

SCOPE OF WORK

THE SCOPE OF WORK SHALL BE AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS. IN SUMMARY, IT SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

EXTENSION OF CHILLED WATER PIPING SERVICE FROM THE JUDICIAL CENTER (ADJACENT BUILDING) INTO THE HISTORIC COURTHOUSE WITHOUT CHILLED WATER SERVICE INTERRUPTION TO THE HISTORIC COURTHOUSE.

INTEGRATION OF CONTROLS AND SEQUENCING OF CHILLED WATER DISTRIBUTION.

TESTING, ADJUSTING AND BALANCING TO ACHIEVE CHILLED WATER FLOWS AS INDICATED.

UPON ESTABLISHING CHILLED WATER SERVICE TO THE HISTORIC COURTHOUSE, DEMOLITION OF EXISTING CHILLERS AND COOLING TOWER AND ASSOCIATED APPURTENANCES ON THE ROOF/PENTHOUSE OF THE HISTORIC COURTHOUSE.

COOLING FOR SERVER ROOM SHALL BE ESTABLISHED PRIOR TO ANY DEMOLITION WORK IN THE CHILLER PLANT. ADDITIONALLY, TEMPORARY COOLING 24/7 SHALL BE REQUIRED FOR THE SERVER ROOMS. COORDINATE WITH OWNER.

REQUIRED SUBMITTALS

PRIOR TO COMMENCEMENT OF THE WORK, SUBMITTALS SHALL BE REQUIRED FOR THE WORK, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

ITEM	TITLE
230500	COMMON WORK RESULTS FOR HVAC
230523	GENERAL DUTY VALVES FOR HVAC PIPING
230529	HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT
230553	IDENTIFICATION FOR PIPING AND EQUIPMENT
230700	HVAC INSULATION
232113	HYDRONIC PIPING
232123	HYDRONIC PUMPS
235700	HEAT EXCHANGER
260519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
260528	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
260533	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS
262816	ENCLOSED SWITCHES AND CIRCUIT BREAKERS
-	ARCHITECTURAL ELEMENTS AND WATERPROOFING
-	PROJECT SCHEDULE (WITHIN 10 DAYS OF NTP)
-	SHOP DRAWING SCHEDULE (WITHIN 30 DAYS OF NTP)
-	HVAC CONTROLS
-	SHOP DRAWINGS
-	TESTING ADJUSTING AND BALANCING

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BOOK	PROJECT SPECIFICATIONS

BUILDING CODE ANALYSIS

EXISTING BLDG	AREA OF EXISTING BLDG	AREA OF RENOVATION
BASEMENT FLOOR	22,830± SQFT.	10± SQFT.
1st FLOOR	22,830± SQFT.	10± SQFT.
2nd FLOOR	22,830± SQFT.	10± SQFT.
3rd FLOOR	20,285± SQFT.	26± SQFT.
ROOF/PENTHOUSE	20,285± SQFT.	555± SQFT.
TOTAL BLDG	109,060± SQFT.	611± SQFT.

C-1/UCBD
 ZONING: HISTORICAL DISTRICT REQUIRED SETBACKS TO PROPERTY LINES: (F) N/A (R) N/A (L) N/A (RS) N/A SQFT.
 CLASSIFICATION OF BUILDING BY OCCUPANCY: BUSINESS
 CLASSIFICATION OF BUILDING BY CONSTRUCTION TYPE: III-B LEVEL 2 ALTERATION
 SPRINKLERED: YES XXXX THRESHOLD BUILDING: YES NO XXXX
 FLOOD ZONE: X/O/N 0321 C/100 EFE
 YEAR AND CODE IN EFFECT BY BUILDING DEPT.: 2001 FLORIDA BUILDING CODE
 2001 EXISTING BUILDING FLORIDA BUILDING CODE
 2001 FBC AND MECHANICAL & PLUMBING w/09 REVISIONS
 2009 NEC
 2009 NFPA 101 LIFE SAFETY CODE

BUILDING HEIGHT & AREA / AREA MODIFICATION (TABLE 503)

ALLOWABLE BUILDING HEIGHT/NUMBER OF STORIES 4 / 55' ACTUAL BUILDING HEIGHT/NUMBER OF STORIES 4 / 42'±
 MAXIMUM ALLOWABLE FLOOR AREA 19,020 SF ACTUAL FLOOR AREA per FLOOR 22,830± SF
 FLOOR AREA ENTIRE BUILDING 109,060± SF MODIFIED AREA, IF USED N/A
 GENERAL OR OCCUPANCY AREA MODIFICATION, CALCULATIONS USED: N/A

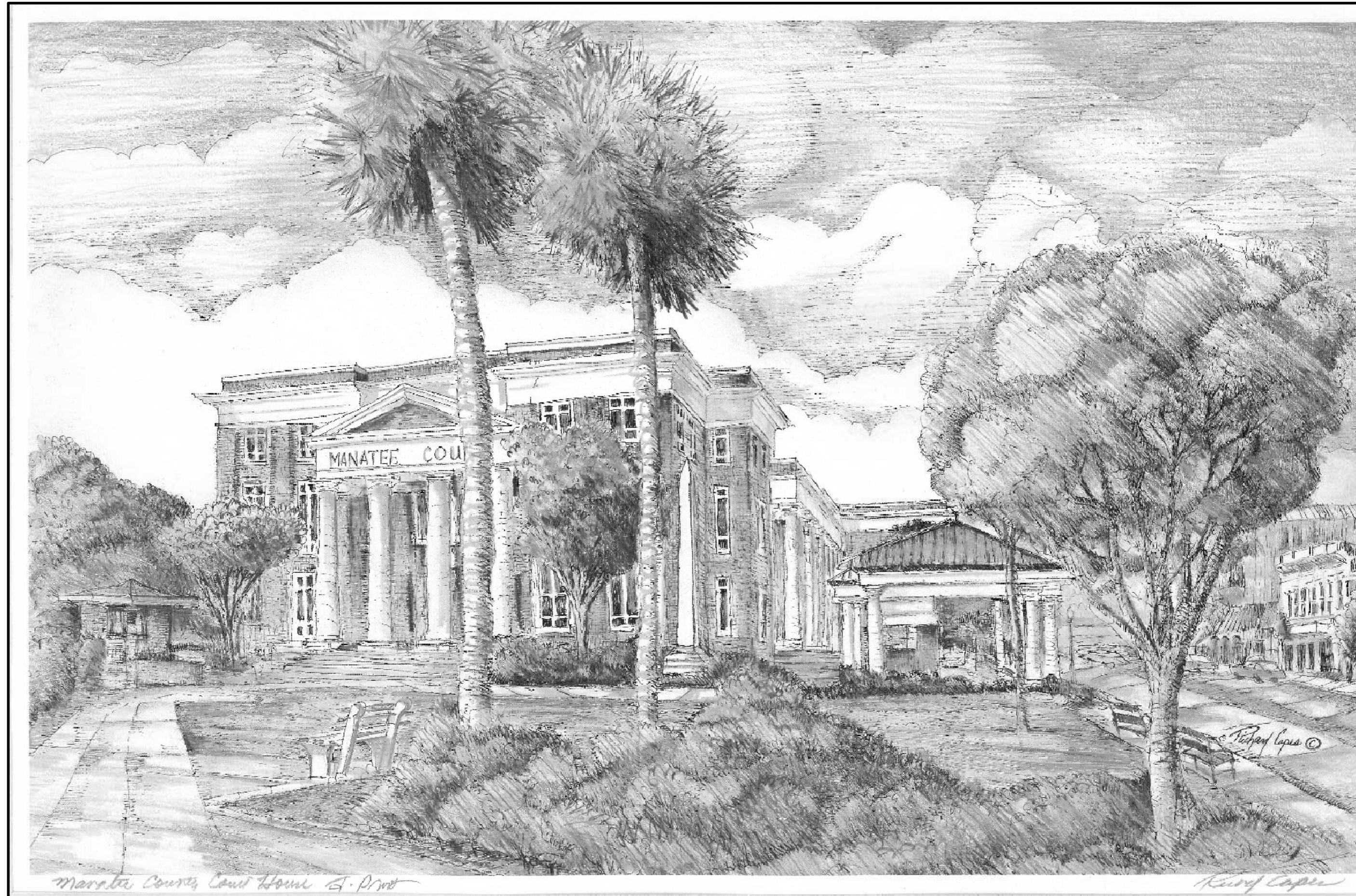
FIRE RESISTANCE RATING OF BUILDING COMPONENTS AND PERCENTAGE OF OPENINGS (TABLES 601 AND 602)

HORIZONTAL SEPARATION FROM PROPERTY LINES AND/OR BUILDINGS: (F) 30'± (R) 30'± (L) 30'± (RS) 30'± FEET
 STRUCTURAL FRAME (INCLUDING COLUMNS, GIRDERS AND TRUSSES): 0 HR
 EXTERIOR BEARING WALL RATING REQUIREMENTS: 0 HR
 EXTERIOR NON-BEARING WALL RATING REQUIREMENTS: 0 HR
 INTERIOR BEARING WALL RATING REQUIREMENTS: 0 HR
 INTERIOR NON-BEARING WALL RATING REQUIREMENTS: 0 HR
 FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS): 0 HR
 ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS AND JOISTS): 0 HR
 EXIT ACCESS ENCLOSURES/CORRIDORS: 0 HR EXIT ENCLOSURES/STAIRS: 2 HR

DESIGN LOADS AND STRESSES

ROOF LIVE LOAD: 20 PSF PIPE DEAD LOAD: 100 PLF ROOF SLOPE: FLAT
 FLOOR LIVE LOAD: 50 CORRIDORS LIVE LOAD: 80 BALCONY AND DECK LIVE LOAD: 100
 WIND LOAD: VELOCITY: 130 MPH WIND PRESSURE: 3 PSF WIND EXPOSURE CATEGORY: B
 IMPORTANCE FACTOR: 1.0 ENCLOSURE CLASSIFICATION (OPEN, ENCLOSED, ENCLOSED)
 INTERNAL PRESSURE COEFFICIENT: 0.18± COMPONENTS & CLADDING DESIGN WIND PRESSURE: 45 PSF
 SOIL BEARING CAPACITY: N/A PSF NOTE: SOILS ANALYSIS IS NOT REQUIRED.

MAXIMUM ALLOWABLE TRAVEL DISTANCE WITHIN ROOMS OR SPACES ALONG ROUTES OF EXIT ACCESS (1015.1) 300 BUSINESS OCCUPANCY w/ SPRINKLER SYSTEM



MANATEE COUNTY HISTORIC COURTHOUSE CHILLED WATER PIPING EXTENSION

MANATEE COUNTY GOVERNMENT
 PROPERTY MANAGEMENT DEPARTMENT
 FRANK MONHART, PROJECT MANAGER
 941-742-5844

PLANS AND SPECIFICATIONS PREPARED BY:
FORNEY ENGINEERING, INC.

PHASING PLAN

IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO LIMIT INTERRUPTION TO THE OWNER DURING THE DEMOLITION/CONSTRUCTION OF THE PROJECT. THE CONTRACTOR MAY DEVELOP AN ALTERNATE PHASING PLAN PROVIDED THE INTENT OF LIMITED INTERRUPTION IS MET.

ALL WORK IN THE OCCUPIED SPACES SHALL OCCUR ON NIGHTS AND WEEKENDS. THE CONTRACTOR SHALL PROVIDE A DUST TIGHT BARRIER FOR ALL WORK IN OCCUPIED SPACES.

THE FIRST PHASE OF THE PROJECT SHALL CONSIST OF INSTALLATION OF THE SPLIT SYSTEM IN THE FIRST FLOOR SERVER ROOM AS SHOWN ON DRAWINGS. COOLING FOR SERVER ROOM SHALL BE ESTABLISHED PRIOR TO ANY DEMOLITION WORK IN THE CHILLER PLANT. ADDITIONALLY, TEMPORARY COOLING 24/7 SHALL BE REQUIRED FOR THE COMPUTER ROOMS IN THE BUILDING. COORDINATE WITH OWNER.

THE SECOND PHASE OF THE PROJECT SHALL CONSIST OF ROUTING CHILLED WATER PIPING INTO THE BASEMENT OF THE HISTORIC COURTHOUSE. ELECTRICAL CONDUIT SHALL BE ROUTED ALONG WITH THE CHILLED WATER PIPING IN THE TRENCH. THE WORK ON THE EXTERIOR OF THE BUILDING SHALL OCCUR AS QUICKLY AS POSSIBLE SO THAT PEDESTRIAN TRAFFIC MAY BE RESTORED IN THE COURTYARD.

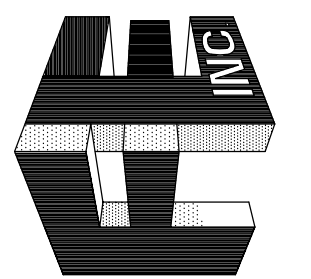
THE THIRD PHASE OF THE PROJECT SHALL INCLUDE ESTABLISHING CHILLED WATER PIPING SERVICE TO THE COURTHOUSE. THIS INCLUDES THE ROUTING OF THE NEW PIPING IN THE HISTORIC COURTHOUSE, SELECTIVE DEMOLITION OF EXISTING PIPING AND EQUIPMENT, AND THE CONNECTION OF THE NEW PIPING TO THE HEAT EXCHANGER IN THE PENTHOUSE AND CONTROLS WORK ASSOCIATED WITH ESTABLISHING CHILLED WATER SERVICE TO THE HISTORIC COURTHOUSE (INSTALLATION OF COURTHOUSE DP, CONTROL VALVES AT TIE-IN AND ADDITIONAL PROGRAMMING FOR THE SCP'S IN THE JUDICIAL CENTER. WORK IN THE OCCUPIED SPACES AS WELL AS PLANT SHUTDOWN SHALL OCCUR AFTER-HOURS.

THE FOURTH PHASE SHALL CONSIST OF REMOVAL OF EXISTING PUMPS AND INSTALLATION OF THE NEW CHILLED WATER PUMPS IN THE HISTORIC COURTHOUSE AND ASSOCIATED CONTROL WORK.

THE FINAL PHASE SHALL CONSIST OF THE REMOVAL OF REMAINING EXISTING EQUIPMENT SHOWN TO BE DEMOLISHED.

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**MANATEE COUNTY
HISTORIC COURTHOUSE
CHILLED WATER PIPING**

BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
47786

DATE:

S E A L

REV. # DATE

JOB NO.: 09-2194

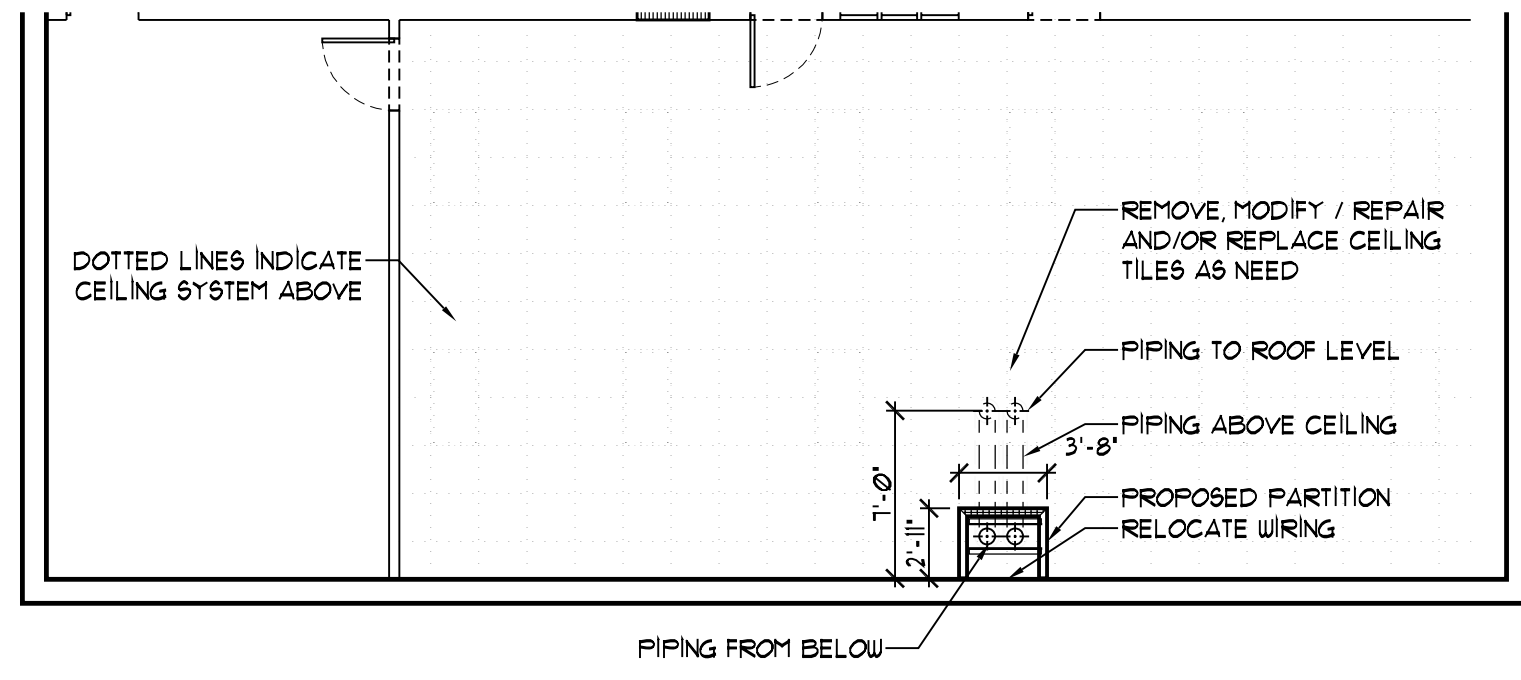
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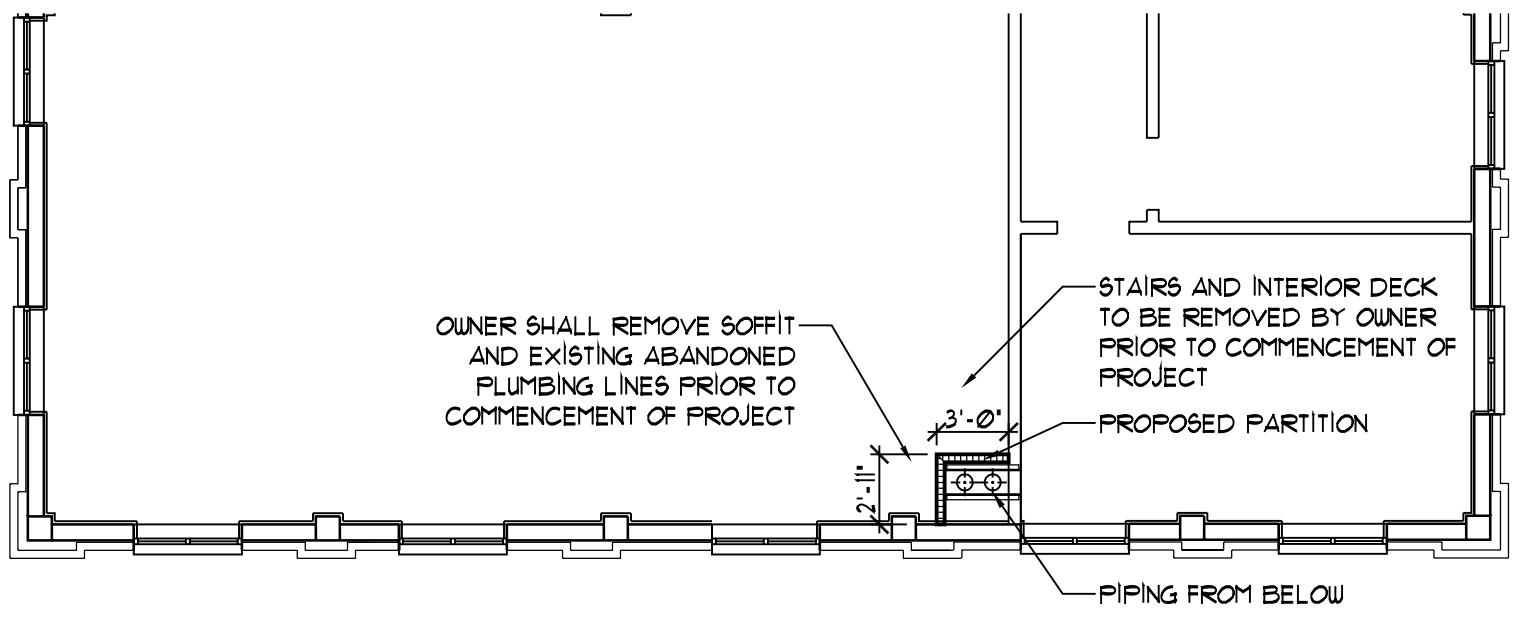
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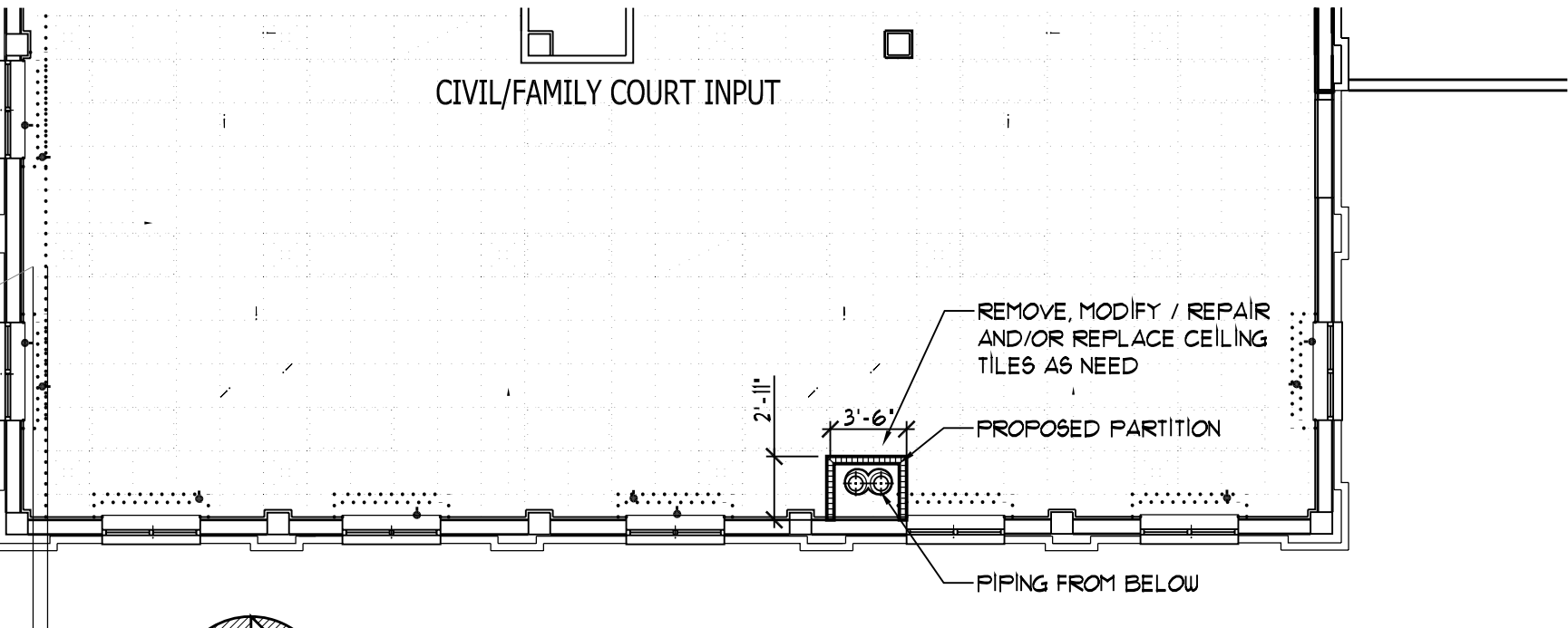
THIRD FLOOR PLAN

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



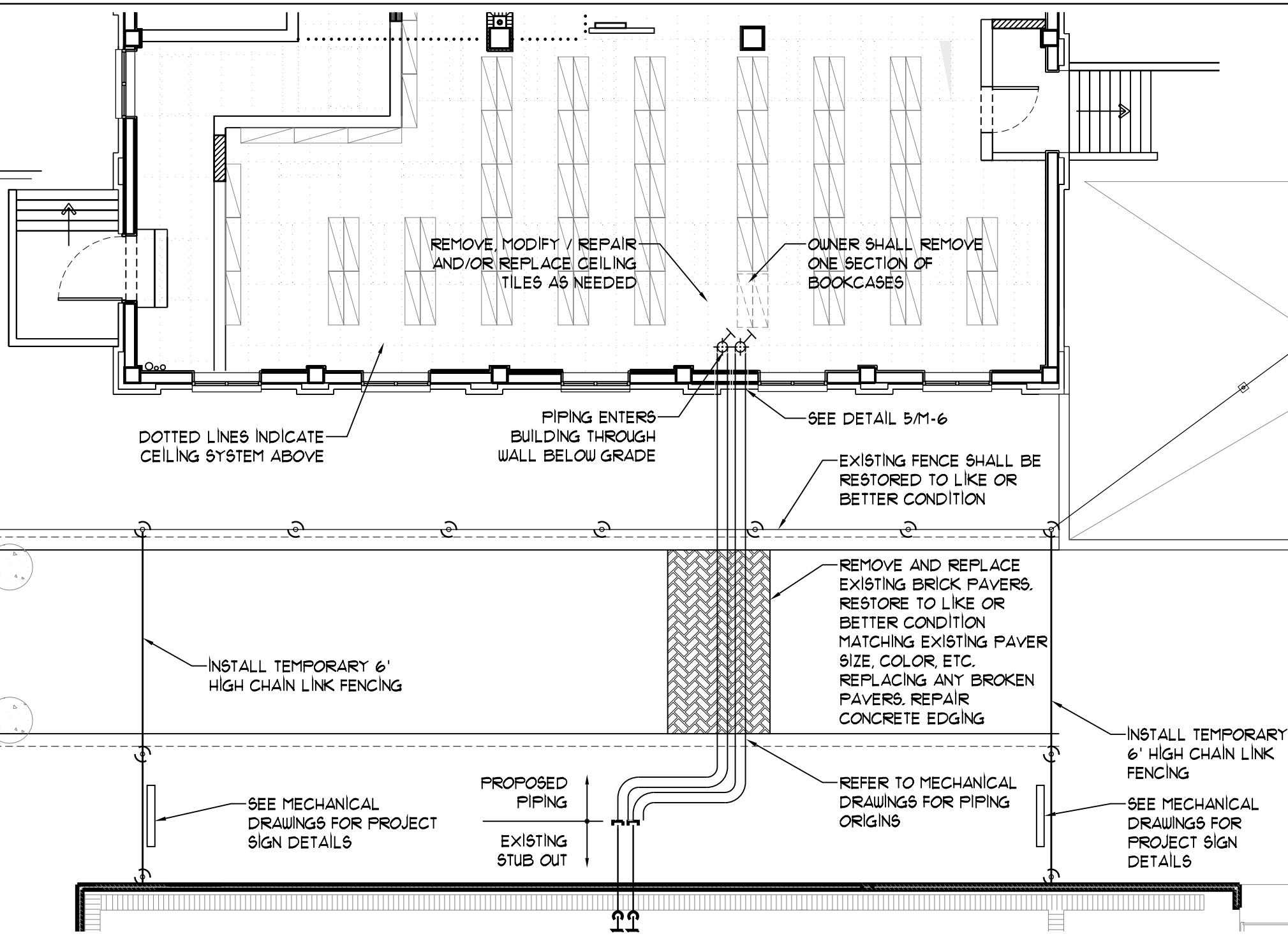
SECOND FLOOR PLAN

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



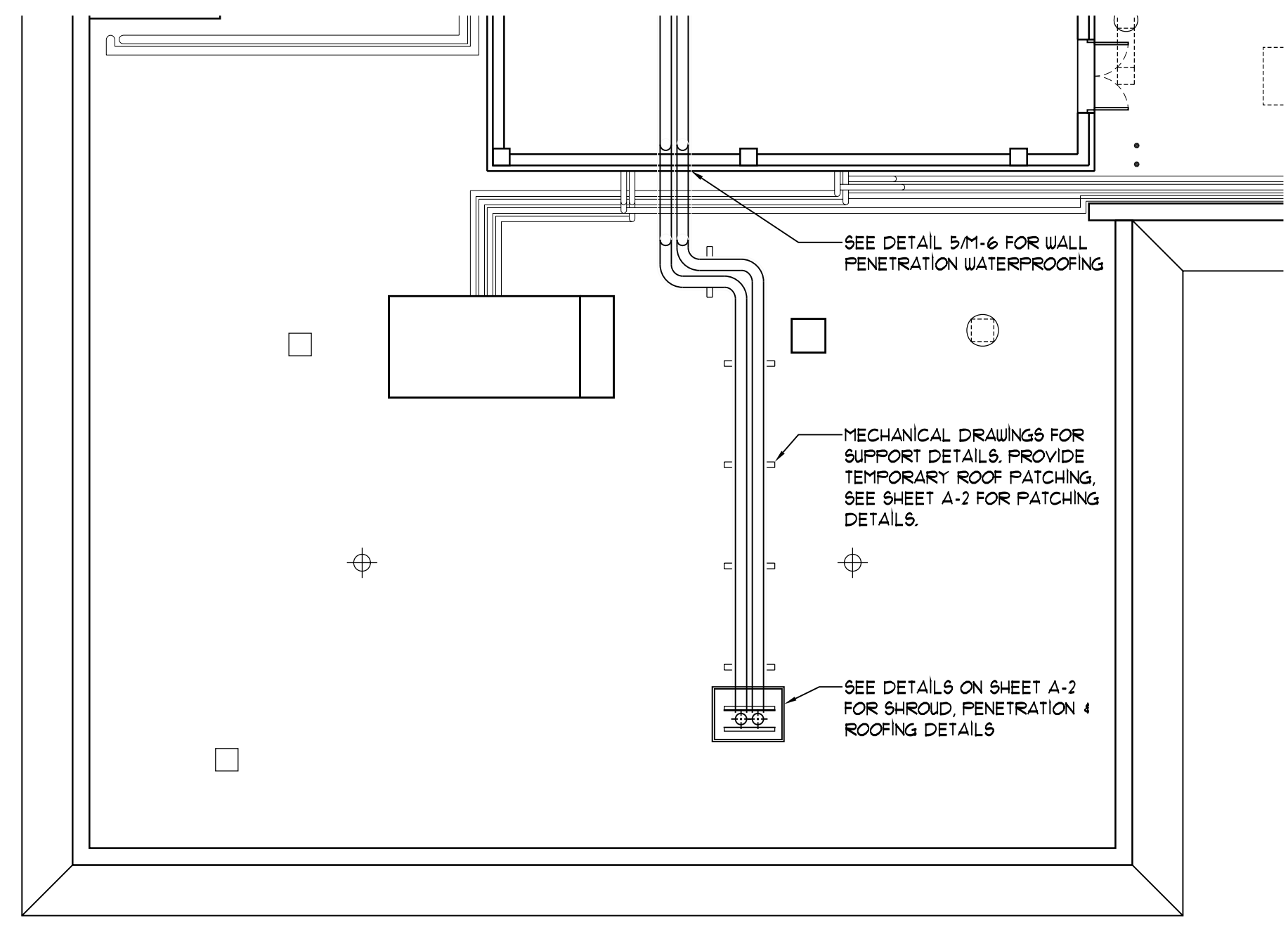
FIRST FLOOR PLAN

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



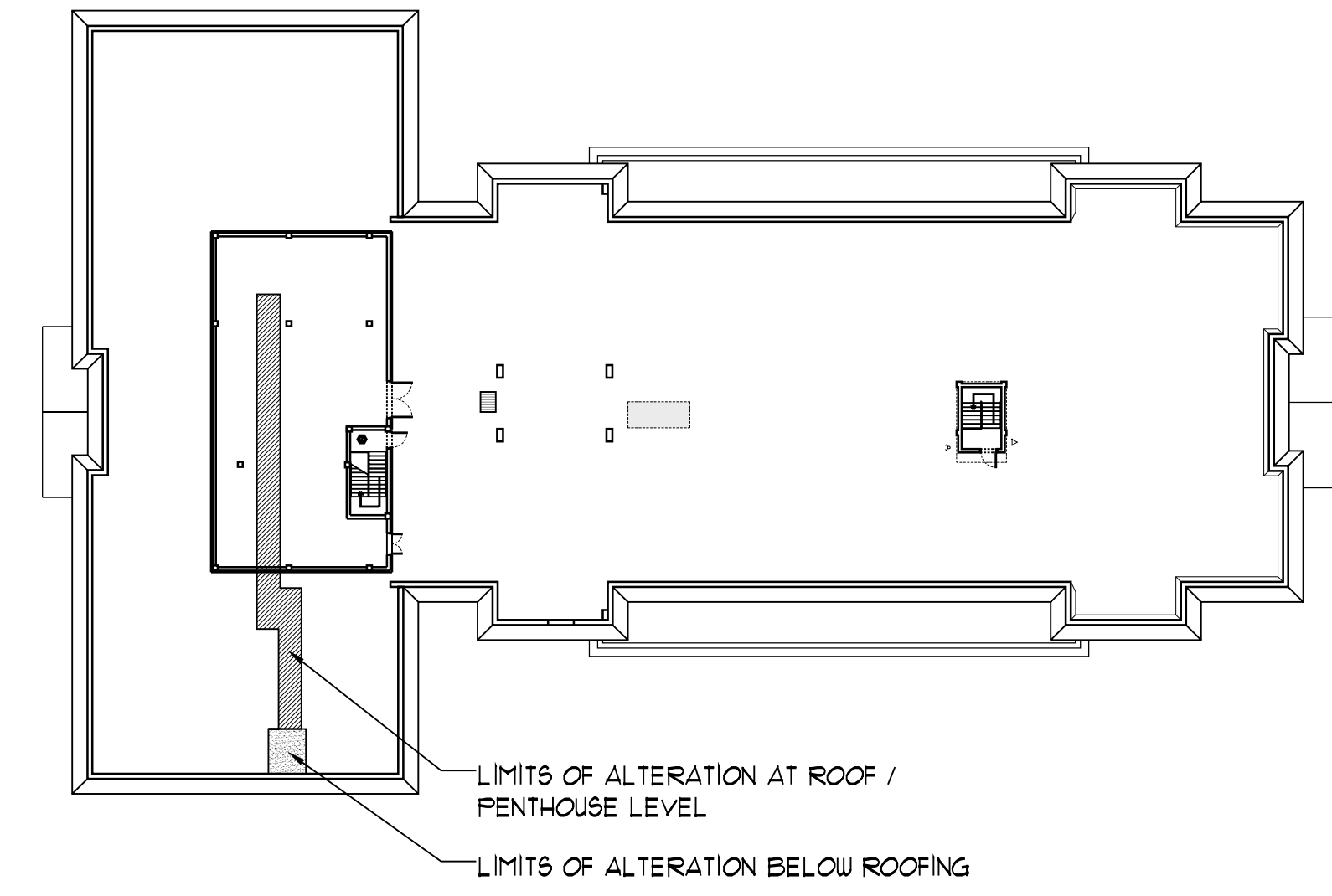
BASEMENT FLOOR PLAN

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



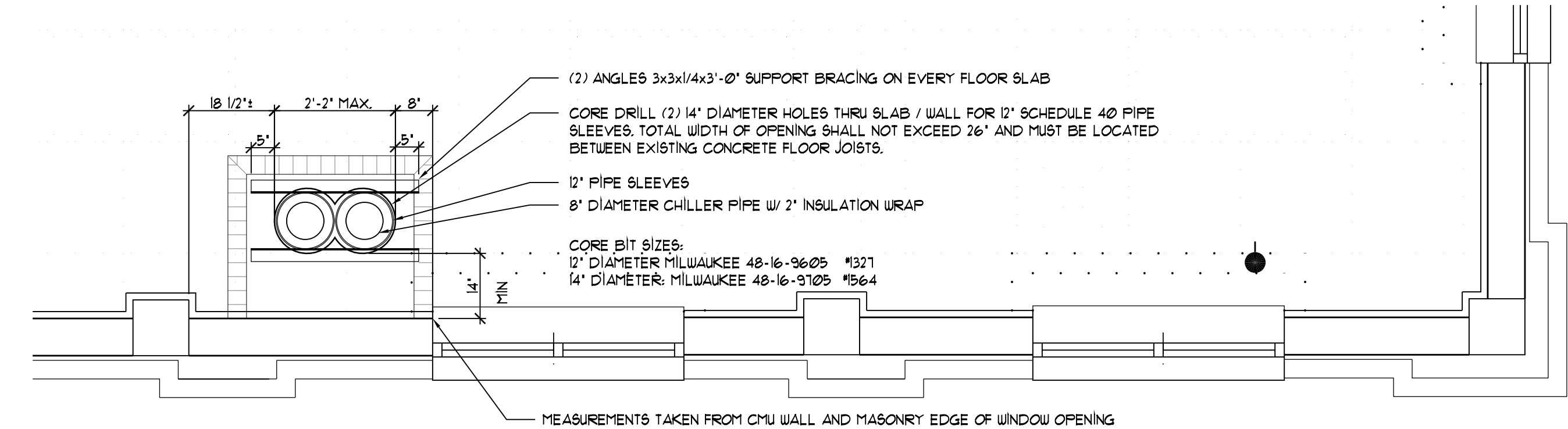
PENTHOUSE/ ROOF PLAN

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



KEY PLAN

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



TYPICAL FLOOR / FLOOR PENETRATION LOCATION

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

GENERAL NOTES:
 1. CENTER LINE FOR CHILLER PIPING SHALL ALIGN VERTICAL FROM BASEMENT LEVEL THRU 3RD FLOOR AND BE OFFSET ABOVE 3RD FLOOR CEILING.

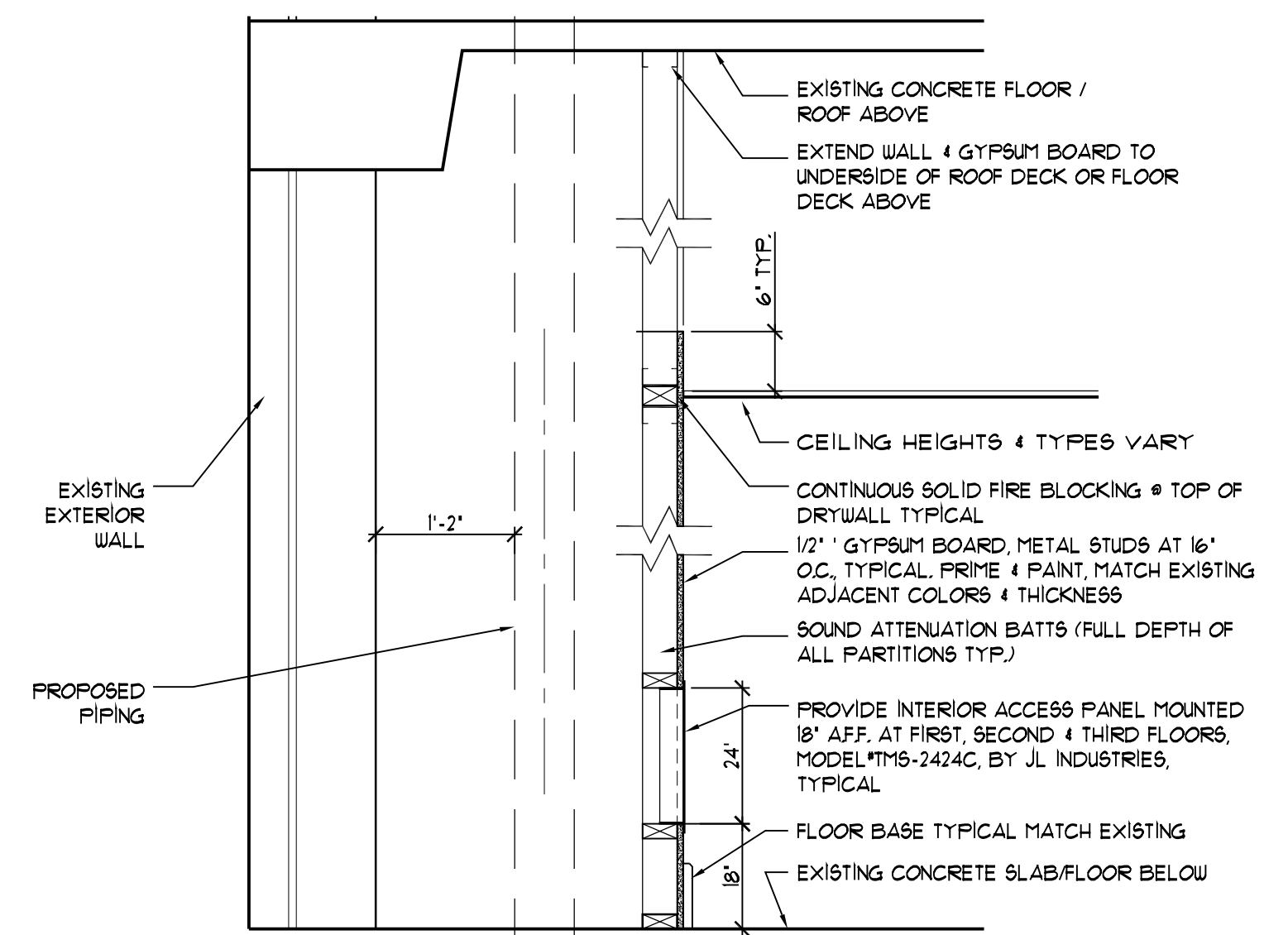
WALL LEGEND :

	EXISTING EXTERIOR WALL TO REMAIN
	EXISTING INTERIOR WALL TO REMAIN
	TYPICAL METAL FRAME INTERIOR PARTITION TO BOTTOM OF DECK

DEMOLITION / CONSTRUCTION NOTES :

AS PART OF THE DEMOLITION PROCESS, ALL AREAS IN WHICH DEMOLITION IS TAKING PLACE IS TO BE ISOLATED FROM THE BUILDING'S AIR CONDITIONING SYSTEM AND THE SPACE IS TO BE ISOLATED AND UNDER NEGATIVE PRESSURE WITH RESPECT TO THE MAIN BUILDING. THE CONTRACTOR SHALL PROVIDE A DEMOLITION PROTOCOL TO THE ARCHITECT FOR REVIEW PRIOR TO COMMENCING CONSTRUCTION. THE AIR CONDITIONING SYSTEM IN THE AREA BEING DEMOLISHED IS TO BE TURNED OFF AND THE DUCT WORK SEALED TO PREVENT ANY DUST OR DEBRIS FROM ENTERING THE SYSTEM.

- ELECTRICAL:** REMOVE / RELOCATE ANY ELECTRICAL / DATA OUTLETS IN ALL WALLS & PARTITIONS TO BE REMOVED, TYPICAL.
- CEILING:** EXISTING CEILING MOUNTED DEVICES (I.E. FIRE ALARM, DIFFUSERS, LIGHT FIXTURES, PHONE, ELECTRICAL RECEPTACLES, EMERGENCY LIGHT UNITS, EXIT SIGNS, SPEAKERS & ENERGY MANAGEMENT CONTROL SYSTEMS) ARE TO REMAIN. PROVIDE TEMPORARY SUPPORT BY STEEL WIRE CAPABLE OF SUPPORTING THE DEVICES FULL WEIGHT AFTER CEILING SYSTEMS ARE REMOVED. ALL TROFFER FLUORESCENT FIXTURES SHALL HAVE TWO SUPPORTING WIRES LOCATED ON OPPOSITE CORNERS.
- FIRE PROTECTION:** THE EXISTING FIRE SPRINKLER SYSTEM SHALL REMAIN INTACT & FULLY OPERATIONAL.
 WARNING: EXTREME CARE SHALL BE EXERCISED WHILE REMOVING ADJACENT CEILING SYSTEMS FROM AROUND FIRE SPRINKLER HEADS TO ENSURE THAT THEY ARE NOT ACTIVATED. CONTRACTOR SHALL LOCATE FIRE SPRINKLER EMERGENCY SHUT-OFF VALVE(S) PRIOR TO COMMENCING DEMOLITION.
- COUNTY EMPLOYEES SHALL BE OCCUPYING THE FIRST & THIRD FLOORS DURING NORMAL COUNTY WORK HOURS. COORDINATE WITH HISTORIC COURTHOUSE PERSONNEL PRIOR TO COMMENCING CONSTRUCTION.



TYPICAL INTERIOR PARTITION

SCALE : 3/4" = 1'-0"

AIA
JERRY N. ZOLLER
 ARCHITECT / PLANNER
 P.A.

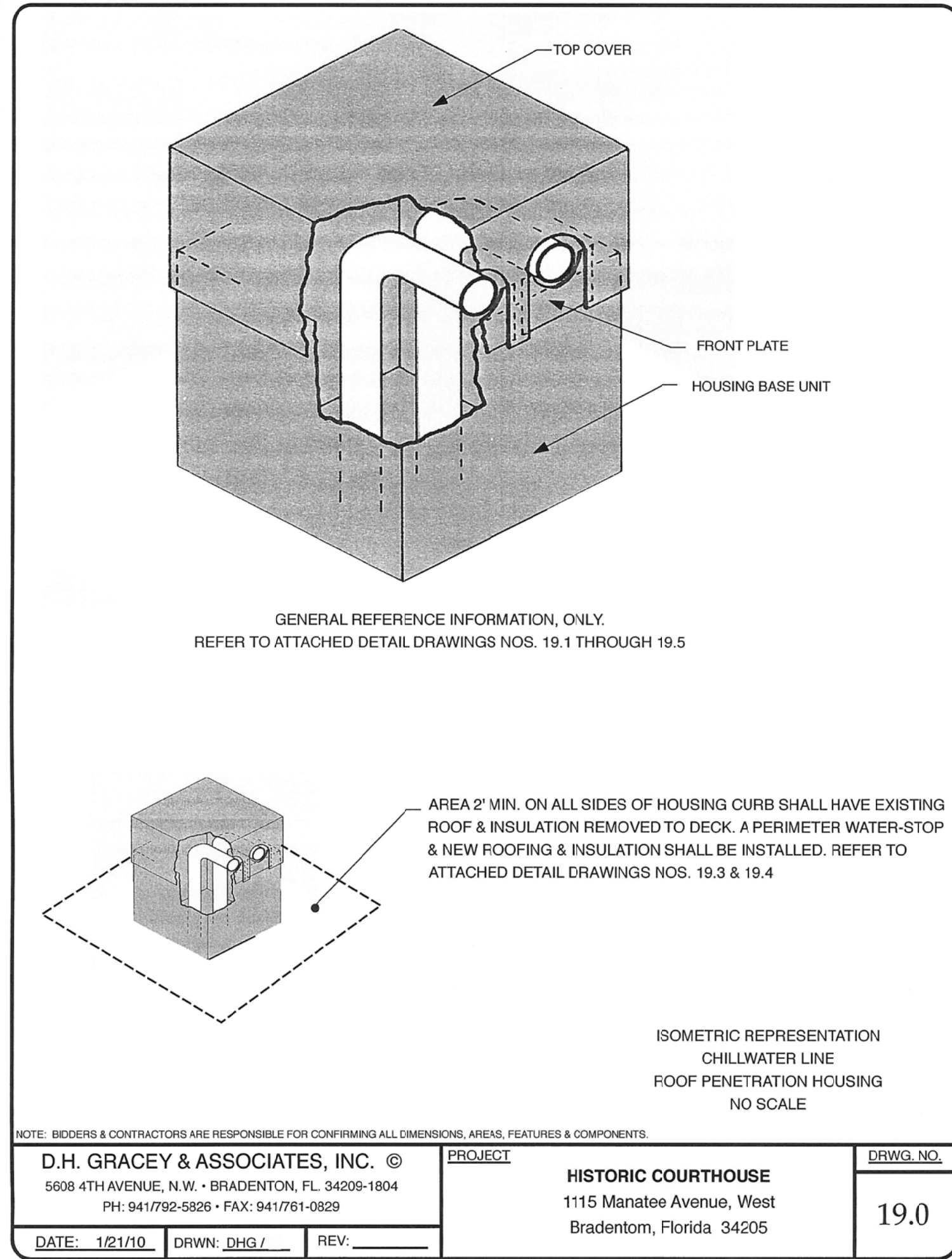
PROPOSED CHILLED WATER PIPE SERVICE FOR:
MANATEE COUNTY HISTORIC COURTHOUSE
CHILLED WATER PIPING

job no	8434J
date	01/15/10
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checked	
revisions	

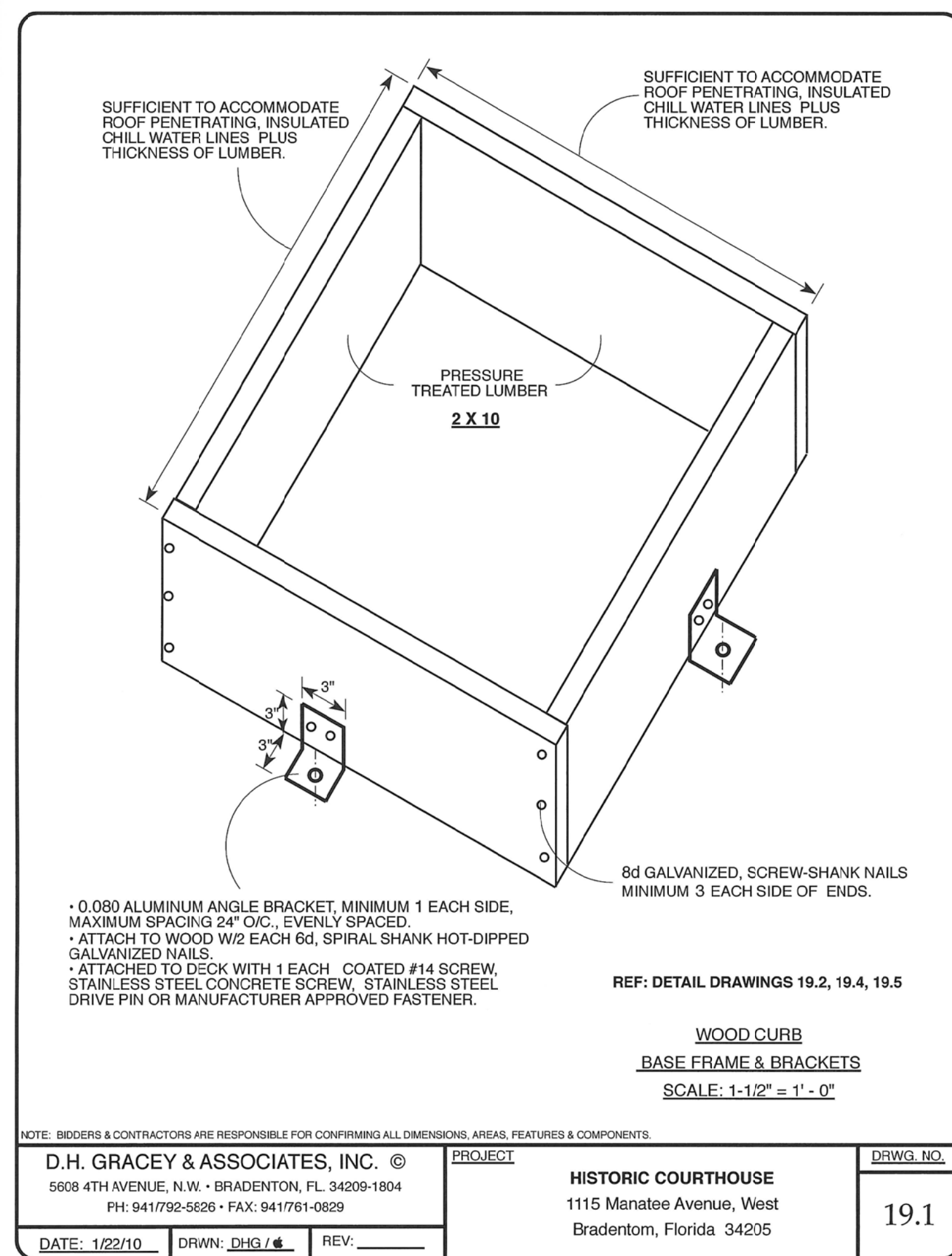
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914 14th STREET W. BRADENTON, FL. 34205 phone 748-4465
 fl. reg. 5926

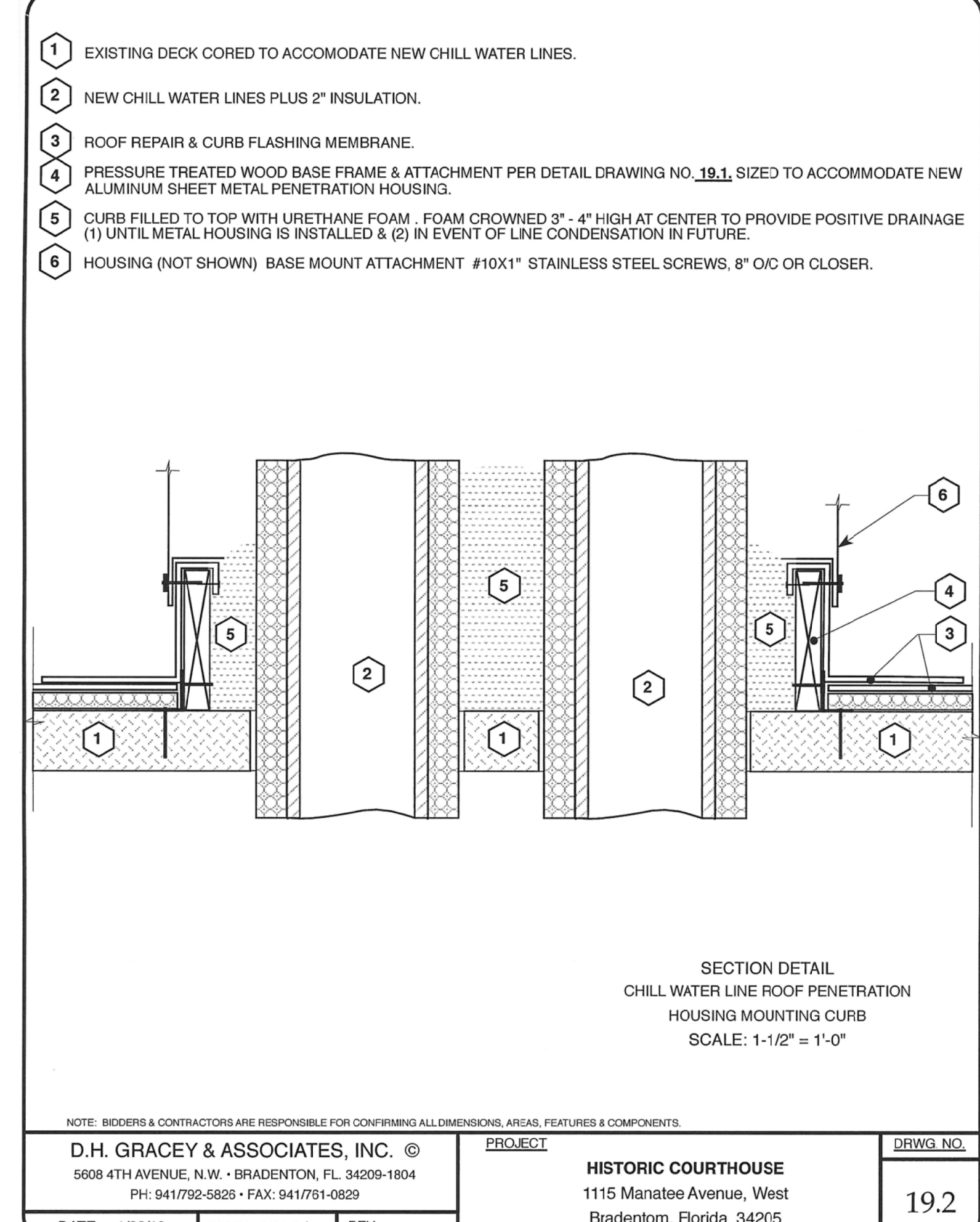
BRADENTON, FLORIDA
 1115 MANATEE AVENUE WEST



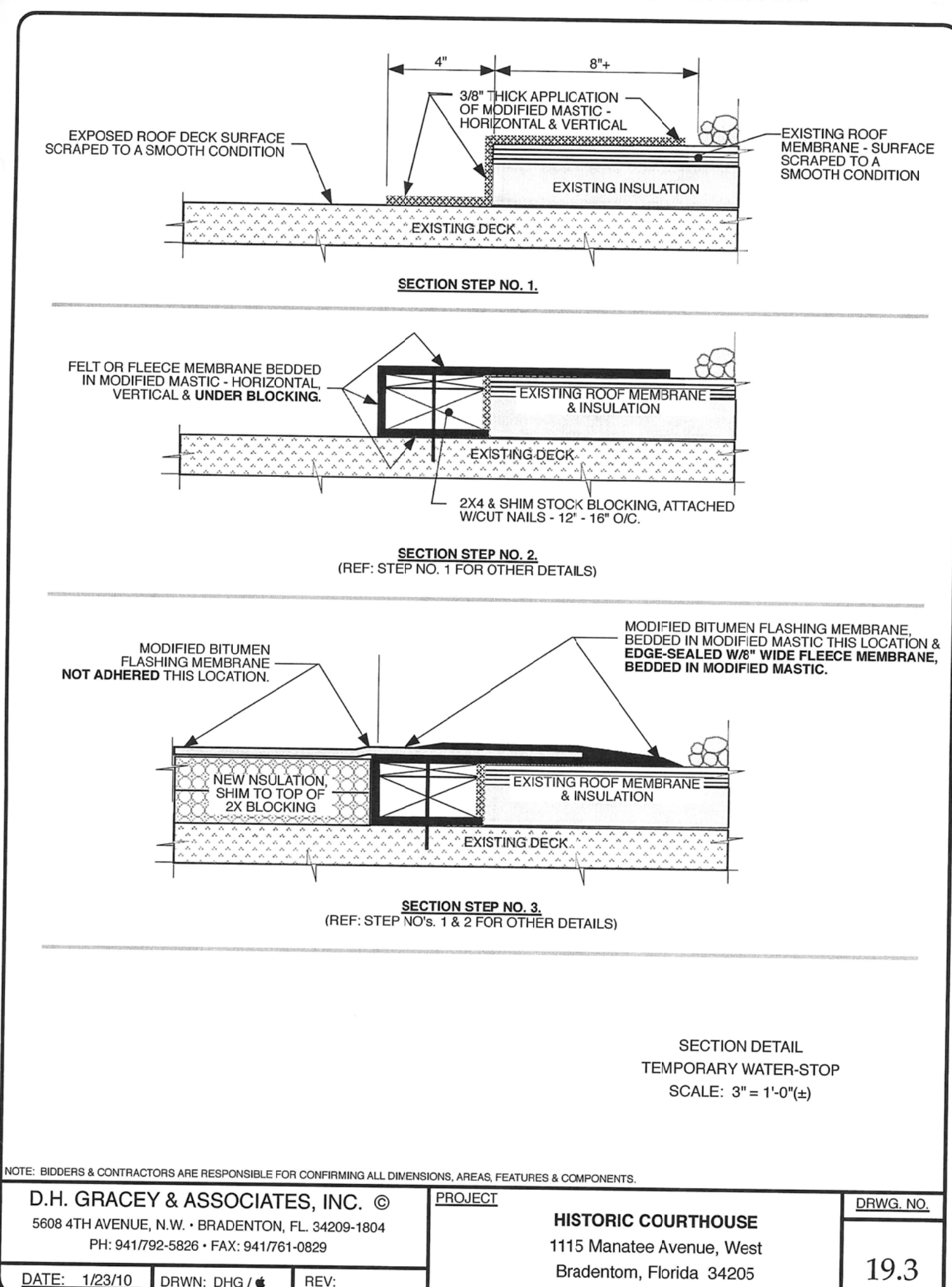
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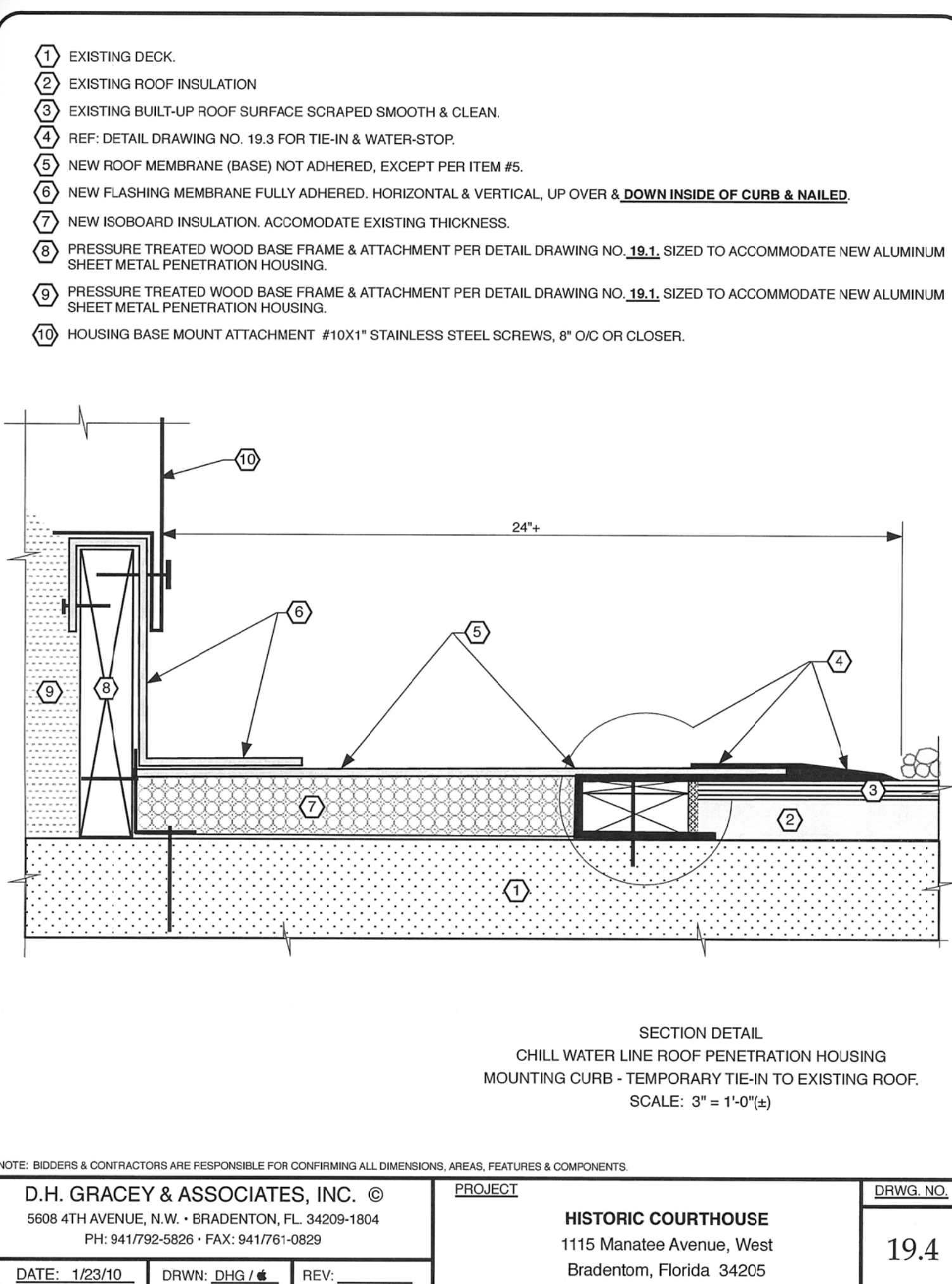
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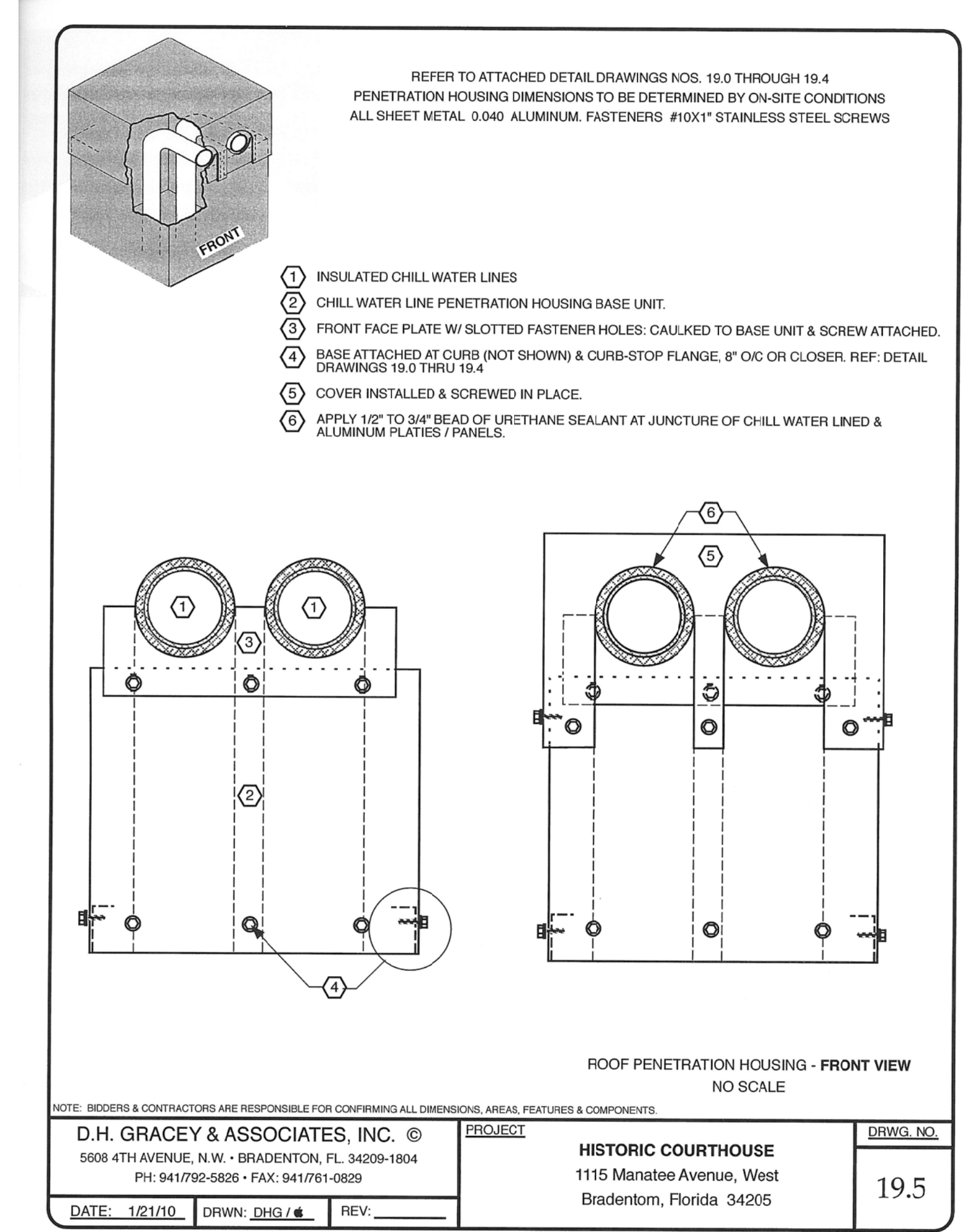
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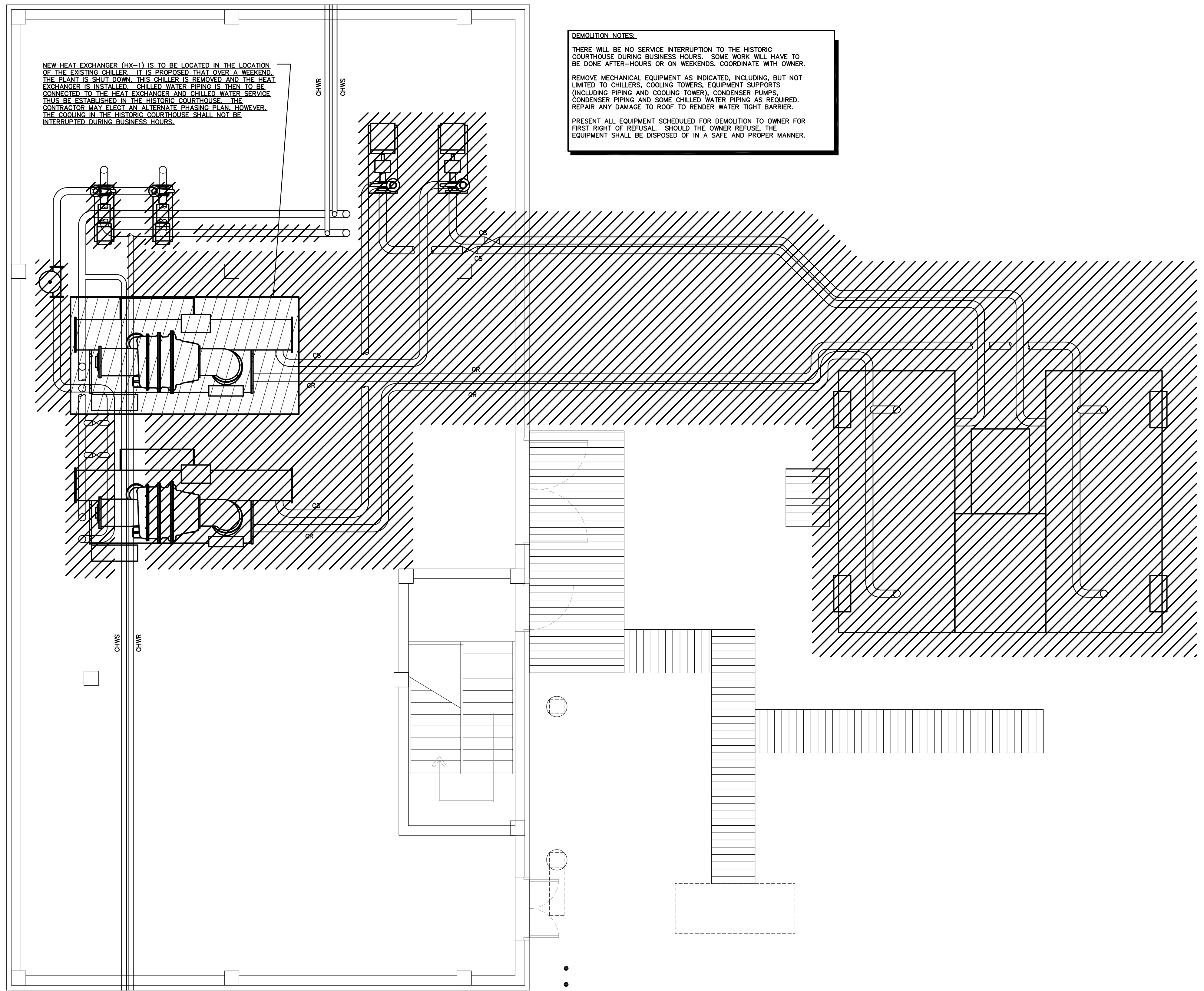
PROPOSED CHILLED WATER PIPE SERVICE FOR:
MANATEE COUNTY HISTORIC COURTHOUSE
CHILLED WATER PIPING
 1115 MANATEE AVENUE WEST
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NEW HEAT EXCHANGER (HX-1) IS TO BE LOCATED IN THE LOCATION OF THE EXISTING CHILLER. IT IS PROPOSED THAT OVER A WEEKEND, THE PLANT IS SHUT DOWN, THIS CHILLER IS REMOVED AND THE HEAT EXCHANGER IS INSTALLED. CHILLED WATER PIPING IS THEN TO BE CONNECTED TO THE HEAT EXCHANGER AND CHILLED WATER SERVICE THIS BE ESTABLISHED IN THE HISTORIC COURTHOUSE. THE CONTRACTOR MAY ELECT AN ALTERNATE PHASING PLAN, HOWEVER, THE COOLING IN THE HISTORIC COURTHOUSE SHALL NOT BE INTERRUPTED DURING BUSINESS HOURS.

DEMOLITION NOTES:
 THERE WILL BE NO SERVICE INTERRUPTION TO THE HISTORIC COURTHOUSE DURING BUSINESS HOURS. SOME WORK WILL HAVE TO BE DONE AFTER-HOURS OR ON WEEKENDS. COORDINATE WITH OWNER.
 REMOVE MECHANICAL EQUIPMENT AS INDICATED, INCLUDING, BUT NOT LIMITED TO CHILLERS, COOLING TOWERS, EQUIPMENT SUPPORTS (INCLUDING PIPING AND COOLING TOWER), CONDENSER PUMPS, CONDENSER PIPING AND SOME CHILLED WATER PIPING AS REQUIRED. REPAIR ANY DAMAGE TO ROOF TO RENDER WATER TIGHT BARRIER.
 PRESENT ALL EQUIPMENT SCHEDULED FOR DEMOLITION TO OWNER FOR FIRST RIGHT OF REFUSAL. SHOULD THE OWNER REFUSE, THE EQUIPMENT SHALL BE DISPOSED OF IN A SAFE AND PROPER MANNER.



MECHANICAL ROOFTOP PENTHOUSE DEMOLITION PLAN NORTH
 SCALE: 1/4"=1'-0"

**MANATEE COUNTY
 HISTORIC COURTHOUSE
 CHILLED WATER PIPING**
 BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
 4786

DATE:

SEAL

REV. #	DATE

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 DATE : 01-26-10
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 CHECKED BY : GLA
 SHEET No. :

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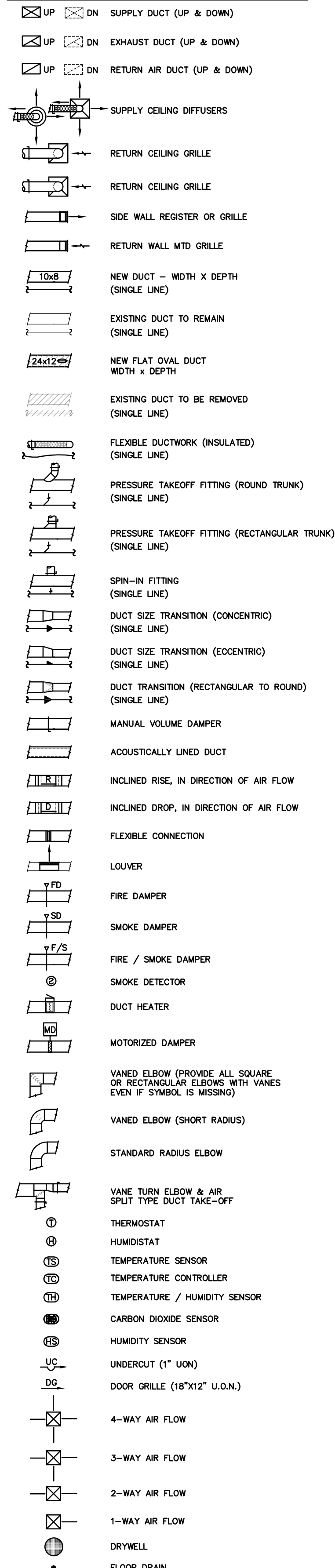
 MECHANICAL & ELECTRICAL CONSULTING ENGINEERS
 5213 FOURTH AVE. EAST, BRADENTON, FL 34208 C.O.A. #4049
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MECHANICAL ABBREVIATIONS, SYMBOL LEGEND, AND GENERAL NOTES

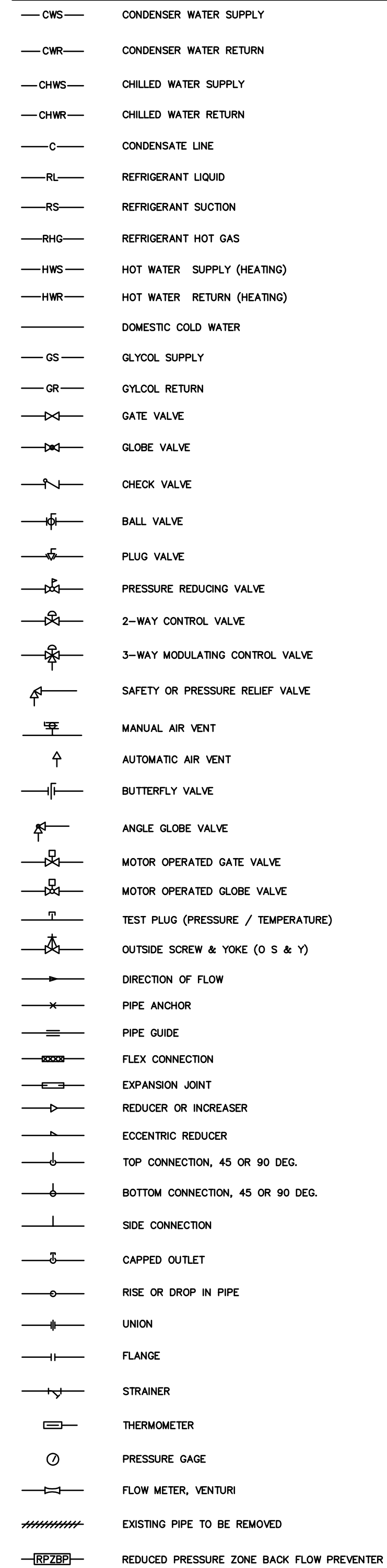
ABBREVIATIONS

AC	AIR CONDITIONING	HTR	HEATER
AD	ACCESS DOOR	HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
ADP	APPARATUS DEW POINT	HW	HOT WATER
AFF	ABOVE FINISHED FLOOR	HWR	HOT WATER RETURN
AHU	AIR HANDLING UNIT	HWS	HOT WATER SUPPLY
AI	ANALOG INPUT	ID	INSIDE DIAMETER
ALT	ALTERNATE	INV	INVERT
AMB	AMBIENT	IPS	IRON PIPE SIZE
AO	ANALOG OUTPUT	KW	KILOWATT
AP	ACCESS PANEL	LAT	LEAVING AIR TEMPERATURE
BFF	BELOW FINISHED FLOOR	LWT	LEAVING WATER TEMPERATURE
BHP	BRAKE HORSE POWER	MD	MOTORIZED DAMPER
BOT	BOTTOM	MAX	MAXIMUM
BTU	BRITISH THERMAL UNIT	MIN	MINIMUM
CC	COOLING COIL	NC	NORMALLY CLOSED
CFH	CUBIC FEET PER HOUR	NO	NORMALLY OPENED
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CH	CHILLER	OS&Y	OUTSIDE SCREW & YOKE
CHWR	CHILLED WATER RETURN	PD	PRESSURE DROP
CHWS	CHILLED WATER SUPPLY	PRESS	PRESSURE
CLG	CEILING	RA	RETURN AIR
CO	CLEANOUT	RD	ROOF DRAIN
CONTR	CONTRACTOR	RL	RAIN LEADER
CT	COOLING TOWER	RTU	ROOF TOP UNIT
CU	CONDENSING UNIT	S	SANITARY
CW	COLD WATER	S DPR	SMOKE DAMPER
CWR	CONDENSER WATER RETURN	SA	SUPPLY AIR
CWS	CONDENSER WATER RETURN	SP	STATIC PRESSURE
DB	DRY BULB	T	TEMPERATURE
DDC	DIRECT DIGITAL CONTROL	T/O	TRANSFER OPENING
DEG	DEGREE	TYP	TYPICAL
DET	DETAIL	UC	UNDERCUT
DG	DOOR GRILLE	UG	UNDERGROUND
DI	DIGITAL INPUT	UON	UNLESS OTHERWISE NOTED
DIA	DIAMETER	UV	UNIT VENTILATOR
DO	DIGITAL OUTPUT	V	VENT
DP	DEW POINT	VAC	VACUUM
DWG	DRAWING	VAV	VARIABLE AIR VOLUME
DX	DIRECT EXPANSION	VD	VOLUME DAMPER
EA	EXHAUST AIR	VFD	VARIABLE FREQUENCY DRIVE
EAT	ENTERING AIR TEMPERATURE	VSD	VARIABLE SPEED DRIVE
EER	ENERGY EFFICIENCY RATIO	VTR	VENT THRU ROOF
W	WASTE		
EF	EXHAUST FAN	WB	WET BULB
ET	EXPANSION TANK	WCO	WALL CLEANOUT
EL	ELEVATION		
EQUIP	EQUIPMENT		
EWC	ELECTRIC WATER COOLER		
EWT	ENTERING WATER TEMPERATURE		
EXIST	EXISTING		
FCU	FAN COIL UNIT		
FLD	FLOOR DRAIN		
FL	FLOOR		
FPI	FINS PER INCH		
FPF	FINS PER FOOT		
FPM	FEET PER MINUTE		
GA	GAGE		
GAL	GALLONS		
GAV	GALVANIZED		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GR	GRAINS		
H	HUMIDITY		
HB	HOSE BIBB		
HC	HEATING COIL		
HE	HEAT EXCHANGER		
HP	HORSE POWER		

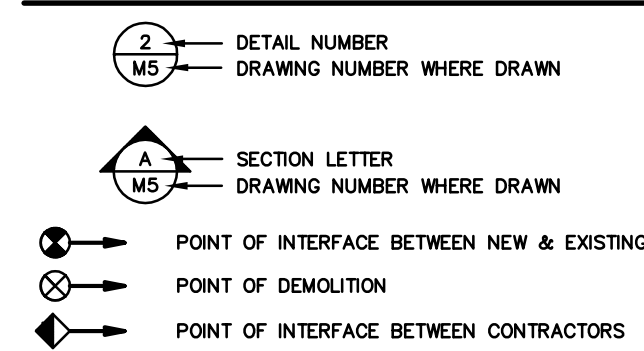
DUCTWORK



PIPING



DRAWING SYMBOLS



NOTE:
THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS, HOWEVER WHEREVER THE SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE PROVIDED AND INSTALLED.

GENERAL NOTES

- HVAC WORK CONSISTS OF PROVIDING AND INSTALLING AIR CONDITIONING SYSTEMS FOR A COMPLETE OPERATING SYSTEM AND AS INDICATED ON THE DRAWINGS. ALL WORK SHALL COMPLY WITH APPLICABLE CODES IN SPECIFICATIONS. IT IS THE INTENTION OF THE CONTRACT DRAWINGS AND SPECIFICATIONS TO CALL FOR COMPLETE, FINISHED WORK, TESTED, AND READY FOR OPERATION.
- TEST AND BALANCE SHALL BE PROVIDED BY A COMPANY SPECIALIZING IN THE TESTING AND BALANCING OF HVAC SYSTEMS AS SUBCONTRACTOR TO THE HVAC CONTRACTOR. THE TEST AND BALANCE CONTRACTOR SHALL BE A MEMBER OF EITHER AABC OR NEBB.
- ALL PIPING SUBJECT TO THERMAL EXPANSION AND/OR CONTRACTION THAT PENETRATES A SMOKE, FIRE, OR FIRE/SMOKE WALL, PARTITION, OR FLOOR SLAB SHALL BE SUITABLY SLEEVED AND FIRE SAFED.
- PROVIDE IDENTIFICATION OF THE LOCATION OF ALL FIRE AND BALANCING DAMPERS. IDENTIFICATION TAGS SHALL BE AFFIXED TO THE WALLS OR CEILINGS AND SHALL BE VISIBLE FROM THE OCCUPIED SPACE.
- ALL PIPING SHALL BE SUPPORTED WITH COMMERCIAL MANUFACTURED CLAMPS. PROVIDE ISOLATION SLEEVES TO PREVENT CONTACT OF DISSIMILAR METALS.
- INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS AND RECOMMENDATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL NECESSARY MISCELLANEOUS ANGLES, CHANNELS, RODS, UNISTRUT, ETC. AS MAY BE NECESSARY TO ADEQUATELY SUPPORT THE MECHANICAL PIPING, AND EQUIPMENT IN A MANNER APPROVED BY THE ARCHITECT THAT WILL NOT OVERLOAD THE BUILDING STRUCTURE SYSTEM.
- PENETRATIONS THROUGH FIRE RATED ASSEMBLIES, PENETRATIONS FOR PIPES, CONDUITS, OR OTHER PURPOSES THROUGH ASSEMBLIES (FLOORS, ROOF, WALLS, PARTITIONS, ETC.) WITH A REQUIRED FIRE RESISTANCE RATING FIRE STOP MATERIAL. FIRE STOP SEALANTS SHALL BE UL LISTED. APPLY FIRE STOP AS RECOMMENDED BY THE MANUFACTURER AND IN ACCORDANCE WITH ITS LISTING TO MEET OR EXCEED THE FIRE RATING OF THE ASSEMBLY IN WHICH IT IS INSTALLED.
- ALL INSULATION SHALL BE FIRE RATED IN ACCORDANCE WITH ASHRAE 90A 50/25 SMOKE DEVELOPMENT AND FLAME SPREAD REQUIREMENTS. INSULATION "R" VALUES SHALL COMPLY WITH THE FLORIDA ENERGY CODE.
- SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT.
- ALL ROOF ATTACHED EQUIPMENT AND APPURTENANCES INCLUDED IN THE SCOPE OF THIS PROJECT ARE REQUIRED TO BE SECURED TO THE UNDERLYING BUILDING STRUCTURE. THE FASTENING SYSTEMS SHALL BE DESIGNED TO WITHSTAND A 130 MPH WIND LOAD. ALL ROOF MOUNTED EQUIPMENT SHALL BE MOUNTED ON FACTORY FABRICATED ROOF CURBS AND SHALL BE PROVIDED WITH VIBRATION ISOLATION AS RECOMMENDED BY THE MANUFACTURER. WATERTIGHT SEAL SHALL BE PROVIDED BY AN APPROVED ROOFING CONTRACTOR.
- THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE MECHANICAL SYSTEMS BE PROVIDED WITH ALL NECESSARY EQUIPMENT APPURTENANCES, AND CONTROLS, COORDINATE WITH ALL OTHER DISCIPLINES. ALL PARAMETERS INDICATED IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED WITH ANY ITEMS AND LABOR REQUIRED FOR COMPLETE MECHANICAL SYSTEMS IN ACCORDANCE WITH ALL APPLICABLE CODES STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE PROVIDED WITHOUT ANY ADDITIONAL COST TO THE CONTRACT. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS AND SHALL COORDINATE WITH OTHER TRADES WHILE PREPARING THE MECHANICAL SHOP DRAWINGS.
- UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIALS, AND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER.
- WHEN CONFLICTS OCCUR IN SPECIFICATIONS OR IN THE DRAWINGS, OR BETWEEN EITHER, THE ITEMS OF GREATER QUANTITY OR HIGHER COST SHALL BE PROVIDED.
- CONTRACTOR SHALL COORDINATE ALL PIPING WITH STRUCTURAL AND ELECTRICAL SYSTEMS INCLUDING ROOF/FLOOR PENETRATIONS AND SHALL PROVIDE AND INSTALL ALL NECESSARY OFFSETS OR FITTINGS REQUIRED TO AVOID CONFLICTS AND MAINTAIN EQUIPMENT ACCESS AND SERVICEABILITY.

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**MANATEE COUNTY
HISTORIC COURTHOUSE
CHILLED WATER PIPING**
BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
4786

DATE: _____

S E A L

REV. # DATE

JOB NO. : 09-2199

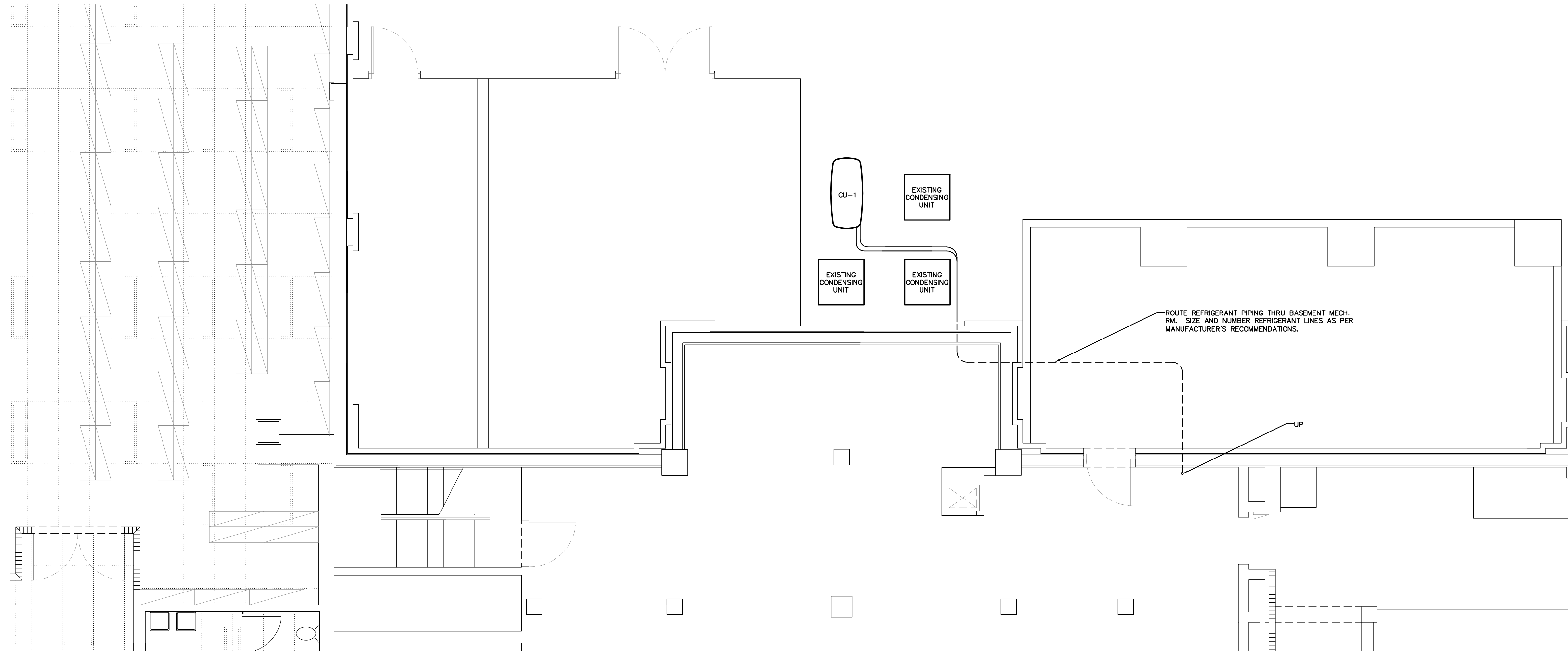
DATE : 01-26-10

DRAWN BY : RLA

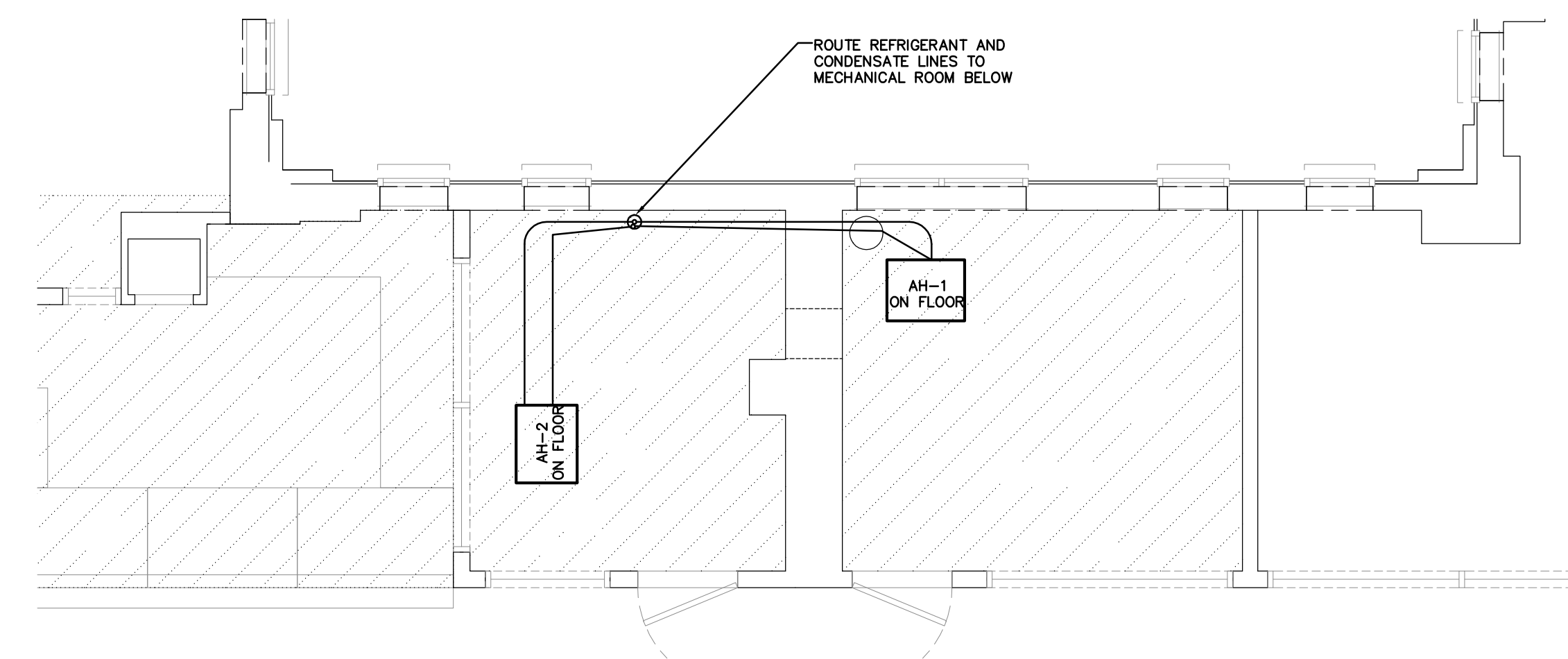
CHECKED BY : GJA

SHEET No. :

M-0



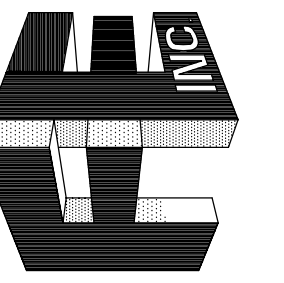
SERVER ROOM CONDENSING UNIT LOCATION
SCALE: 1/8" = 1'



SERVER ROOM AIR HANDLING UNIT LOCATION
SCALE: 1/4" = 1'

MECHANICAL FIRST FLOOR SERVER ROOM PLANS
SCALE: AS NOTED

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TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
4786

DATE:

SEAL

REV. #	DATE

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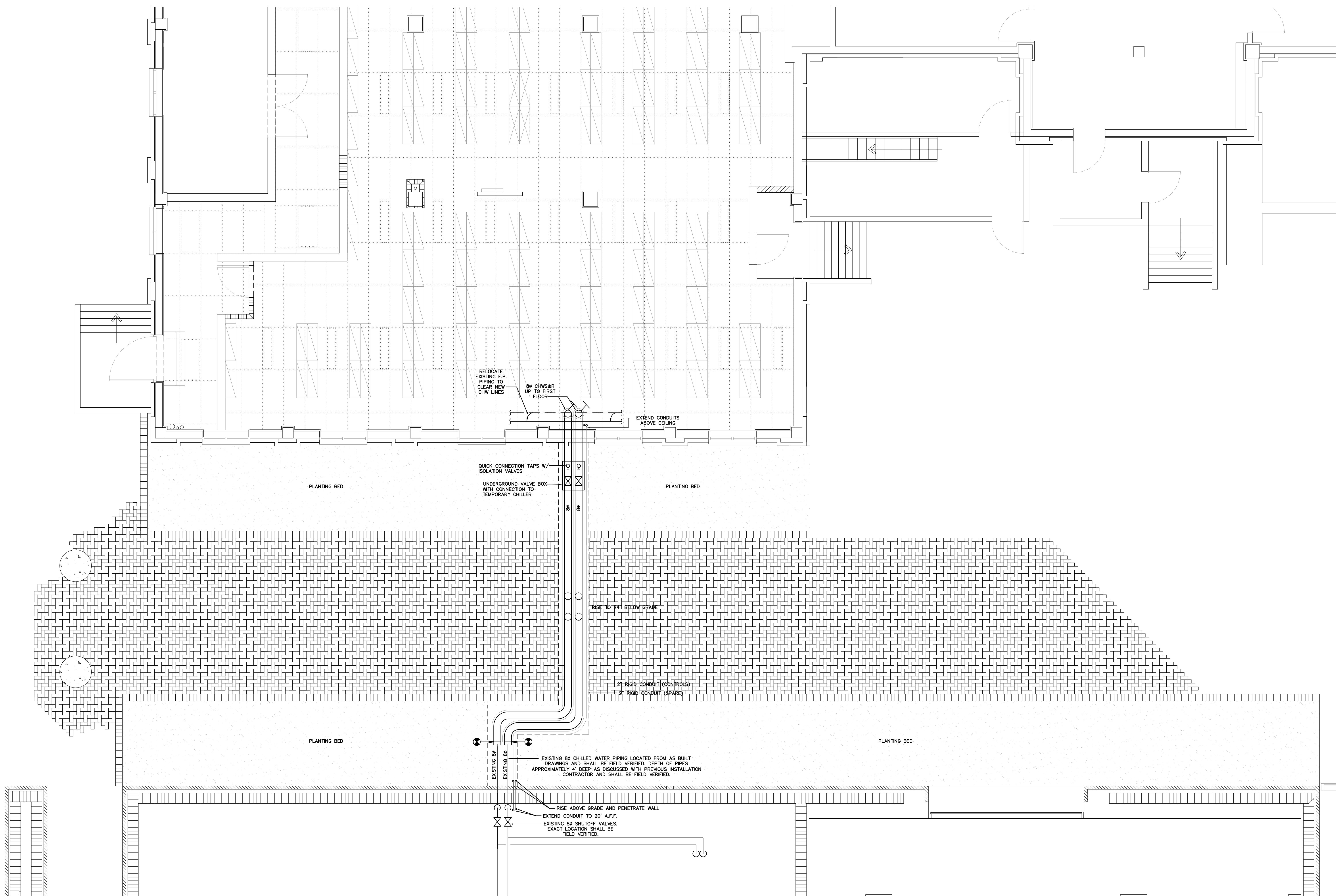
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CHECKED BY : GLA

SHEET No. :

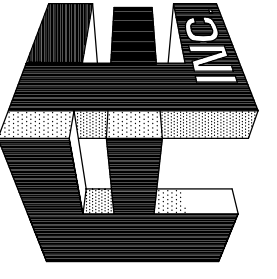
M-0.1



MECHANICAL BASEMENT FLOOR PLAN NORTH

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

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**MANATEE COUNTY
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BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

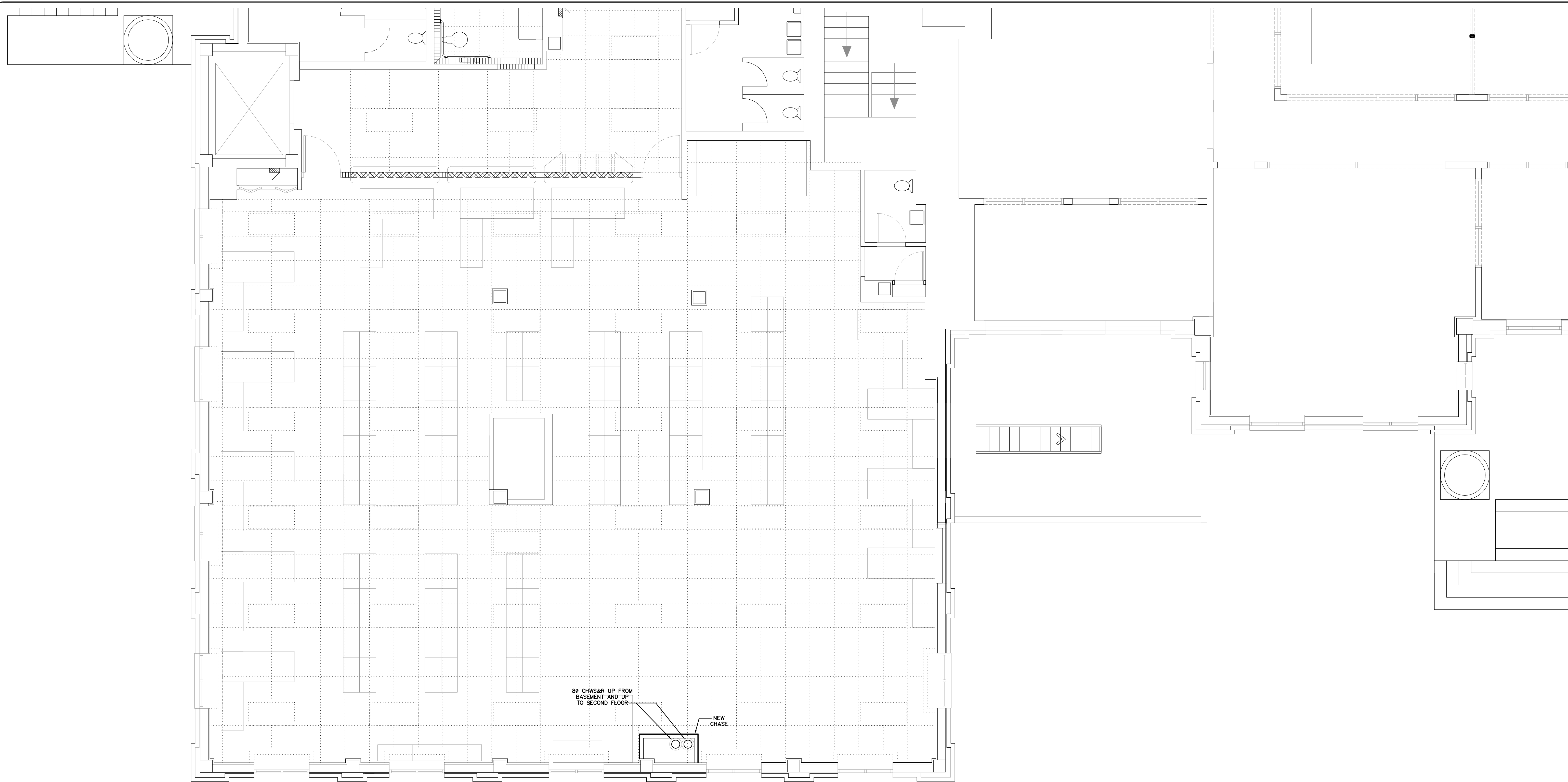
BY: GERARD L. ABRAMS P.E. 4786

DATE:

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REV. #	DATE

JOB NO. : 09-2199
 DATE : 01-26-10
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 SHEET No. :
M-1



8" CHWS&R UP FROM
BASEMENT AND UP
TO SECOND FLOOR

NEW
CHASE

MECHANICAL FIRST FLOOR PLAN 

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

TO THE BEST OF MY KNOWLEDGE, SAID
PLANS AND SPECIFICATIONS COMPLY
WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
4786

DATE:

SEAL

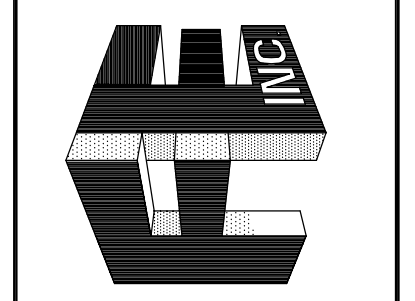
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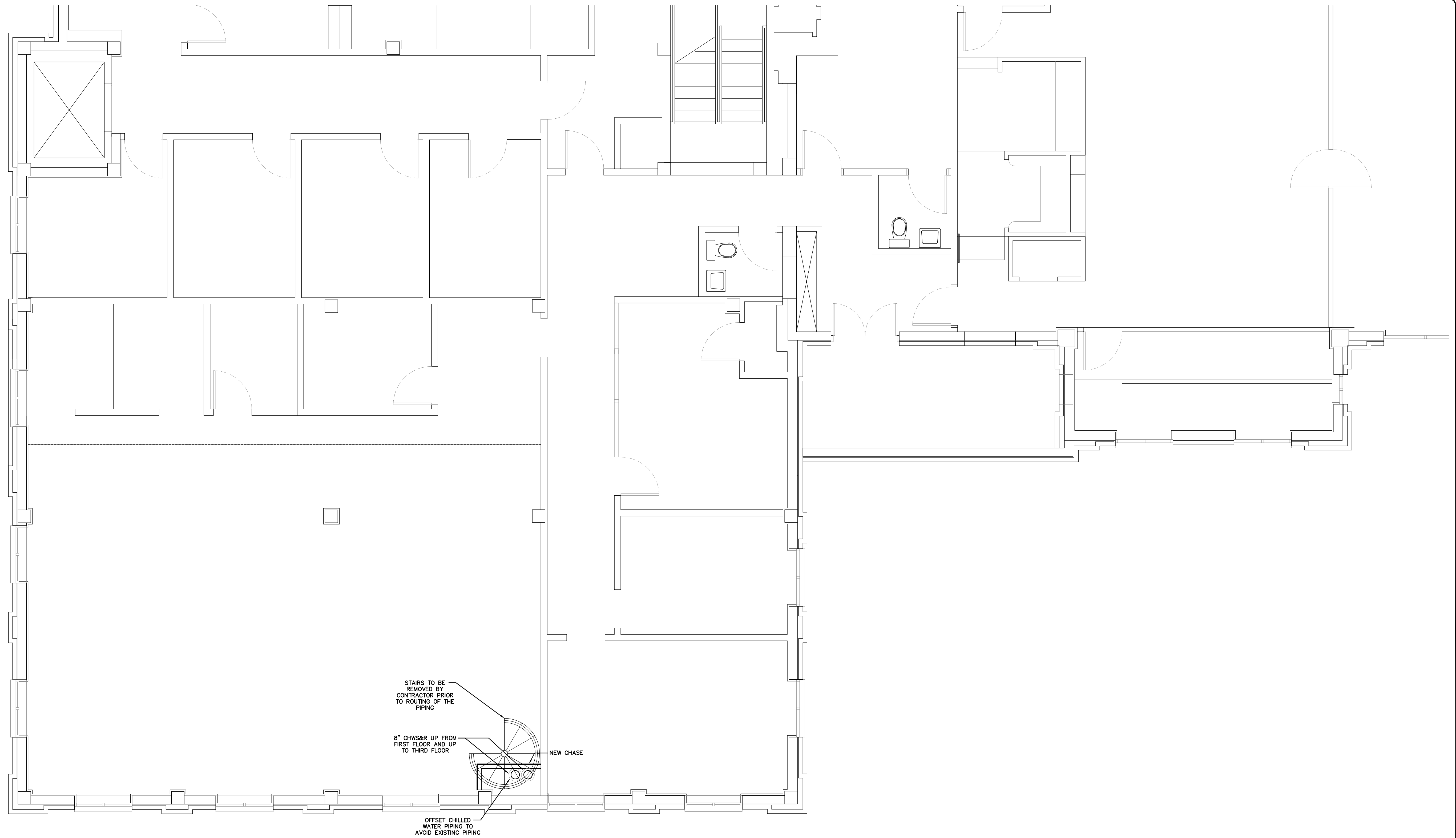
M-2

**MANATEE COUNTY
 HISTORIC COURTHOUSE
 CHILLED WATER PIPING**

BRADENTON, FLORIDA 34208



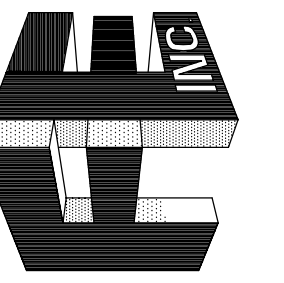
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MECHANICAL SECOND FLOOR PLAN 

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

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**MANATEE COUNTY
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 CHILLED WATER PIPING**
 BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID
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 WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E.
 4786

DATE:

SEAL

REV. #	DATE

JOB NO. : 09-2199

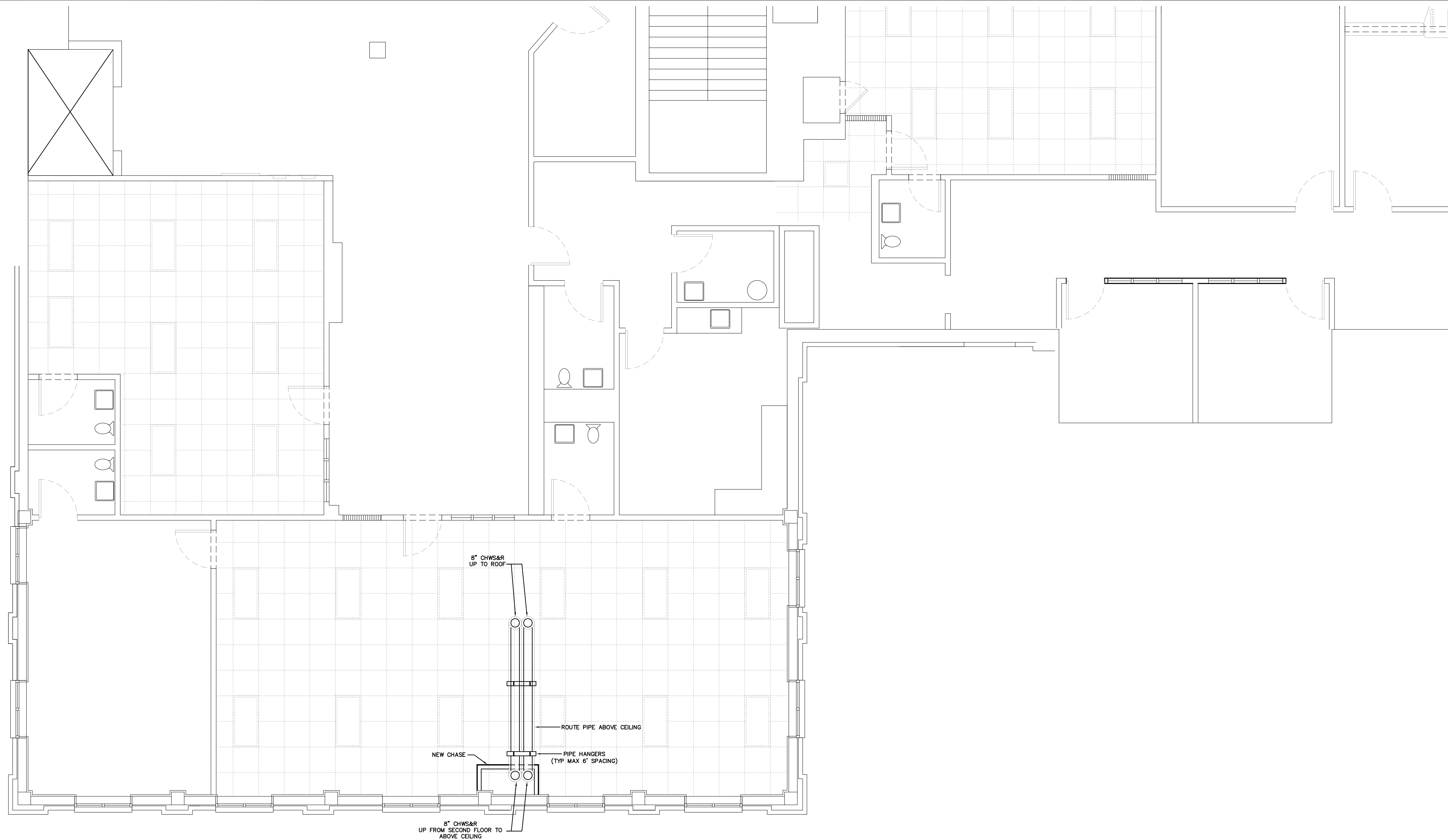
DATE : 01-26-10

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CHECKED BY : GLA

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M-3



MECHANICAL THIRD FLOOR PLAN 

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

**MANATEE COUNTY
HISTORIC COURTHOUSE
CHILLED WATER PIPING**
BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID
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BY: GERARD L. ABRAMS P.E.
4786

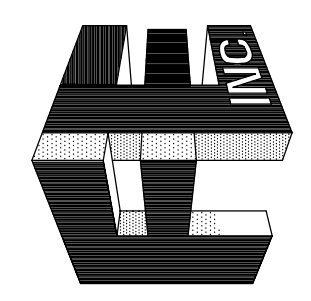
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SEAL

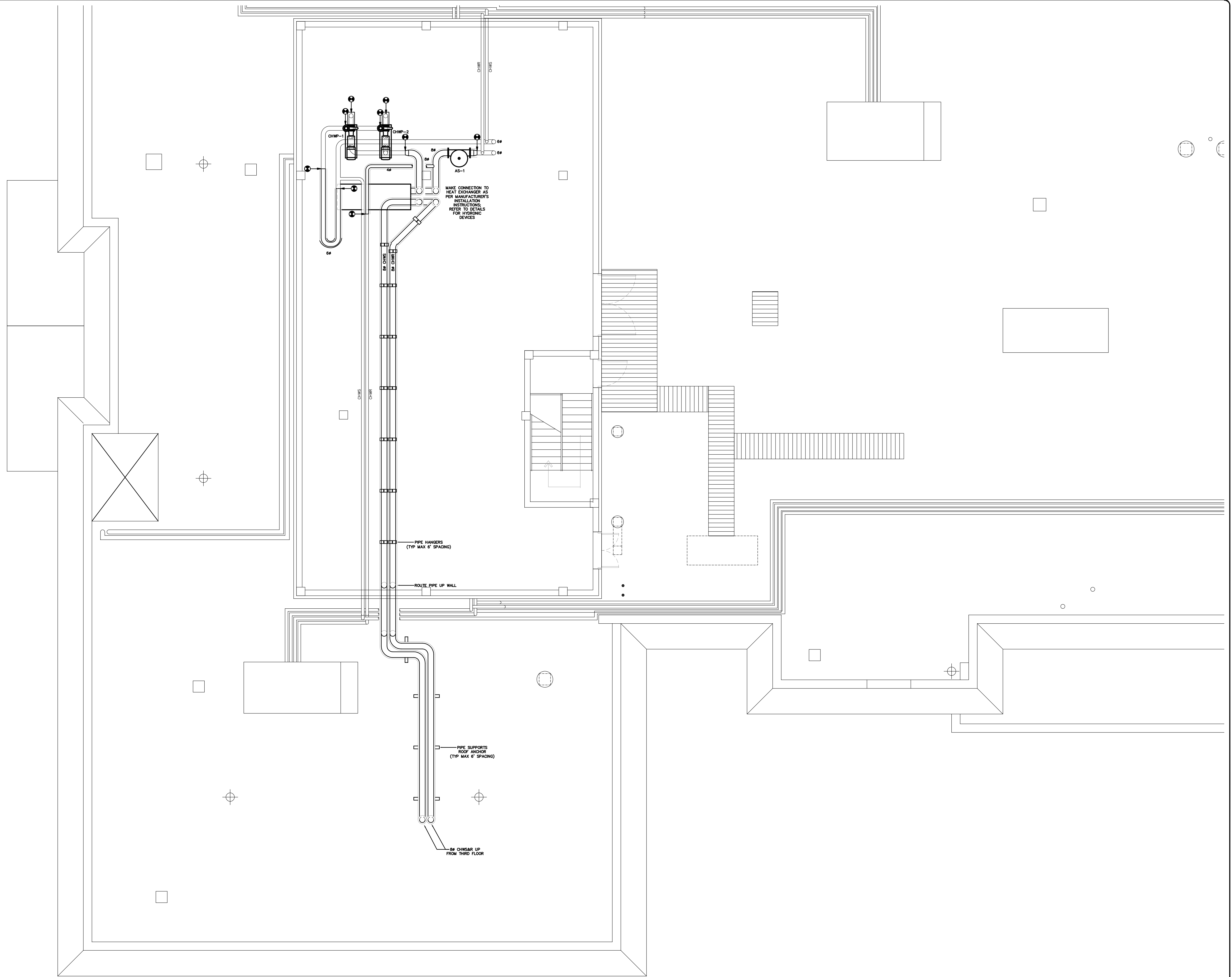
REV. #	DATE

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DATE : 01-26-10
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MAKE CONNECTION TO HEAT EXCHANGER AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO DETAILS FOR HYDRONIC DEVICES

PIPE HANGERS (TYP. MAX 6' SPACING)

ROUTE PIPE UP WALL

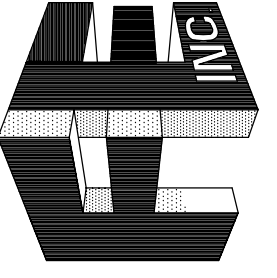
PIPE SUPPORTS ROOF ANCHOR (TYP. MAX 6' SPACING)

3/4\"/>

MECHANICAL ROOFTOP PENTHOUSE PLAN 

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

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**MANATEE COUNTY
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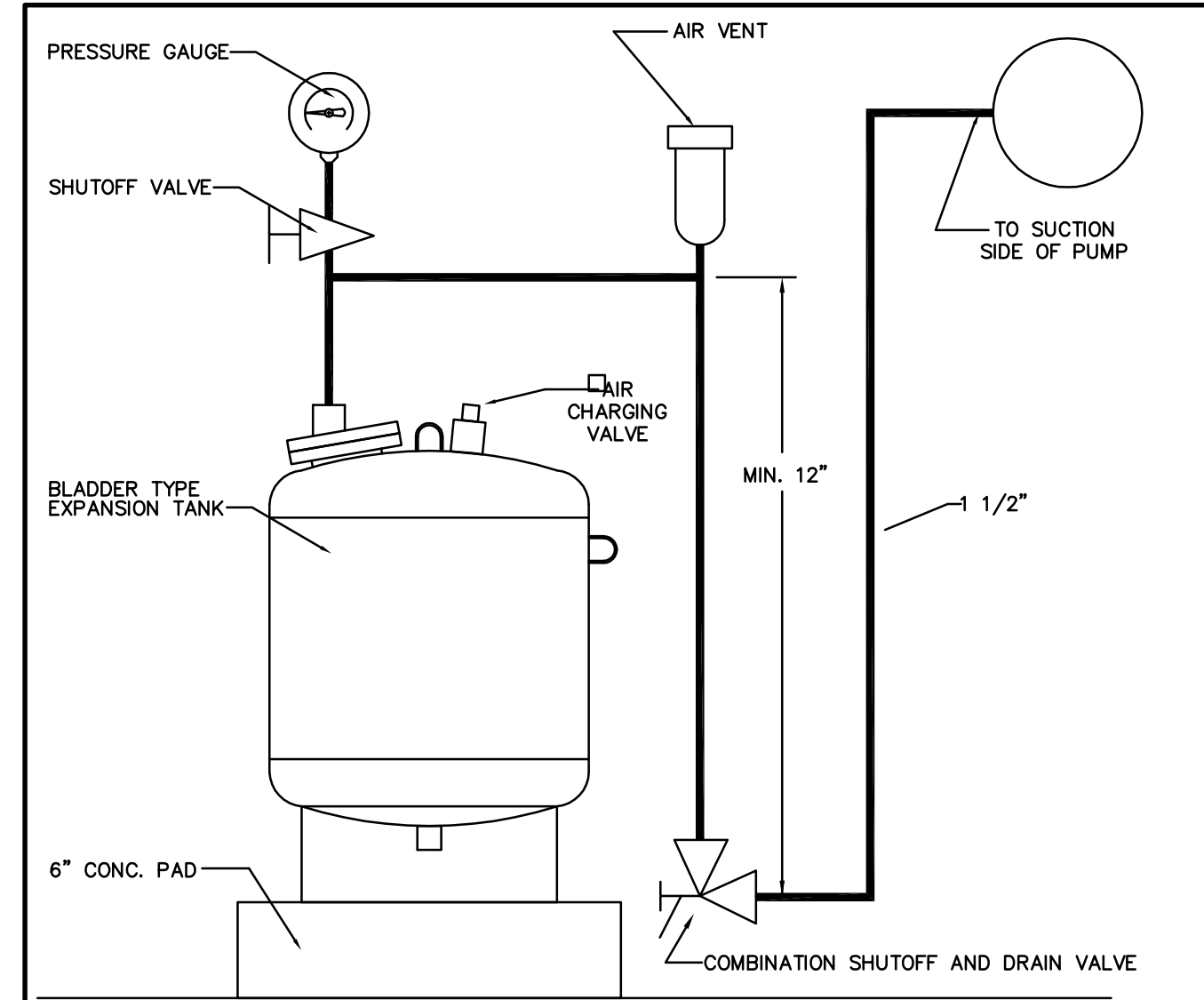
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SEAL

REV. #	DATE

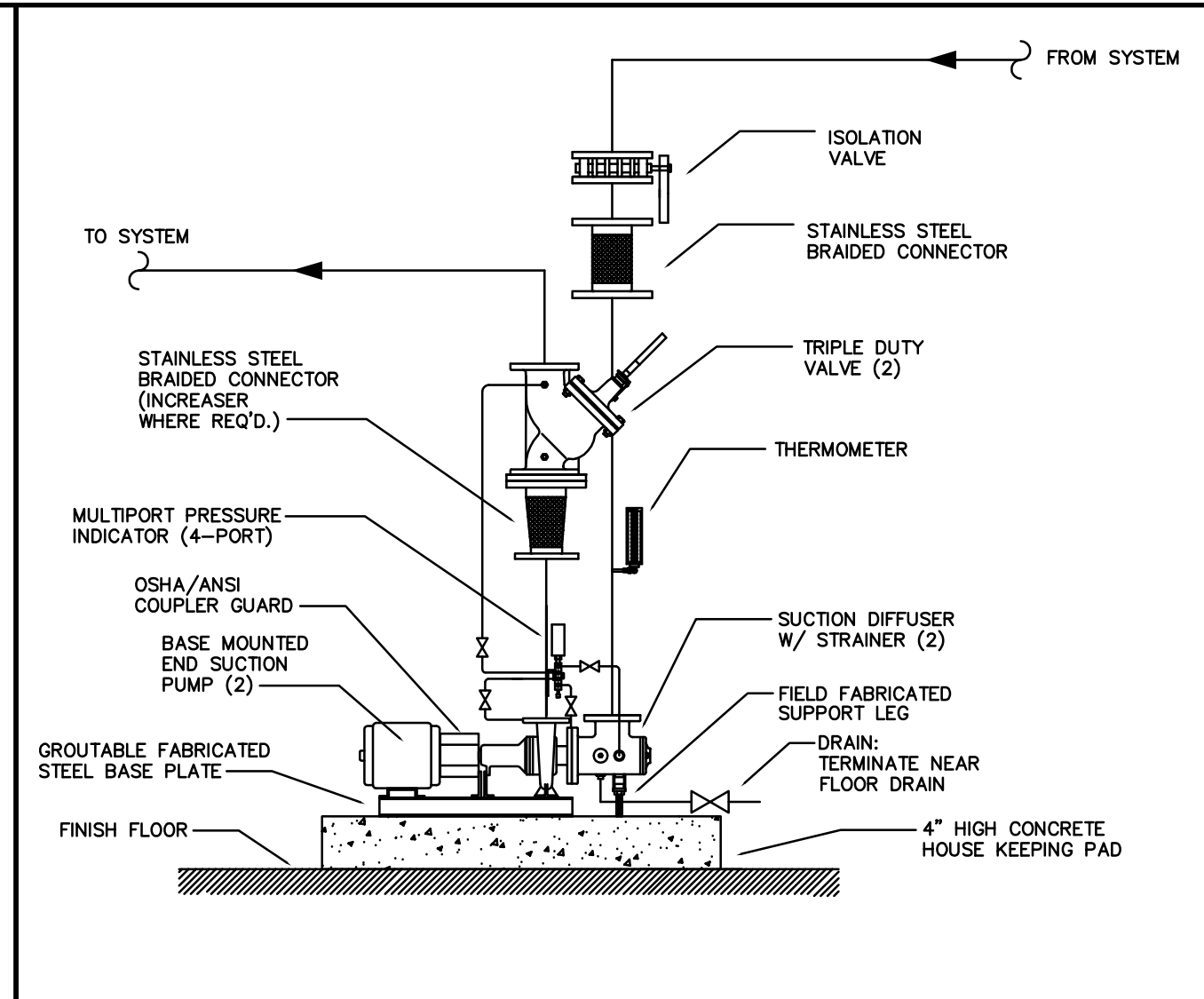
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M-5



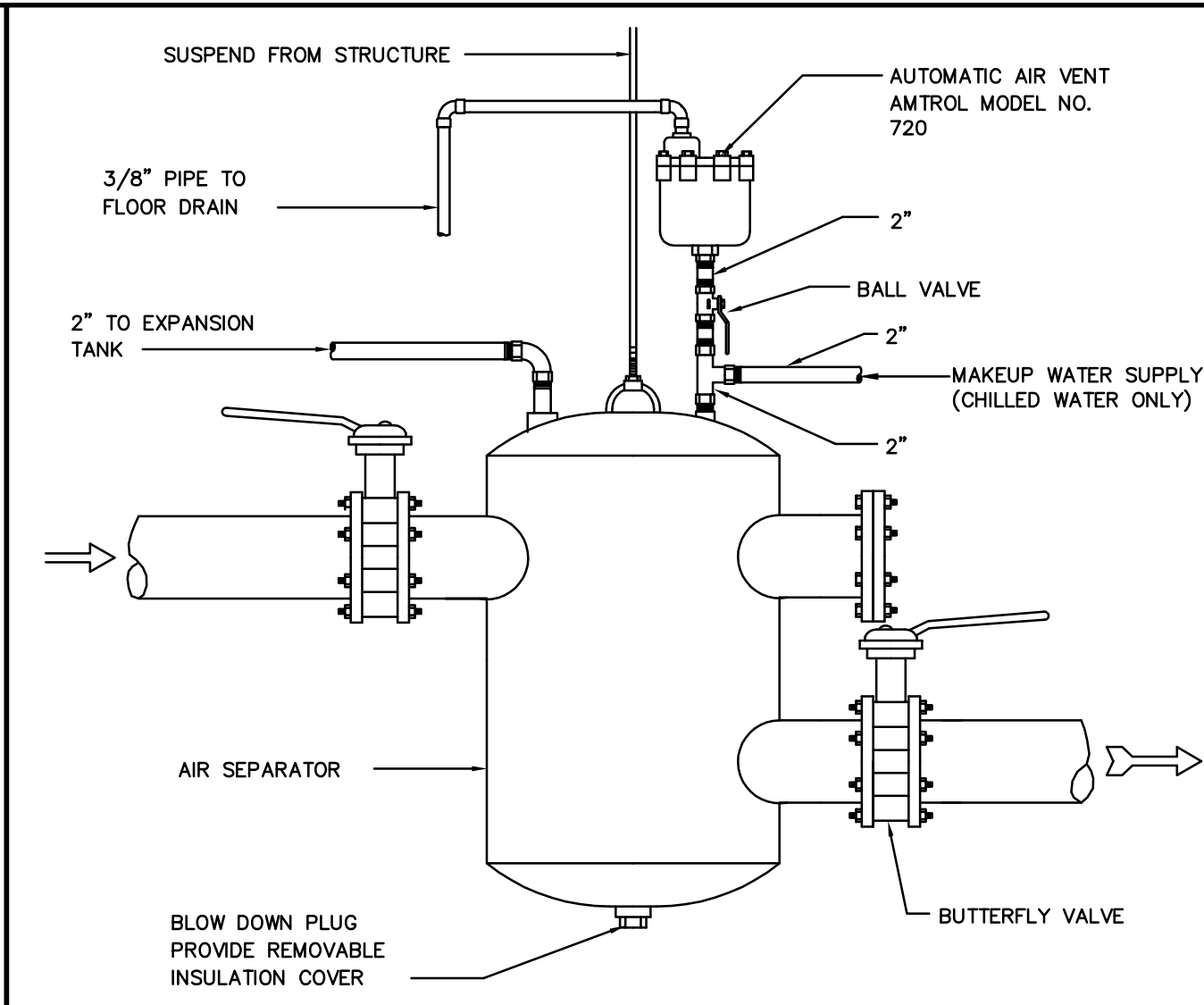
EXPANSION TANK DETAIL

NO SCALE



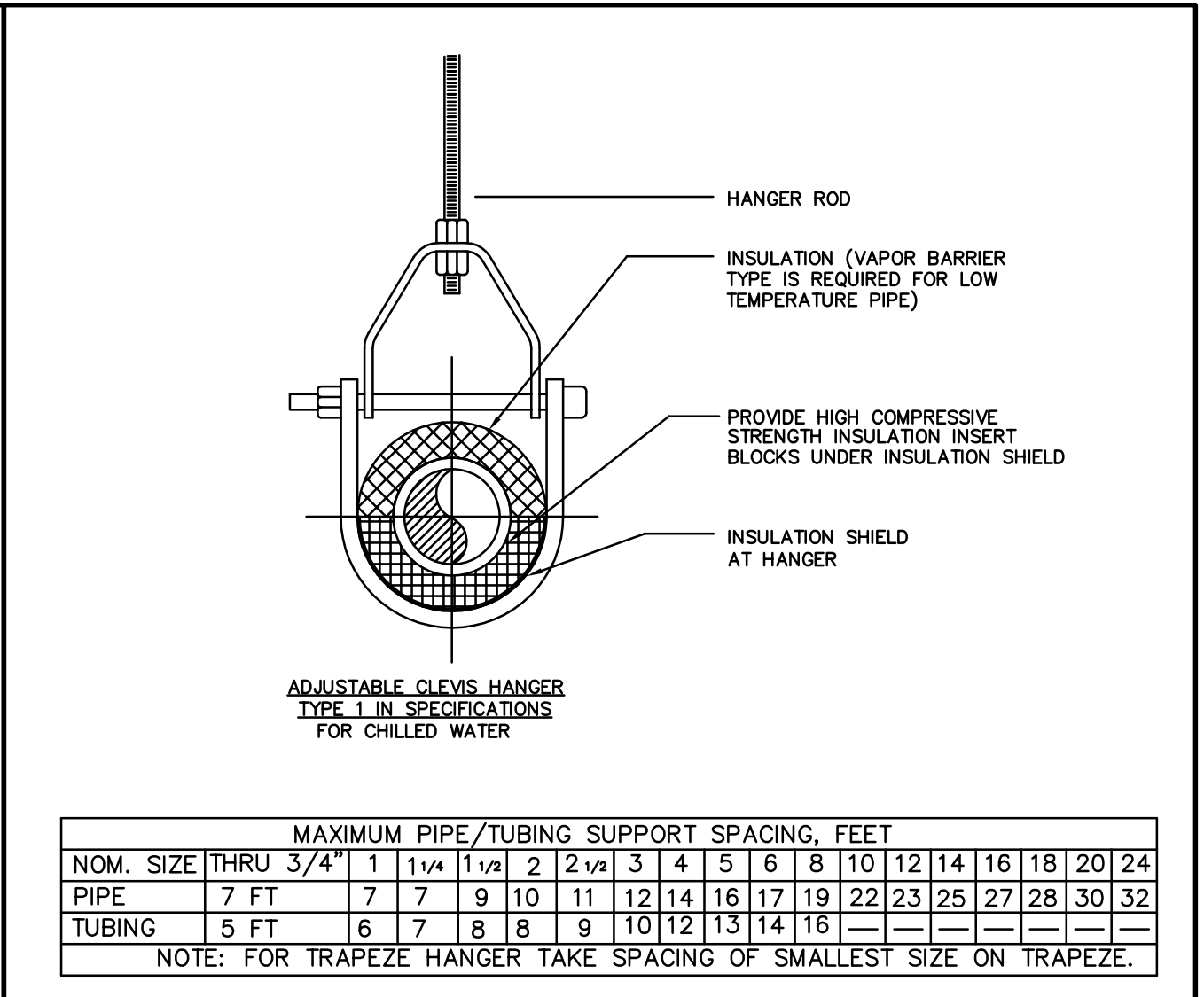
1 CHILLED WATER DISTRIB. PUMP DETAIL

NO SCALE



2 AIR SEPARATOR DETAIL

NO SCALE

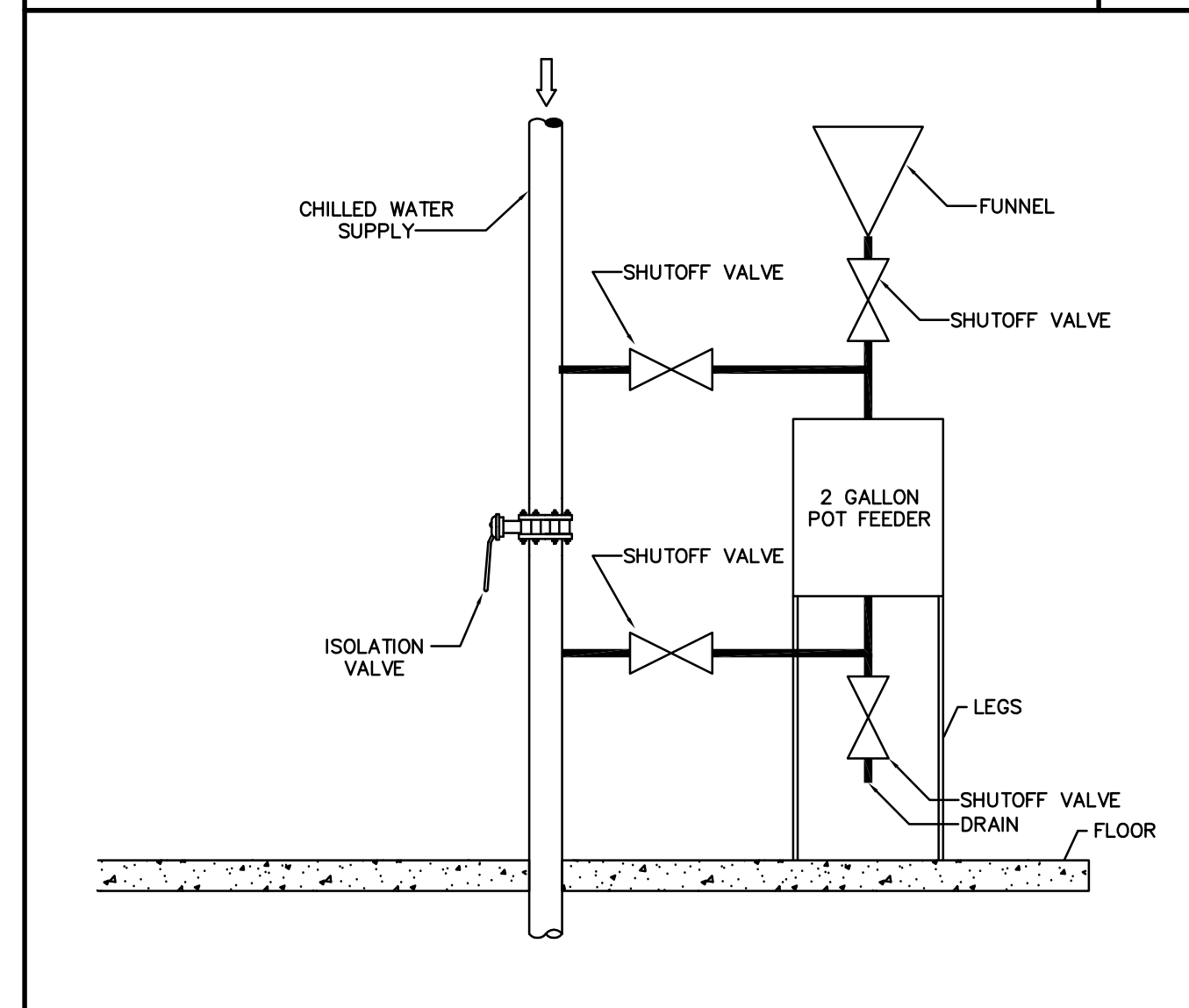


3 TYPICAL PIPE HANGER DETAIL

NO SCALE

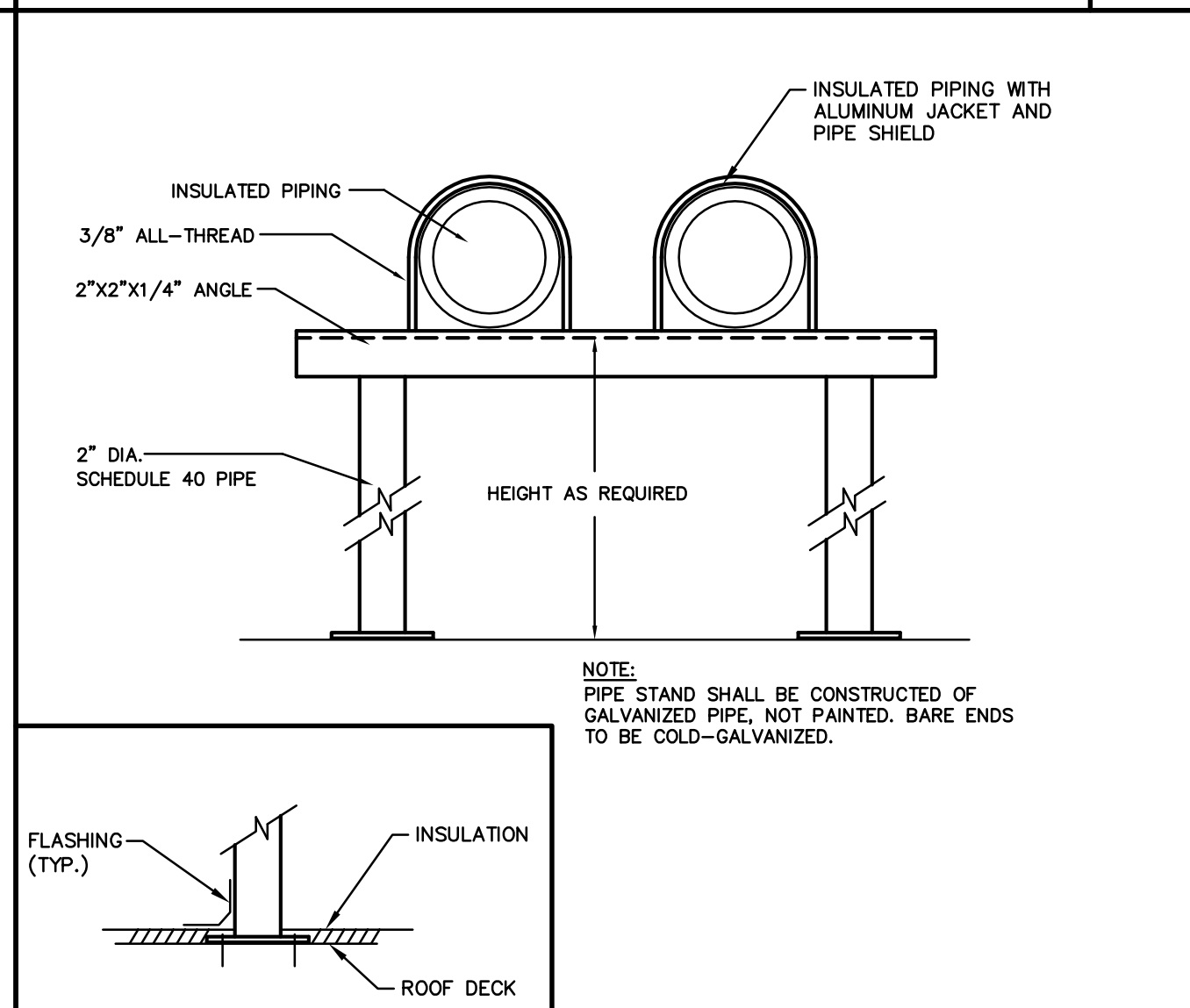
		MAXIMUM PIPE/TUBING SUPPORT SPACING, FEET																							
NOM. SIZE	THRU	3/4"	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24						
PIPE	7 FT	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32							
TUBING	5 FT	6	7	8	8	9	10	12	13	14	16														

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.



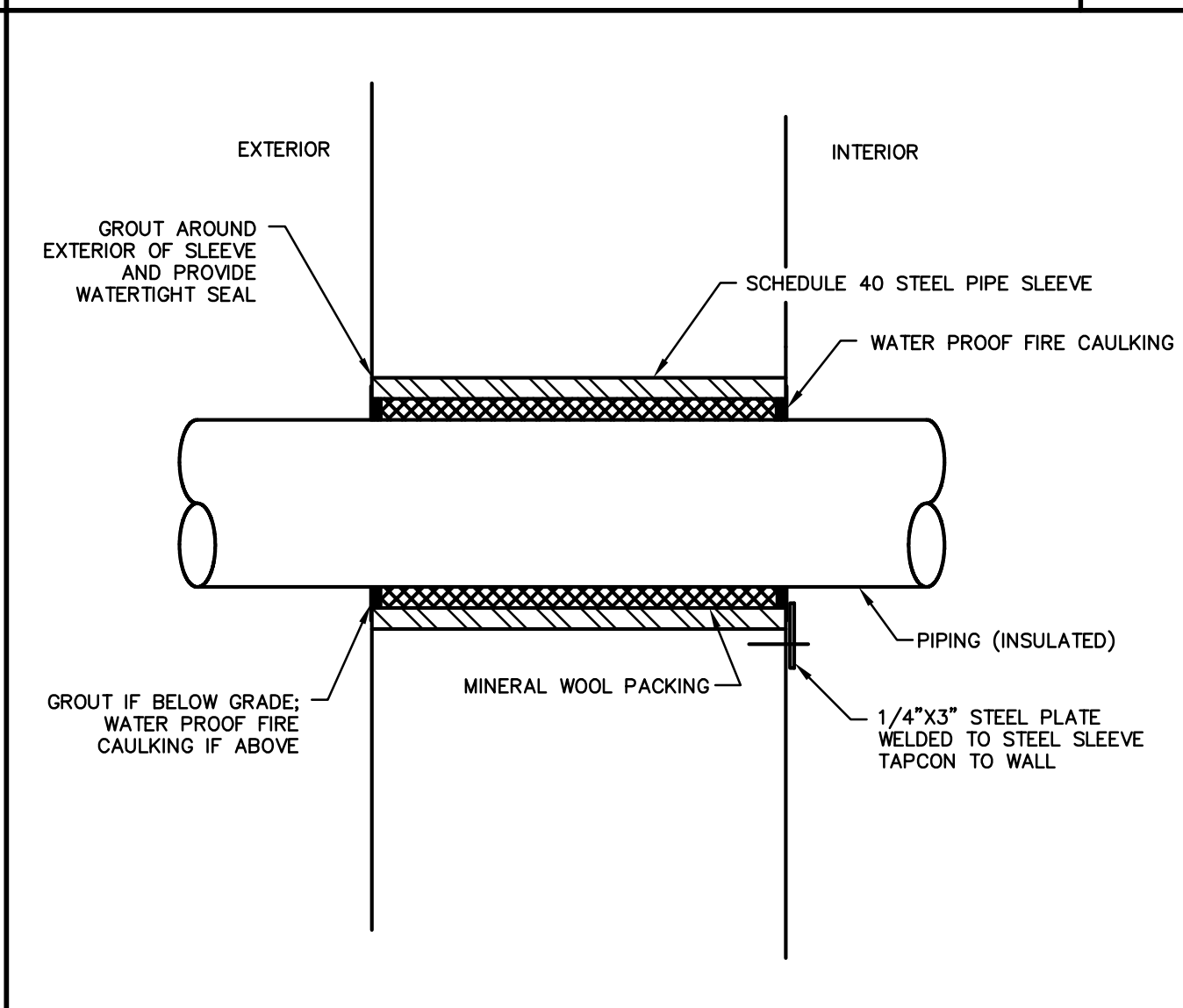
POT FEEDER DETAIL

NO SCALE



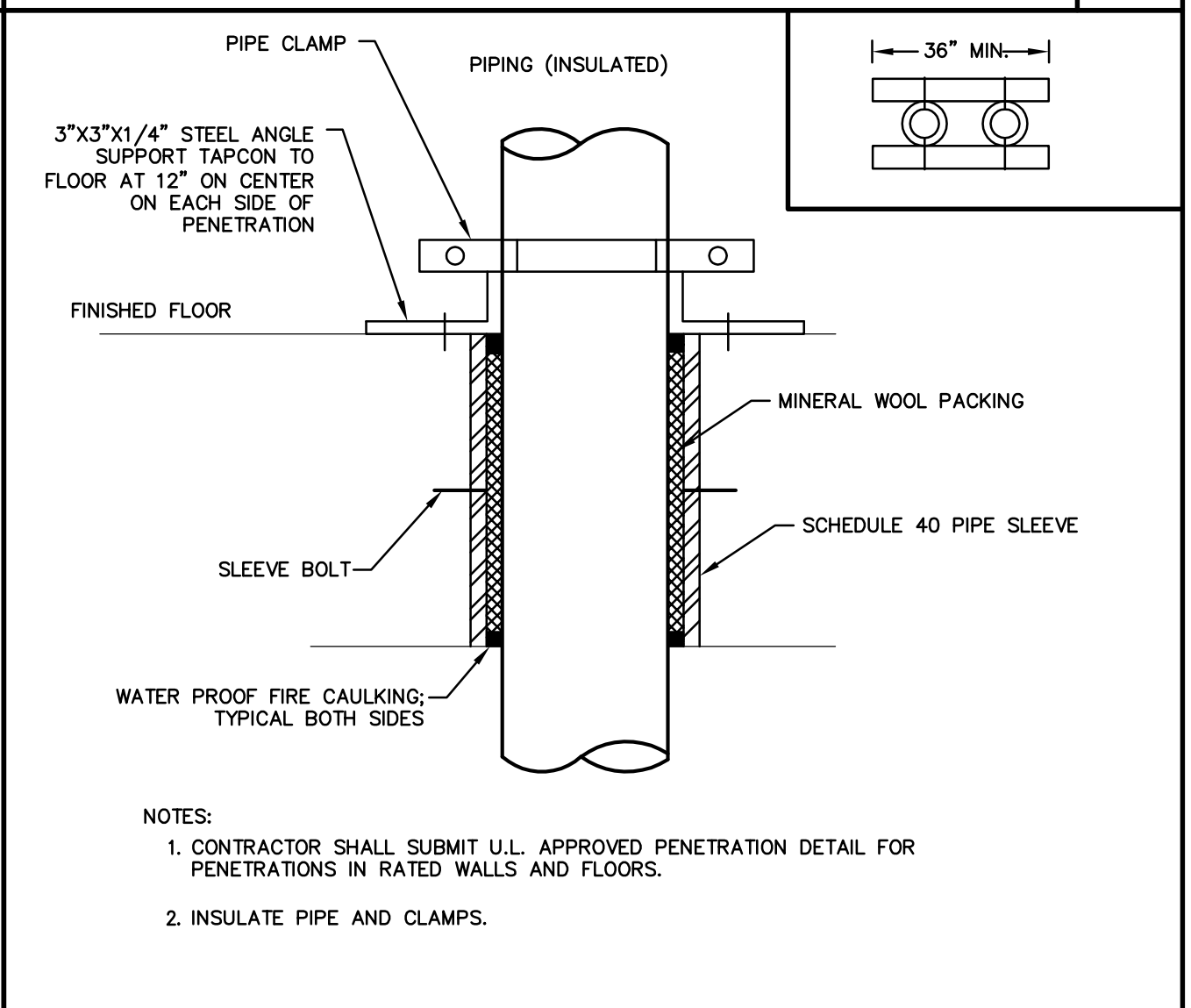
5 ROOFTOP PIPING DETAIL

NO SCALE



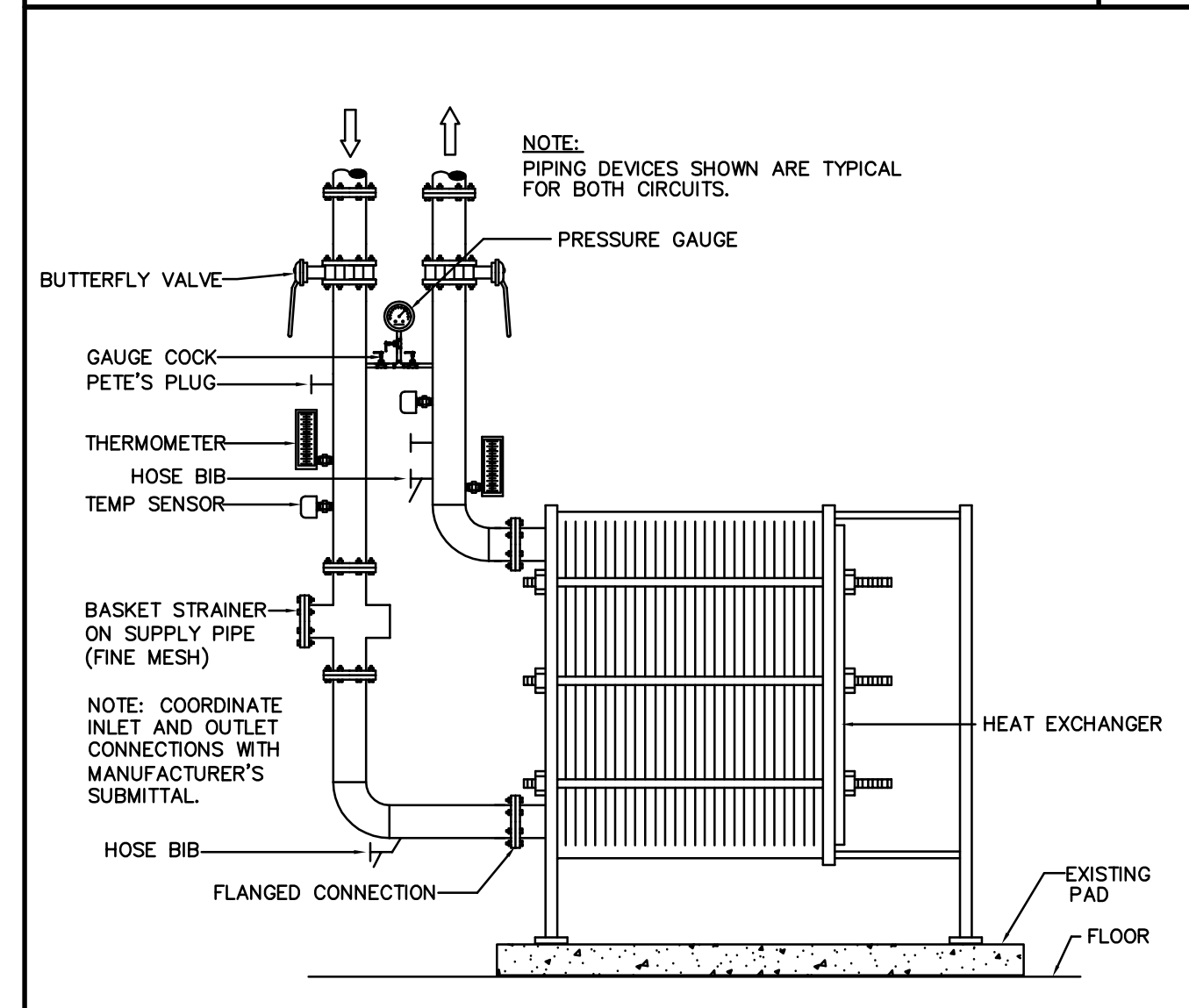
6 PIPE WALL PENETRATION DETAIL

NO SCALE



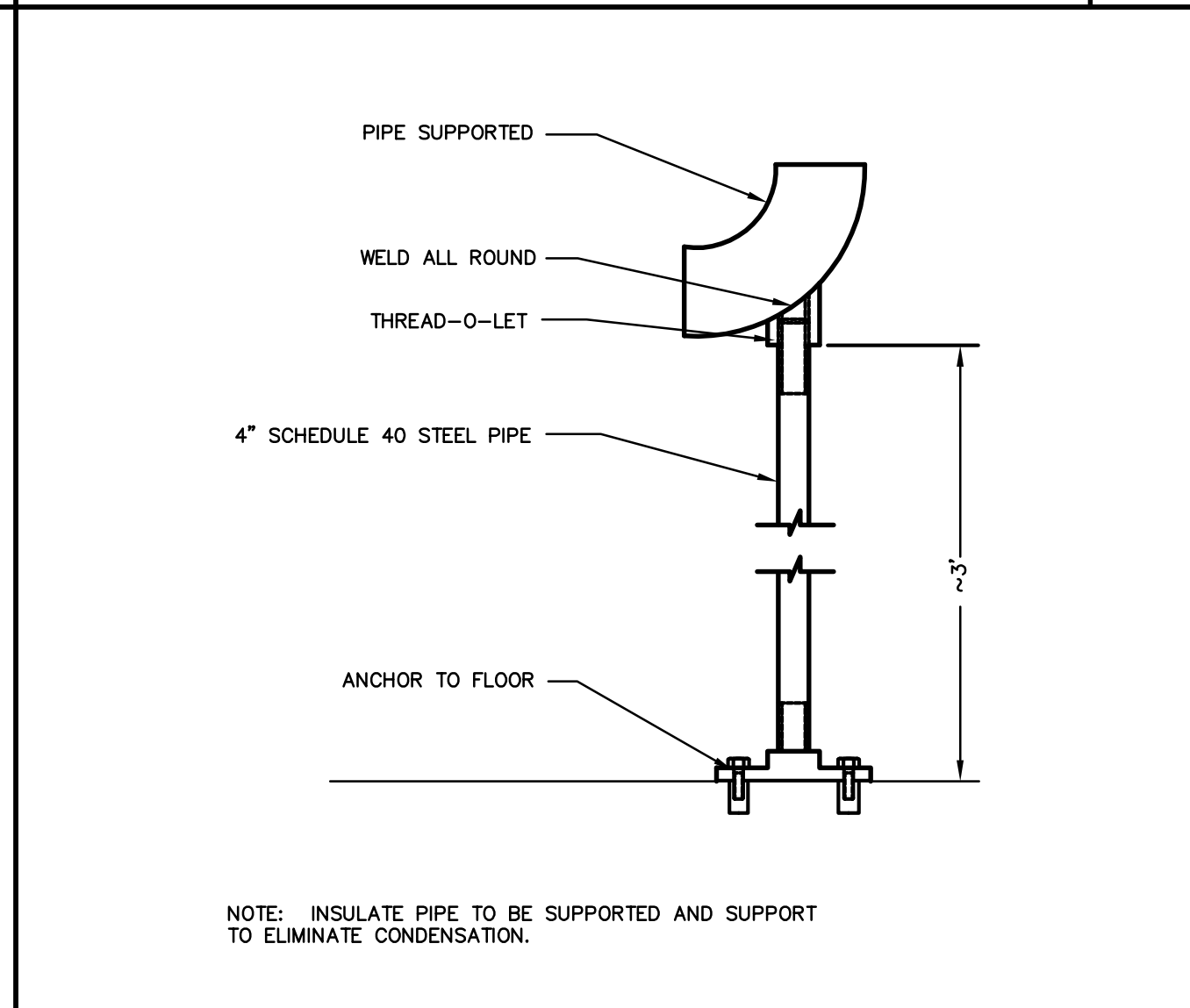
7 WATER TIGHT SLEEVE DETAIL

NO SCALE



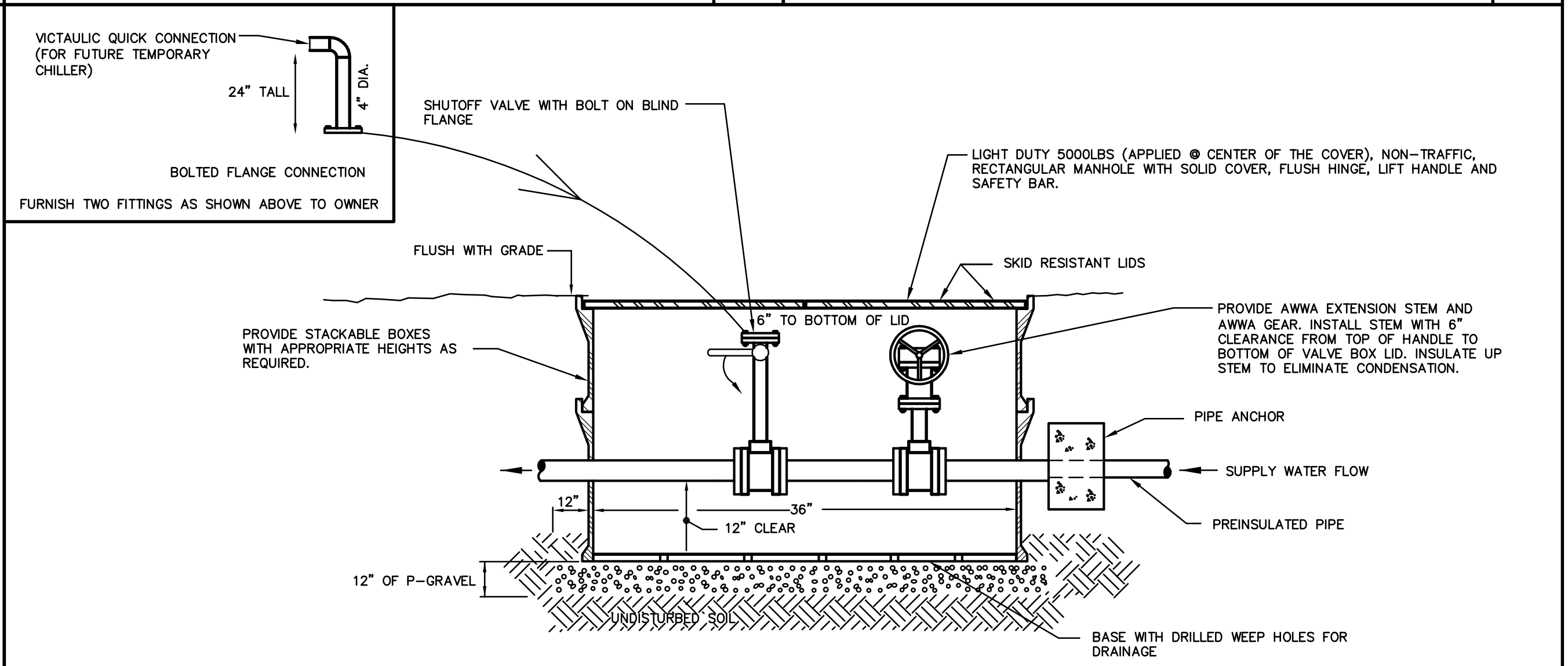
HEAT EXCHANGER DETAIL

NO SCALE



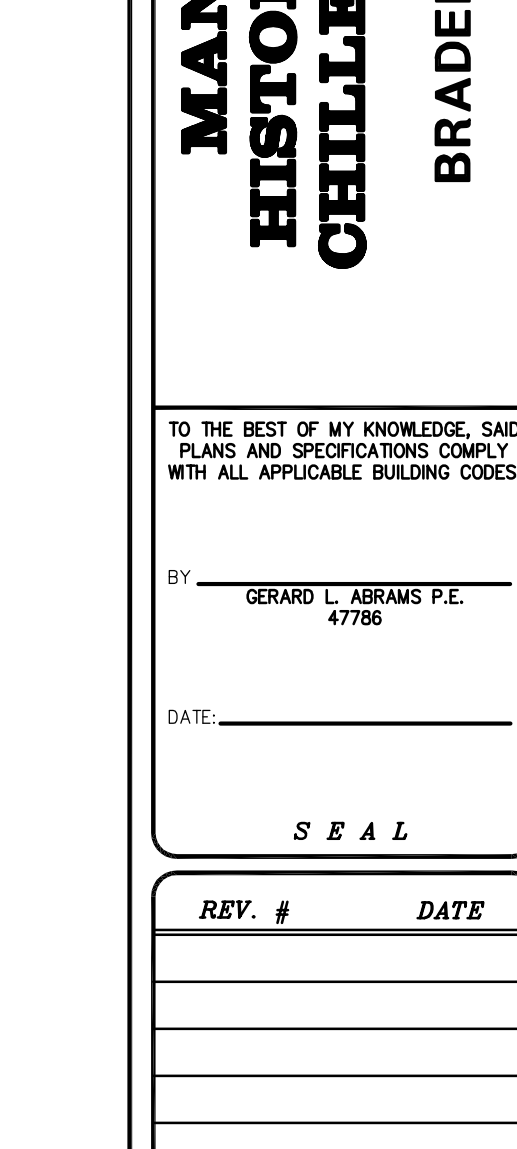
9 STANCHION PIPING DETAIL

NO SCALE



10 VALVE BOX DETAIL

NO SCALE



8 WATER TIGHT SLEEVE DETAIL

NO SCALE

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E. 4786

DATE:

SEAL

REV. # DATE

JOB NO. : 09-2199

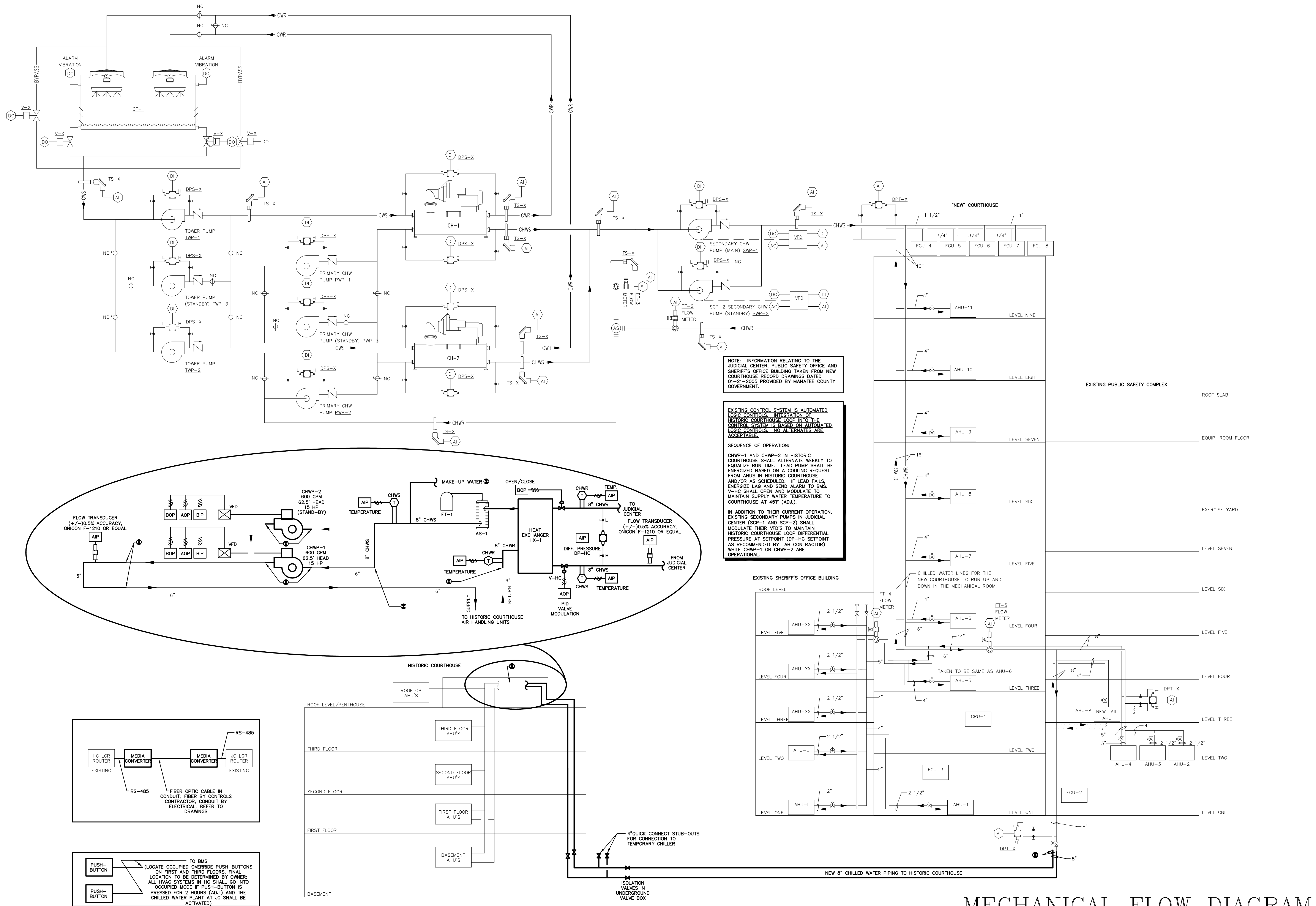
DATE : 01-26-10

DRAWN BY : RLA

CHECKED BY : GLA

SHEET No. :

M-6



NOTE: INFORMATION RELATING TO THE JUDICIAL CENTER, PUBLIC SAFETY OFFICE AND SHERIFF'S OFFICE BUILDING TAKEN FROM NEW COURTHOUSE RECORD DRAWINGS DATED 01-21-2005 PROVIDED BY MANATEE COUNTY GOVERNMENT.

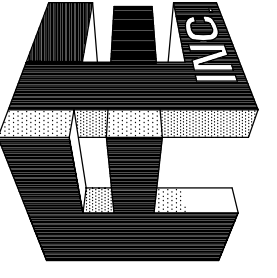
EXISTING CONTROL SYSTEM IS AUTOMATED LOGIC CONTROLS. INTEGRATION OF HISTORIC COURTHOUSE LOOP INTO THE CONTROL SYSTEM IS BASED ON AUTOMATED LOGIC CONTROLS. NO ALTERNATES ARE ACCEPTABLE.

SEQUENCE OF OPERATION:
 CHWP-1 AND CHWP-2 IN HISTORIC COURTHOUSE SHALL ALTERNATE WEEKLY TO EQUALIZE RUN TIME. LEAD PUMP SHALL BE ENERGIZED BASED ON A COOLING REQUEST FROM AHUS IN HISTORIC COURTHOUSE AND/OR AS SCHEDULED. IF LEAD FAILS, ENERGIZE LAG AND SEND ALARM TO BMS. V-HC SHALL OPEN AND MODULATE TO MAINTAIN SUPPLY WATER TEMPERATURE TO COURTHOUSE AT 45°F (ADJ.).

IN ADDITION TO THEIR CURRENT OPERATION, EXISTING SECONDARY PUMPS IN JUDICIAL CENTER (SCP-1 AND SCP-2) SHALL MODULATE THEIR VFD'S TO MAINTAIN HISTORIC COURTHOUSE LOOP DIFFERENTIAL PRESSURE AT SETPOINT (DP-HC SETPOINT AS RECOMMENDED BY TAB CONTRACTOR) WHILE CHWP-1 OR CHWP-2 ARE OPERATIONAL.

MECHANICAL FLOW DIAGRAM
 SCALE: NO SCALE

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MANATEE COUNTY HISTORIC COURTHOUSE CHILLED WATER PIPING
 BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: GERARD L. ABRAMS P.E. 4786
 DATE: _____

S E A L

REV. #	DATE

JOB NO. : 09-2199
 DATE : 01-26-10
 DRAWN BY : RLA
 CHECKED BY : GLA
 SHEET No. :
M-7

EXPANSION TANK SCHEDULE					
MARK	MANUFACTURER	MODEL	VOLUME (GAL)	ACCEPT. VOLUME (GAL)	NOTES
ET-1	AMTROL	AX-80V	44.4	23.0	

POT FEEDER SCHEDULE				
MARK	MANUFACTURER	MODEL	GALLONS	NOTES
PF-1	B & G	FA-700	2.0	

AIR SEPARATOR SCHEDULE				
MARK	MANUFACTURER	MODEL	GPM	NOTES
AS-1	AMTROL	AS-6	575	UNIT SHALL HAVE STAINLESS STEEL STRAINER WITH 3/16" PERFORATIONS

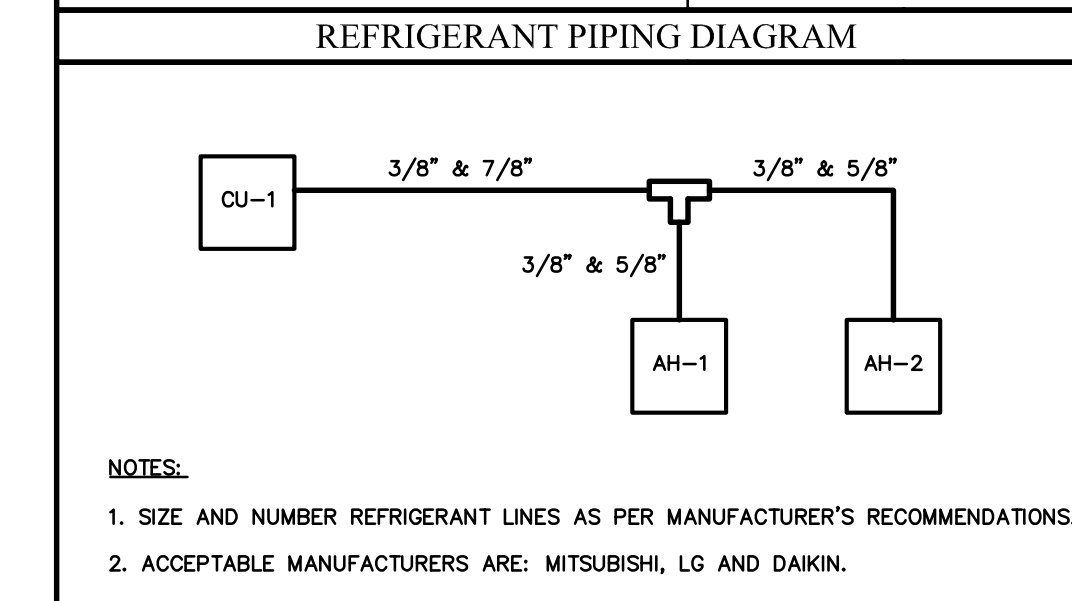
PUMP SCHEDULE		
MARK	CHWP-1	CHWP-2
SERVICE	CHILLED WATER	CHILLED WATER
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT
SERIES	1510	1510
FLOW RATE	600	600
TOTAL HEAD	62.5	62.5
ELECTRICAL (V/PH/HZ)	480/3/60	480/3/60
MOTOR (HP)	15	15
MOTOR SPEED (RPM)	1750	1750
PUMP STYLE	END SUCTION-BASE	END SUCTION-BASE
PUMP SIZE	4BC	4BC
SUCTION SIZE	5"	5"
DISCHARGE SIZE	4"	4"
IMPELLER SIZE	9.25"	9.25"
MIN. EFFICIENCY (%)	82.7	82.7

VARIABLE FREQUENCY DRIVE SCHEDULE		
MARK	VFD-CHWP1	VFD-CHWP2
MANUFACTURER	ABB	ABB
MODEL	ACH550	ACH550
SERVING	CHWP-1	CHWP-2
HORSEPOWER	15	15
ELECTRICAL	480/3/60	480/3/60
RATED INPUT/OUTPUT AMPS (A)	23.0	23.0

1. PROVIDE WITH BY-PASS WITH CIRCUIT BREAKER DISCONNECT. BYPASS SHALL BE CAPABLE OF OPERATING UNIT WITH DRIVE REMOVED.
2. PROVIDE WITH 5% INPUT LINE REACTOR.
3. PROVIDE WITH 2-YEAR WARRANTY.
4. PROVIDE REGISTERED START-UP.
5. PROVIDE WITH NEMA 12 ENCLOSURE.
6. ALL VFD'S SHALL BE BY SAME MANUFACTURER.
7. ALL VFD'S SHALL HAVE BACKUP COMMUNICATION.

- NOTES:
1. CHILLED WATER PUMPS SHALL HAVE VARIABLE FREQUENCY DRIVES FOR BALANCING PURPOSES.
 2. MOTORS SHALL BE PREMIUM TYPE EQUAL TO BALDOR SUPER "E" AND SHALL HAVE CLASS "F" INSULATION.
 3. PROVIDE WITH FACTORY INSTALLED DRIP PAN WITH 1" DRAIN CONNECTION.
 4. ALL PUMP SELECTIONS' FLOW AT BEST EFFICIENCY POINT SHALL BE WITHIN +/-10% OF DESIGN FLOWS SCHEDULED.
 5. APPLY 2 COATS OF RUST PREVENTATIVE ENAMEL PAINT ON CASING AND DRAIN PAN. PAINT COLOR TO BE RED.
 6. CHILLED WATER CASINGS ARE NOT TO BE INSULATED.

SPLIT SYSTEM AC SCHEDULE		
MARK	AH-1	AH-2
TOTAL CAPACITY (BTUH)	54,000	54,000
SENSIBLE CAPACITY (BTUH)	54,000	54,000
LATENT CAPACITY (BTUH)	0	0
TOTAL AIR (CFM)	1570	1570
OUTSIDE AIR (CFM)	-	-
ENTERING AIR ARI 210/240 (DB/WB)	75/63	75/63
EXTERNAL STATIC PRESS. (IN. W.C.)	0.5	0.5
BLOWER MOTOR (KW)	0.41	0.41
HEATING CAPACITY (BTUH)	60,000	60,000
MCA / MOP	3.53/15	3.53/15
ELECTRICAL SERVICE (V/PH/HZ)	208/1/60	208/1/60
FILTER (TYPE)	1" PLEATED	1" PLEATED
WEIGHT (LBS)	170	170
BLOWER MODEL NO.	PVfy-P54E00A	PVfy-P54E00A
MARK	CU-1	
OUTDOOR TEMP ARI 210/240 (DEG F)	95	
COND. ELECTRICAL (V/PH/HZ)	208/3/60	
MCA / MOP	41/50	
MIN SEER/EER	> 15.0	
COMPRESSOR TYPE	INVERTER SCROLL	
COND. UNIT MODEL NO.	PUHY-P120THMU-A	
MANUFACTURER	MITSUBISHI	



HEAT EXCHANGER SCHEDULE		
ITEM NO.	HX-1	
SERVICE	CHILLED WATER/CHILLED WATER	
TYPE	PLATE AND FRAME	
PERFORMANCE	HOT SIDE	COLD SIDE
FLOW RATE	1000	620
INLET TEMP.	55	44
OUTLET TEMP.	45	54
MAX. PRESSURE DROP	10	10
TOTAL HEAT EXCH.	5,017.0	
U-VALUE	BTU/(H*SQ FT*F)	
TRANSFER AREA	SQ. FT.	
LMTD	F	
FLUID TYPE	WATER	WATER
PLATE MATERIAL	AISI304	
GASKET MATERIAL	NITRILE	
CONN. MATERIAL	STUDDED PORT	
CONN. SIZE INLET	6	6
CONN. SIZE OUTLET	6	6
DESIGN/TEST PRESS.	PSIG	
DESIGN TEMPERATURE	F	
ASME RATED	YES	
TOTAL WEIGHT	LBS.	
NO. PLATES	QTY.	
PASS ARRANGEMENT	1X153, 1X154	
PLATE MAX	300	
FLOW DIRECTION	COUNTER	
MANUFACTURER	BELL & GOSSETT	
MODEL	P62	

- NOTES:
1. PROVIDE EXTERNAL INSULATION ON HEAT EXCHANGER AND STAINLESS STEEL COVER.

FORNEY ENGINEERING, INC.
 MECHANICAL & ELECTRICAL CONSULTING ENGINEERS
 5213 FOURTH AVE. EAST, BRADENTON, FL 34208 C.O.A. #4049
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**MANATEE COUNTY
 HISTORIC COURTHOUSE
 CHILLED WATER PIPING**
 BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

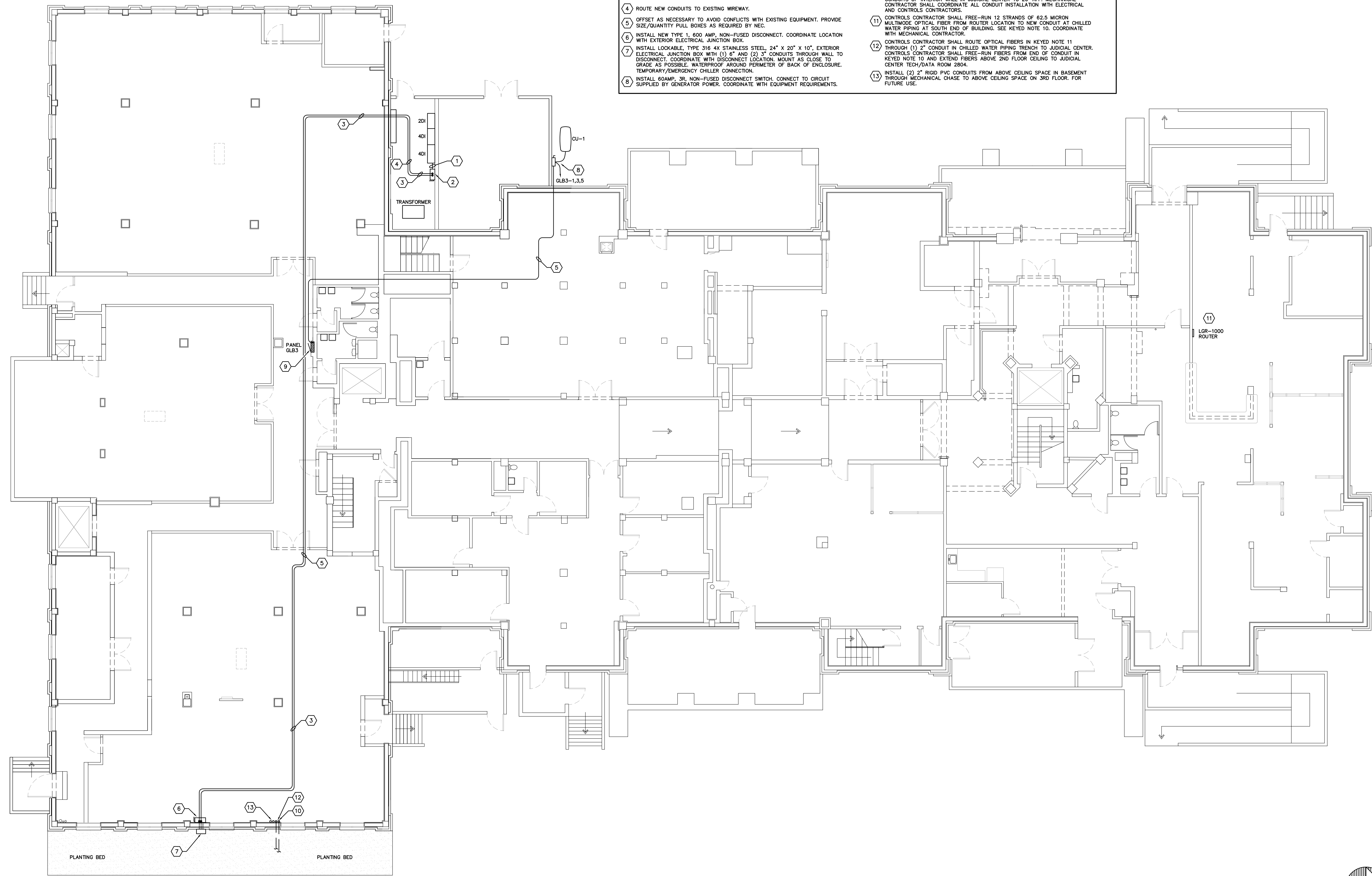
BY: GERARD L. ABRAMS P.E.
4786

DATE:

S E A L

REV. #	DATE

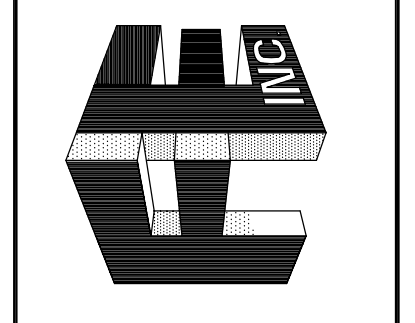
JOB NO. : 09-2199
 DATE : 01-26-10
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 CHECKED BY : GJA
 SHEET No. :



KEYED NOTES

- 1 INSTALL (2) SETS 3" C. WITH (3) 250KCM, (1) 250 KCM N., AND (1) #2 CU E.G. PER EACH. CONNECT TO MAIN DISTRIBUTION PANEL "40I" BUS.
- 2 INSTALL NEW TYPE 1, 500A FUSED DISCONNECT/ENCLOSED CIRCUIT BREAKER. MATCH MAIN DISTRIBUTION PANEL INTERRUPT RATING.
- 3 INSTALL (2) SETS 3" C. WITH (3) 250KCM, (1) 250 KCM N., AND (1) #2 CU E.G. PER EACH. PROVIDE SIZE/QUANTITY PULL BOXES AS REQUIRED BY NEC.
- 4 ROUTE NEW CONDUITS TO EXISTING WIREWAY.
- 5 OFFSET AS NECESSARY TO AVOID CONFLICTS WITH EXISTING EQUIPMENT. PROVIDE SIZE/QUANTITY PULL BOXES AS REQUIRED BY NEC.
- 6 INSTALL NEW TYPE 1, 600 AMP. NON-FUSED DISCONNECT. COORDINATE LOCATION WITH EXTERIOR ELECTRICAL JUNCTION BOX.
- 7 INSTALL LOCKABLE, TYPE 316 4X STAINLESS STEEL, 24" X 20" X 10", EXTERIOR ELECTRICAL JUNCTION BOX WITH (1) 6" AND (2) 3" CONDUITS THROUGH WALL TO DISCONNECT. COORDINATE WITH DISCONNECT LOCATION. MOUNT AS CLOSE TO GRADE AS POSSIBLE. WATERPROOF AROUND PERIMETER OF BACK OF ENCLOSURE. TEMPORARY/EMERGENCY CHILLER CONNECTION.
- 8 INSTALL 60AMP, 3R, NON-FUSED DISCONNECT SWITCH. CONNECT TO CIRCUIT SUPPLIED BY GENERATOR POWER. COORDINATE WITH EQUIPMENT REQUIREMENTS.
- 9 INSTALL NEW 50AMP, 3-POLE, TYPE HACR CIRCUIT BREAKER AT SPACES 1,3,5 IN EXISTING TO REMAIN CUTLER-HAMMER "POW-R-LINE" PANEL "GLB3".
- 10 MECHANICAL CONTRACTOR SHALL INSTALL (2) 2" RIGID PVC CONDUITS FROM ABOVE BASEMENT CEILING THROUGH CHILLED WATER PIPING TRENCH TO JUDICIAL CENTER AND LB THROUGH JUDICIAL CENTER WALL ABOVE SLAB/FOOTER. SEE CONTINUATION ON MECHANICAL PLANS. ELECTRICAL CONTRACTOR SHALL EXTEND CONDUITS UP INTERIOR WALL IN JUDICIAL CENTER TO 20' AFF. MECHANICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT INSTALLATION WITH ELECTRICAL AND CONTROLS CONTRACTORS.
- 11 CONTROLS CONTRACTOR SHALL FREE-RUN 12 STRANDS OF 62.5 MICRON MULTIMODE OPTICAL FIBER FROM ROUTER LOCATION TO NEW CONDUIT AT CHILLED WATER PIPING AT SOUTH END OF BUILDING. SEE KEYED NOTE 10. COORDINATE WITH MECHANICAL CONTRACTOR.
- 12 CONTROLS CONTRACTOR SHALL ROUTE OPTICAL FIBERS IN KEYED NOTE 11 THROUGH (1) 2" CONDUIT IN CHILLED WATER PIPING TRENCH TO JUDICIAL CENTER. CONTROLS CONTRACTOR SHALL FREE-RUN FIBERS FROM END OF CONDUIT IN KEYED NOTE 10 AND EXTEND FIBERS ABOVE 2ND FLOOR CEILING TO JUDICIAL CENTER TECH/DATA ROOM 2804.
- 13 INSTALL (2) 2" RIGID PVC CONDUITS FROM ABOVE CEILING SPACE IN BASEMENT THROUGH MECHANICAL CHASE TO ABOVE CEILING SPACE ON 3RD FLOOR. FOR FUTURE USE.

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**MANATEE COUNTY
 HISTORIC COURTHOUSE
 CHILLED WATER PIPING**
 BRADENTON, FLORIDA 34208

TO THE BEST OF MY KNOWLEDGE, SAID PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE BUILDING CODES.

BY: PHILIP J. FERRELLA P.E.
65083

DATE: _____

SEAL

REV. #	DATE

JOB NO. : 09-2199
 DATE : 01-26-10
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ELECTRICAL BASEMENT POWER PLAN NORTH
 SCALE: 1/8"=1'-0"

TO THE BEST OF MY KNOWLEDGE, SAID
 PLANS AND SPECIFICATIONS COMPLY
 WITH ALL APPLICABLE BUILDING CODES.

BY: PHILIP J. FERRELLA P.E.
 85083

DATE:

SEAL

REV. # DATE

JOB NO. : 09-2199

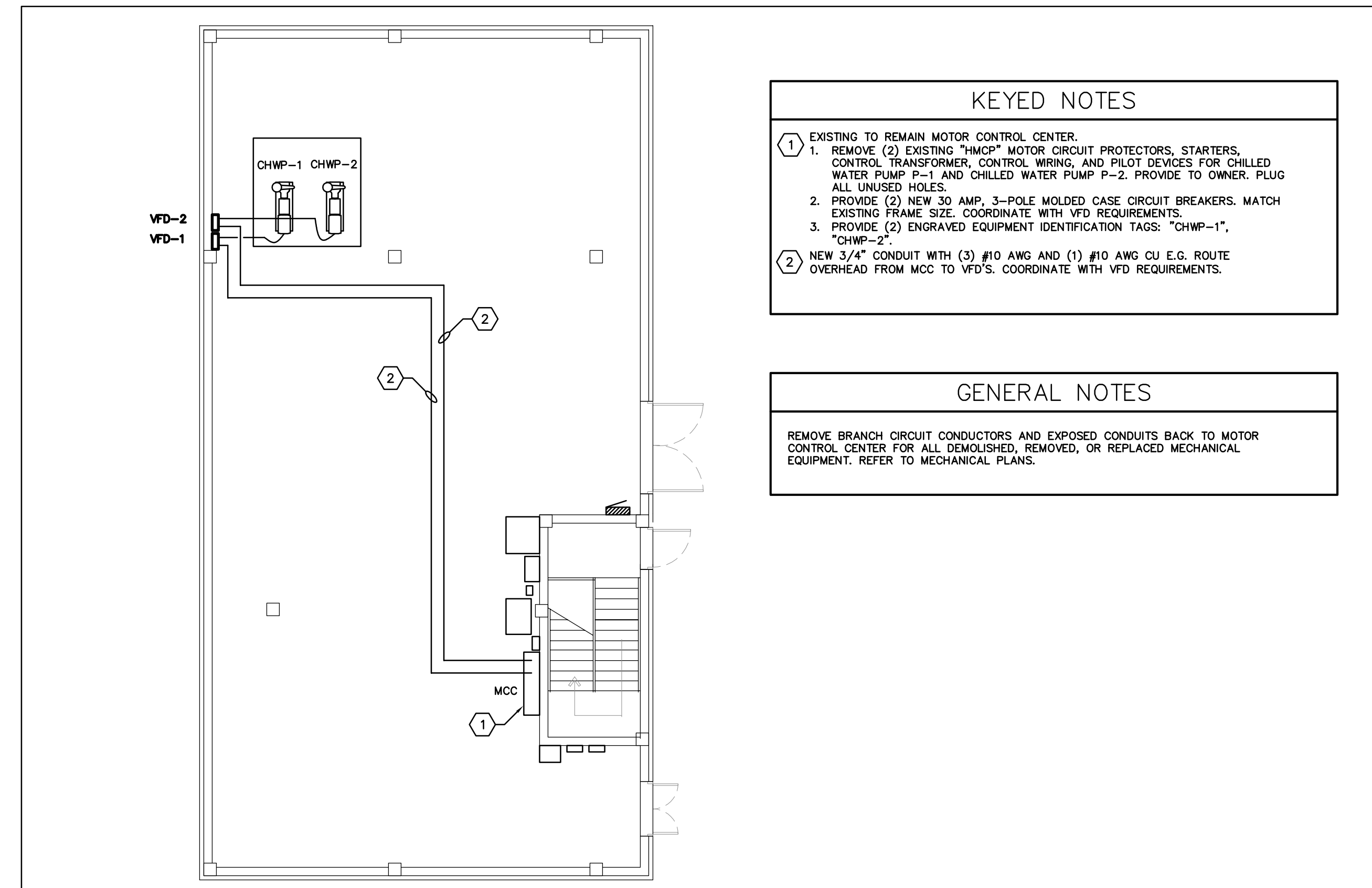
DATE : 01-26-10

DRAWN BY : P.J.F.

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SHEET No. :

E-2



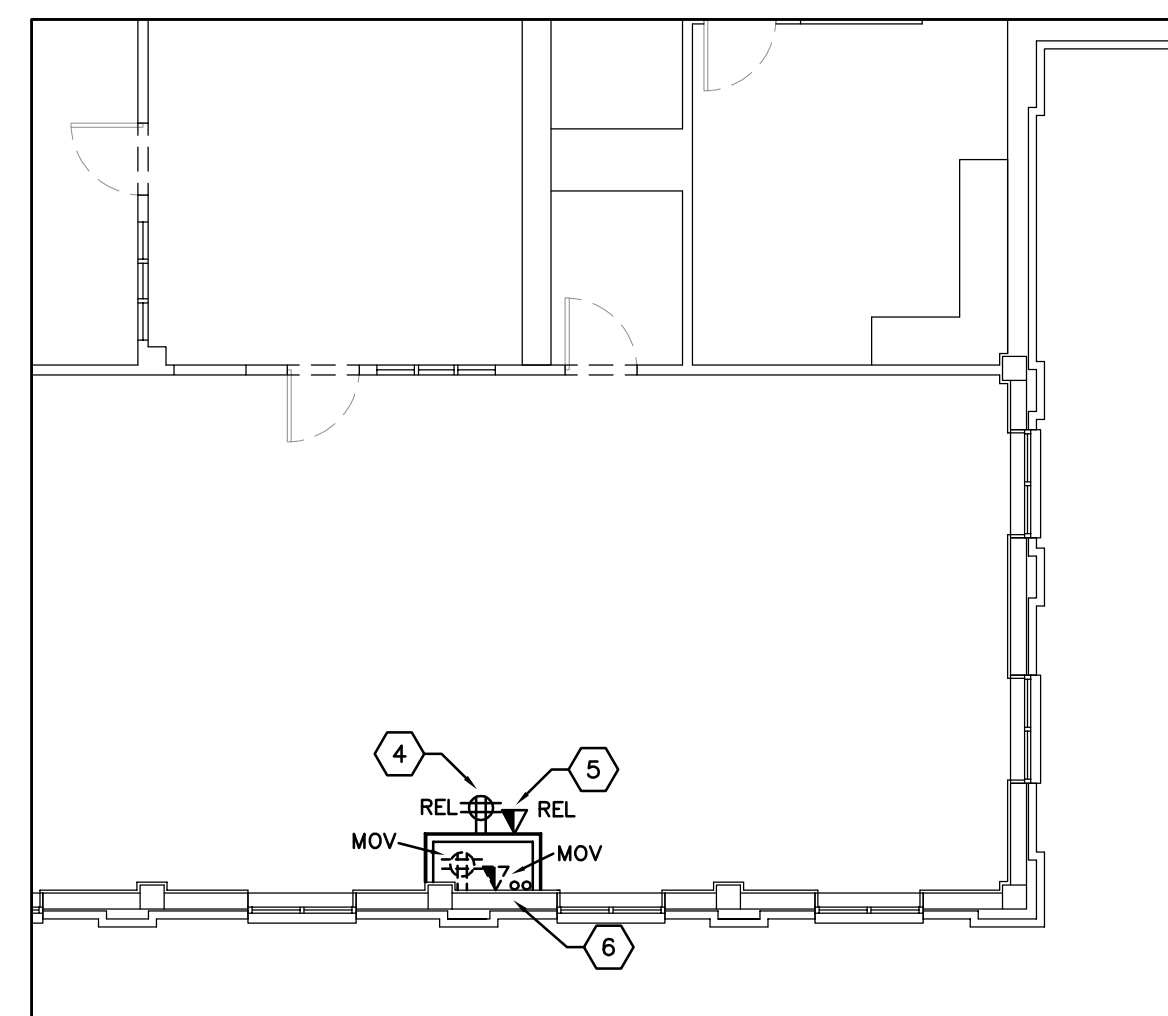
ELECTRICAL PENTHOUSE POWER PLAN SCALE: 1/8"=1'-0"

- KEYED NOTES**
- 30AMP, TYPE 1, NON-FUSED DISCONNECT SWITCH, CONNECT TO CIRCUIT SUPPLIED BY GENERATOR POWER. COORDINATE WITH EQUIPMENT REQUIREMENTS. COORDINATE LOCATION WITH EXISTING EQUIPMENT.
 - 30AMP, TYPE 1, NON-FUSED DISCONNECT SWITCH, CONNECT TO CIRCUIT SUPPLIED BY GENERATOR POWER. COORDINATE WITH EQUIPMENT REQUIREMENTS. COORDINATE LOCATION WITH EXISTING EQUIPMENT AND WINDOWS.
 - PROVIDE NEW 15 AMP, 2-POLE, TYPE HACR CIRCUIT BREAKER AT SPACES 16,18 IN EXISTING TO REMAIN SIEMENS "P1" PANEL "GL16".
 - RELOCATE EXISTING QUAD RECEPTACLE TO NEW LOCATION AS SHOWN. PULL BACK CONDUCTORS TO JUNCTION BOX ABOVE CEILING. EXTEND CONDUCTORS/CONDUIT FROM JUNCTION BOX TO NEW LOCATION.
 - RELOCATE DATA OUTLET TO NEW LOCATION AS SHOWN. PULL BACK CABLE TO JUNCTION BOX ABOVE CEILING. EXTEND CABLE FROM JUNCTION BOX TO NEW LOCATION.
 - INSTALL (2) 2" RIGID PVC CONDUITS FROM ABOVE CEILING SPACE IN BASEMENT THROUGH MECHANICAL CHASE TO ABOVE CEILING SPACE ON 3RD FLOOR. FOR FUTURE USE.

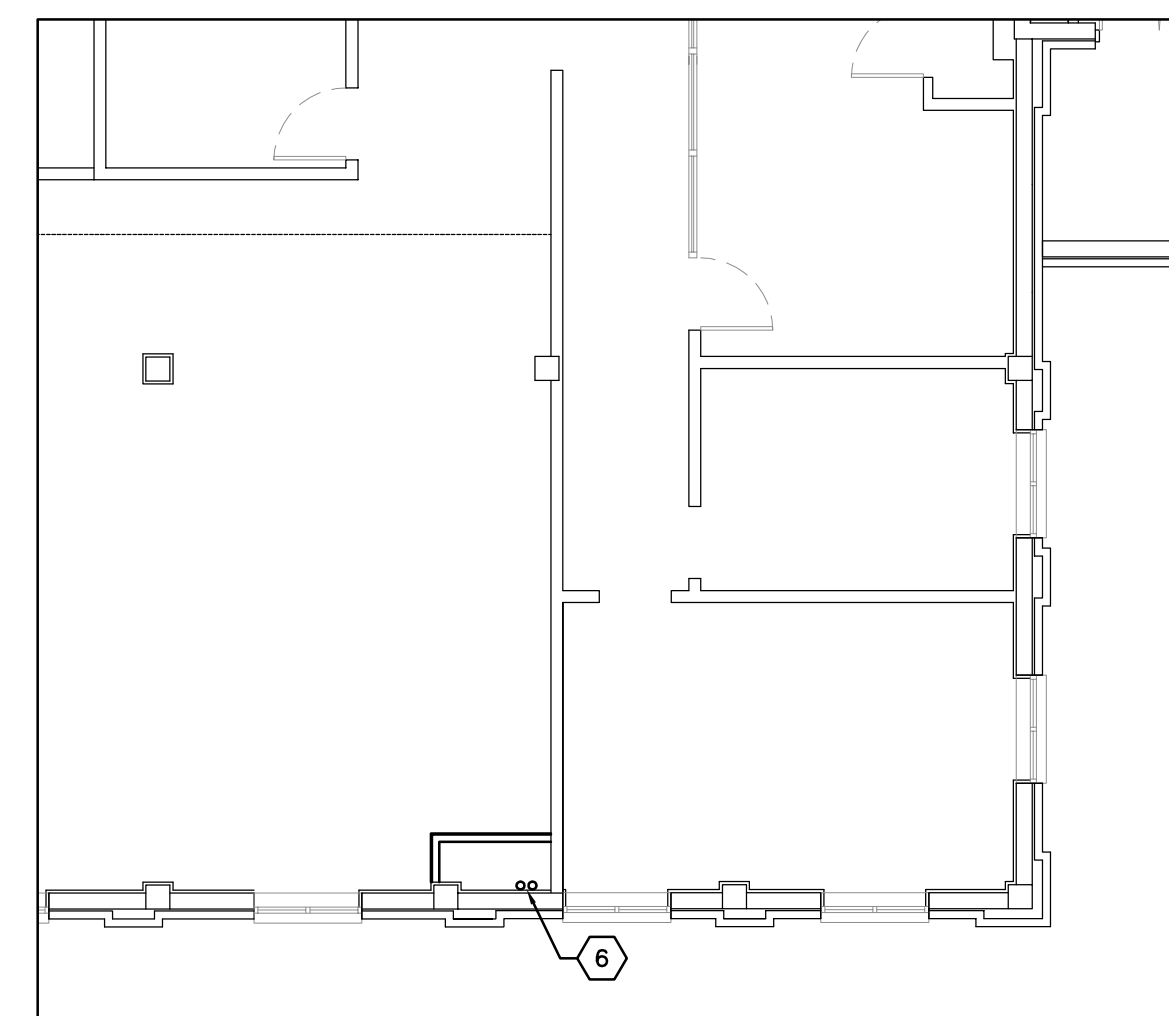
GENERAL NOTES

MOV: EXISTING DEVICE TO BE RE-LOCATED
 REL: RE-LOCATED POSITION OF EXISTING DEVICE

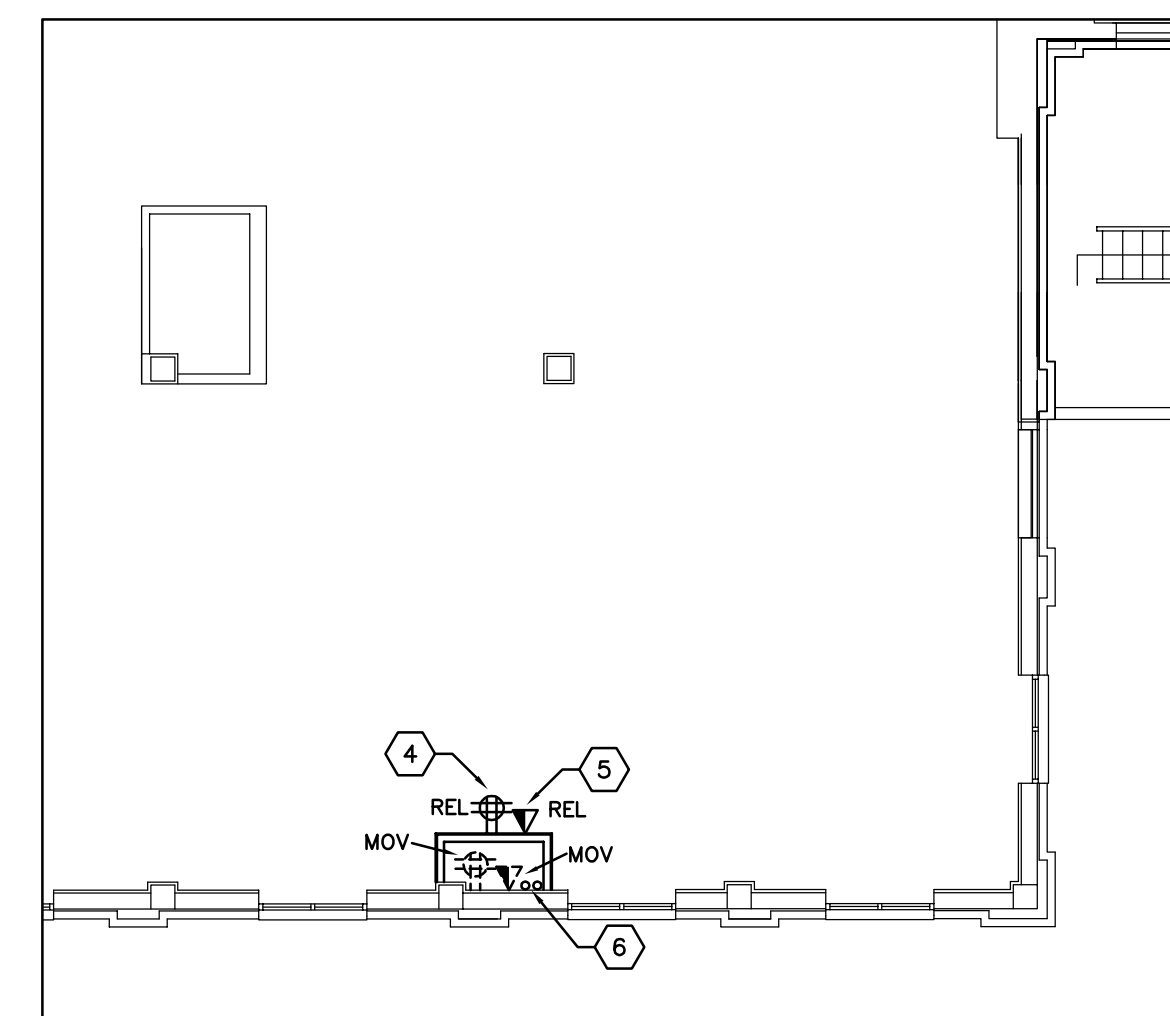
- SYMBOL LEGEND**
- 20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
 - COMMUNICATIONS OUTLET, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX U.N.O. PROVIDE 2-GANG BACKBOX WITH SINGLE GANG OPENING AND (1) 3/4" CONDUIT WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX.



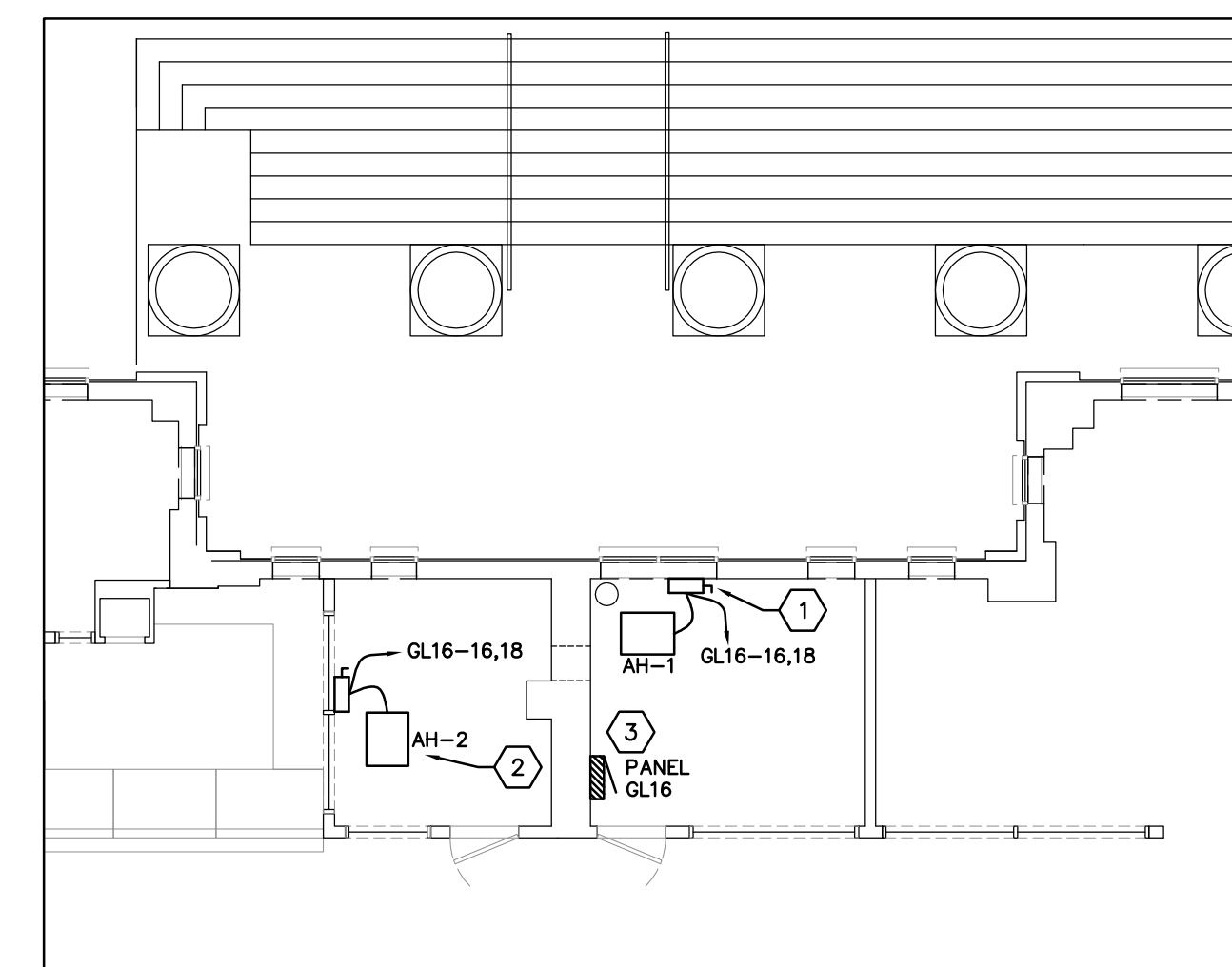
THIRD FLOOR, SOUTH WING, EAST SIDE



SECOND FLOOR, SOUTH WING, EAST SIDE



FIRST FLOOR, SOUTH WING, EAST SIDE



FIRST FLOOR SERVER ROOMS

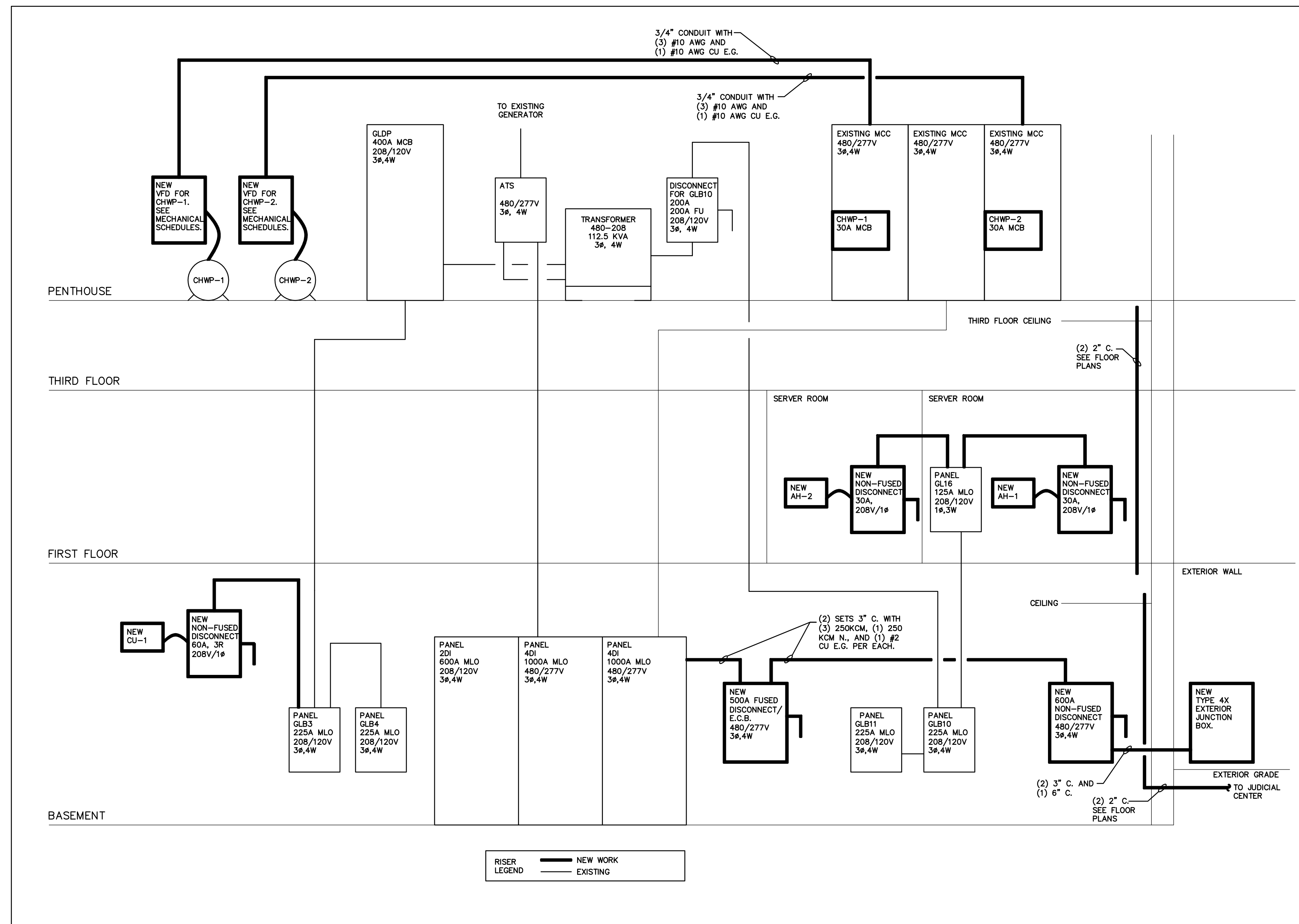
ELECTRICAL POWER PARTIAL FLOOR PLANS SCALE: 1/8"=1'-0"

PANELBOARD DESIGNATION: GLB3 - BASEMENT										
VOLTAGE: 120/208V		3φ-4W		MAINS RATING: 100		AMPS		MAIN CB TRIP RATING: -		AMPS
SURFACE		MCB		COPPER BUS		INTERRUPTING RATING: -				AIC
FLUSH		MLO		ENCLOSURE:						
SERVES	CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES			
CU-1	50	3735	1	2	108	50	PANEL GA			
(1ST FLOOR SERVER ROOM)		3735	3	4	1032					
NEW		3735	5	6	36					
SPACE			7	8			SPACE			
SPACE			9	10			SPACE			
SPACE			11	12			SPACE			
UNMARKED	20	96	13	14	0.0	20	UNMARKED			
SECURITY PANEL	20	192	15	16	0.0	20	UNMARKED			
SPARE	20		17	18		20	SPARE			
SPARE	20		19	20		20	SPARE			
SPARE	20		21	22		20	SPARE			
UNMARKED	20	0.0	23	24		20	SPARE			
SPARE	20		25	26		20	SPARE			
UNMARKED	20	0.0	27	28	84	20	LIGHTS			
LIGHTS	20	108	29	30		20	SPARE			
UNMARKED	20	72	31	32	228	20	LIGHTS			
LIGHTS	20	108	33	34	0.0	20	RECEPTS			
UNMARKED	20	204	35	36	0.0	20	RECEPTS			
UNMARKED	15	192	37	38	0.0	20	UNMARKED			
		132	39	40	0.0					
		132	41	42	0.0					
CONNECTED:		13.9	KVA	A B C	EST. DEMAND:	13.9	KVA			

PANELBOARD DESIGNATION: GL16 - FIRST FLOOR SERVER ROOM										
VOLTAGE: 208/120V 1P/3W		MAINS RATING: 125		AMPS		MAIN CB TRIP RATING: -		AMPS		
SURFACE		MCB		COPPER BUS		INTERRUPTING RATING: 22000				AIC
FLUSH		MLO		ENCLOSURE: NEMA 1						
SERVES	CB SIZE	LOAD VA	CKT#	CKT#	LOAD VA	CB SIZE	SERVES			
RECEPT	30	1200	1	2	1200	30	RECEPT			
RECEPT	30	1200	3	4	1200	30	RECEPT			
RECEPT	30	1200	5	6	1200	30	RECEPT			
RECEPT	30	1200	7	8	1200	20	RECEPT			
RECEPT	30	1200	9	10	1200	30	RECEPT			
RECEPT	20	1200	11	12	1200	30	RECEPT			
		1200	13	14	1200					
RECEPT	20	1200	15	16	590	15	AH-1, AH-2			
		1200	17	18	590		NEW			
CONNECTED:		20.4	KVA	A B	EST. DEMAND:	20.4	KVA			

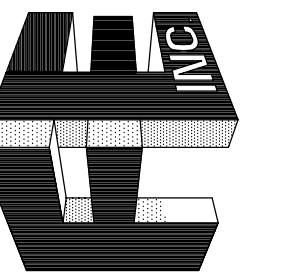
PANEL SCHEDULES

NO SCALE



PARTIAL ELECTRICAL RISER

NO SCALE



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BY: PHILIP J. FERRELLA P.E.
 65063

DATE:

SEAL

REV. # DATE

JOB NO. : 09-2199

DATE : 01-26-10

DRAWN BY : P.J.F

CHECKED BY : P.J.F

SHEET No. :