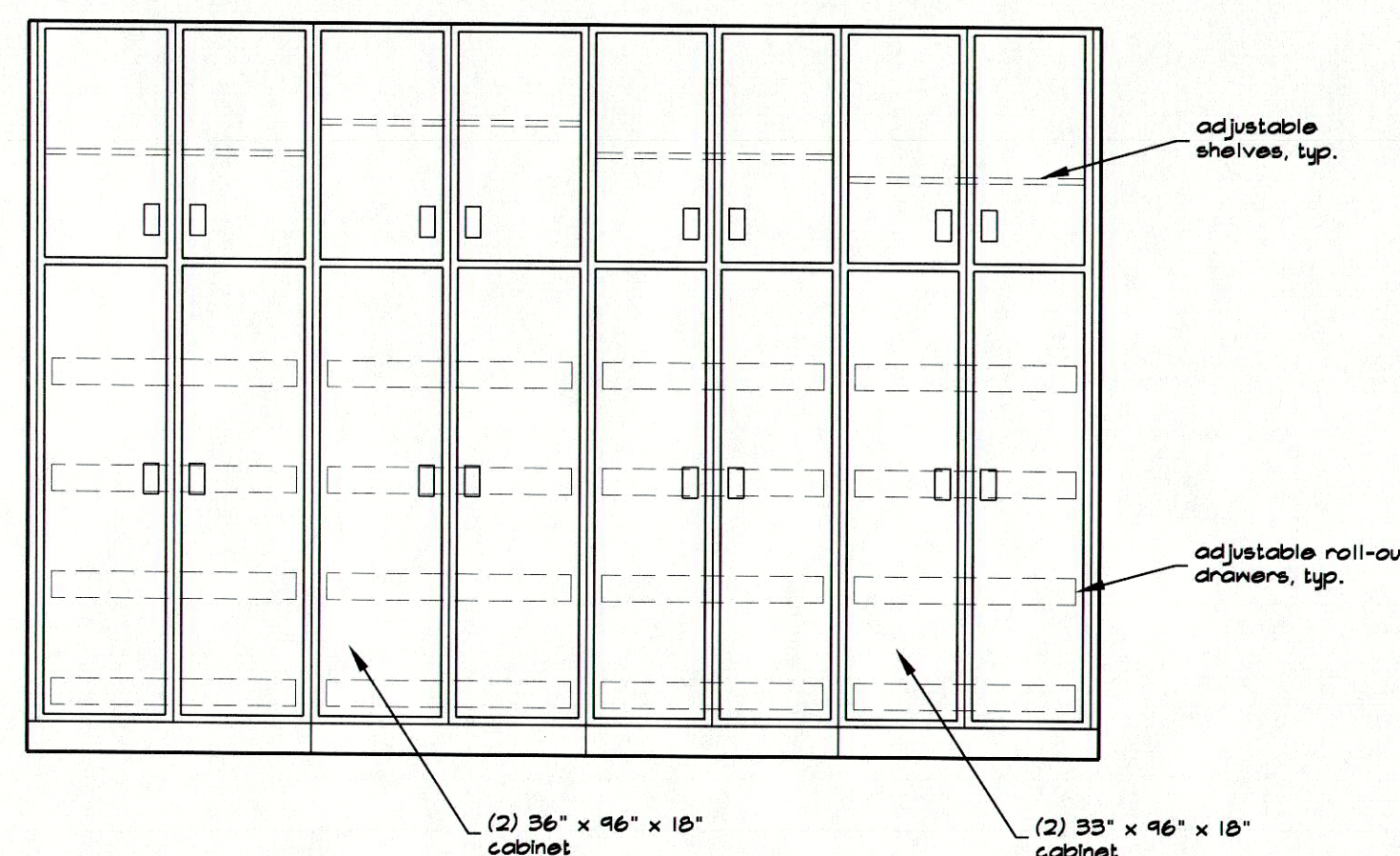
Revision/Date



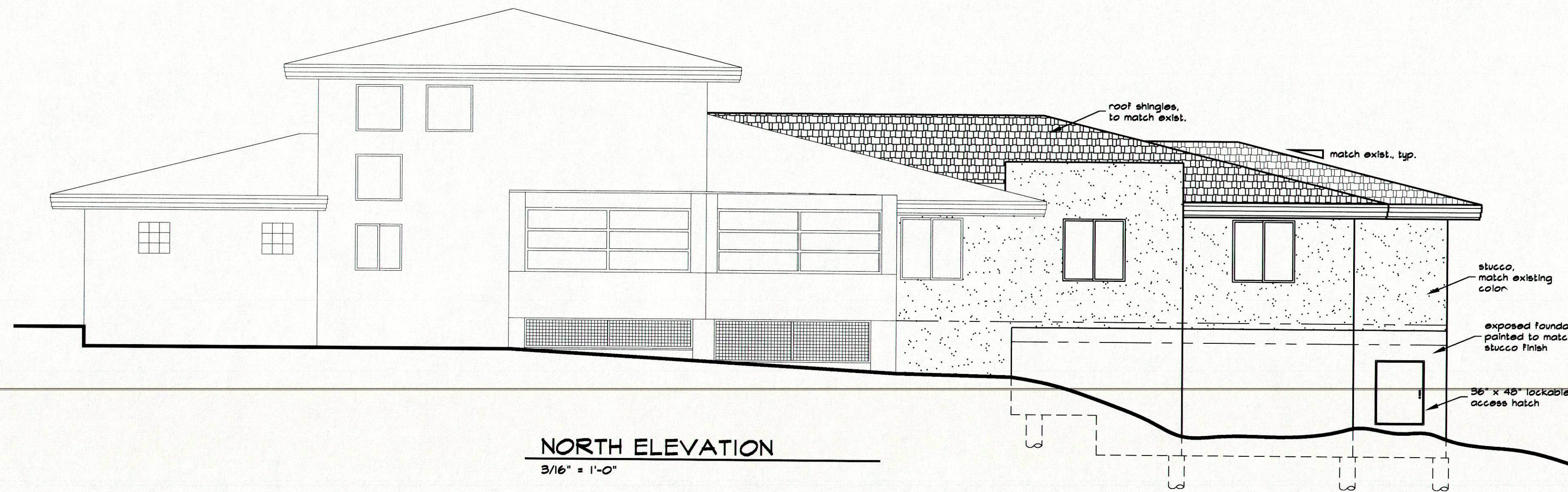
1 BREAK ROOM CABINET
ELEVATION
1/2" = 1'-0"



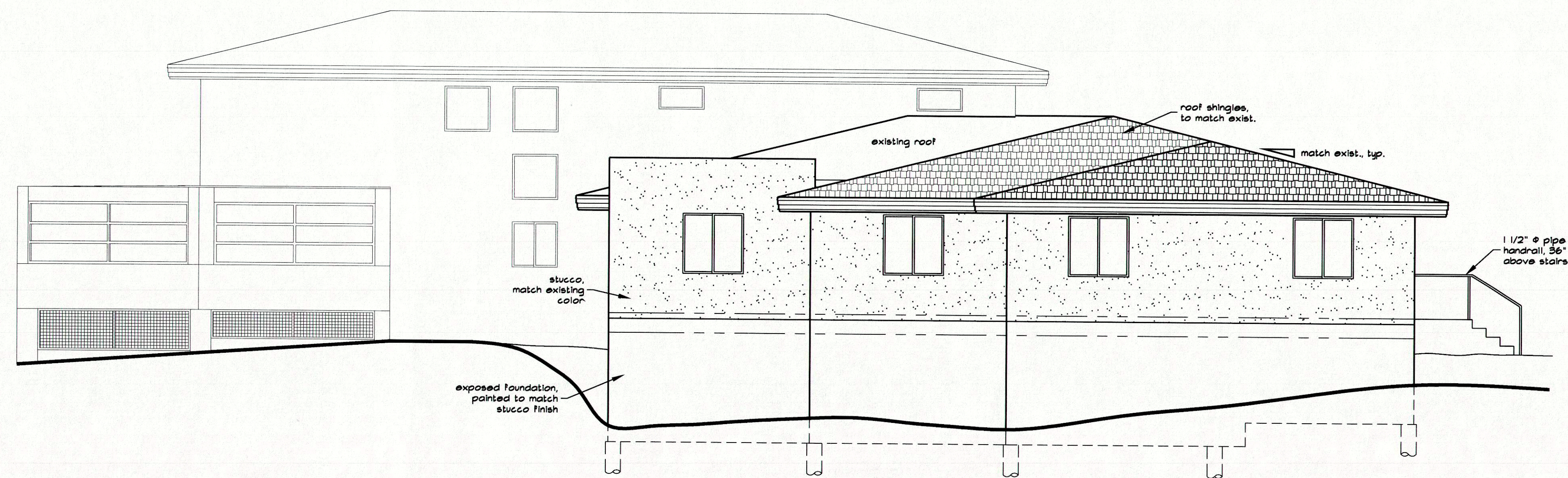
2 BREAK ROOM CABINET
ELEVATION
1/2" = 1'-0"



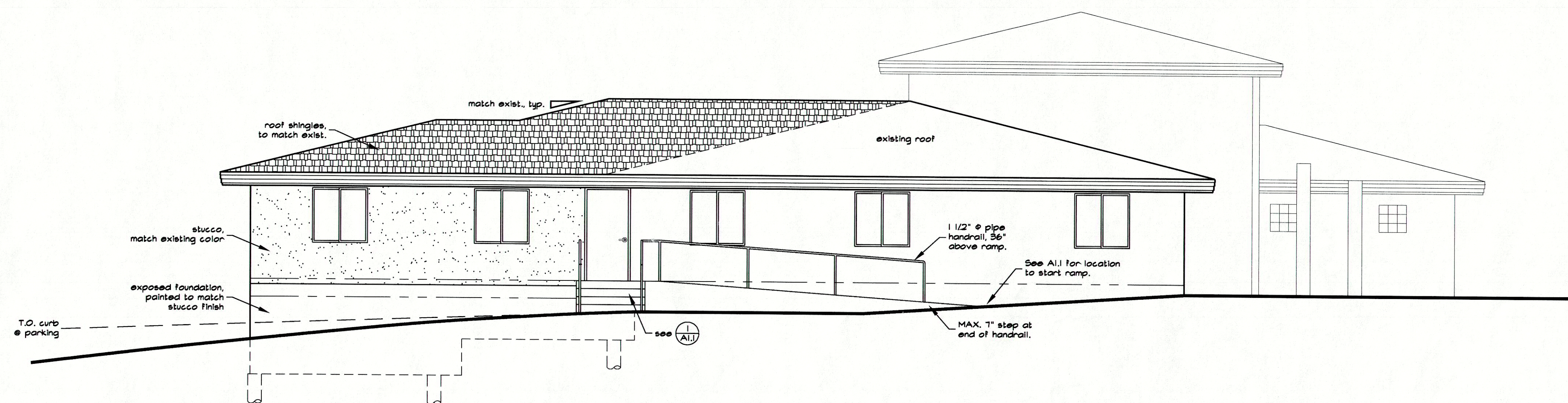
3 WORK ROOM CABINET
ELEVATION
1/2" = 1'-0"



NORTH ELEVATION
3/16" = 1'-0"



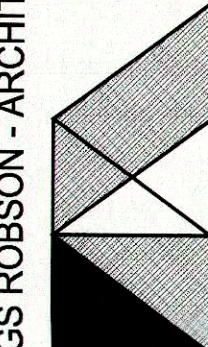
WEST ELEVATION
3/16" = 1'-0"



SOUTH ELEVATION
3/16" = 1'-0"

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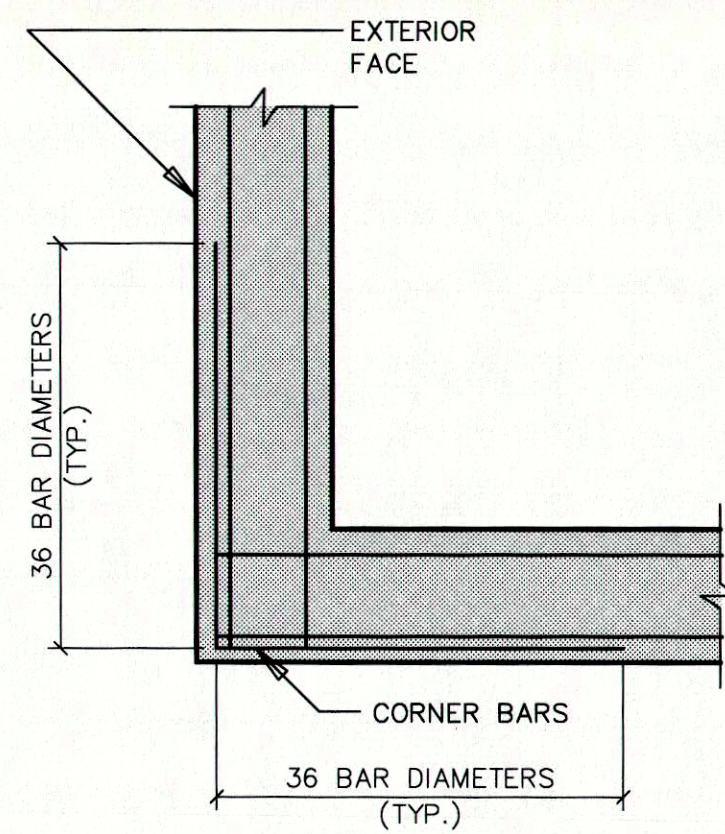


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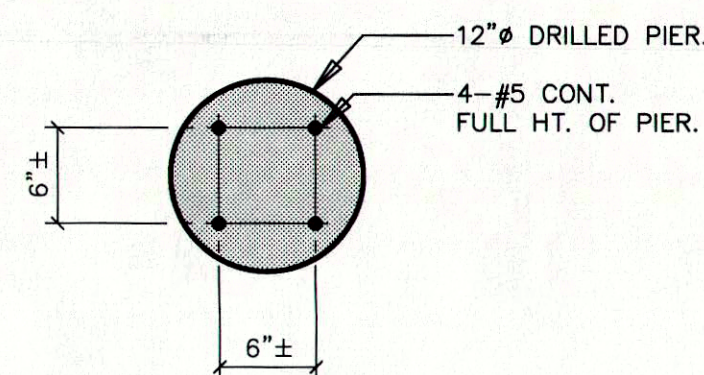
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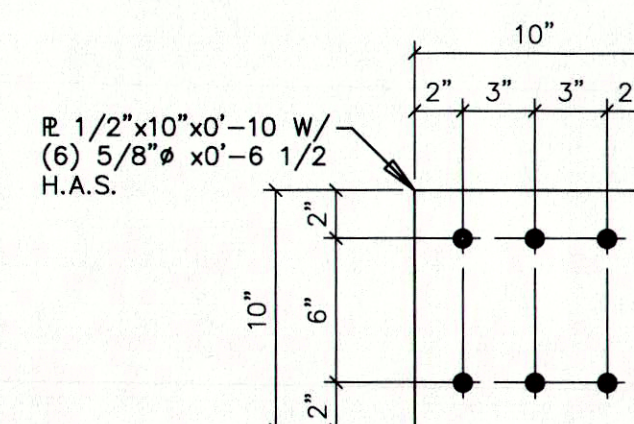


TYPICAL CORNER DETAILS 1"=1'-0

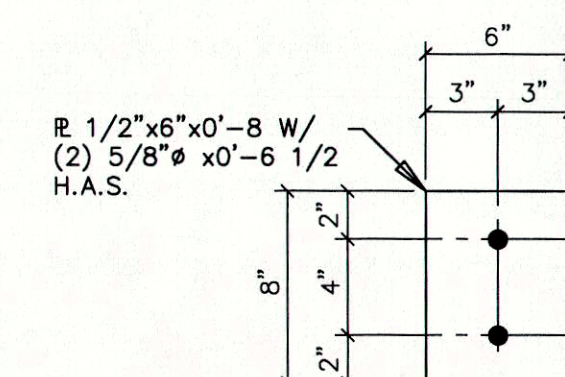


TYPICAL DRILLED PIER 1"=1'-0

ABBREVIATIONS					
A.B.	ANCHOR BOLT	F.O.B.	FACE OF BRICK	P.T.	PRESSURE TREATED
ADD'L	ADDITIONAL	F.O.CONC.	FACE OF CONCRETE	R.	RADIUS
ADJ.	ADJACENT	F.S.W.	FACE OF WALL	REINF.	REINFORCEMENT
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FS.	FLAT SLAB	REQ'D.	REQUIRED
ALT.	ALTERNATE	FT.	FOOT	RM.	ROOM
ARCH.	ARCHITECTURAL	FTG.	FOOTING	SCHED.	SCHEDULE
A.S.T.M.	AMERICAN SOCIETY FOR TESTING & MATERIALS	F.W.	FILLET WELD	SECT.	SECTION
BLDG.	BUILDING	GA.	GAUGE	SHT.	SHEET
BM.	BEAM	GAL.	GALVANIZED	SIM.	SIMILAR
B.O.	BOTTOM OF	G.L.	GLU-LAM BEAM	s.l.	SNOW LOAD
BOT.	BOTTOM	GR.	GRADE	S.L.V.	SHORT LEG VERTICAL
BSMT.	BASEMENT	GR. BM.	GRADE BEAM	SPC.	SPACE
BTWN.	BETWEEN	H.A.S.	HEADED ANCHOR STUD	SPEC.	SPECIFICATION
CANT.	CANTILEVER	HORIZ.	HORIZONTAL	SQ.	SQUARE
CB.	CORNER BAR	H.S.B.	HIGH STRENGTH BOLT	STD.	STANDARD
CH.	CHAMFER	H.S.S.	HOLLOW STRUCTURAL SECTION	STIFF.	STIFFENER
C.J.	CONTROL/CONSTRUCTION JOINT	I.D.	INSIDE DIAMETER	STL.	STEEL
CLR.	CLEAR, CLEARANCE	I.F.	INSIDE FACE	STOR.	STORAGE
C.M.U.	CONCRETE MASONRY UNIT	IN.	INCH	SYM.	SYMMETRICAL
COL.	COLUMN	INT.	INTERIOR	T.&B.	TOP AND BOTTOM
CONC.	CONCRETE	JNT.	JOINT	THK.	THICKNESS
CONN.	CONNECTION	K.C.I.	KIP PER CUBIC INCH	T.O.	TOP OF
CONST.	CONSTRUCTION	LB.	POUND	TYP.	TYPICAL
CONT.	CONTINUOUS	LIN. FT.	LINEAL FEET	U.N.O.	UNLESS NOTED OTHERWISE
CONTR.	CONTRACTOR	I.I.	LIVE LOAD	VAR.	VARIABLE
CTRD.	CENTERED	L.L.V.	LONG LEG VERTICAL	VERT.	VERTICAL
DET.	DETAIL	L.S.L.	LAMINATED STRAND LUMBER	V.I.F.	VERIFY IN FIELD
DIAG.	DIAGONAL	L.V.L.	LAMINATED VENEER LUMBER	WT.	WEIGHT
DIAM.	DIAMETER	MAT'L.	MATERIAL		
DISCONT.	DISCONTINUOUS	MAX.	MAXIMUM		
d.i.	DEAD LOAD	MECH.	MECHANICAL		
DWG.	DRAWING	MID.	MIDDLE		
E.A.	EACH	MIN.	MINIMUM	CL	CENTER LINE
E.F.	EACH FACE	MISC.	MISCELLANEOUS	Ø	DIAMETER
EL.	ELEVATION	MTL.	METAL	⊕	ELEVATION
ELECT.	ELECTRICAL	N.I.C.	NOT IN CONTRACT	⊗	AND
ELEV.	ELEVATOR	NO.	NUMBER	W/	WITH
EQ.	EQUAL	NOM.	NOMINAL	PL	PLATE
E.W.B.	END WALL BARS	N.T.S.	NOT TO SCALE	X	BY
E.W.	EACH WAY	O.C.	ON CENTER	#	NUMBER
EXIST.	EXISTING	O.D.	OUTSIDE DIAMETER	⊙	AT
EXP. JNT.	EXPANSION JOINT	O.H.	OPPOSITE HAND	⊞	SQUARE
EXT.	EXTERIOR	OPNG.	OPENING	⊟	ANGLE
FDN.	FOUNDATION	P.A.F.	POWDER ACTUATED FASTENERS		
FIN.	FINISH	P.	POUND		
FLR.	FLOOR	P.S.F.	POUND PER SQUARE FOOT		
		P.S.I.	POUND PER SQUARE INCH		
		P.S.L.	PARALLEL STRAND LUMBER		

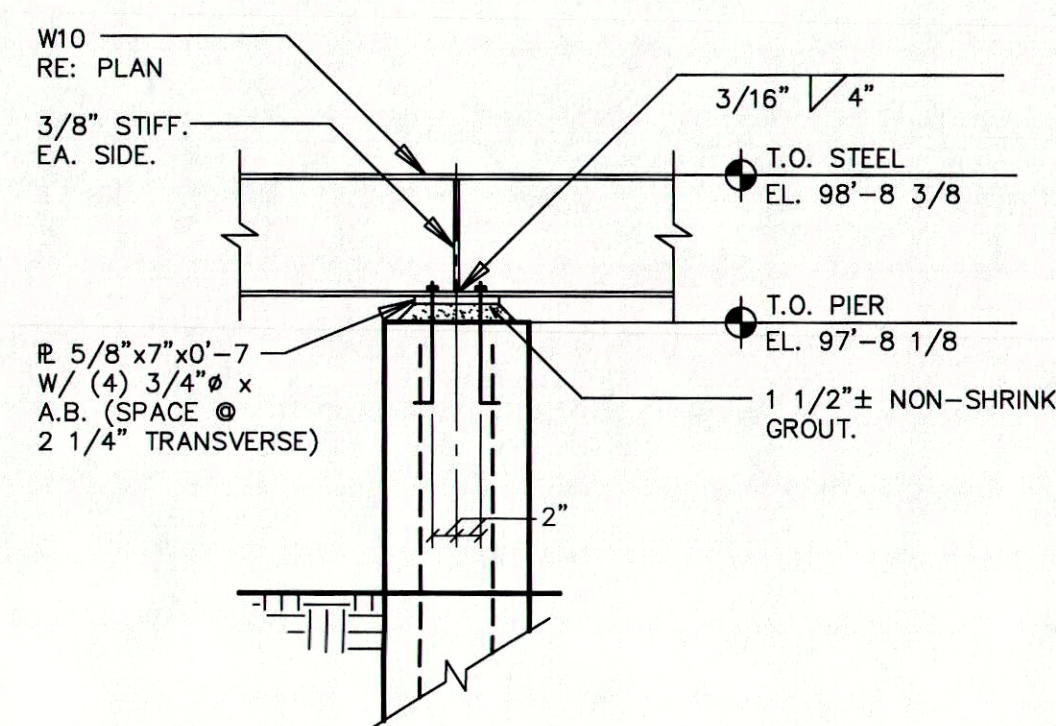


P-1

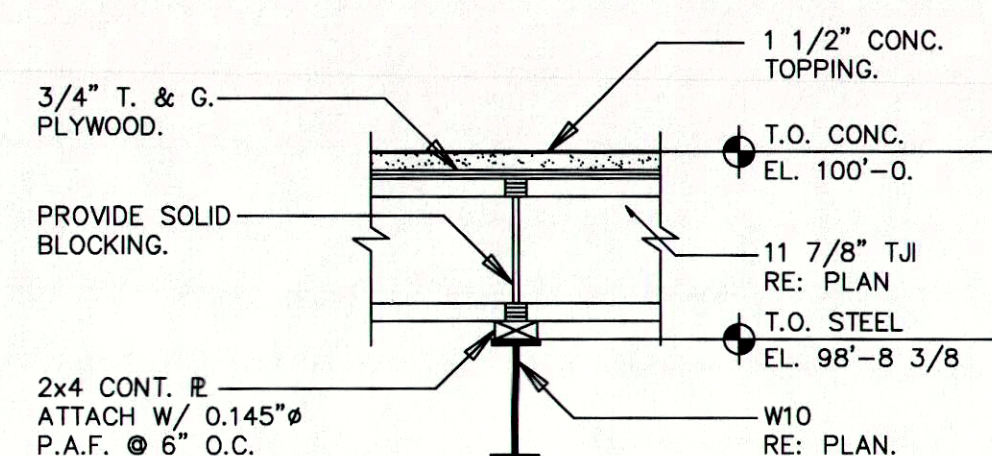


P-2

TYPICAL EMBED PLATE DETAILS 1 1/2"=1'-0



SECTION 10 3/4"=1'-0



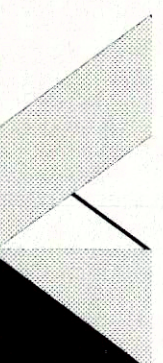
SECTION 11 3/4"=1'-0

GENERAL NOTES

- LIVE LOADS USED IN DESIGN:
 - ROOF (SNOW) ----- 30 PSF
 - FLOORS, OFFICE ----- 50 PSF+20 PSF PARTITION
 - WIND
 - EXPOSURE ----- C
 - BUILDING CATEGORY ----- 1
 - IMPORTANCE FACTOR (I_w) ----- 1.0
 - V_{se} ----- 90 mph
 - V_{sm} ----- 75 mph
- SEISMIC
 - SEISMIC USE GROUP ----- 1
 - IMPORTANCE FACTOR ----- 1.0
 - R COEFFICIENT ----- 2
 - SPECTRAL RESPONSE COEFFICIENTS
 - S_{os} ----- 0.296
 - S_{o1} ----- 0.094
 - C ----- C
 - SITE CLASS -----
 - BASIC SEISMIC
 - FORCE RESISTING SYSTEM ----- LIGHT FRAME WALLS WITH SHEAR PANELS
 - DESIGN BASE SHEAR ----- 5k
 - ANALYSIS PROCEDURE ----- SIMPLIFIED ANALYSIS PROCEDURE
- CONCRETE:
 - ALL CONCRETE SHALL DEVELOP 3,000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
 - ALL REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT DOWELS TO SLABS ON GRADE MAY BE GRADE 40.
 - NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE A MINIMUM OF 36 BAR DIAMETERS. MAKE ALL BARS CONTINUOUS AROUND CORNERS.
 - CONTINUOUS BARS IN GRADE BEAMS SHALL BE SPLICED AS FOLLOWS: TOP BARS AT MIDSPAN; BOTTOM BARS OVER SUPPORTS.
 - DETAIL BARS IN ACCORDANCE WITH A.C.I. DETAILING MANUAL AND A.C.I. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, LATEST EDITIONS.
 - PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE DRAWINGS.
 - PLACE 2-#5 (ONE EACH FACE) WITH 2'-0 PROJECTION AROUND ALL OPENINGS IN CONCRETE UNLESS OTHERWISE SHOWN OR NOTED.
- WOOD:
 - ALL JOISTS, BEAMS AND HEADERS 2 TO 4 INCHES WIDE SHALL BE HEM FIR NO. 2 AND BETTER WITH F_b = 850 PSI AND E = 1,300,000 PSI.
 - ALL JOISTS, BEAMS AND HEADERS 5 INCHES AND WIDER SHALL BE HEM FIR NO. 2 AND BETTER WITH F_b = 1000 PSI AND E = 1,400,000 PSI.
 - STUDS AND PLATES SHALL BE HEM FIR IN STUD GRADE WITH F_b = 675 PSI AND E = 1,200,000 PSI.
 - "TRUS-JOISTS" SHALL BE DESIGNED, MANUFACTURED, AND ERECTED IN ACCORDANCE WITH MANUFACTURER'S STANDARD SPECIFICATIONS AND RECOMMENDATIONS.
 - MICRO-LAMS SHALL BE PROVIDED WITH F_b = 2,600 PSI AND E = 1,900,000 PSI.
- FOUNDATIONS:
 - FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS BY LINCOLN DEVORE, JOB # 77420. RECOMMENDATIONS IN THIS REPORT SHOULD BE FOLLOWED.
 - DRILLED PIERS:
 - MAXIMUM ALLOWABLE PIER END BEARING PRESSURE ----- 25,000 PSF
 - MAXIMUM PIER SIDE SHEAR IN BEDROCK ----- 1,800 PSF
 - MINIMUM PIER END BEARING DEAD LOAD ----- 5,000 PSF
 - MINIMUM PERIMETER UPLIFT IN BEDROCK ----- 270 PSF
 - SOILS ENGINEER SHALL BE PRESENT DURING PIER DRILLING TO VERIFY THAT BEARING STRATA HAS BEEN REACHED. PIERS TO BE DRILLED 5'-0 MINIMUM INTO BEDROCK AND HAVE A MINIMUM LENGTH OF 10'-0.
- ALL DIMENSIONS ON STRUCTURAL DRAWINGS TO BE CHECKED AGAINST ARCHITECTURAL. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION.

REVISION/DATE

GS ROBSON - ARCHITECTURE, INC.



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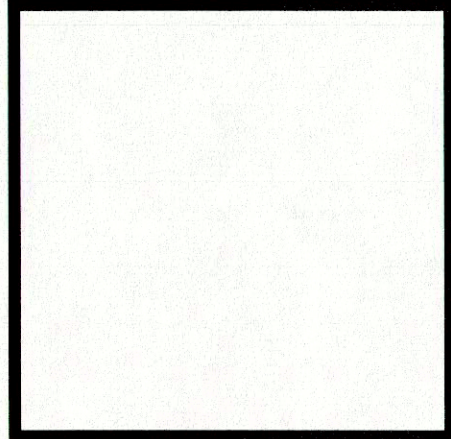
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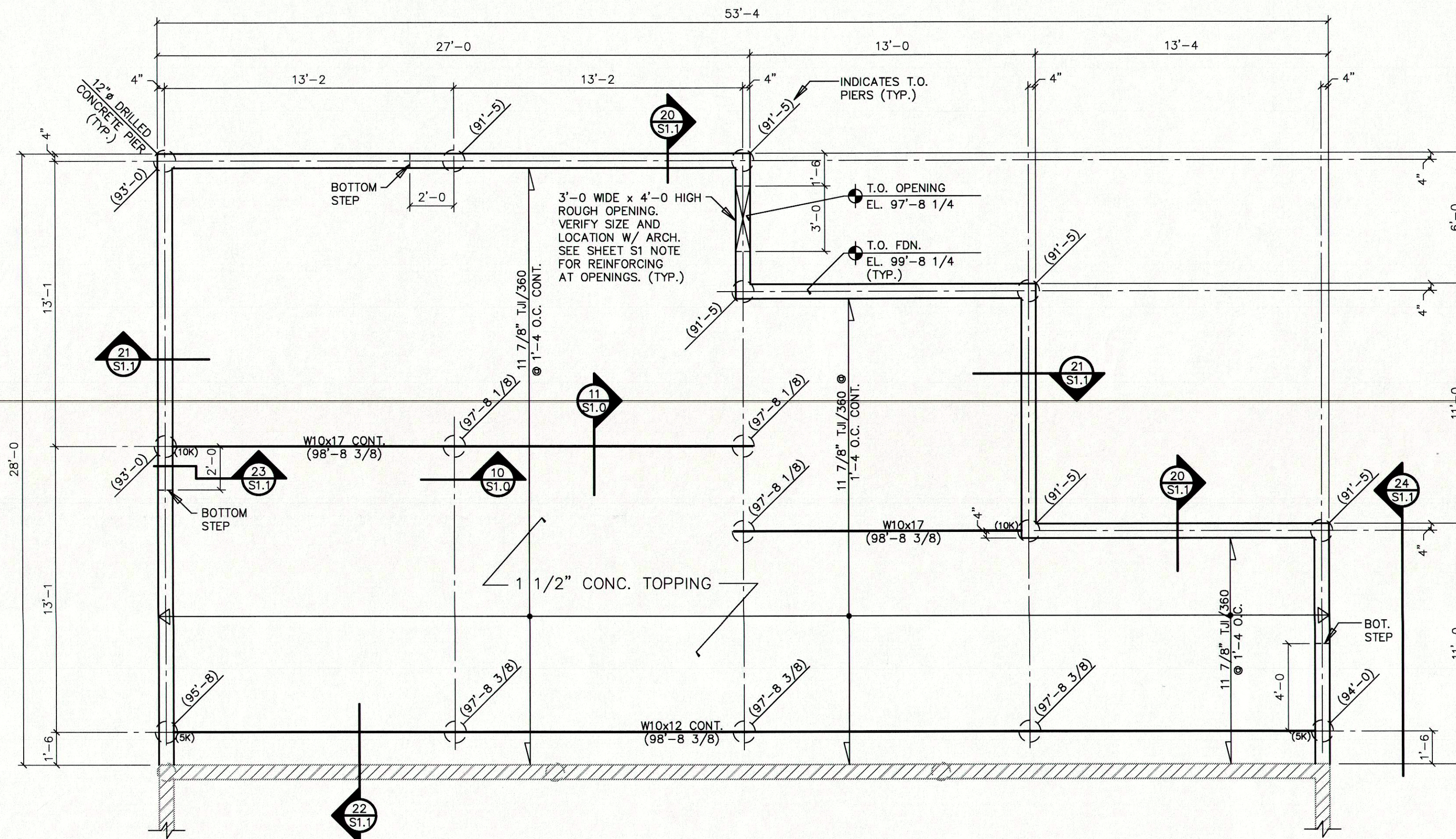
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740 HORIZON DRIVE & I-70

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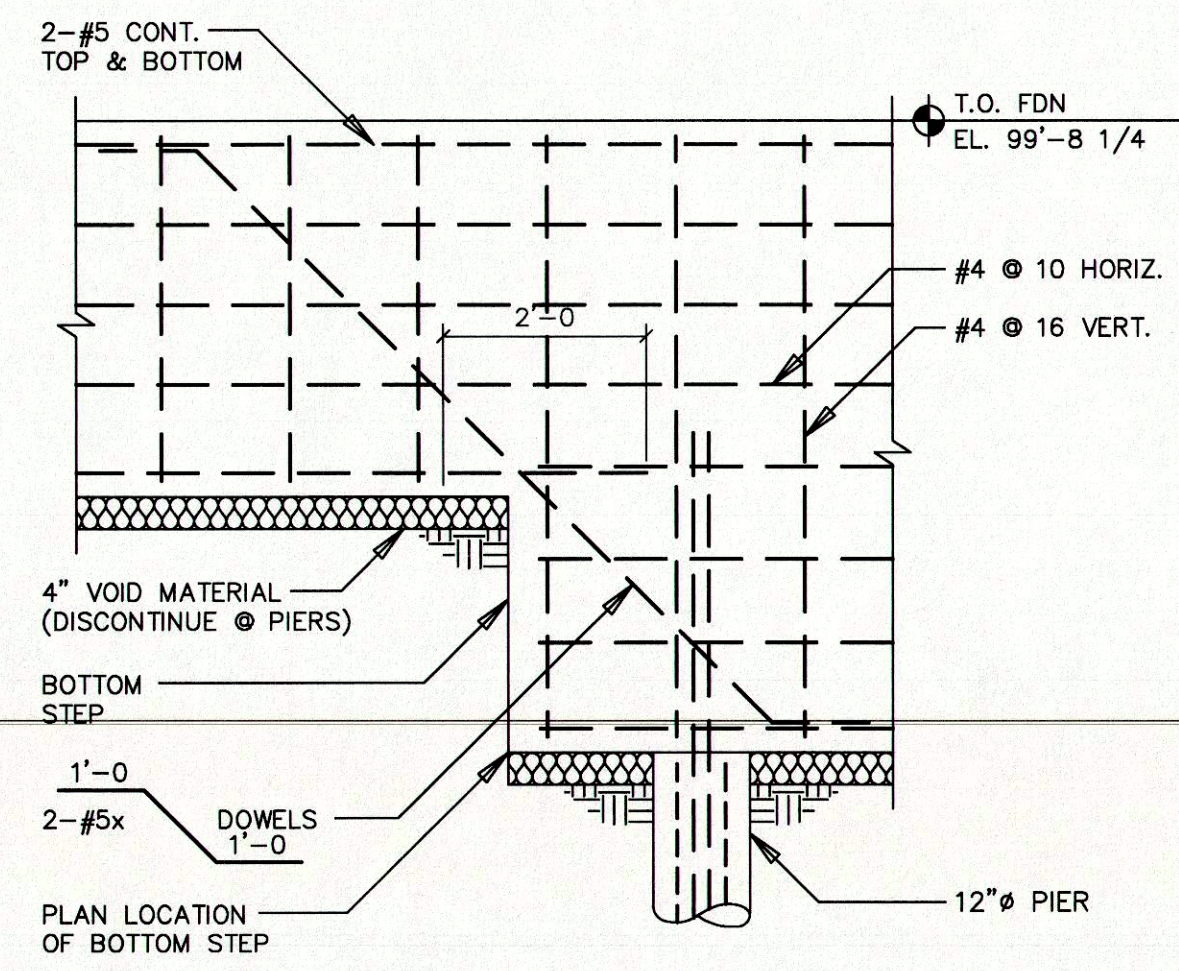
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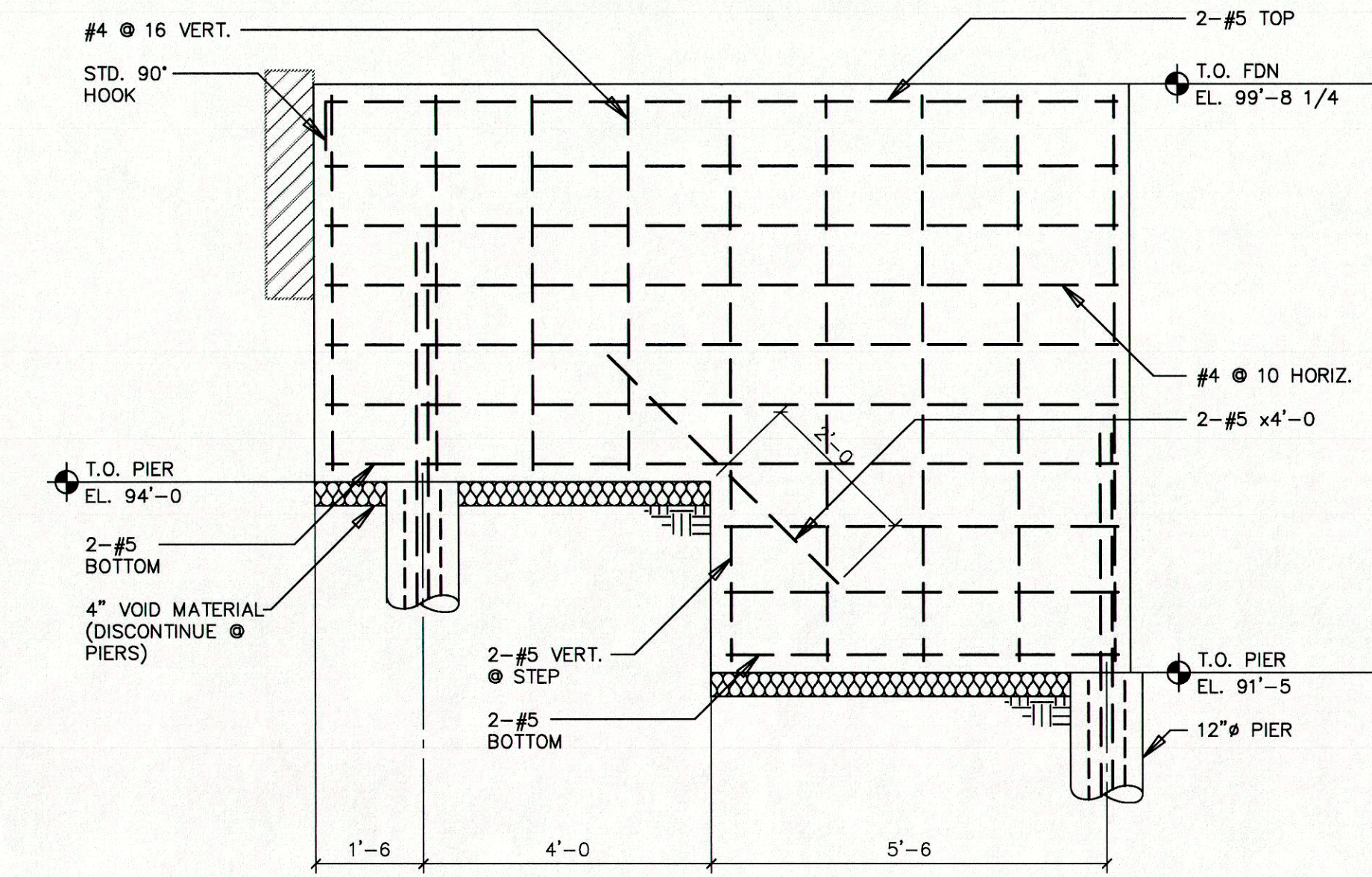


FOUNDATION PLAN 1/4"=1'-0"

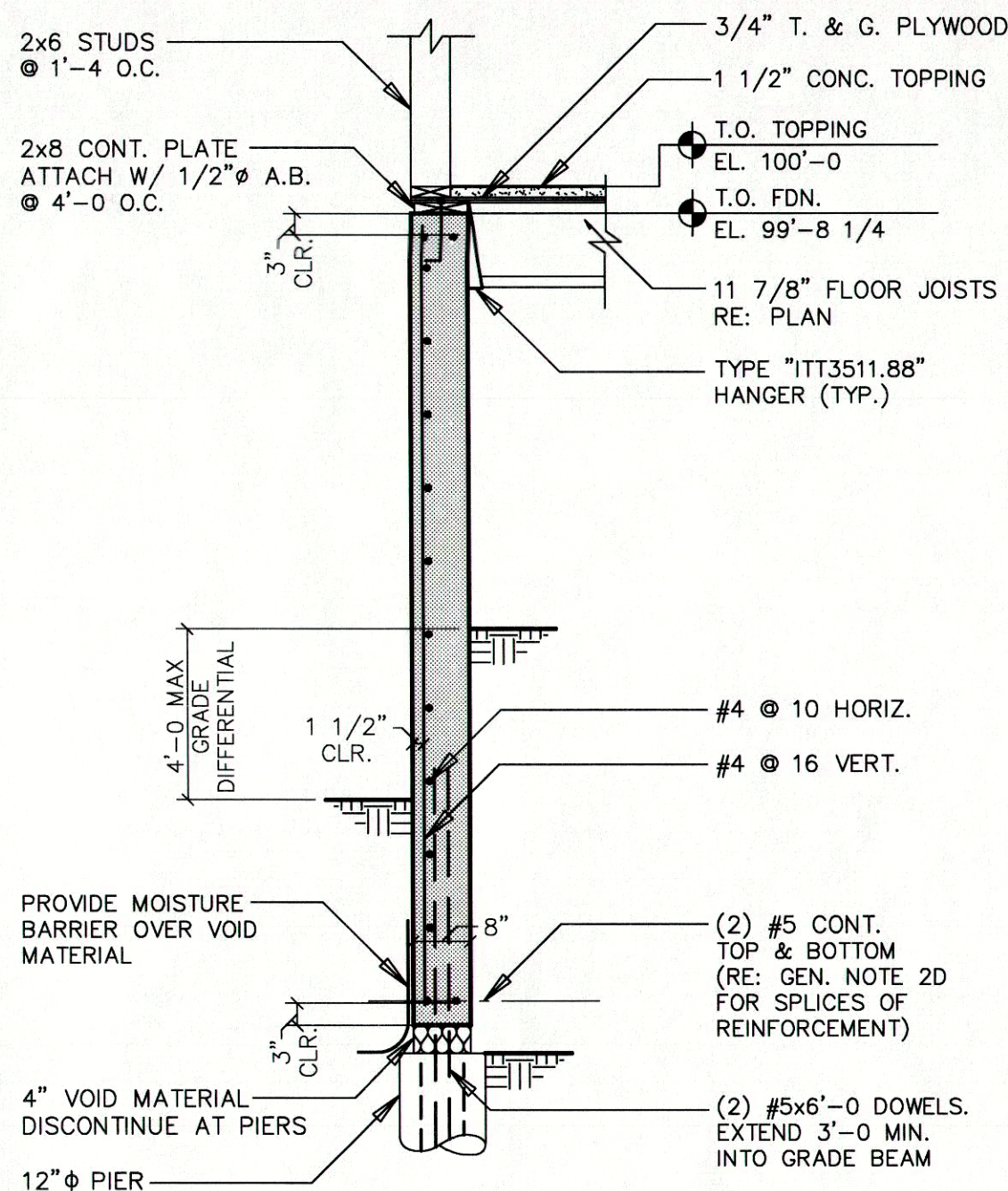
1. T.O. CONC. TOPPING EL. 100'-0."
2. T.O. STEEL EL. NOTED THUS: (XXX'-XX)."



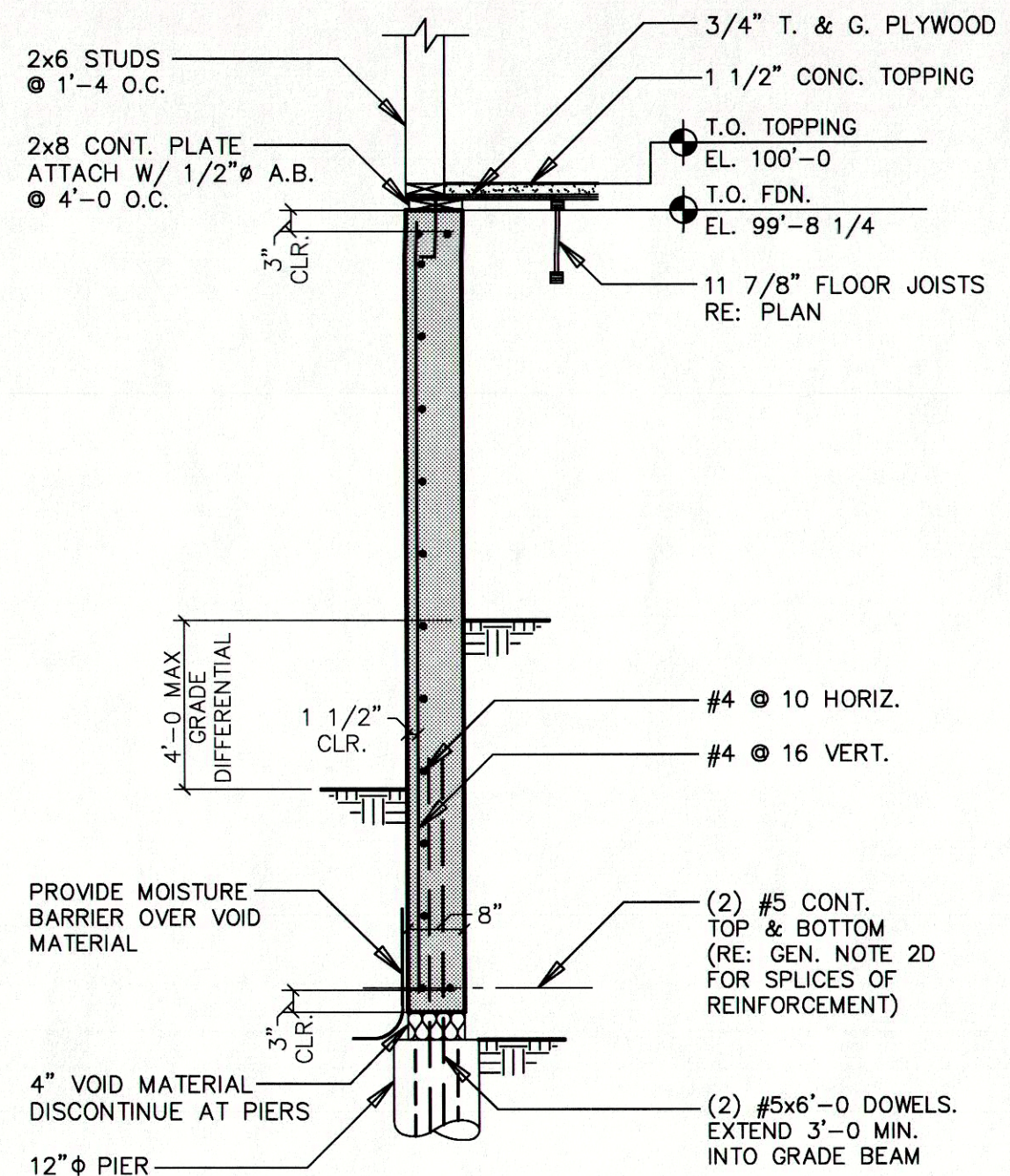
TYPICAL STEP DETAIL NO SCALE



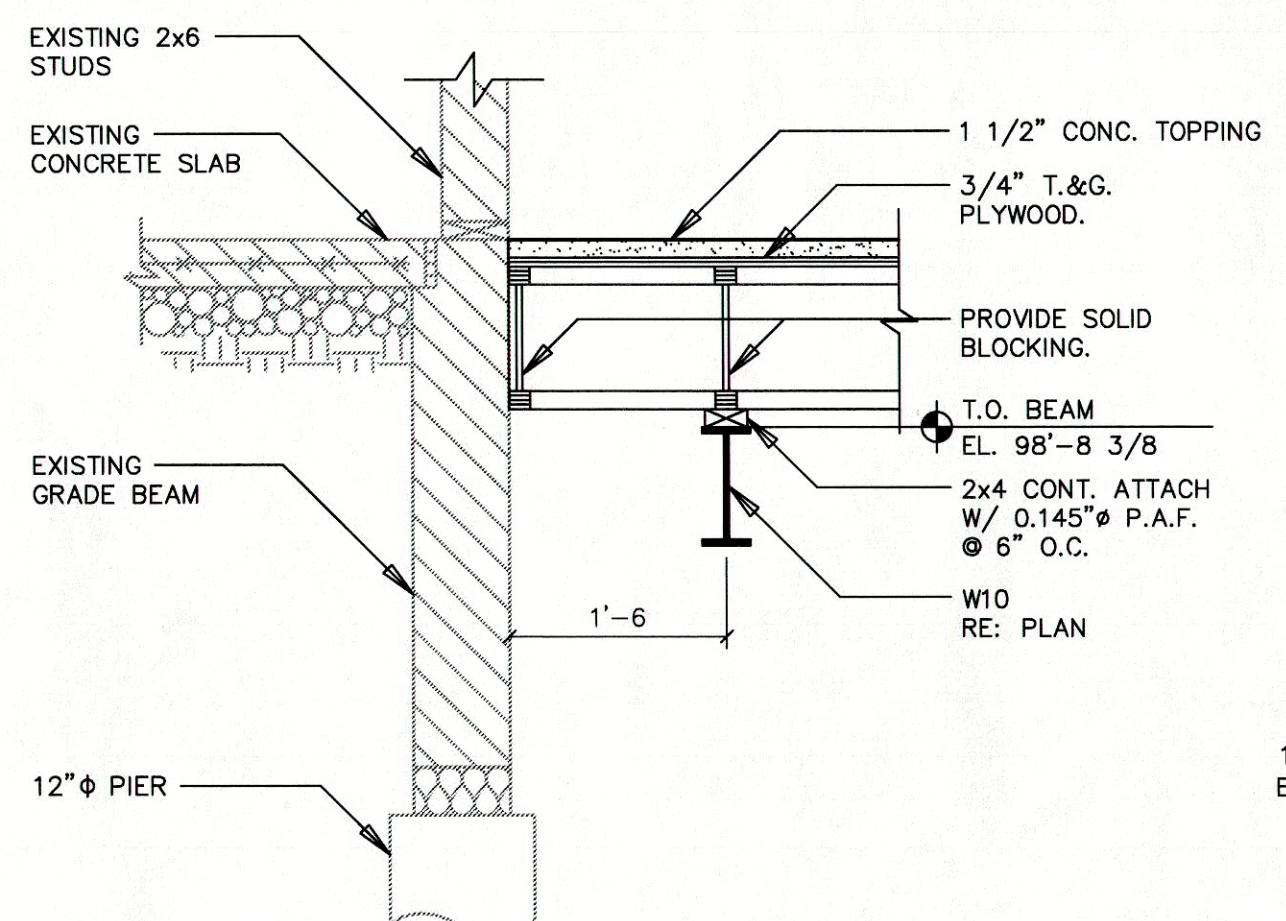
SECTION 24 1/2"=1'-0"



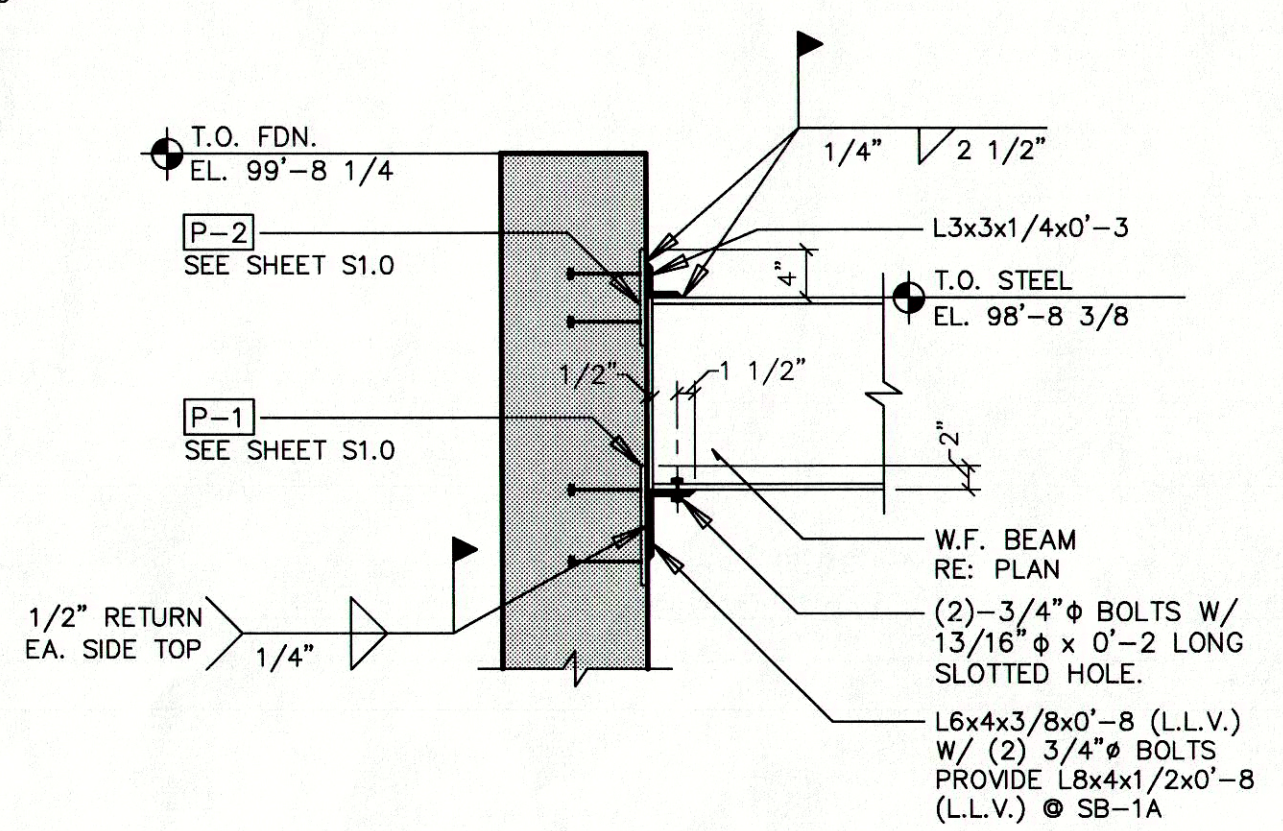
SECTION 20 1/2"=1'-0"



SECTION 21 1/2"=1'-0"



SECTION 22 3/4"=1'-0"

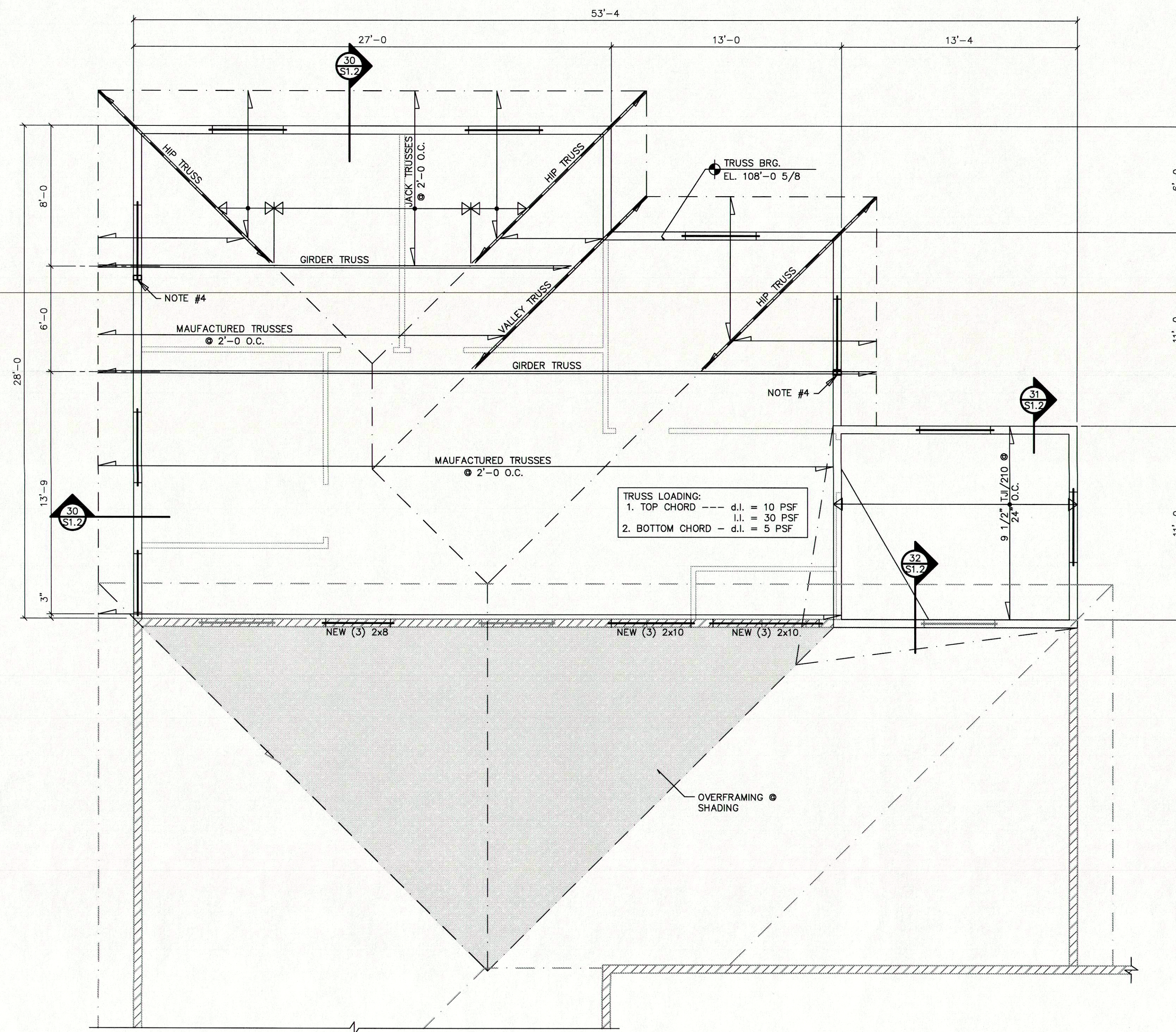


SECTION 23 3/4"=1'-0"

OCCURS @ (4) PLACES

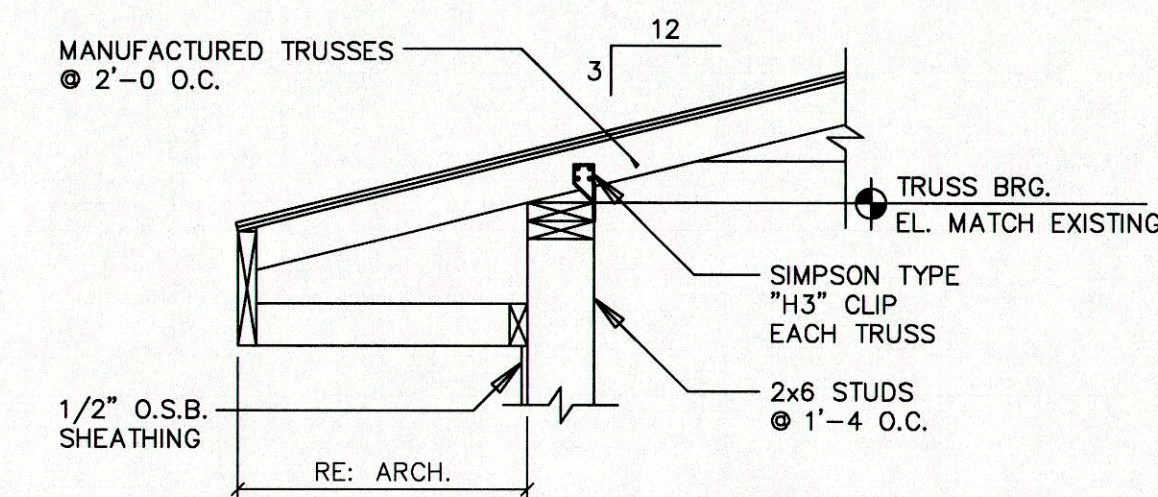
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STRUCTURAL ENGINEERS

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FAX: 970-243-2430
www.lindauerdunn.com

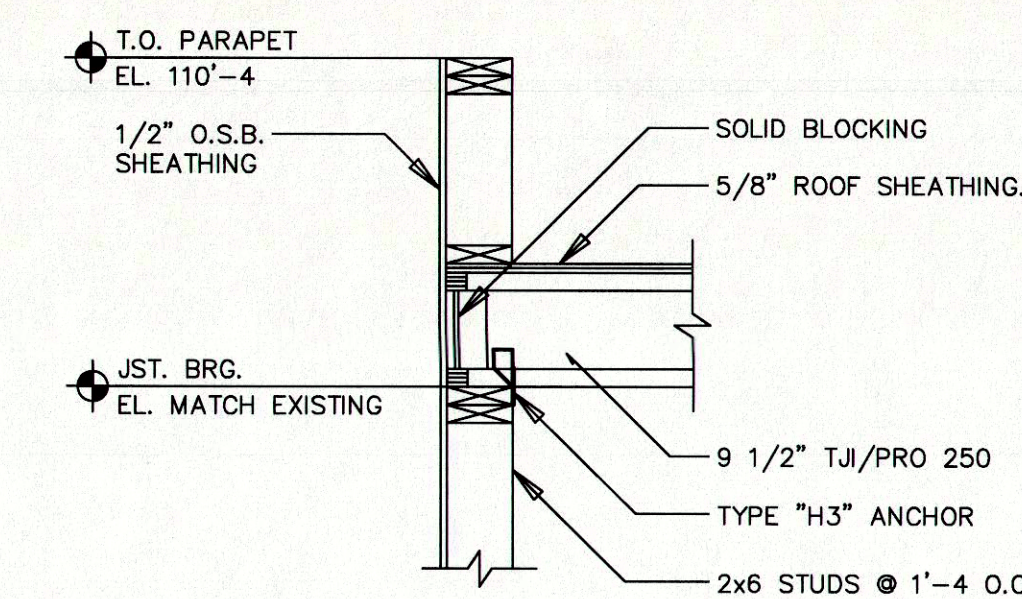


ROOF FRAMING PLAN 1/4"=1'-0

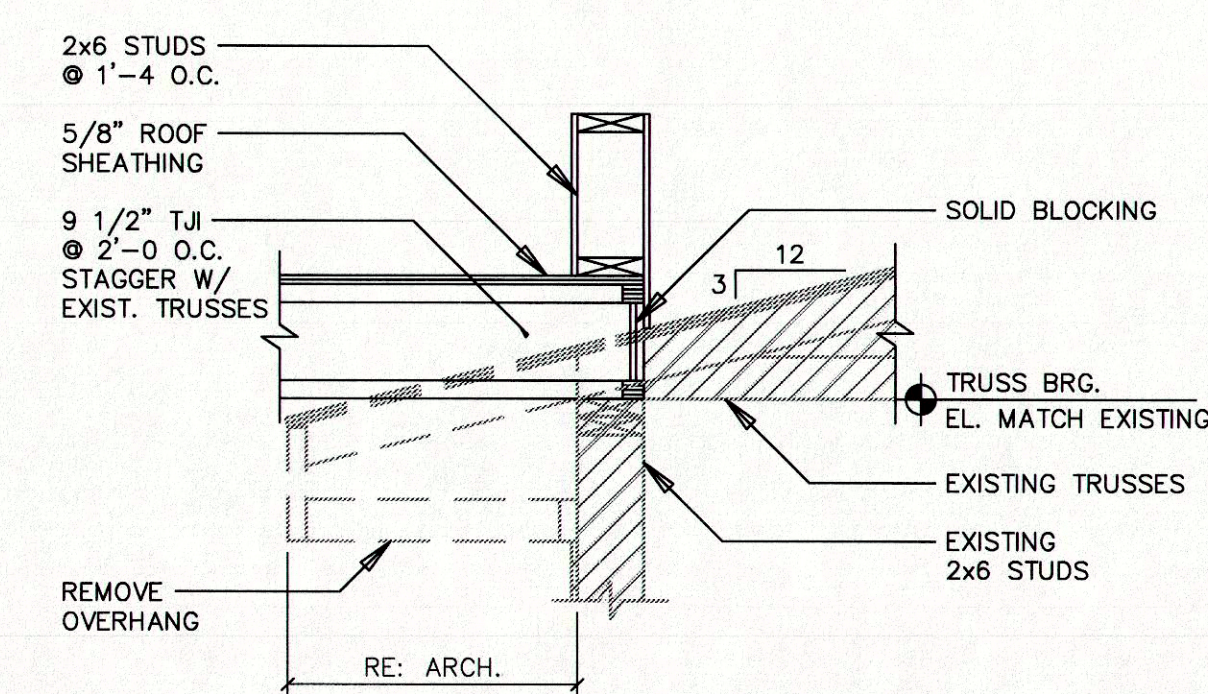
1. ALL EXTERIOR WINDOW HEADERS HEADERS SHALL BE (3) 2x10 (TYP. U.N.O.).
2. TRUSS MANUFACTURER TO DESIGN AND PROVIDE ALL HANGER HARDWARE.
3. BEAR ALL GIRDER TRUSSES ON (1) STUD PER TRUSS PLY.
4. BEAR ON (2) 2x6 STUDS.



SECTION 30 3/4"=1'-0



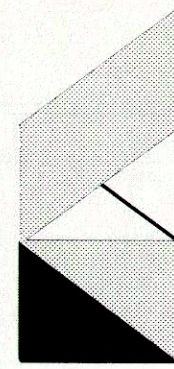
SECTION 31 3/4"=1'-0



SECTION 32 3/4"=1'-0

REVISION/DATE

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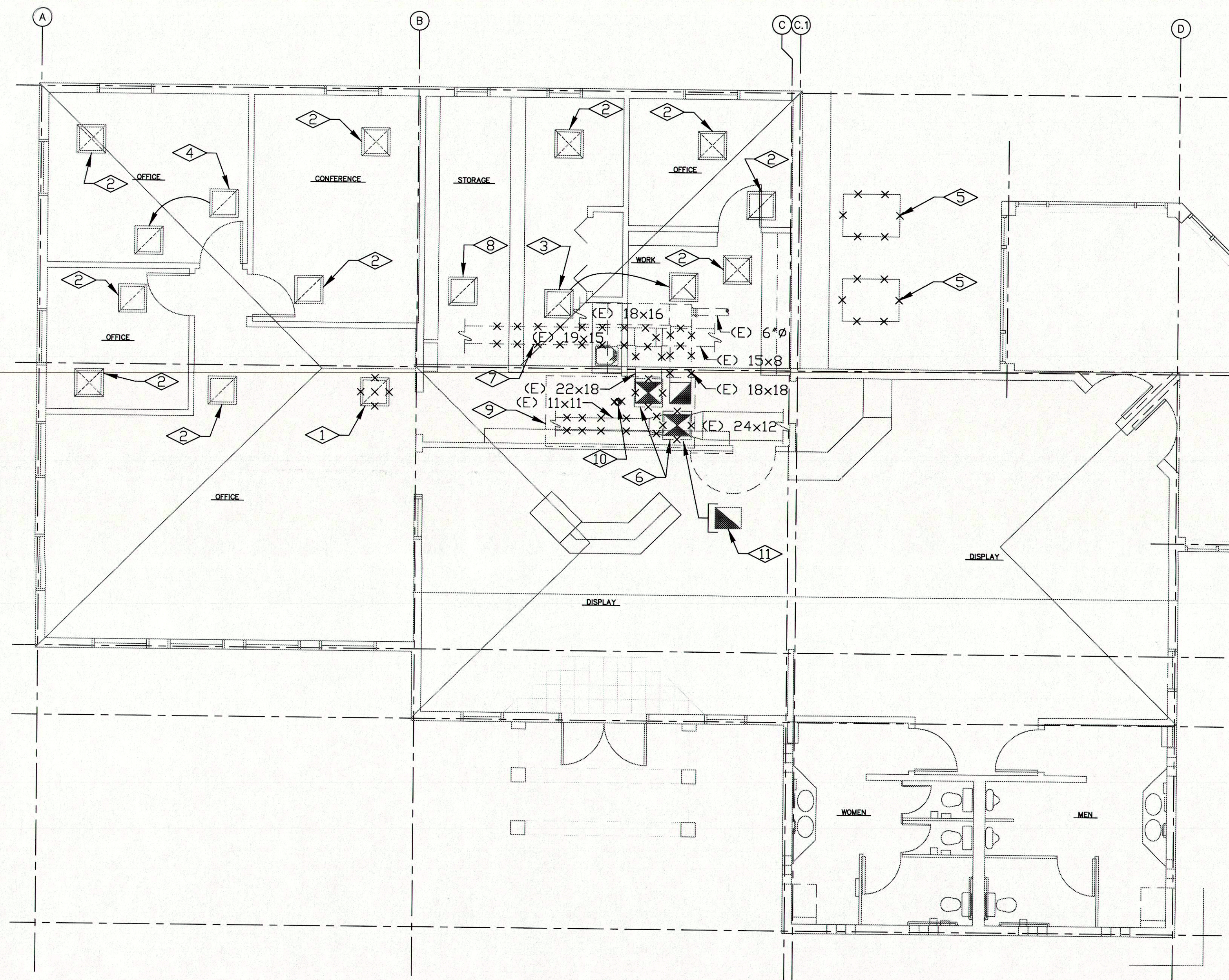
529 25 1/2 Road, Suite B109, Grand Junction, Colorado 81505
970.257.7600 • 970.257.1031 (fax) • architect@gsr-architect.com

VISITORS CENTER
740 HORIZON DRIVE & I-70
GRAND JUNCTION, CO

ISSUE DATE:
09/18/06

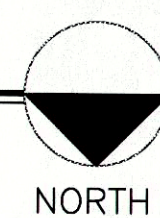
S1.2

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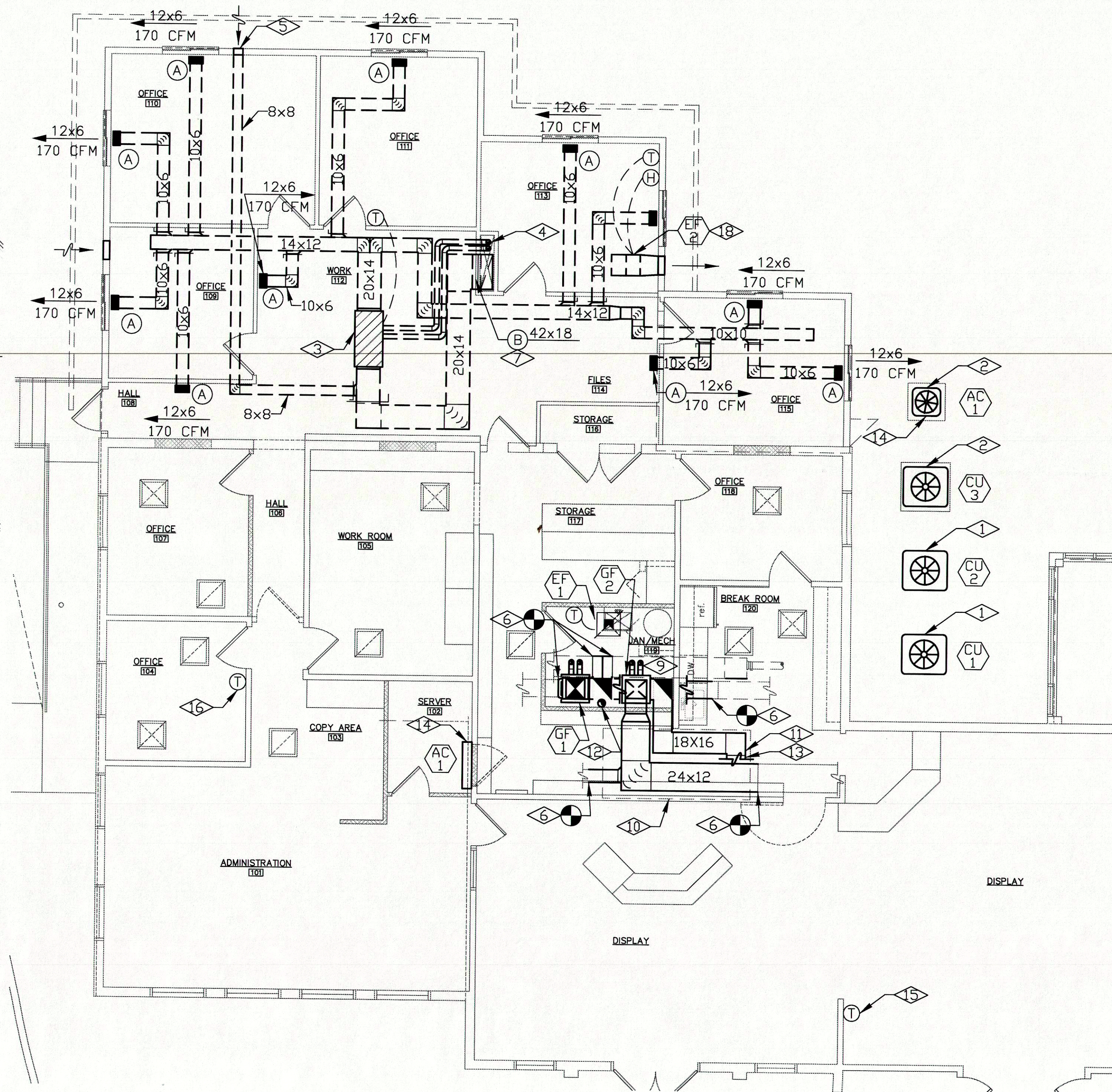
EXISTING MECHANICAL FLOOR PLAN

SCALE: 3/16"=1'-0"



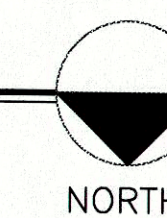
DEMOLITION FLAG NOTES:

1. REMOVE THE EXISTING AIR DEVICE.
2. EXISTING AIR DEVICE TO REMAIN.
3. EXISTING EXHAUST GRILLE AND FAN TO BE RELOCATED.
4. RELOCATE EXISTING RETURN AIR DEVICE TO NEW LOCATION SHOWN. REROUTE AND PROVIDE NEW RETURN DUCTWORK TO ACCOMMODATE THE NEW LOCATION. TRANSITION DUCTWORK TO EXISTING AIR DEVICE.
5. REMOVE THE EXISTING CONDENSING UNIT AND PREPARE FOR INSTALLATION OF NEW UNIT.
6. REMOVE THE EXISTING FURNACE LOCATED IN MECHANICAL MEZZANINE INCLUDING ALL ACCESSORIES.
7. REMOVE THE EXISTING DUCTWORK BACK TO THE LOCATION SHOWN AND PREPARE FOR RECONNECTION TO NEW DUCTWORK.
8. EXISTING RETURN AIR DEVICE TO REMAIN. CONTRACTOR TO VERIFY GRILLE DOES NOT INTERFERE WITH NEW WALL CONSTRUCTION. SHIFT GRILLE AND DUCTWORK TO ACCOMMODATE NEW CONSTRUCTION IF NECESSARY.
9. OUTLINE OF EXISTING MECHANICAL MEZZANINE ROOM ABOVE.
10. REMOVE EXISTING 6" FLUE AND PATCH THE ROOF TO MATCH EXISTING.
11. DISCONNECT EXISTING RETURN AIR DUCTWORK FROM EXISTING FURNACE AND PREPARE FOR RECONNECTION TO NEW RETURN DUCTWORK.



NEW MECHANICAL FLOOR PLAN

SCALE: 3/16"=1'-0"



NEW WORK FLAG NOTES:

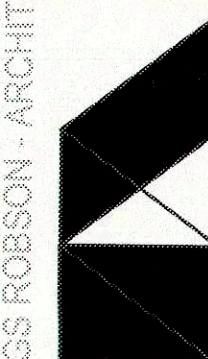
1. PROVIDE AND INSTALL NEW CONDENSING UNIT ON EXISTING CONCRETE PAD. ROUTE REFRIGERANT PIPING FROM CONDENSER TO EVAPORATOR WITH 1/2" INSULATION ON BOTH THE LIQUID AND SUCTION LINES. SIZE PER MANUFACTURER'S RECOMMENDATIONS. ALL PIPING SHALL BE ROUTED CONCEALED.
2. PROVIDE AND INSTALL NEW CONDENSING UNIT ON NEW CONCRETE PAD. ROUTE REFRIGERANT PIPING FROM CONDENSER TO EVAPORATOR WITH 1/2" INSULATION ON BOTH THE LIQUID AND SUCTION LINE. SIZE PER MANUFACTURER'S RECOMMENDATIONS. ALL PIPING SHALL BE ROUTED CONCEALED.
3. PROVIDE AND INSTALL NEW GAS FURNACE WITH DX COIL IN CRAWL SPACE SUSPENDED FROM STRUCTURE.
4. ROUTE 4" FLUE AND COMBUSTION AIR DUCT FROM THE FURNACE, UP IN THE CHASE, AND THROUGH THE ROOF.
5. PROVIDE AND INSTALL 8x8 BRICK VENT IN EXTERIOR WALL.
6. CONNECT NEW DUCTWORK TO EXISTING.
7. PROVIDE AND INSTALL RETURN GRILLE IN FACE OF CHASE INTO ROOM WORK 112. INSTALL GRILLE AS HIGH AS POSSIBLE.
8. PATCH AND PAINT EXISTING SOFFIT TO MATCH EXISTING TO ACCOMMODATE NEW DUCTWORK INSTALLATION.
9. ROUTE 4" FLUE AND COMBUSTION AIR DUCT FROM THE FURNACE, UP INTO THE ATTIC SPACE, INTO THE EXISTING MECHANICAL MEZZANINE ROOM, AND UP THROUGH THE ROOF, TYPICAL. TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
10. OUTLINE OF EXISTING MECHANICAL MEZZANINE ROOM ABOVE.
11. ROUTE NEW 18x16 RETURN AIR DUCT FROM THE FURNACE, UP INTO THE ATTIC SPACE, INTO THE EXISTING MECHANICAL MEZZANINE ROOM, AND CONNECT TO THE EXISTING RETURN DUCTWORK SERVING THE (2) GRILLES IN THE DISPLAY AREA.
12. ROUTE NEW 8" OUTSIDE AIR DUCT FROM RETURN MAIN, UP INTO THE ATTIC SPACE, INTO THE EXISTING MECHANICAL MEZZANINE ROOM, AND CONNECT TO THE EXISTING 8" OUTSIDE AIR DUCT PREVIOUSLY SERVING THE EXISTING FURNACE. PROVIDE VOLUME DAMPER AND BALANCE TO 200 CFM.
13. CONNECT THE EXISTING 8" OUTSIDE AIR DUCT PREVIOUSLY SERVING THE EXISTING FURNACE TO THE NEW 18x16 DUCTWORK. PROVIDE VOLUME DAMPER AND BALANCE TO 200 CFM.

14. THE SPLIT SYSTEM MUST BE OPERATIONAL PRIOR TO THE BUILD-OUT OF THE REMAINDER OF THE PROJECT AS THE SERVER ROOM MUST BE ON LINE FIRST.
15. 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCKING COVER TO CONTROL GF-2.
16. 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCKING COVER TO CONTROL GF-1.
17. PROVIDE AND INSTALL 16x8 INTAKE BRICK VENT.
18. PROVIDE AND INSTALL INLINE CABINET EXHAUST FAN SUSPENDED FROM STRUCTURE IN CRAWLSPACE. ROUTE DUCTWORK FROM THE DISCHARGE OF THE FAN TO THE 16x8 DISCHARGE BRICK VENT.

ALTERNATE NOTES:

1. PROVIDE AND INSTALL SPACE MOUNTED TEMPERATURE SENSORS (1 PER FURNACE ZONE) TO BE INTERFACED WITH THE FACILITIES DEPARTMENT OFF SITE DDC SYSTEM.
2. PROVIDE AND INSTALL DUCT MOUNTED SUPPLY AIR TEMPERATURE SENSORS IN THE FURNACE DUCTWORK TO BE INTERFACED WITH THE FACILITIES DEPARTMENT OFF SITE DDC SYSTEM.
3. PROVIDE AND INSTALL SPACE MOUNTED TEMPERATURE SENSOR IN THE SERVER ROOM TO BE INTERFACED WITH THE FACILITIES DEPARTMENT OFF SITE DDC SYSTEM.

GS ROBSON - ARCHITECTURE, INC.



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GRAND JUNCTION, CO

12-13-10
9/2/10

M1.1

HVAC NOTES

1. **SCOPE OF WORK**

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.

B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE 2000 INTERNATIONAL MECHANICAL, ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.

C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.

D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.
2. **PERMITS**

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
3. **SHOP DRAWINGS**

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
4. **FLEXIBLE TYPE DUCT**

A. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.

B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 14 LINEAR FEET PER RUN.

C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
5. **REFRIGERENT PIPING**

A. CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICIOUS AND FREE FROM ANY POSSIBLE CONDENSATION. INSULATE REFRIGERANT LINES WITH ARMOUR-FLEX TYPE INSULATION.

B. SHALL BE TYPE "K" COPPER TUBING, WITH WROUGHT COPPER SOLDER TYPE FITTINGS SUITABLE FOR CONNECTION WITH SILVER SOLDER.
6. **DUCTWORK**

A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.

B. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.

C. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.

D. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.

E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.

F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.

G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.

H. ALL SUPPLY AND RETURN DUCTWORK 15 FEET DOWNSTREAM OF THE HVAC UNIT SHALL BE INTERNALLY LINED WITH A 1/2" ACOUSTICAL DUCT LINER.
7. **DRAINAGE PIPING (CONDENSATE)**

A. SHALL BE TYPE L COPPER WITH BRAZED FITTINGS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN OR INDIRECT WASTE DRAIN.
8. **HVAC CONTROLS**

A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.
9. **ELECTRICAL**

A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.
10. **PIPE SUPPORTS**

A. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.
11. **GAS PIPING**

A. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. WHERE GAS PIPE CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE RUNOUT, A 100% SHUT-OFF VALVE AND A UNION. GAS PIPING CONTAINING PRESSURE GREATER THAN 9" W.G. SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH WELDED JOINTS.
12. **MISCELLANEOUS**

A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.

B. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.

C. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.

D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
13. **TESTING AND BALANCING**

A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.
14. **GUARANTEE**

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.

B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

GAS FIRED FURNACE SCHEDULE

EQUIPMENT NO.	SUPPLY AIR (CFM)	STATIC PRESS. (IN. W.G.)	HEAT INPUT (BTU)	HEAT OUTPUT (BTU)	EFFICIENCY A.F.U.E.	GAS RATE (CFH)	COOLING CAPACITY (BTU)	ELECTRIC		MANUFACTURER & MODEL	OPTIONS-ACCESSORIES
								FLA	VOLT.-PH.-CY.		
GF-1,2,3	1900	0.5	80,000	64,000	90%	90	49,000	12.9	115-1-60	TRANE TUX080C960	-
NOTES: 1. PROVIDE 30X 1' FILTER AND CONDENSATE OVERFLOW SWITCH. 2. PROVIDE TRANE THERMOSTAT WITH 7-DAY PROGRAMMING CAPABILITY.											

AIR COOLED CONDENSING UNIT SCHEDULE

EQUIPMENT NO.	SERVICE	COOLING CAPACITY (MBH)	SEER	REFRIG. PIPING		ELECTRICAL			MANUFACTURER & MODEL	OPTIONS-ACCESSORIES
				LIQUID	VAPOR	VOLT.-PH.-CY.	MCA	MDCP		
CU-1,2,3	GF-1,2,3	49	14	-	-	208-3-60	23	40	TRANE 4TTX4060	-
NOTES: 1. PROVIDE WITH THERMAL EXPANSION VALVE.										

GRILLE - REGISTER - DIFFUSER SCHEDULE

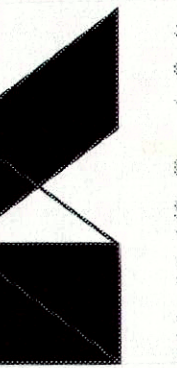
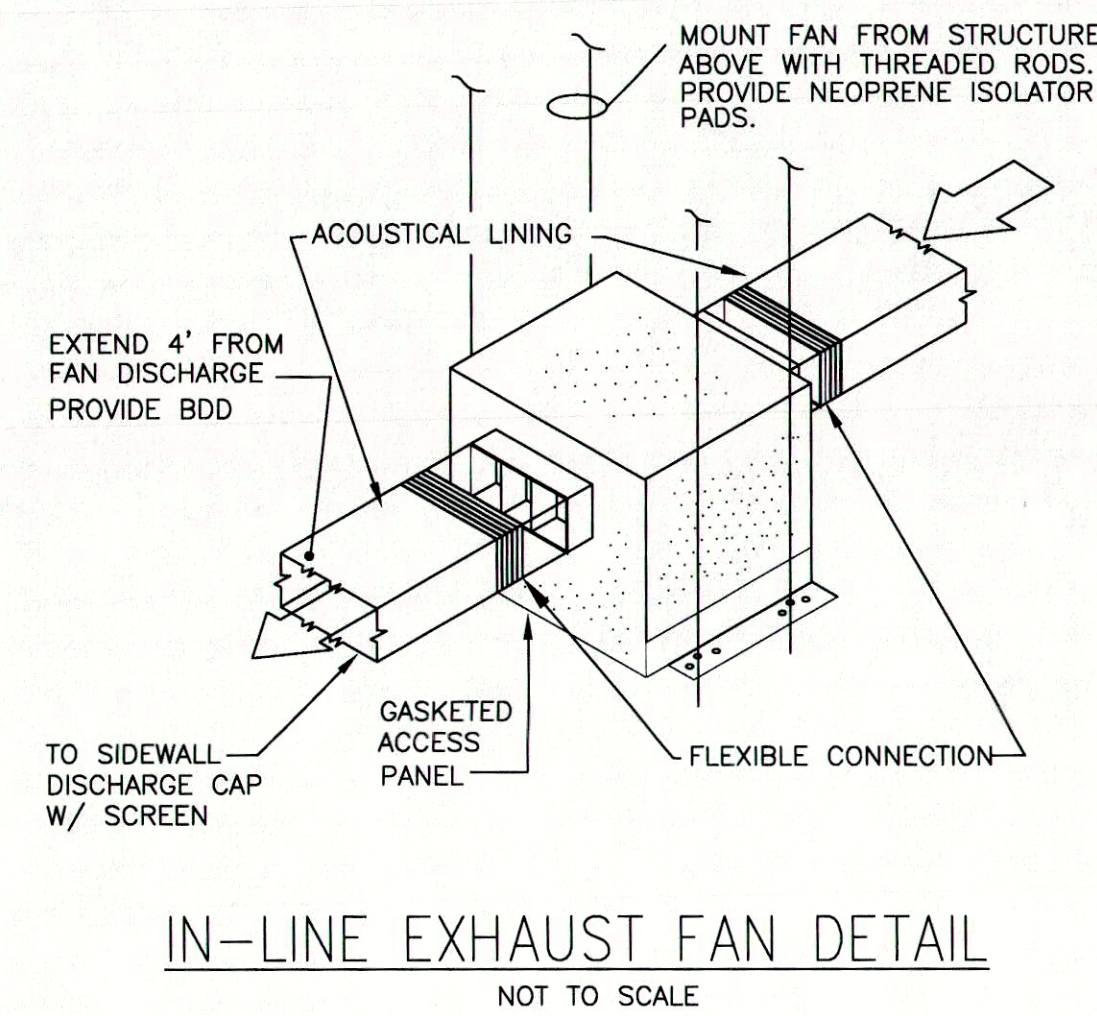
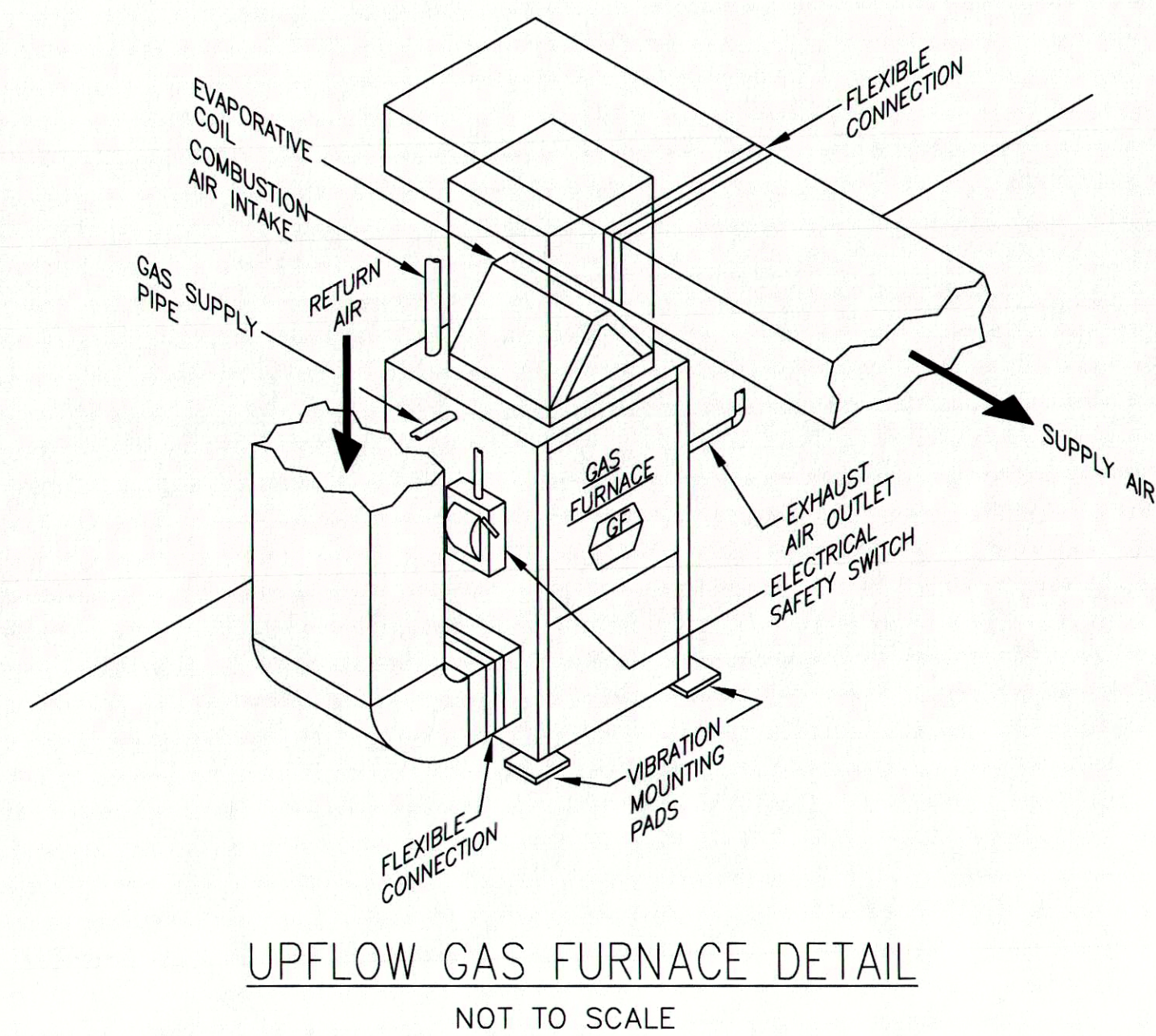
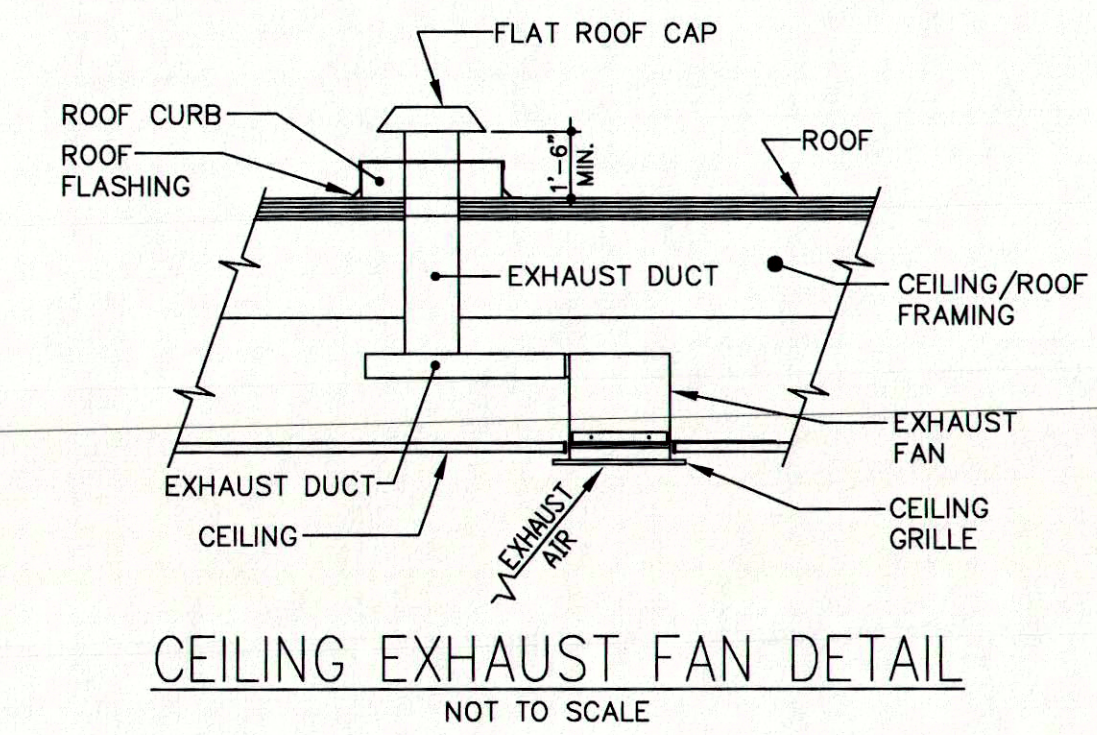
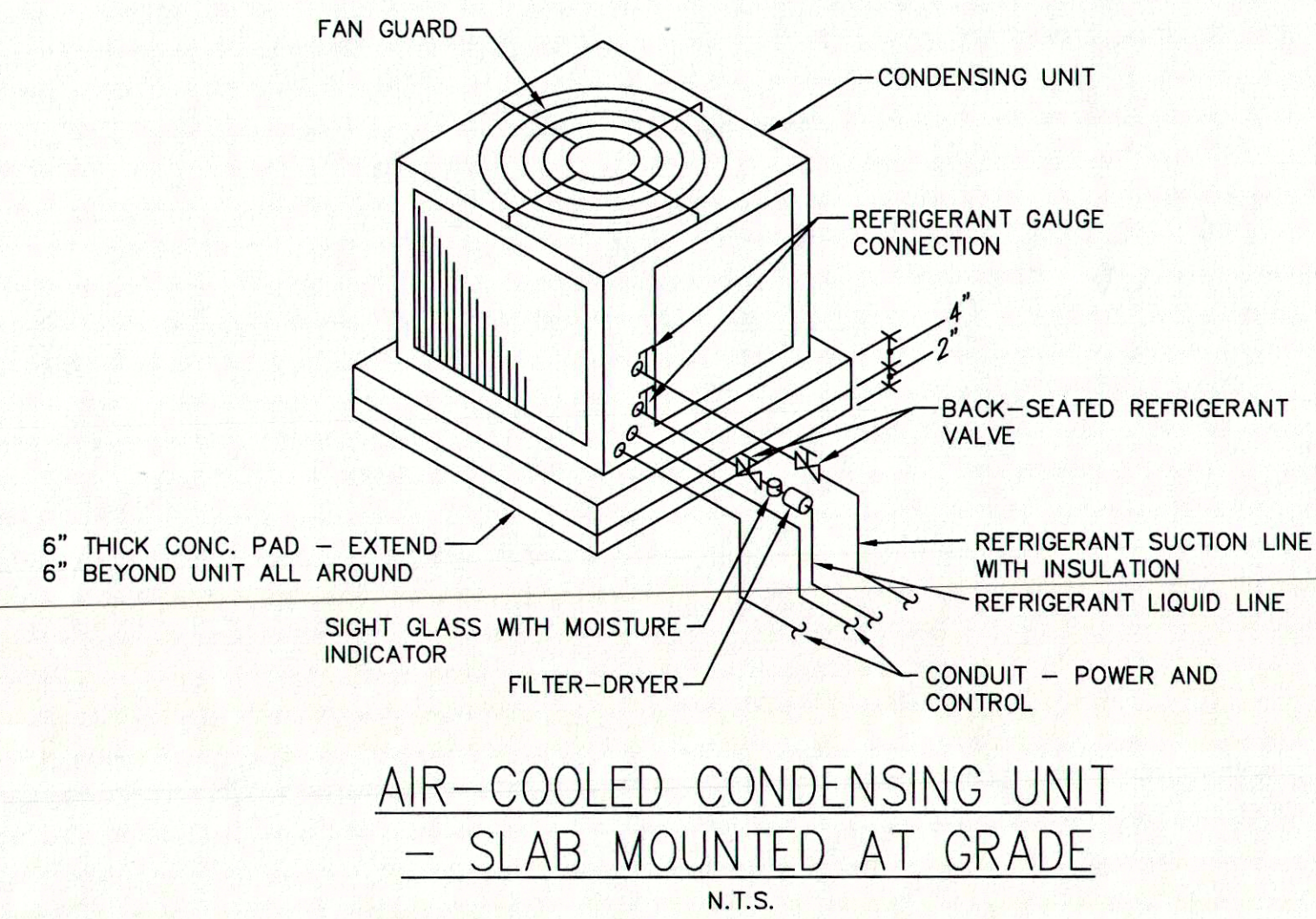
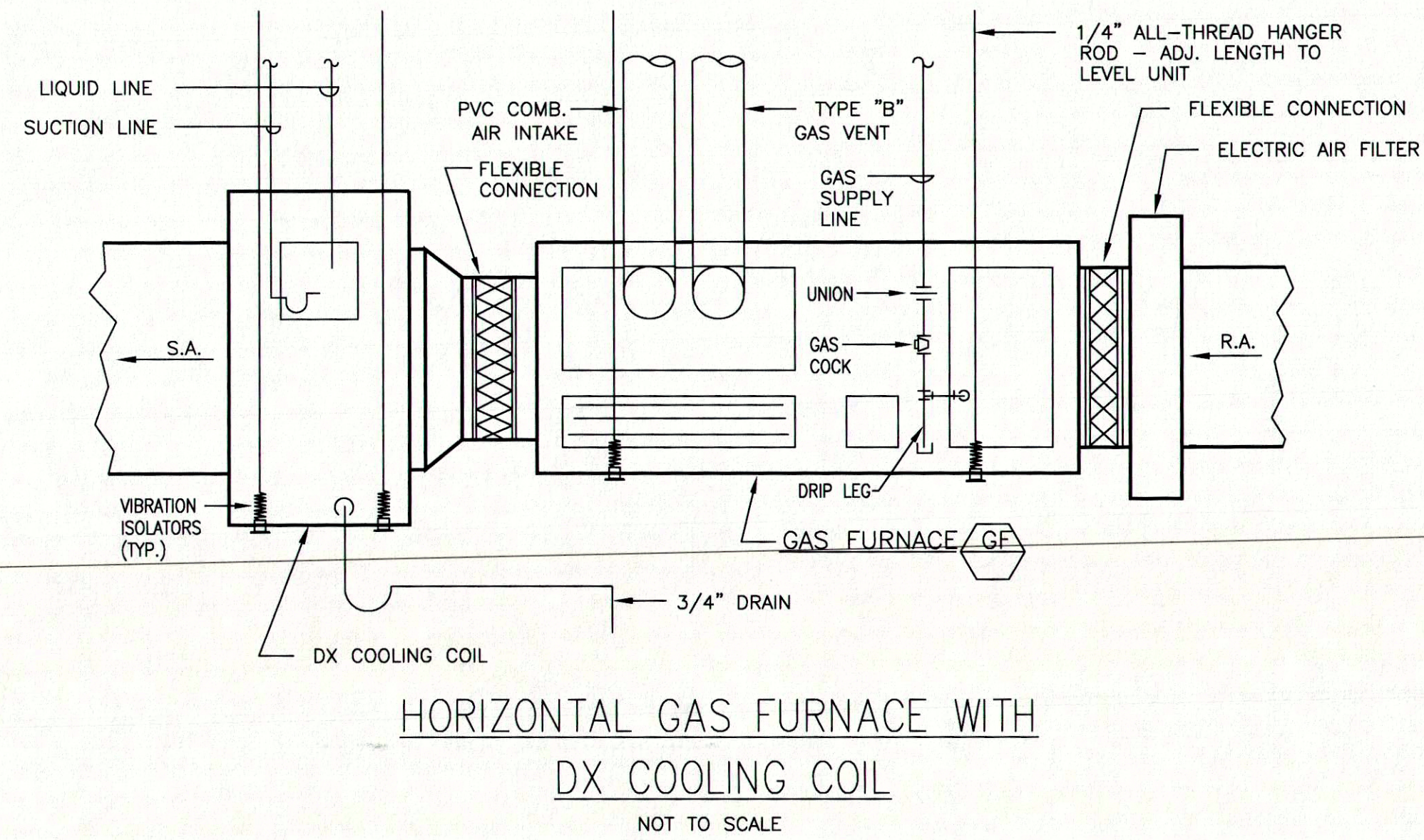
SR-SUPPLY REGISTER		RG-RETURN GRILLE		CD-CEILING DIFFUSER		EG-EXHAUST GRILLE		TG-TRANSFER GRILLE		FR-FLOOR REGISTER	
EQUIPMENT NO.	SIZE	TYPE	MANUFACTURER & MODEL			FINISH		OPTIONS-ACCESSORIES			
A	6x12	FR	HART & COOLEY - 411			WHITE/GOLDEN SAND		WITH OBD			
B	NECK SIZE + 1-3/4"	RG	TITUS 355RL			WHITE					
NOTES: COORDINATE BORDER TYPES OF ALL AIR DEVICES WITH CEILING TYPES, FLOOR CONSTRUCTION, AND FIELD CONDITIONS.											

DUCTLESS SPLIT AIR CONDITIONING SYSTEM SCHEDULE

EQUIPMENT NO.	SERVICE	COOLING CAPACITY (BTU/HR.)	CFM	SEER (EFFICIENCY)	REFRIGERANT PIPING		ELECTRICAL		MANUFACTURER & MODEL	OPTIONS-ACCESSORIES
					LIQUID	SUCTION	AMPS	VOLT.-PH.-CY.		
AC-1 (INDOOR)	SERVER ROOM	17,000	440	10.0	1/4"	5/8"	5.0	120-1-60	SANYO - KSL1822	NOTE 1
AC-1 (OUTDOOR)	SERVER ROOM	16,500	-	10.0	1/4"	5/8"	8.2	208-1-60	SANYO - CL1822	NOTE 1
NOTES: 1. PROVIDE WITH LOW AMBIENT KIT DOWN TO ZERO DEGREES FAHRENHEIT.										

FAN SCHEDULE

EQUIPMENT NO.	SERVICE	LOCATION	CFM	STATIC PRESS. (IN. W.G.)	MOTOR				MANUFACTURER & MODEL	OPTIONS-ACCESSORIES
					WATTS	HP	RPM	VOLT.-PH.-CY.		
EF-1	MECHANICAL ROOM	CEILING	200	0.5	126	-	1405	120-1-60	COOK, #GC-180	SEE NOTE 1
EF-2	CRAWL SPACE	CRAWL SPACE	250	0.5	92	-	1043	120-1-60	COOK, #GN-720	SEE NOTE 2
NOTES: 1. PROVIDE WITH INTEGRAL WHITE ALUMINUM GRILLE. DISCONNECT, CONNECT OPERATION OF THE FAN WITH THE REVERSE ACTING THERMOSTAT. PROVIDE WITH SOLID STATE SPEED CONTROLLER, BACKDRAFT DAMPER AND VIBRATION ISOLATORS. 2. PROVIDE WITH DISCONNECT, RUBBER-IN-SHEAR VIBRATION ISOLATORS, CONNECT OPERATION OF THE FAN WITH THE REVERSE ACTING THERMOSTAT AND HUMIDISTAT, PROVIDE WITH SOLID STATE SPEED CONTROLLER, AND BACKDRAFT DAMPER.										



PLUMBING NOTES

1. SCOPE OF WORK

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
- B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE 2000 UNIFORM PLUMBING CODE, ALL LOCAL CODES, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
- C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY ENGINEER OR ARCHITECT.

2. PERMITS

- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT/FIXTURES TO THE ARCHITECT OR ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT THREE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. DOMESTIC WATER SUPPLY PIPING

- A. UNDERGROUND: PROVIDE TYPE "K" SOFT DRAWN COPPER TUBING WITH BRAZED CONNECTIONS.
- B. ABOVE GROUND: PROVIDE TYPE "L" HARD DRAWN COPPER TUBING WITH 125 PSI SOLDER JOINTS, COPPER OR BRASS FITTINGS. ALL SOLDER TO BE "NO LEAD" TYPE.
- C. ALL HOT WATER PIPING TO BE INSULATED WITH 1" FIBERGLASS INSULATION.
- D. ALL COLD WATER PIPING TO BE INSULATED WITH 1/2" FOAM INSULATION.

5. SANITARY/STORM DRAINAGE AND VENT PIPING

- A. ABOVE GRADE:
-2" AND BELOW: SCH. 40 GALV. STL. PIPE WITH SCREWED ENDS OR SCH. 40 PVC WITH SOLVENT JOINTS OR DWV COPPER WITH SOLDER JOINTS. ALL SOLDER TO BE "NO LEAD" TYPE.
- 3" AND ABOVE: SERVICE WT. CAST IRON WITH NO-HUB OR BELL AND SPIGOT JOINTS; OR SCH. 40 PVC WITH SOLVENT JOINTS.
- B. BELOW GRADE: SERVICE WT. CAST IRON WITH BELL AND SPIGOT JOINTS OR SCH. 40 PVC WITH SOLVENT JOINTS.
- C. PVC PIPING SHALL NOT BE USED IN AIR PLENUM CEILINGS AND SHALL NOT CROSS FIRE RATED WALLS, CEILINGS, OR FLOORS.
- D. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
- E. DRAINAGE PIPING 3" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/4" PER FOOT, AND PIPING LARGER THAN 3" SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8" PER FOOT.
- F. ALL VENT PIPING SHALL BE SLOPED TO DRAIN BACK TO FIXTURES.
- G. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.

6. ALL STUB-INS AND/OR SLAB OR WALL PENETRATION TO BE PER NATIONAL STANDARD PLUMBING CODE. ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.

7. PIPE SUPPORTS

- A. ABOVE GRADE
ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORMED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN CHAPTER 8 OF THE NATIONAL STANDARD PLUMBING CODE.

8. MISCELLANEOUS

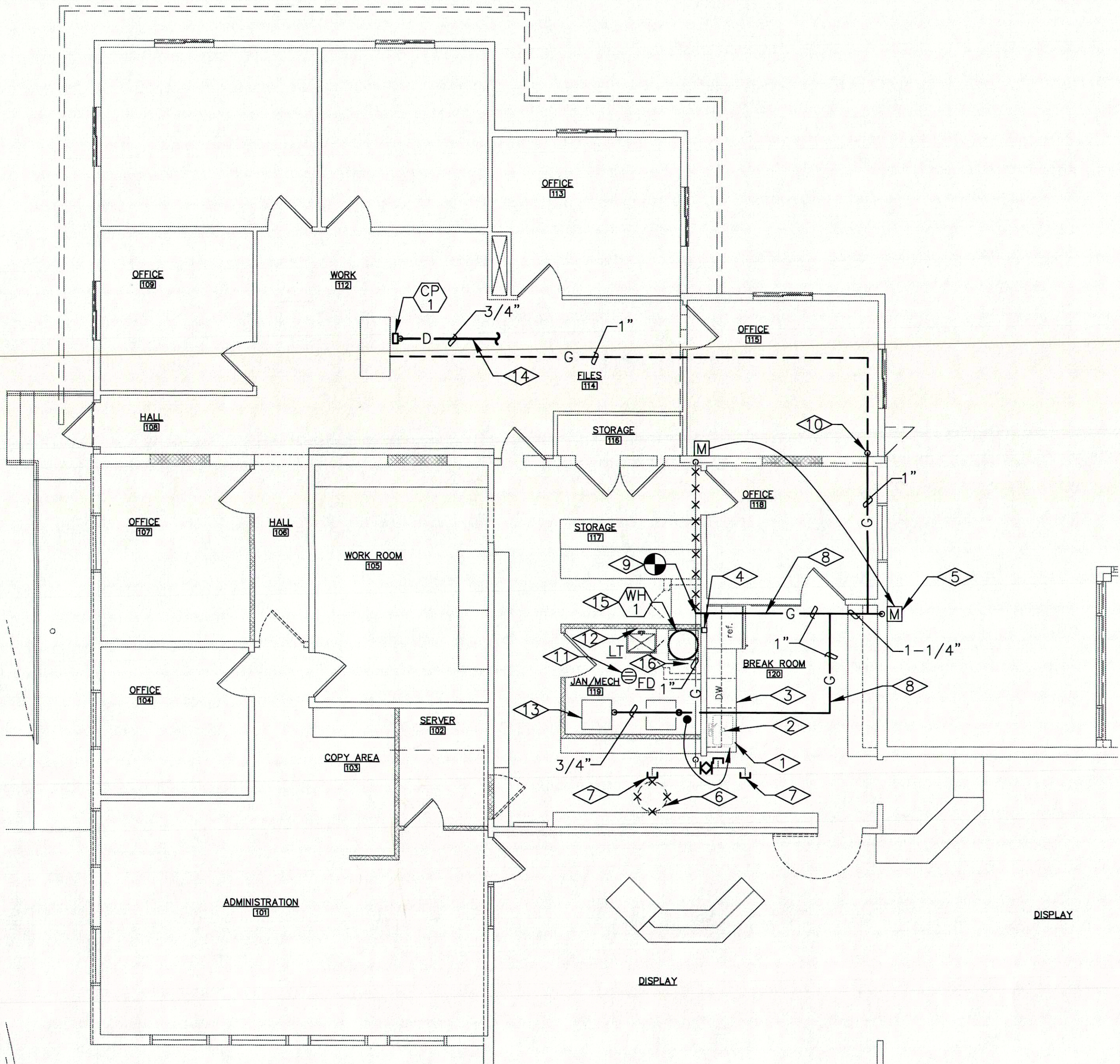
- A. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.
- B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
- C. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

9. TESTING

- A. PLUMBING SYSTEMS SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH STANDARD PRACTICE AND THE NATIONAL STANDARD PLUMBING CODE.

10. GUARANTEE

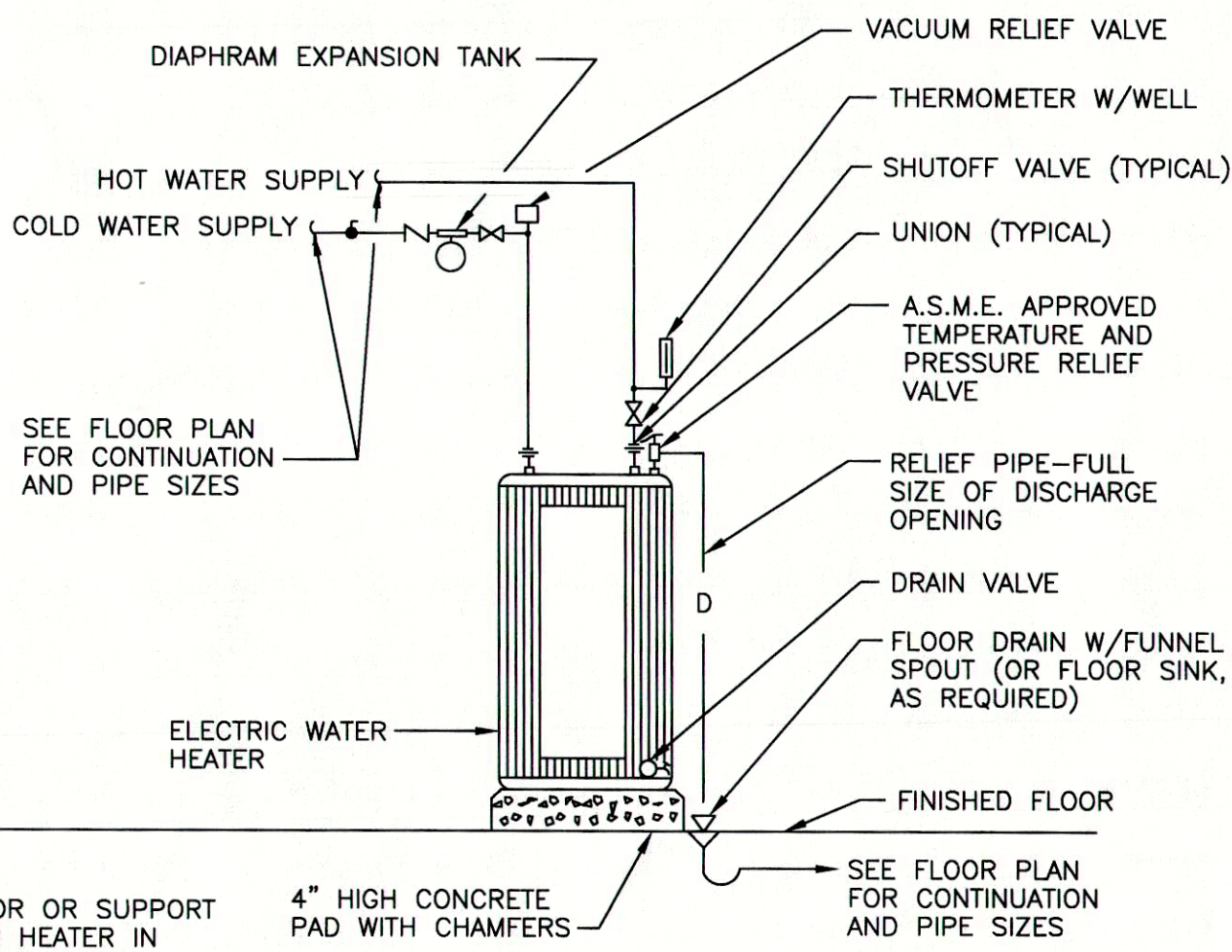
- A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
- B. FOR THE SAME PERIOD, THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.



PLUMBING FLOOR PLAN

SCALE: 3/16"=1'-0"

NORTH



NOTE: ANCHOR OR SUPPORT WATER HEATER IN SEISMIC AREAS.

ELECTRIC WATER HEATER DETAIL

NOT TO SCALE

FLAG NOTES:

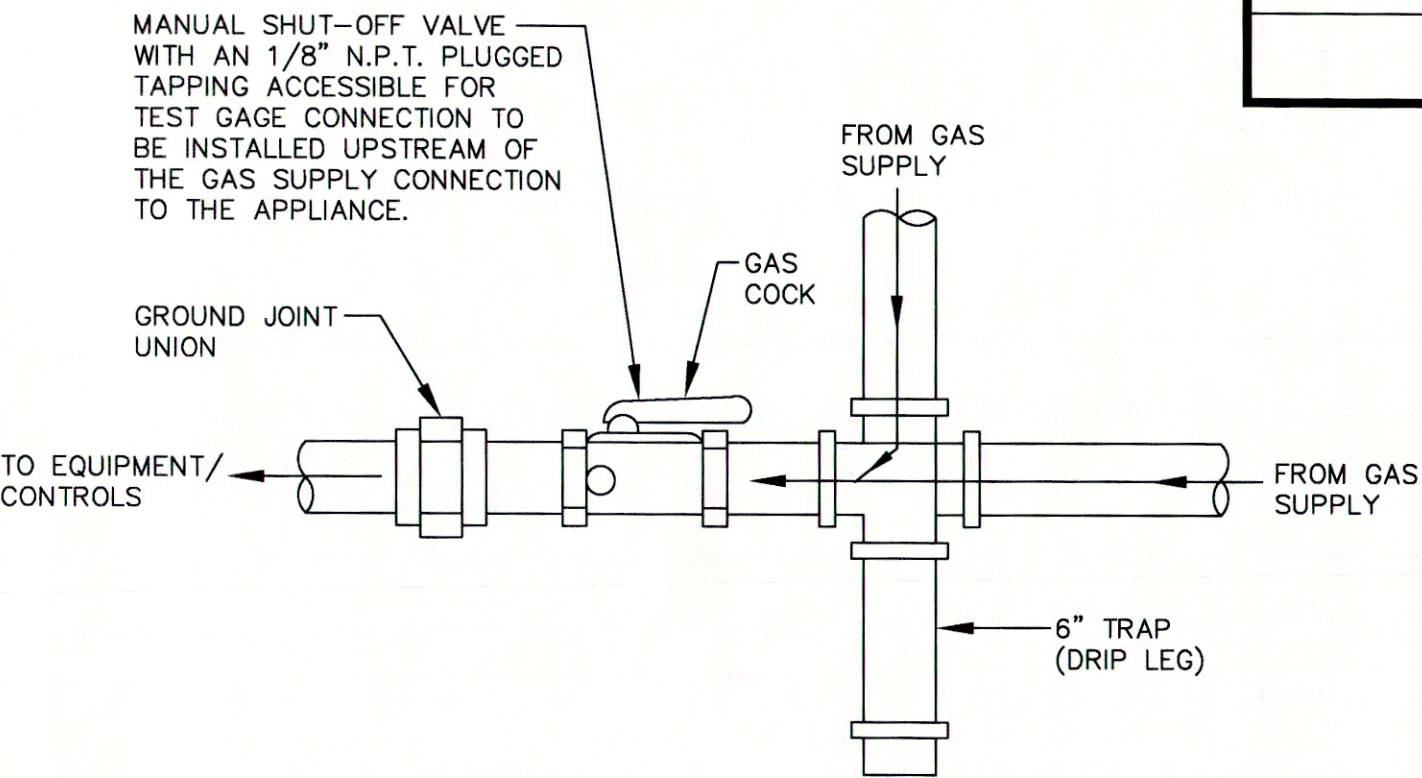
1. RELOCATE THE EXISTING SINK TO THE LOCATION SHOWN. REROUTE THE EXISTING CW, HW, W, AND V PIPING TO ACCOMMODATE THE NEW SINK LOCATION. PATCH AND PAINT THE EXISTING WALLS TO MATCH EXISTING.
2. PROVIDE AND INSTALL NEW BADGER 5 IN-SINK-ERATOR GARBAGE DISPOSAL WITH 1/2 HP MOTOR BELOW SINK.
3. ROUTE 1/2" HW SERVING SINK TO THE DISHWASHER AND PROVIDE SHUT-OFF VALVE. ROUTE DRAIN FROM THE DISHWASHER TO THE SIDE INLET OF THE DISPOSAL.
4. PROVIDE AND INSTALL NEW OATEY 3860B ICE MAKER OUTLET BOX WITH 1/4 TURN VALVE AND MOUNTED WATER HAMMER ARRESTOR. ROUTE 1/2" CW LINE FROM THE SINK TO THE ICE MAKER BOX.
5. RELOCATE THE EXISTING GAS METER TO THE LOCATION SHOWN. MAINTAIN A MINIMUM OF 3 FEET BETWEEN THE METER AND THE OPERABLE WINDOW. REWORK THE EXISTING GAS LINE CURRENTLY ROUTED UP IN THE EXTERIOR WALL TO THE ATTIC SPACE TO ACCOMMODATE THE RELOCATED GAS METER AS SHOWN. THE NEW TOTAL CONNECTED LOAD IS 286 MBH INPUT WITH A REQUIRED DELIVERY PRESSURE OF 10" W.C. CONTRACTOR SHALL COORDINATE WITH THE GAS PURVEYOR AND VERIFY THE EXISTING GAS METER IS ADEQUATELY SIZED TO HANDLE THE INCREASED LOAD.
6. REMOVE THE EXISTING WATER HEATER BUT MAINTAIN THE EXPANSION TANK AND RECIRC PUMP FOR RELOCATION TO NEW WATER HEATER. DISCONNECT EXISTING CW, HW, AND HWC PIPING AND PREPARE FOR RECONNECTION TO NEW PIPING ROUTED FROM THE NEW WATER HEATER.
7. VALVE AND CAP THE EXISTING GAS CONNECTIONS TO THE FURNACES, TYPICAL.
8. INSTALL NEW GAS LINE ABOVE EXISTING CEILING. PATCH AND PAINT CEILING TO MATCH EXISTING.
9. ROUTE NEW GAS PIPING UP IN WALL AND CONNECT TO THE EXISTING LINE IN THE ATTIC.
10. ROUTE GAS LINE DOWN INTO THE CRAWLSPACE.
11. ROUTE NEW 3" W AND 2" V FROM FLOOR DRAIN TO EXISTING UTILITIES OF ADEQUATE CAPACITY. TRENCH FLOOR AS REQUIRED TO INSTALL THE PIPING AND PATCH TO MATCH EXISTING.
12. ROUTE NEW 3/4" CW, 3/4" HW, 3" W, AND 2" V FROM LAUNDRY TUB TO EXISTING UTILITIES OF ADEQUATE CAPACITY. TRENCH THE WALL AS REQUIRED TO INSTALL THE PIPING AND PATCH TO MATCH THE EXISTING.
13. ROUTE 3/4" CONDENSATE DRAIN FROM THE CONNECTION AT THE FURNACE TO THE FLOOR DRAIN. TERMINATE WITH A 2" AIR GAP, TYPICAL.
14. ROUTE 3/4" PUMP CONDENSATE DRAIN FROM THE FURNACE TO THE NEAREST INDIRECT WASTE DRAIN.
15. ROUTE NEW 3/4" CW, 3/4" HW, AND 3/4" HWC FROM NEW WATER HEATER CONNECTIONS TO EXISTING PIPING LOCATED IN EXISTING MECHANICAL MEZZANINE. ROUTE ALL WATER LINES CONCEALED IN HEATED SPACES.
16. INSTALL RELOCATED EXPANSION TANK AND RECIRC PUMP.

PUMP SCHEDULE											CP
EQUIPMENT NO.	SERVICE	LOCATION	GPH	HEAD LOSS (FEET)	IMP. DIAM. / IN.	MOTOR				MANUFACTURER & MODEL	OPTIONS-ACCESSORIES
						HP	RPM	VOLT.-PH.-CY.	FLA		
CP-1	COOLING COIL CONDENSATE	CRAWL SPACE	65	15	---	1/60	---	120-60-1	---	LITTLE GIANT - VCMA-15ULST	SEE NOTES 1 & 2
NOTES: 1. PROVIDE 1/2 GALLON TANK, POWER CORD, AND TUBING.											

PLUMBING EQUIPMENT SCHEDULE							
EQUIPMENT NO.	DESCRIPTION	MANUFACTURER & CAT. NO.	PIPING CONNECTIONS				NOTES AND REMARKS
			S/W	VENT	C.W.	H.W.	
FD	FLOOR DRAIN	JOSAM, #30000-A-17	2"	2"	NA	NA	SECURED GRATE WITH VANAL-PROOF SCREWS.
LT	LAUNDRY TUB	FIAT, #P-1	2"	1-1/2"	1/2"	1/2"	ANGLE VALVES, 12" CHROME RISERS, TRAP, ESCUTCHEONS, AND STEEL ANGLE LEGS WITH LEVELING FEET.

ELECTRIC WATER HEATER SCHEDULE							
ITEM NO.	CAPACITY	RECOVERY @100 DEG. F. RISE	HEATING ELEMENT (W)	ELECTRIC V./PH.	WATER CONN.	MANUFACTURER & MODEL	REMARKS
WH-1	40 GAL	21	4500	240/1	3/4"	A.O. SMITH - PEC-40	SEE NOTE 1
NOTES: 1. PROVIDE WITH TEMPERATURE AND PRESSURE RELIEF VALVE AND TANK DRAIN VALVE.							

PLUMBING FIXTURE CONNECTION SCHEDULE					
ITEM	WASTE	VENT	COLD WATER	HOT WATER	NOTES
SINK	1-1/2"	1-1/2"	1/2"	1/2"	-
LAUNDRY TUB	2"	1-1/2"	1/2"	1/2"	-
FLOOR DRAIN	2"	1-1/2"	-	-	-



GAS CONNECTION TO EQUIPMENT DETAIL

NOT TO SCALE

ELECTRICAL LEGEND

EQUIPMENT

- CONTACTOR
30 = AMPERE RATING
MH = 4'-6" TO TOP
- MAGNETIC MOTOR STARTER
MH = 4'-6" TO TOP
- FUSED DISCONNECT
MH = 4'-6" TO TOP
- UNFUSED DISCONNECT
MH = 4'-6" TO TOP
- ENCLOSED CIRCUIT BREAKER
- MOTOR
- PANELBOARD
L1A = DESIGNATION
5'-9" TO TOP
- PHOTOCELL
- TIME CLOCK
MH = 4'-6" TO TOP
- COMBINATION MOTOR STARTER
MH = 4'-6" TO TOP
- THERMOSTAT
MH = 4'-6" TO TOP

ONE LINE DIAGRAM

- FEEDER
CONDUIT #, SIZE & MATERIAL
NUMBER & SIZE OF 9 X N
INSULATION & CONDUCTOR
GROUND SIZE (F USED)
INSULATION & CONDUCTOR
- METER
- PANELBOARD - SEE SCHEDULE
LP1 = DESIGNATION
- CURRENT TRANSFORMER
- FUSED SWITCH
60 AMP 3 POLE FRAME
DEVICE # 12
50 KTR
- UNFUSED SWITCH
60 AMP 3 POLE
DEVICE # 12
- CIRCUIT BREAKER
60 AMP 3 POLE
DEVICE # 12

CONDUIT

- P1-7 CONCEALED ABOVE GRADE
P1-7 = PANEL & CIRCUIT
HACHURES = # OF WIRES
- UNDER FLOOR/UNDERGROUND
- FLEX
- HOME RUN
P1-7 = PANEL & CIRCUIT
HACHURES = # OF WIRES
- TURNING UP
- TURNING DOWN
- SR SURFACE RACEWAY

SERVICE ENTRANCE

- UTILITY METER
MH = 5'-0" TO TOP
- TELEPHONE TERMINAL
MH = 4'-6" TO CENTER
- PAD MOUNTED TRANSFORMER
- MAIN DISTRIBUTION CENTER
- TELEPHONE - OVERHEAD
- POWER - OVERHEAD
- WIREWAY
MH = 5'-6" TO TOP

LIGHTING FIXTURES

- FLUORESCENT - LENSED
1 = CIRCUIT DESIGNATION
b = SWITCH DESIGNATION
HALF SHADED = EMERGENCY
- FLUORESCENT - OPEN
- CEILING MOUNTED
- WALL BRACKET
MH - SEE PLANS
- BOLLARD
- POLE MOUNTED - SINGLE
- POLE MOUNTED - DOUBLE

GENERAL SYMBOLS

- EQUIPMENT
AC-1 = DESIGNATION - SEE SCHEDULE
- FLAG NOTE
- REVISION
- ROOM NUMBER
- SECTION MARK
A = SECTION DESIGNATION
E1 = REFERENCE DRAWING

ABBREVIATIONS

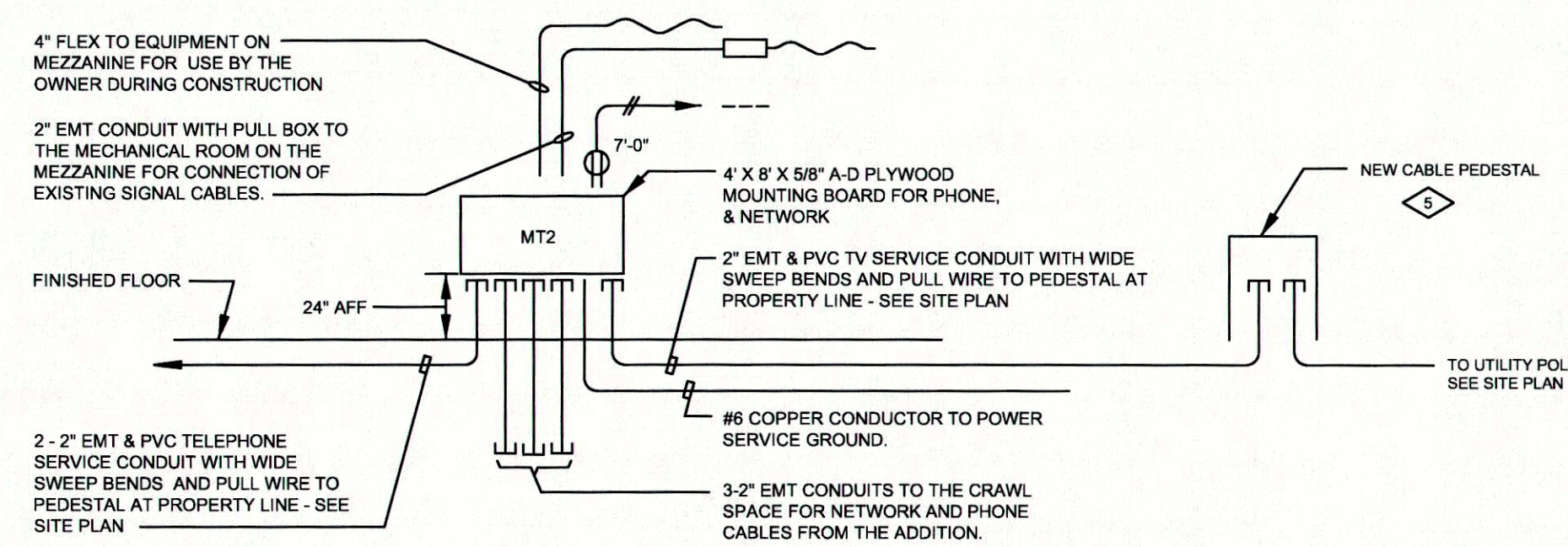
- A AMPERES
- AFF ABOVE FINISHED FLOOR
- AFD ABOVE FINISHED GRADE
- BCR BELOW CEILING
- CEILING
- DD DUSK TO DAWN
- DTO DUSK TO TIMED OFF
- EM SWITCHED EMERGENCY
- EMT ELECTRICAL METALLIC TUBING
- EN NON-SWITCHED EMERGENCY
- EX EXISTING
- G GROUND FAULT CURRENT INTERRUPTER
- GRC GALVANIZED RIGID CONDUIT
- GRD GROUND
- IG ISOLATED GROUND
- J JUNCTION BOX
- K KEY OPERATED SWITCH
- L SWITCH WITH PILOT LIGHT
- LA LIGHTING ARRESTOR
- LA NOT IN CONTRACT
- NL NIGHT LIGHT
- NTS NOT TO SCALE
- O OCCUPANCY SENSING SWITCH
- PVC POLYVINYL CHLORIDE
- R MOTOR RATED SWITCH
- W WEATHERPROOF
- WG WEATHERPROOF/IFIC

GENERAL SITE NOTES

- PROVIDE A SEPARATE GREEN INSULATED GROUND WIRE SIZED PER NATIONAL ELECTRICAL CODE TABLE 250.122 IN ALL BRANCH CIRCUIT AND FEEDER RACEWAYS CONTAINING POWER CONDUCTORS. GROUND WIRE IS NOT INCLUDED IN HACHURE COUNT ON DRAWINGS.
- ALL RACEWAYS INSTALLED UNDERGROUND, OR UNDER THE BUILDING SHALL BE NO SMALLER THAN 3/4". ALL CONDUCTORS INSTALLED UNDERGROUND OR UNDER THE BUILDING SHALL BE NO SMALLER THAN #12.
- WHERE 480 VOLT BRANCH CIRCUITS EXCEED 100', OR 208 VOLT BRANCH CIRCUITS EXCEED 75', INCREASE WIRE SIZE TO #10, AND INCREASE RACEWAY SIZE TO 1".
- MOUNTING HEIGHTS SHOWN ON THE PLANS TAKE PRECEDENCE OVER DEFAULT MOUNTING HEIGHTS SHOWN IN THE LEGEND.
- ALL CONDUITS SHALL BE BURIED A MINIMUM OF 36" BELOW FINISHED GRADE. BED CONDUITS 6" BELOW AND 8" ABOVE IN LOCAL MATERIAL WITH NO ROCKS LARGER THAN 1" IN DIAMETER OR IMPURE SAND IF ACCEPTABLE LOCAL MATERIAL IS UNAVAILABLE. PLACE WARNING TAPE 1'-0" ABOVE ALL BURIED CONDUITS. SEE L-LINE DIAGRAM FOR FEEDER CONDUIT SIZES. SEE SIGNAL RISERS FOR COMMUNICATION CONDUIT SIZES.
- SEE SPECIFICATIONS FOR ADDITIONAL CONSTRAINTS ON POWER AND COMMUNICATIONS SERVICES, AND OUTSIDE BRANCH CIRCUITS AND FEEDERS.

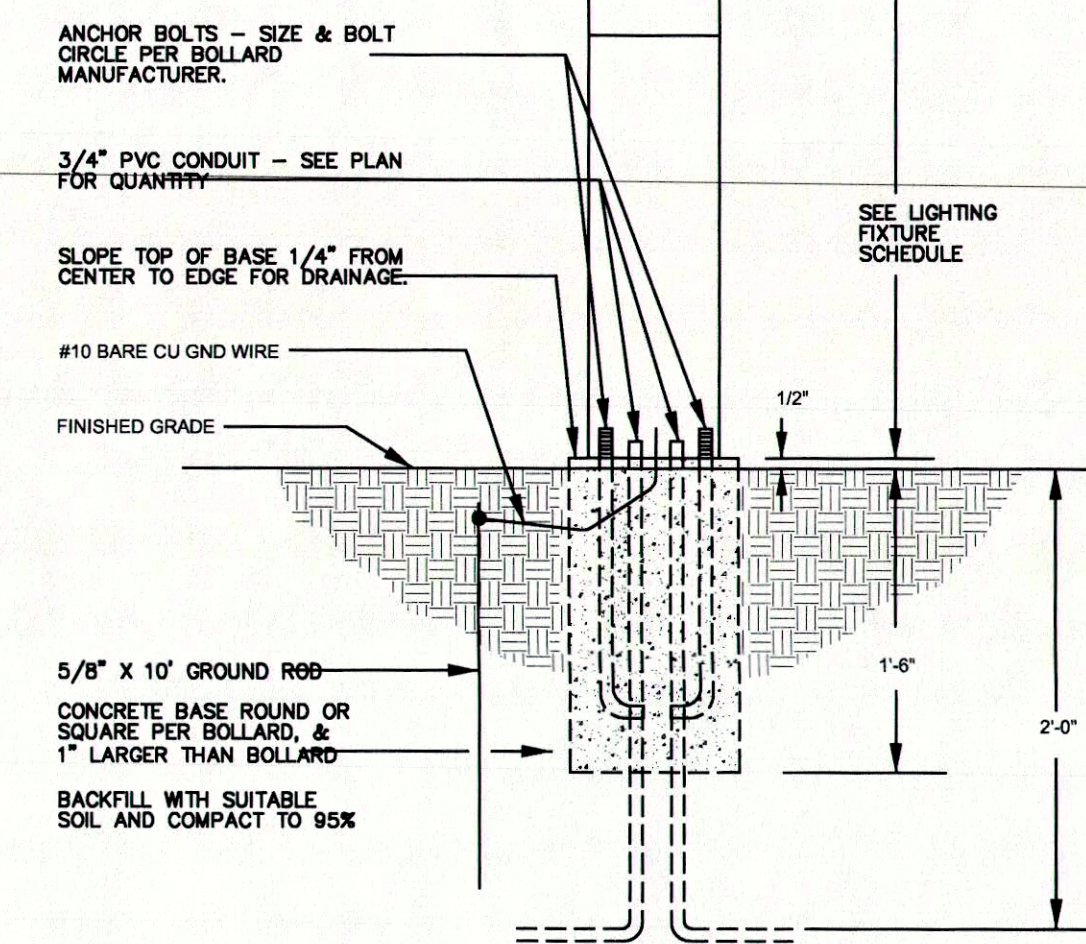
NOTES REFERENCED ON THE PLANS

- REMOVE 4 #4/0 ALUMINUM SERVICE CONDUCTORS BETWEEN POWER PEDESTAL AND UTILITY TRANSFORMER. REMOVE PEDESTAL. EXTEND 4" PVC UP TO LOCATION OF CT ENCLOSURE. PULL IN NEW SERVICE CONDUCTORS INDICATED.
- CONNECTION BETWEEN CT ENCLOSURE AND DISTRIBUTION PANEL IS TO BE MADE THROUGH THE BOTTOMS TO AVOID EXCESSIVE BOX DEPTH.
- CURRENTLY PANEL P1 FEEDS OUT OF A 150A SUBFEED BREAKER IN PANEL P2. INSTALL JUNCTION BOX IN CRAWL SPACE AND REFEED P1 FROM PANEL DP.
- P2 IS CURRENTLY THE MAIN SERVICE PANEL WITH BRANCH CIRCUITS SERVING THE EXISTING CONFERENCE ROOM. TEMPORARILY REFEED P2 FROM DP. WHEN NEW PANEL P3 IS IN, EXTEND EXISTING BRANCH CIRCUITS TO IT FROM P2 AND REMOVE PANEL P2.
- CUT EXISTING 2" CONDUIT FOR CABLE SERVICE AND BRING UP UNDER NEW CABLE PEDESTAL. EXTEND CONDUIT FROM PEDESTAL TO MT2 IN IT ROOM. INSTALL PULL WIRES IN BOTH CONDUIT SEGMENTS. SEE TELEPHONE/TV/NETWORK RISER.
- PROVIDE CONDUIT STUB 5' BEYOND FOUNDATION FOR SPRINKLER VALVE WIRING.
- THE CITY WILL RELOCATE THE EXISTING RAINBIRD IRRIGATION CONTROLLER TO THE PEDESTAL SHOWN. THE ELECTRICAL CONTRACTOR IS TO STUB A 2" CONDUIT FROM THE PEDESTAL TO THE BUILDING CRAWL SPACE FOR VALVE CONTROL, AND A 1" PVC CONDUIT FOR COMMUNICATIONS.
- WIRE TYPE "F" LIGHT FIXTURES THROUGH EXISTING CONTACTOR FOR DUSK TO TIMED OFF OPERATION.



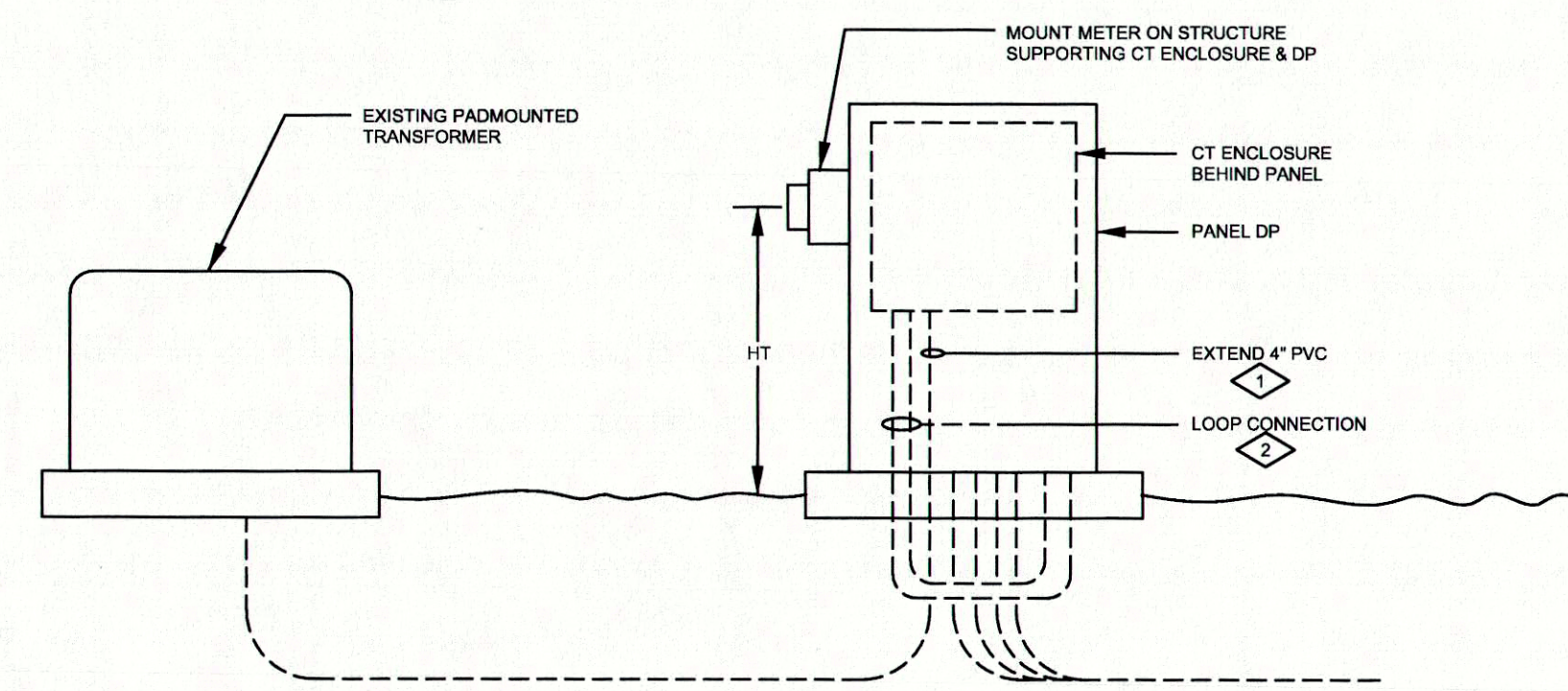
TELEPHONE/TV/NETWORK RISER

NO SCALE



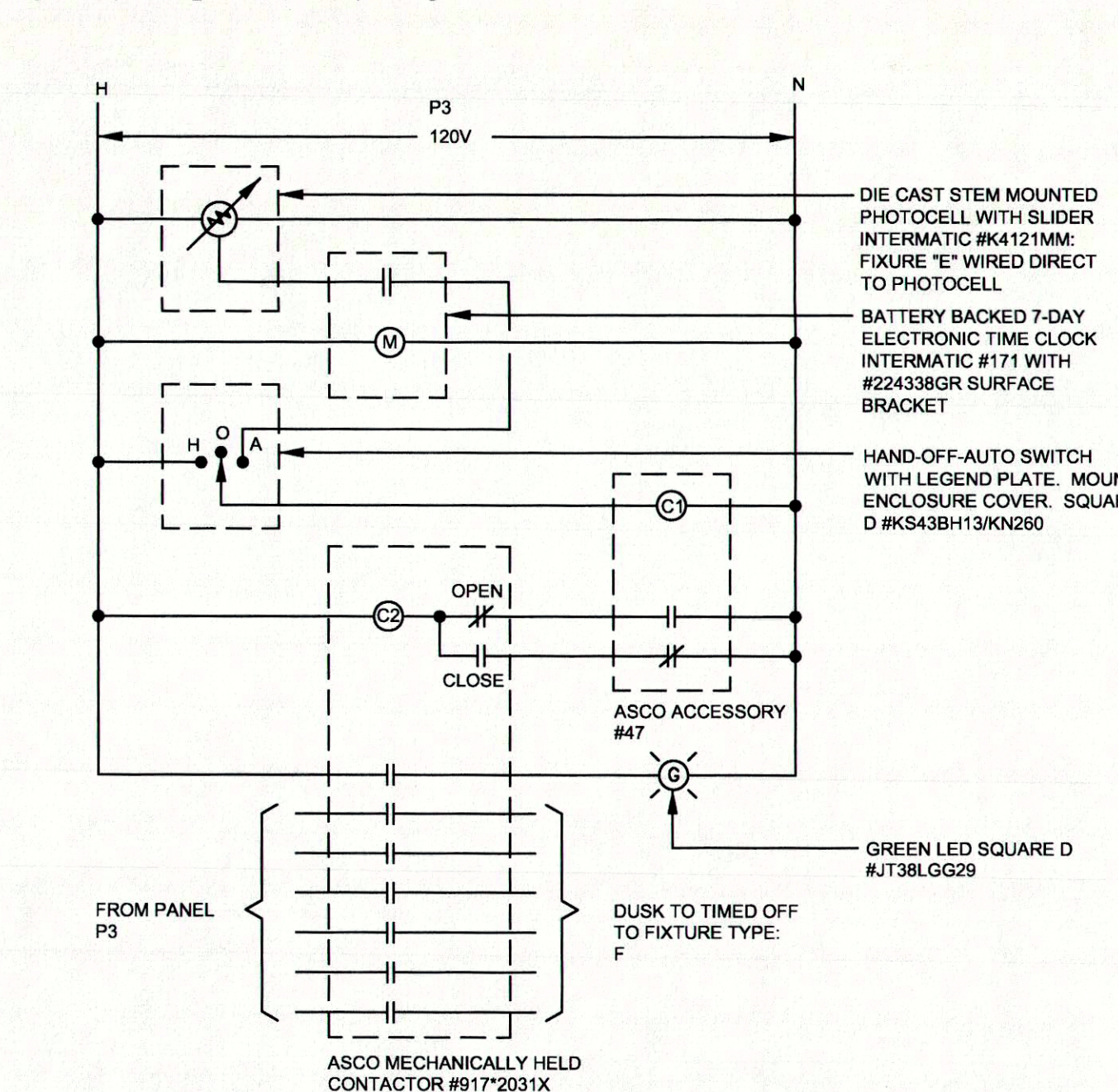
BOLLARD BASE DETAIL

NO SCALE



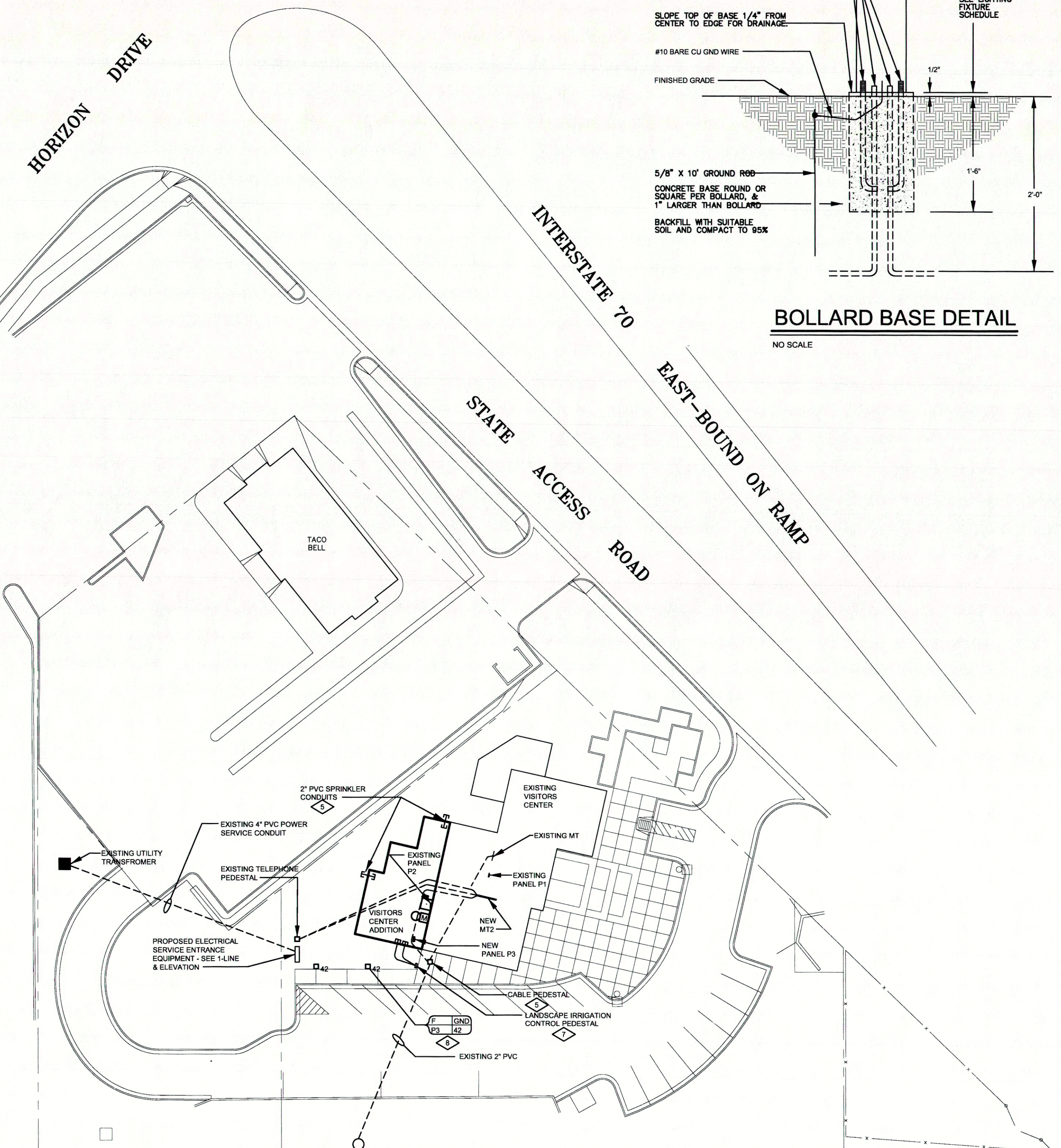
SERVICE EQUIPMENT ELEVATION

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



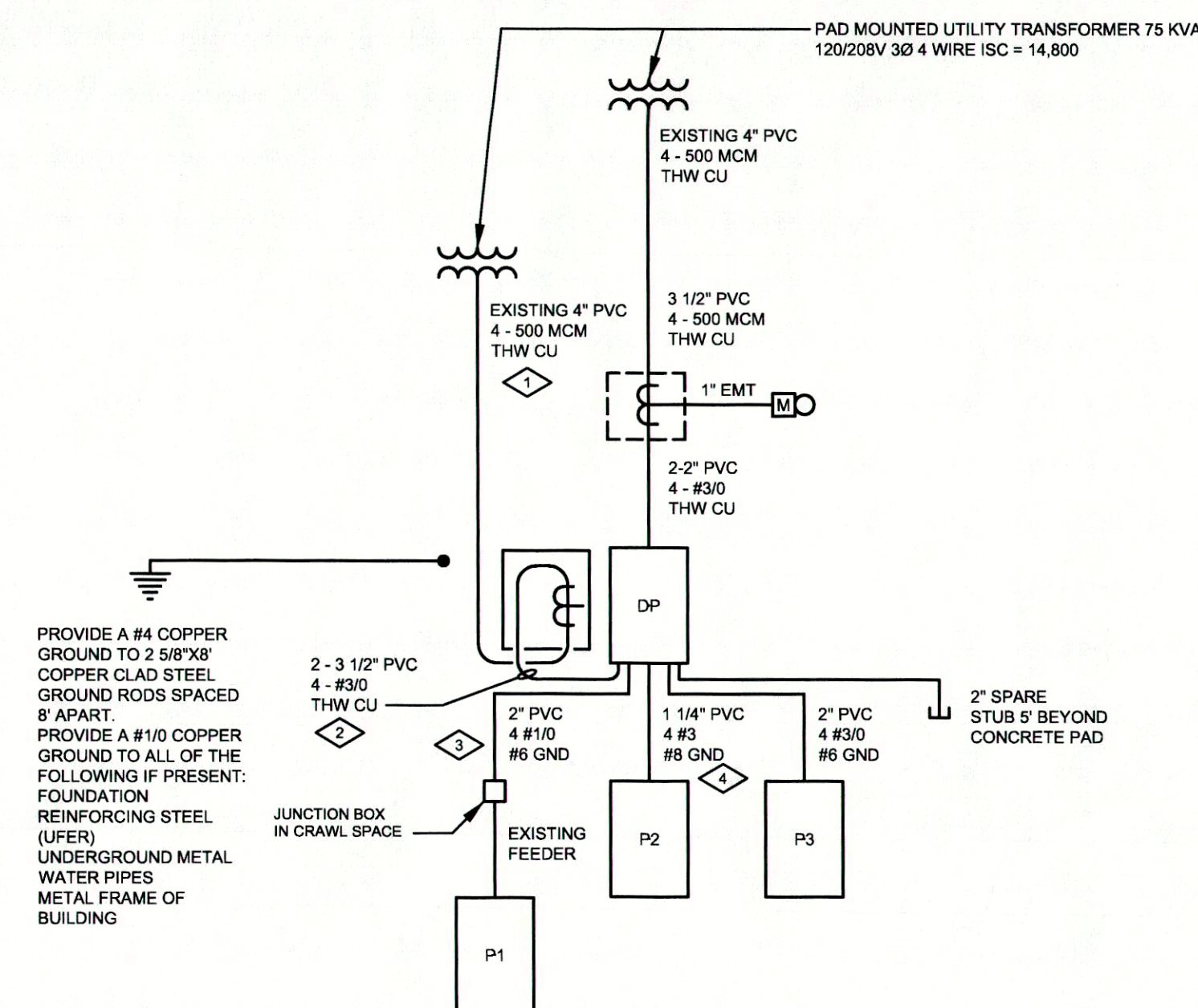
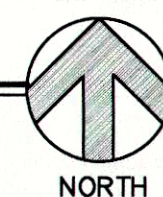
EXTERIOR LIGHTING CONTACTOR

NO SCALE



SITE PLAN

SCALE: 1" = 30'-0"

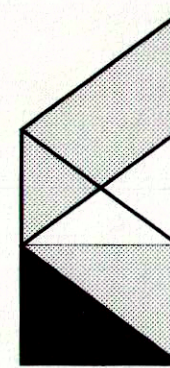


ONE LINE DIAGRAM

NO SCALE

Revision/Date

GS ROBSON - ARCHITECTURE, INC.

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09/05/06

drawing: 80133ITE

E1

OF 5

EQUIPMENT SCHEDULE - GENERAL

EQUIPMENT	RATINGS	SUPPLIED	BRANCH CIRCUIT	PROTECTIVE DEVICE	CONTROLLER	EQUIPMENT DISCONNECT	CONTROLLER DISCONNECT	CONTROL DEVICE	SEE
DESIG	DESCRIPTION	INSTALLED	MATERIAL	TYPE	LOCATION	TYPE	TYPE	TYPE	REF
									NOTE
CM-1	120 12.5A 1PH 2W COFFEE MAKER	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
DL-1	120 9.8A 1PH 2W DISPOSAL	PLUMB SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
DW-1	120 8.2A 1PH 2W DISHWASHER	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
MW-1	120 12.5A 1PH 2W MICROWAVE	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
RE-1	120 7.2A 1PH 2W REFRIGERATOR - 1/3 HP	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
UP-1	120 16A 1PH 2W SERVER UPS	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
UP-2	120/208 25A 3PH 4W FUTURE SERVER UPS	OWNER	0.5 EMT	10	10	BREAKER 30	PANELBOARD	NONE REQUIRED	---
XR-1	120 10A 1PH 2W COPY MACHINE	OWNER	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---

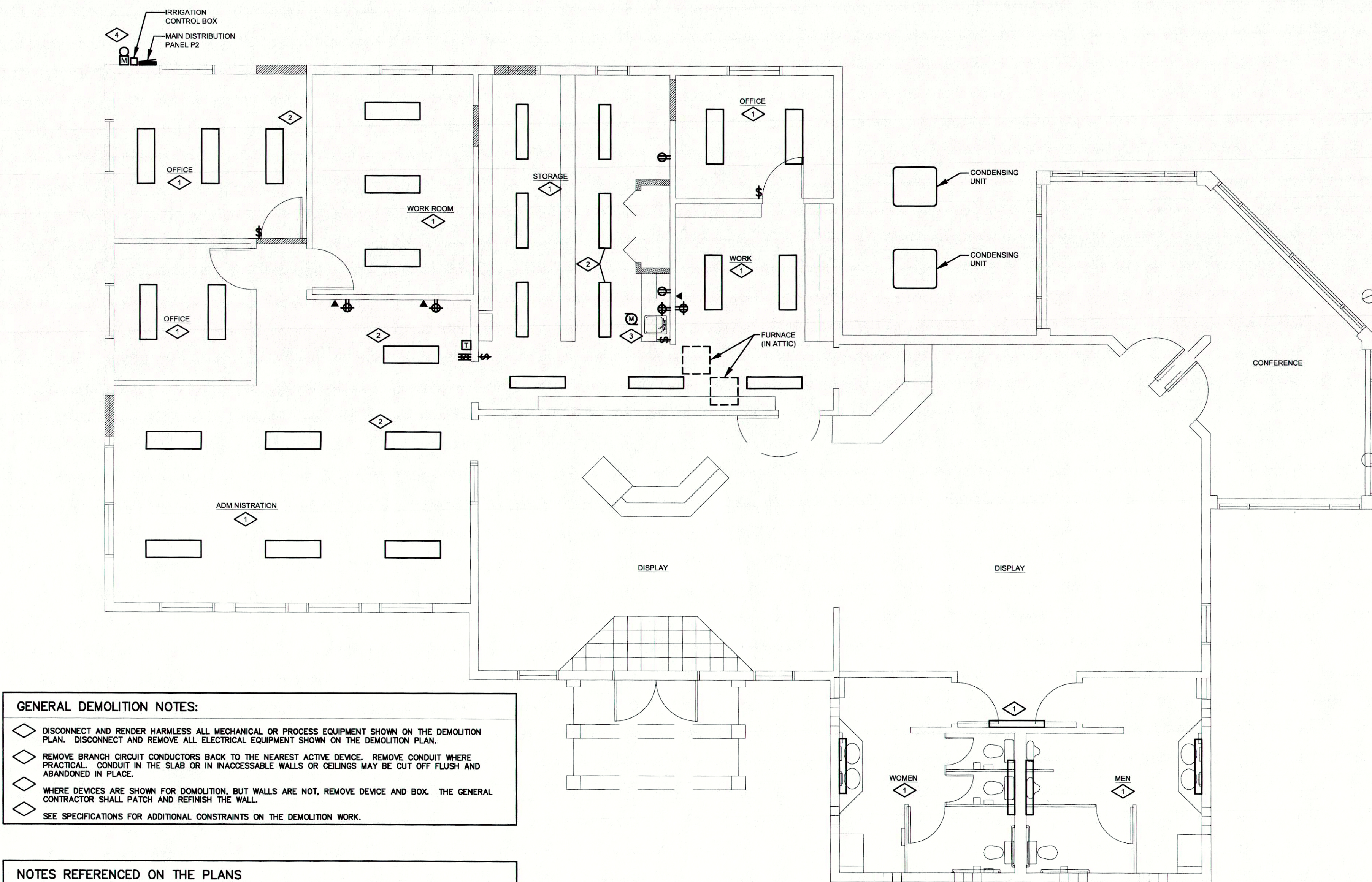
GENERAL NOTES:
 G1 CONFIRM EQUIPMENT VOLTAGE, PHASES, OVERCURRENT DEVICE TYPE AND RATING WITH EQUIPMENT SUBMITTALS (OR OWNER FOR OWNER FURNISHED EQUIPMENT) PRIOR TO ELECTRICAL ROUGH-IN.
 G2 RACEWAY MATERIAL LISTED IS THE PRIMARY TYPE FOR EACH PIECE OF EQUIPMENT. SEE NOTES AND SPECIFICATIONS FOR OTHER RACEWAY TYPES WHICH MAY BE REQUIRED.

EQUIPMENT SCHEDULE - MECHANICAL

EQUIPMENT	RATINGS	SUPPLIED	BRANCH CIRCUIT	PROTECTIVE DEVICE	CONTROLLER	EQUIPMENT DISCONNECT	CONTROLLER DISCONNECT	CONTROL DEVICE	SEE
DESIG	DESCRIPTION	INSTALLED	MATERIAL	TYPE	LOCATION	TYPE	TYPE	TYPE	REF
									NOTE
AC-1A	120 5A 1PH 2W AIR CONDITIONING UNIT (INDOOR)	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
AC-1B	208 8.2A 1PH 2W AIR CONDITIONING UNIT (OUTDOOR)	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
CP-1	120 44A 1PH 2W CONDENSATE PUMP	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
CU-1	208 23A 3PH 3W CONDENSING UNIT	MECH SUB	0.75 EMT	10	10	BREAKER 40	PANELBOARD	NONE REQUIRED	---
CU-2	208 23A 3PH 3W CONDENSING UNIT	MECH SUB	0.75 EMT	10	10	BREAKER 40	PANELBOARD	NONE REQUIRED	---
CU-3	208 23A 3PH 3W CONDENSING UNIT	MECH SUB	0.75 EMT	10	10	BREAKER 40	PANELBOARD	NONE REQUIRED	---
EF-1	120 1A 1PH 2W EXHAUST FAN	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
GF-1	120 12.9A 1PH 2W FURNACE	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
GF-2	120 12.9A 1PH 2W FURNACE	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
GF-3	120 12.9A 1PH 2W FURNACE	MECH SUB	0.5 EMT	12	12	BREAKER 20	PANELBOARD	NONE REQUIRED	---
WH-1	208 21.6A 1PH 2W WATER HEATER - ELECTRIC	PLUMB SUB	0.75 EMT	10	10	BREAKER 30	PANELBOARD	NONE REQUIRED	---

GENERAL NOTES:
 G1 CONFIRM EQUIPMENT VOLTAGE, PHASES, OVERCURRENT DEVICE TYPE AND RATING WITH EQUIPMENT SUBMITTALS (OR OWNER FOR OWNER FURNISHED EQUIPMENT) PRIOR TO ELECTRICAL ROUGH-IN.
 G2 RACEWAY MATERIAL LISTED IS THE PRIMARY TYPE FOR EACH PIECE OF EQUIPMENT. SEE NOTES AND SPECIFICATIONS FOR OTHER RACEWAY TYPES WHICH MAY BE REQUIRED.

REFERENCE NOTES:
 1 RECEIVE SOLID STATE SPEED CONTROLLER FROM MECHANICAL CONTRACTOR. MOUNT AND WIRE IN FAN HOUSING.
 2 RECEIVE THERMOSTAT FROM MECHANICAL CONTRACTOR MOUNT AND WIRE AS SHOWN ON PLANS.
 3 INTERLOCK EACH CONDENSING UNIT WITH ASSOCIATED FURNACE.



GENERAL DEMOLITION NOTES:

- ◇ DISCONNECT AND RENDER HARMLESS ALL MECHANICAL OR PROCESS EQUIPMENT SHOWN ON THE DEMOLITION PLAN. DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT SHOWN ON THE DEMOLITION PLAN.
- ◇ REMOVE BRANCH CIRCUIT CONDUCTORS BACK TO THE NEAREST ACTIVE DEVICE. REMOVE CONDUIT WHERE PRACTICAL. CONDUIT IN THE SLAB OR IN INACCESSIBLE WALLS OR CEILINGS MAY BE CUT OFF FLUSH AND ABANDONED IN PLACE.
- ◇ WHERE DEVICES ARE SHOWN FOR DEMOLITION, BUT WALLS ARE NOT, REMOVE DEVICE AND BOX. THE GENERAL CONTRACTOR SHALL PATCH AND REFINISH THE WALL.
- ◇ SEE SPECIFICATIONS FOR ADDITIONAL CONSTRAINTS ON THE DEMOLITION WORK.

NOTES REFERENCED ON THE PLANS

- ① REMOVE EXISTING LIGHTING FIXTURE(S) AND REPLACE WITH FIXTURE(S) AS SHOWN ON E4.
- ② REMOVE EXISTING LIGHTING FIXTURE. DO NOT REPLACE AT THIS LOCATION.
- ③ RELOCATE EXHAUST FAN TO BREAK ROOM. SEE POWER PLAN DRAWING E4.
- ④ REMOVE METER, TEMPORARILY FEED PANEL P2 FROM PANEL DP. OWNER TO RELOCATE IRRIGATION CONTROLLER.

DEMOLITION PLAN

SCALE: 3/16" = 1'-0"

PANEL SCHEDULE - DP

LOAD TYPE	LOAD DESCRIPTION	AMPS	CT#	POLES	PHASES	WIRING	SC RATING	NEUTRAL BUS	YES
MISCELLANEOUS	---	---	---	---	---	---	---	---	---
MISCELLANEOUS	PANEL P1	200A	3	16667	B	4	8333	100A	3P
MISCELLANEOUS	---	---	---	---	---	---	---	---	---
SUBFEED	---	---	---	---	---	---	---	---	---
SUBFEED	PANEL P3	200A	3P	9	B	10	---	---	---
SUBFEED	---	---	---	---	---	---	---	---	---
SPACE	---	---	---	---	---	---	---	---	---
SPACE	---	---	---	---	---	---	---	---	---
SPACE	---	---	---	---	---	---	---	---	---
SPACE	---	---	---	---	---	---	---	---	---

LOADS BY TYPE:	CONNECTED LOAD (VA)	DEMAND FACTOR	DEMAND LOAD (VA)	PHASE	CONNECTED LOAD (VA)	CONNECTED LOAD (AMPS)	BALANCE (PERCENT)
LIGHTING	4199.00	1.25	5248.75	A	46223.50	385.20	A-B: 98.8
KITCHEN	3176.00	1.00	3176.00	B	48856.50	390.46	B-C: 91.5
PROCESS	0.00	1.00	0.00	C	42894.30	337.45	C-A: 92.9
RECEPTACLES	7600.00	1.00	7600.00	---	---	---	---
MECH HEATING	4644.00	1.00	4644.00	---	---	---	---
MECH COOLING	24859.00	1.00	24859.00	---	---	---	---
MECH YEAR ROUND	12398.00	1.00	12398.00	---	---	---	---
APPLIANCE	0.00	1.00	0.00	---	---	---	---
MISCELLANEOUS	75500.00	1.00	75500.00	---	---	---	---
MOTOR	0.00	1.00	0.00	---	---	---	---
SPARE	3600.00	1.00	3600.00	---	---	---	---
LARGEST MOTOR	ABOVE	0.25	2071.50	---	---	---	---
TOTAL	135976.00	---	134453.00	---	---	---	---

PANEL SCHEDULE - P3

LOAD TYPE	LOAD DESCRIPTION	AMPS	CT#	POLES	PHASES	WIRING	SC RATING	NEUTRAL BUS	YES
LIGHTING	WORK112, HALLS, OFFICE 115	20A	1	754	A	2	1080	20A	1P
LIGHTING	OFFICES 109, 110, 111, 113	20A	3	945	B	4	1260	20A	1P
RECEPTACLE	CRAM. SPACE POWER & LIGHTS	20A	5	300	C	6	1080	20A	1P
SPARE	UNALLOCATED FUTURE	20A	7	1200	A	8	1080	20A	1P
SPARE	UNALLOCATED FUTURE	20A	9	1200	B	10	1080	20A	1P
SPARE	UNALLOCATED FUTURE	20A	11	1200	C	12	1080	20A	1P
MECH YEAR ROUND	WATER HEATER - ELECTRIC (WH-1)	30A	2P	2246	A	14	600	20A	1P
MECH YEAR ROUND	---	---	---	---	---	---	---	---	---
MECH YEAR ROUND	A/C UNIT (INDOOR) (AC-1A)	20A	1P	600	C	18	1548	20A	1P
MECH YEAR ROUND	A/C UNIT (OUTDOOR) (AC-1B)	20A	1P	600	A	20	1548	20A	1P
MECH YEAR ROUND	HACR RATED BREAKER	20A	2P	853	B	22	1548	20A	1P
KITCHEN	EXTG-KITCHEN	20A	23	1000	C	24	2762	40A	3P
KITCHEN	EXTG-KITCHEN	20A	25	1000	A	26	2762	40A	3P
LIGHTING	EXTG-CONFERENCE	20A	27	1000	B	28	2762	40A	3P
RECEPTACLE	CONFERENCE	20A	29	1000	C	30	2762	40A	3P
KITCHEN	EXTG-SINK, REFRIG, GF1	20A	31	1176	A	32	2762	40A	3P
MECH YEAR ROUND	EXTG-PTAC-1 HACR RATED BREAKER	20A	33	1400	B	34	2762	40A	3P
MECH YEAR ROUND	---	---	---	---	---	---	---	---	---
MECH YEAR ROUND	EXTG-PTAC-1 HACR RATED BREAKER	20A	37	1400	A	38	2762	40A	3P
MECH YEAR ROUND	---	---	---	---	---	---	---	---	---
MISCELLANEOUS	EXTG - IRRIGATION CONTROLS	20A	41	500	C	42	300	20A	1P

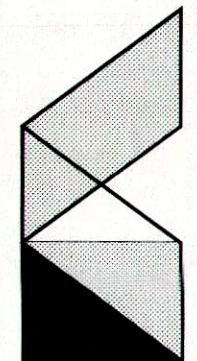
LOADS BY TYPE:	CONNECTED LOAD (VA)	DEMAND FACTOR	DEMAND LOAD (VA)	PHASE	CONNECTED LOAD (VA)	CONNECTED LOAD (AMPS)	BALANCE (PERCENT)
LIGHTING	4199.00	1.25	5248.75	A	21223.50	176.86	A-B: 97.1
KITCHEN	3176.00	0.85	2698.40	B	182.15	1.46	B-C: 81.9
PROCESS	0.00	1.00	0.00	C	17894.30	149.12	C-A: 84.3
RECEPTACLES	7600.00	1.00	7600.00	---	---	---	---
MECH HEATING	4644.00	1.00	4644.00	---	---	---	---
MECH COOLING	24859.00	1.00	24859.00	---	---	---	---
MECH YEAR ROUND	12398.00	1.00	12398.00	---	---	---	---
APPLIANCE	0.00	1.00	0.00	---	---	---	---
MISCELLANEOUS	500.00	1.00	500.00	---	---	---	---
MOTOR	0.00	1.00	0.00	---	---	---	---
SPARE	3600.00	1.00	3600.00	---	---	---	---
LARGEST MOTOR	ABOVE	0.25	2071.50	---	---	---	---
TOTAL	60976.00	---	58342.00	---	---	---	---

WIRING DEVICES/DEVICE PLATE SCHEDULE

DEVICE NUMBER	DESCRIPTION	MANUFACTURER	DEVICE	PLATE	BOX
W001	FLUSH WALL CABLE OUTLET	STEEL CITY	BY OTHERS	BY OTHERS	NONE
W001	FLUSH WALL JUNCTION BOX FOR POWER AND SIGNAL OUTLETS	STEEL CITY	BY OTHERS	BY OTHERS	1-GANG JUNCTION BOX
WP01	FLUSH WALL PHONE/NETWORK	---	BY OTHERS	BY OTHERS	NONE
WP02	FLUSH FLOOR PHONE/NETWORK	---	BY OTHERS	BY OTHERS	NONE
WR01	15A, NEMA 5-15R, STANDARD STYLE, DUPLEX, SIDE & BACK WIRED SPECIFICATION GRADE RECEPTACLE.	LEVITON	5262A-I	86103-I	1-GANG
WR02	15A, NEMA 5-15R, STANDARD STYLE, FOURPLEX, SIDE & BACK WIRED SPECIFICATION GRADE RECEPTACLE.	LEVITON	5262A-I	86103-I	2-GANG
WR03	30A, NEMA 5-30R, STRAIGHT BLADE, SINGLE 3 PHASE 4 WIRE GROUNDING SPECIFICATION GRADE RECEPTACLE FOR OWNERS FUTURE UPS.	LEVITON	8430	302SS	2-GANG
WR04	20A, NEMA 5-20R, STANDARD STYLE, DUPLEX, SIDE & BACK WIRED SPECIFICATION GRADE RECEPTACLE.	LEVITON	5362A-I	86103-I	1-GANG
WR05	15A, NEMA 5-15R, STANDARD STYLE, DUPLEX, SIDE & BACK WIRED SPECIFICATION GRADE RECEPTACLE IN FLUSH FLOOR BOX WITH BRASS FLANGE & COVERS.	LEVITON	5262A-I	86103-I	2-GANG HUBBELL B2482, S3826, SB3084W
WR06	20A, NEMA 5-20R, DUPLEX GF, SIDE & BACK WIRED SPECIFICATION GRADE RECEPTACLE IN BOX WITH WEATHERPROOF IN-USE COVER.	LEVITON	6898-I	5876-GY	1-GANG
WS01	20A, SINGLE POLE TOGGLE, SIDE & BACK WIRED SPECIFICATION GRADE SWITCH.	LEVITON	1221-2-I	86101-I	1-GANG
WS03	20A, 3-WAY TOGGLE, SIDE & BACK WIRED SPECIFICATION GRADE SWITCH.	LEVITON	1223-2-I	86101-I	1-GANG
WS04	20A, DECORA STYLE, SINGLE POLE, SIDE & BACK WIRED SPECIFICATION GRADE SWITCH. RATED FOR 1 HP.	LEVITON	1221-2-I	STAMPED STEEL	1-GANG

Revision/Date

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issue date:
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drawing: 60136D01

E2

OF 5

ELECTRICAL LEGEND

SWITCHES: MH = 3'-10" TO CENTER

- 1 SINGLE POLE SWITCH
b = SWITCH DESIGNATION
SEE DEVICE SCHEDULE FOR SPECIFICATION
- 2 TWO POLE SWITCH
- 3 THREE WAY SWITCH
- 4 FOUR WAY SWITCH
- 5 SINGLE PUSHBUTTON STATION
- 6 SINGLE PUSHBUTTON STATION
- 7 EXTERIOR MOTION SWITCH

LIGHTING FIXTURES

- FLUORESCENT - LENSED
1 = CIRCUIT DESIGNATION
b = SWITCH DESIGNATION
HALF SHADED = EMERGENCY
- FLUORESCENT - OPEN
- CEILING MOUNTED
- WALL BRACKET
MH - SEE PLANS
- POLE MOUNTED - SINGLE
- POLE MOUNTED - DOUBLE
- TRACK
- EMERGENCY BATTERY UNIT

GENERAL SYMBOLS

- AC-1 EQUIPMENT
AC-1 = DESIGNATION - SEE SCHEDULE
- REVISION
- ROOM NUMBER
- SECTION MARK
A = SECTION DESIGNATION
E1 = REFERENCE DRAWING

ABBREVIATIONS

- A AMPERES
- AFB ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- BC BELOW CEILING
- BKR BREAKER
- C CEILING
- DD DUSK TO DAWN
- DTO DUSK TO TIMED OFF
- EM SWITCHED EMERGENCY
- EMT ELECTRICAL METALLIC TUBING
- EN NON-SWITCHED EMERGENCY
- EX EXISTING
- G GROUND FAULT CURRENT INTERRUPTER
- GRC GALVANIZED RIGID CONDUIT
- GRD GROUND
- IG ISOLATED GROUND
- J JUNCTION BOX
- K KEY OPERATED SWITCH
- L SWITCH WITH PILOT LIGHT
- LA LIGHTING ARRESTOR
- NOT IN CONTRACT
- NL NIGHT LIGHT
- NOT TO SCALE
- O OCCUPANCY SENSING SWITCH
- PVC POLYVINYL CHLORIDE
- R MOTOR RATED SWITCH
- W WEATHERPROOF
- WG WEATHERPROOF/GFCI

GENERAL LIGHTING NOTES:

PROVIDE A SEPARATE GREEN INSULATED GROUND WIRE SIZED PER NATIONAL ELECTRICAL CODE TABLE 250.122 IN ALL BRANCH CIRCUIT AND FEEDER RACEWAYS CONTAINING POWER CONDUCTORS. GROUND WIRE IS NOT INCLUDED IN INCH/POUND COUNT ON DRAWINGS.

REVIEW ARCHITECTURAL REFLECTED CEILING PLANS PRIOR TO INSTALLATION OF LIGHT FIXTURES. CALL ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER.

FIXTURE MOUNTING HEIGHTS SHOWN ON THE PLANS TAKE PRECEDENCE OVER DEFAULT MOUNTING HEIGHTS SHOWN IN THE LEGEND.

REVIEW DOOR SWINGS ON ARCHITECTURAL PLANS PRIOR TO SWITCH ROUGH-IN. WHERE CONFLICT EXISTS BETWEEN THE ARCHITECTURAL PLANS AND THE ELECTRICAL PLANS, THE ARCHITECTURAL PLANS TAKE PRECEDENCE. RELOCATE ANY SWITCHES WHICH WOULD FALL ON THE HINGE SIDE OF DOORS.

PROVIDE AN UNSWITCHED CONDUCTOR TO ALL BATTERY BACKED EMERGENCY FIXTURES FOR CHARGING AND TRANSFER. EMERGENCY FIXTURES WITH A SWITCH DESIGNATION SHALL BE SWITCHED. EMERGENCY FIXTURES WITH A NIGHT LIGHT DESIGNATION (NL) AND EXIT SIGNS SHALL BE ON CONSTANTLY. FIXTURES USED SOLELY FOR EMERGENCY EGRESS (PROG EYES) SHALL ILLUMINATE ONLY ON POWER FAILURE. ALL EMERGENCY FIXTURES SHALL ILLUMINATE DURING UTILITY POWER FAILURES.

ALL LIGHT SWITCHES ARE TO BE INSTALLED FLUSH UNLESS OTHERWISE INDICATED.

THE MOUNTING HEIGHT OF DIRECT OR DIRECT/INDIRECT WALL MOUNTED LIGHTING FIXTURES IS THE DISTANCE FROM THE FINISHED FLOOR TO THE BOTTOM OF THE LIGHTING FIXTURE DIFFUSER OR REFLECTOR. DETERMINE THE BOX HEIGHT FROM THE LIGHTING FIXTURE MOUNTING HEIGHT AND THE LIGHTING FIXTURE DIMENSIONS.

THE MOUNTING HEIGHT OF INDIRECT WALL MOUNTED LIGHTING FIXTURES IS THE DISTANCE FROM THE FINISHED FLOOR TO THE TOP OF THE LIGHTING FIXTURE DIFFUSER OR REFLECTOR. DETERMINE THE BOX HEIGHT FROM THE LIGHTING FIXTURE MOUNTING HEIGHT AND THE LIGHTING FIXTURE DIMENSIONS.

THE MOUNTING HEIGHT OF INDIRECT OR DIRECT/INDIRECT CORD, CHAIN, PENDANT, OR AIRCRAFT CABLE SUPPORTED LIGHTING FIXTURES IS THE DISTANCE FROM THE FINISHED FLOOR TO THE TOP OF THE LIGHTING FIXTURE DIFFUSER OR REFLECTOR. DETERMINE CORD, CHAIN, PENDANT, OR AIRCRAFT CABLE LENGTH FROM THE LIGHTING FIXTURE MOUNTING HEIGHT, LIGHTING FIXTURE DIMENSIONS, AND THE CEILING HEIGHT.

THE FOLLOWING MAIN KEY DEFINES LIGHTING FIXTURES AND CONTROLS IN THE ROOM LISTED. ALL DEVICES IN THIS SPACE ARE TO COMPLY WITH THIS MAIN KEY UNLESS OVERRIDDEN BY A TAG.

- ROOM NAME - SWITCH MOUNTING FLUSH OR SURFACE: HEIGHT
- SWITCH DESIGNATION - SEE WIRING DEVICE SCHEDULE - LIGHT FIXTURE MOUNTING FLUSH OR SURFACE: HEIGHT
- FIXTURE DESIGNATION - SEE LIGHTING FIXTURE SCHEDULE - ROOM NUMBER
- PANEL DESIGNATION

THE FOLLOWING TAG DEFINES LIGHTING FIXTURES AND CONTROLS WHICH ARE DIFFERENT FROM THOSE DEFINED IN THE MAIN KEY. THIS TAG OVERRIDES THE MAIN KEY FOR THE SWITCH OR LIGHTING FIXTURE INDICATED AND SIMILARLY SHAPED LIGHTING FIXTURES IN THIS SPACE.

- SWITCH OR FIXTURE DESIGNATION - SEE SCHEDULE - SWITCH OR FIXTURE MOUNTING FLUSH OR SURFACE: HEIGHT
- PANEL DESIGNATION - TYPICAL NUMBER OF THIS TYPE OF LIGHTING FIXTURE

SEE SPECIFICATIONS FOR ADDITIONAL CONSTRAINTS ON THE INSTALLATION OF THE LIGHTING SYSTEM.

NOTES REFERENCED ON THE PLANS

- 1 NEW LIGHTING FIXTURE(S) TO BE INSTALLED IN SAME LOCATION AS OLD LIGHTING FIXTURE(S). CIRCUITING AND SWITCHING TO REMAIN THE SAME.
- 2 NEW LIGHTING FIXTURE TO BE INSTALLED 1'-0" TO EAST OF WHERE OLD LIGHTING FIXTURE WAS PATCH HOLE IN CEILING. CIRCUITING AND SWITCHING TO REMAIN THE SAME.
- 3 NEW LIGHTING FIXTURE ADDED. EXTEND EXISTING CIRCUIT IN ADMINISTRATION AREA TO NEW FIXTURE. SWITCH WITH OTHER LIGHTING FIXTURES IN ADMINISTRATION AREA.
- 4 NEW LOCATION FOR 3-WAY SWITCH FOR ADMINISTRATION LIGHTING FIXTURES. REVISE SWITCHING AS SHOWN. CIRCUITING TO REMAIN THE SAME.
- 5 REUSE EXISTING LIGHTING CIRCUIT THAT SERVES THIS AREA.
- 6 STORAGE ROOM HAS BEEN RECONFIGURED. ADD 3-WAY SWITCHES AS SHOWN. CIRCUITING TO REMAIN THE SAME.
- 7 DOOR ADDED TO OFFICE. ADD 3-WAY SWITCHES AS SHOWN. CIRCUITING TO REMAIN THE SAME.
- 8 NEW LIGHTING FIXTURE TO BE INSTALLED OVER EXISTING HOLE IN CEILING. REVISE CIRCUITING AND SWITCHING AS SHOWN ON PLAN.
- 9 EXTEND EXISTING ADMINISTRATION LIGHTING CIRCUIT TO NEW CABINET LIGHTS.
- 10 NEW LIGHTING FIXTURE(S) TO BE INSTALLED IN SAME LOCATION AS OLD LIGHTING FIXTURE(S). CIRCUITING TO REMAIN THE SAME. REVISE SWITCHING AS SHOWN ON PLAN.
- 11 PROVIDE A TYPE "D" LIGHT IN THE ATTIC. PROVIDE 4 HOUR TORK TIMER SWITCH BY ATTIC DOOR (WITHOUT HOLD). PROVIDE A DUPLEX RECEPTACLE NEXT TO SWITCH. WIRE TO SPARE BREAKER IN PANEL A.
- 12 PROVIDE A TYPE "D" LIGHT IN THE CRAWL SPACE NEAR MECHANICAL EQUIPMENT. PROVIDE A TORK TIMER BY CRAWL SPACE DOOR (WITHOUT HOLD). PROVIDE A DUPLEX RECEPTACLE NEXT TO SWITCH. WIRE TO P3-5.

LIGHTING PLAN

SCALE: 3/16" = 1'-0"

0 2 4 6 12 16 NORTH

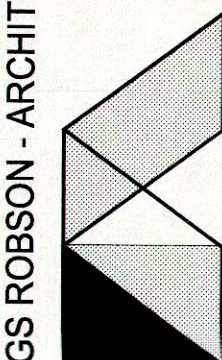
LIGHTING FIXTURE SCHEDULE

DESIGNATION	VOLTAGE WATTS HEIGHT WIDTH/DEPTH LENGTH	HOUSING MATERIAL FINISH DIFFUSER/REFLECTOR LAMP MOUNTING FIXTURE MOUNTING	LAMP DESCRIPTION LAMP LUMENS FIRST BALLAST SECOND BALLAST	MANUFACTURER CATALOG NUMBER OTHER APPROVED MANUFACTURERS	FIXTURE DESCRIPTION
A	120 VOLTS 105 WATTS 5.25 INCHES 24 INCHES 48 INCHES	STEEL PAINTED WHITE WHITE TRANSLUCENT DIRECT CEILING SURFACE	F3278XL/SPK35H/ECO 2850 LUMENS ELECTRONIC 20%THD ELECTRONIC 20%THD	PRUDENTIAL P-1124-278-SWA-YGW-DC-120- SUR-RSE HUBBELL, INC. OR 5 DAY PRIOR APPROVAL	3 LAMP RAPID START FLUORESCENT DECORATIVE/ARCHITECTURAL FIXTURE TO BE USED IN A 60° DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE AND TWO BALLASTS FOR MULTI LEVEL SWITCHING. FIXTURE TO BE "CLOSE" TYPE WITH TOUNDED EDGES
B	120 VOLTS 60 WATTS 5.25 INCHES 12 INCHES 48 INCHES	STEEL PAINTED WHITE WHITE TRANSLUCENT DIRECT CEILING SURFACE	F3278XL/SPK35H/ECO 2850 LUMENS ELECTRONIC 20%THD NONE	PRUDENTIAL P-1124-278-SWA-YGW-SC-120- SUR-RSE HUBBELL, INC. OR 5 DAY PRIOR APPROVAL	2 LAMP RAPID START FLUORESCENT DECORATIVE/ARCHITECTURAL FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE. FIXTURE TO BE "CLOSE" TYPE WITH ROUNDED EDGES
C	120 VOLTS 20 WATTS 1.25 INCHES 5 INCHES 24.5 INCHES	STEEL PAINTED WHITE WHITE TRANSLUCENT DIRECT UNDER CABINET	F81SCW 400 LUMENS ELECTRONIC 20%THD NONE	ALCO HP1180F NULITE OR 5 DAY PRIOR APPROVAL	2 LAMP RAPID START FLUORESCENT ACCENT FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE. UNDER CABINET FIXTURE WITH OPAQUE FRONT LENS.
D	120 VOLTS 105 WATTS 3 INCHES 12 INCHES 48 INCHES	STEEL PAINTED WHITE ACRYLIC PRISMATIC DIRECT CEILING SURFACE	F3278XL/SPK35H/ECO 2850 LUMENS ELECTRONIC 20%THD NONE	LITHONIA L8 3 32 120 GEB HUBBELL, INC. OR 5 DAY PRIOR APPROVAL	3 LAMP RAPID START FLUORESCENT WRAPAROUND FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE.
E	120 VOLTS 80 WATTS 6.1 INCHES 8 INCHES 48 INCHES	STEEL PAINTED WHITE ACRYLIC PRISMATIC DIRECT CEILING RECESSED	F2608X/SPK35 - SYLVANIA 1700 LUMENS ELECTRONIC 10%THD NONE	LITHONIA (GOTHAM) AF 226D1T BAR A12 120 GEB10 ELR HUBBELL, INC. OR 5 DAY PRIOR APPROVAL	2 LAMP COMPACT FLUORESCENT DOWNLIGHT FIXTURE TO BE USED IN A 60° DRY ENVIRONMENT. FIXTURE TO HAVE A 8" ROUND APERTURE. PRISMATIC LENS AND WHITE PLAYED TRIM AND REMOTE BATTERY PACK.
F	120 VOLTS 60 WATTS 6 INCHES 8 INCHES 48 INCHES	STEEL PAINTED BRONZE FLARED CONE DIRECT/INDIRECT GROUND	50 W MEDIUM BASE COATED 5000 LUMENS ENCASED AND POTTED NONE	LITHONIA KBE5 50M RS *** KIM JPL LIGHTING OR 5 DAY PRIOR APPROVAL	1 LAMP METAL HALIDE ROLLARD FIXTURE TO BE USED IN A 60 DEGREES F WET ENVIRONMENT. FIXTURE TO HAVE A SQUARE APERTURE. PROVIDE ANCHOR BOLTS. 8" SQUARE.
G	120 VOLTS 60 WATTS 8 INCHES 8 INCHES 48 INCHES	STEEL PAINTED WHITE CROSS BAFFLE DIRECT/INDIRECT WALL SURFACE	32W T8 3600 DES K78 GRI 2850 LUMENS ELECTRONIC 20%THD NONE	PRECISION ARCH LIGHTING ASE18-4-W-CPBW-FORM-120-18 ALERA LIGHTING	2 LAMP RAPID START FLUORESCENT WALL BRACKET/SCONE FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A SQUARE APERTURE.
X1	0 VOLTS 0 WATTS 4 INCHES 4 INCHES 22.75 INCHES	PLASTIC PAINTED WHITE GREEN TRANSLUCENT DIRECT UNIVERSAL WALL/CEILING	PERMANENT 0 LUMENS NONE NONE	LITHONIA RSW1G ---	1 LAMP TRITUM EMERGENCY FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE. NON BATTERY BACKED 10 YEAR NUCLEAR NON POWERED.
X2	120 VOLTS 2 WATTS 10.25 INCHES 4 INCHES 22.75 INCHES	PLASTIC PAINTED WHITE GREEN TRANSLUCENT DIRECT UNIVERSAL WALL/CEILING	PERMANENT 10 LUMENS NONE NONE	LITHONIA LOM S W 3 G 120 SURE-LITES DUAL-LITE LXUGW	2 LAMP LIGHT EMITTING DIODE EMERGENCY FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A RECTANGULAR APERTURE. NON-BATTERY BACKED LED EXIT WITH DOUBLE WHITE PLASTIC STENCIL FACE, GREEN LETTERS, AND UNIVERSAL MOUNTING CANNOPY.
XE	120 VOLTS 20 WATTS 18 INCHES 13 INCHES 16 INCHES	PLASTIC PAINTED GRAY NONE ADJUSTABLE WALL SURFACE	9W HALOGEN 800 LUMENS NONE NONE	LITHONIA IND250 W H121S SURE-LITES ---	2 LAMP QUARTZ INCANDESCENT EMERGENCY FIXTURE TO BE USED IN A 60 DEGREES F DRY ENVIRONMENT. FIXTURE TO HAVE A ROUND APERTURE. LEAD CALCIUM BATTERY BACKED.

- GENERAL NOTES:
- 1) PROVIDE A SINGLE MULTI-LAMP BALLAST FOR FLUORESCENT FIXTURES UNLESS OTHERWISE NOTED.
 - 2) ALL FIXTURES WHICH DO NOT LIST MULTIPLE MANUFACTURERS MUST BE BID ON A UNIT PRICE BASIS.
 - 3) FIXTURE HOUSINGS AND BALLASTS MUST COMPLY WITH ENVIRONMENTAL CONDITIONS IN DESCRIPTION.
 - 4) ACCESSORIES AND LAMPS SHALL BE SUPPLIED BY THE FIXTURE MANUFACTURER IF AVAILABLE.
 - 5) THE COLOR TEMPERATURE OF ALL LAMPS SHALL BE THE SAME. INFORM THE ENGINEER OF CONFLICTS.
 - 6) THE BALLAST FACTOR FOR FLUORESCENT BALLASTS SHALL BE THE CLOSEST TO UNITY IF AVAILABLE.
 - 7) ALL BATTERIES TO BE SIZED TO PROVIDE 90% OF SINGLE LAMP RATED LUMEN OUTPUT FOR 90 MINUTES.
 - 8) UNLESS OTHERWISE NOTED, ALL FLUORESCENT BALLASTS SHALL BE HIGH FREQUENCY ELECTRONIC TYPE.
 - 9) CONFIRM THAT FIXTURES WILL WORK WITH THE CEILING TO BE INSTALLED PRIOR TO RELEASE OF ORDER.
 - 10) UNLESS OTHERWISE NOTED, ALL FLUORESCENT BALLASTS SHALL BE HIGH FREQUENCY ELECTRONIC TYPE.
 - 11) SUBMIT CATALOG CUTS FOR APPROVAL FOR ALL LIGHT FIXTURES AND BALLASTS PRIOR TO RELEASE.
 - 12) IF CATALOG NUMBER CONFLICTS WITH FIXTURE DESCRIPTION, THEN DESCRIPTION TAKES PRECEDENCE.
 - 13) FIVE DAY PRIOR APPROVAL OF SUBSTITUTE FIXTURES IS REQUIRED FOR MANUFACTURERS NOT LISTED.
 - 14) ALL ACCESSORIES NECESSARY FOR THE INSTALLATION OF THE FIXTURES SHALL BE SUPPLIED.
 - 15) THE BALLAST FACTOR FOR FLUORESCENT BALLASTS SHALL BE THE CLOSEST TO UNITY IF AVAILABLE.
 - 16) INFORM THE ENGINEER OF ANY CONFLICTS BETWEEN SPECIFIED BALLAST AND LAMPS PRIOR TO PURCHASE.
 - 17) UNLESS OTHERWISE NOTED, ALL FLUORESCENT BALLASTS SHALL HAVE THE QUALITY TO OR LESS THAT 20%.
 - 18) ALL BALLASTS SHALL HAVE THE LOWEST SOUND RATING AVAILABLE.
 - 19) ALL BALLASTS IN THE FIXTURE CATALOG NUMBER REFER TO FIXTURE VOLTAGE.
 - 20) ALL LAMPS SHALL BE LOW MERCURY. TOLP COMPLIANT IF AVAILABLE.

Revision/Date

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GRAND JUNCTION, CO

issue date:

09/05/06

drawing: 6013EL01

E3

OF 5

ELECTRICAL LEGEND

EQUIPMENT

- CONTACTOR
30 = AMPERE RATING
MH = 4'-6" TO TOP
- MAGNETIC MOTOR STARTER
MH = 4'-6" TO TOP
- FUSED DISCONNECT
MH = 4'-6" TO TOP
- UNFUSED DISCONNECT
MH = 4'-6" TO TOP
- ENCLOSED CIRCUIT BREAKER
- MOTOR
- PANEL BOARD
L1A = DESIGNATION
5'-9" TO TOP
- PHOTOCELL
- TIME CLOCK
MH = 4'-6" TO TOP
- COMBINATION MOTOR STARTER
MH = 4'-6" TO TOP
- THERMOSTAT
MH = 4'-6" TO TOP
- DRY TYPE TRANSFORMER
TR1 = DESIGNATION - SEE 1-LINE

ABBREVIATIONS

- A AMPERES
- AFF ABOVE FINISHED FLOOR
- AFG ABOVE FINISHED GRADE
- BC BELOW CEILING
- BKR BREAKER
- CC CEILING
- DD DUSK TO DAWN
- DTO DUSK TO TIMED OFF
- EM SWITCHED EMERGENCY
- EMT ELECTRICAL METALLIC TUBING
- EN NON-SWITCHED EMERGENCY
- EX EXISTING
- G GROUND FAULT CURRENT INTERRUPTER
- GRG GALVANIZED RIGID CONDUIT
- GRD GROUND
- IG ISOLATED GROUND
- J JUNCTION BOX
- K KEY OPERATED SWITCH
- L SWITCH WITH PILOT LIGHT
- LA LIGHTING ARRESTOR
- NIC NOT IN CONTRACT
- NL NIGHT LIGHT
- NTS NOT TO SCALE
- O OCCUPANCY SENSING SWITCH
- PVC POLYVINYL CHLORIDE
- R MOTOR RATED SWITCH
- W WEATHERPROOF
- WG WEATHERPROOF/GFIC

GENERAL SYMBOLS

- EQUIPMENT
AC-1 = DESIGNATION - SEE SCHEDULE
- FLAG NOTE
- REVISION
- ROOM NUMBER
- SECTION MARK
A = SECTION DESIGNATION
E1 = REFERENCE DRAWING

OUTLETS MH = 1'-6" TO CENTER

- DUPLEX RECEPTACLE
8 = CIRCUIT NUMBER (TYPICAL)
SEE DEVICE SCHEDULE FOR SPECIFICATION
- FOURPLEX RECEPTACLE
- SPECIAL - SEE DEVICE SCHEDULE
- SPLIT WIRED RECEPTACLE
a = SWITCH DESIGNATION
- JUNCTION BOX - CEILING OR FLOOR
- JUNCTION BOX - WALL
- MULTI-PORT SIGNAL
2T - TWO TELEPHONE PORTS
3N - THREE NETWORK PORTS
4C - FOUR COAXIAL CABLE PORTS
- TELEPHONE - WALL HANGER TYPE
MH = 4'-6" TO CENTER
- CEILING RECEPTACLE
- SINGLE RECEPTACLE
- POWERSIGNAL TELE-POLE
- FLOOR RECEPTACLE
- FLOOR SIGNAL OUTLET
- POWERSIGNAL FLOOR BOX

GENERAL POWER AND SYSTEMS NOTES:

PROVIDE A SEPARATE GREEN INSULATED GROUND WIRE SIZED PER NATIONAL ELECTRICAL CODE TABLE 250.122 IN ALL BRANCH CIRCUIT AND FEEDER RACEWAYS CONTAINING POWER CONDUCTORS. GROUND WIRE IS NOT INCLUDED IN INCH/POUND COUNT ON DRAWINGS.

REVIEW CASEWORK ELEVATIONS ON ARCHITECTURAL DRAWINGS AND CASEWORK SHOP DRAWINGS PRIOR TO INSTALLATION OF WIRING DEVICE BOXES. CALL ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER. WHERE DEVICES WOULD FALL BEHIND CASEWORK, RELOCATE DEVICES 2" CLEAR OF BACKSPLASH, OR COUNTER.

DEVICE MOUNTING HEIGHTS SHOWN ON THE PLANS TAKE PRECEDENCE OVER DEFAULT MOUNTING HEIGHTS SHOWN IN THE LEGEND.

PROVIDE FAR SIDE BOX SUPPORTS ON ALL BOXES MOUNTED TO STEEL STUDS. THE DEPTH OF THE MUD RINGS SHALL BE NO LESS THAN THE THICKNESS OF THE SHEETROCK.

ALL WIRING DEVICES ARE TO BE INSTALLED FLUSH UNLESS OTHERWISE INDICATED. THE PLANES OF THE FACE OF THE WIRING DEVICE AND THE COVERPLATE SHALL BE PARALLEL. IF THE WIRING DEVICE CANNOT BE INSTALLED IN DIRECT CONTACT WITH THE MUD RING, OR IF ALL 4 TABS OF THE WIRING DEVICE ARE NOT SUPPORTED ON THE FRONT FACE OF THE SHEET ROCK, WASHER SPACERS SHALL BE INSTALLED BETWEEN THE WIRING DEVICE AND THE MUD RING.

FLEX SHALL NOT BE USED FOR BRANCH CIRCUIT HOME RUNS. IF AC OR MC CABLE IS ALLOWED BY THE SPECIFICATIONS FOR BRANCH CIRCUIT WIRING, IT SHALL NOT BE USED BETWEEN THE LAST BOX, AND THE PANELBOARD.

THE MOUNTING HEIGHT OF WIRING DEVICES IS DEFINED AS THE DISTANCE FROM THE FINISHED FLOOR TO THE CENTER OF THE DEVICE BOX.

THE FOLLOWING MAIN KEY DEFINES POWER AND SIGNAL WIRING DEVICES IN THE ROOM LISTED. ALL DEVICES IN THIS SPACE ARE TO COMPLY WITH THIS MAIN KEY UNLESS OVERRIDDEN BY A DEVICE TAG.

- ROOM NAME
- SCHEDULED SIGNAL JACK
- SCHEDULED POWER DEVICE
- PANEL DESIGNATION
- SIGNAL JACK MOUNTING SURFACE OF FLUSH HEIGHT
- POWER DEVICE MOUNTING SURFACE OF FLUSH HEIGHT
- ROOM NUMBER

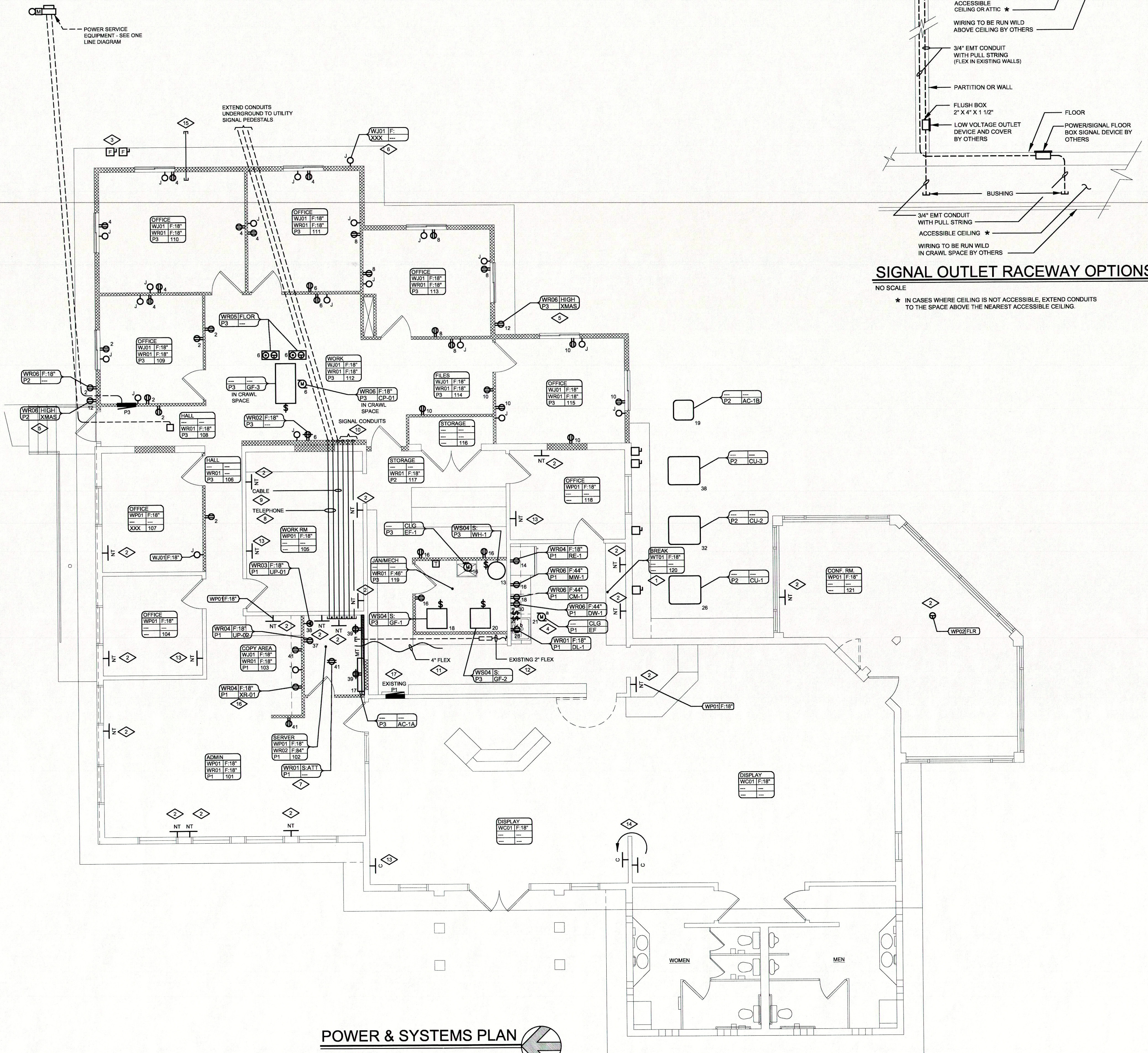
THE FOLLOWING DEVICE TAGS DEFINE POWER AND SIGNAL WIRING DEVICES WHICH ARE DIFFERENT FROM THOSE DEFINED IN THE MAIN KEY. THESE DEVICE TAGS OVERRIDE THE MAIN KEY ONLY FOR THE DEVICE OR DEVICES INDICATED.

- POWER DEVICE MOUNTING SURFACE OF FLUSH HEIGHT
- SCHEDULED POWER DEVICE
- PANEL DESIGNATION
- SCHEDULED EQUIPMENT
- POWER DEVICE
- SIGNAL DEVICE
- SCHEDULED SIGNAL JACK
- SIGNAL JACK MOUNTING SURFACE OF FLUSH HEIGHT

SEE SPECIFICATIONS FOR ADDITIONAL CONSTRAINTS ON THE INSTALLATION OF WIRING DEVICE BOXES.

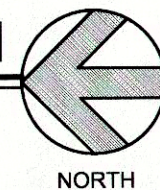
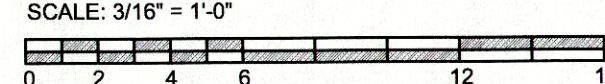
NOTES REFERENCED ON THE PLANS

- 1 EXTEND EXISTING POWER CIRCUITS FOR CM-1, MW-1 AND RE-1 TO NEW OUTLET SHOWN. EXTEND EXISTING POWER CIRCUIT TO RELOCATED EXHAUST FAN. SEE DEMOLITION PLAN ON DRAWING E2.
- 2 EXISTING SIGNAL OUTLET TO BE REPLACED BY OWNER'S STRUCTURED WIRING CONTRACTOR. CABLE IS TO BE RUN OPEN IN WALLS AND IN ATTIC TO THE SERVER ROOM BY OWNER'S STRUCTURED WIRING CONTRACTOR.
- 3 POWER SERVICE EQUIPMENT. SEE ONE-LINE AND SERVICE EQUIPMENT ELEVATION ON DRAWING E1.
- 4 RELOCATE EXISTING EXHAUST FAN TO NEW BREAK ROOM. PROVIDE NEW SINGLE POLE SWITCH AND REUSE EXISTING POWER CIRCUIT FOR FAN.
- 5 MOUNT OUTLET IN WALL JUST BELOW SOFFIT FOR CHRISTMAS LIGHTS.
- 6 PROVIDE J-BOX FOR FUTURE BUILDING SIGN. VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- 7 MOUNT POWER RECEPTACLE IN ATTIC NEAR THE ENTRY DOOR.
- 8 INSTALL 2 - 2" EMT CONDUITS FOR TELEPHONE SERVICE FROM THE SERVER ROOM THROUGH THE ATTIC, AND DOWN THE NORTH SIDE OF THE EXISTING NORTH WALL. EXTEND CONDUITS AS PVC UNDERGROUND TO THE EXISTING QWEST PEDESTAL.
- 9 INSTALL A 1 1/2" EMT CONDUIT FOR CABLE SERVICE FROM THE SERVER ROOM THROUGH THE ATTIC, AND DOWN THE NORTH SIDE OF THE EXISTING NORTH WALL. EXTEND CONDUIT AS PVC UNDERGROUND TO THE NEW BRESNAN PEDESTAL.
- 10 INSTALL 3 - 2" EMT CONDUITS FOR NETWORK CABLES FROM THE SERVER ROOM THROUGH THE ATTIC, AND DOWN THE NORTH SIDE OF THE EXISTING NORTH WALL TH THE NEW CRAWL SPACE BELOW THE ADDITION FLOOR.
- 11 INSTALL 4" FLEX FOR TEMPORARY EXTENSION OF SIGNAL CABLES FROM THE OLD TELEPHONE TERMINAL TO THE SERVER ROOM BY THE OWNER'S STRUCTURED WIRING CONTRACTOR.
- 12 INSTALL A 2" EMT CONDUIT AND PULL BOX FROM THE VICINITY OF THE EXISTING 2" FLEX IN THE OLD MECHANICAL ROOM TO THE SERVER ROOM. OWNER'S STRUCTURED CABLE CONTRACTOR TO CONNECT THE FLEX TO PULL BOX, AND INSTALL NEW NETWORK CABLES FROM EXISTING PORTS IN THE CONFERENCE ROOM.
- 13 SIGNAL OUTLET TO BE INSTALLED IN EXISTING WALL BY OWNER'S STRUCTURED WIRING CONTRACTOR. CABLE IS TO BE RUN OPEN IN WALLS AND IN ATTIC TO THE SERVER ROOM BY OWNER'S STRUCTURED WIRING CONTRACTOR.
- 14 EXISTING CABLE OUTLET IN EXISTING WALL TO BE RELOCATED TO OTHER SIDE OF WALL BY OWNER'S STRUCTURED WIRING CONTRACTOR. CABLE IS EXISTING TO OLD TELEPHONE TERMINAL BOARD IN ATTIC MECHANICAL ROOM.
- 15 STUB CONDUIT OUTSIDE BUILDING FOR TREE LIGHTS.
- 16 WIRE TO EXISTING COPY MACHINE BREAKER IN EXISTING PANEL P1.
- 17 IN EXISTING PANEL P1 REPLACE CIRCUIT #37,39,41 WITH 20 AMP 1 POLE BREAKERS AND CIRCUIT #38,40,42 WITH 30 AMP 3 POLE BREAKER.



POWER & SYSTEMS PLAN

SCALE: 3/16" = 1'-0"



SIGNAL OUTLET RACEWAY OPTIONS

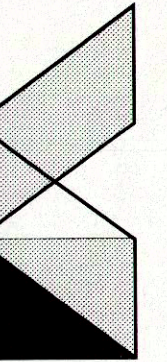
NO SCALE

* IN CASES WHERE CEILING IS NOT ACCESSIBLE, EXTEND CONDUITS TO THE SPACE ABOVE THE NEAREST ACCESSIBLE CEILING.

Revision/Date

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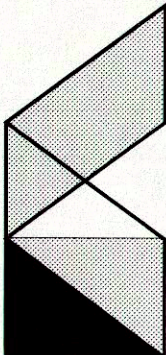
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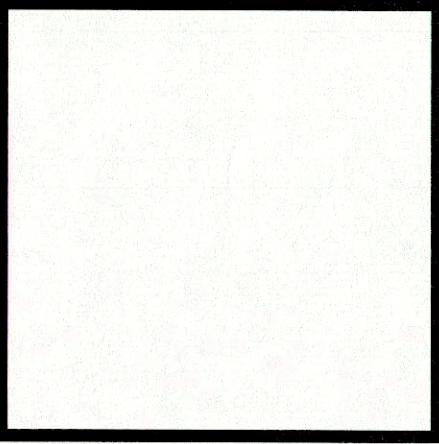
ELECTRICAL SPECIFICATIONS		
A. GENERAL AND SPECIAL CONDITIONS		
1. SCOPE		
A. THESE SPECIFICATIONS APPLY TO THE ELECTRICAL WORK INCLUDING SERVICE ENTRANCE, DISTRIBUTION SYSTEM, CONVENIENCE OUTLET SYSTEM, LIGHTING SYSTEM, TELEPHONE SYSTEM, TEMPORARY AND CONSTRUCTION POWER, AND SPECIAL SYSTEMS INDICATED.		
B. PROVIDE LABOR AND MATERIAL REQUIRED FOR COMPLETE AND OPERATIONAL ELECTRICAL SYSTEMS.		
2. SHOP DRAWINGS		
A. SUBMIT TO THE ENGINEER THREE COPIES OF CATALOG CUTS AND DIMENSIONAL DRAWINGS FOR MAIN DISTRIBUTION EQUIPMENT, PANELBOARDS, LIGHT FIXTURES, WIRING DEVICES, SAFETY SWITCHES, MOTOR STARTERS, AND SPECIAL SYSTEMS EQUIPMENT.		
B. PRE-BID SUBSTITUTE EQUIPMENT WILL BE CONSIDERED ONLY IF SUFFICIENT DATA IS SUBMITTED TO DETERMINE EQUALITY IN FUNCTION AND APPEARANCE AT LEAST FIVE DAYS PRIOR TO BID.		
3. CODES AND PERMITS		
A. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES.		
B. OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS, AND CERTIFICATES THAT MAY BE NECESSARY FOR COMPLETION OF THE WORK.		
4. COORDINATION		
A. COORDINATE WORK WITH OTHER TRADES TO ELIMINATE CONFLICTS. CONFIRM MECHANICAL EQUIPMENT LOCATIONS AND ELECTRICAL LOADS PRIOR TO ROUGH-IN.		
B. COMPLY WITH ALL REQUIREMENTS FOR SERVICE OF THE POWER COMPANY AND THE TELEPHONE COMPANY.		
5. INSPECTION		
A. ALL WORK SHALL BE SUBJECT TO INSPECTION AT ANY TIME BY THE ARCHITECT, OWNER, OR ENGINEER.		
B. NOTIFY PROPER AUTHORITIES WHEN WORK IS READY FOR ANY INSPECTIONS REQUIRED.		
6. AS-BUILT DRAWINGS		
A. AT THE COMPLETION OF THE WORK, FURNISH THE ENGINEER A SET OF DRAWINGS MARKED TO SHOW "AS-BUILT" CONDITIONS.		
7. GUARANTEE		
A. GUARANTEE THAT ALL MATERIALS SHALL BE NEW AND FREE OF DEFECT AT THE TIME OF INSTALLATION. REPAIR OR REPLACE ANY DEFECTIVE MATERIAL OR WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER.		
B. MAINTENANCE AND OPERATING PROCEDURES		
A. AT THE COMPLETION OF WORK, INSTRUCT THE OWNER ON THE CORRECT MAINTENANCE AND OPERATING PROCEDURES FOR THE ELECTRICAL SYSTEMS.		
B. PREPARE A MAINTENANCE MANUAL FOR THE OWNER CONSISTING OF THE FOLLOWING:		
1. ONE COPY OF ALL APPROVED SHOP DRAWINGS. EACH SHOP DRAWING SHALL INDICATE THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE SUPPLIER.		
2. MANUFACTURER'S INSTALLATION INSTRUCTIONS, OWNER'S MANUALS, PARTS LISTS, OWNER'S MAINTENANCE PROCEDURES, AND WARRANTIES.		
C. SUBMIT THE MAINTENANCE MANUAL TO THE ENGINEER FOR APPROVAL AT THE COMPLETION OF THE JOB. APPROVAL OF THE MAINTENANCE MANUAL SHALL BE A CONDITION OF FINAL PAYMENT.		
9. PROTECTION		
A. ALL WORK, MATERIAL, AND EQUIPMENT SHALL BE PROTECTED FROM DAMAGE OR LOSS DUE TO THEFT, WEATHER, ETC., UNTIL FINAL WRITTEN ACCEPTANCE BY THE OWNER.		
B. POST DANGER SIGNS AND PHYSICAL BARRIERS TO PROTECT PEOPLE AGAINST HAZARDS CREATED BY THE WORK.		
10. IDENTIFICATION		
A. PROVIDE AND INSTALL ENGRAVED LAMINATED BLACK AND WHITE PHENOLIC NAMEPLATES FOR ALL SERVICE SWITCHES, PANELBOARDS, SAFETY SWITCHES, CABINETS, AND STARTERS.		
B. NAMEPLATE SHALL INDICATE EQUIPMENT DESIGNATION, OR DESIGNATION OF EQUIPMENT SERVED PER PLANS.		
C. NAMEPLATES SHALL BE FIRMLY SECURED WITH TWO SHEET METAL SCREWS.		
11. TRENCHING AND BACKFILLING		
A. PERFORM ALL TRENCHING AND BACKFILLING REQUIRED FOR THE ELECTRICAL WORK.		
B. BACKFILLING SHALL BE SUPERVISED BY THE GENERAL CONTRACTOR, AND SHALL BE ACCOMPLISHED IN 6" LIFTS, EACH COMPACTED TO 95% OR BETTER.		
12. EQUIPMENT INSTALLATION		
A. ALL EQUIPMENT SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED OTHERWISE.		
B. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SUPPORTS, FOUNDATIONS, ETC., AS REQUIRED. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF OTHER APPLICABLE DIVISIONS OF THE SPECIFICATIONS.		
13. CHASES, SLEEVES, CUTTING AND PATCHING		
A. PROVIDE FOR NECESSARY CHASES, HOLES, SLEEVES, BOXES, INSERTS, AND HANGERS BY ARRANGEMENT WITH CONTRACTORS OF OTHER TRADES.		
B. PROVIDE FOR THE REPAIR OF ALL HOLES, OR OPENINGS, MADE TO ACCOMMODATE ELECTRICAL EQUIPMENT.		
C. OBTAIN WRITTEN APPROVAL FROM THE ARCHITECT BEFORE NOTCHING, CHIPPING, BURRING, DRILLING, OR WELDING OF STRUCTURAL MEMBERS.		
14. REMODEL		
A. THE ELECTRICAL CONTRACTOR SHALL FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND SHALL INCLUDE IN HIS BID AN ALLOWANCE FOR THE REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRE, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEM TO ALL OTHER WORK REQUIRED ON THIS PROJECT. EXISTING CONDUITS, WIRE, DEVICES, FIXTURES, ETC., WHICH ARE REMOVED, SHALL BECOME THE PROPERTY OF THIS CONTRACTOR UNLESS OTHERWISE NOTED.		
B. DISCONNECT AND RENDER HARMLESS ALL EXISTING ELECTRICAL SYSTEMS AND EQUIPMENT WHICH ARE SCHEDULED FOR DEMOLITION, OR ARE NOT A PART OF THE REDESIGN OF THE BUILDING.		
C. CAREFULLY COORDINATE WITH THE REQUIRED REMODEL WORK CUTTING AND PATCHING AS PERFORMED BY OTHER TRADES. REMOVE AND/OR RELOCATE EXISTING ELECTRICAL CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS NECESSARY.		
D. ALL OUTAGES ON PORTIONS OF EXISTING ELECTRICAL SYSTEMS SHALL BE MINIMIZED AND SHALL BE AT A TIME AND OF SUCH DURATION AS ACCEPTED BY THE OWNER.		
E. THE ELECTRICAL SUBCONTRACTOR SHALL PERFORM ALL CUTTING, CHANNELING, CHASING, DRILLING, ETC., AS REQUIRED TO INSTALL OR REMOVE ELECTRICAL EQUIPMENT IN AREA OF REMODEL. SUCH WORK SHALL BE PERFORMED SO AS TO MINIMIZE DAMAGE TO PORTIONS OF ALL FINISHES, SURFACES, PLASTER, OR THE STRUCTURE WHICH ARE TO BE REUSED, RESURFACED, PLASTER, OR PAINTED, ETC. REPAIR AND REFINISHING AND RESTORATION OF DEFACED WALLS AND SURFACES (PLASTERING, REPAINTING, ETC.) SHALL BE PERFORMED BY SKILLED CRAFTSMEN IN THE TRADES INVOLVED BUT PAID FOR BY THE ELECTRICAL SUBCONTRACTOR.		
F. REMOVE ALL EXISTING ACCESSIBLE CONDUIT AND WIRE NOT NECESSARY TO THE OPERATION OF THE ELECTRICAL SYSTEMS IN THE REMODELED BUILDING. WHERE CONDUIT AND WIRE IS NOT MADE ACCESSIBLE THROUGH THE DEMOLITION OF WALLS AND CEILINGS, RACEWAYS MAY BE ABANDONED IN PLACE.		
G. TAKE CARE DURING DEMOLITION NOT TO LEAVE DEVICES OUTSIDE OF THE AREA OF REMODEL WITHOUT POWER OR SIGNAL. IF THIS OCCURS, PROVIDE BRANCH CIRCUIT CONDUIT AND WIRE NECESSARY TO RESTORE FUNCTION TO THOSE DEVICES.		
H. EXISTING RACEWAYS MAY BE REUSED IN RECONSTRUCTION IF THE FOLLOWING CRITERIA ARE MET. RACEWAYS MUST BE CONTINUOUS FROM OUTLET TO OUTLET, WITH NO OUTLETS OR JUNCTION BOXES RENDERED INACCESSIBLE BY CHANGES MADE TO THE BUILDING. RACEWAYS MUST BE ADEQUATELY SUPPORTED, MUST RUN PARALLEL TO LINE OF THE BUILDING AND MUST NOT BE DEFORMED OR OTHERWISE DAMAGED.		
I. CONNECT NEW WORK TO EXISTING IN SUCH A MANNER AS TO ASSURE PROPER RACEWAY GROUNDING THROUGHOUT IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE.		
J. REMOVE ALL EXISTING BOXES WHICH ARE NOT TO BE REUSED IN RECONSTRUCTION. WHERE SHEETROCK, MASONRY, OR PLASTER IS NOT SCHEDULED FOR REPLACEMENT, REMOVE BOX, ABANDON CONDUIT IN PLACE, AND PATCH HOLE WITH MATCHING MATERIAL. EXISTING BOXES MAY ONLY BE BLANKED OFF AND ABANDONED IN PLACE WITH WRITTEN PERMISSION OF THE ARCHITECT OR ENGINEER.		
K. EXISTING BOXES MAY BE REUSED IN RECONSTRUCTION IF THE FOLLOWING CRITERIA ARE MET THE BOX MUST BE RIGIDLY SECURED TO STRUCTURE. THE BOX MUST BE OF SUFFICIENT SIZE TO ACCOMMODATE THE NEW WIRING AND DEVICES WITHOUT EXCEEDING CODE FILL LIMITS.		
L. WHERE EXISTING BOXES ARE TO BE COVERED WITH SHEETROCK OR OTHER NON-ACCESS MATERIAL, EXISTING BOXES SHALL BE EXTENDED OR RELOCATED AS NECESSARY TO MAINTAIN ACCESS.		
M. REMOVE ALL EXISTING WIRING DEVICES WHICH ARE SHOWN ON THE DEMOLITION PLAN, OR WHICH ARE NOT NECESSARY FOR THE REMODELED SPACE.		
N. EXISTING DEVICES MAY BE REUSED IN RECONSTRUCTION IF THE FOLLOWING CRITERIA ARE MET. THE DEVICE IS NOT DAMAGED IN ANY WAY. THE DEVICE IS OF A NEMA CONFIGURATION AND STYLE MATCHING THE NEW DEVICE SPECIFIED. THE DEVICE IS CLEAN AND OF THE SAME COLOR AS THE SPECIFIED DEVICE.		
O. REMOVE ALL EXISTING LIGHTING FIXTURES WHICH ARE SHOWN ON THE DEMOLITION PLAN, OR WHICH ARE NOT NECESSARY FOR THE REMODELED SPACE.		
P. RETYPE DIRECTORY OF ANY EXISTING PANELBOARDS OR LOADCENTERS WHERE BRANCH CIRCUITING IS MODIFIED UNDER THIS CONTRACT.		
Q. RELABEL DISTRIBUTION EQUIPMENT WHERE THE EQUIPMENT DESIGNATION IS CHANGED OR WHERE NO DESIGNATION LABEL WAS PREVIOUSLY ATTACHED. USE LAMINATED PLASTIC NAMEPLATES WITH ENGRAVED LETTERS. X" HIGH.		
B. BASIC MATERIALS AND EQUIPMENT		
1. GENERAL		
A. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE OF THE TYPE AND QUALITY SPECIFIED, NEW, AND, WHEN LISTED BY UNDERWRITERS LABORATORIES, SHALL MEET THEIR REQUIREMENTS AND BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE REGULARLY FURNISHED.		
2. MAIN DISTRIBUTION PANEL		
A. THE BUSSING SHALL BE TIN PLATED COPPER, OR EXTRUDED ALUMINUM, AND SHALL BE BRACED TO HAVE A SHORT CIRCUIT CURRENT RATING OF 75,000 RMS SYMMETRICAL AMPERES.		
B. INDIVIDUALLY MOUNTED BRANCH CIRCUIT BREAKERS SHALL BE OF THE MOLDED CASE TYPE AND SHALL BE POSITIONED VERTICALLY WITH THE OPERATING HANDLES EXTENDING THROUGH THE HINGED FRONT COVER PLATE OF THE SECTION. EACH CIRCUIT BREAKER SHALL BE INDIVIDUALLY FED BY CONNECTORS FROM THE MAIN BUS OF THE SWITCHBOARD. THE LOAD SIDE OF EACH CIRCUIT BREAKER SHALL BE SUBJECTED TO CABLE LUGS.		
C. EQUIPMENT RATINGS SHALL BE AS INDICATED ON THE ONE-LINE DIAGRAM.		
D. THE MAIN DISTRIBUTION PANEL SHALL BE SQUARE D TYPE I-LINE, OR EQUAL BY G.E., WESTINGHOUSE, CUTLER-HAMMER, SYLVANIA, OR GOULDITE.		
3. PANELBOARDS		
A. THE PANELBOARD BUS ASSEMBLY AND BREAKERS SHALL BE ENCLOSED IN A STEEL CABINET. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, CATCHES AND SPRING-LOADED DOOR PULLS, A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT.		
B. CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL-MAGNETIC, AND HAVE COMMON TRIP ON ALL MULTI-POLE BREAKERS.		
C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE THE "DISTRIBUTED PHASE" TYPE. THREE-PHASE, FOUR-WIRE BUSSING SHALL BE SUCH THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE DIFFERENT PHASES IN SUCH A MANNER THAT TWO OR THREE-POLE BREAKERS CAN BE INSTALLED AT ANY LOCATION.		
D. EQUIPMENT RATINGS SHALL BE AS INDICATED ON THE INDIVIDUAL PANELBOARD SCHEDULES.		
E. PANELBOARDS SHALL BE SQUARE D TYPE QO WITH PLUG-ON BREAKERS, OR EQUAL BY G.E., WESTINGHOUSE, CUTLER-HAMMER, OR SIEMENS.		
4. SAFETY SWITCHES		
A. PROVIDE SAFETY SWITCHES FOR ALL POLYPHASE MECHANICAL EQUIPMENT. SWITCHES SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES UNLESS NEMA 3R (RAINPROOF) IS REQUIRED OR INDICATED ON THE PLANS. COVERS ON NEMA 1 ENCLOSURES SHALL BE ATTACHED WITH PIN TYPE HINGES. RAINPROOF COVERS SHALL BE SECURABLE IN THE OPEN POSITION.		
B. SWITCHES SHALL HAVE A QUICK-MAKE AND QUICK-BREAK OPERATING HANDLE AND MECHANISM WHICH SHALL BE AN INTEGRAL PART OF THE COVER. SWITCHES SHALL HAVE A DUAL COVER INTERLOCK TO PREVENT UNAUTHORIZED OPENING OF THE SWITCH DOOR IN THE "ON" POSITION OR CLOSING OF THE SWITCH MECHANISM WITH THE DOOR OPEN. HANDLE POSITION SHALL INDICATE IF THE SWITCH IS "ON" OR "OFF". ALL SWITCHES SHALL HAVE SWITCH BLADES WHICH ARE FULLY VISIBLE IN THE "OFF" POSITION WHEN THE DOOR IS OPEN.		
C. SWITCH RATINGS SHALL BE AS INDICATED ON THE PLANS, OR AS REQUIRED FOR THE EQUIPMENT SERVED.		
D. SAFETY SWITCHES SHALL BE SQUARE D, HEAVY DUTY TYPE, OR EQUAL BY G.E., WESTINGHOUSE, CUTLER-HAMMER, OR SIEMENS.		
5. WIRING DEVICES		
A. CONVENIENCE OUTLETS SHALL BE 3 WIRE GROUNDING TYPE, 15 OR 20 AMP @ 125 VOLTS, SPECIFICATION GRADE, WHITE COLOR, WITH WHITE NYLON COVER PLATES. CATALOG NUMBERS ARE FOR LEVITON AND P & S DEVICES SHALL BE AS INDICATED IN THE SCHEDULE ON THE DRAWINGS. EQUALS BY HUBBELL, ARROW-HART, BRYANT, CIRCLE F, G.E., OR SIERRA WILL BE CONSIDERED IF REQUESTED PRIOR TO BID.		
B. LIGHT SWITCHES SHALL BE QUIET OPERATING TYPE, 15 OR 20 AMP @ 125 VOLTS, SPECIFICATION GRADE, WHITE COLOR, WITH WHITE NYLON COVER PLATES. CATALOG NUMBERS ARE FOR LEVITON AND P & S DEVICES. ALL DEVICES SHALL BE AS INDICATED IN THE SCHEDULE ON THE DRAWINGS. EQUALS BY HUBBELL, ARROW-HART, BRYANT, CIRCLE F, G.E., OR SIERRA WILL BE CONSIDERED IF REQUESTED PRIOR TO BID.		
6. LIGHTING FIXTURES		
A. LIGHTING FIXTURES SHALL BE AS SHOWN ON THE LIGHTING FIXTURE SCHEDULE. COMPLETE WITH LAMPS, PLASTER FRAMES, AND ACCESSORIES REQUIRED. CATALOG NUMBERS SHOWN ARE THE LATEST AVAILABLE AT THE TIME OF DESIGN. IN CASE OF DISCREPANCY BETWEEN CATALOG NUMBER AND DESCRIPTIVE INFORMATION, DESCRIPTIVE INFORMATION SHALL TAKE PRECEDENCE. BEFORE ORDERING ANY FIXTURES, VERIFY THE EXACT TYPE CEILING CONSTRUCTION, FIXTURE TRIMS, AND FINISHES WITH THE ARCHITECT AND MODIFY FIXTURE DESCRIPTION AND CATALOG NUMBER ACCORDINGLY.		
B. BALLAST CATALOG NUMBERS, WHERE SHOWN, ARE FOR UNIVERSAL BALLASTS. ADVANCE, JEFFERSON, OR G.E. BALLASTS WILL BE CONSIDERED IF DATA IS SUBMITTED IN ACCORDANCE WITH THE SUBSTITUTIONS SECTION OF THIS SPECIFICATION.		
C. LAMP CATALOG NUMBERS SHOWN ARE FOR G.E. LAMPS. WESTINGHOUSE OR SYLVANIA LAMPS WILL BE CONSIDERED IF REQUESTED PRIOR TO BID.		
D. INSTALL LIGHTING FIXTURES STRAIGHT AND TRUE WITH REFERENCE TO ADJACENT WALLS, AND SECURELY FASTEN TO AND SUPPORT BY STRUCTURAL MEMBERS OF THE BUILDING.		
E. MAKE CONNECTIONS TO ALL TROFFERS IN GRID CEILINGS FROM A JUNCTION BOX BY MEANS OF FLEXIBLE CONDUIT AND WIRE OF SUFFICIENT LENGTH (NOT TO EXCEED SIX FEET) TO ALLOW FIXTURE TO BE MOVED ONE FULL GRID SPACE IN ANY DIRECTION.		
F. ALL FIXTURES SURFACE MOUNTED ON CONCRETE SLABS SHALL BE FASTENED TO THE CONCRETE AT EACH FIXTURE CORNER WITH WE-H-T EXPANSION SCREWS.		
G. UPON COMPLETION OF THE INSTALLATION, DIRECT ALL ADJUSTABLE FIXTURES AS DIRECTED BY THE ENGINEER.		
7. OUTLETS		
A. CHECK ARCHITECTURAL AND MECHANICAL DRAWINGS BEFORE INSTALLING OUTLETS. CHANGING OF OUTLETS TO CONFORM TO THESE DRAWINGS AND ANY OTHER SLIGHT CHANGE IN MOUNTING HEIGHT OR LOCATION OF OUTLETS REQUIRED SHALL BE CONSIDERED AS PART OF THIS CONTRACT AND NO EXTRA CHARGE SHALL BE ALLOWED.		
B. USE OUTLET BOXES OF SUFFICIENT SIZE AND SHAPE TO BEST SUIT THE PARTICULAR LOCATION AND TO CONTAIN ENCLOSED WIRE AND CONNECTIONS WITHOUT CROWDING. USE DEEP BOXES WITH CONDUITS 1" AND LARGER. PROVIDE EXTENSIONS AND COVERS WHERE REQUIRED. NO OUTLET BOXES SMALLER THAN 4" SHALL BE INSTALLED.		
C. LIGHTING OUTLETS SHALL BE STANDARD 4" OCTAGON OR SQUARE OUTLET BOXES PROVIDED WITH 3/8" MALLEABLE IRON FIXTURE STUDS AND BOX HANGERS WHERE REQUIRED.		
D. SWITCH AND RECEPTACLE OUTLETS SHALL BE STANDARD 4" BOXES WITH COVER PLATES. WHERE MORE THAN ONE SWITCH OR DEVICE IS LOCATED AT ONE POINT, USE GANG BOXES AND GANG COVER PLATES.		
E. FLUSH MOUNT LIGHTING SWITCHES AND RECEPTACLES.		
F. USE WEATHERPROOF SWITCHES AND RECEPTACLES MOUNTED IN WEATHERPROOF OUTLET BOXES IN LOCATIONS EXPOSED TO WEATHER. WHERE RECEPTACLES ARE TO BE INSTALLED ABOVE HOT WATER BASEBOARD HEATING UNITS, MOUNTING HEIGHT SHALL BE TWO FOOT CENTERLINE ABOVE FINISHED FLOOR.		
G. OUTLET BOXES SHALL BE ONE-PIECE STEEL, GALVANIZED OR SHERADIZED AS MANUFACTURED BY STEEL CITY ELECTRIC, APPLETON ELECTRIC, OR RACO ALL-STEEL PRODUCTS. FOR INSTALLATION IN TILE, BRICK, WOOD PANELING, OR CEMENT BLOCK, BOXES SHALL HAVE 4" SQUARE TILE COVERS. USE "CADDY" BOX SUPPORTS FOR MOUNTING ON STEEL STUDS.		
8. RACEWAYS		
A. RACEWAYS SHALL BE RIGID STEEL OR INTERMEDIATE METALLIC CONDUIT (IMC), ARMORED CABLE (AC), OR ELECTRICAL METALLIC TUBING (EMT) AS INDICATED. RACEWAYS SHALL BE GALVANIZED OR SHERADIZED, AND SHALL BE MANUFACTURED BY JONES & LAUGHLIN, ALLIED, OR TRIANGLE CONDUIT & CABLE.		
9. RACEWAY FITTINGS		
A. CONDUIT SEALS SHALL BE OF THE SIZE AND TYPE REQUIRED AND SHALL BE MANUFACTURED BY CROUSE-HINDS.		
B. EXPANSION FITTINGS SHALL BE OF THE SIZE AND TYPE REQUIRED, WITH BONDING JUMPER, AND SHALL BE MANUFACTURED BY O-Z ELECTRIC.		
C. RIGID STEEL CONDUIT BUSHINGS SHALL BE NYLON INSULATED STEEL TYPE, AND SHALL BE T&B SERIES 1222.		
D. LOCKNUTS SHALL BE CASE HARDENED STEEL TYPE, AND SHALL BE T&B SERIES 141.		
E. EMT CONNECTORS AND COUPLINGS SHALL BE NYLON INSULATED THROAT TYPE, STEEL CONSTRUCTION, SET SCREW, T&B SERIES 5031 AND 5030.		
F. FITTINGS AS MANUFACTURED BY O-Z ELECTRIC, APPLETON ELECTRIC, OR STEEL CITY ELECTRIC, OR EQUAL QUALITY MAY BE SUBSTITUTED FOR THOSE SPECIFIED.		
10. RACEWAY INSTALLATION		
A. CONDUITS INSTALLED UNDERGROUND OR IN CONCRETE SLABS SHALL BE A MINIMUM OF 3/4" RIGID STEEL WITH A PVC CORROSION-RESISTANT JACKET. EXCEPT, AT THE CONTRACTOR'S OPTION, CONDUIT MAY BE RIGID SCHEDULE 40 PVC, PROVIDED A GROUND WIRE SIZED PER THE NEC IS INSTALLED AND BONDED TO THE BUILDING GROUND SYSTEM, AND THE CONDUIT SIZE IS INCREASED AS REQUIRED TO ACCOMMODATE THE GROUND WIRE.		
B. CONDUIT EXPOSED TO MECHANICAL DAMAGE SHALL BE RIGID STEEL GALVANIZED. ALL OTHER CONDUITS MAY BE ELECTRIC METALLIC TUBING OR INTERMEDIATE METALLIC CONDUIT.		
C. MAKE CONDUIT BENDS WITH STANDARD CONDUIT ELBOWS OR CONDUIT BENT TO NOT LESS THAN THE SAME RADIUS. ALL BENDS SHALL BE FREE FROM DENTS OR FLATTENING.		
D. ALL FITTINGS IN WET PLACES, LOCATIONS EXPOSED TO WEATHER, OR BURIED IN MASONRY, CONCRETE, OR FILL SHALL BE WATERTIGHT. PROVIDE EXPANSION FITTINGS AT BUILDING EXPANSION JOINTS. CAP CONDUIT ENDS TO PREVENT ENTRANCE OF FOREIGN MATERIALS DURING CONSTRUCTION.		
E. TAKE CARE TO PREVENT THE COLLECTION OF MOISTURE DUE TO CONDENSATION IN CONDUIT. SEAL ALL CONDUITS BETWEEN AREAS OF WIDELY DIFFERENT TEMPERATURES WITH THE SEAL BEING PLACED IN THE CONDUIT ON THE WARMER SIDE OF THE WALL.		
F. INSTALL GALVANIZED SHEET STEEL PULL-BOXES, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND EQUIPPED WITH GASKETS AND SCREW-ON COVERS IN CONDUIT RUNS WHERE REQUIRED TO FACILITATE PULLING OF WIRES AND CABLES. LOCATE ALL PULL-BOXES WHERE THEY WILL BE ACCESSIBLE AFTER COMPLETION OF THE BUILDING AND WHERE APPROVED BY THE ARCHITECT.		
G. EQUIP ALL EMPTY CONDUITS WITH GALVANIZED IRON PULL-WIRES OF ADEQUATE SIZE.		
H. WHERE CONDUIT TERMINATES AT A MOTOR LOCATION, FURNISH AND INSTALL A 12" SECTION OF FLEXIBLE CONDUIT BETWEEN THE MOTOR TERMINAL BOX AND THE CONDUIT OR OUTLET BOX.		
I. RUN UNDERGROUND CONDUITS AND CONDUITS BURIED IN CONCRETE SLABS IN A DIRECT LINE. RUN EXPOSED CONDUITS AND CONDUITS CONCEALED IN WALLS OR ABOVE CEILINGS PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE BUILDING. INSTALL ALL CONDUITS AT LEAST SIX INCHES AWAY FROM FLUES, STEAM PIPES, AND HOT WATER PIPES. SUPPORT ON APPROVED ALL BRACKETS, CEILING TRAPEZE HANGERS, OR CONDUIT STRAPS, SUITABLY ANCHORED TO THE BUILDING STRUCTURE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ARTICLE #300.		
J. AC AND MC CABLE MAY BE USED WHERE ALLOWED BY CODE EXCEPT IT SHALL NOT BE USED FOR BRANCH CIRCUIT HOME RUNS. RIGID CONDUIT SHALL BE USED BETWEEN THE PANEL BOARD AND THE LAST BOX WITH A FLEX CONNECTION.		
11. WIRE AND CABLE		
A. UNLESS INDICATED OTHERWISE, ALL CONDUCTORS SHALL BE HIGH-CONDUCTIVITY COPPER, #12 OR LARGER, WITH 600 VOLT INSULATION, SIZED AS INDICATED. ACCEPTABLE MANUFACTURERS SHALL BE G.E., ROME CABLE, ANACONDA WIRE & CABLE, TRIANGLE CONDUIT & CABLE, AND OKONITE.		
B. CONTROL AND COMMUNICATION WIRE SHALL BE STRANDED COPPER AND OF A SIZE AND INSULATION IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION, OR AS SHOWN ON THE DRAWINGS.		
C. UNLESS OTHERWISE DESIGNATED, WIRE AND CABLE FOR VARIOUS APPLICATIONS SHALL BE AS FOLLOWS:		
#12 THROUGH #6, DRY LOCATIONS: TYPE THHN, 90 DEGREE C.		
#12 THROUGH #6, IN SLABS OR WET LOCATIONS: TYPE THWN, 75 DEGREE C.		
#4 AND LARGER: TYPE THW, 75 DEGREE C.		
WIRING NEAR BOILERS OR OTHER HIGH TEMPERATURE AREAS WHERE OPERATING TEMPERATURES OF CONDUCTORS WILL EXCEED 90 DEGREES C.: TYPE AVA ASBESTOS AND VARNISHED CAMBRIC INSULATED, ASBESTOS BRAID JACKETED.		
WIRE #10 AND SMALLER: SOLID.		
WIRE #12 AND LARGER: STRANDED.		
D. INSTALL A SEPARATE GREEN INSULATED GROUND WIRE SIZED PER TABLE 250-122 OF THE NATIONAL ELECTRICAL CODE IN ALL RACEWAYS.		
E. DO NOT INSTALL WIRE IN CONDUITS UNTIL AFTER PLASTERING IS COMPLETED AND ALL CONDUITS IN WHICH MOISTURE HAS COLLECTED HAVE BEEN THOROUGHLY SWABBED OUT.		
F. USE ALUMINUM CONDUCTORS ONLY WHERE SPECIFICALLY CALLED FOR, WHERE ALUMINUM CONDUCTORS ARE ALLOWED, TAKE CARE NOT TO CUT STRANDS WHEN STRIPPING INSULATION AWAY. THOROUGHLY CLEAN CONDUCTORS WITH EMORY CLOTH AFTER APPLICATION ON NO-OXIDE GREASE. USE CONNECTORS DESIGNED FOR ALUMINUM CONDUCTORS. USE A TORQUE WRENCH WHEN TIGHTENING CONNECTOR BOLTS, AND TORQUE TO VALUES RECOMMENDED BY THE CABLE MANUFACTURER.		
12. TELEPHONE SERVICE EQUIPMENT		
A. WITHIN 10 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL CONTACT THE TELEPHONE COMPANY, OBTAIN THEIR REQUIREMENTS FOR SERVICE AND NOTIFY THEM OF THE DESIRED SERVICE DATE.		
13. POWER SERVICE ENTRANCE		
A. THIS PROJECT SHALL BE SERVED UNDERGROUND FROM A PAD MOUNTED TRANSFORMER SUPPLIED AND INSTALLED BY THE POWER COMPANY.		
B. THE POWER COMPANY SHALL PROVIDE THE TRANSFORMER, PRIMARY CONDUCTORS, METERING CTS, AND PRIMARY AND SECONDARY TERMINATIONS. THE POWER COMPANY SHALL BILL THE OWNER DIRECTLY FOR THIS SERVICE.		
C. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID SUPPLYING AND INSTALLATION OF CONDUIT AND WIRE FROM THE TRANSFORMER SECONDARY TO THE MAIN POWER DISTRIBUTION EQUIPMENT, METER SOCKETS, AND METERING TRANSFORMER ENCLOSURES.		
D. ALL EQUIPMENT SHALL BE U.L. LABELED FOR USE AS SERVICE ENTRANCE EQUIPMENT.		
E. WITHIN 10 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL CONTACT THE POWER COMPANY, OBTAIN THEIR REQUIREMENTS FOR SERVICE AND NOTIFY THEM OF THE DESIRED SERVICE DATE.		
F. EQUIPMENT RATINGS AND DISTRIBUTION SYSTEM CONFIGURATION SHALL BE AS INDICATED ON THE ONE-LINE DIAGRAM.		
14. CONTROLS		
A. CONTROLS FOR HVAC EQUIPMENT SHALL BE PROVIDED BY THE MECHANICAL SUBCONTRACTOR AND INSTALLED AND WIRED BY THE ELECTRICAL SUBCONTRACTOR.		

Revision/Date

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