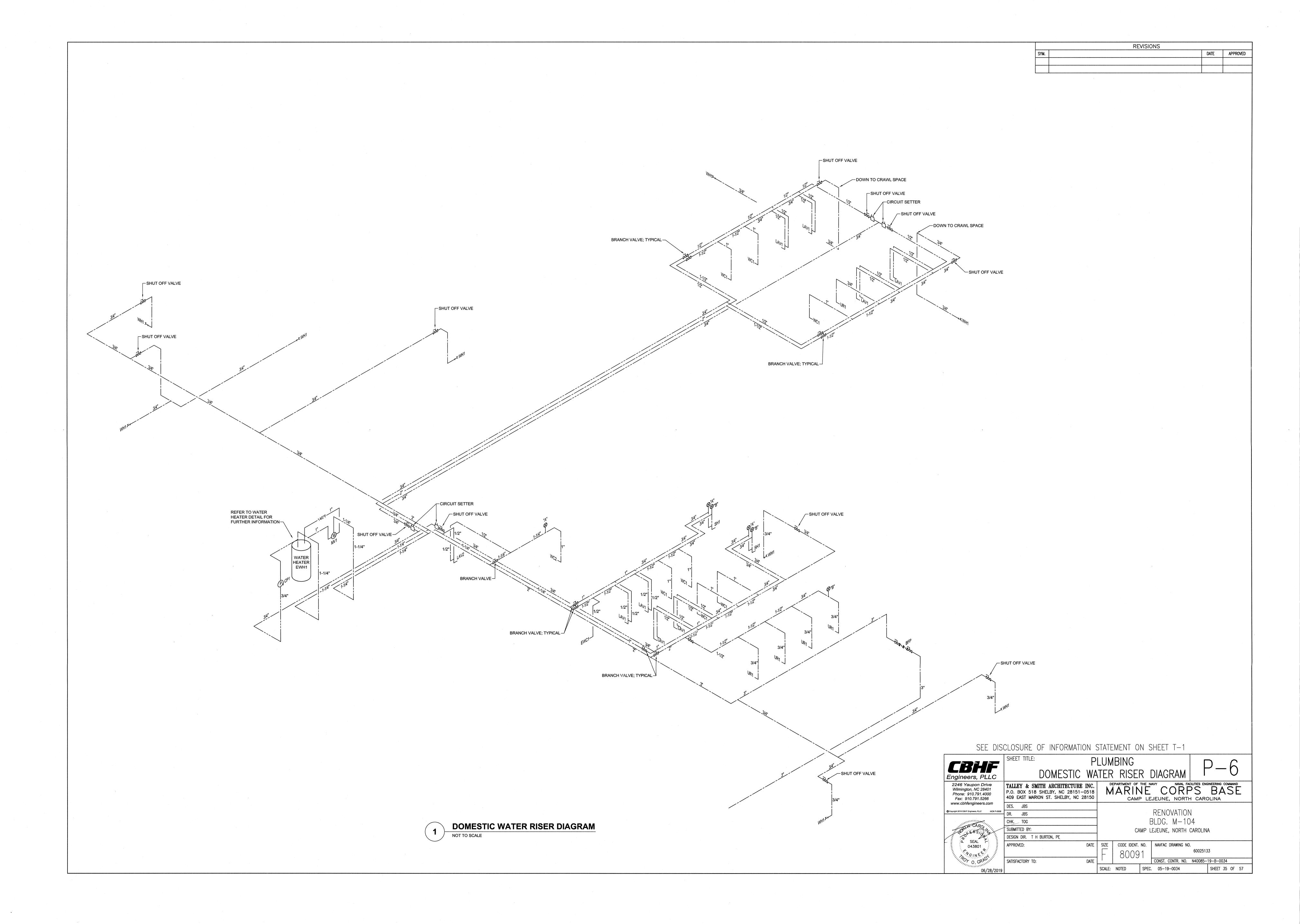


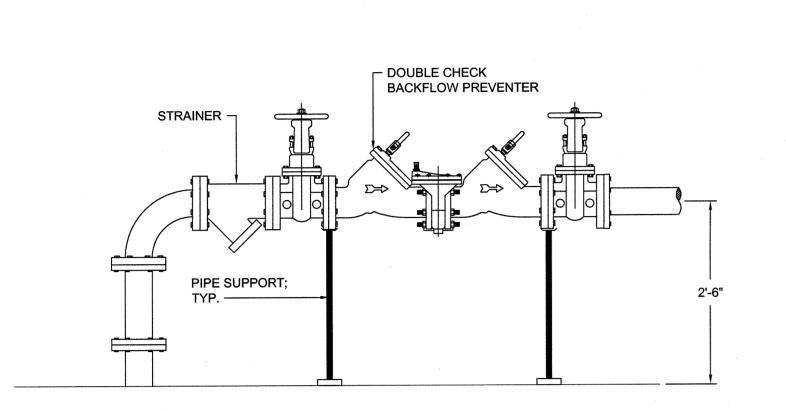
SEE DIS	CLOSURE OF INFORMATION	STATE	EMENT O	N S	SHEET T-1		
CBHF Engineers, PLLC	SHEET TITLE: FWASTE-VE		MBING RISER	DIA	AGRAM	F	-5
2246 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266	TALLEY & SMITH ARCHITECTURE INC P.O. BOX 518 SHELBY, NC 28151-0518 409 EAST MARION ST. SHELBY, NC 28150	-0518 MARINE CURPS BAS				BASE	
WWW.cbhfengineers.com  © Copyright 2019 CBHF Engineers, PLLC  NC# P-0506  CARO  SEAL  O43801	DES. JBS  DR. JBS  CHK: TOG  SUBMITTED BY:  DESIGN DIR. T H BURTON, PE	RENOVATION BLDG. M-104 camp lejeune, north carolina				Ą	
	APPROVED: DATE  SATISFACTORY TO: DATE		SIZE CODE IDENT. NO. NAVFAC DRAWING NO.			6002513	2 19-B-0034
06/28/2019		SCALE:	NOTED	SPEC	. 05-19-0034		SHEET 34 OF 57

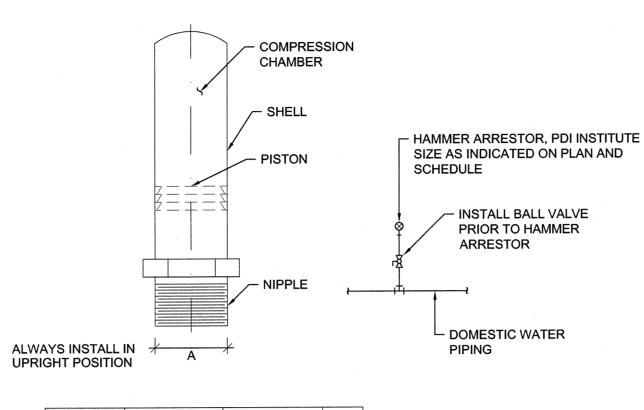
REVISIONS

DATE APPROVED



DATE	APPROVED
_	

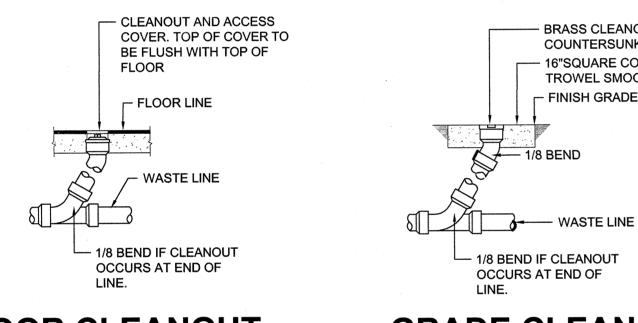




JOSAM NO	O. P.D.I. SYMBOL	FIXTURE UNIT RATING	A SIZE
7501-S	A	1-11	1/2
7502-S	В	12-32	3/4
7503-S	С	33-60	1
7504-S	D	61-113	1 1/4
7505-S	E	114-154	1 1/2
7506-S	F	155-330	2



WATER HAMMER ARRESTOR DETAIL



## **FLOOR CLEANOUT** (FCO)

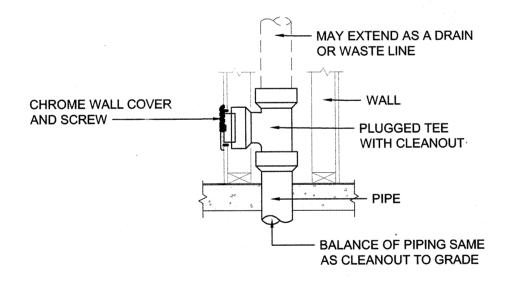
**GRADE CLEANOUT** (GCO)

- BRASS CLEANOUT PLUG WITH

— 16"SQUARE CONCRETE PAD TROWEL SMOOTH AND EDGE

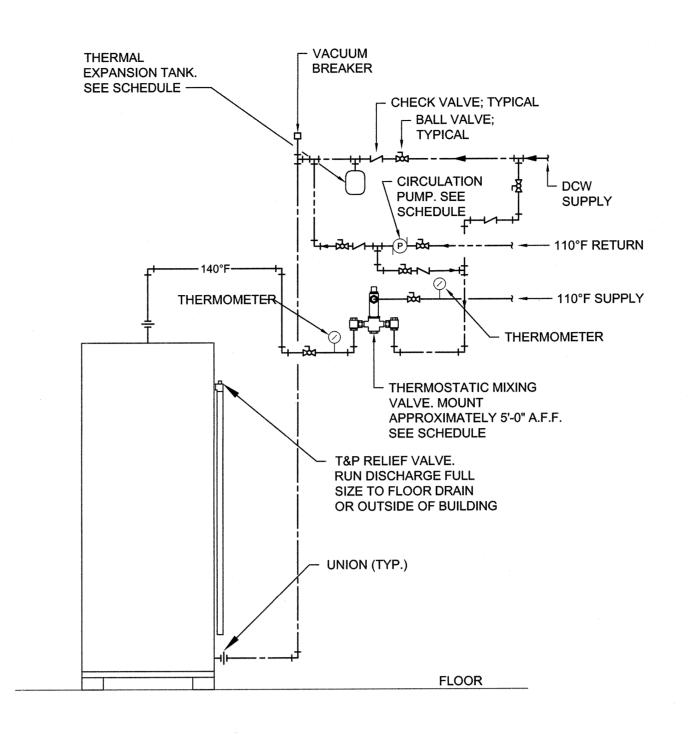
COUNTERSUNK HEAD

- FINISH GRADE



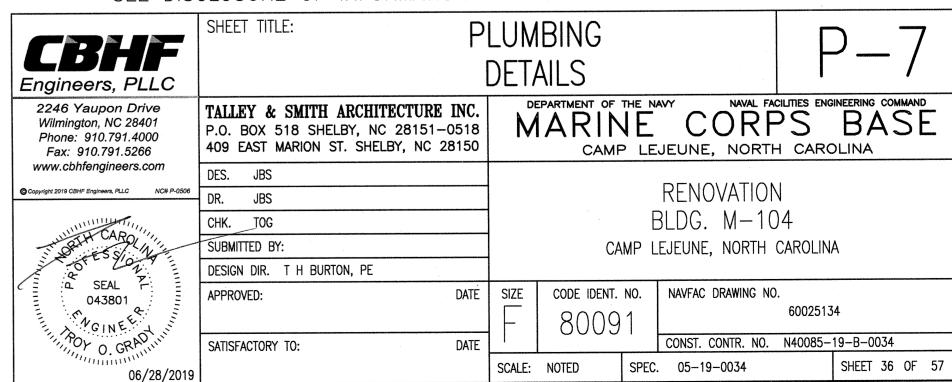
NOTE: CLEANOUT TO BE FLUSH WITH FINISHED WALL. WALL CLEANOUT (WCO)

**CLEANOUT DETAILS** NOT TO SCALE



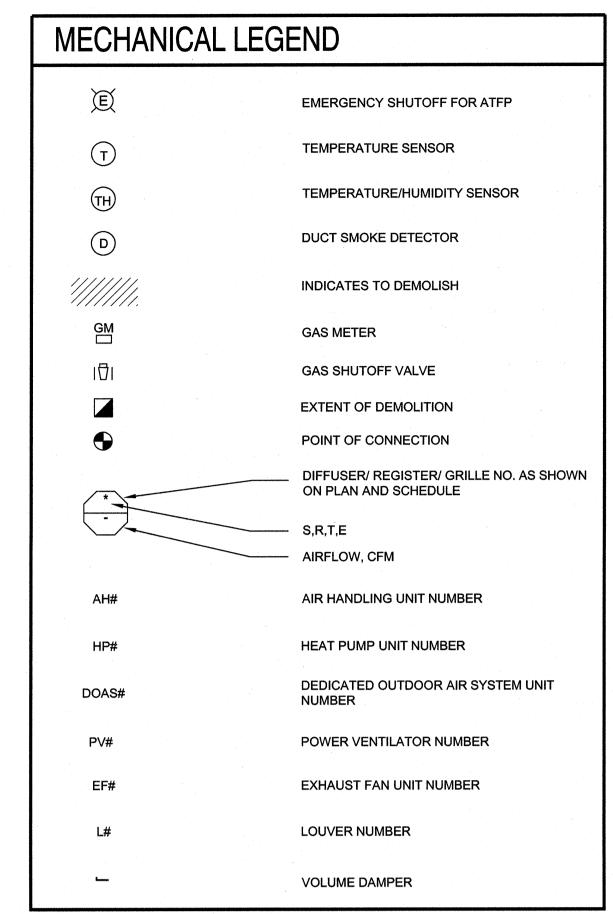
**WATER HEATER DETAIL** 

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1



ABBREVIATIONS			1
TERM	ABBREVIATION	TERM	ABBREVIATIO
ABOVE FINISHED FLOOR ABOVE GROUND	AFF AG	INCH OF WATER GAUGE INDOOR UNIT	INWG
ABOVE SEA LEVEL	ASL	IRON PIPE SIZE	IPS
ACROSS THE LINE	ACL	KILOVOLT-AMP	KVA
AIR ADMITTANCE VALVE AIR CONDITION(-ING, -ED)	AAV AIR COND	KILOWATT HOUR	KWH
AIR-HANDLING UNIT	AHU OR AH	LEAVING AIR TEMPERATURE	LAT
AIR FLOW MEASURING STATION	AFMA	LEAVING WATER TEMPERATURE	LWT
AMBIENT	AMB	LENGTH	LG
AMPERE (AMP, AMPS) ANALOG INPUT	AMP	LINEAR FEET MAXIMUM	LF MAX
ANALOG OUTPUT	AO	MAXIMUM OVERCURRENT PROTECTION	MOCP
AND	&	MEDIUM-PRESSURE STEAM	MPS
APPARATUS DEW POINT APPROXIMATE	ADP APPROX	MILES PER HOUR MINIMUM	MPH MIN.
ARCHITECT	ARCH	MINIMUM CIRCUIT AMPERES	MCA
ATMOSPHERE	ATM	MINUTE	MIN
AVERAGE	AVG	MANUFACTURER	MFR
BRAKE HORSEPOWER BROWN & SHARPE WIRE GAGE	BHP B&S	MOTOR CONTROL CENTER NOISE CRITERIA	MCC NC
BRITISH THERMAL UNIT	BTU	NON-STANDARD PART LOAD	NPLV
BRITISH THERMAL UNIT PER HOUR	BTUH	NORMALLY OPEN	NO
000 BRITISH THERMAL UNIT	MBH BLDG	NORMALLY CLOSED  NOT APPLICABLE	NC N/A
BUILDING AUTOMATION SYSTEM	BAS	NOT IN CONTRACT	NIC
CELSIUS	°C	NOT TO SCALE	NTS
CHILLED WATER RETURN	CHWR	NUMBER	NO
CHILLED WATER SUPPLY COEFFICIENT, VALVE FLOW	CHWS	ON CENTER OUNCE	OC OZ
COEFFICIENT, VALVE FLOW COEFFICIENT OF PERFORMANCE FACTOR	COP	OUTDOOR UNIT	ODU
COMPRESSOR	COMP	OUTSIDE AIR	OA
CONCRETE	CONC	PACKAGE UNIT	PU
CONDENS(-ER, -ING, -ATION) CONNECTION	COND	PACKAGE TERMINAL AIR CONDITIONER PARTS PER MILLION	PTAC PPM
CONTINUATION	CONT	PERCENT	%
COOLING LOAD	CLG LOAD	PHASE	PH
CUBIC FEET	CU FT	POUNDS	LBS
CUBIC INCH CUBIC FEET PER MINUTE	CU IN	POUNDS PER SQUARE FOOT POWER VENTILATOR	PSF PV
CFM, STANDARD CONDITIONS	SCFM	PRESSURE	PRESS
DECIBEL	DB	PRESSURE REDUCING VALVE	PRV
DEGREE	DEG OR °	PRESSURE SAFETY VALVE	PSV
DEDICATED OUTDOOR AIR SYSTEM DEGREES FAHRENHEIT	DOAS DEG. F	PUMPED CONDENSATE  QUANTITY	PC QTY
DETAIL	DET	RATED LOAD AMPS	RLA
DEW-POINT TEMPERATURE	DPT	RECIRCULATE	RECIRC
DIAMETER	DIA	REDUCED PRESSURE BACKFLOW PREVENTER	
DIAMETER, INSIDE DIAMETER, OUTSIDE	ID OD	REFRIGERANT (12, 22, ETC.) REFRIGERANT LIQUID	R22, R410
DIFFERENCE OR DELTA	DIFF	REFRIGERANT SUCTION	RS
DIGITAL INPUT	DI	REQUIRED	REQD OR REQ'D
DIGITAL OUTPUT	DO	RELATIVE HUMIDITY	RH
DOMESTIC HOT WATER DOMESTIC HOT WATER RECIRCULATION	DHW DHWR	RETURN AIR REVOLUTIONS PER MINUTE	RA RPM
DRY-BULB TEMPERATURE	DBT	REVOLUTIONS PER SECOND	RPS
DUCTLESS SPLIT SYSTEM AIR HANDLER	DAH	ROOF VENTILATOR	RV
DUCTLESS SPLIT SYSTEM HEAT PUMP	DHP	ROOF TOP UNIT	RTU SF
ENERGY EFFICIENCY RATING EFFICIENCY	ERR EFF	SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO	SEER
ELECTRIC UNIT HEATER	EUH	SECOND	S
ELEVATION	EL	SHADING COEFFICIENT	SC
ENTERING	ENT	SPECIFICATION	SPEC
ENTERING WATER TEMPERATURE ENTERING AIR TEMPERATURE	EAT	SQUARE STANDARD	SQ STD
EXISTING	(X)	STATIC PRESSURE	SP
XTERNAL AMBIENT TEMPERATURE	EAT	SUPPLY	SPLY
EXTERNAL STATIC PRESSURE EXHAUST AIR	ESP EA	SUPPLY AIR TEMPERATURE	SA TEMP
EXHAUST FAN	EF	TEMPERATURE DIFFERENCE	TD
FACE VELOCITY	FVEL	THERMOSTAT	T STAT
AHRENHEIT	oF	TONS OF REFRIGERATION	TONS
EET PER MINUTE EET PER SECOND	FPM FPS	TO BE DETERMINED TOP OF STEEL	TBD TOS
LOOR	FLR	TOTAL DYNAMIC HEAD	TDH
FOOT OR FEET	FT	TYPICAL	TYP
FULL LOAD AMPS	FLA	U-FACTOR	U
GAGE OR GAUGE GALLONS	GA GAL	UNDER GROUND UNLESS OTHERWISE NOTED	UG
SALLONS SALLONS PER HOUR	GPH	UNIT HEATER - ELECTRIC	UH
GALLONS PER MINUTE	GPM	VARIABLE AIR VOLUME	VAV
GALLONS PER DAY	GPD	VARIABLE FREQUENCY DRIVE	VFD
GAS UNIT HEATER GRAINS	GUH GR	VELOCITY VENTILATION, VENT	VEL VENT
HEAD	HD	VENT THRU ROOF	VTR
HEAT EXCHANGER	HX	VERTICAL	VERT
HEATING AND VENTILATION UNIT	HV	VOLT	V
HEATING, VENTILATION AND AIR CONDITIONING	HVAC	VOLUME	VA
HEIGHT HERTZ	HGT HZ	VOLUME WATER PRESSURE DROP	VOL WPD
HIGH DENSITY POLYPROPYLENE	HDPE	WATER FRESSORE DROP WATER GAUGE	WG
HIGH-PRESSURE STEAM	HPS	WATT	W
HORSEPOWER, HEAT PUMP	HP	WATT-HOUR	WH
	1. 11.4.4	LABORTH	13877
HOT WATER COIL	HWC	WEIGHT	W/
HOT WATER COIL HOUR(S)	HWC HR RH	WEIGHT WET BULB	WT WB
HORSEPOWER, HEAT POWIP HOT WATER COIL HOUR(S) HUMIDITY, RELATIVE INTEGRATED PART LOAD VALUES	HR	WEIGHT	WT

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.



NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

## MECHANICAL DEMOLITION NOTES

- 1. THE MECHANICAL CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL EQUIPMENT, DUCTWORK, SUPPORTS, CONTROLS, ACCESSORIES, ETC.... AND MECHANICAL ITEMS MADE OBSOLETE BY THESE ALTERATIONS AS SHOWN IN THE MECHANICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY MECHANICAL WORK AS REQUIRED BY THE CONSTRUCTION.
- 2. PREPARE A DEMOLITION PLAN AND SUBMIT PROPOSED DEMOLITION, AND REMOVAL PROCEDURES FOR APPROVAL BEFORE WORK IS STARTED. PLAN SHALL BE APPROVED BY CONTRACTING OFFICER PRIOR TO WORK BEGINNING. DO NOT BEGIN DEMOLITION UNTIL AUTHORIZATION IS RECEIVED FROM THE CONTRACTING OFFICER.
- 3. BEFORE BEGINNING ANY DEMOLITION WORK, SURVEY THE SITE AND EXAMINE THE DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF THE WORK. RECORD EXISTING CONDITIONS IN THE PRESENCE OF THE CONTRACTING OFFICER SHOWING THE CONDITION OF STRUCTURES AND OTHER FACILITIES ADJACENT TO AREAS OF ALTERATION OR REMOVAL. PHOTOGRAPHS SIZED 4 INCH WILL BE ACCEPTABLE AS A RECORD OF EXISTING CONDITIONS. INCLUDE IN THE RECORD THE ELEVATION OF THE TOP OF FOUNDATION WALLS, FINISH FLOOR ELEVATIONS, POSSIBLE CONFLICTING ELECTRICAL CONDUITS, PLUMBING LINES, ALARMS SYSTEMS, THE LOCATION AND EXTENT OF EXISTING CRACKS AND OTHER DAMAGE AND DESCRIPTION OF SURFACE CONDITIONS THAT EXIST PRIOR TO BEFORE STARTING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND DOCUMENT ALL REQUIRED OUTAGES WHICH WILL BE REQUIRED DURING THE COURSE OF WORK, AND TO NOTE THESE OUTAGES ON THE RECORD DOCUMENT. SUBMIT SURVEY RESULTS.
- 4. EXCEPT FOR SALVAGED ITEMS, AND FOR MATERIALS OR EQUIPMENT SCHEDULED FOR SALVAGE, ALL MATERIALS AND EQUIPMENT REMOVED AND NOT REUSED OR SALVAGED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM GOVERNMENT PROPERTY. TITLE TO MATERIALS RESULTING FROM DEMOLITION AND DECONSTRUCTION, AND MATERIALS AND EQUIPMENT TO BE REMOVED, IS VESTED IN THE CONTRACTOR UPON APPROVAL BY THE CONTRACTING OFFICER OF THE CONTRACTOR'S DEMOLITION, DECONSTRUCTION, AND REMOVAL PROCEDURES, AND AUTHORIZATION BY THE CONTRACTING OFFICER TO BEGIN DEMOLITION AND DECONSTRUCTION. THE GOVERNMENT WILL NOT BE RESPONSIBLE FOR THE CONDITION OR LOSS OF, OR DAMAGE TO, SUCH PROPERTY AFTER CONTRACT AWARD. SHOWING FOR SALE OR SELLING MATERIALS AND EQUIPMENT ON SITE IS PROHIBITED.
- 5. THESE DRAWINGS ARE COMPILED BY THE ENGINEER FROM THE OWNER'S RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DUCTWORK, EQUIPMENT LOCATIONS, DIMENSIONS AND ALL FIELD CONDITIONS AFFECTING HIS WORK.
- 6. WHERE MECHANICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL REMAIN OR BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE CONTRACTING OFFICER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
- 7. DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY THE CONTRACTING OFFICER. DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED AND USED BY THE GOVERNMENT EXCEPT WHEN APPROVED IN WRITING AND THEN ONLY AFTER TEMPORARY UTILITY SERVICES HAVE BEEN APPROVED AND PROVIDED. DO NOT BEGIN DEMOLITION OR DECONSTRUCTION WORK UNTIL ALL UTILITY DISCONNECTIONS HAVE BEEN MADE. SHUT OFF AND CAP UTILITIES FOR FUTURE USE, AS INDICATED. TEMPORARY SERVICES INCLUDING BUILDING HEAT AND HEATING OF DOMESTIC WATER SHALL BE REQUIRED WHEN ANY INTERRUPTION OF SUCH SERVICES EXCEEDS 12 HOURS EXCEPT WHEN AUTHORIZED IN WRITING BY THE CONTRACTOR OFFICER.

## **MECHANICAL GENERAL NOTES**

DELAY THE OVERALL PROJECT SCHEDULE.

- . SCOPE OF WORK: THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- 2. DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.
- 3. MANUFACTURER'S RECOMMENDATIONS INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 4. WORKMANSHIP UTILIZE SKILLED MECHANICS TO OBTAIN A HIGH QUALITY PROFESSIONAL FINISH INSTALLATION WHEN COMPLETED. WORK OF UNACCEPTABLE QUALITY SHALL BE REMOVED AND REWORKED AT NO ADDITIONAL COST. CONTRACTING OFFICER SHALL BE THE JUDGE OF WORKMANSHIP AND THEIR OPINION WILL BE FINAL. IN ADDITION, ANY EXISTING CONSTRUCTION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CONTRACTING OFFICER BY THE CONTRACTOR AT NO ADDITIONAL COST.
- 5. SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
- 6. PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE OWNER. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR
- 7. COORDINATION: COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
- 8. EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
- 9. LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
- 10.CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS.
- 11.DEMOLISH EXISTING EQUIPMENT PADS AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT LAYOUT.

REVISIONS DATE APPROVED SYM.

SEE DISCLOSURE OF INFORMATION STATEMENT ON SHEET T-1

RENOVATION

BLDG. M-104

CAMP LEJEUNE, NORTH CAROLINA

CONST. CONTR. NO. N40085-19-B-0034

SHEET 37 OF 57

MECHANICAL NOTES, Engineers, PLLC 2246 Yaupon Drive TALLEY & SMITH ARCHITECTURE INC. Wilmington, NC 28401 P.O. BOX 518 SHELBY, NC 28151-0518 Phone: 910.791.4000 409 EAST MARION ST. SHELBY, NC 28150 CAMP LEJEUNE, NORTH CAROLINA Fax: 910.791.5266 www.cbhfengineers.com DESIGN DIR. T H BURTON, PE SEAL : 043801 DATE SIZE CODE IDENT. NO. NAVFAC DRAWING NO. APPROVED: POY O. GRAD SATISFACTORY TO: SCALE: NOTED SPEC. 05–19–0034

