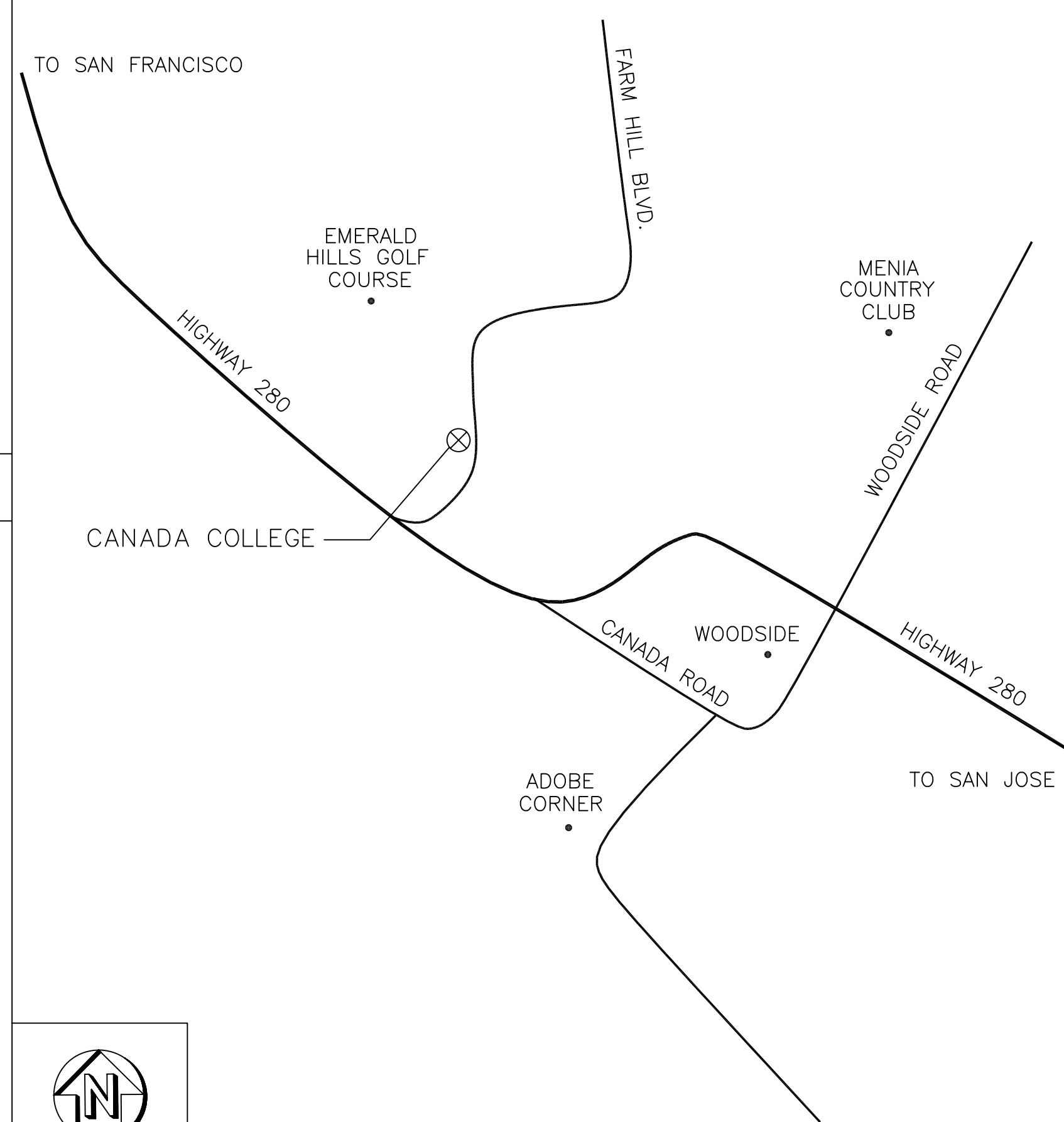



SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

CANADA COLLEGE REDWOOD CITY, CALIFORNIA

CAÑADA COLLEGE MODERNIZATION CENTRAL PLANT RENOVATION

ChevronTexaco PROJECT # DWCES30120

GENERAL NOTES	SITE LOCATION	DRAWING INDEX																		
<ol style="list-style-type: none"> 1. THE HVAC SYSTEMS SHALL CONSIST OF ALL WORK SHOWN ON ALL DWGS. AND ALL WORK IDENTIFIED IN THE SPECS. WORK INCLUDES ALL EQUIPMENT, PIPING, AND DUCTWORK TO THE EXTENT SHOWN ON THE DRAWINGS. WORK ALSO INCLUDES PROVIDING NEW HVAC SYSTEMS, TESTING, TRAINING, AND WARRANTY OF THE SYSTEM AS SHOWN AND SPECIFIED, PROVIDE COMPLETE AND WORKABLE HVAC SYSTEM INCLUDING INTERFACE WITH ELECTRICAL, AND EXISTING HVAC/PLUMBING WORK AS REQUIRED FOR SYSTEM OPERATION. 2. LOCATIONS OF ALL EQUIPMENT AND POINTS OF CONNECTION ARE APPROXIMATE, ALL WORK SHALL BE COORDINATED WITH ALL TRADES TO AVOID CONFLICTS. 3. PRIOR TO PROVIDING SUBMITTALS AND/OR ORDERING EQUIPMENT THE CONTRACTOR SHALL VERIFY SPACE LIMITATIONS WITH EQUIPMENT AND MATERIALS TO BE USED. 4. MECHANICAL CONTRACTOR SHALL VERIFY ALL SYSTEM AND PERFORMANCE REQUIREMENTS TO ASSURE SYSTEM OPERATION AS SPECIFIED. 5. ALL INSTALLATION WORK SHALL BE IN ACCORDANCE WITH ALL CODES AND REQUIREMENTS IDENTIFIED IN THE SPECIFICATIONS. SEE SHEET M-02. 6. THE INTENT OF THE CONTRACT DOCUMENTS IS TO COMPLETE THE PROJECT IN ACCORDANCE WITH ALL APPLICABLE CODES. 7. ALL WORK PERFORMED UNDER THIS CONTRACT IS TO COMPLY WITH THE APPROPRIATE PORTIONS OF TITLE 24, CCR, PARTS 1 THROUGH 5. 8. THE SITE UNDERGROUND DISTRIBUTION PIPING CONSIST OF EXCAVATION, PIPING, BACKFILL, TESTING AND PATCHING. 		<p>MECHANICAL</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">M-01</td> <td>COVER SHEET AND GENERAL NOTES</td> </tr> <tr> <td>M-02</td> <td>PLUMBING SPEC., SYMBOLS, NOTES AND ABBREVIATIONS</td> </tr> <tr> <td>M-03</td> <td>MECHANICAL EQUIPMENT SCHEDULES</td> </tr> <tr> <td>M-04</td> <td>CENTRAL PLANT CHILLER NEW CONSTRUCTION PLAN</td> </tr> <tr> <td>M-05</td> <td>COORDINATION PLAN</td> </tr> <tr> <td>M-06</td> <td>SITE UTILITY REFERENCE PLAN</td> </tr> <tr> <td>M-07</td> <td>CHILLER CONTROL DIAGRAM</td> </tr> <tr> <td>M-08</td> <td>MECHANICAL DETAILS AND SECTIONS</td> </tr> <tr> <td>M-09</td> <td>MECHANICAL DETAILS</td> </tr> </table>	M-01	COVER SHEET AND GENERAL NOTES	M-02	PLUMBING SPEC., SYMBOLS, NOTES AND ABBREVIATIONS	M-03	MECHANICAL EQUIPMENT SCHEDULES	M-04	CENTRAL PLANT CHILLER NEW CONSTRUCTION PLAN	M-05	COORDINATION PLAN	M-06	SITE UTILITY REFERENCE PLAN	M-07	CHILLER CONTROL DIAGRAM	M-08	MECHANICAL DETAILS AND SECTIONS	M-09	MECHANICAL DETAILS
M-01	COVER SHEET AND GENERAL NOTES																			
M-02	PLUMBING SPEC., SYMBOLS, NOTES AND ABBREVIATIONS																			
M-03	MECHANICAL EQUIPMENT SCHEDULES																			
M-04	CENTRAL PLANT CHILLER NEW CONSTRUCTION PLAN																			
M-05	COORDINATION PLAN																			
M-06	SITE UTILITY REFERENCE PLAN																			
M-07	CHILLER CONTROL DIAGRAM																			
M-08	MECHANICAL DETAILS AND SECTIONS																			
M-09	MECHANICAL DETAILS																			
APPLICABLE BUILDING CODES																				
<p>CALIFORNIA PLUMBING CODE - 2001 CALIFORNIA MECHANICAL CODE- 2001 CALIFORNIA UNIFORM FIRE CODE, 2001 EDITION CALIFORNIA CODE OF REGULATIONS, TITLE 19 CALIFORNIA CODE OF REGULATIONS, TITLE 24 DIVISION OF THE STATE ARCHITECT, STRUCTURAL SAFETY SECTION, INTERPRETATION OF REGULATIONS</p> <p>NOTE: ALL REFERENCE AMENDMENTS SHALL BE THE CURRENT ADOPTED BY THE STATE OF CALIFORNIA.</p>																				

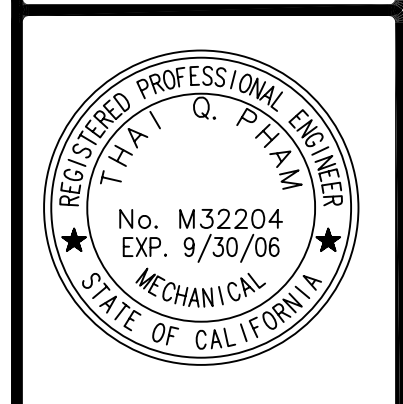
REV	DATE	BY	DESCRIPTION
1	1/27/05		50% DD
2	2/12/05		75% DD
3	3/17/05		DSA REVIEW
4	5/27/05		REVISION TO DSA COMMENTS
5	6/22/05		REVISION TO DSA COMMENTS
6	5/1/06		AS BUILT

CMTI

CHEVRONTEXACO MECHANICAL, INC.
 4085 CAMPBELL AVENUE, SUITE 100
 SAN MATEO, CALIFORNIA 94403
 TEL: (650) 331-1998
 FAX: (650) 331-1998
 CMTI JOB # 22524-008

*These drawings and specifications have been prepared by CMTI for their exclusive use in accord with SCS 67517.4 of the Professional Engineers Act of the State of California.

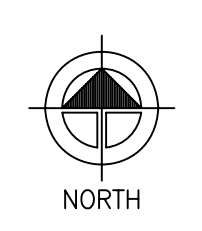
Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District



COVER SHEET
AND GENERAL
NOTES

SCALE	
PROJECT NO.	22524-008
DESIGNED BY	
CHECKED BY	
DATE	
DATE	
DATE	
DATE	
DATE	
DATE	
DATE	
DATE	

M-01



MECHANICAL SPECIFICATIONS

ABBREVIATIONS

PLUMBING SYMBOLS AND LEGENDS

ABBREV	DESCRIPTION
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
AS	AIR SEPARATOR
BHP	BRAKE HORSEPOWER
BP	BOILER PUMP
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BV	BALANCING VALVE
C	CONVERTOR
CAC	CALIFORNIA ADMINISTRATIVE CODE
OFF	PIPING CAPPED FOR FUTURE CONNECTION
CFM	CUBIC FEET PER MINUTE
CHV	CHECK VALVE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CP	CHILLER PUMP
CT	COOLING TOWER
CTP	COOLING TOWER PUMP
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CW	DOMESTIC COLD WATER PIPING
DIA	DIAMETER
DR	DRAIN
EL	ELEVATION
ELEC	ELECTRICAL
ENT	ENTERING
ET	EXPANSION TANK
(E)	EXISTING
EWT	ENTERING WATER TEMPERATURE
F	FIRE MAIN PIPING
FCO,COTG	FLOOR CLEANOUT,CLEANOUT TO GRADE
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FIN.FL.R.	FINISH FLOOR
FLA	FULL LOAD AMP
FPM	FEET PER MINUTE
FS	FLOOR SINK
FS	FLOW SWITCH
FT	FEET
FT	NATURAL GAS PIPING
GAL	GALLON
GPM	GALLON PER MINUTE
GV	GATE VALVE
HB	HOT WATER BOILER
HP	HOT WATER PUMP
HW	DOMESTIC HOT WATER PIPING
HWR	DOMESTIC HOT WATER RETURN PIPING
HWS	DOMESTIC HOT WATER SUPPLY PIPING
HZ	HERTZ
IN	INCHES
KW	KILOWATT
LB	POUND
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
(N)	NEW
NO.	NUMBER
OFD	OVERFLOW DRAINAGE PIPING
—	OVERFLOW DRAIN
OPER.WT.	OPERATING WEIGHT
OPNG	OPENING
P	PUMP
PD	PRESSURE DROP
PG	PRESSURE GAUGE
PIV	POST INDICATING VALVE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE ASSEMBLY
PS	POUNDS PER SQUARE INCH
PSIG	PSI GAUGE
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
SD	RAINWATER LEADER PIPING
SK	SINK
S or W	SOIL OR WASTE PIPING
SQ.FT.	SQUARE FEET
TYP	TYPICAL
UR	URINAL
V	SANITARY VENT PIPING
VAC	VACUUM
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WATER HEATER

—	SOIL OR WASTE PIPING BELOW FLOOR SLAB		GATE VALVE
— SD	STORM DRAIN BELOW FLOOR SLAB		ANGLE VALVE
—	SOIL OR WASTE PIPING		GLOBE VALVE
— SD	STORM DRAIN PIPING		BALL VALVE
— OFD	OVERFLOW DRAINAGE PIPING		BUTTERFLY VALVE
—	SANITARY VENT PIPING		PLUG VALVE
—	DOMESTIC COLD WATER		PRESSURE GAUGE
— G	GAS (FUEL)		THREE-WAY VALVE
— A	COMPRESSED AIR (100 PSIG)		TEMPERATURE AND PRESSURE RELIEF VALVE
— C	CONDENSATE		SWING CHECK VALVE
— D	DRAIN (INDIRECT)		SPRING OR SILENT CHECK VALVE
— MPS	MEDIUM PRESSURE STEAM (15 TO 100 PSIG)		PIPELINE STRAINER
— F	FIRE MAIN PIPING		METER
— AS	AUTOMATIC FIRE SPRINKLER PIPING		FLEXIBLE CONNECTION
— CO	WALL CLEANOUT		POST INDICATING VALVE
—	FLOOR CLEANOUT/GRADE CLEANOUT		PIPE RISE
⊙ RD	ROOF DRAIN		PIPE DROP
⊙ OFD	OVERFLOW DRAIN		PIPE CONNECTION, BOTTOM
— FD	FLOOR DRAIN		PIPE CONNECTION, TOP
— FS	FLOOR SINK		PRESSURE REDUCING VALVE OR REGULATOR
—	FLOOR SINK, 1/2 GRATE		EXPANSION JOINT
— FLD	FUNNEL DRAIN		POINT OF CONNECTION
—	OUTSIDE STEM AND YOKE GATE VALVE		ACTIVE DRAIN STUB-UP
—	HOSE BIBB		PLUGGED DRAIN STUB-UP (FOR FUTURE CONNECTION)
—	LEAVING WATER TEMPERATURE		FLOW SWITCH
—	PIPING CAPPED FOR CONNECTION		EXPANSION LOOP
— BFP	BACKFLOW PREVENTER		FLANGED CONNECTION
—	SOLENOID VALVE		UNION
—	RELIEF VALVE		REDUCER
—	MANUAL AIR VENT		DIRECTION OF FLOW
—	AUTOMATIC AIR VENT		PIPE ANCHOR
—	VACUUM BREAKER		THERMOMETER
—			BALANCING VALVE
—			FLOW CONTROL VALVE

CONSTRUCTION NOTES

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS IN THE FIELD BEFORE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL ALSO REPORT DISCREPANCIES OR INCONSISTENCIES BETWEEN THE SPECIFIED DESIGN AND EXISTING CONDITIONS TO THE ENGINEER FOR CLARIFICATION PRIOR TO COMMENCEMENT OF THE WORK.
- THE SUBMISSION OF BID PROPOSAL SHALL BE CONSIDERED AS CONCLUSIVE EVIDENCE THAT THE CONTRACTOR IS THOROUGHLY FAMILIAR WITH THE INTENT OF THE CONTRACT DOCUMENTS AND SCOPE OF WORK. THE CONTRACTOR, PRIOR TO BIDDING, SHALL VISIT THE JOB SITE, CHECK EXISTING INSTALLATIONS AND SYSTEMS RELATED TO HIS WORK AND SHALL IN THE BID PROPOSAL INCLUDE ALL LABOR AND MATERIAL REQUIRED TO COMPLETE THE SYSTEM.
- CONTRACTOR SHALL COMPLETE WORK WITH MINIMUM INTERFERENCE WITH EXISTING SYSTEMS. ANY SHUTDOWN OF THE EXISTING SYSTEMS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND THE OWNER'S REPRESENTATIVE TWO WEEKS IN ADVANCE.
- ALL WORK UNDER THIS DIVISION SHALL BE COORDINATED WITH OTHER TRADES.
- THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND LEAVE WORK AREA CLEAN DAILY.
- IN THE AREA OF THE NEW CONSTRUCTION WILL BE FOUND A NUMBER OF EXISTING SERVICES. PROTECT ALL ACTIVE LINES AND MAINTAIN SAME IN GOOD OPERATING CONDITION.
- PROTECT EXISTING BUILDING STRUCTURES, AND ADJACENT FINISHED SURFACES DURING CONSTRUCTION. PATCH, REPAIR AND REFINISH EXISTING WORK DAMAGED BY WORK UNDER THE DIVISION TO MATCH ADJACENT UNDISTURBED AREAS, PATCHING AND REFINISHING IS TO BE PERFORMED BY WORKMEN SKILLED IN THE TRADES INVOLVED.
- ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT. ANY PORTION OF THE WORK FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE CONTRACTOR AS PART OF THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER.
- ABSOLUTE ACCURACY OF DRAWING CAN NOT BE GUARANTEED. WHILE EVERY EFFORT HAS BEEN MADE TO COORDINATE THE LOCATION OF THE EXISTING EQUIPMENT, PIPING, ETC. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT REQUIREMENTS GOVERNED BY ACTUAL JOB CONDITIONS.
- ANY PIPING OR DUCT OFFSETS REQUIRED AS RESULT OF EXISTING JOB CONDITIONS, OR LACK OF COORDINATION WITH OTHER TRADES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER AND IS SUBJECT TO REVIEW BY THE ARCHITECT.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE UTILITIES FOR ALL THE EQUIPMENT WITH THE USER'S PRIOR TO COMMENCEMENT OF THE WORK.
- VISIT THE SITE, TAKE MEASUREMENTS, EXAMINE ALL EXISTING, AREAS WHERE WORK IS TO BE PERFORMED AND GET ALL INFORMATION NECESSARY FOR PROPER EXECUTION OF THE WORK BEFORE STARTING WORK IN ANY SECTION. ASCERTAIN AND CHECK ALL CONDITIONS WITH THE DRAWINGS AND SPECIFICATIONS, OTHER TRADES, EXISTING CONDITIONS AND BY WHAT MEANS THE WORK IS TO BE PERFORMED. VERIFY THAT EXISTING SITE UTILITIES TO BE CONNECTED ARE PRESENT.
- REPORT TO OWNER'S REPRESENTATIVE, IN WRITING, CONDITIONS WHICH WILL PREVENT PROPER EXECUTION OF THIS WORK.
- BEGINNING WORK OF ANY SECTION WITHOUT REPORTING UNSUITABLE CONDITIONS TO OWNER'S REPRESENTATIVE CONSTITUTES ACCEPTANCE OF CONDITIONS BY CONTRACTOR.
- PERFORM ANY REQUIRED REMOVAL, REPAIR OR REPLACEMENT OF THIS WORK CAUSED BY UNSUITABLE CONDITIONS AT NO ADDITIONAL COST TO OWNER.
- NOT ALL EXISTING PIPES, CONDUITS OR DUCTS ETC. ARE SHOWN ON THESE DRAWINGS. WHERE EXISTING PIPES, CONDUITS AND/OR DUCTS WHICH ARE TO REMAIN PREVENT INSTALLATION OF NEW WORK, RELOCATE, EXISTING PIPES, CONDUITS AND/OR DUCTS, TO FACILITATE NOW WORK.
- PROVIDE NEW MATERIAL AND EQUIPMENT REQUIRED FOR RELOCATED EQUIPMENT.
- MAINTAIN SERVICE ENTRANCES USABLE TO PEDESTRIAN, AND TRUCK TRAFFIC AT ALL TIMES.
- COORDINATE STAGING AND STORAGE AREAS AS NECESSARY.
- SEISMICALLY BRACE ALL NEW EQUIPMENT & MATERIAL PER SMACNA GUIDELINES.

GENERAL SYMBOLS

	DETAIL IDENTIFICATION NUMBER		EQUIPMENT DESIGNATION
	SECTION IDENTIFICATION LETTER		
U.O.N.	UNLESS OTHERWISE NOTED	TYP.	TYPICAL OF
	NOTE	OFF	CAP FOR FUTURE
	REVISION	NIMW	NOT IN MECHANICAL WORK
	POINT OF CONNECTION	(E)	EXISTING TO REMAIN
	POINT OF DISCONNECT	(R)	RELOCATED
	CENTER LINE	TBB	EXISTING TERMINAL BOX WITH REHEAT COIL
---	MATCH LINE	TBA	EXISTING TERMINAL BOX WITHOUT REHEAT COIL
			TO BE DEMOLISHED

NOTE: ABBREVIATIONS LISTED ARE FOR GENERAL USE. DISREGARD THOSE WHICH ARE NOT USED IN DWG.



REV	DATE	BY	DESCRIPTION
1	1/27/06		
2	2/15/06		
3	3/17/06		
4	5/27/06		
5	6/22/06		
6	5/1/06		

CMT
 CONSULTING MECHANICAL, INC.
 4000 CAMPBELL AVENUE
 SUITE 100
 SAN JOSE, CA 95134
 TEL: (408) 381-7961
 FAX: (408) 381-1998
 CMT JOB # 22524-008
 These drawings and specifications have been prepared by CMT for their exclusive use in accordance with the terms of the contract between CMT and the client.

Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District



PLUMBING SPEC.
 SYMBOLS,
 NOTES AND
 ABBREVIATIONS

DATE	
PROJECT NO.	22524-008
DRAWN BY	
CHECKED BY	
DATE	
OUTPUT NO.	
REVISIONS	
REVISIONS (CONT)	
REVISIONS (CONT)	
REVISIONS (CONT)	
FILE NAME	

M-02



PUMP SCHEDULE																		
ITEM	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	TYPE	GPM	TOTAL HEAD FT. WG.	MAXIMUM PUMP RPM	MAXIMUM MOTOR HP	MAXIMUM BREAK HP	DUTY POINT BREAK HP	ELECTRICAL DATA			VIBRATION ISOLATION			OPERATING WEIGHT LB	NOTES
											VOLT	PHASE	HZ	TYPE	MINIMUM STATIC DEFL. INCHES	BASE TYPE		
CHWP-1	BELL & GOSSETT SERIES 1510 3BC	CENTRAL PLANT	CHW-P	END SUCT. CENTRIF.	290	23	1150	3	--	--	460	3	60	2	1.0"	B	370	INSTALL ON INERTIA BASE; PREMIUM EFFICIENCY
CHWP-2	BELL & GOSSETT SERIES 1510 6BC	CENTRAL PLANT	CHW-P	END SUCT. CENTRIF.	1100	28	1150	15	10.45	9.41	460	3	60	2	1.0"	B	655	INSTALL ON INERTIA BASE; PREMIUM EFFICIENCY
CTP-1	BELL & GOSSETT SERIES 1510 4BC	CT YARD	CDW	END SUCT. CENTRIF.	400	55	1750	10	9.1	7.30	460	3	60	N/A	N/A	N/A	390	PREMIUM EFFICIENCY
CTP-2	BELL & GOSSETT SERIES 1510 6BC	CT YARD	CDW	END SUCT. CENTRIF.	1300	55	1750	30	27.17	23.72	460	3	60	N/A	N/A	N/A	855	PREMIUM EFFICIENCY
CHWP-3	BELL & GOSSETT SERIES 1510 5G	CENTRAL PLANT	CHW-S	END SUCT. CENTRIF.	625	125	1750	40	34.4	25.63	460	3	60	2	1.0"	B	1075	INSTALL VFD W/ BYPASS; INSTALL ON INERTIA BASE
CHWP-4	BELL & GOSSETT SERIES 1510 5G	CENTRAL PLANT	CHW-S	END SUCT. CENTRIF.	625	125	1750	40	34.4	25.63	460	3	60	2	1.0"	B	1075	INSTALL VFD W/ BYPASS; INSTALL ON INERTIA BASE
SP-1	TEEL	SUMP	CT FLOOR SINK	SUBMERSIBLE	80	35	--	1	--	--	230	1	60	N/A	N/A	N/A	70	

WATER CHILLER (WATER COOLED)																							
ITEM	LOCATION	MANUFACTURER & MODEL NO.	CAPACITY IN TONS	REF.	COOLER					CONDENSER					COMPRESSOR		INPUT KW	OIL PUMP	VOLTAGE	OPERATING WEIGHT (lbs)	REMARKS		
					GPM	EWT	LWT	PASS.	ΔP_w	CONN	GPM	EWT	LWT	PASS.	ΔP_w	CONN						QTY	RLA
CH 1	CENTRAL PLANT	(E) CARRIER 30HXC186	173	R134a	290	56	42	2	6	5"	380	75	89	2	9.6	5"	2	--	115.5	--	460	7,845	EXISTING CHILLER
CH 2	CENTRAL PLANT	CARRIER 19XR6060	640	R134a	1100	56	42	2	8.2	5"	1270	75	89	2	7.9	5"	1	--	351	--	460	25,700	WITH FACTORY MOUNTED VFD

NOTE:
THE CHILLERS SELECTION CRITERIA IS BASED ON VARIABLE CHILLED WATER PUMPING. CONTROL THE PUMPS VFD'S TO PROVIDE THE MINIMUM REQUIRED GPM BY CHILLER MANUFACTURER.

COOLING TOWER												
ITEM	LOCATION	MANUFACTURER & MODEL NO.	CAPACITY IN GPM	EWT		AMBIENT DB		FAN H.P.	VOLTAGE		OPERATING WEIGHT (lbs)	REMARKS
				LWT	PASS.	AMBIENT WB	PH					
CT 1 CT 2 CT 3	CENTRAL PLANT	BALTIMORE AIR COIL 15270-3	550 PER CELL	89	75	95	67	20	460	3	32,820 (10,940 PER CELL)	PROVIDE BOTTOM OUTLET PUMP SUCTION CONNECTION. PROVIDE MIN. 24" WATER ELEVATION TO PUMP CENTERLINE. PROVIDE W/MOTOR OUTSIDE OF AIR STREAM. PROVIDE FANS WITH VFD

EXPANSION TANK					
ITEM	LOCATION	MANUFACTURER & MODEL NO.	CAPACITY IN GAL	WEIGHT (lbs)	REMARKS
ET 3	CENTRAL PLANT	B & G D-180	90	1040	

EXHAUST FAN										
ITEM	LOCATION	MANUFACTURER & MODEL NO.	SERVICE	CFM	STATIC PRESSURE	FAN RPM	HP	BREAK HP	WEIGHT	REMARKS
EF-1	CENTRAL PLANT	COOK 270 ACURB	CHILLER ROOM	4000	0.5	501	1	.561	342	SEE NOTE 1 MOUNTED ON ROOF CURB; INSTALLED WITH BACKDRAFT DAMPER

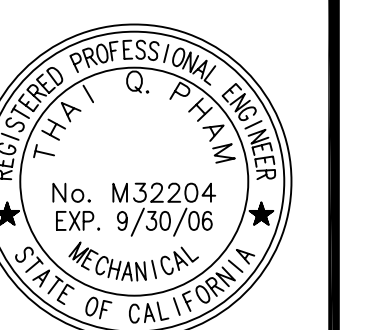
NOTE 1
PROVIDE VFD WITH THE EXHAUST FAN AND CONNECT TO THE EXISTING REFRIGERANT MONITORING SYSTEM. UPON RECEIVING SIGNAL FOR DETECTING REFRIGERANT, THE EXHAUST FAN SHALL OPERATE AT FULL CAPACITY. AT NORMAL OPERATION, THE FAN SHALL OPERATE AT 1000 CFM. PROVIDE WITH ROOF CURB.

AIR SEPARATOR					
ITEM	LOCATION	MANUFACTURER & MODEL NO.	CAPACITY IN GPM	WEIGHT (lbs)	REMARKS
AS 2	CENTRAL PLANT	B & G RL-8G	1900	400	

VARIABLE FREQUENCY DRIVES (VFD)							
TAG	LOCATION	SERVICE	MFR	VOLTAGE	HORSEPOWER	BYPASS	REMARKS
VFD-1	COOLING TOWER YARD	CT-1	ABB	460/3ø	20	YES	
VFD-2	COOLING TOWER YARD	CT-2	ABB	460/3ø	20	YES	
VFD-3	COOLING TOWER YARD	CT-3	ABB	460/3ø	20	YES	
VFD-4	CENTRAL PLANT	CHWP-3	ABB	460/3ø	40	YES	
VFD-5	CENTRAL PLANT	CHWP-4	ABB	460/3ø	40	YES	
VFD-6	CENTRAL PLANT	EF-1	ABB	460/3ø	1	NO	

REV.	DATE	BY	DESCRIPTION
1	1/27/05		ISSUE FOR PERMIT
2	2/19/05		ISSUE FOR PERMIT
3	3/17/05		ISSUE FOR PERMIT
4	5/27/05		REVISION TO DSA COMMENTS
5	6/22/05		REVISION TO DSA COMMENTS
6	5/7/06		AS BUILTS

CMTI
CERTIFIED MECHANICAL, INC.
4000 CAMPBELL AVENUE
SAN FRANCISCO, CA 94116
TEL: (415) 362-7921
FAX: (415) 362-1798
CMTI JOB # 22524-008
These drawings and specifications have been prepared by our staff and are subject to the terms and conditions of our Standard Agreement and Conditions of Contract.



MECHANICAL EQUIPMENT SCHEDULES

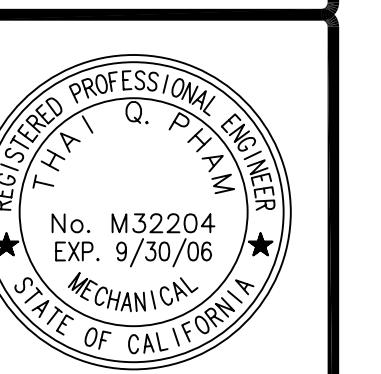
SCALE	NTS
PROJECT NO.	22524-008
DESIGNED BY	
DRAWN BY	
CHECKED BY	
APPROVED	
DATE	
BY	
DATE	
DATE	
DATE	
DATE	



REV	DATE	DESCRIPTION
1	1/27/09	ISSUE
2	2/10/09	ISA REVIEW
3	3/4/09	REVISION TO ISA COMMENTS
4	5/27/09	REVISION TO ISA COMMENTS
5	6/22/09	AS BUILTS
6	5/1/06	AS BUILTS

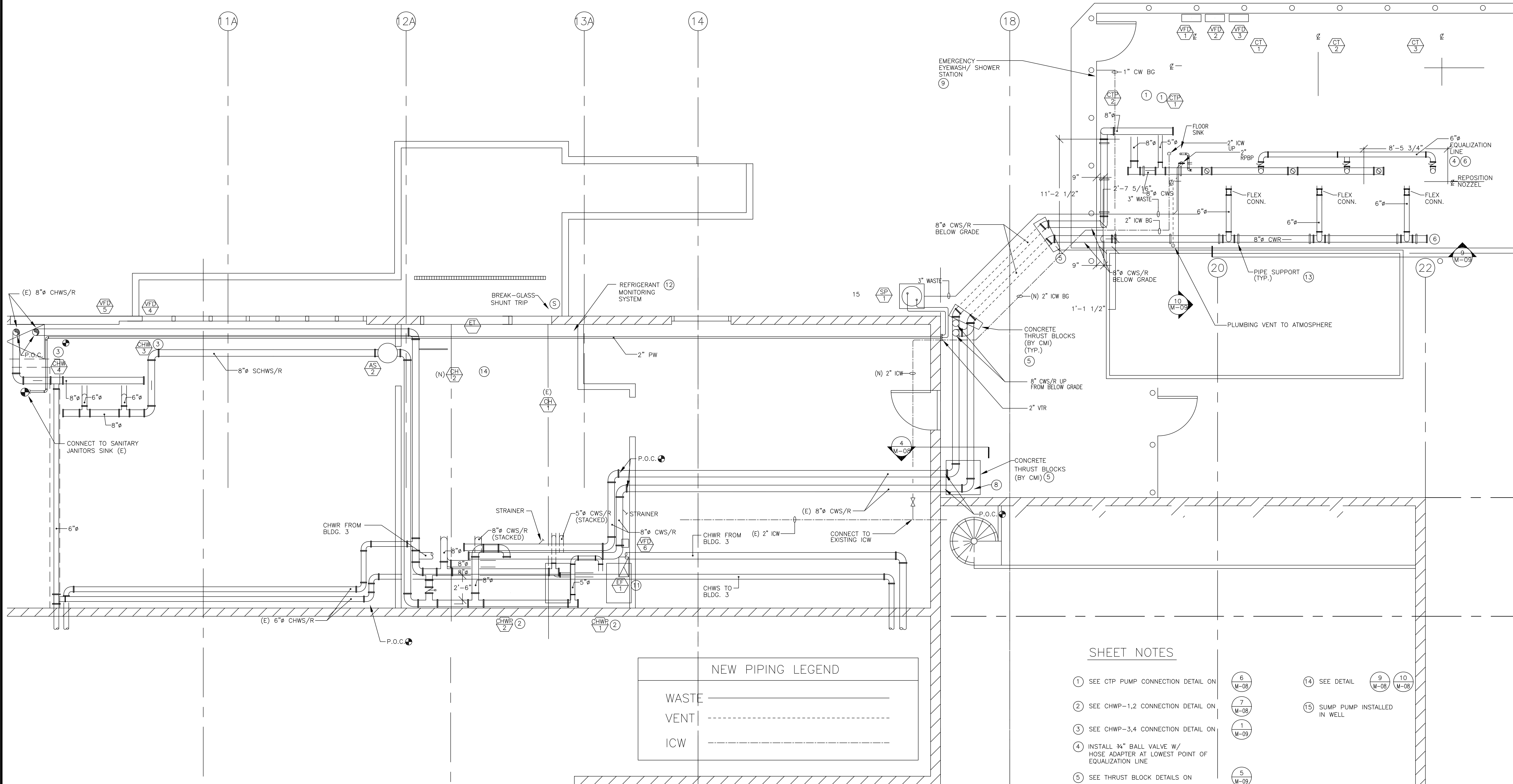
CMT
 CENTRAL PLANT RENOVATION
 CMT JOB # 22524-008
 These drawings and specifications have been prepared by CMT for the assurance use in accordance with the terms of the contract.
 CMT 1000 3rd Street, Suite 100
 San Mateo, CA 94401
 TEL (650) 881-1798
 FAX (650) 881-1799

Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District



CENTRAL PLANT CHILLER NEW CONSTRUCTION PLAN

DATE	1/4/11-01
PROJECT NO.	22524-008
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
UPDRT NO.	
DRWS (CON)	
DRWS (CON)	
DRWS (CON)	
FILE NAME	



NEW PIPING LEGEND

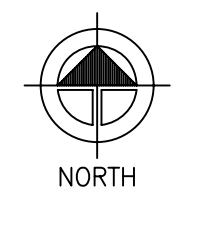
WASTE	—————
VENT	- - - - -
ICW	—————

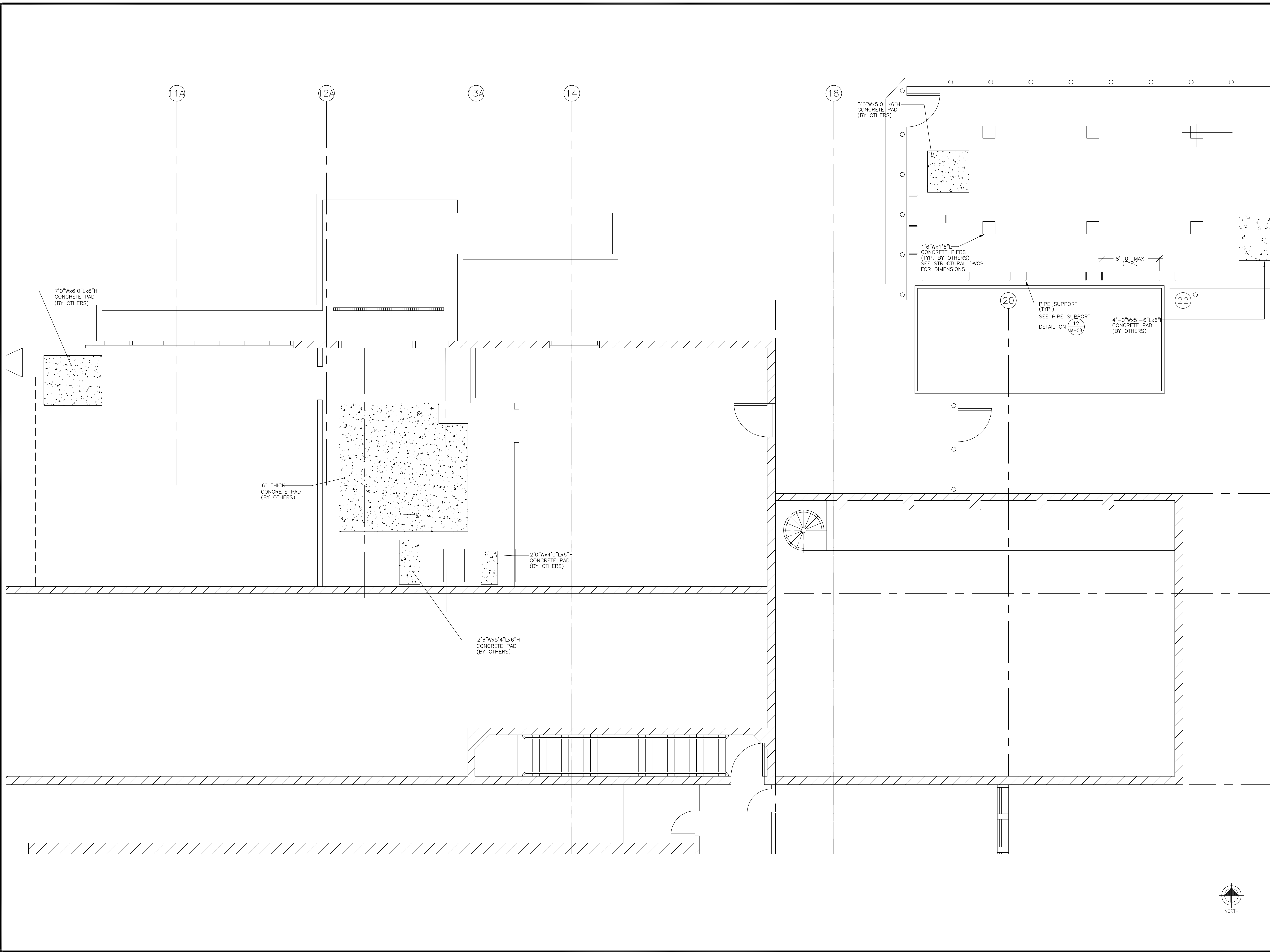
GENERAL NOTES

- CFC SEC. 6307.2 VALVES AND SWITCHES SHALL BE ADEQUATELY IDENTIFIED AS TO THE SEQUENTIAL PROCEDURE TO BE FOLLOWED IN THE EVENT OF AN EMERGENCY.
- CFC SEC. 6315.4 STOP VALVES SHALL BE IDENTIFIED BY TAGGING. A VALVE CHART SHALL BE MOUNTED UNDER GLASS AT AN APPROVED LOCATION NEAR THE PRINCIPAL ENTRANCE TO A REFRIGERATION MACHINERY ROOM.
- CFC SEC. 6315.5 PIPING SHALL BE IDENTIFIED WITH THE TYPE OF REFRIGERANT, FUNCTION AND PRESSURE.
- CFC SEC. 6320.1 **ACCEPTANCE TESTING**. THE FOLLOWING EMERGENCY DEVICES OR SYSTEMS SHALL BE TESTED TO DEMONSTRATE THEIR SAFETY AND EFFECTIVENESS UPON COMPLETION OR ALTERATION: 1) TREATMENT AND FLARING SYSTEMS, 2) VALVES AND APPURTENANCES NECESSARY TO THE OPERATION OF EMERGENCY REFRIGERATION CONTROL BOXES, 3) FANS AND ASSOCIATED EQUIPMENT INTENDED TO OPERATE EMERGENCY PURGE VENTILATION SYSTEMS, AND 4) DETECTION AND ALARM SYSTEMS.

SHEET NOTES

- SEE CTP PUMP CONNECTION DETAIL ON **6 M-08**
- SEE CHWP-1,2 CONNECTION DETAIL ON **7 M-08**
- SEE CHWP-3,4 CONNECTION DETAIL ON **1 M-09**
- INSTALL 3/4" BALL VALVE W/ HOSE ADAPTER AT LOWEST POINT OF EQUALIZATION LINE
- SEE THRUST BLOCK DETAILS ON **5 M-09**
- SEE EQUALIZATION LINE & BOTTOM OUTLET CONNECTION DETAIL ON **11 M-09**
- NOT USED **4 M-08**
- SEE PIPE PENETRATION FROM UNDERGROUND DETAIL ON **5 M-08**
- SEE EMERGENCY EYE WASH/SHOWER DETAIL ON **8 M-08**
- SEE FLOOR SINK DETAIL ON **11 M-08**
- SEE REFRIGERANT EXHAUST DETAIL ON REFRIGERANT EXHAUST SYSTEM SHALL CONFORM TO CFC **2 M-08** **3 M-08**
- RUN REFRIGERANT SNIFFER BETWEEN CHILLERS REFRIGERANT SENSOR SHALL BE CALIBRATED FOR R-134A **12 M-08**
- SEE PIPE SUPPORT LOCATIONS ON SHEET M-05, SEE SUPPORT DETAIL ON **12 M-08**
- SEE DETAIL **9 M-08** **10 M-08**
- SUMP PUMP INSTALLED IN WELL **15**





REV	DATE	BY	DESCRIPTION
1	1/27/05		ISSUE
2	2/19/05		ISSUE
3	3/17/05		ISSUE
4	5/27/05		REVISION TO DSA COMMENTS
5	6/22/05		REVISION TO DSA COMMENTS
6	5/1/06		AS BUILTS

CMTI
 CENTRAL MOUNTAIN TECHNICAL INC.
 4005 CAMPBELL AVENUE
 SUITE 100
 OAKLAND, CA 94612
 TEL: (925) 362-1700
 FAX: (925) 362-1700
 CMTI JOB # 22524-008
 These drawings and specifications have been prepared by CMTI for their exclusive use in accordance with Sec. 9337.4 of the Professional Engineers Act of the State of California.

Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District



COORDINATION
 PLAN

SCALE	1/4"=1'-0"
PROJECT NO.	22524-008
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
APP'D IN CHARGE	
PREP	
PREP (CHK)	
PREP (CHK)	
PREP (CHK)	
DATE	

REV	DATE	BY	DESCRIPTION
1	1/27/05		ISSUE FOR PERMITS
2	2/18/05		ISSUE FOR PERMITS
3	3/1/05		ISSUE FOR PERMITS
4	5/27/05		REVISION TO ISA COMMENTS
5	6/22/05		REVISION TO ISA COMMENTS
6	9/7/06		AS-BUILT

CMTI
 CONSULTING MECHANICAL THERMAL & ELECTRICAL INC.
 10000 S. DEER CANYON AVENUE
 SUITE 100
 DENVER, CO 80231
 TEL: (303) 751-1198
 FAX: (303) 751-1198
 CMTI JOB # 22524-008

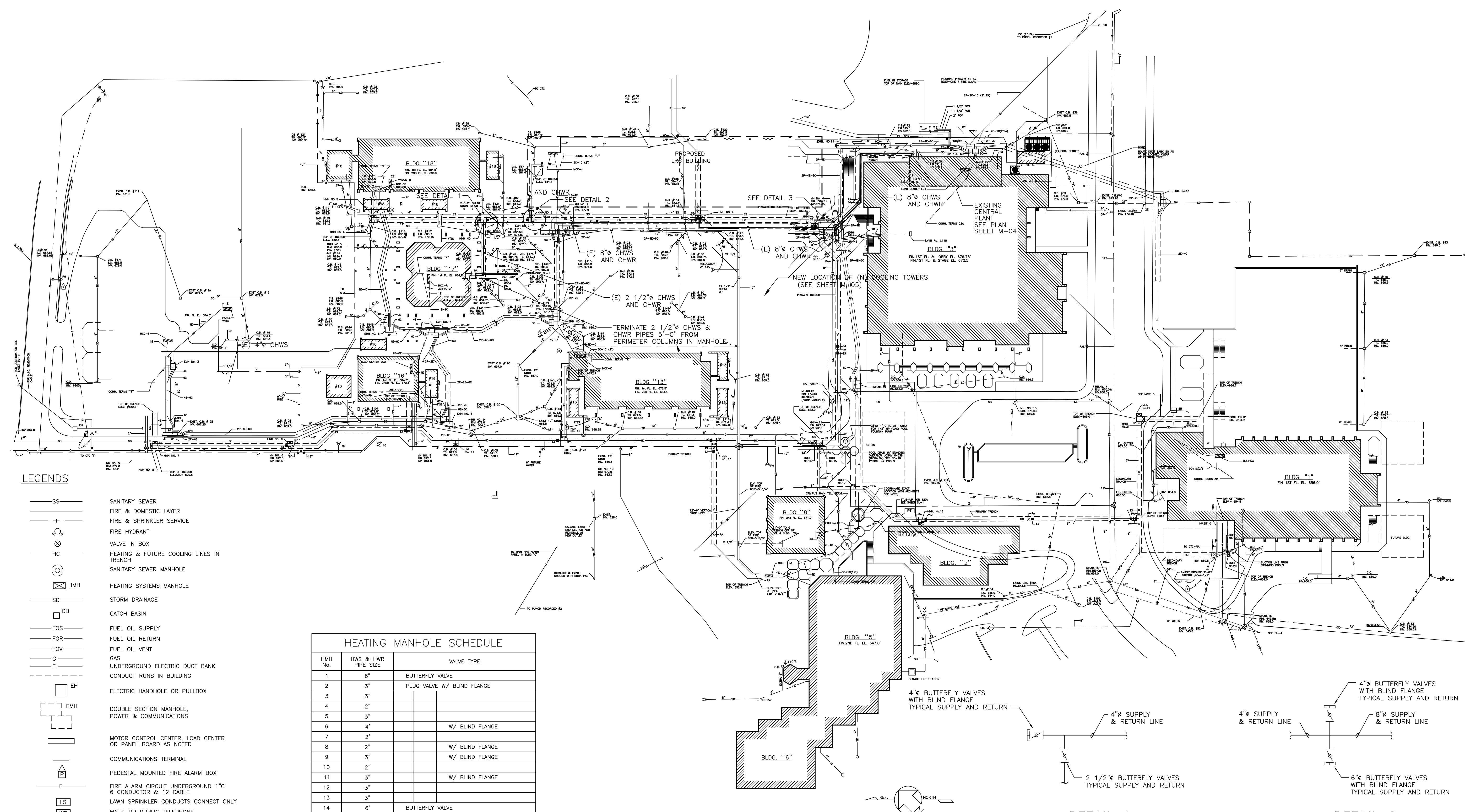
Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District



SITE UTILITY REFERENCE PLAN

SCALE	N.T.S.
PROJECT NO.	22524-008
DESIGNED BY	
CHECKED BY	
DATE	
PROJECT NO.	
PREP (COORD)	
PREP (COORD)	
PREP (COORD)	
FILE NAME	

M-06

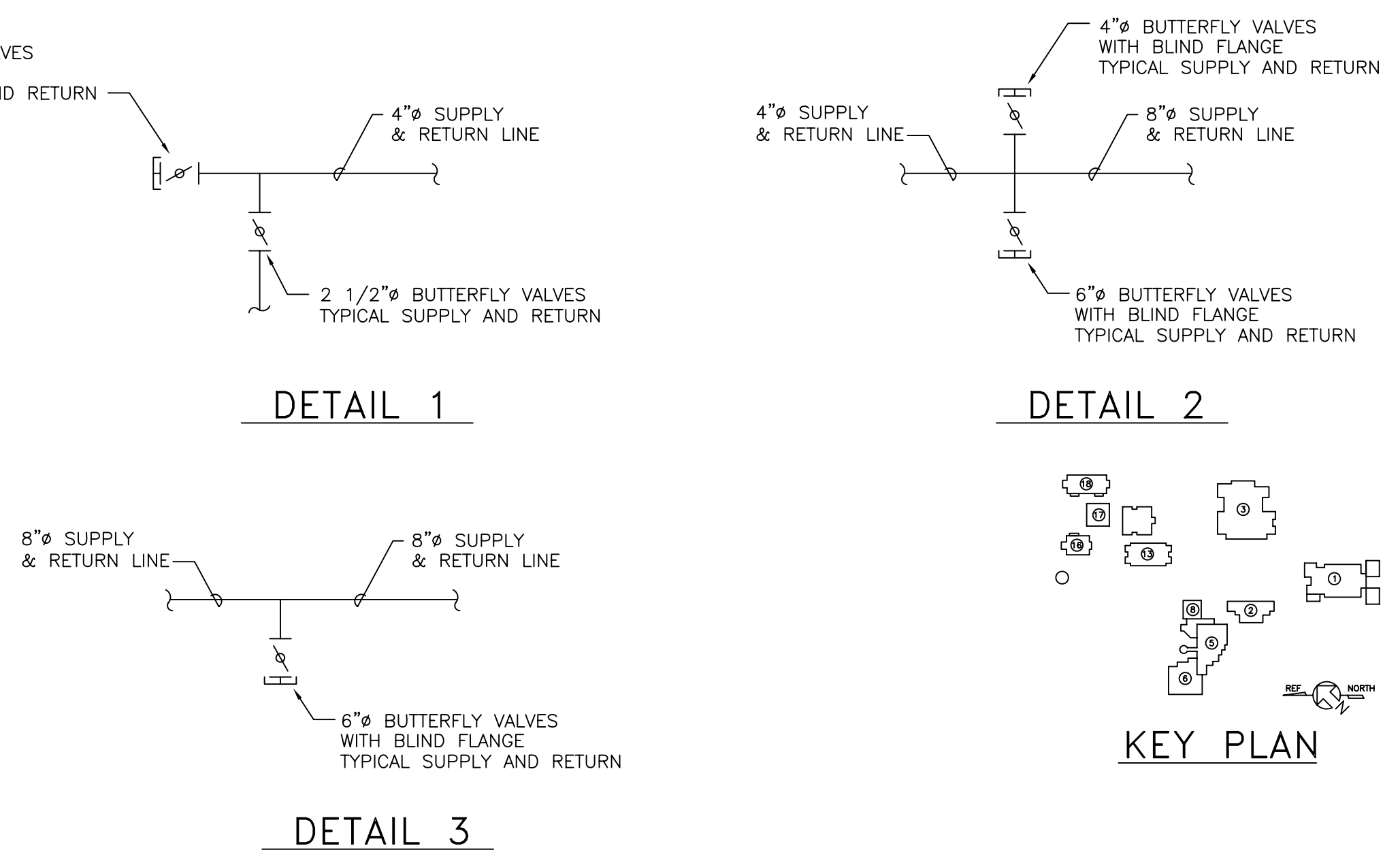


- LEGENDS**
- SS SANITARY SEWER
 - FD FIRE & DOMESTIC LAYER
 - FS FIRE & SPRINKLER SERVICE
 - FDH FIRE HYDRANT
 - VB VALVE IN BOX
 - HC HEATING & FUTURE COOLING LINES IN TRENCH
 - SM SANITARY SEWER MANHOLE
 - HMH HEATING SYSTEMS MANHOLE
 - SD STORM DRAINAGE
 - CB CATCH BASIN
 - FDS FUEL OIL SUPPLY
 - FDR FUEL OIL RETURN
 - FV FUEL OIL VENT
 - G GAS
 - EDB UNDERGROUND ELECTRIC DUCT BANK
 - CR CONDUCT RUNS IN BUILDING
 - EH ELECTRIC HANDHOLE OR PULLBOX
 - EMH DOUBLE SECTION MANHOLE, POWER & COMMUNICATIONS
 - MCC MOTOR CONTROL CENTER, LOAD CENTER OR PANEL BOARD AS NOTED
 - CT COMMUNICATIONS TERMINAL
 - PM PEDESTAL MOUNTED FIRE ALARM BOX
 - F FIRE ALARM CIRCUIT UNDERGROUND 1" Ø CONDUCTOR & 12 CABLE
 - LS LANN SPRINKLER CONDUITS CONNECT ONLY
 - WPT WALK-UP PUBLIC TELEPHONE
 - PTP OUTDOOR PUBLIC TELEPHONE BOOTH
 - T UNDERGROUND TELEPHONE CONDUCT UNLESS OTHERWISE NOTED
 - SB SYMBOL DENOTES BRICKED OPENINGS
 - EMH ELECTRICAL MANHOLES FOR FUTURE BUILDING SERVICES IN DIRECTION INDICATED.
 - 2P-4E-6C "P" DENOTES NUMBER OF PRIMARY ELECTRIC DUCTS. "E" DENOTES NUMBER OF SECONDARY ELECTRICAL DUCTS. "C" DENOTES NUMBER OF COMMUNICATION DUCTS (INCLUDED CLOC.) FA, TV, TEL.
 - (A) REFERENCE TO SCHEDULE OF UTILITIES WITH ALTERNATES.

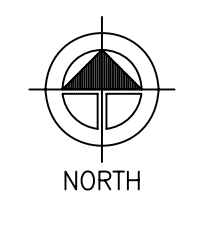
HEATING MANHOLE SCHEDULE

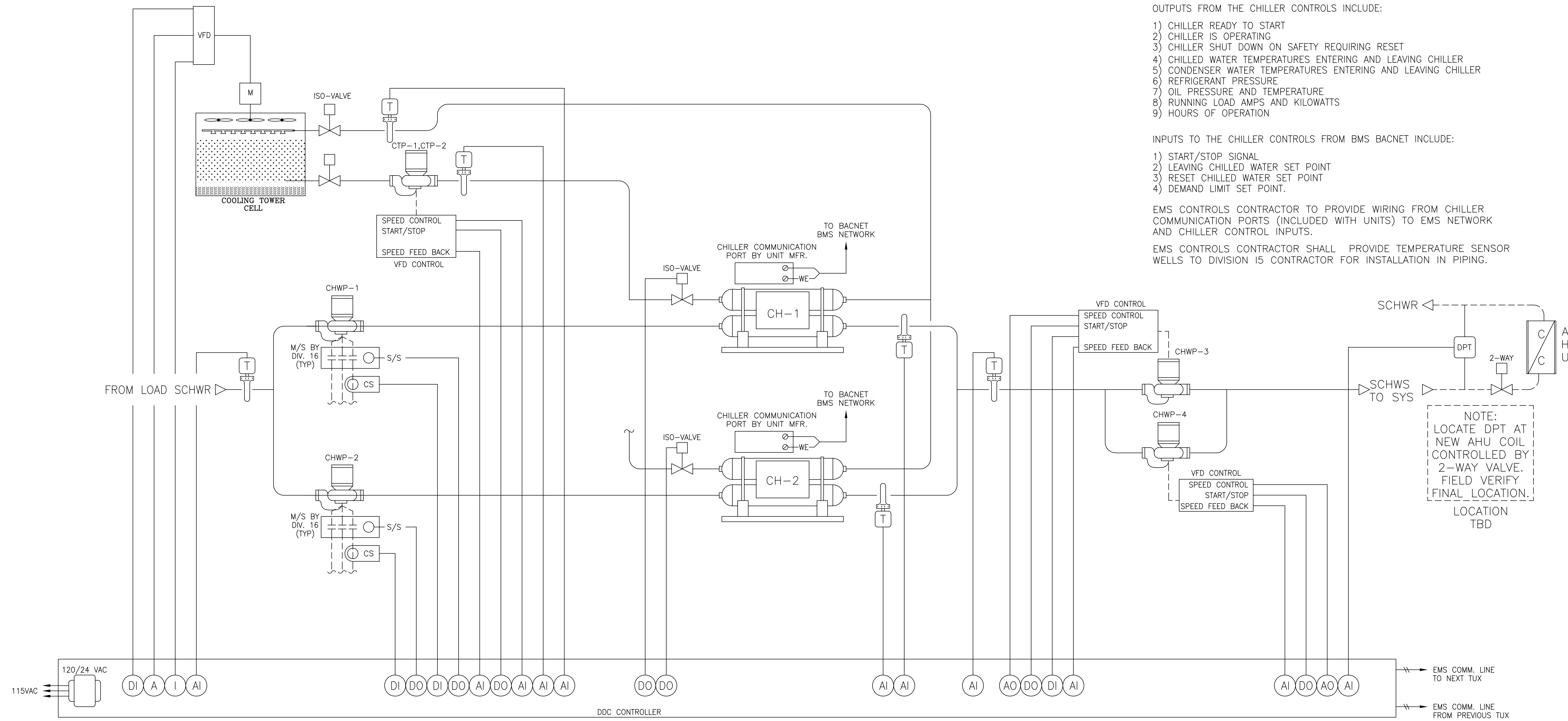
HMH No.	HWS & HWR PIPE SIZE	VALVE TYPE
1	6"	BUTTERFLY VALVE
2	3"	PLUG VALVE W/ BLIND FLANGE
3	3"	
4	2"	
5	3"	
6	4"	W/ BLIND FLANGE
7	2"	
8	2"	W/ BLIND FLANGE
9	3"	W/ BLIND FLANGE
10	2"	
11	3"	W/ BLIND FLANGE
12	3"	
13	3"	
14	6"	BUTTERFLY VALVE
15	6"	BUTTERFLY VALVE
16	3"	PLUG VALVE W/ BLIND FLANGE
17	2"	
18	3"	
19	4"	
20	2"	W/ BLIND FLANGE
21	3"	
22	3"	W/ BLIND FLANGE

SITE UTILITY REFERENCE PLAN
 SCALE: 1"=50'



KEY PLAN





NOTE:
 THE EXISTING CHILLER WILL BE RETROFITTED AND A NEW CHILLER WILL BE PROVIDED TO PROVIDE A BACNET INTERFACE TO THE BMS CONTROLS CONTRACTOR. A MINIMUM OF THE FOLLOWING INFORMATION WILL BE PROVIDED BY THIS INTERFACE.

- OUTPUTS FROM THE CHILLER CONTROLS INCLUDE:
- 1) CHILLER READY TO START
 - 2) CHILLER IS OPERATING
 - 3) CHILLER SHUT DOWN ON SAFETY REQUIRING RESET
 - 4) CHILLED WATER TEMPERATURES ENTERING AND LEAVING CHILLER
 - 5) CONDENSER WATER TEMPERATURES ENTERING AND LEAVING CHILLER
 - 6) REFRIGERANT PRESSURE
 - 7) OIL PRESSURE AND TEMPERATURE
 - 8) RUNNING LOAD AMPS AND KILOWATTS
 - 9) HOURS OF OPERATION

- INPUTS TO THE CHILLER CONTROLS FROM BMS BACNET INCLUDE:
- 1) START/STOP SIGNAL
 - 2) LEAVING CHILLED WATER SET POINT
 - 3) RESET CHILLED WATER SET POINT
 - 4) DEMAND LIMIT SET POINT.

EMS CONTROLS CONTRACTOR TO PROVIDE WIRING FROM CHILLER COMMUNICATION PORTS (INCLUDED WITH UNITS) TO EMS NETWORK AND CHILLER CONTROL INPUTS.

EMS CONTROLS CONTRACTOR SHALL PROVIDE TEMPERATURE SENSOR WELLS TO DIVISION 15 CONTRACTOR FOR INSTALLATION IN PIPING.

NOTE:
 LOCATE DPT AT NEW AHU COIL CONTROLLED BY 2-WAY VALVE. FIELD VERIFY FINAL LOCATION. LOCATION TBD

SEQUENCE OF OPERATION:

CHILLED WATER SYSTEM

- 1) CHILLERS, PUMPS, AND COOLING TOWER ARE CONTROLLED BY DDC SYSTEM.
- 2) WINTER SCHEDULE: THE PRIMARY CHILLED WATER PUMP #2 ASSOCIATED WITH CHILLER #2 WILL START WHEN CHILLER RECEIVES A START SIGNAL. THE START SIGNAL IS BASED ON TIME SCHEDULE, OUTSIDE AIR TEMPERATURE OF 65° F AND MORE, AND 20% (ADJUSTABLE) OF CHILLED WATER VALVES CALLING FOR COOLING.
- 3) THE SECONDARY CHILLED WATER PUMPS WILL START THROUGH THE TIME SCHEDULE. WHEN THE OUTSIDE TEMPERATURE IS ABOVE 65° F AND 20% (ADJUSTABLE) OF CHILLED WATER VALVES ARE CALLING FOR COOLING.
- 4) CHILLER'S INTERNAL CONTROLS WILL MAINTAIN THE CHILLED WATER TEMPERATURE BASED ON RESET SIGNAL FROM THE DDC SYSTEM. DDC CONTROL SHALL MONITOR CHILLED WATER SUPPLY AND RETURN TEMPERATURES AND STAGE ON THE CHILLERS.
- 5) THE CHILLER #1 SHALL START WHEN THE SUPPLY AND RETURN TEMPERATURE DIFFERENTIAL (ΔT) EXCEEDS 14 DEGREES F (ADJUSTABLE) FOR MORE THAN 30 MINUTES (ADJUSTABLE) SEQUENCE FOR CH-2.
- 6) THE VDF ON THE SECONDARY PUMPS WILL MODULATE TO MAINTAIN A CONSTANT PRESSURE DIFFERENTIAL ACROSS THE SUPPLY AND RETURN AT BUILDING 16 AHU# TBD.
- 7) SUMMER SCHEDULE: BASE LOAD CH-1 FIRST, THEN OPERATE CH-2 FOR PARTIAL LOAD.

CONDENSER WATER SYSTEM

- 1) THE COOLING TOWER AND THE PUMPS ARE CONTROLLED BY THE DDC SYSTEM.
- 2) CONDENSER PUMPS AND COOLING TOWER FAN SHALL START/STOP BASED ON CHILLER'S DEMAND.
- 3) CONDENSER WATER SUPPLY SETPOINT IS SET AT THE OPERATOR TERMINAL. DDC CONTROL SHALL MONITOR THE CONDENSER SUPPLY AND RETURN TEMPERATURE AND START / STOP THE COOLING TOWER FANS
- 4) RESET THE CONDENSER WATER TEMPERATURE SETPOINT BASED ON OUTSIDE AIR DRY AND WET BULB TEMPERATURE.
- 5) VDF ON CONDENSER WATER PUMPS SHALL MAINTAIN CONDENSER RETURN TEMPERATURE AT MINIMUM 75°F (ADJUSTABLE) DURING WINTER MONTHS TO MEET CHILLER MANUFACTURER'S REQUIREMENTS.
- 6) INSTALL AUTOMATIC ISOLATION VALVES AT EACH COOLING TOWER CELL'S INLET AND OUTLET CONNECTIONS. TOTAL OF 3 VALVES AT OUTLETS AND 3 VALVES AT INLETS.
- 7) THE OPERATION OF CH-1 SHALL ACTIVATE ONE COOLING TOWER CELL AND THE OPERATION OF CH-2 SHALL ACTIVATE TWO COOLING TOWER CELL CONDENSERS.

REFRIGERANT MONITORING SYSTEM

EMS CONTROLS CONTRACTOR SHALL MAKE PROVISIONS TO MONITOR REFRIGERANT MONITORING SYSTEM FOR ALARM STATUS. EF-1 SHALL OPERATE AT FULL CAPACITY UPON REFRIGERANT DETECTION.

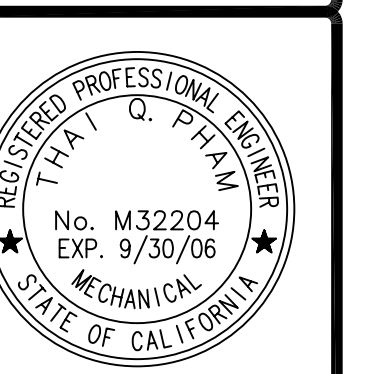
CHILLER CONTROL DIAGRAM

SCALE: NTS

REV	DATE	DESCRIPTION
1	1/27/06	ISSUE
2	2/19/06	ISSUE
3	3/7/06	ISSUE
4	5/27/06	REVISION TO USA COMMENTS
5	6/22/06	REVISION TO USA COMMENTS
6	5/1/06	AS BUILTS

CMT
 CENTRAL PLANT RENOVATION
 CMT JOB # 22524-008
 THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED BY CMT FOR THEIR CLIENTS USE IN ACCORD WITH SEC. 6702.1 OF THE PROFESSIONAL ENGINEERS ACT OF THE STATE OF CALIFORNIA

Canada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District

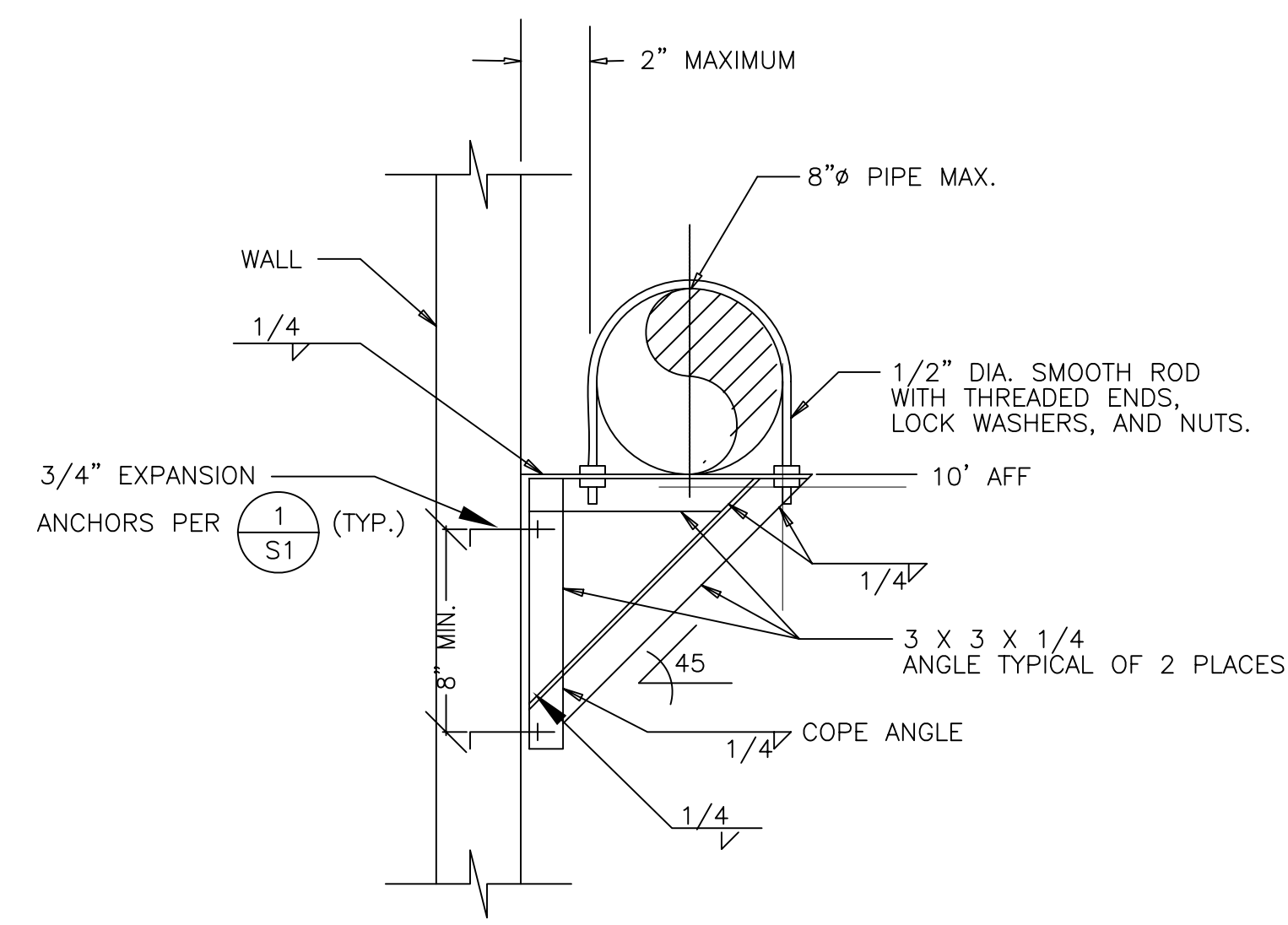


CHILLER CONTROL DIAGRAM

SCALE	NTS
PROJECT NO.	22524-008
DESIGNED BY	
CHECKED BY	
DATE	
APPROVED BY	
DATE	
PROJECT NAME	
PLT NAME	

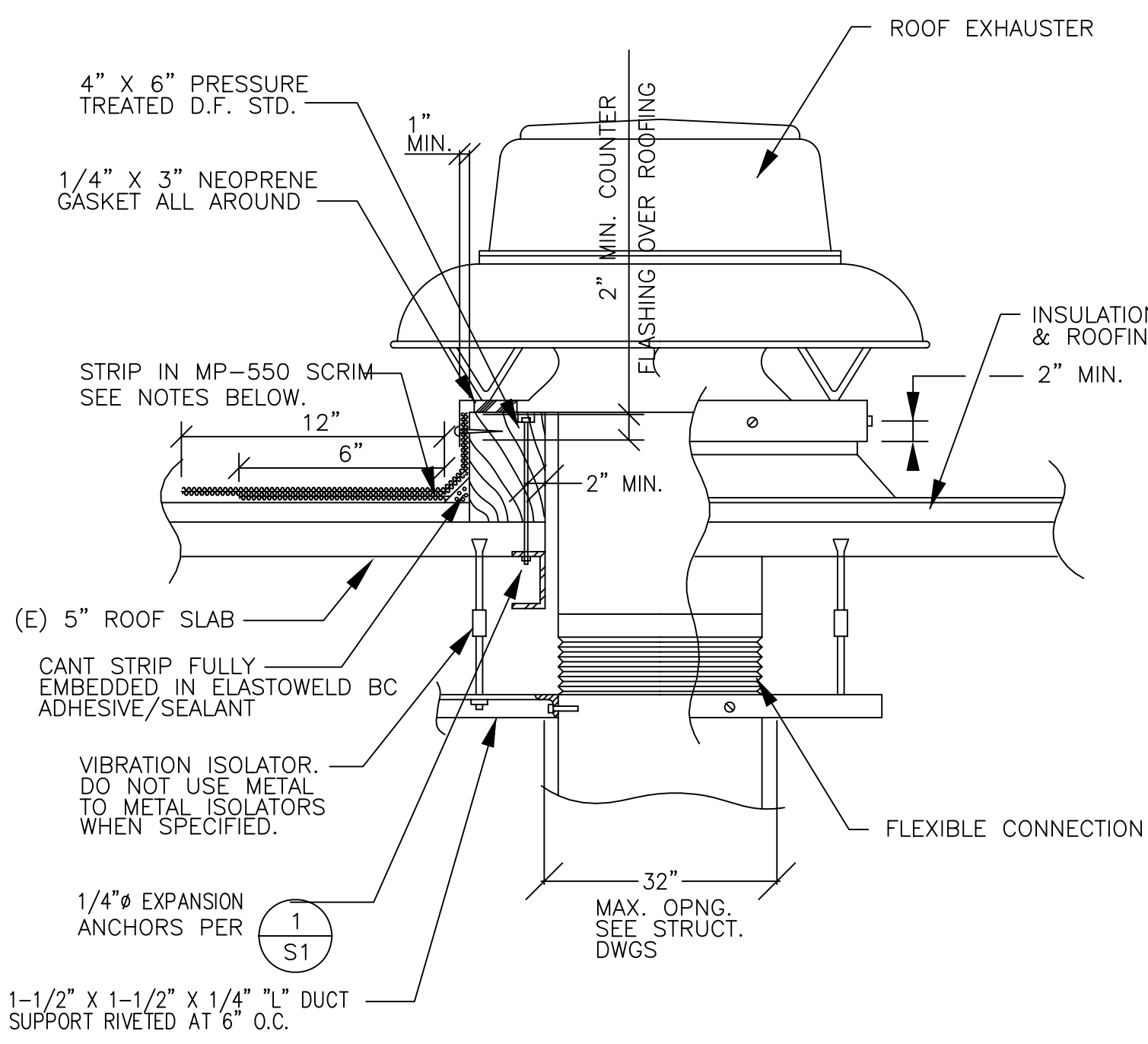
M-07





NOTE: SUPPORT TO OCCUR @ 8'-0" O.C. MAX.

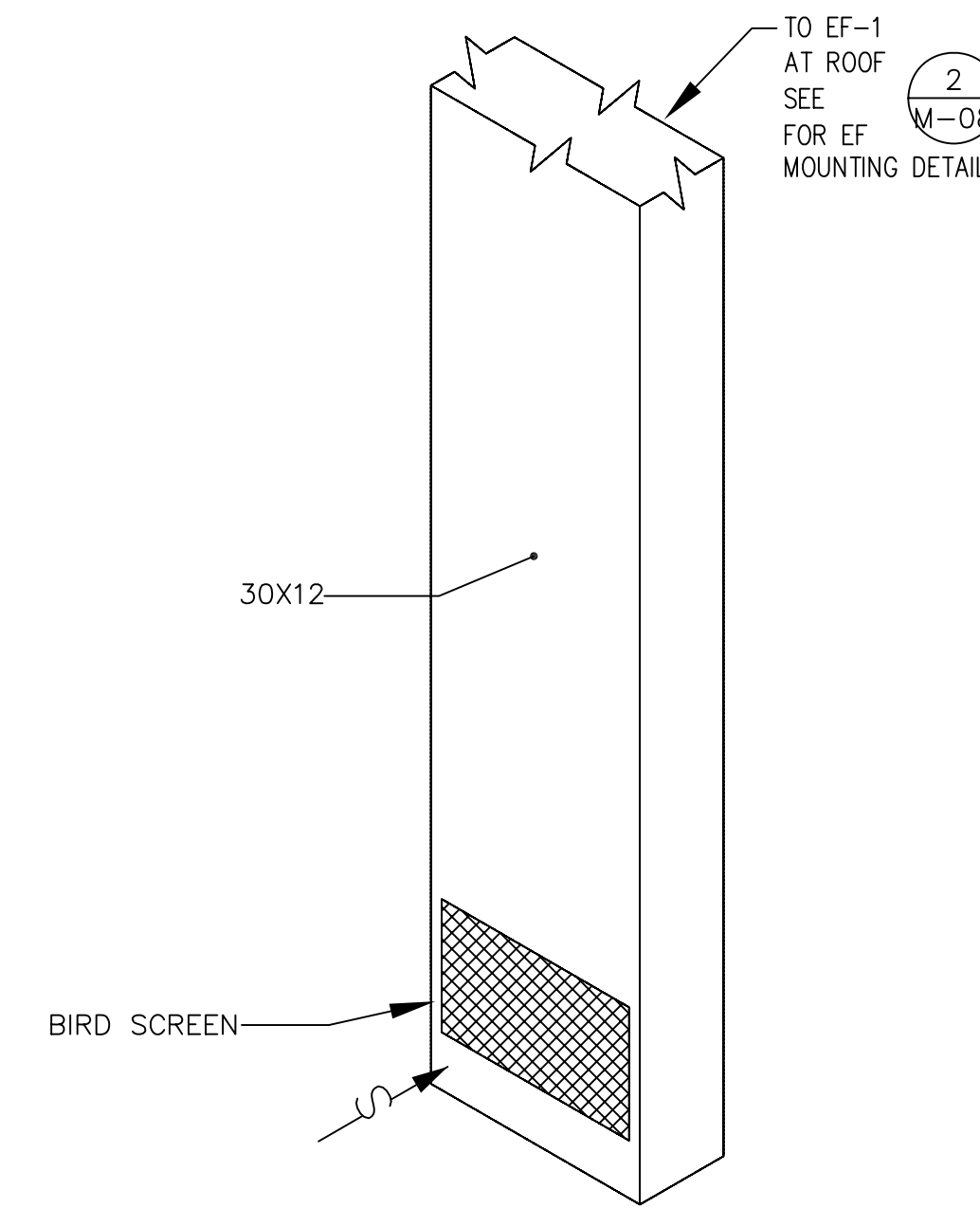
SCALE: NTS WALL PIPE SUPPORT DETAIL 1



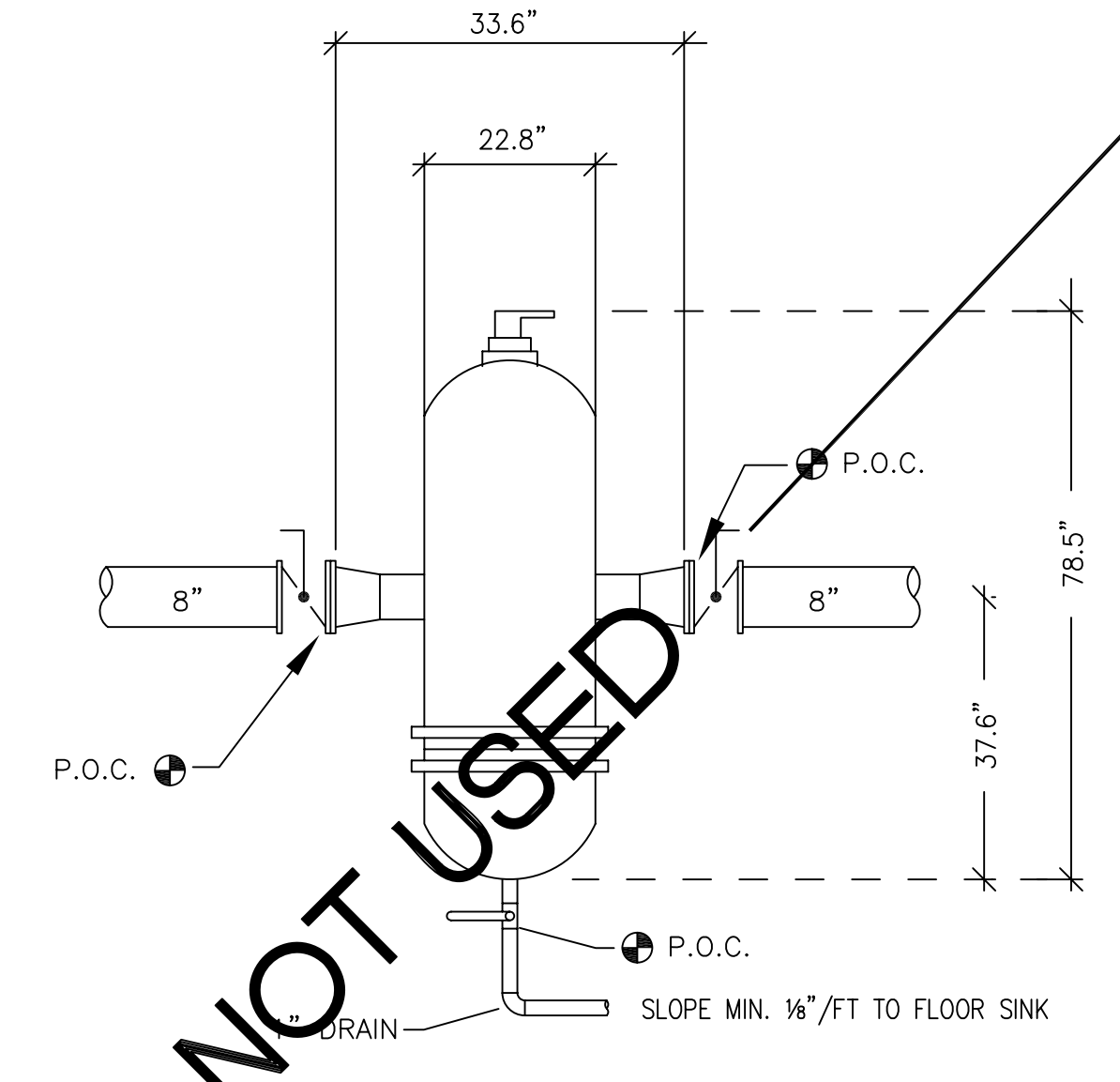
NOTES:

1. ALL SURFACES TO BE CLEAN, $\frac{3}{16}$ " FREE OF DIRT, GREASE, SCALE, PAINT, ETC.
2. WIRE BRUSH ALL LOOSE MATERIAL AS REQUIRED.
3. PRIME EXISTING ROOF AND CURBING W/ELASTOMERIC ELASTOMERIC PRIMER.
4. 5 COURSE: 2 PLYS MP-550 SCRIM W/MP ELASTOMERIC GEL (FEATHER SECOND PLY) AT MIN. 40 MIL UNURED PER COURSE.
5. TOP COAT W/ RC EXTREME DUTY ELASTOMER OR ROOF GRANULES (MATCH ROOF COLOR).

SCALE: NTS ROOF EXHAUST VENT DETAIL 2



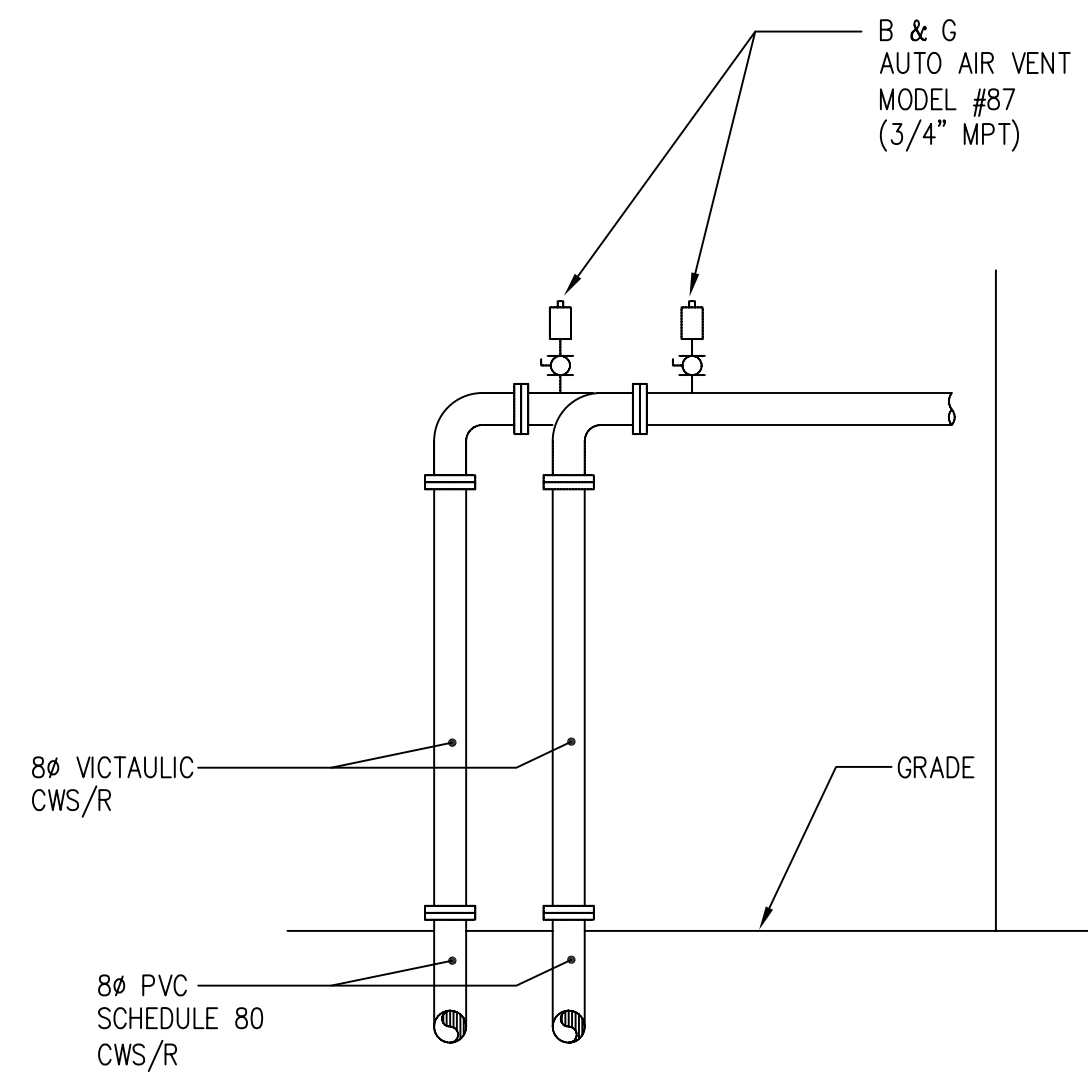
SCALE: NTS REFRIGERANT EXHAUST DUCT DETAIL 3



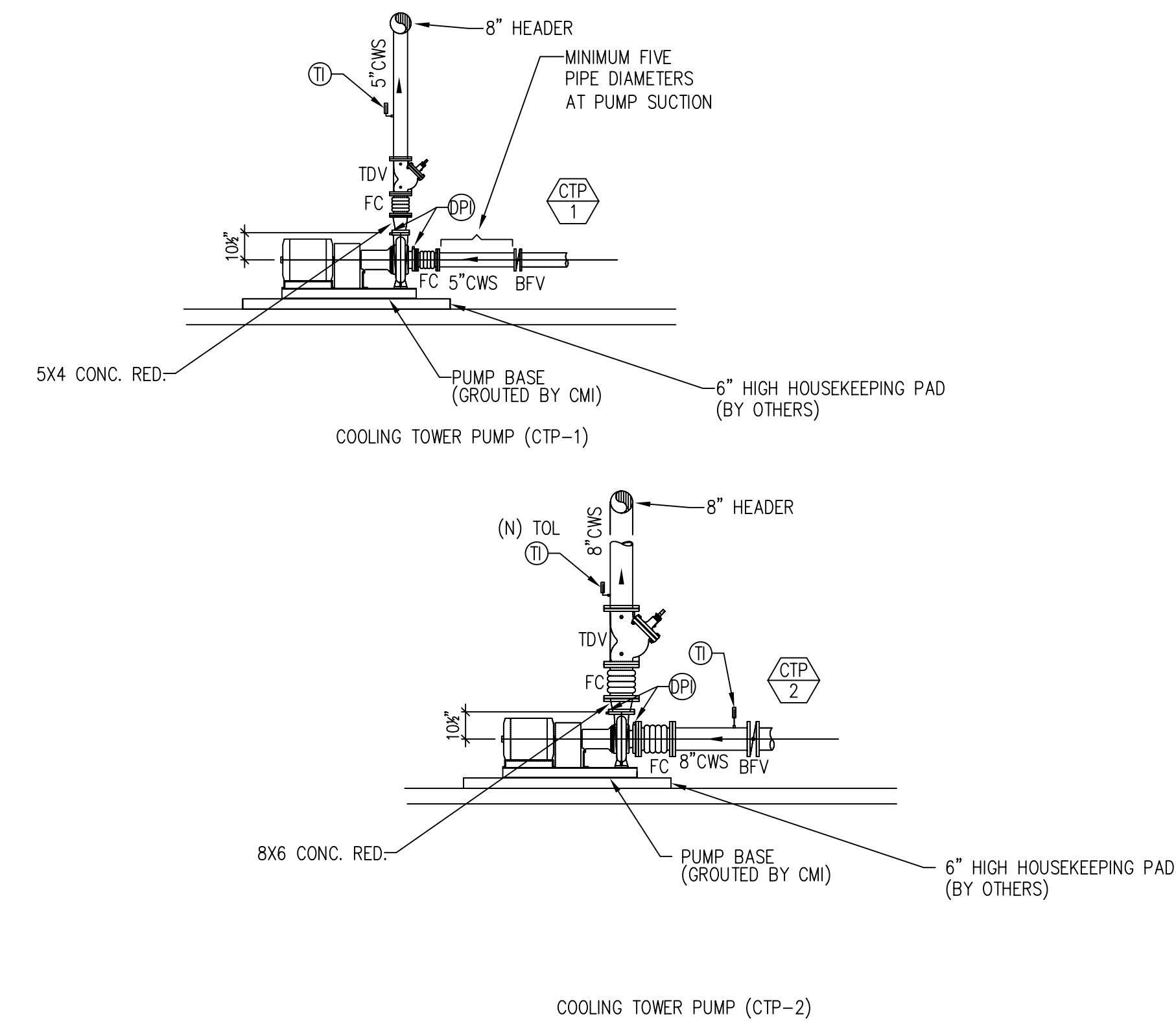
NOT USED

NOTE: SEE STRUCTURAL PLANS FOR SUPPORT DETAILS

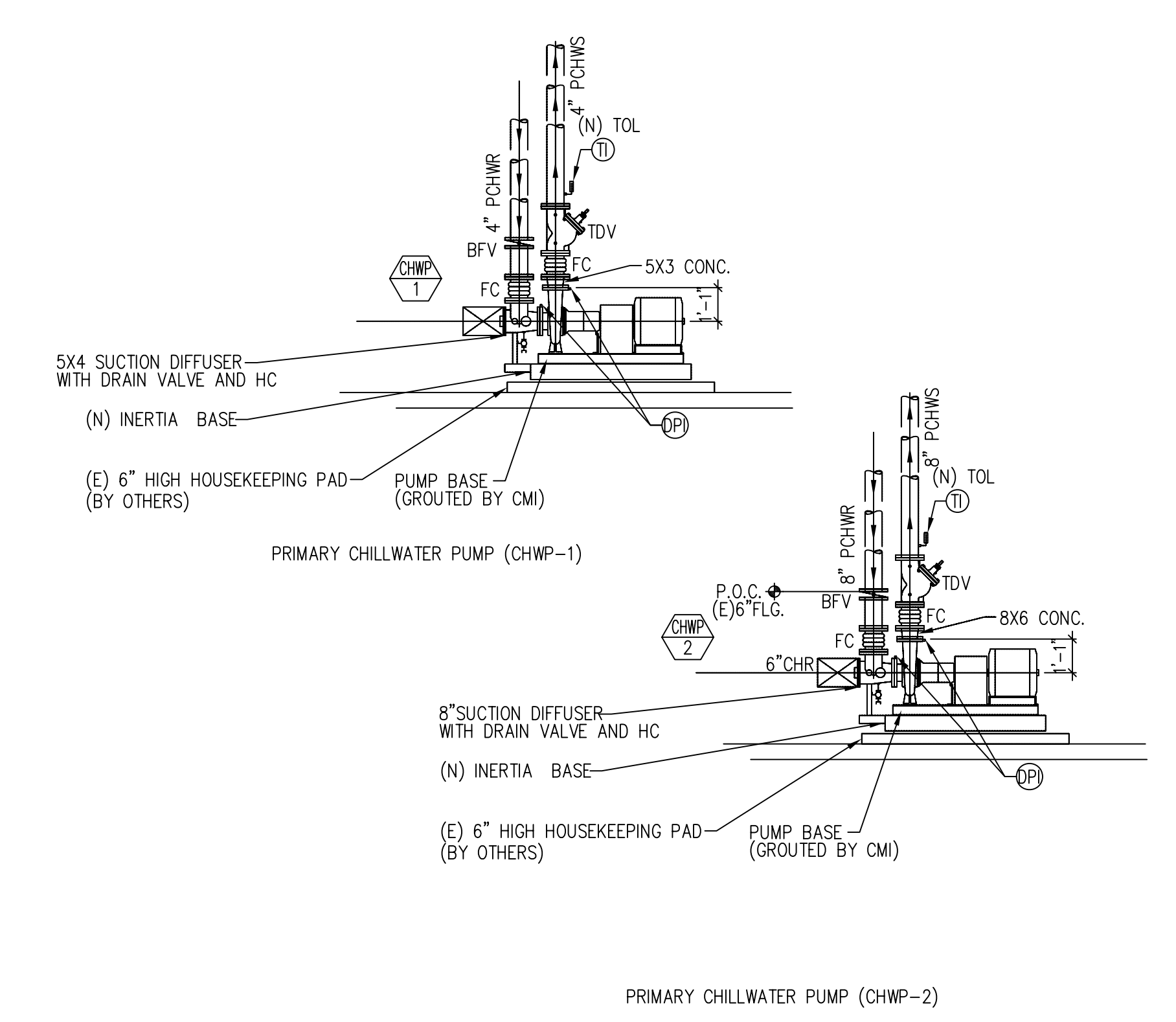
SCALE: NTS DIRT SEPARATOR CONN. DETAIL 4



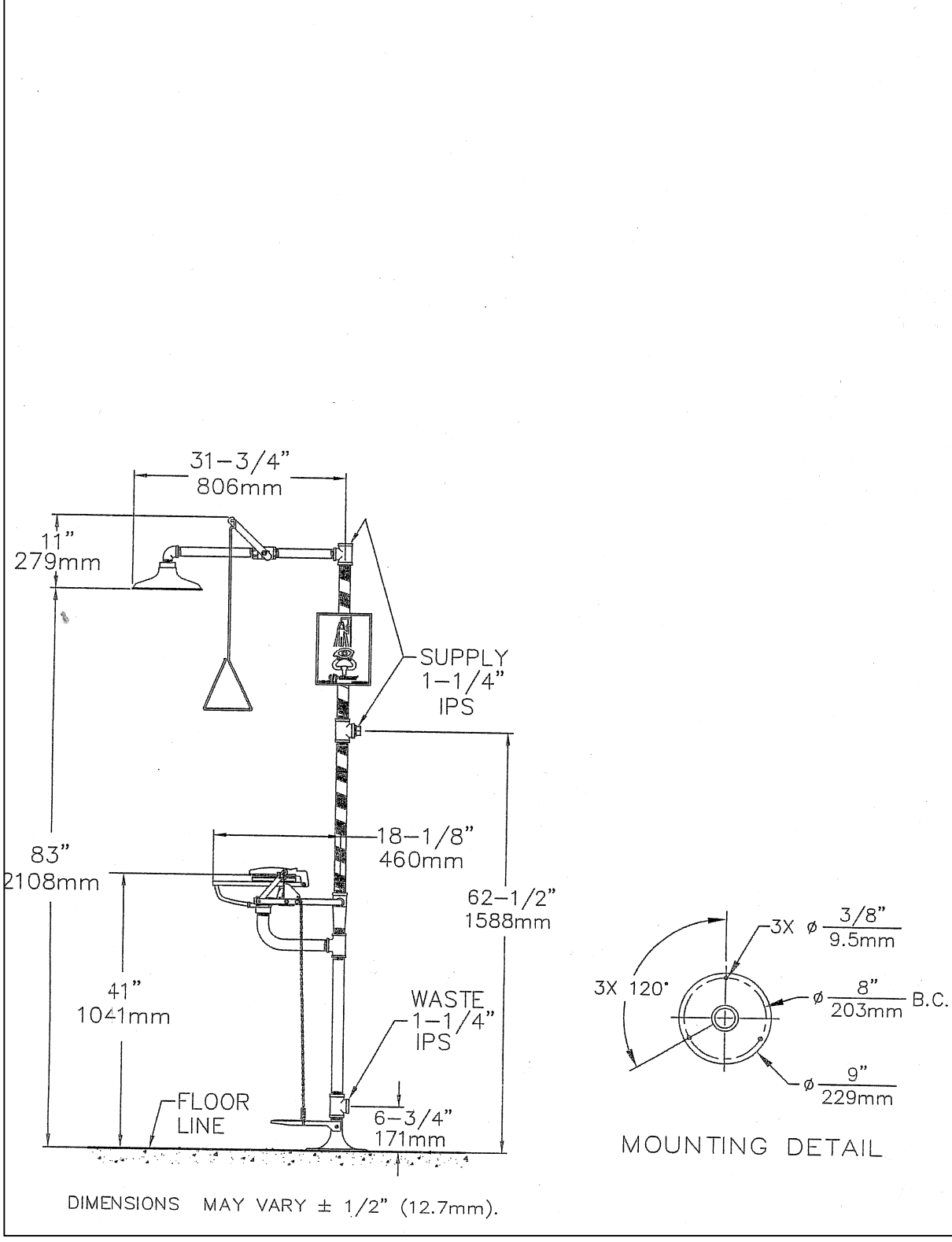
SCALE: NTS PIPE PENETRATION FROM UNDERGROUND 5



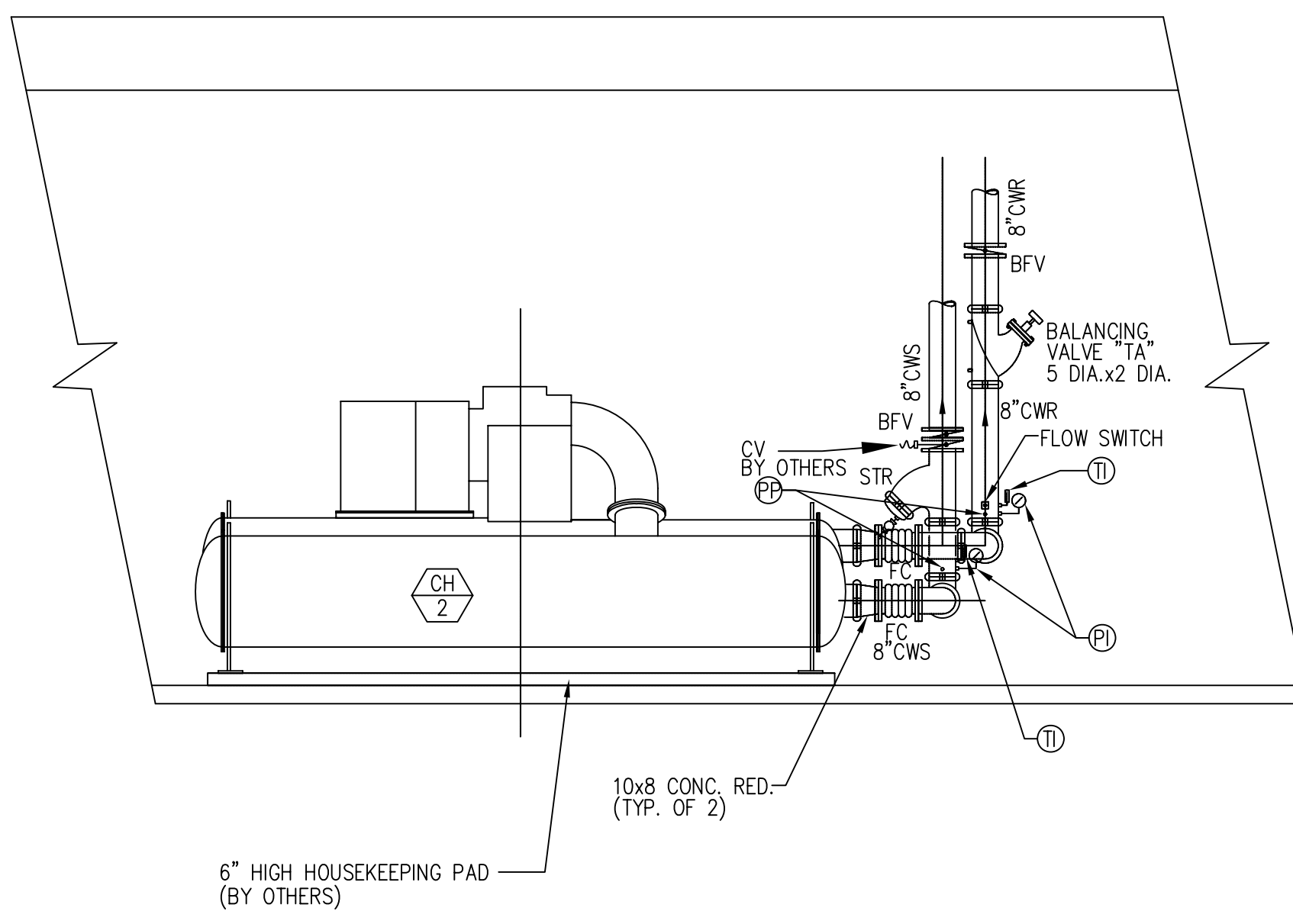
SCALE: NTS CONDENSER WATER PUMP CONNECTION DETAILS 6



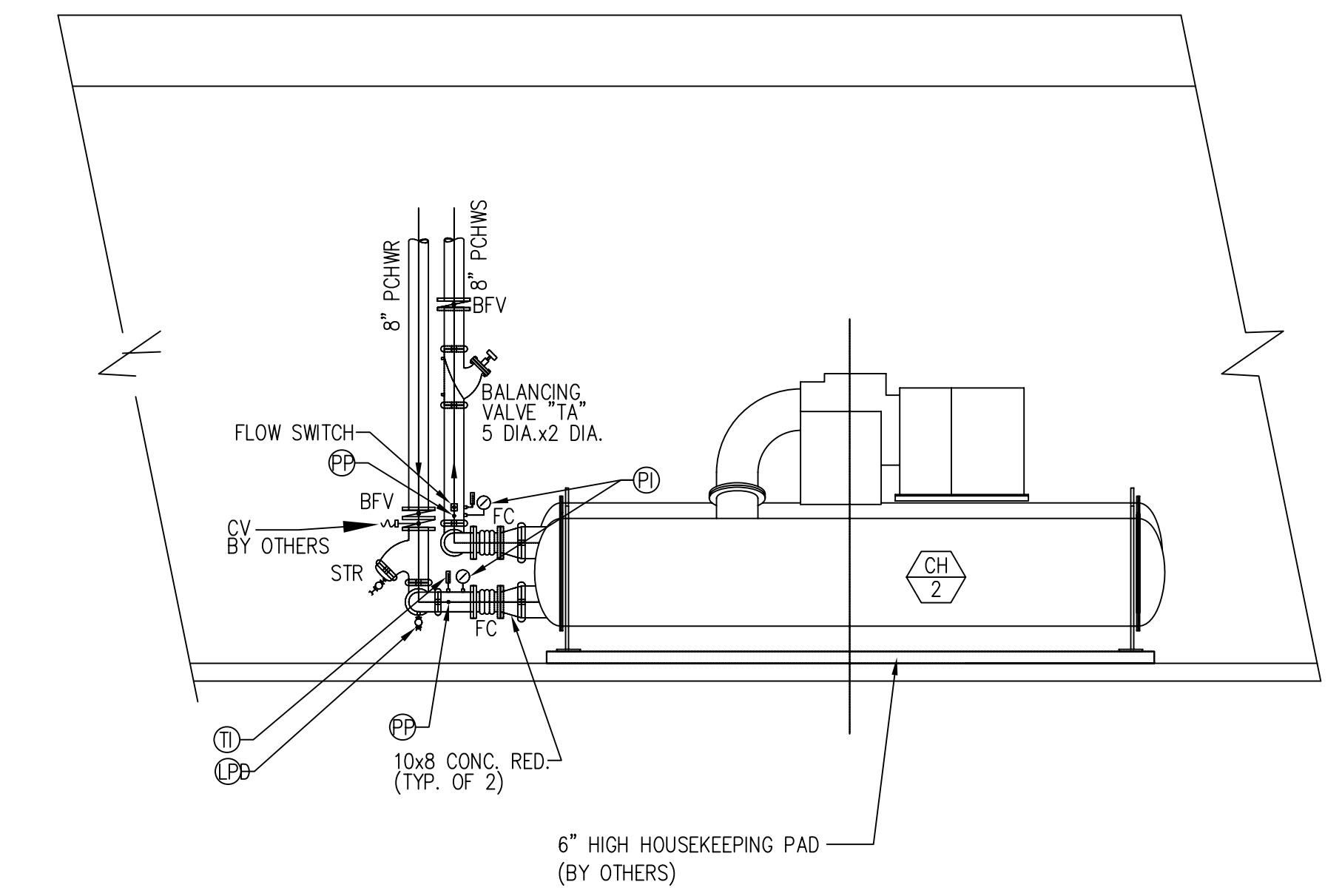
SCALE: NTS PRIMARY CHILLWATER PUMP CONNECTION DETAILS 7



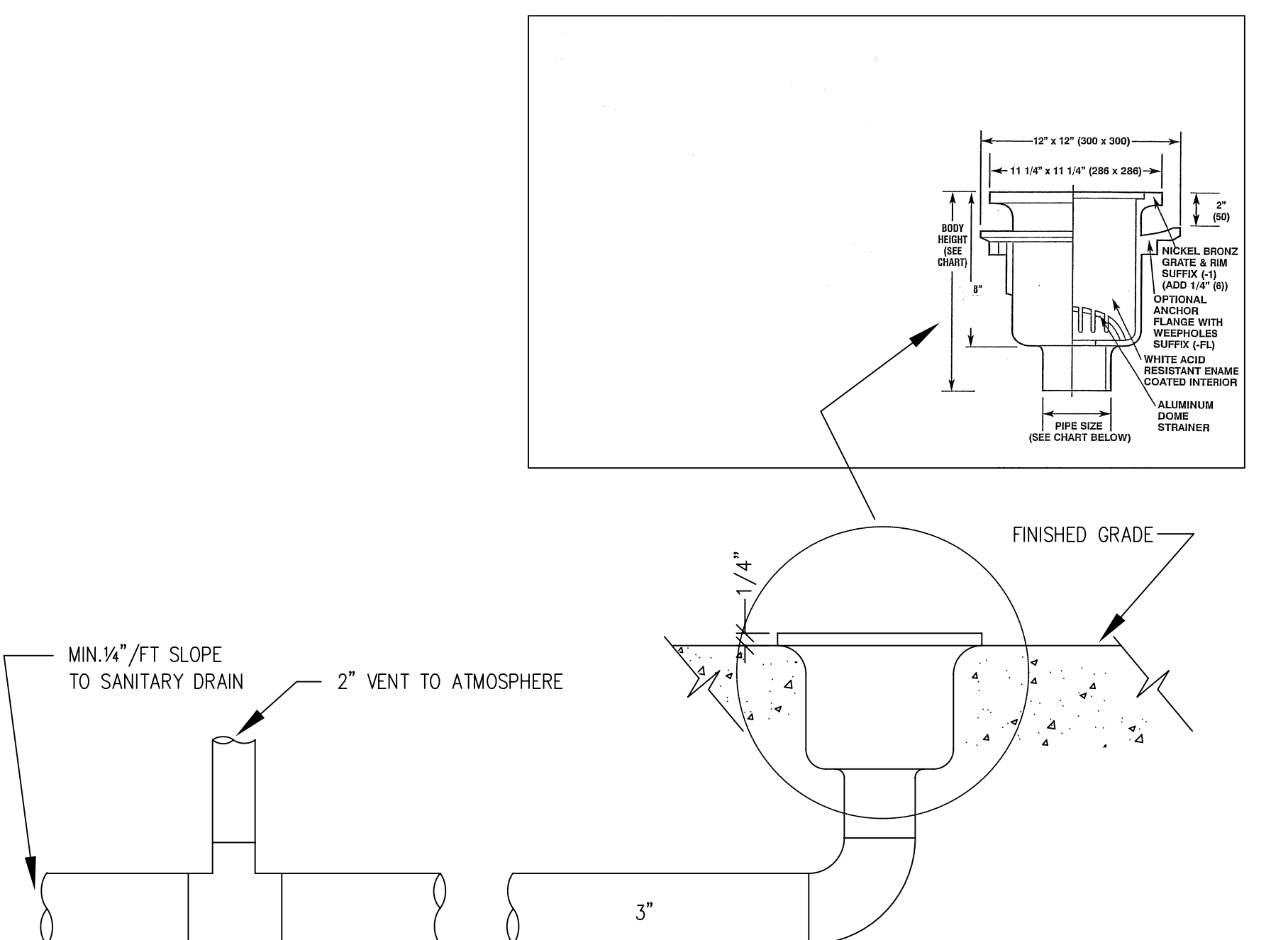
SCALE: NTS EMERGENCY EYE WASH/ SHOWER DETAIL 8



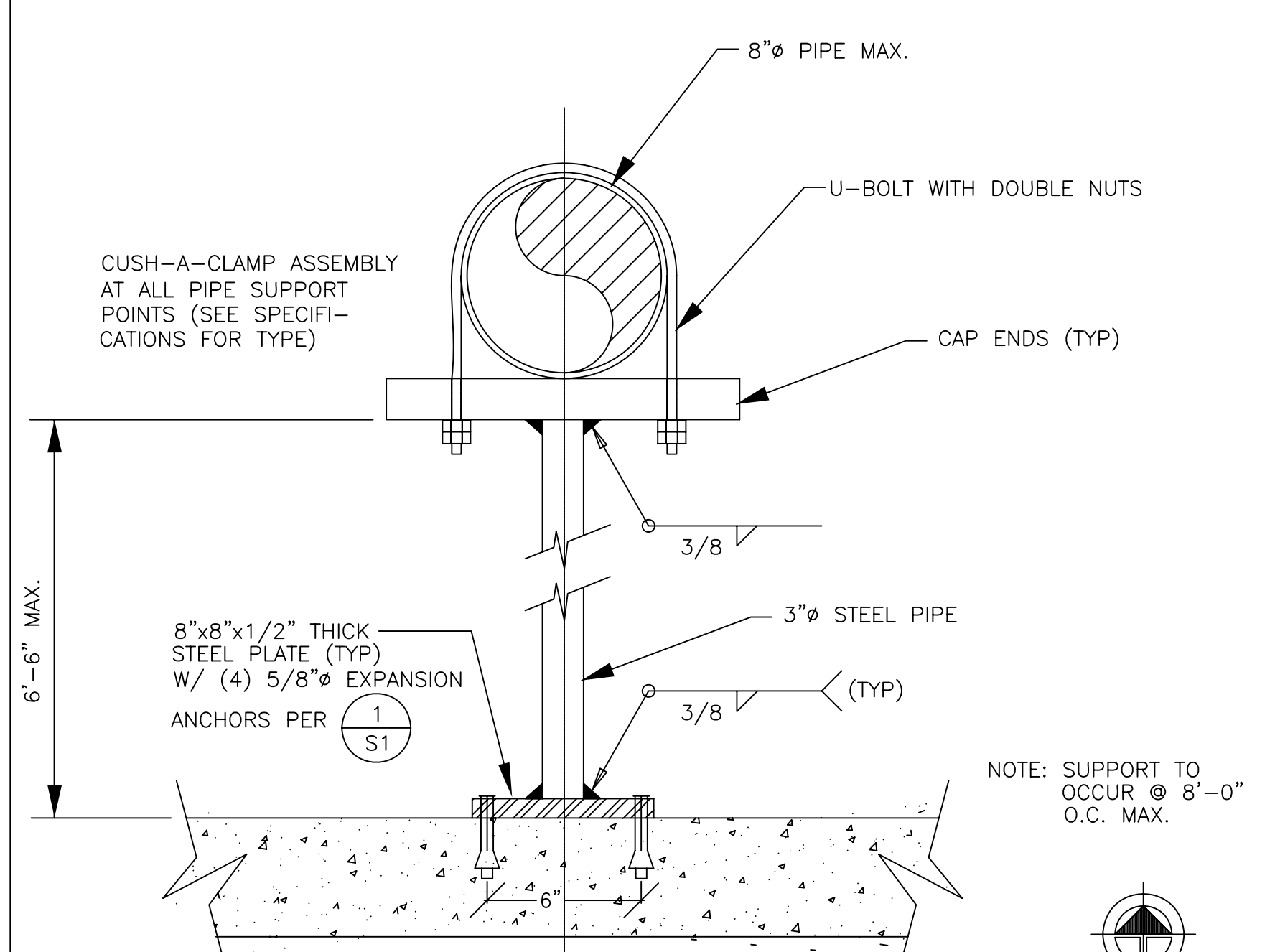
SCALE: NTS CONDENSER CONNECTION DETAIL 9



SCALE: NTS EVAPORATOR CONNECTION DETAILS 10



SCALE: NTS FLOOR SINK DETAIL 11



SCALE: NTS PIPE STAND DETAIL 12

Chevronflexaco
Chevron Energy Solutions Company
A Division of Chevron U.S.A. Inc.

CMI
CENTRAL PLANT RENOVATION
San Mateo County Community College District

MECHANICAL DETAILS AND SECTION

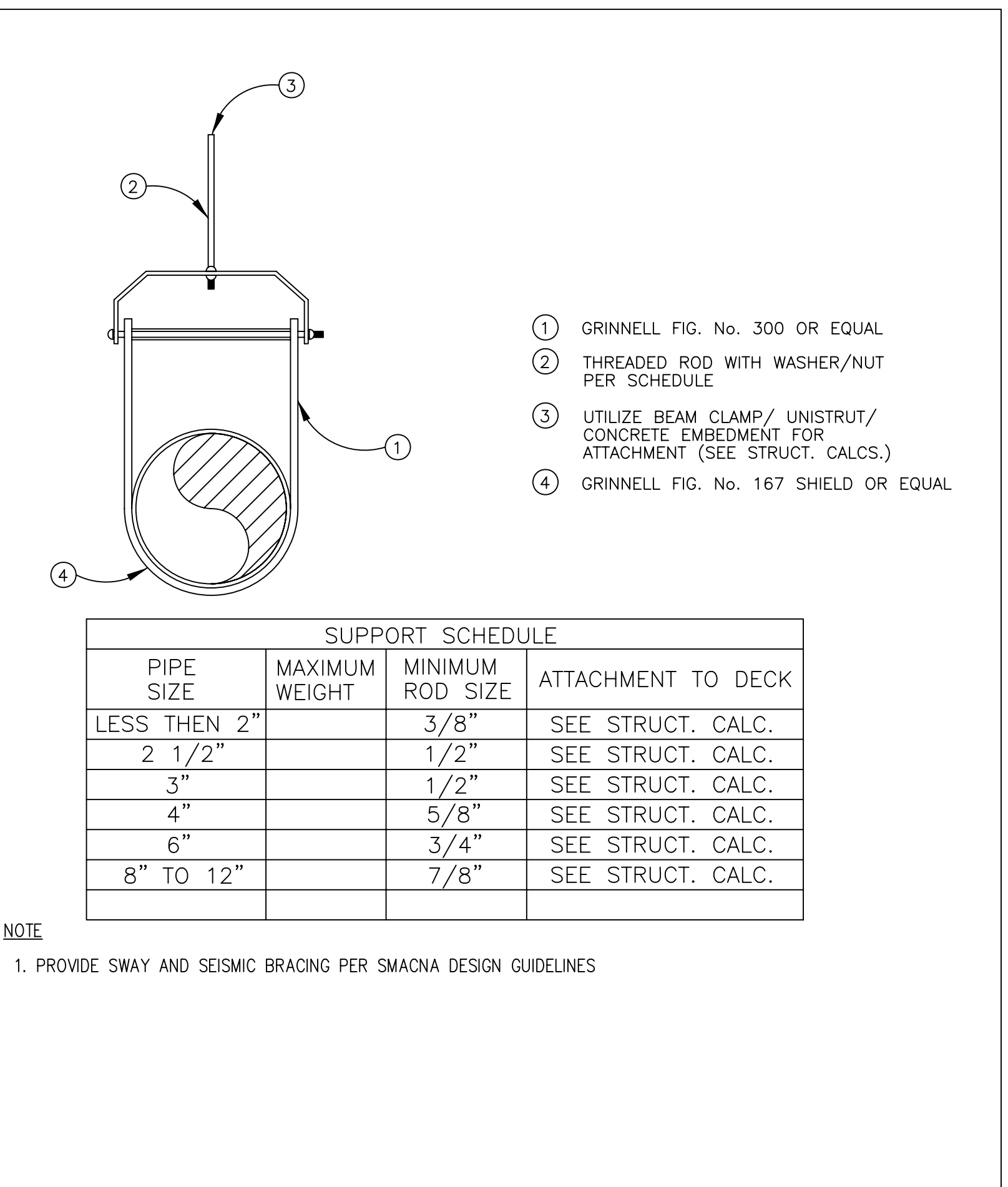
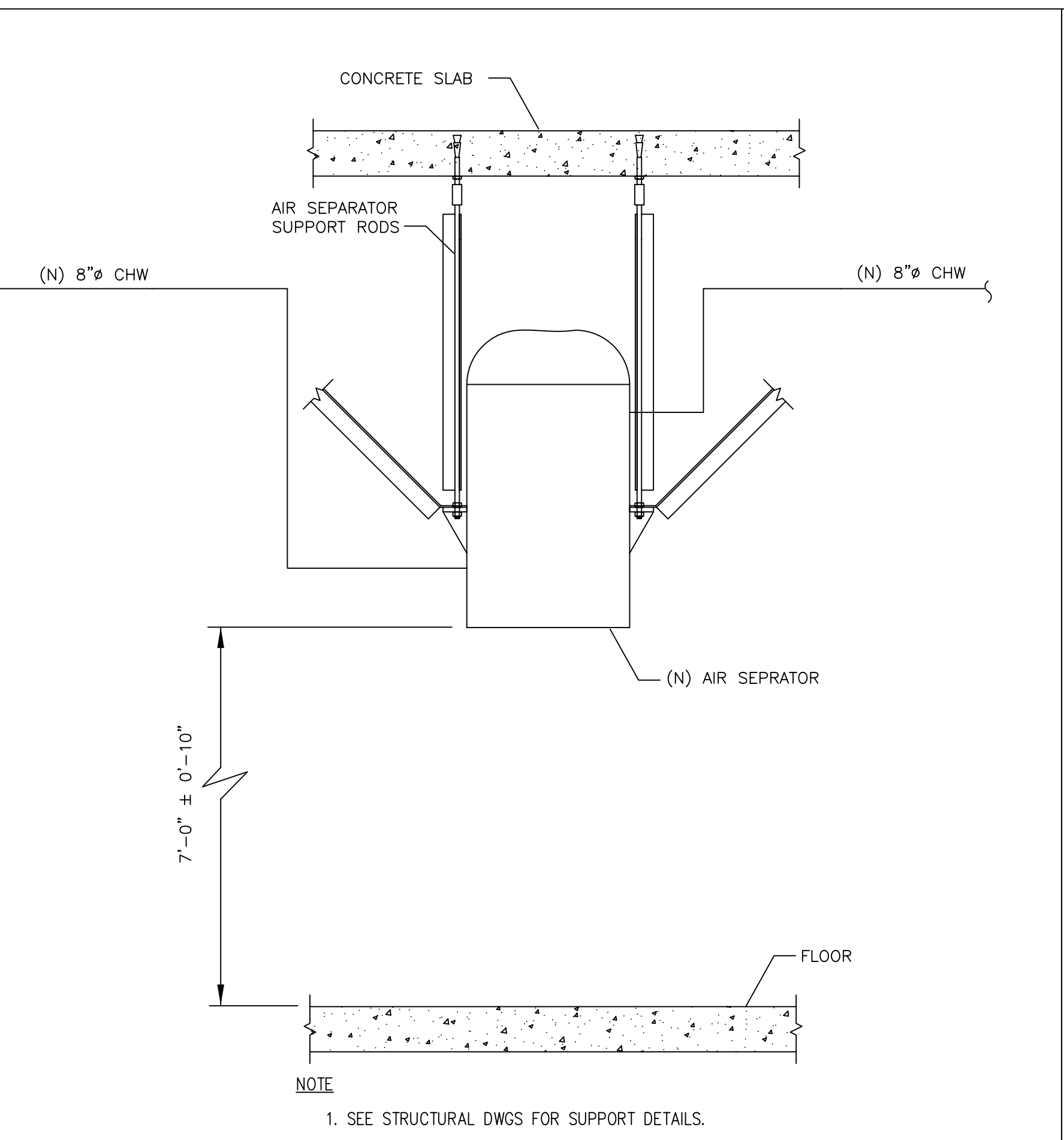
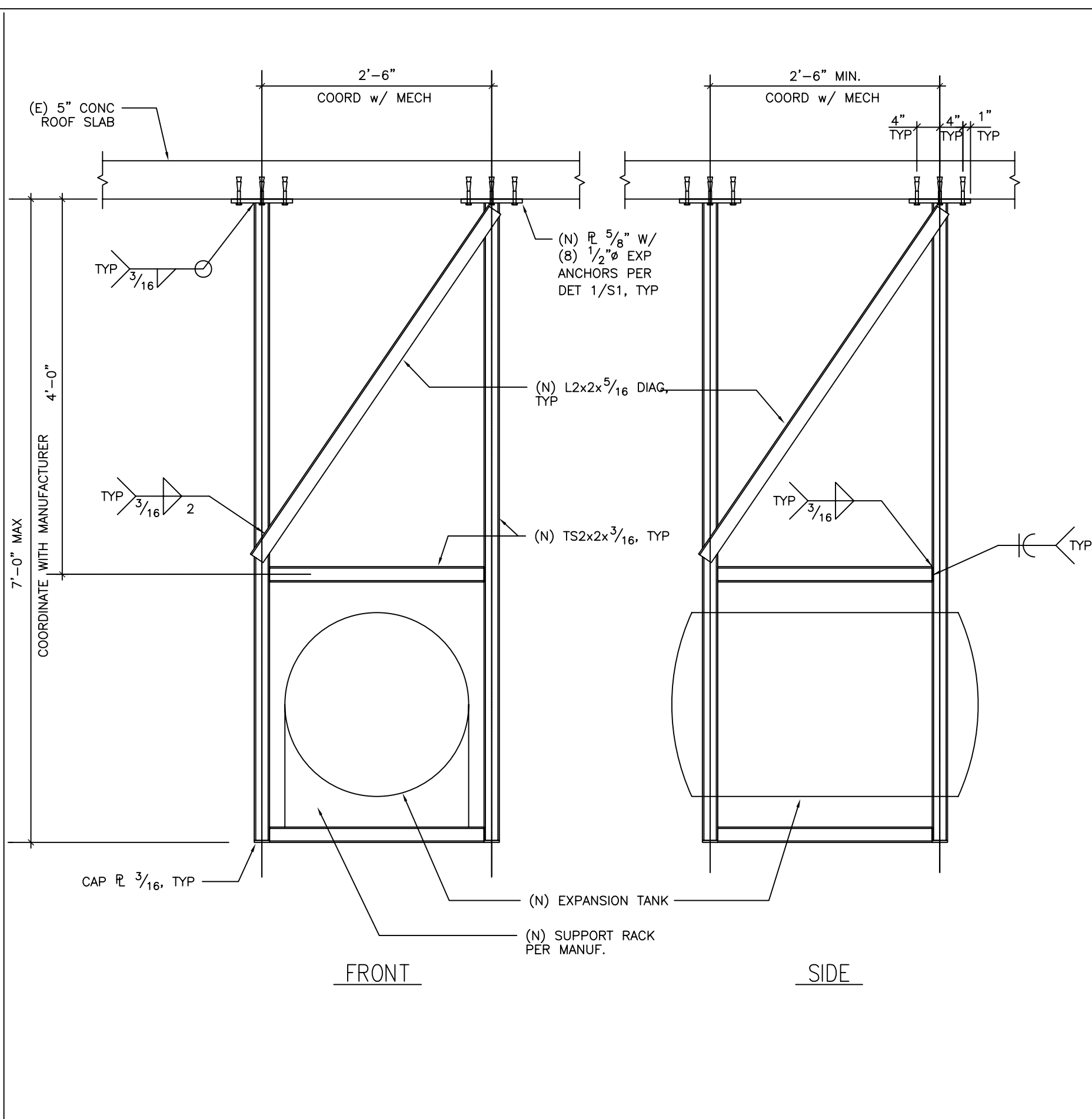
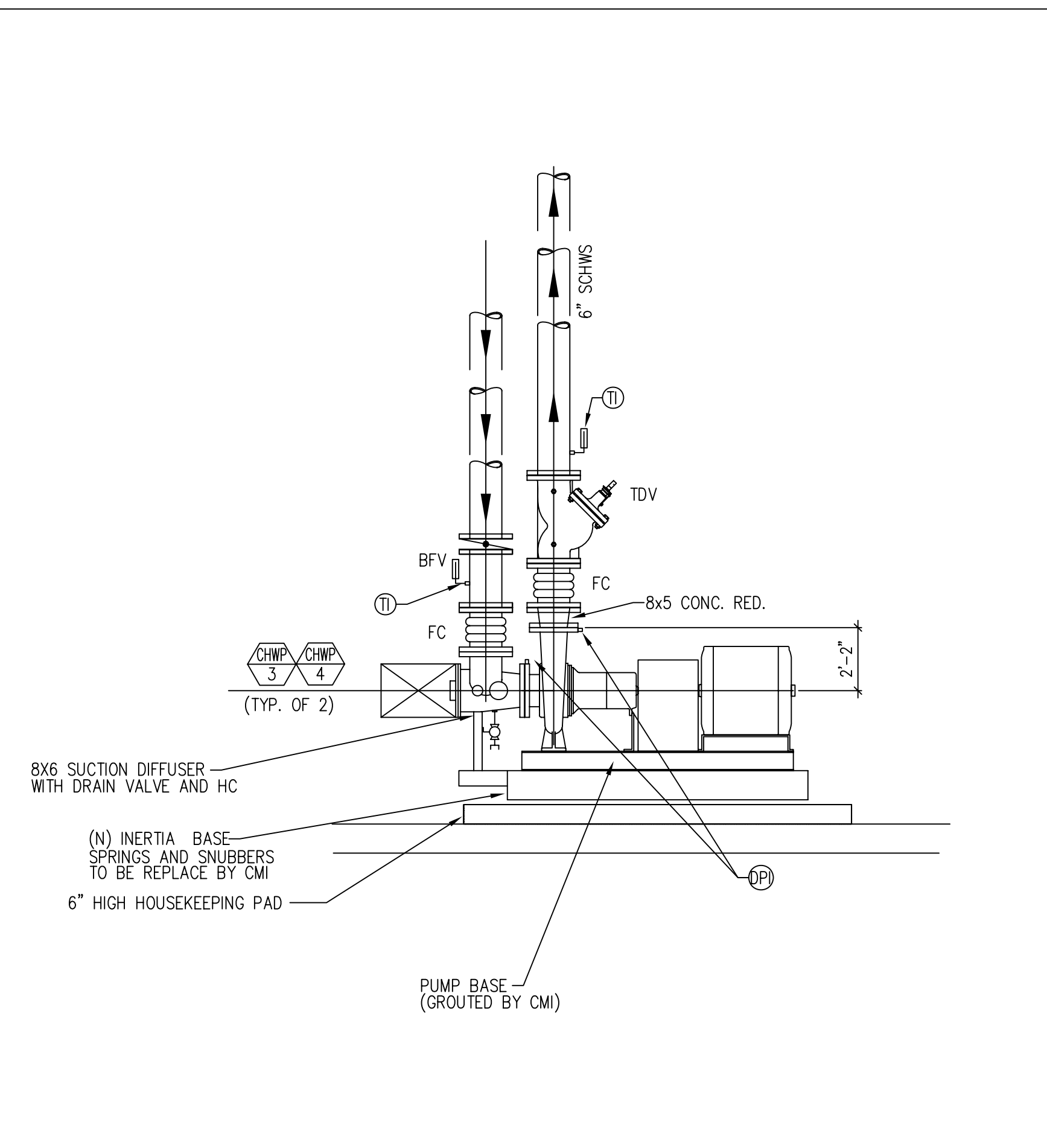
SCALE: NTS
PROJECT NO: 22524-00B
DESIGNED BY: [REDACTED]
CHECKED BY: [REDACTED]
DATE: 9/30/06
DRAWN BY: [REDACTED]
DATE: [REDACTED]
SCALE: NTS

REVISIONS:

REV	DATE	DESCRIPTION
1	1/27/05	ISSUE
2	2/18/05	ISSUE
3	3/4/05	ISSUE
4	5/27/05	REVISION TO ISA COMMENTS
5	6/22/05	REVISION TO ISA COMMENTS
6	9/1/06	AS BUILTS

REGISTERED PROFESSIONAL ENGINEER
No. M32204
EXP. 9/30/06
MECHANICAL
STATE OF CALIFORNIA

M-08

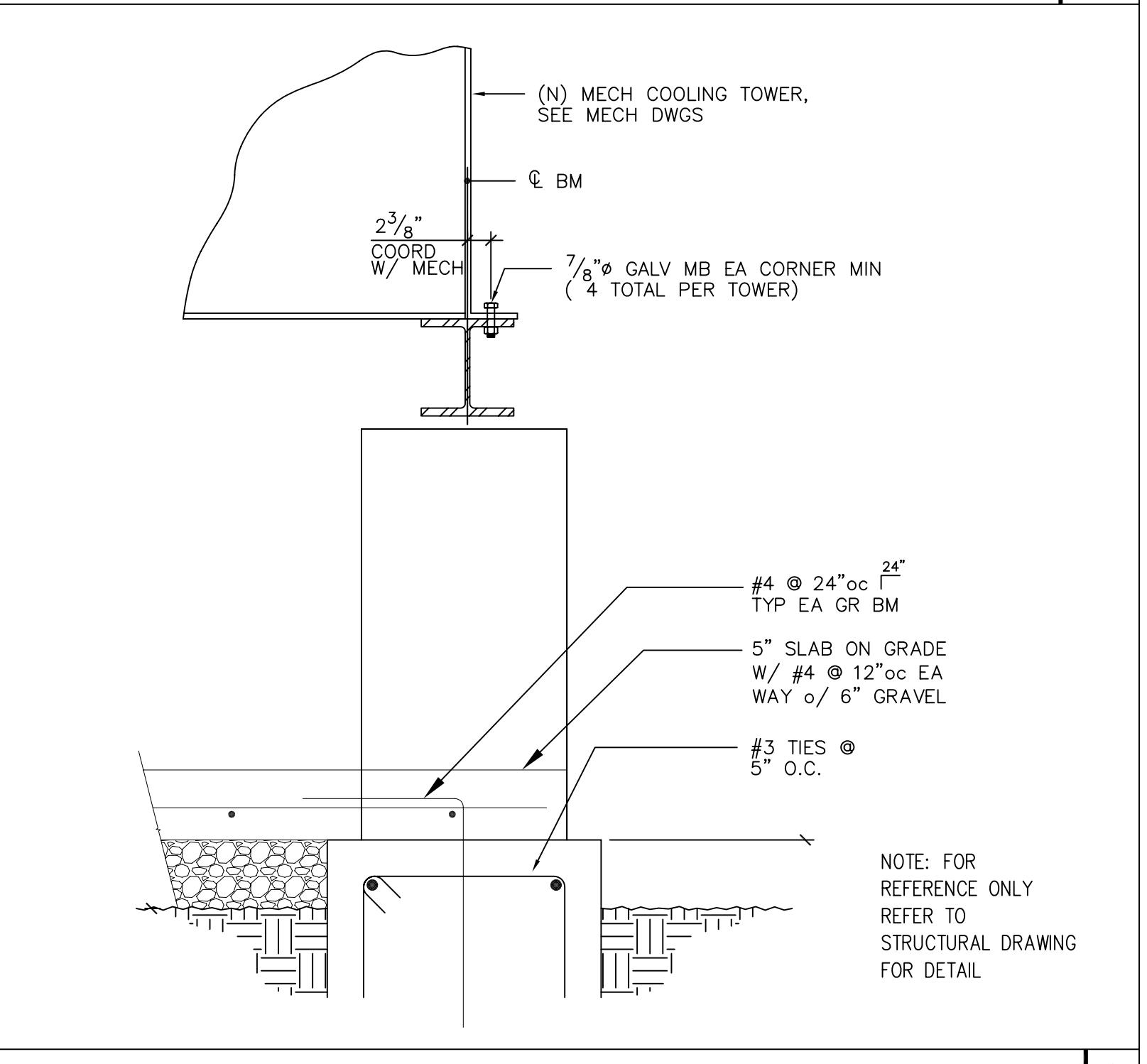
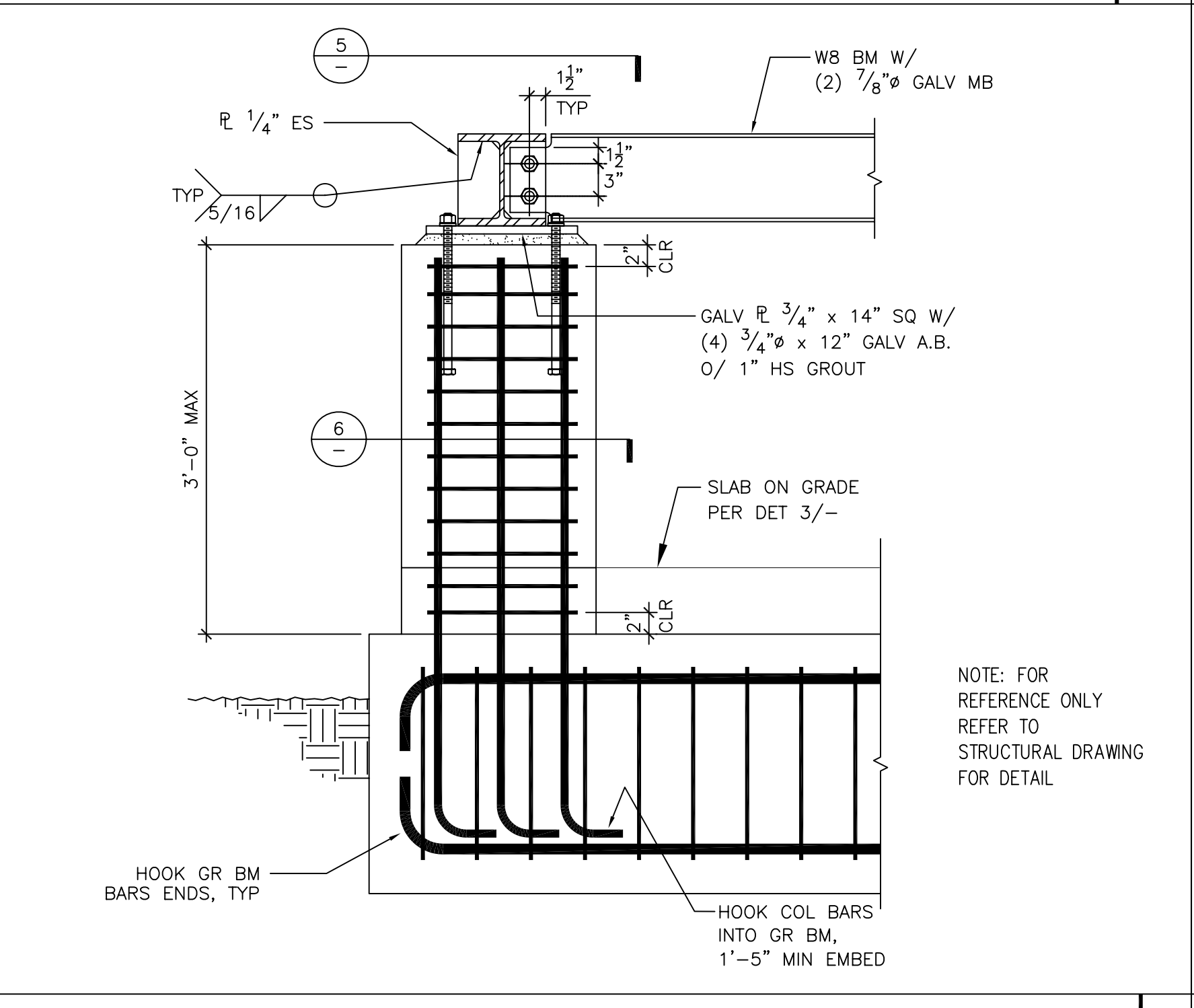
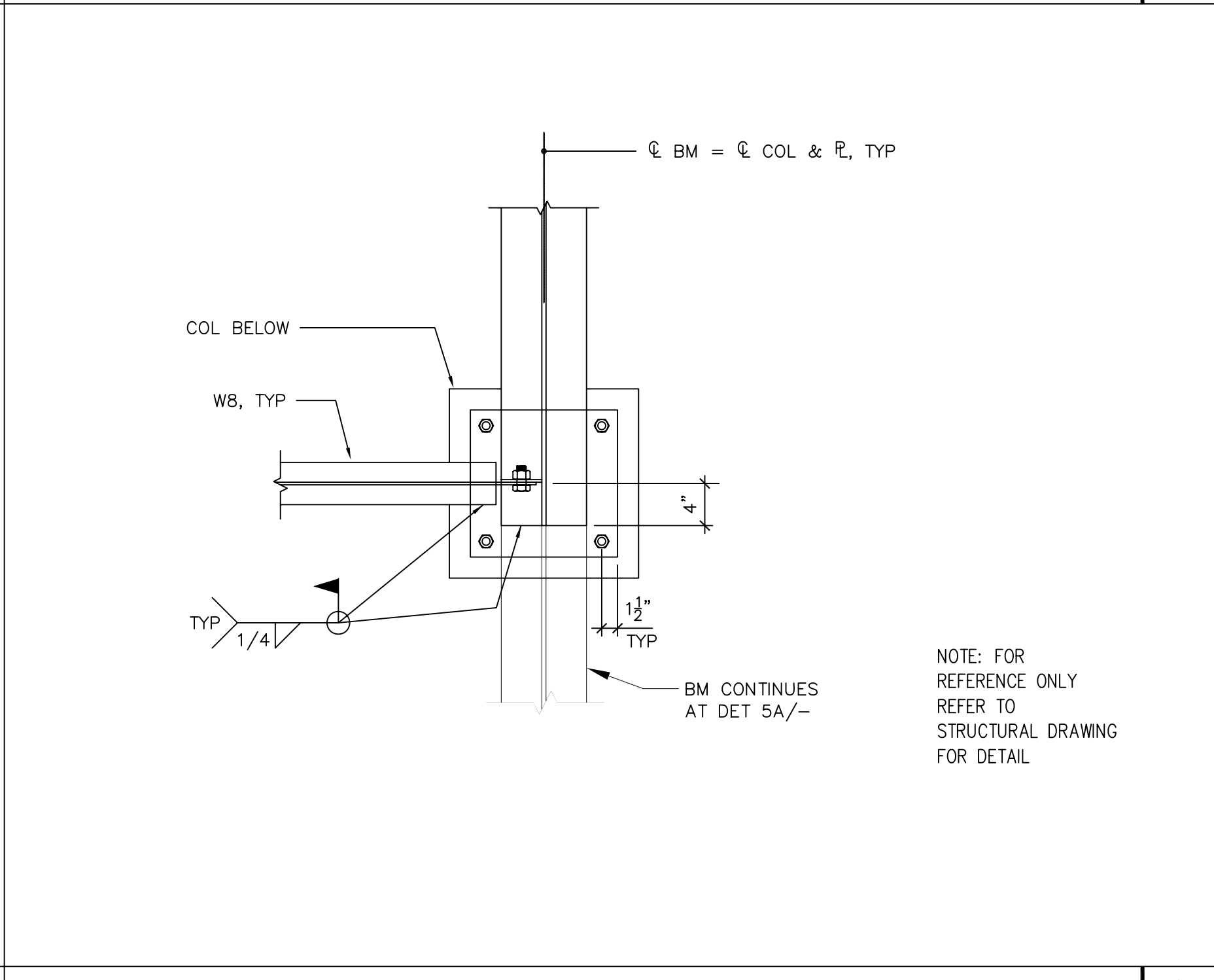
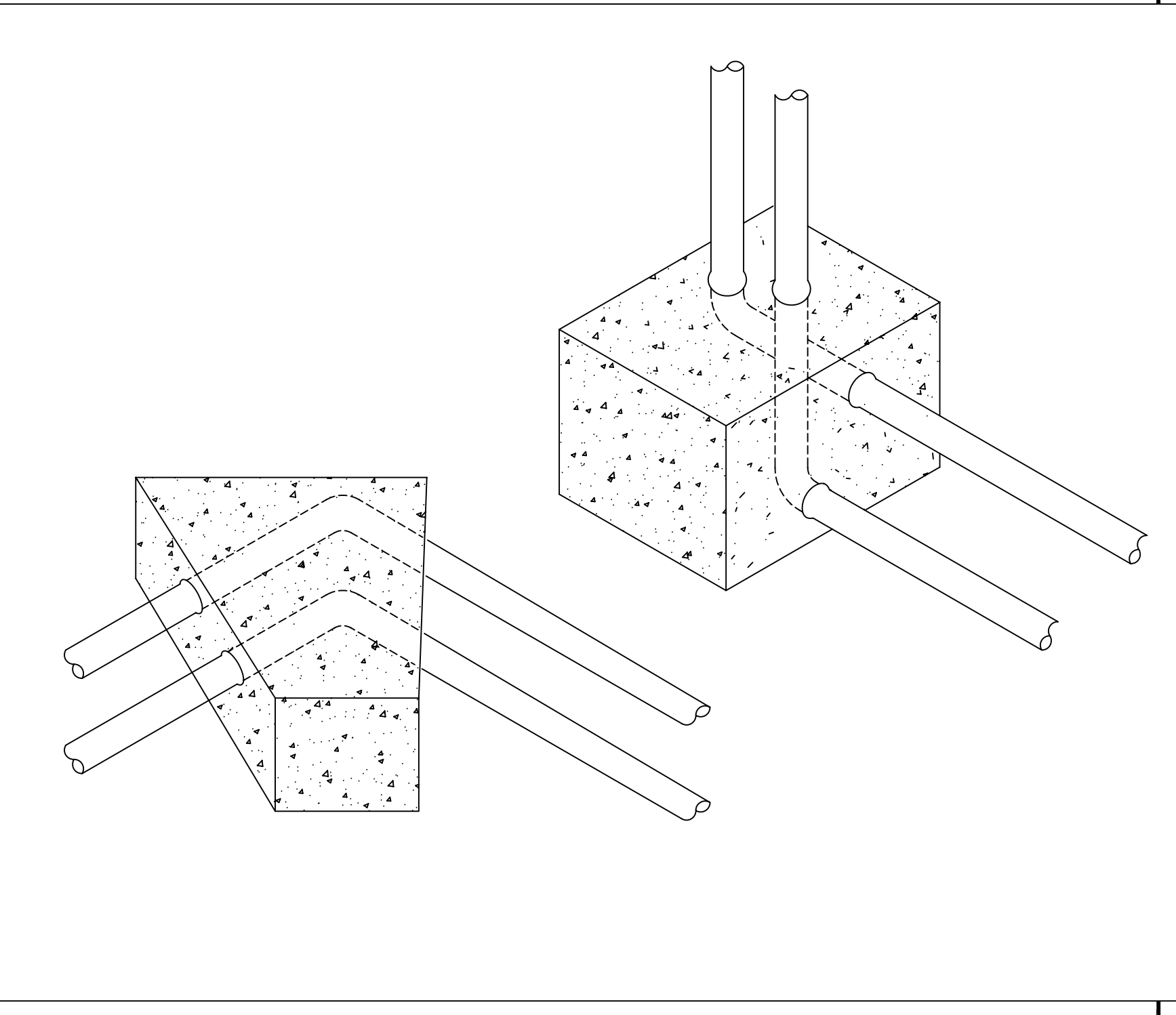


SCALE: NTS **SECONDARY CHILLWATER PUMP (CHWP-3,4)** 1

SCALE: NTS **EXPANSION TANK MOUNTING PER STRUCTURAL DETAIL** 2

SCALE: NTS **AIR SEPARATOR DETAIL** 3

HANGER DETAIL AND SUPPORT SCHEDULE 4

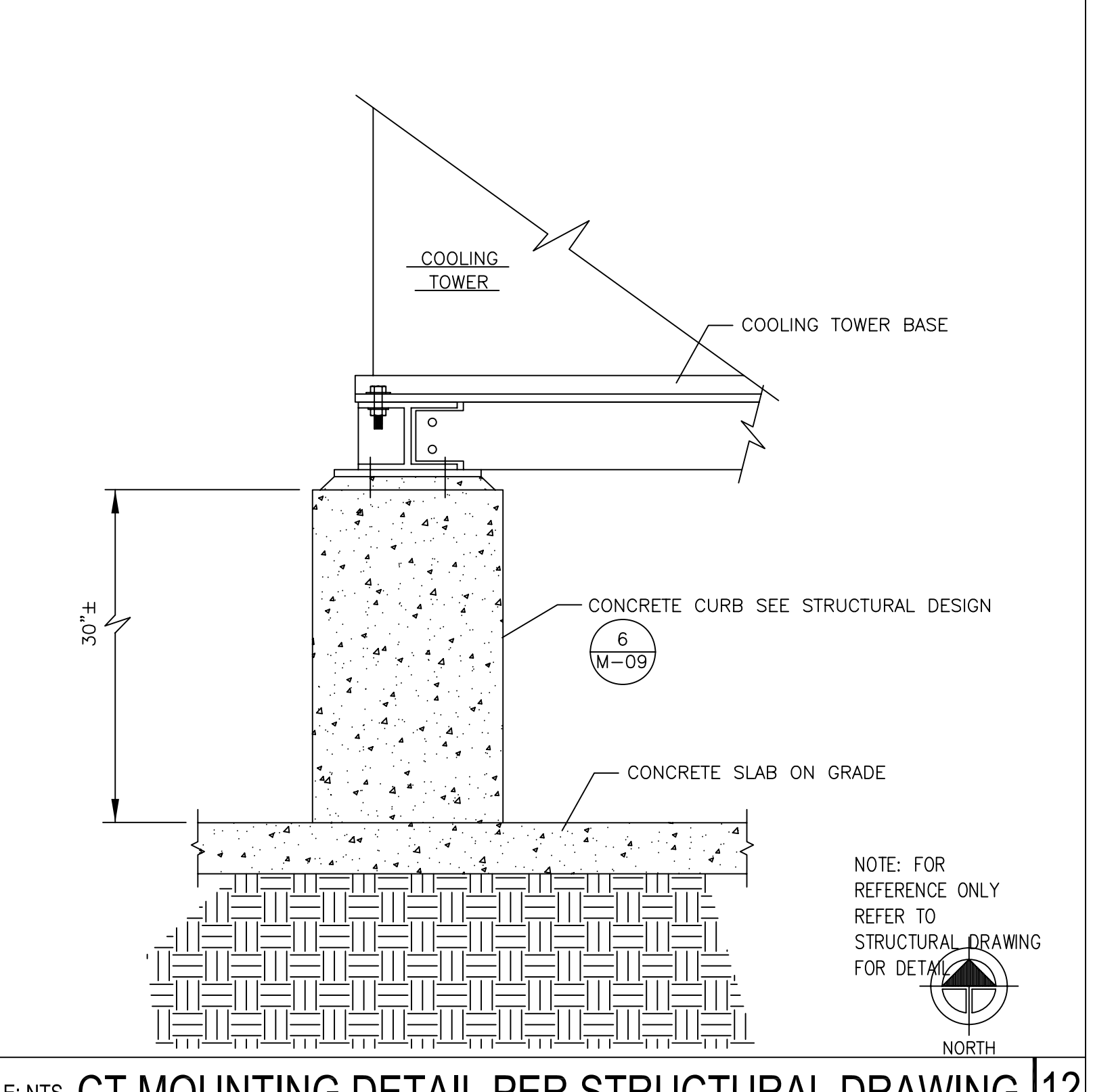
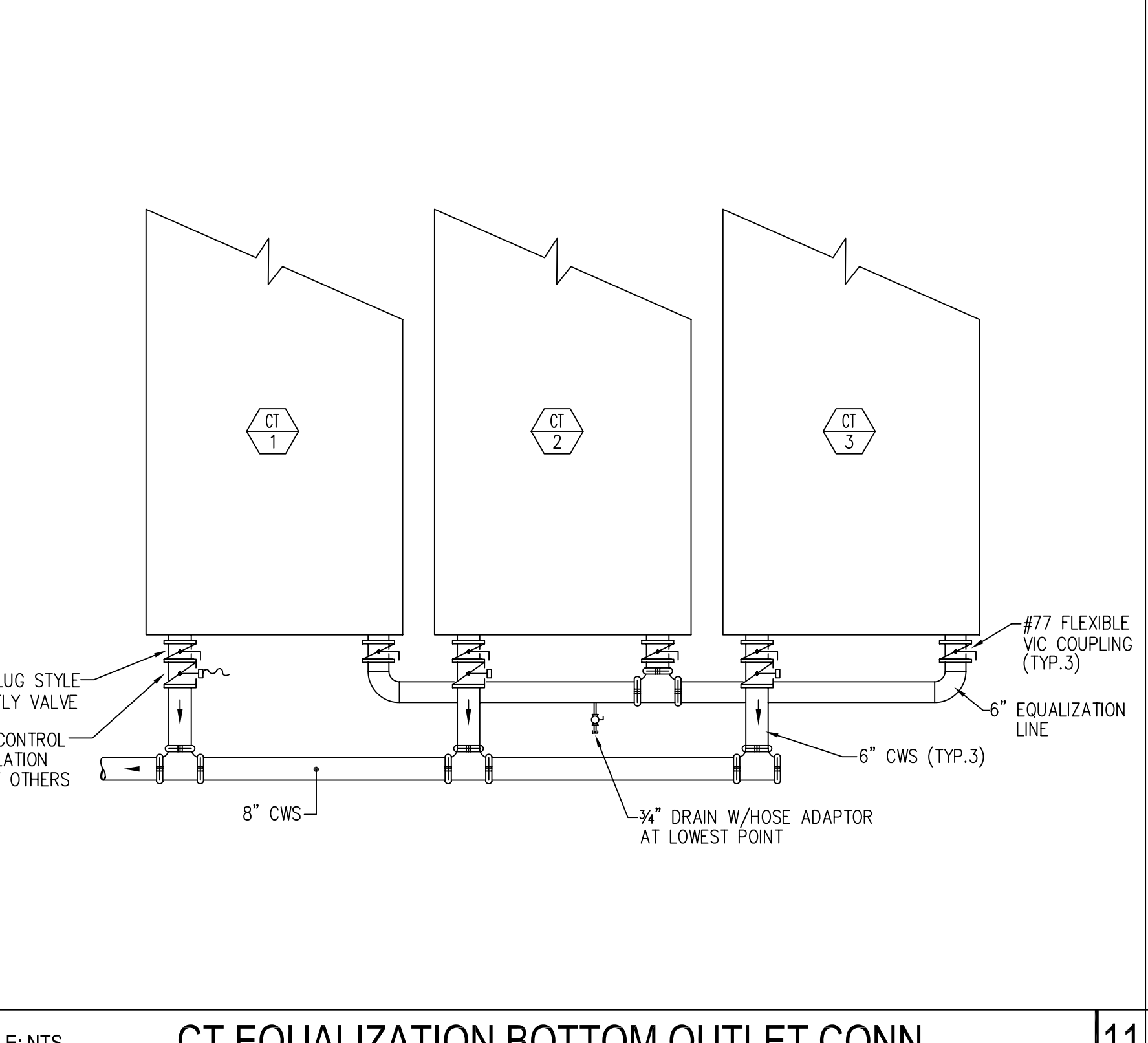
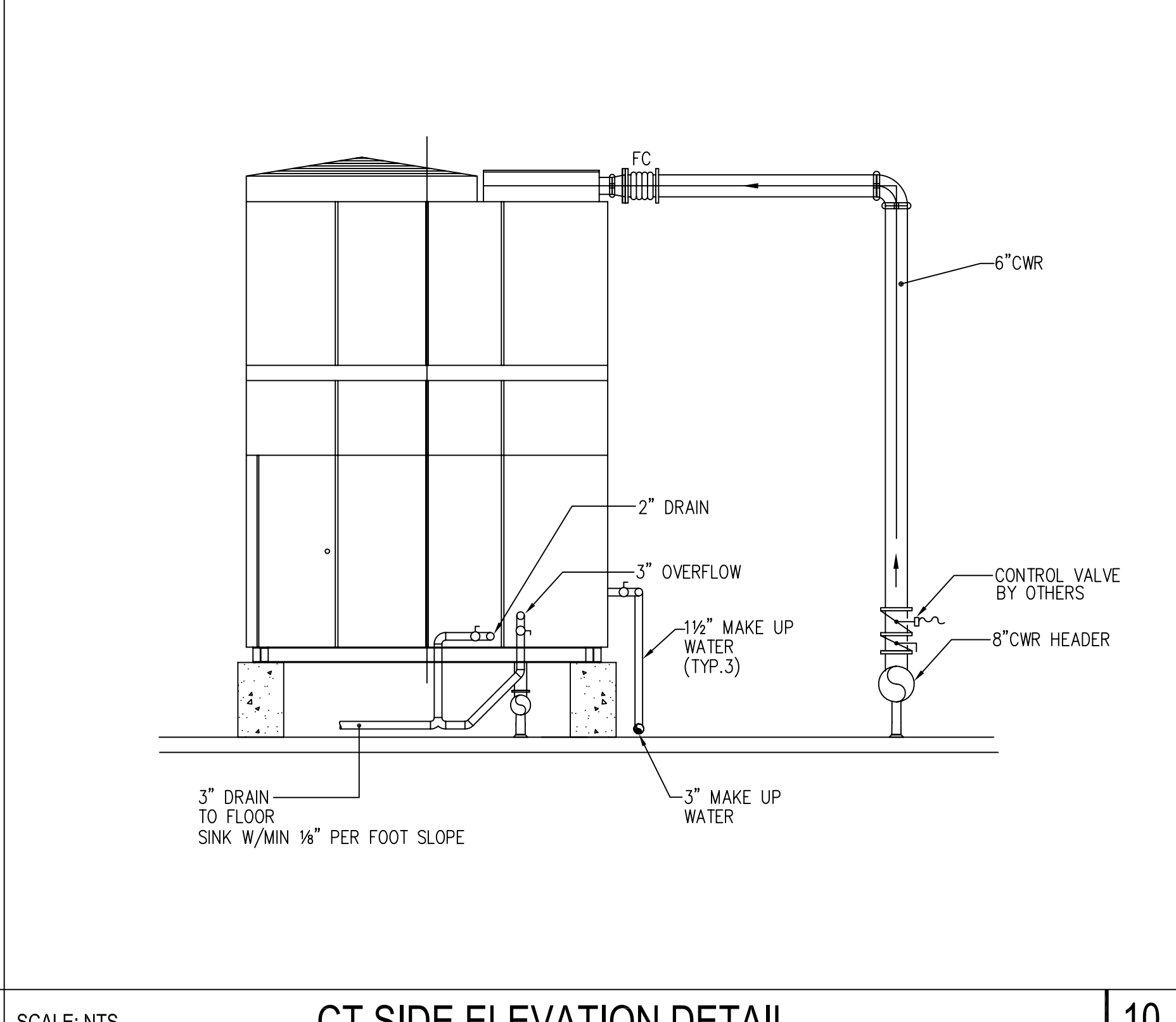
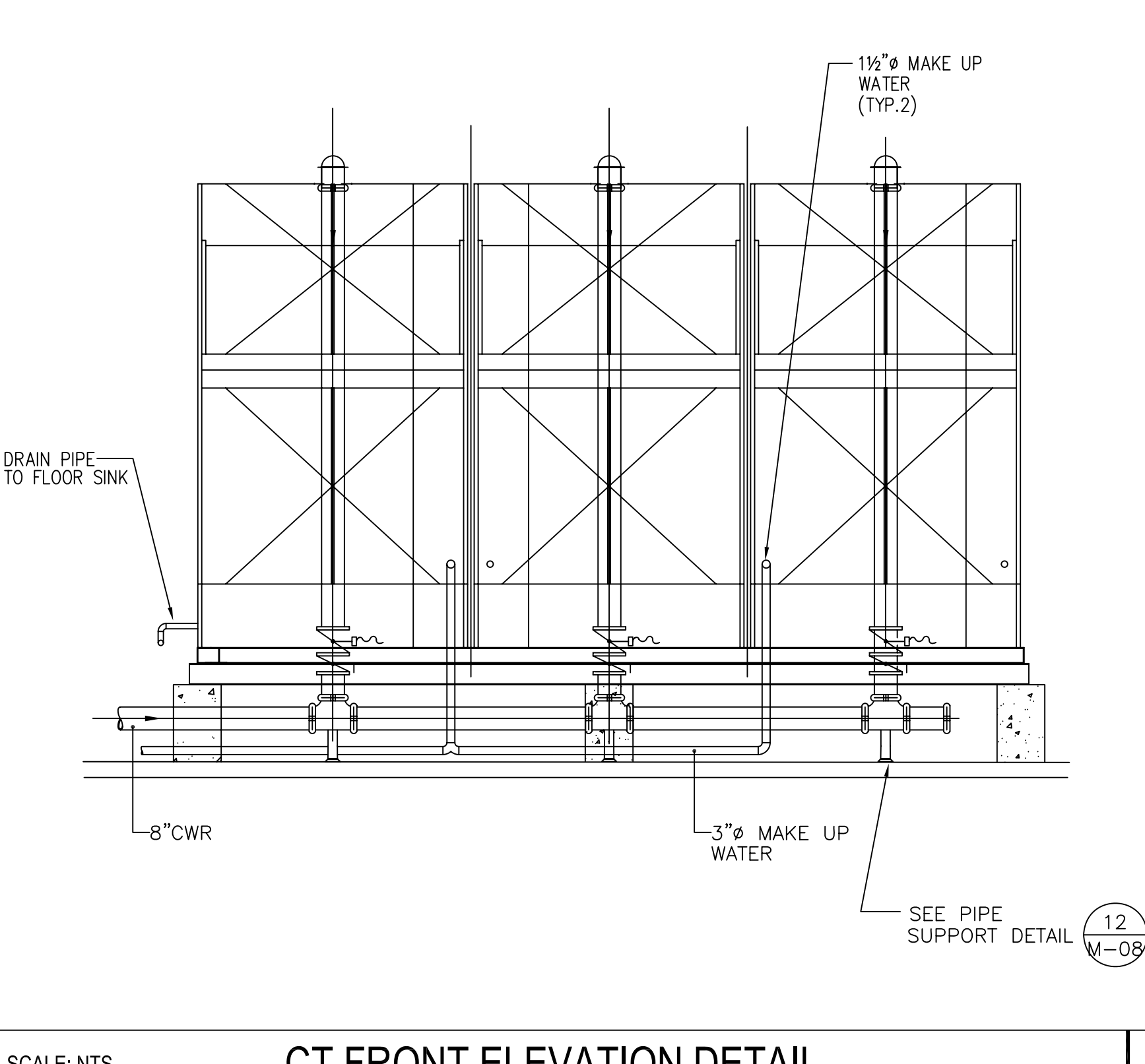


SCALE: NTS **CONCRETE THRUST BLOCKS AT EACH CHANGE IN DIRECTION** 5

SCALE: NTS **CT SUPPORT DETAIL PER STRUCTURAL DRAWING** 6

SCALE: NTS **CT SUPPORT DETAIL PER STRUCTURAL DRAWING** 7

SCALE: NTS **CT SUPPORT DETAIL PER STRUCTURAL DRAWING** 8



REV	DATE	BY	DESCRIPTION
1	1/27/05		ISSUE FOR PERMIT
2	2/19/05		ISSUE FOR PERMIT
3	3/14/05		ISSUE FOR PERMIT
4	5/17/05		REVISION TO ISA COMMENTS
5	6/22/05		REVISION TO ISA COMMENTS
6	5/1/06		AS BUILTS

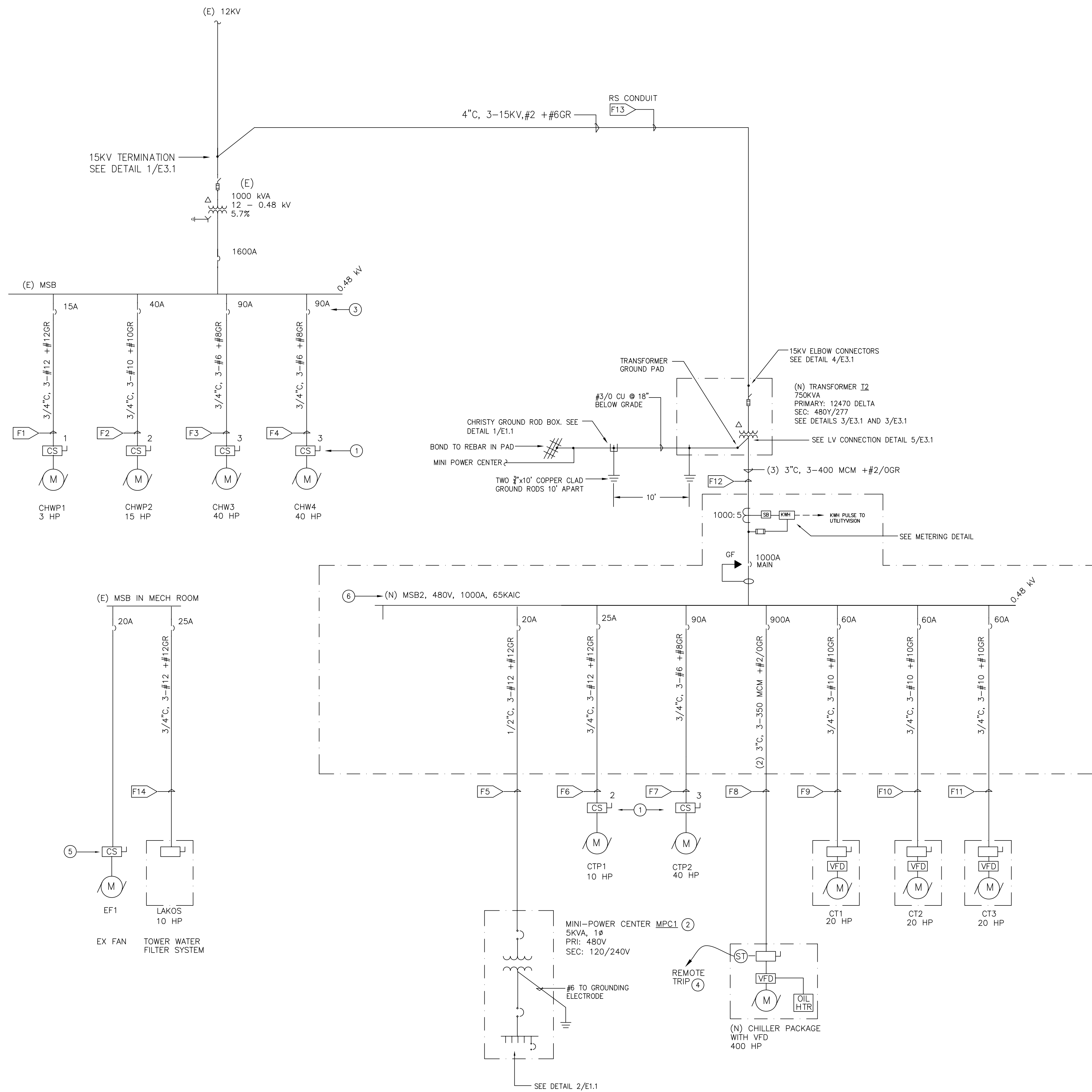
CMI
CENTRAL MOUNTAIN INDUSTRIAL, INC.
4400 CAMPBELL AVENUE
DENVER, CO 80231
TEL: (303) 388-1700
FAX: (303) 388-1709
CMI JOB # 22524-008
These drawings and specifications have been prepared by CMI for their exclusive use in accordance with Spec. 6537-4 of the Mechanical Engineering Part of the State of Colorado.

Canada College Modernization
CENTRAL PLANT RENOVATION
San Mateo County Community College District

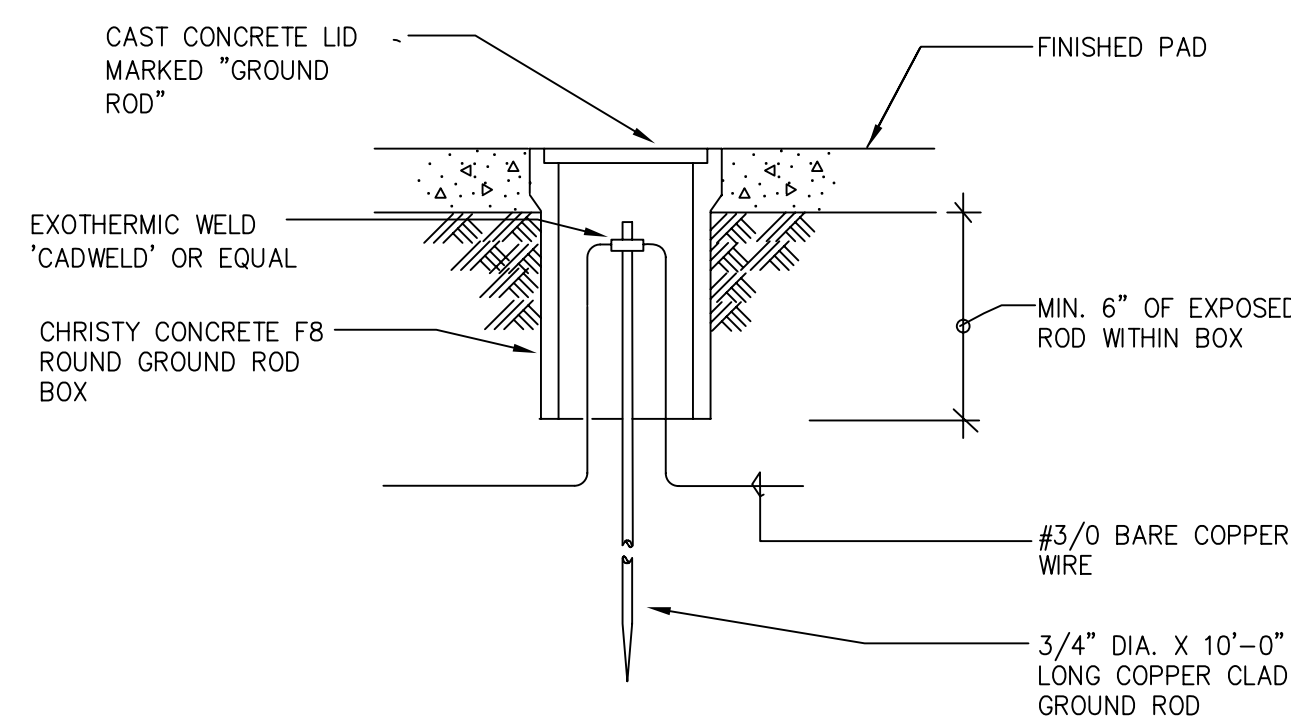
REGISTERED PROFESSIONAL ENGINEER
No. M32204
EXP. 9/30/06
MECHANICAL
STATE OF CALIFORNIA

MECHANICAL DETAILS

SCALE	VALUES
PROJECT NO.	22524-008
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
APP'D (ENGR)	
APP'D (ARCH)	
FILE NAME	



1 SINGLE LINE DIAGRAM
N.T.S.



1 GROUND ROD DETAIL
N.T.S.

MINI POWER CENTER MPC1		5 KVA, 120/240 V	
DESCRIPTION	KVA LOAD	CB	CCT
RECEPTACLE, TOWER	.2	20A	1
TOWER WATER TREAT	.5		2
CONTROLS AT TOWER	1		3
TOWER SEWER EJECTOR	1.2		4
LAKOS FILTER SYSTEM			5
			6
TOTAL	2.2	2.7	

2 MPC1 PANEL SCHEDULE
N.T.S.

GENERAL NOTES

- PERFORM ALL WORK ACCORDING TO THE CALIFORNIA ELECTRICAL CODE, 2001
- USE STRANDED COPPER WIRE, THWN
- CONDUIT REQUIREMENTS:
INDOORS: WHERE PROTECTED, EMT. RS WHERE NOT PROTECTED.
OUTDOORS: RS, WRAPPED WITH 10 MIL PIPE TAPE, HALF-LAPPED, AT RISERS FROM 3" ABOVE GRADE TO 24" BELOW GRADE.
UNDERGROUND: SCHEDULE 40 PVC AT 24" COVER, EXCEPT AT EXPOSED RISERS. USE SCHEDULE 40 PVC RISERS WITH ENDBELLS INSIDE TRANSFORMERS AND SWITCHBOARDS.
- LOCATIONS OF EQUIPMENT IS DIAGRAMMATIC. LOCATE (N) THE EQUIPMENT TO AVOID CONFLICTS AND MAINTAIN WORKING CLEARANCE AT LEAST 36" IN FRONT AND 30" AROUND.
- GENERAL PURPOSE BRANCH CIRCUITS ARE 1/2" C, 2-#12 + #12 GR UNLESS OTHERWISE NOTED
- MAINTAIN FIRE RATING AND WATERPROOFING ALL PENETRATIONS. SEAL UNUSED OPENINGS IN ELECTRICAL ENCLOSURES.
- MODIFY (E) REFRIGERANT LEAK PANEL TO ACCOMMODATE (N) CHILLER. SEE MECHANICAL DRAWINGS.

SHEET NOTES

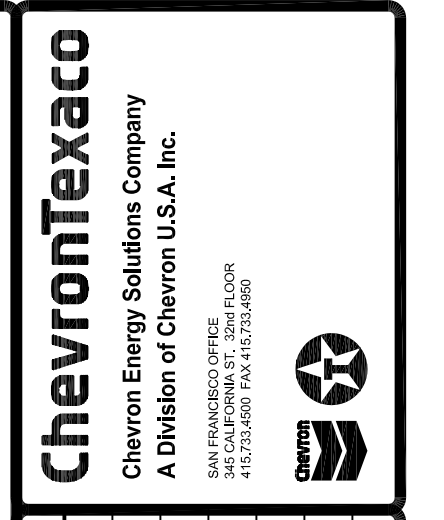
- (TYPICAL) COMBINATION STARTER/DISCONNECT 480V, NEMA SIZE AS SHOWN, NEMA 3R ENCLOSURE MOTOR CIRCUIT PROTECTOR (MCP), CONTROL POWER TRANSFORMER 480:120, FUSED PRIMARY AND SECONDARY, OFF-AUTO SELECTOR SWITCH AND RED LED "RUN" PILOT LIGHT. SEE DETAIL 6/E3.1
- MINI POWER CENTER: COMBINATION TRANSFORMER AND PANELBOARD WITH INTEGRAL MAIN CIRCUIT BREAKER; SQUARE D, CUTLER HAMMER, OR EQUAL. PROVIDE CIRCUIT BREAKERS AS SHOWN IN DETAIL 2.
- PROVIDE (N) 480V CIRCUIT BREAKER OF RATING SHOWN AT (E) MCC/MSB, 65KAIC.
- CONNECT (N) CHILLER SHUTDOWN TO (E) AND MODIFY CONTROLS AS SHOWN ON THE MECHANICAL DRAWINGS.
- CONNECT EXHAUST FAN SPEED CONTROL TO LEAK DETECTION PANEL. SEE SHEET NOTE 1 ON E2.1
- OUTDOOR WEATHERPROOF SWITCHBOARD (NEMA 3R ENCLOSURE). PROVIDE INSULATED CASE MAIN CIRCUIT BREAKER WITH GF PROTECTION AND MOLDED CASE BRANCH CIRCUIT BREAKERS. MANUFACTURER'S STANDARD CONSTRUCTION WITH AIC RATING AS SHOWN.

DEMOLITION

DEMOLITION IS INCLUDED. SEE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS. RELOCATE (E) BRANCH CIRCUITS FOR EQUIPMENT THAT IS RELOCATED. REMOVE CONDUIT AND EXPOSED CONDUITS TO EQUIPMENT THAT IS REMOVED. SEAL UNUSED OPENINGS. PROVIDE CLEAN, TYPEWRITTEN UPDATED PANEL SCHEDULES FOR AFFECTED PANELBOARDS. LABEL UNUSED SECTIONS OF (E) MOTOR CONTROL CENTER AS 'SPARE.'

LEGEND

- ENCLOSED CIRCUIT BREAKER, NEMA 1
- HP RATED NON-FUSED DISCONNECT NEMA 1 OR 3R AS NOTED
- HP RATED FUSED DISCONNECT WITH TIME DELAY FUSES NEMA 1 OR 3R AS NOTED
- COMBINATION STARTER WITH MOTOR CIRCUIT PROTECTOR, STARTER, AND CONTROL DEVICES, NEMA SIZE AS SHOWN. SEE DETAIL 1/E3.1
- VARIABLE FREQUENCY DRIVE
- NON-FUSED HP RATED DISCONNECT, LOCKABLE IN THE OFF POSITION
- VARIABLE FREQUENCY DRIVE FURNISHED WITH MOTOR
- CONTROL POWER DISCONNECT, 120V, 20A TOGGLE SWITCH IN WEATHER PROOF BELL BOX WITH 5155-0 FLAP COVER
- MOTOR
- (N) NEW EQUIPMENT
- (E) EXISTING EQUIPMENT
- CIRCUIT BREAKER (GF INDICATES INTEGRAL GROUND FAULT PROTECTION)
- FEEDER TAG PLAN AND SINGLE LINE DIAGRAM
- CONDUIT UNDERGROUND
- CONDUIT ABOVE GROUND



REV	DATE	BY	DESCRIPTION
1	7/25/05	JS	ADDED EQUIPMENT
2	06/02/05	JS	DEA BACKCHECK
3	03/04/05	JS	FOR PERMIT
4		JS	PRELIMINARY FOR REVIEW

JEFF SULTAN, P.E.
ELECTRICAL ENGINEER
2081 Camino de los Robles
Menlo Park, CA 94025
(650) 894-7545
js@jeffsultan.com

Cañada College Modernization
CENTRAL PLANT RENOVATION
San Mateo County Community College District

ELECTRICAL
SINGLE LINE DIAGRAM
AND NOTES

SCALE	AS NOTED
PROJECT NO.	
DESIGNED BY	JS
DRAWN BY	
CHECKED BY	
DATE	

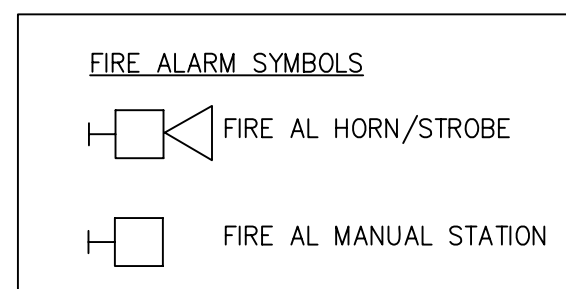
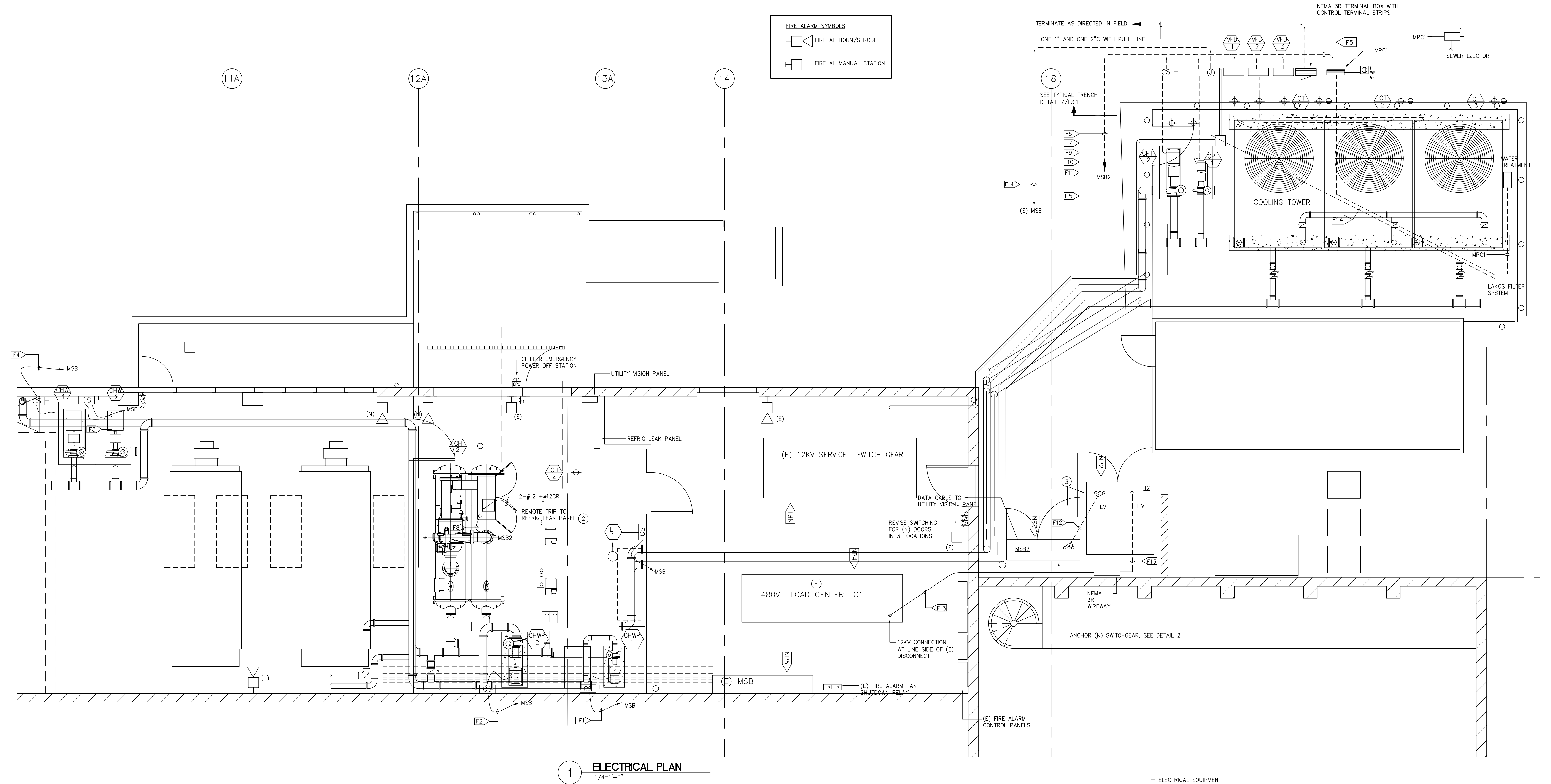
REV	DATE	BY	DESCRIPTION
1	06/03/06	JS	ADDED EQUIPMENT
0	03/04/05	JS	DCS BACKCHECK FOR PERMIT
4		JS	PRELIMINARY FOR REVIEW

JEFF SULTAN, P.E.
 ELECTRICAL ENGINEER
 2081 Camino de los Robles
 Menlo Park, CA 94025
 Phone: (650) 233-1854
 Fax: (650) 233-1854
 jsf@mseng.com

Cañada College Modernization
 CENTRAL PLANT RENOVATION
 San Mateo County Community College District

ELECTRICAL PLAN

DATE	AS NOTED
PROJECT NO.	
DESIGNED BY	JS
DRAWN BY	
CHECKED BY	
DATE	



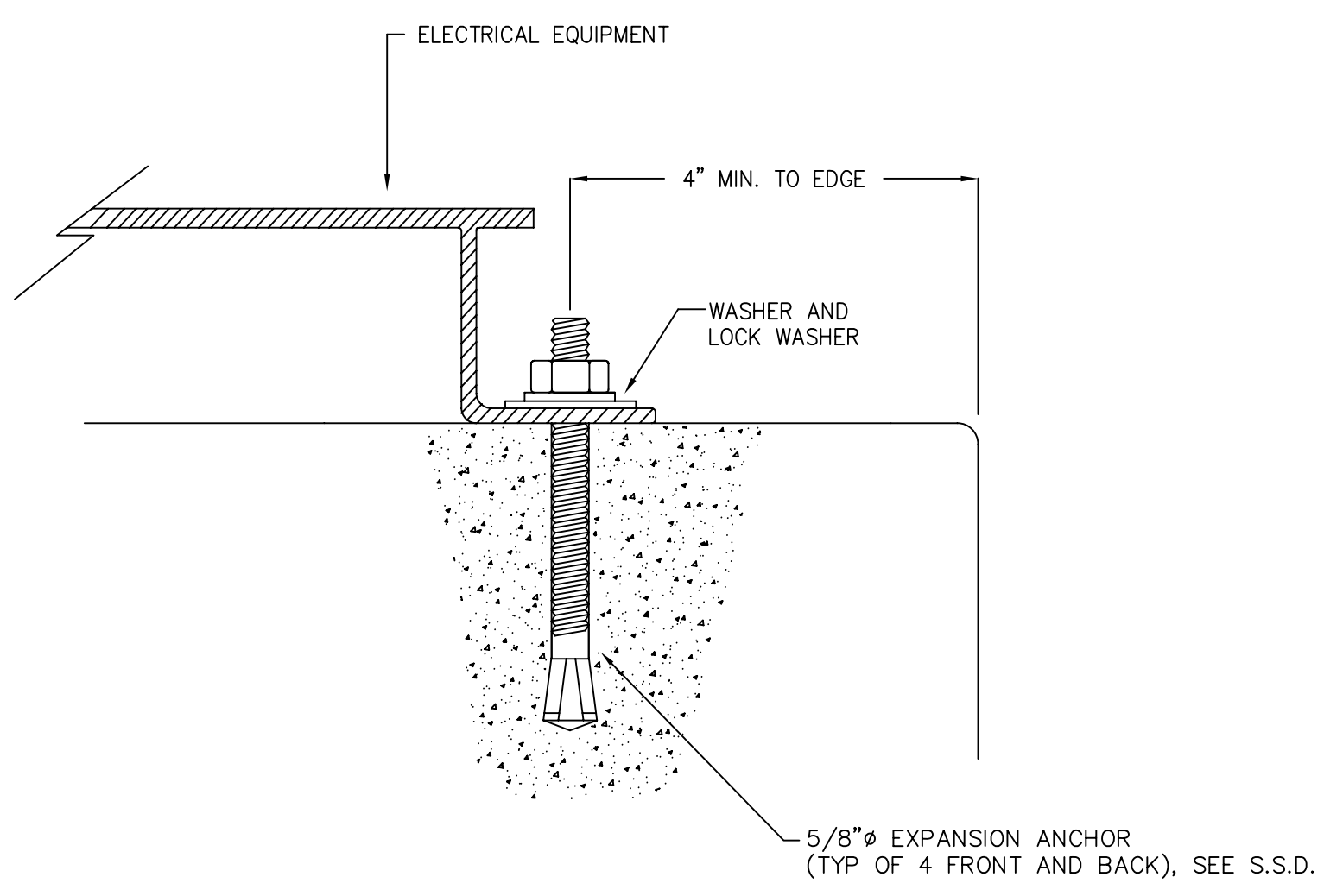
1 ELECTRICAL PLAN
 1/4"=1'-0"

SHEET NOTES

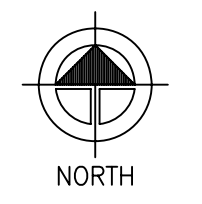
- CONNECT EXHAUST FAN TO (E) MSB AND TO REFRIGERANT LEAK PANEL AS SHOWN ON MECHANICAL DRAWINGS. PROVIDE STARTER AND PROVIDE TWO SPEED CONTROL ACCORDING TO MECHANICAL DRAWINGS.
- CONNECT REMOTE TRIP TO (E) REFRIGERANT LEAK PANEL AND (E) EMERGENCY POWER OFF (EPO) SYSTEM AS SHOWN ON MECHANICAL DRAWINGS. PROVIDE (N) EPO STATION AT DOOR
- PROVIDE FIELD PAINTING OF (N) TRANSFORMER AND (N) MSB2 TO MATCH BUILDING. SUBMIT PROPOSED COLOR SAMPLE TO ARCHITECT FOR APPROVAL PRIOR TO PAINTING. PAINT BY POWDER COATING OR EQUIVALENT APPROVED METHOD ON CLEAN AND PROPERLY PREPARED SURFACE.

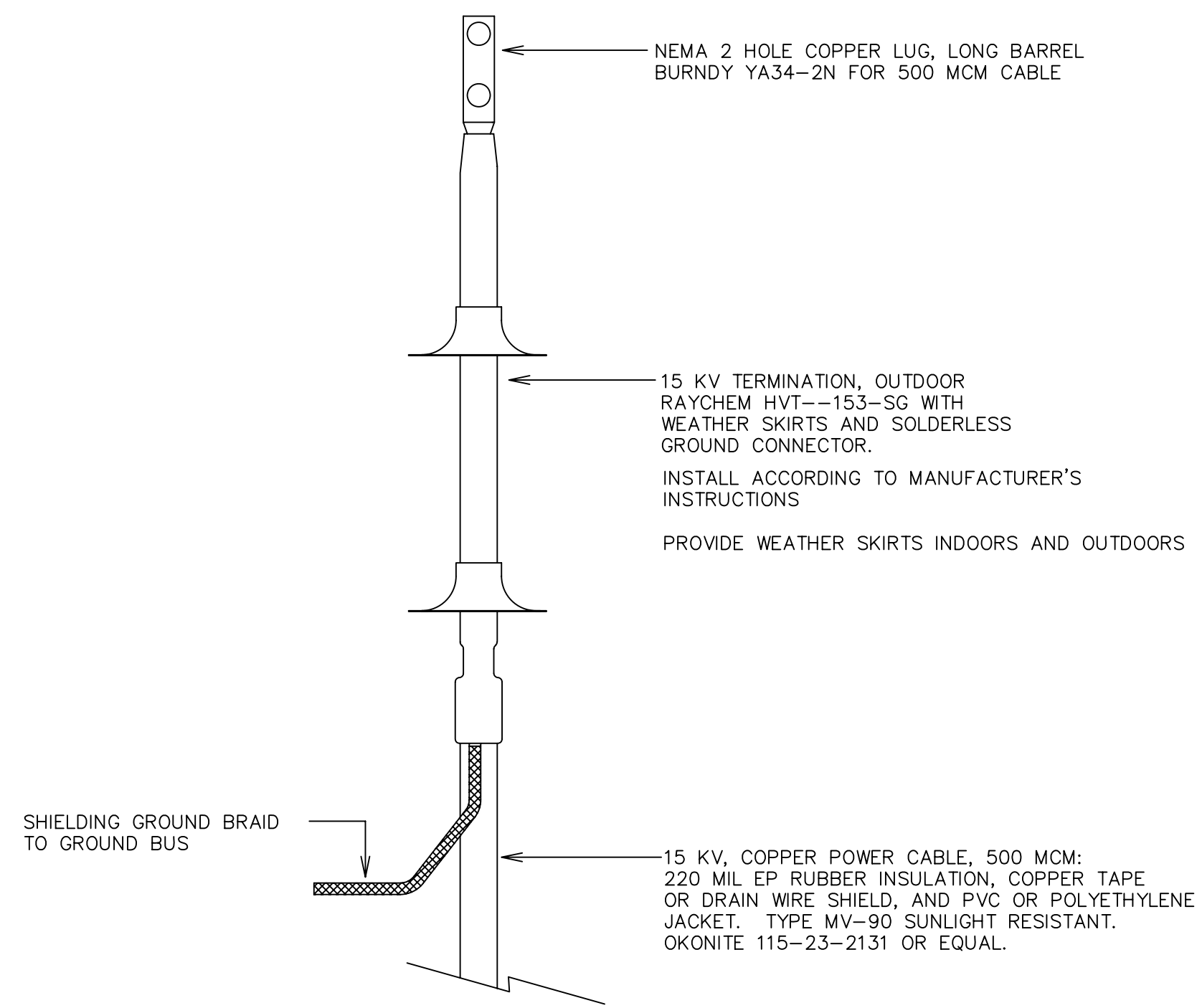
NAMEPLATES

- PROVIDE ENGRAVED NAMEPLATES, BLACK WITH WHITE LETTERS (1/4" MINIMUM):
- NP1 > PG&E CAMPUS MAIN POWER DISCONNECT
 - NP2 > TRANSFORMER T2
FEED FROM CAMPUS FEEDER # ... PROVIDE CORRECT DESIGNATION
 - NP3 > MSB2
FEED FROM TRANSFORMER T2
 - NP4 > LOAD CENTER LC1
FEED FROM CAMPUS FEEDER # 1 OR #2
 - NP5 > MOTOR CONTROL CENTER MCC2A
FEED FROM LC1
- PROVIDE NAMEPLATE ON EACH (N) MOTOR, STARTER, VFD, AND MPC.
 PROVIDE CORRESPONDING IDENTIFICATION OF SOURCE AT (E) MCC, (E) LC1, AND (N) MSB2

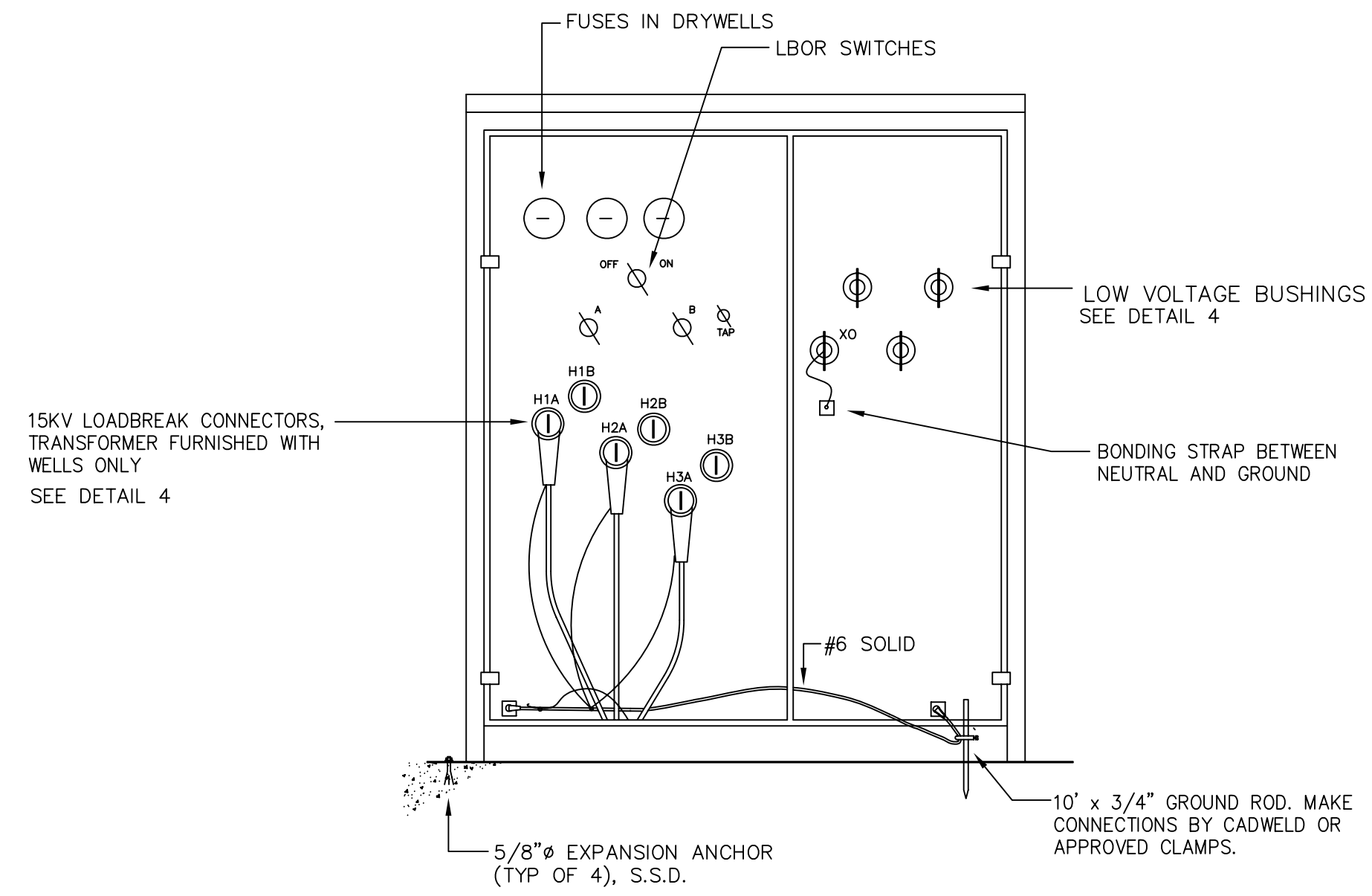


RECORD DRAWING
 RECORD DRAWING IS BASED ON INFORMATION PROVIDED BY THE CONTRACTOR AND HAS NOT BEEN VERIFIED IN THE FIELD BY THE ENGINEER
 DATE: 09/14/06

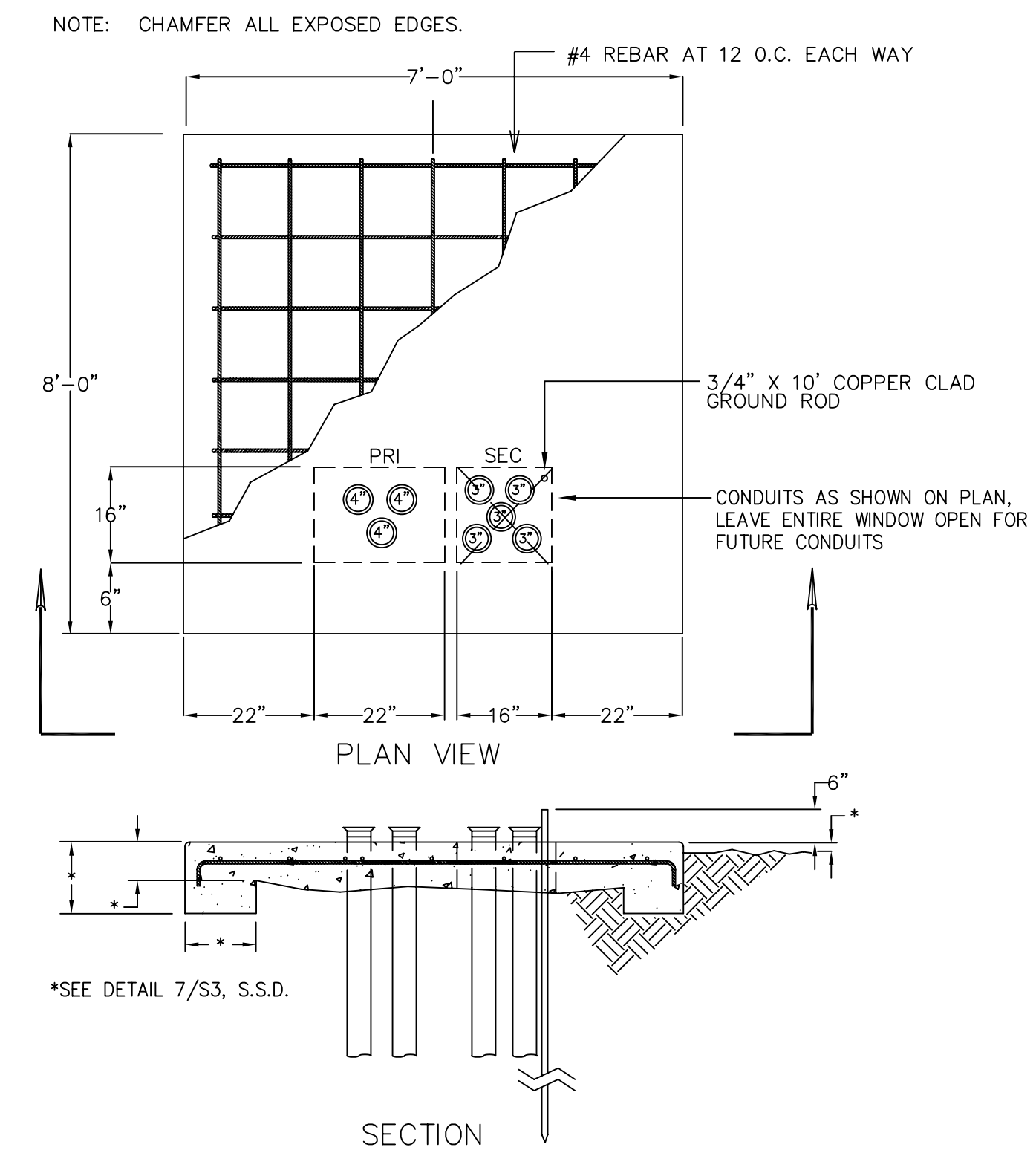




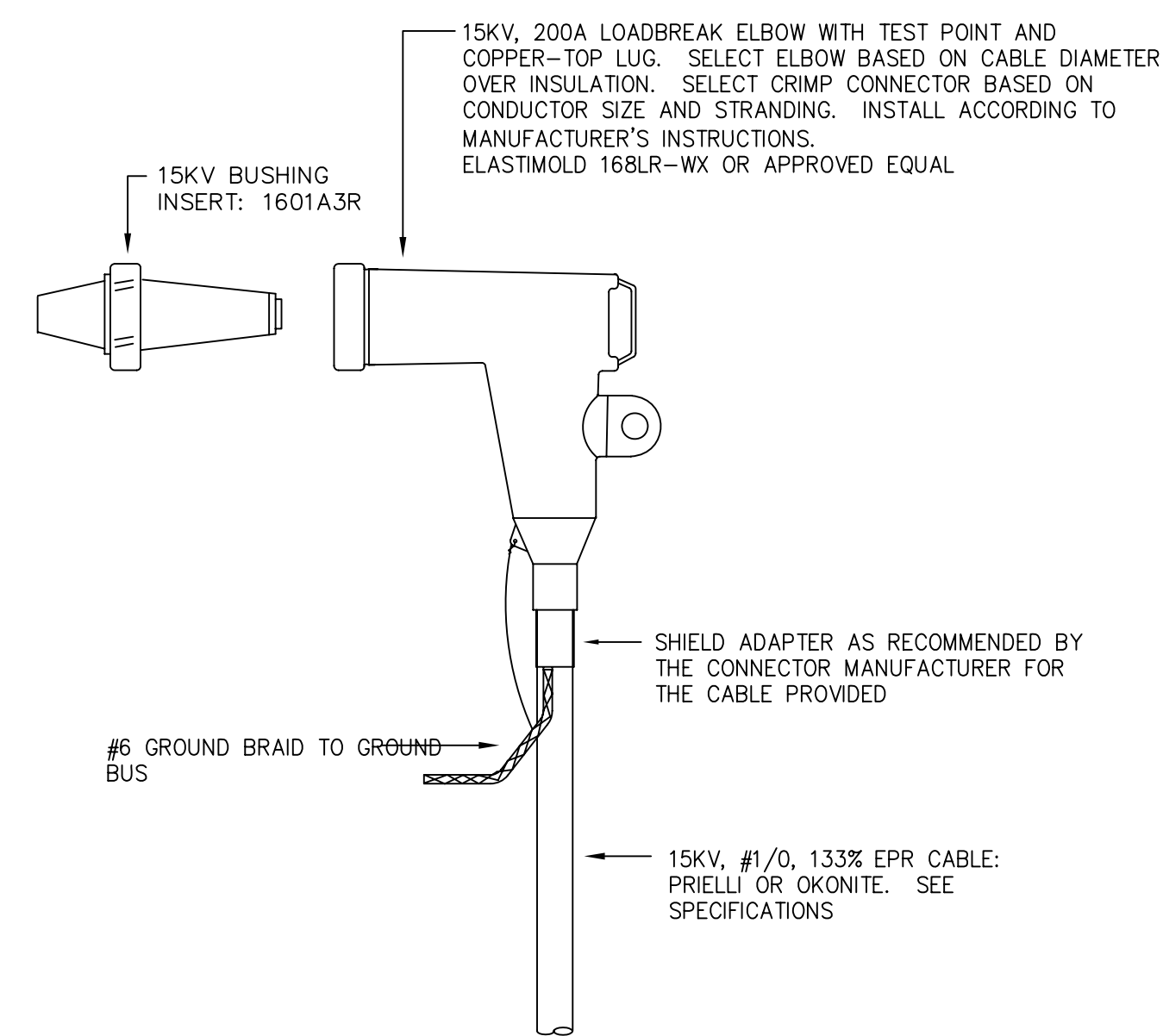
1 15KV CABLE TERMINATION
N.T.S.



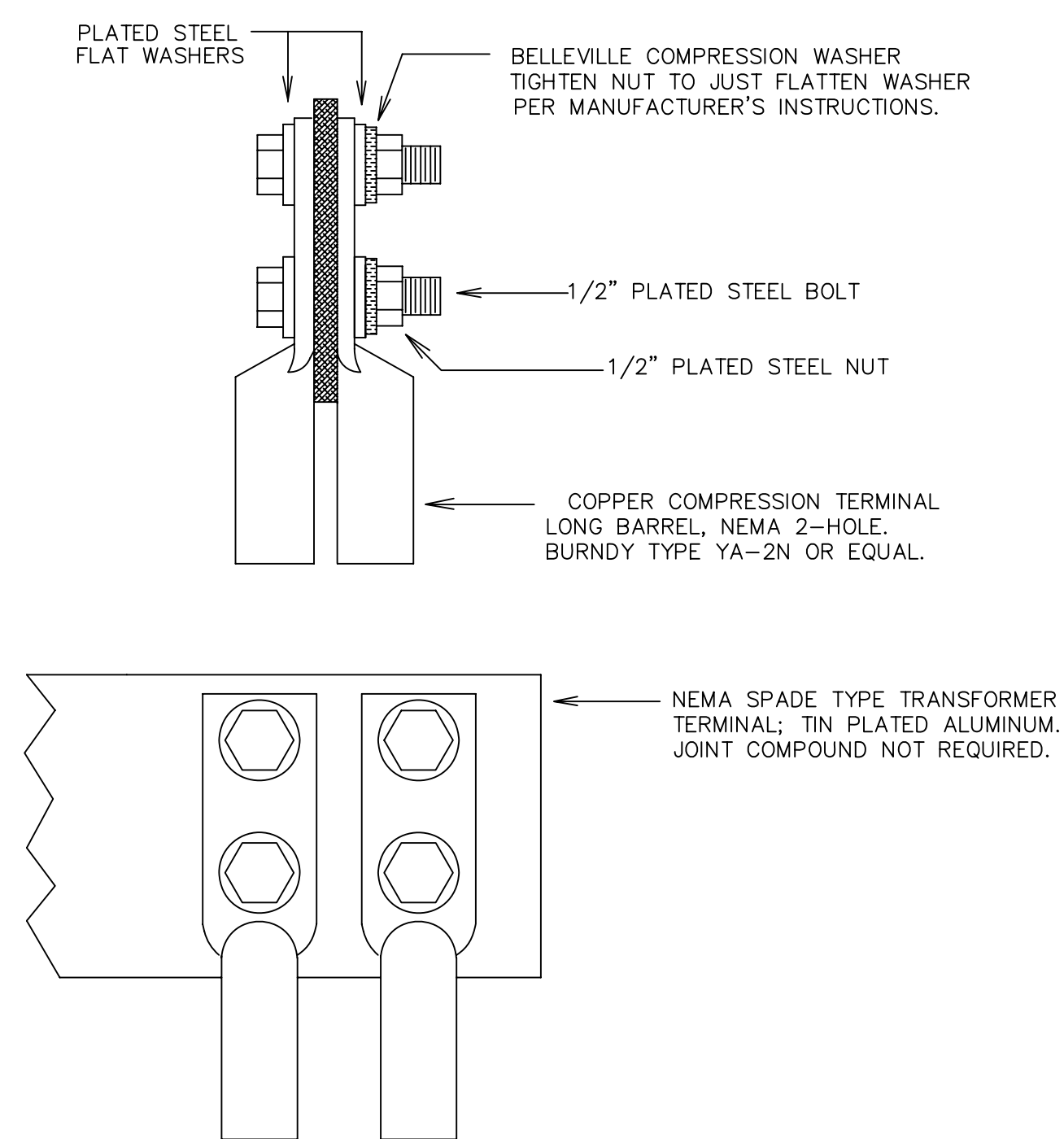
2 PADMOUNT TRANSFORMER
N.T.S.



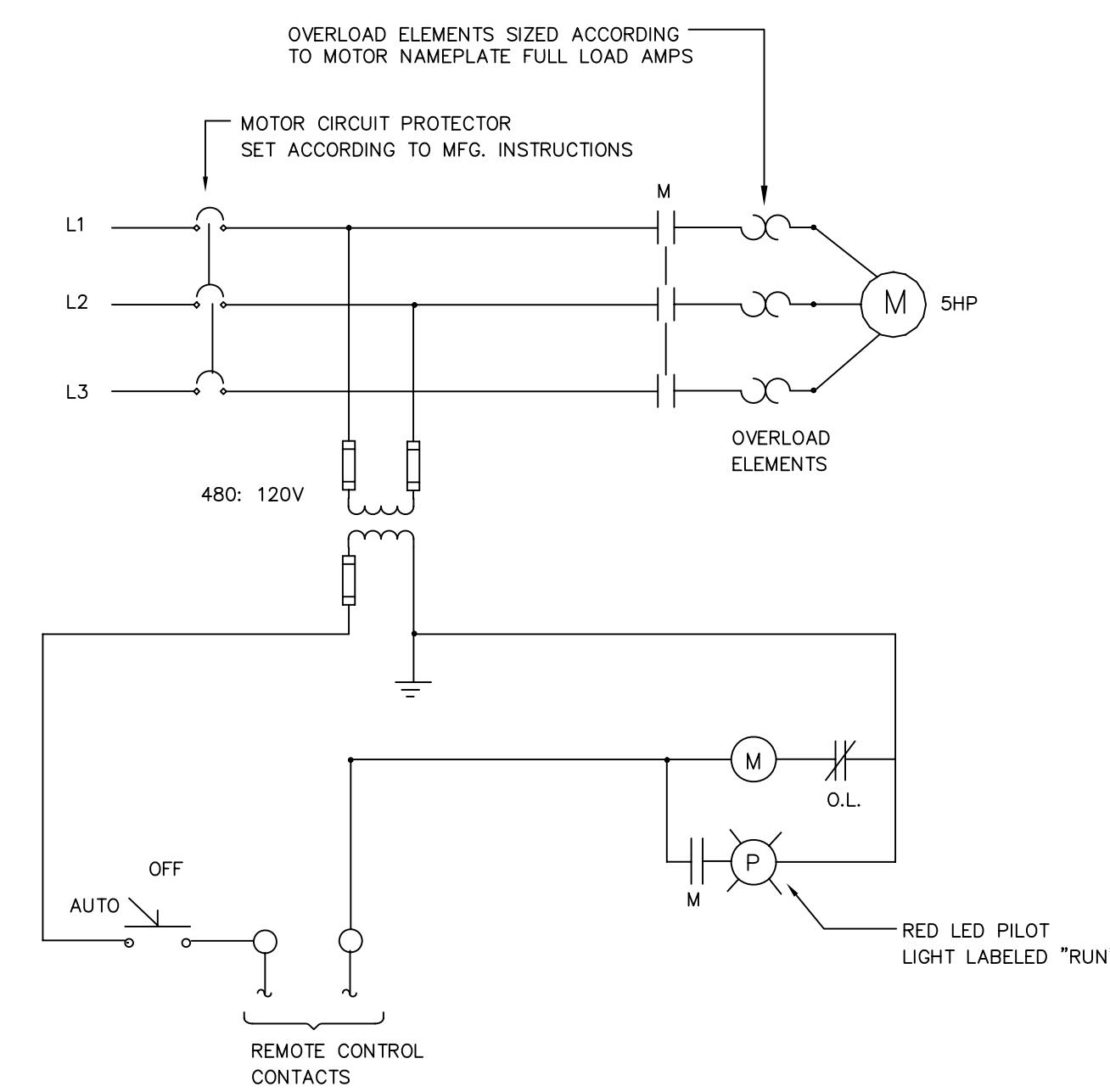
3 TRANSFORMER PAD
N.T.S.



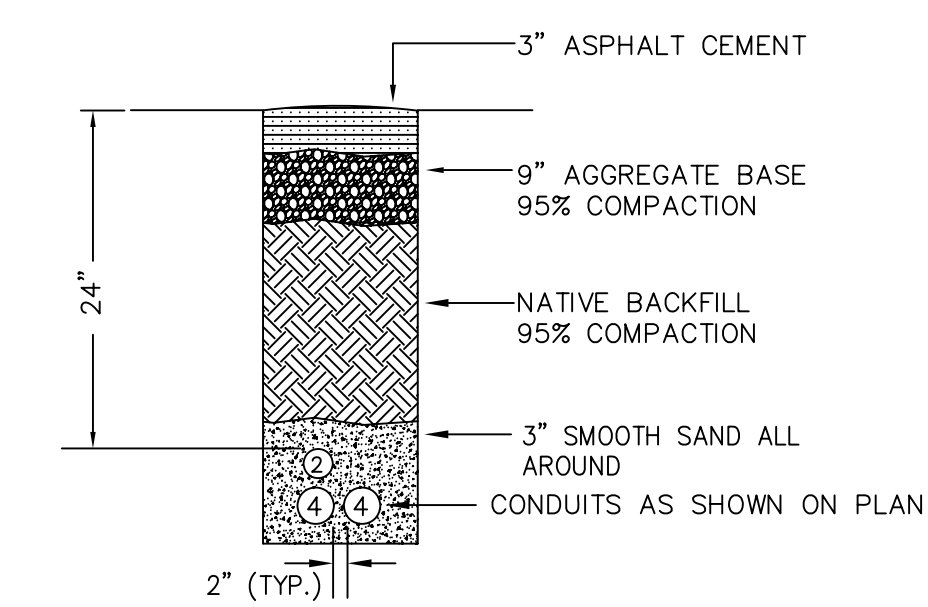
4 15KV LOADBREAK CONNECTOR
N.T.S.



5 480V BUS CONNECTIONS
N.T.S.



6 COMBINATION STARTER WIRING DIAGRAM
N.T.S.



7 TYPICAL TRENCH SECTION, PAVEMENT
N.T.S.

REV	DATE	BY	DESCRIPTION
1	06/03/06	JS	ADDED EQUIPMENT
0	03/04/06	JS	FOR PERMIT
A		JS	PRELIMINARY FOR REVIEW

JEFF SULTAN, P.E.
ELECTRICAL ENGINEER
2081 Camino de los Robles
Menlo Park, CA 94025
(650) 460-7335
jsr@jmseng.com

Cañada College Modernization
CENTRAL PLANT RENOVATION
San Mateo County Community College District

ELECTRICAL DETAILS

DATE	AS NOTED
PROJECT NO.	
DESIGNED BY	JS
DRAWN BY	
CHECKED BY	
DATE	

RECORD DRAWING
RECORD DRAWING IS BASED ON INFORMATION PROVIDED BY THE CONTRACTOR AND HAS NOT BEEN VERIFIED IN THE FIELD BY THE ENGINEER.
DATE: 09/14/06

