

FILE NAME: i:\246-000 - APTIM\246-000 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\PD-001 BUILDING 320 PLUMBING DEMOLITION GENERAL NOTES.dwg LAYOUT NAME: PD001 PLUMBING DEMOLITION GENERAL NOTES PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnayon

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PLUMBING GENERAL NOTES

1.

PLUMBING CONTRACTOR TO VERIFY LOCATION AND SIZE OF EXISTING WATER, WASTE & VENT PIPING PRIOR TO BEGINNING WORK.
2.

PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS OF EXISTING WASTE LINES TO ENSURE SUFFICIENT DEPTH FOR EXTENDING LINE PRIOR TO SAW CUTTING AND INSTALLATION OF NEW FIXTURES.
3.

PLUMBING CONTRACTOR TO REMOVE WALL, CEILING, AND FLOORS AS REQUIRED FOR DEMOLITION AND INSTALLATION OF PLUMBING FIXTURES AND ASSOCIATED PIPING.
4.

PLUMBING CONTRACTOR TO REPAIR VOIDS IN FLOORS CAUSED BY SAW CUTTING AND FIXTURE OR PIPE REMOVAL TO MATCH ADJACENT SURFACES.
5.

UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
6.

VERIFY INVERT ELEVATIONS AND FINISHED FLOOR ELEVATION PRIOR TO COMMENCING WORK.
7.

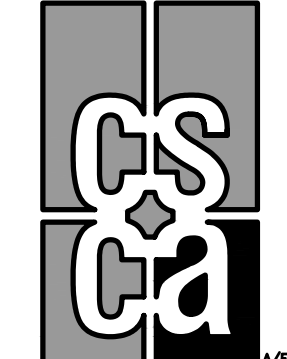
SAW CUTTING SHALL BE COORDINATED WITH ARCHITECT PRIOR TO COMMENCING ANY TYPE OF WORK. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXISTING CONDITIONS AND ANY ATTACHMENTS OR PENETRATIONS INTO POST TENSION SLAB ABOVE WILL BE X-RAYED PRIOR TO COMMENCING WORK.
8.

WORK SHALL CONFORM TO THE INTERNATIONAL PLUMBING CODE.
9.

LOCATION AND SIZE OF EXISTING PIPING TO REMAIN IS ESTIMATED. DURING BID, CONTRACTOR TO ASSUME THAT PIPING SHOWN MAY BE OFF LOCATION UP TO 5 FEET IN EITHER DIRECTION.



REVISIONS	DATE	DESCRIPTION
90% DESIGN SUBMITTAL	MAR 10 2020	
PRE-FINAL SUBMITTAL	APR 07 2020	
FINAL SUBMITTAL	MAY 12 2020	
FINAL RE-SUBMITTAL	MAY 25 2020	
FINAL RE-SUBMITTAL	JUN 15 2020	
FINAL ISSUED FOR CONST.	JUN 25 2020	



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

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SATISFACTORY TO DATE

DES DRW CHK

<<PM/DM>> EJC

BRANCH MANAGER MSS

CHIEF ENG/ARCH

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DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC

MARINE CORPS NORTH CAROLINA IPT

MCB CAMP LEJEUNE

JACKSONVILLE, NORTH CAROLINA

HADNOT POINT FACILITY REPAIR

BUILDING 320

PLUMBING DEMOLITION GENERAL NOTES

SCALE:

EPROJECT NO.: # 19-0139

CONSTR. CONTR. NO.

N6247019D8023/N4008520F4102

NAVFAC DRAWING NO.

60026368

SHEET 70 OF 110

PD001



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FILE NAME: i:\246-000 - APTIM\246-000 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\BUDG 320\19-001 PLUMBING GENERAL NOTES.dwg LAYOUT NAME: P-001 PLUMBING GENERAL NOTES PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoyan

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PLUMBING GENERAL NOTES

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2. PLUMBING CONTRACTOR TO VERIFY INVERT ELEVATIONS OF EXISTING WASTE LINES TO ENSURE SUFFICIENT DEPTH FOR EXTENDING LINE PRIOR TO SAW CUTTING AND INSTALLATION OF NEW FIXTURES.
3. PLUMBING CONTRACTOR TO REMOVE WALL, CEILING, AND FLOORS AS REQUIRED FOR DEMOLITION AND INSTALLATION OF PLUMBING FIXTURES AND ASSOCIATED PIPING.
4. PLUMBING CONTRACTOR TO REPAIR VOIDS IN FLOORS CAUSED BY SAW CUTTING AND FIXTURE OR PIPE REMOVAL TO MATCH ADJACENT SURFACES.
5. PLUMBING CONTRACTOR TO COORDINATE LOCATION OF PLUMBING PIPE ROUTING WITH MECHANICAL DUCTWORK.
6. FOR FIRE RATED WALLS, SEE ARCHITECTURAL DRAWINGS.
7. UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
8. FOR FIXTURE HEIGHT AND ACCESSIBILITY REQUIREMENTS, SEE ARCHITECTURAL DRAWINGS.
9. VERIFY INVERT ELEVATIONS AND FINISHED FLOOR ELEVATION PRIOR TO COMMENCING WORK.
10. SAW CUTTING SHALL BE COORDINATED WITH ARCHITECT PRIOR TO COMMENCING ANY TYPE OF WORK. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY EXISTING CONDITIONS AND ANY ATTACHMENTS OR PENETRATIONS INTO POST TENSION SLAB ABOVE WILL BE X-RAYED PRIOR TO COMMENCING WORK.
11. WORK SHALL CONFORM TO THE INTERNATIONAL PLUMBING CODE.
12. BRACING OF PIPES, DUCTS, ETC, SHALL BE PER SEISMIC HAZARD LEVEL 'AA' OF THE LATEST EDITION OF SMACNA GUIDELINES.
13. THE SEISMIC ANCHORAGE OF EQUIPMENT SHALL CONFORM TO IBC, LATEST EDITION.
15. PENETRATION THROUGH ROOF SHALL BE WEATHER PROOFED.
16. PENETRATION THROUGH ROOF AND FLOOR SHALL BE FIRE STOPPED.
17. CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT NON-POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT.
18. FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS.
19. EACH PLUMBING FIXTURE THAT CONNECTS TO THE SANITARY SEWER SYSTEM SHALL BE TRAPPED AND VENTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE.
20. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
21. INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WILL COMPLY WITH THE INTERNATIONAL PLUMBING CODE.
22. LOCATION AND SIZE OF EXISTING PIPING TO REMAIN IS ESTIMATED. DURING BID, CONTRACTOR TO ASSUME THAT PIPING SHOWN MAY BE OFF LOCATION UP TO 5 FEET IN EITHER DIRECTION.
23. FAUCET CONTROLS AND OPERATING MECHANISMS ARE OPERABLE WITH ONE HAND IN ACCORDANCE WITH THIS CHAPTER AND DO NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF. LEVER OPERATED, PUSH-TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS (PREFERABLE) ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS. ADAAG 4.24.7.
24. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GPM.
25. POTABLE WATER PLUMBING PIPING, FITTINGS, DEVICES, FIXTURES, SOLDER AND FLUX SHALL BE "LEAD-FREE" IN COMPLIANCE WITH LOCAL HEALTH AND SAFETY CODE.
26. HORIZONTAL DRAINAGE PIPING SHALL HAVE A UNIFORM SLOPE OF NOT LESS THAN 1/4:12 OR 2 PERCENT TOWARD THE POINT OF DISPOSAL.
27. FOR CONDENSATE PIPING, PROVIDE FLEXIBLE ELASTOMERIC, CLOSED CELL PIPE INSULATION, 1" WALL THICKNESS, ASTM C 534, TYPE 1 - GRADE 1 COMPLIANCE.
28. FOR DOMESTIC HOT WATER AND HOT WATER RE-CIRCULATION PIPING, PROVIDE THE FOLLOWING INSULATION WALL THICKNESS:
A) 1" PIPE SIZE AND BELOW, PROVIDE 1" PIPE INSULATION THICKNESS.
B) 1-1/4" & 1-1/2" PIPE SIZES, PROVIDE 1-1/2" PIPE INSULATION THICKNESS.
C) 2" PIPE SIZE & ABOVE, PROVIDE 2" PIPE INSULATION THICKNESS.

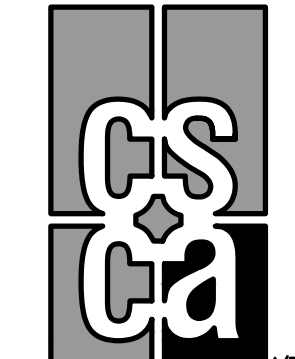
WATER QUALITY NOTES

1. THIS PROJECT REQUIRES THE INSTALLATION/TESTING OF BACKFLOW PREVENTION DEVICES ON POTABLE WATER LINES IN ACCORDANCE WITH THE SAFE DRINKING WATER ACT. COORDINATE WITH PUBLIC WORKS DESIGN BRANCH.
2. THIS PROJECT INVOLVES A WATER AND/ OR WASTEWATER LINE SERVING MORE THAN ONE BUILDING AND WILL REQUIRE A WATER OR WASTEWATER EXTENSION PERMIT. A WASTEWATER EXTENSION PERMIT ALSO REQUIRES A WASTEWATER FLOW ACCEPTANCE FORM. COORDINATE THIS REQUEST THROUGH UTILITIES DIRECTOR PUBLIC WORKS DIVISION. COORDINATE ALL OTHER CONCERNS WITH WATER QUALITY MANAGER.
3. THIS PROJECT INVOLVES A WATER LINE FOR FIRE PROTECTION. ANY LINE USED FOR FIRE PROTECTION REQUIRES A WATER EXTENSION PERMIT FROM NCDEQ.
4. REDUCTION OF LEAD IN DRINKING WATER ACT: INSTALLATION OR REPAIR OF ANY PIPING, FITTINGS, FIXTURES, SOLDER OR FLUX PROVIDING WATER FOR POSSIBLE HUMAN CONSUMPTION MUST BE "LEAD-FREE" AS DEFINED BY THE REDUCTION OF LEAD IN DRINKING WATER ACT (RLDWA). THE RLDWA REVISED THE DEFINITION OF LEAD FREE TO A WEIGHTED AVERAGE OF 0.25% OF THE WETTED SURFACES OF PLUMBING PRODUCTS. A METHODOLOGY FOR CALCULATING THE WEIGHTED AVERAGE OF WETTED SURFACES CAN BE FOUND AT www.epa.gov

CONTACT INFO:
WATER QUALITY MANAGER, 451-9518
PUBLIC WORKS DESIGN BRANCH, 451-2212
PUBLIC WORKS UTILITIES DIRECTOR, 451-5024



REVISIONS	DATE	DESCRIPTION
MAR 10 2020	APR 07 2020	50% DESIGN SUBMITTAL
PRE-FINAL SUBMITTAL	MAY 12 2020	FINAL SUBMITTAL
FINAL SUBMITTAL	MAY 25 2020	FINAL RE-SUBMITTAL
FINAL RE-SUBMITTAL	JUN 15 2020	FINAL ISSUED FOR CONST.
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DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND	MID-ATLANTIC
MARINE CORPS NORTH CAROLINA PT	<<NAVFAC ATLANTIC - NORFOLK, VIRGINIA>>
MCB CAMP LEJEUNE	JACKSONVILLE, NORTH CAROLINA
HADNOT POINT FACILITY REPAIR	
BUILDING 320	
PLUMBING GENERAL NOTES	

SCALE:
EPROJCT NO.: # 19-0139
CONSTR. CONTR. NO. N6247019D8023/N4008520F4102
NAVFAC DRAWING NO. 60026370
SHEET 72 OF 110
P-001



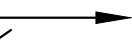
FILE NAME: i:\246-000 - APTIM\246-002 - Hadnot Point Facility Repair Comp. Lejeune Drawings\BUDG 320\19-002 PLUMBING LEGEND & ABBREVIATIONS PLUMBING LEGEND & ABBREVIATIONS.dwg LAYOUT NAME: P-002 PLUMBING LEGEND & ABBREVIATIONS PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoraym

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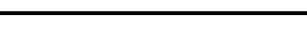
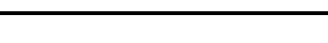
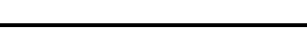
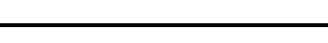
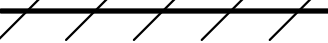
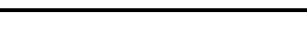
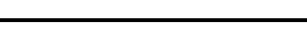
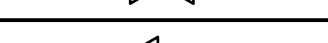
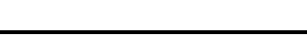
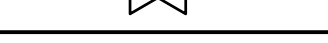
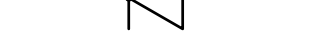
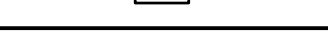
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PLUMBING ABBREVIATIONS			
DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION
ARCHITECTURAL	ARCH	GAS METER	GM
ABOVE CEILING	A/C	GRAVITY DRAIN	GD
ABOVE FINISHED FLOOR	AFF	HERTZ	HZ
ABOVE GRADE	A/G	HOSE BIB	HB
ACRYLONITRILE BUTADIENE STYRENE	ABS	INTERNATIONAL ASSOCIATION OF PLUMBING & MECHANICAL OFFICIALS	IAPMO
AMERICAN DISABILITY ASSOCIATION	ADA	INTERNATIONAL PLUMBING CODE	IPC
AMERICAN NATIONAL STANDARDS INSTITUTE	ANSI	KITCHEN SINK	KS
AMERICAN SOCIETY OF MECHANICAL ENGINEERS	ASME	KILOWATT	KW
AMERICAN SOCIETY OF TESTING & MATERIALS	ASTM	LAVATORY	LAV
BACKFLOW PREVENTER	BFP	LEVEL	LVL
BELOW FLOOR	B/F	MANUFACTURER	MFR
BELOW GRADE	B/G	MOP SINK	MS
BRITISH THERMAL UNIT PER HOUR	BTUH	NATIONAL SANITATION FOUNDATION	NSF
CAST IRON SOIL PIPE INSTITUTE	CISPI	NOT IN CONTRACT	N.I.C.
CHAPTER	CH	PLAN	PLN
CIRCULATION PUMP	CP	PHASE	PH
CONNECTION	CONN	POLYVINYL CHLORIDE	PVC
CONTINUATION	CONT	POUNDS	LBS
CUBIC FEET PER HOUR	CFH	POUNDS PER SQUARE INCH	PSI
DEGREE FAHRENHEIT	°F	PROFESSIONAL ENGINEER	PE
DIAMETER	DIA	QUANTITY	QTY
DOMESTIC	DOM	REFLECTED CEILING PLAN	RCP
DOWN	DN	SCHEDULE	SCH
DRAINAGE UNIT	DU	SHOWER	SH
DRAINAGE, WASTE & VENT	DWV	SINK	S
DRINKING FOUNTAIN	DF	SLOPE DOWN	
EXPANSION TANK	ET	SHEET METAL & AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION	SMACNA
FAHRENHEIT	F	SPECIFICATION	SPEC
FEET HEAD	FT HD	STAINLESS STEEL	SS
FINISHED GRADE	FG	THERMOSTATIC MIXING VALVE	TMV
FEET PER SECOND	FPS	TRAP PRIMER	TP
FIXTURE UNIT	FU	TYPICAL	TYP
FLOOR	FLR	UNDERGROUND	U/G
FLUSH TANK	FT	WATER CLOSET	WC
FLUSH VALVE	FV	WATER FILTER	WF
FULL LOAD AMPS	FLA	WATER HEATER	WH
GALLON	GAL	WITH	W/
GALLONS PER HOUR	GPH	EXISTING	(X)
GALLONS PER MINUTE	GPM	EXISTING TO BE DEMOLISHED	(XD)

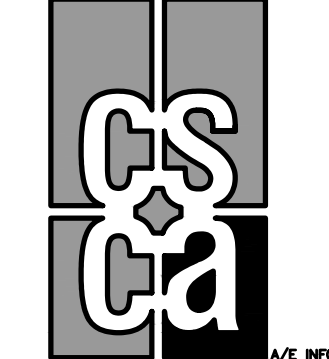
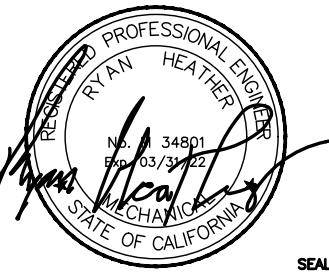
PLUMBING ABBREVIATIONS			
DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION
EXISTING TO BE RELOCATED	(XR)	NEW LOCATION OF EXISTING	(XL)

PLUMBING SYMBOLS					
DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION
EXISTING COLD WATER		(E)CW	WALL CLEAN-OUT		WCO
EXISTING HOT WATER		(E)HW	HOSE BIBB		HB
EXISTING SANITARY		(E)SAN	PIPE RISER		-
EXISTING VENT		(E)V	PIPE DOWN		-
SANITARY OR WASTE ABOVE GRADE		SAN OR W	SHUTOFF VALVE ON RISE OR DROP		-
SANITARY OR WASTE BELOW GRADE		SAN OR W	CAP		-
VENT		V	PIPE TO BE DEMOLISHED		-
DOMESTIC COLD WATER		CW	VENT THRU ROOF		VTR
DOMESTIC HOT WATER		HW	WATER HAMMER ARRESTOR		WHA
DOMESTIC HOT WATER RETURN		HWR	SHUTOFF VALVE		SOV
CONDENSATE DRAIN		CD	SOLENOID VALVE		SV
DOWNSPOUT		DS	PRESSURE REDUCING VALVE		PRV
FIRE MAIN		F	GLOBE VALVE		GLV
FIRE SPRINKLER		SPK	CHECK VALVE		CV
INDIRECT WASTE		IW	BALANCING VALVE		BV
NATURAL GAS (LOW PRESSURE)		G	BALL VALVE		SOV
NATURAL GAS (MEDIUM PRESSURE)		MPG	BUTTERFLY VALVE		SOV
NATURAL GAS (HIGH PRESSURE)		HPG	FLOOR DRAIN		FD
STORM DRAIN		SD	FLOOR SINK		FS
TRAP PRIMER		TP	CATCH BASIN		CB
FLOOR CLEAN-OUT		FCO	ROOF DRAIN		RD
CLEAN-OUT TO GRADE		COTG	OVERFLOW ROOF DRAIN		ORD
TAG TAG NUMBER					
POINT OF CONNECTION		POC			
POINT OF REMOVAL		POR			
GAS METER		GM			
CARBON MONOXIDE DETECTOR		CO			
WATER METER		WM			





MAR 10 2020	APR 07 2020	MAY 12 2020	MAY 25 2020	JUN 15 2020	JUN 25 2020	DATE
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DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC

MARINE CORPS NORTH CAROLINA IPT

<<NAVFAC ATLANTIC - NORFOLK, VIRGINIA>>

MCB CAMP LEJEUNE

JACKSONVILLE, NORTH CAROLINA

HADNOT POINT FACILITY REPAIR

BUILDING 320

PLUMBING LEGEND & ABBREVIATIONS

SCALE:

PROJECT NO.: # 19-0139

CONSTR. CONTR. NO. N6247019D8023/N4008520F4102

NAVFAC DRAWING NO. 60026371

SHEET 73 OF 110

P-002

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PLUMBING FIXTURE UNIT COUNT FOR BUILDING 320

TAG	FIXTURE DESCRIPTION	QTY	WATER FIXTURE UNITS	DRAINAGE FIXTURE UNITS	TOTAL FIXTURE UNITS		
					COLD WATER	HOT WATER	DRAIN
WC-1/WC-2	WATER CLOSET (FLUSH VALVE)	4	5	4	20	-	16
LAV-1	LAVATORY	4	1	1	4	4	4
UR-1	URINAL	2	4	2	8	-	4
SH-1/SH-2	SHOWER	4	2	2	8	8	8
MS-1	MOP SINK	1	3	3	3	3	3
DF-1	DRINKING FOUNTAIN	1	0.5	0.5	0.5	-	0.5
FS-1	FLOOR SINK	1	-	3	-	-	3
HB-1	WALL HYDRANT	3	2.5	-	7.5	-	0
FD-1	FLOOR DRAIN	2	-	2	-	-	4
TOTAL FIXTURE UNITS COUNT					51	15	42.5
TOTAL GPM					52	-	-

WATER PRESSURE CALCULATION FOR BUILDING 320

WATER PRESSURE CALCULATION FOR BUILDING 320				
MINIMUM SYSTEM INLET PRESSURE TO SITE AT BUILDING WATER METER	72	MAXIMUM	78	PSI
PRESSURE LOSS THRU WATER METER	2-1/2"		1.7	PSI
PRESSURE LOSS THRU BACKFLOW PREVENTER	2-1/2"		5	PSI
PRESSURE AVAILABLE AFTER LOSSES			65.3	PSI
PRESSURE LOSS DUE TO ELEVATION TO GOVERNING FIXTURE	15	FEET X (.433)	6.5	PSI
MINIMUM PRESSURE REQUIRED AT GOVERNING FIXTURE			25	PSI
AVAILABLE PRESSURE AFTER LOSSES			33.8	PSI
TOTAL DEVELOPED LENGTH			110	FEET
PRESSURE PER 100 FT.			30.7	PSI/100 FT

HOT & COLD WATER PIPE SIZING

HOT & COLD WATER PIPE SIZING						
PIPE SIZING BASED ON PRESSURE LOSS OF: (PSI/100 FT).				5.00		
HOT WATER MAXIMUM VELOCITY FEET/SECOND:				5		
COLD WATER MAXIMUM VELOCITY FEET/SECOND:				6		
COLD WATER					HOT WATER	
TYPE	PIPE SIZE	GPM	FIXTURE UNIT (FLUSH TANK)	FIXTURE UNIT (FLUSH VALVE)	GPM	FIXTURE UNIT
COPPER	1/2"	3	3	-	2	1
COPPER	3/4"	8	10	-	7	8
COPPER	1"	16	23	-	13	18
COPPER	1 1/4"	23	36	6	19	28
COPPER	1 1/2"	32	58	15	27	46
COPPER	2"	58	165	69	48	119
COPPER	2 1/2"	88	315	186	74	245
COPPER	3"	140	585	490	114	455
COPPER	4"	225	1,100	1,100	188	850
STEEL	5"	380	2,480	2,480	300	1,755
STEEL	6"	500	3,620	3,620	420	2,862
STEEL	8"	900	7,280	7,280	774	5850
STEEL	10"	1,400	12,380	12,380	1,230	10,340

WATER HEATER SIZING FOR BUILDING 320

WATER HEATER SIZING FOR BUILDING 320			
SYSTEM	DOMESTIC HOT WATER		
FIXTURE	QTY	DEMAND (GPH/FIXTURE)	TOTAL DEMAND
LAVATORY	4	2	8
MOP SINK	1	20	20
SHOWER	4	30	120
TOTAL DEMAND (GPH)			148
DEMAND FACTOR			100%
PROBABLE MAXIMUM DEMAND (GPH):			148
WATER HEATER EFFICIENCY			95%
ENTERING WATER TEMPERATURE			60
LEAVING WATER TEMPERATURE			140
TEMPERATURE RISE			80
WATER HEATER REQUIRED BTU/HR			103,818
WATER HEATER REQUIRED KW			30.4

EQUIPMENT GAS LOAD FOR BUILDING 320

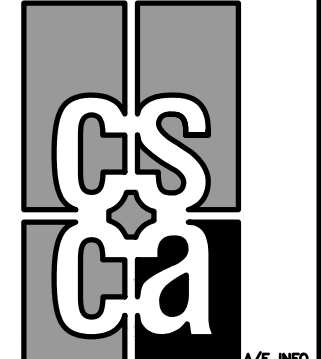
EQUIPMENT GAS LOAD FOR BUILDING 320			
APPLIANCE	QTY	MBH/CFH	TOTAL LOAD
WATER HEATER	1	199	199
DOA'S	1	75	75
TOTAL GAS LOAD (CFH OR MBH)			274

LOW PRESSURE NATURAL GAS PIPE SIZING CHART FOR BUILDING 320

LOW PRESSURE NATURAL GAS PIPE SIZING CHART FOR BUILDING 320	
PER UPC, TABLE 1216.2(1)	
INLET PRESSURE:	LESS THAN 2 PSI
PRESSURE DROP	0.5 IN. W.C.
SPECIFIC GRAVITY	0.6
TOTAL DEVELOPED LENGTH (FT):	30
PIPE SIZE	CAPACITY (CFH)
1/2"	95
3/4"	199
1"	374
1 1/4"	768
1 1/2"	1,150
2"	2,220
2 1/2"	3,530
3"	6,250
4"	12,700



DATE	DESCRIPTION	STW
JUN 25, 2020	FINAL ISSUED FOR CONST.	
JUN 15, 2020	FINAL RE-SUBMITTAL	
MAY 25, 2020	FINAL RE-SUBMITTAL	
MAY 12, 2020	FINAL SUBMITTAL	
APR 07, 2020	PRE-FINAL SUBMITTAL	
MAR 10, 2020	50% DESIGN SUBMITTAL	



ED

COMMANDER NAVFAC

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STORY TO	DATE	—
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	DRW	CHK
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"DM">>>	EJC
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MANAGER	MSS
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ENG/ARCH	—
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Cl	Cl	Cl
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Age	Gender	Height	Weight	Body Mass Index	Waist Circumference	Waist-Hip Ratio	Trunk Flexion Angle	Trunk Flexion Moment	Trunk Flexion Torque	Trunk Flexion Force	Trunk Flexion Power	Trunk Flexion Energy
20	Male	1.75	75	24.2	85	0.85	30	100	100	100	100	100
25	Male	1.80	80	24.7	90	0.85	35	110	110	110	110	110
30	Male	1.85	85	24.7	95	0.85	40	120	120	120	120	120
35	Male	1.90	90	25.0	100	0.85	45	130	130	130	130	130
40	Male	1.95	95	25.0	105	0.85	50	140	140	140	140	140
45	Male	2.00	100	25.0	110	0.85	55	150	150	150	150	150
50	Male	2.05	105	25.0	115	0.85	60	160	160	160	160	160
55	Male	2.10	110	25.0	120	0.85	65	170	170	170	170	170
60	Male	2.15	115	25.0	125	0.85	70	180	180	180	180	180
65	Male	2.20	120	25.0	130	0.85	75	190	190	190	190	190
70	Male	2.25	125	25.0	135	0.85	80	200	200	200	200	200
75	Male	2.30	130	25.0	140	0.85	85	210	210	210	210	210
80	Male	2.35	135	25.0	145	0.85	90	220	220	220	220	220
85	Male	2.40	140	25.0	150	0.85	95	230	230	230	230	230
90	Male	2.45	145	25.0	155	0.85	100	240	240	240	240	240
95	Male	2.50	150	25.0	160	0.85	105	250	250	250	250	250
100	Male	2.55	155	25.0	165	0.85	110	260	260	260	260	260
105	Male	2.60	160	25.0	170	0.85	115	270	270	270	270	270
110	Male	2.65	165	25.0	175	0.85	120	280	280	280	280	280
115	Male	2.70	170	25.0	180	0.85	125	290	290	290	290	290
120	Male	2.75	175	25.0	185	0.85	130	300	300	300	300	300
125	Male	2.80	180	25.0	190	0.85	135	310	310	310	310	310
130	Male	2.85	185	25.0	195	0.85	140	320	320	320	320	320
135	Male	2.90	190	25.0	200	0.85	145	330	330	330	330	330
140	Male	2.95	195	25.0	205	0.85	150	340	340	340	340	340
145	Male	3.00	200	25.0	210	0.85	155	350	350	350	350	350
150	Male	3.05	205	25.0	215	0.85	160	360	360	360	360	360
155	Male	3.10	210	25.0	220	0.85	165	370	370	370	370	370
160	Male	3.15	215	25.0	225	0.85	170	380	380	380	380	380
165	Male	3.20	220	25.0	230	0.85	175	390	390	390	390	390
170	Male	3.25	225	25.0	235	0.85	180	400	400	400	400	400
175	Male	3.30	230	25.0	240	0.85	185	410	410	410	410	

FINCA

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1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
2. ROUTE SANITARY SEWER PIPING AT A MINIMUM OF 1/4 INCH PER FOOT, DOWNWARD SLOPE IN DIRECTION OF FLOW .
3. SEE ISOMETRICS FOR PIPE SIZES.

- 1 PUMPED CD, TERMINATE TO TOP OF GRAVITY CD MAIN
- 2 1-1/4" CONDENSATE DN TO MOP SINK. PROVIDE CODE APPROVED AIR GAP.
- 3 CONNECT 4" W TO SITE SEWER. REFER TO CIVIL SITE PLAN FOR CONTINUATION.
- 4 CLEANOUT TO SURFACE. REFER TO DETAIL 3/P-502
- 5 TO EXISTING STORM DRAIN BELOW GRADE, FIELD VERIFY EXACT POC.
- 6 1" CD DN TO FLOOR SINK. PROVIDE APPROVED AIR GAP.
- 7 2-1/2" BACKFLOW PREVENTER.
- 8 CONNECT 2-1/2" DCW TO SITE DCW. REFER TO CIVIL SITE PLAN FOR CONTINUATION.
- 9 REFER TO GAS CONNECTION DETAIL 3/P-501
- 10 REFER TO BFP DETAIL 1/P-502
- 11 PROVIDE "PIEDMONT WELL COVERS" HOT BOX 22°F FREEZE PROTECTION FOR BACKFLOW ASSEMBLY ABOVE GRADE.

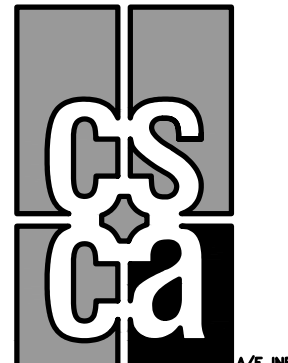
0 5' 15' 25'

2' 10'

SCALE 1/8" = 1'-0" (1 : 96)

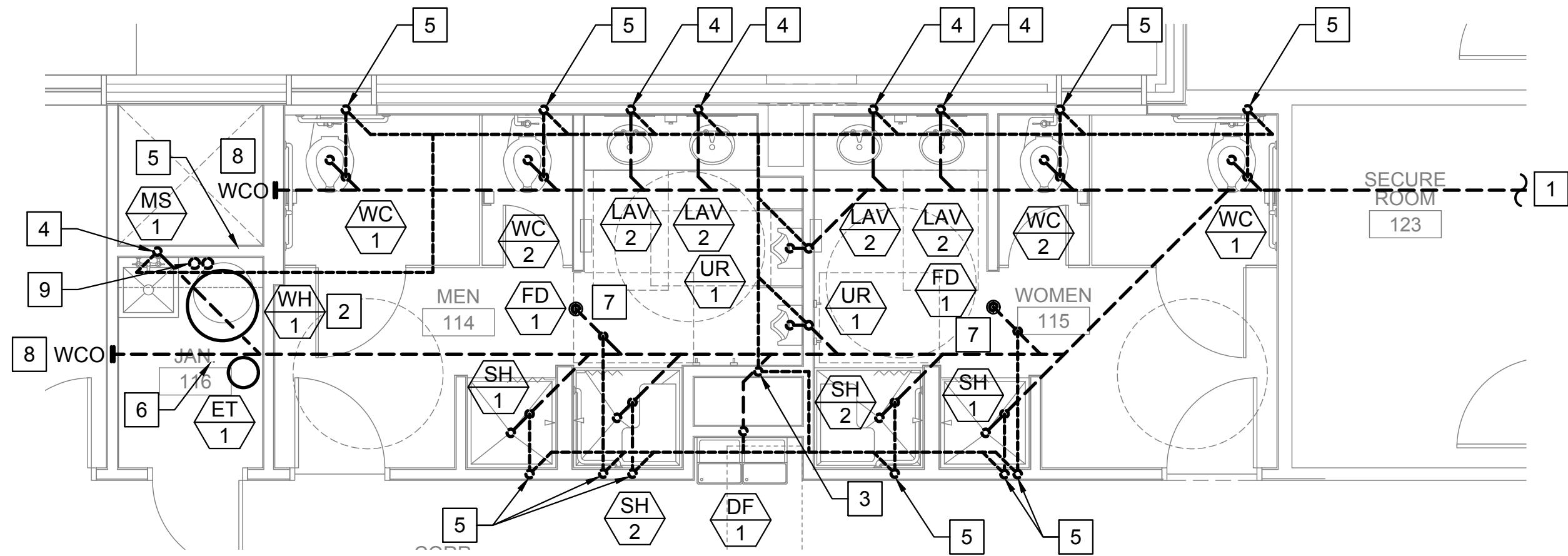


REVISIONS		DATE
50% DESIGN SUBMITTAL	MAR 10, 2020	
PRE-FINAL SUBMITTAL	APR 07, 2020	
FINAL SUBMITTAL	MAY 12, 2020	
FINAL RE-SUBMITTAL	MAY 25, 2020	
FINAL RE-SUBMITTAL	JUN 15, 2020	
FINAL RE-SUBMITTAL	JUN 25, 2020	
FINAL ISSUED FOR CONST.		
SYMBOL	DESCRIPTION	

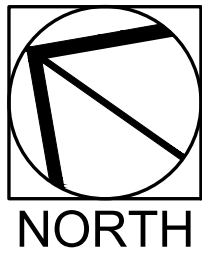


APPROVED		
FIR COMMANDER WAFAC		
ACTIVITY		
-		
SATISFACTORY TO DATE		
DES	DRW	CHK
<CPW/DM>		EJC
BRANCH MANAGER		MSS
CHIEF ENG/ARCH		-
<OOD>		-
NAVAL FACILITIES ENGINEERING COMMAND DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC MARINE CORPS NORTH CAROLINA IPT <CMFAC ATLANTIC ~ NORFOLK, VIRGINIA> JACKSONVILLE, NORTH CAROLINA IMCB CAMP LEJEUNE HADNOT POINT FACILITY REPAIR BUILDING 320 PLUMBING FLOOR PLAN		

FILE NAME: I:\246-000 - APTIM\246-000 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\Bldg 320\1-P-401 PLUMBING V & W ENLARGED FLOOR PLAN.dwg LAYOUT NAME: P-401 PLUMBING V & W ENLARGED FLOOR PLAN PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoyan



1 PLUMBING V & W ENLARGED FLOOR PLAN
P-401 1/4" = 1'-0"



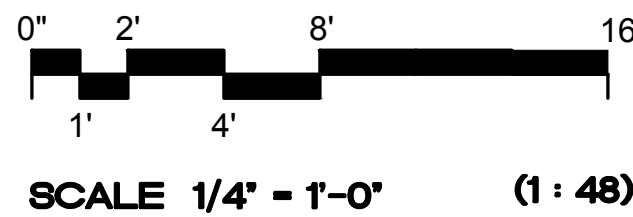
FLOOR PLAN GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
2. ROUTE SANITARY SEWER PIPING AT A MINIMUM OF 1/4 INCH PER FOOT, DOWNWARD SLOPE IN DIRECTION OF FLOW FOR BRANCHES AND AT A MINIMUM OF 1/8 INCH PER FOOT, DOWNWARD SLOPE IN DIRECTION OF FLOW FOR MAINS.
3. EACH PLUMBING FIXTURE THAT CONNECTS TO THE SANITARY SEWER SYSTEM SHALL BE TRAPPED AND VENTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE.
4. SEE ISOMETRICS FOR PIPE SIZES

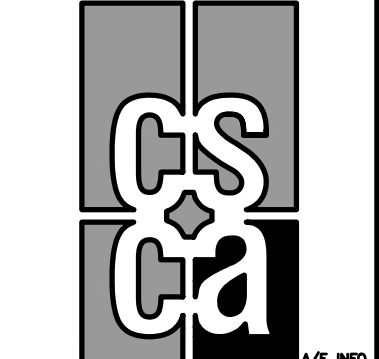
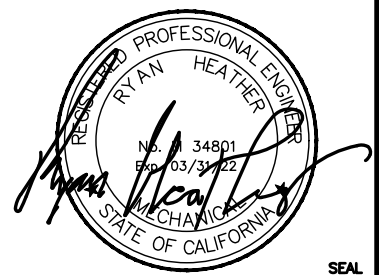
FLOOR PLAN KEY NOTES

- 1 FOR CONTINUATION, SEE 1/P-101.
- 2 WH T&P RELIEVE VALVE & CONDENSATE DRAIN TO MOP SINK. INSTALL WITH CONDENSATE NEUTRALIZATION CAPSULE. PROVIDE APPROVED AIR GAP.
- 3 VENT UP TO ROOF. CONNECT TO 4" VTR. REFER TO VTR DETAIL 1/P-501
- 4 WASTE DN IN WALL TO B/G. VENT UP TO ABOVE CEILING.
- 5 VENT FROM B/G IN WALL UP TO ABOVE CEILING.
- 6 FLOOR SINK. REFER TO DETAIL 2/P-501
- 7 FLOOR DRAIN. REFER TO DETAIL 5/P-501
- 8 WALL CLEANOUT. REFER TO DETAIL 6/P-501
- 9 (2)4" EXHAUST/COMBUSTION AIR INTAKE TO ROOF. PROVIDE CONCENTRIC VENT KIT. TERMINATE 10' AWAY FROM ANY INTAKE. ROUTING AND TERMINATION OF FLUE AND COMBUSTION AIR INTAKE SHALL COMPLY WITH MANUFACTURER SPECIFICATIONS. FOR CONCENTRIC VENT DETAIL SEE 2/P-502

GRAPHIC SCALE:



REVISIONS	DATE	DESCRIPTION
MAR 10 2020	APR 07 2020	50% DESIGN SUBMITTAL
PRE-FINAL SUBMITTAL	MAY 12 2020	FINAL SUBMITTAL
FINAL SUBMITTAL	MAY 25 2020	FINAL RE-SUBMITTAL
FINAL RE-SUBMITTAL	JUN 15 2020	FINAL ISSUED FOR CONST.
DATE		



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DES DATE CHK

<<PM/DM>> EJC

BRANCH MANAGER MSS

CHIEF ENG/ARCH

<<OO>>

NAVAL FACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC

MARINE CORPS NORTH CAROLINA IPT

JACKSONVILLE, NORTH CAROLINA

MCB CAMP LEJEUNE

HADNOT POINT FACILITY REPAIR

BUILDING 320

PLUMBING V & W ENLARGED FLOOR PLAN

SCALE:

PROJECT NO.: # 19-0139

CONSTR. CONTR. NO.

N6247019D8023/N4008520F4102

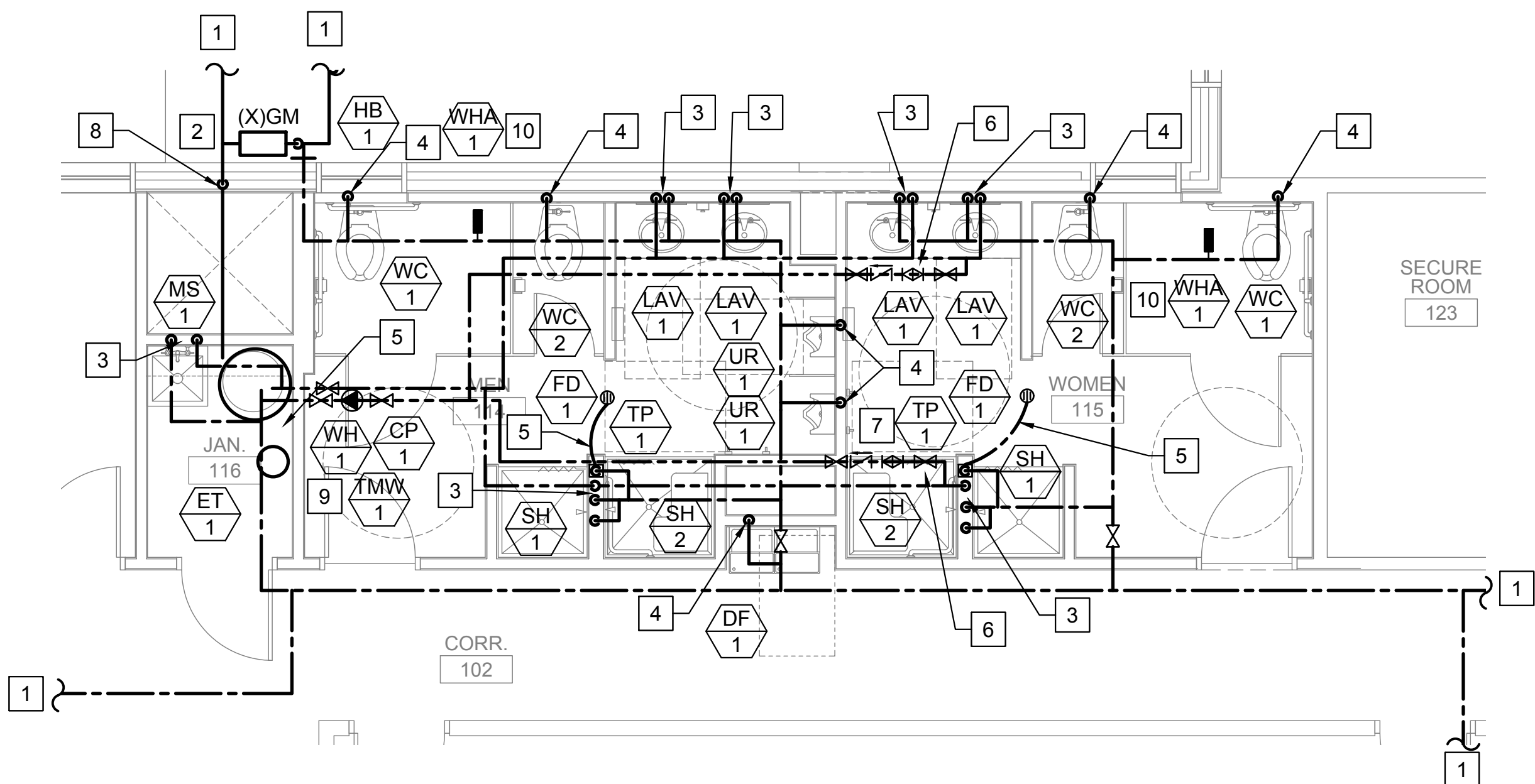
NAVFAC DRAWING NO.

60026374

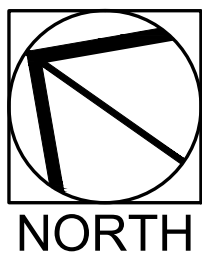
SHEET 76 OF 110

P-401

FILE NAME: i:\246-000 - APTIM\246-000 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\BUDG 320\17-402 PLUMBING CW, HW & GAS ENLARGED FLOOR PLANS PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoraym



1 PLUMBING CW, HW & GAS ENLARGED FLOOR PLANS
P-402 1/4" = 1'-0"



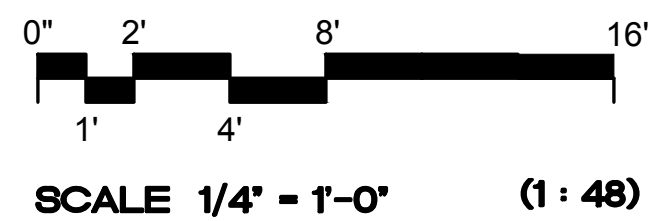
FLOOR PLAN GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
2. SEE ISOMETRICS FOR PIPE SIZES

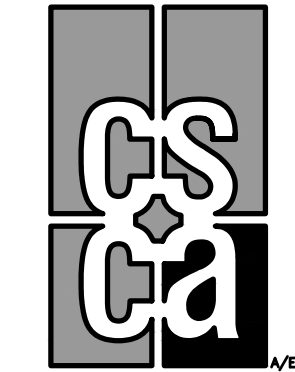
FLOOR PLAN KEY NOTES

- 1 FOR CONTINUATION, SEE 1/P-101.
- 2 GAS METER AND BUILDING PIPING TO SUPPORT NEW APPLIANCES.
- 3 HW & CW DN TO FIXTURE.
- 4 CW DN TO FIXTURE.
- 5 CW FROM TP-1 TO FLOOR DRAIN/FLOOR SINK.
- 6 SET BALANCING VALVE TO .5 GPM.
- 7 FOR TRAP PRIMER DETAIL, REFER TO 4/P-501
- 8 GAS TO ABOVE FLOOR.
- 9 REFER TO WATER HEATER DETAIL 1/P-503
- 10 REFER TO WATER HAMMER ARRESTOR DETAIL 4/502

GRAPHIC SCALE:



REVISIONS	DATE	DESCRIPTION
90% DESIGN SUBMITTAL	MAR 10 2020	
PRE-FINAL SUBMITTAL	APR 07 2020	
FINAL SUBMITTAL	MAY 12 2020	
FINAL RE-SUBMITTAL	MAY 25 2020	
FINAL ISSUED FOR CONST.	JUN 25 2020	



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES <<PM/DM>> DRW EJC

BRANCH MANAGER MSS

CHIEF ENG/ARCH

<<DD>>

NAVAL FACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC

MARINE CORPS NORTH CAROLINA IPT

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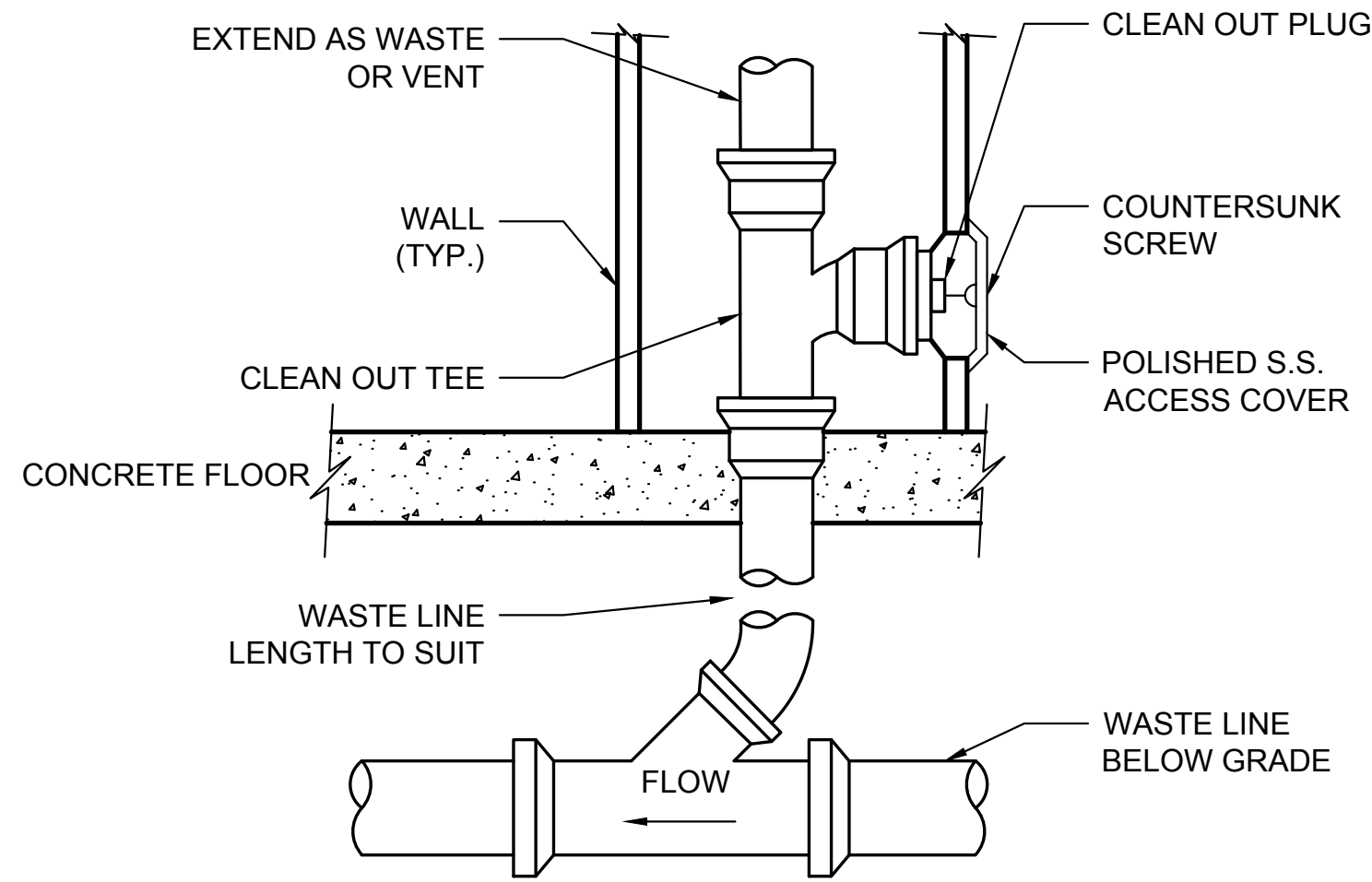
MARINE CORPS NORTH CAROLINA IPT

MARINE CORPS NORTH CAROLINA IPT

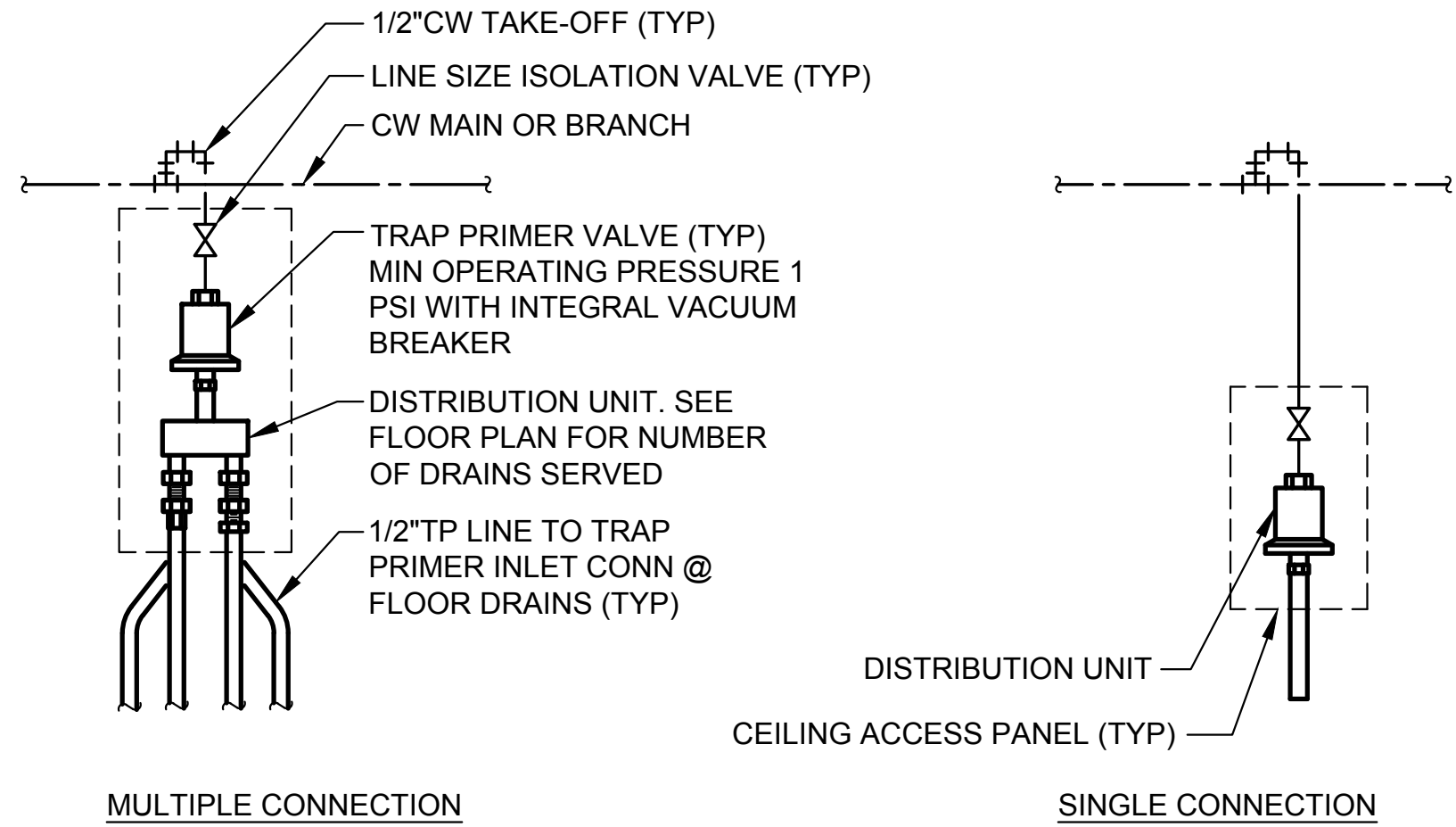
MARINE CORPS NORTH CAROLINA IPT

MARINE CORPS NORTH CAROLINA IPT

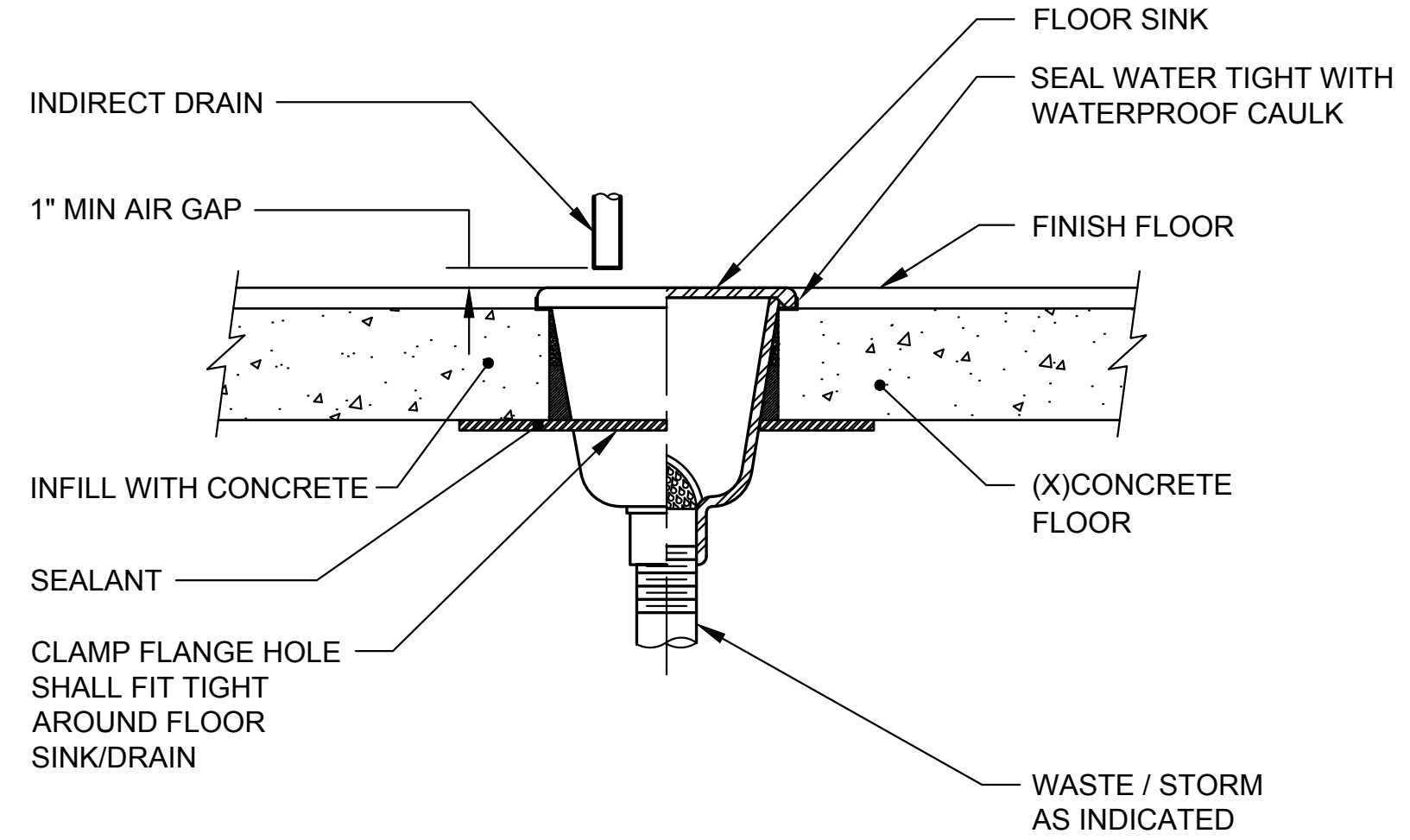
FILE NAME: J:\246-000 - APTIM\246-002 - Hadnot Point Facility Repair Camp Lejeune Drawings\BUDG 320\2-501 PLUMBING DETAILS.dwg LAYOUT NAME: P-501 PLUMBING DETAILS PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoyon



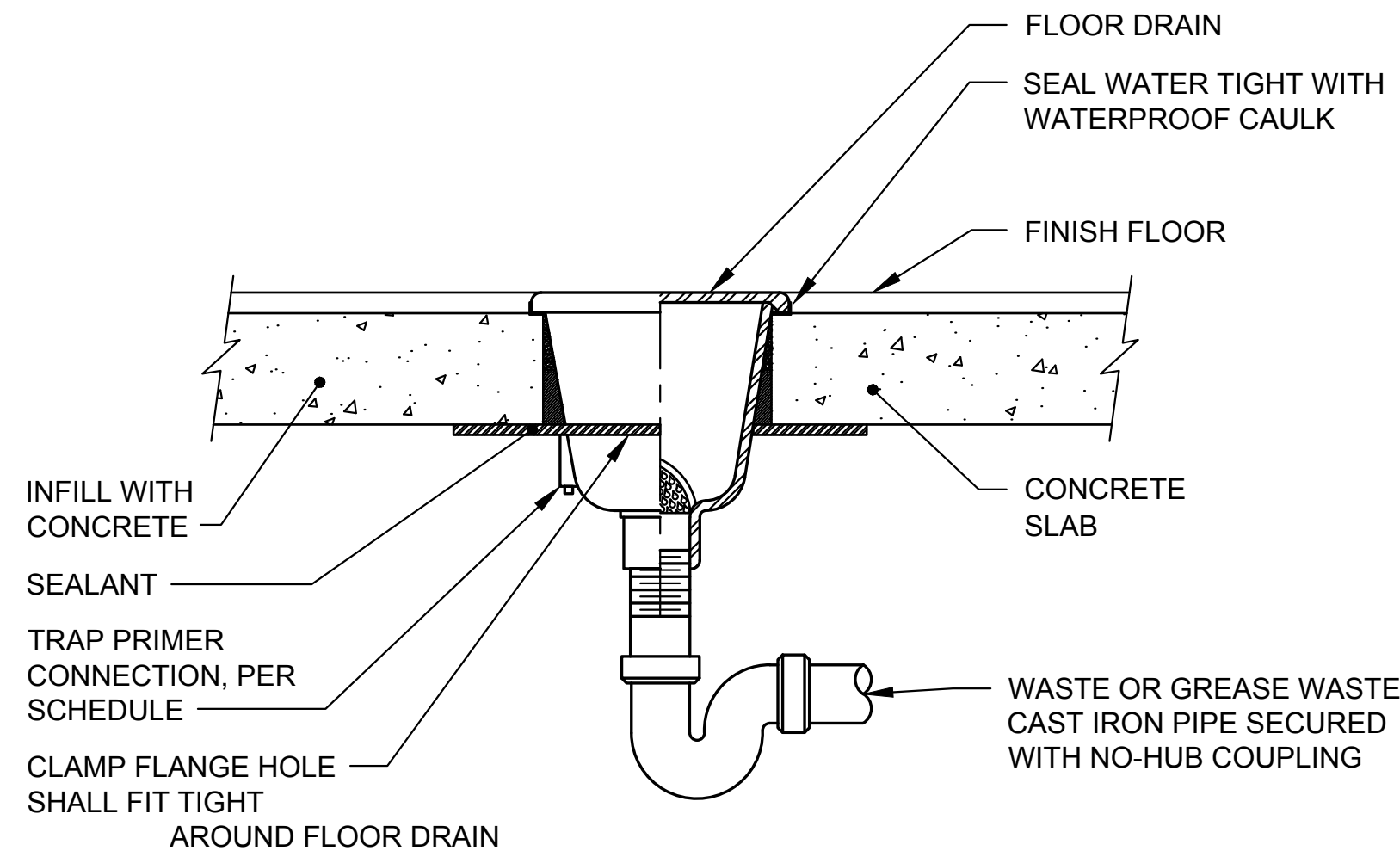
6 WALL CLEAN OUT DETAIL
P-501 NTS



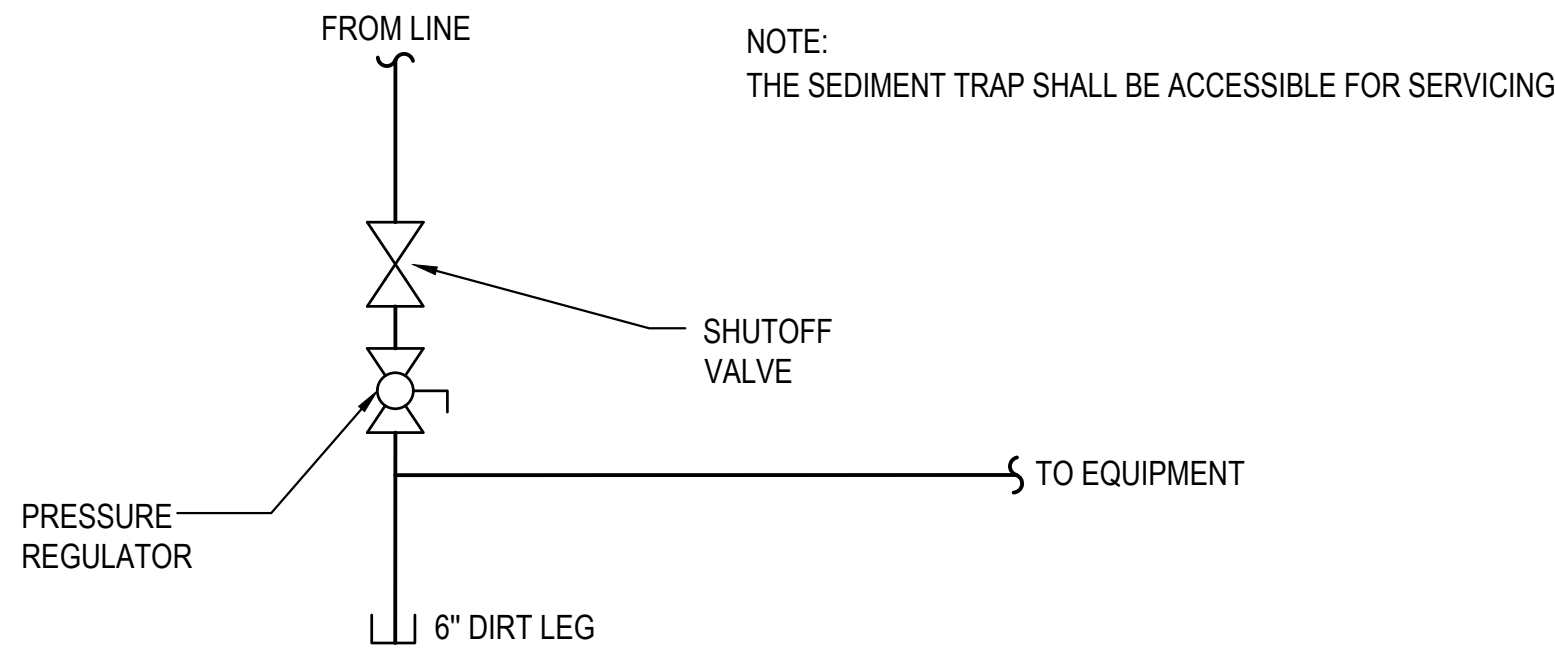
4 TRAP PRIMER DETAIL
P-501 NTS



2 FLOOR SINK DETAIL
P-501 NTS

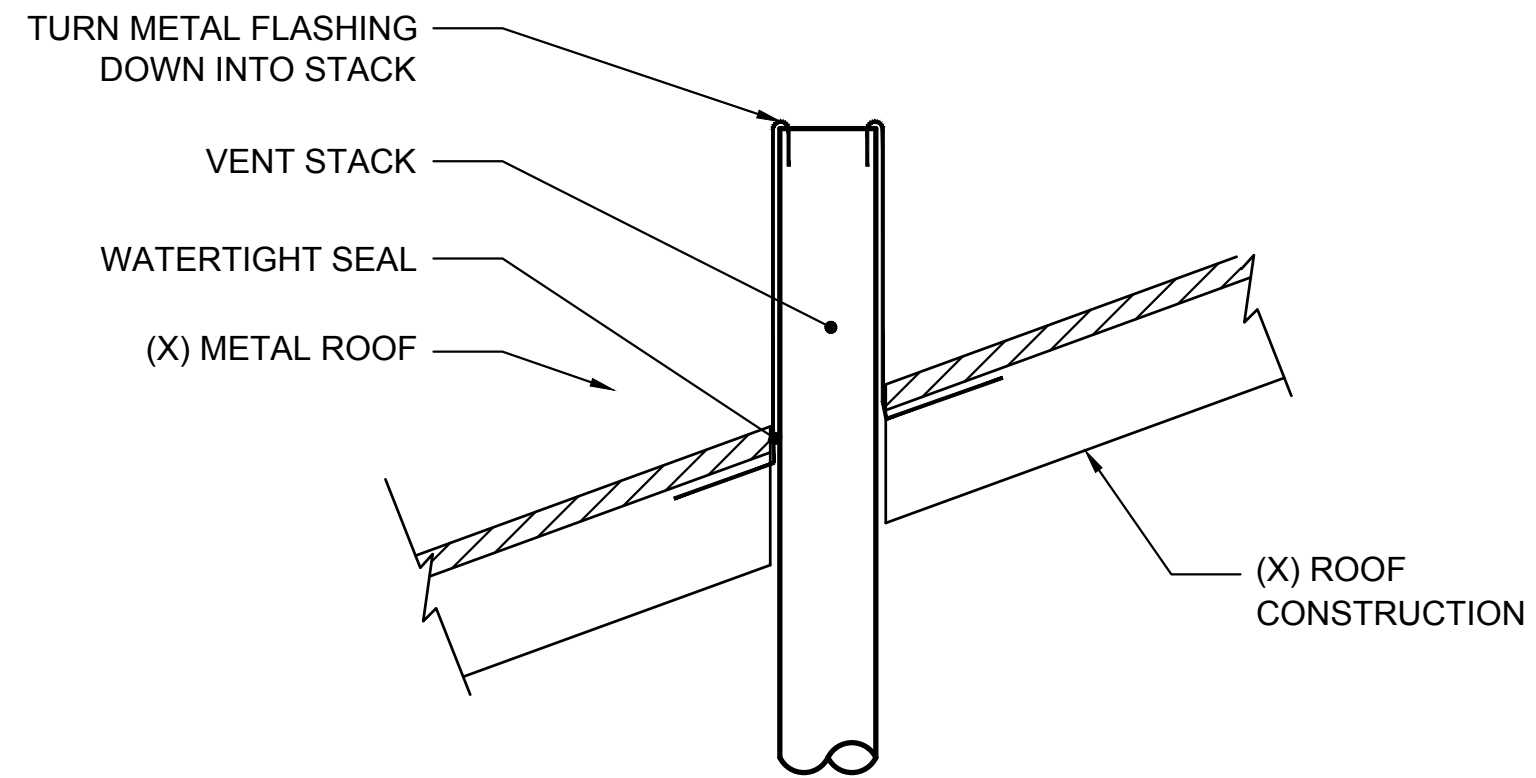


5 FLOOR DRAIN DETAIL
P-501 NTS



3 GAS CONNECTION DETAIL
P-501 NTS

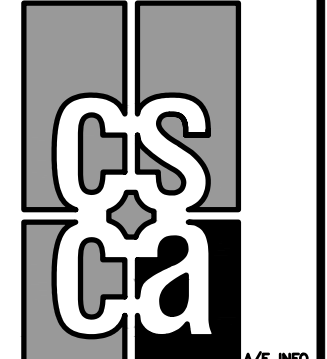
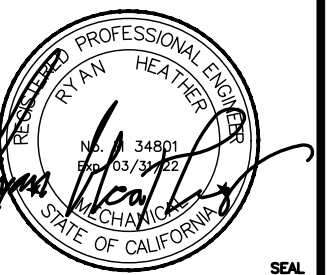
NOTES:
1. EXTEND VENT PIPING A MINIMUM OF 6" ABOVE ROOFING.



1 VENT THRU ANGLED ROOF DETAIL
P-501 NTS



REVISIONS	DATE	DESCRIPTION
MAR 10 2020		
90% DESIGN SUBMITTAL	APR 07 2020	
PRE-FINAL SUBMITTAL	MAY 12 2020	
FINAL SUBMITTAL	MAY 25 2020	
FINAL RE-SUBMITTAL	JUN 15 2020	
FINAL ISSUED FOR CONST.	JUN 25 2020	



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DES DRW CHK

<<PM/DM>> EJC

BRANCH MANAGER MSS

CHIEF ENG/ARCH

<<OO>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
MARINE CORPS NORTH CAROLINA IPT
MCCB CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
HADNOT POINT FACILITY REPAIR
BUILDING 320
PLUMBING DETAILS

SCALE:

PROJECT NO.: # 19-0139

CONSTR. CONTR. NO.

N6247019D8023/N4008520F4102

NAVFAC DRAWING NO.

60026376

SHEET 78 OF 110

P-501



FINAL ISSUED FOR CONSTRUCTION - JUNE 25, 2020

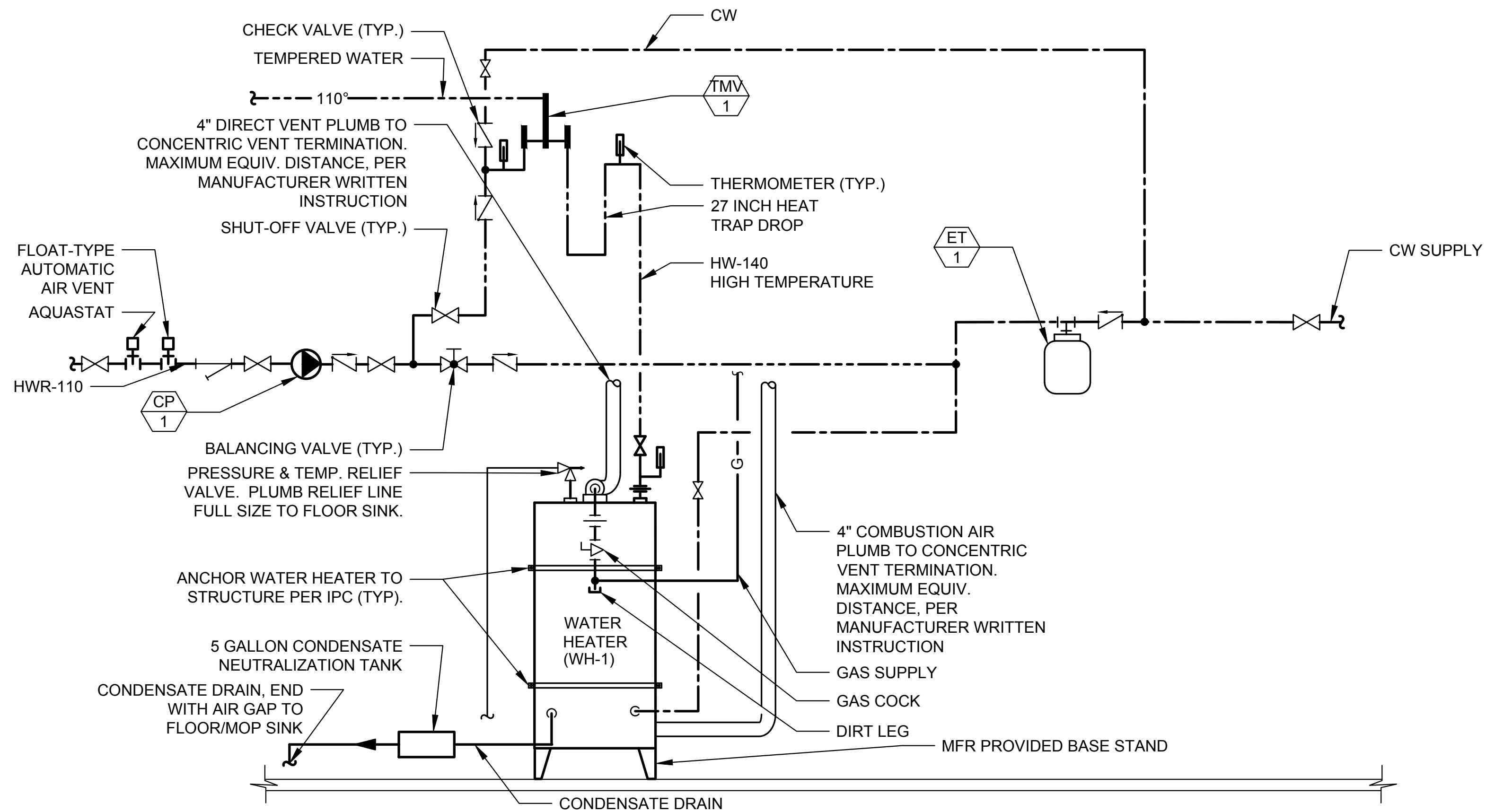
FILE NAME: i:\246-000 - APTIM\246-002 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\BUDG 320\2-503 PLUMBING DETAILS.dwg LAYOUT NAME: P-503 PLUMBING DETAILS PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoyon

D

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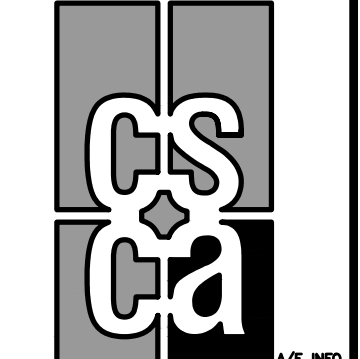
1 CONDENSING STORAGE GAS-FIRED WATER HEATER SINGLE TEMP & RECIRCULATION PUMP DETAIL
P-503 NTS



FINAL ISSUED FOR CONSTRUCTION - JUNE 25, 2020



REVISIONS	DATE
90% DESIGN SUBMITTAL	MAR 10 2020
PRE-FINAL SUBMITTAL	APR 07 2020
FINAL SUBMITTAL	MAY 12 2020
FINAL RE-SUBMITTAL	MAY 25 2020
FINAL ISSUED FOR CONST.	JUN 25 2020
DESCRIPTION	DATE



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DRW CHK

<<PM/DM>> EJC

BRANCH MANAGER MSS

CHIEF ENG/ARCH

<<OO>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
MARINE CORPS NORTH CAROLINA IPT
MCB CAMP LEJEUNE
JACKSONVILLE, NORTH CAROLINA
HADNOT POINT FACILITY REPAIR
BUILDING 320
PLUMBING DETAILS

SCALE:

PROJECT NO.: # 19-0139

CONSTR. CONTR. NO.

N6247019D8023/N4008520F4102

NAVFAC DRAWING NO.

60026378

SHEET 80 OF 110

P-503

FILE NAME: i:\246-000 - APTIM Drawings\Drawings\BUDG 320\2-601 PLUMBING SCHEDULES.dwg LAYOUT NAME: P-601 PLUMBING SCHEDULES PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnayon

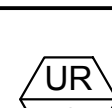
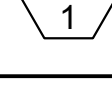
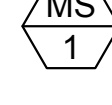
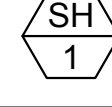
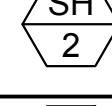
D

PLUMBING EQUIPMENT SCHEDULE			
ITEM NO.	DESCRIPTION	MANUFACTURER/MODEL	REMARKS
 1	THERMOSTATIC MIXING VALVE	LEONARD 670-LF	LOW LEAD THERMOSTATIC POINT OF USE MIXING VALVE, 1" SIZE WITH COMPRESSION FITTINGS ON INLETS & 1-1/4" OUTLET, INTEGRAL CHECK VALVES WITH STRAINERS ON INLETS, , TEMPERATURE ADJUSTMENT CAP, MINIMUM FLOW: 2.5 GPM. ASME 1070 RATED. MAXIMUM PRESSURE: 125 PSI. INLET TEMPERATURE IS 140°F. SET OUTLET TEMPERATURE TO 110°F (ADJ.).
 1	WATER HAMMER ARRESTOR	PRECISION PLUMBING PRODUCTS MODEL: SC-1000	1" BRASS N.P.T., BARREL-FABRICATED TYPE "L" COPPER. PROVIDE WITH DISTRIBUTION UNIT DU-U FOR TWO OUTLETS. SIZE PER PDI STANDARD WH201-06. PROVIDE ACCESS PANEL.
 1	TRAP PRIMER	JRSMITH 2694	PROVIDE WITH DISTRIBUTION UNIT 2694DA-ABS-625 FOR FOUR OUTLETS.
 1	BACKFLOW PREVENTER	ZURN WILKINS 350AST	2-1/2" DOUBLE CHECK VALVE ASSEMBLY. 304L STAINLESS STEEL MAIN VALVE BODY AND ACCESS COVERS, STAINLESS STEEL, CERTIFIED ASSE LISTED1015 AND NSF/ANSI 61.

C

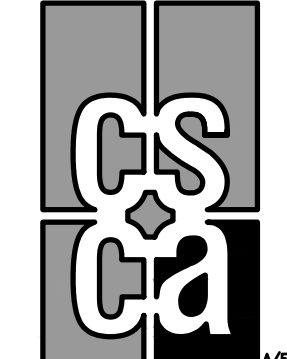
B

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PLUMBING FIXTURE SCHEDULE							
ITEM NO.	DESCRIPTION	MANUFACTURER/MODEL	MINIMUM ROUGH-IN SIZE				REMARKS
			WASTE	VENT	CW	HW	
 1	WATER CLOSET ADA COMPLIANT	AMERICAN STANDARD MADERA 3043.001.020	4"	2"	1-1/2"	-	FLOOR MOUNT, VITREOUS CHINA, ELONGATED BOWL, 1-1/2" TOP SPUD, 16-1/2" RIM HEIGHT. PROVIDE SLOAN ECOS HARDWIRE POWERED FLUSHOMETER 111.1.28 HW & SLOAN EL451 TRANSFORMER . MINIMUM 25 PSI WORKING PRESSURE. PROVIDE BLACK SOLID PLASTIC ELONGATED OPEN-FRONT SEAT.
 2	WATER CLOSET	AMERICAN STANDARD MADERA 3451.001.020	4"	2"	1-1/2"	-	FLOOR MOUNT, VITREOUS CHINA, ELONGATED BOWL, 1-1/2" TOP SPUD, 15" RIM HEIGHT. PROVIDE SLOAN ECOS HARDWIRE POWERED FLUSHOMETER 111.1.28 HW & SLOAN EL451 TRANSFORMER . MINIMUM 25 PSI WORKING PRESSURE. PROVIDE BLACK SOLID PLASTIC ELONGATED OPEN-FRONT SEAT.
 1	URINAL ADA COMPLIANT	AMERICAN STANDARD PINTBROOK 6002.001.002	2"	2"	3/4"	-	WALL HUNG, WASHOUT URINAL, VITREOUS CHINA, 3/4" TOP SPUD. PROVIDE SLOAN ECOS HARDWIRED POWERED FLUSHOMETER 186-0.125 HW & SLOAN EL451 TRANSFORMER. MINIMUM 20 PSI WORKING PRESSURE. TYPE 1 URINAL CARRIER WITH FIXTURE SUPPORT PLATES. INCLUDE STEEL UPRIGHTS WITH FEET ANCHOR BOLTED TO THE SLAB.
 1	LAVATORY ADA COMPLIANT	AMERICAN STANDARD OVALYN 0495.221.020	2"	2"	1/2"	1/2"	OVAL UNDER MOUNT LAVATORY, VITREOUS CHINA, 17-1/8" X 14-1/8" DIMENSIONS. COLOR: WHITE. PROVIDE AMERICAN STANDARD PARADIGM SELECTRONIC FAUCET MODEL 702B.205, POWER KIT PK00.HAC, HARD-WIRED AC TRANSFORMER, 0.5 GPM PRESSURE COMPENSATING LAMINAR SPRAY, IN-LINE STRAINER, ANSI A117.1. PROVIDE TRUEBRO LAVGUARD2 E-Z SERIES WASTE & SUPPLY PIPING COVERS.
 1	MOP SINK	FIAT TSB-3000	3"	2"	1/2"	1/2"	PRECAST TERRAZZO MOP SINK, 24"x24"x12" DIMENSIONS. PROVIDE ACCESSORIES: FIAT 832-AA HOSE & BRACKET, FIAT 889-CC MOP HANGER BRACKET, AMERICAN STANDARD 8344.112.002 WM UTILITY FAUCET. PROVIDE FLOOR OR WALL OUTLET COPPER ALLOY BODY DRAIN CAST INTEGRAL WITH TERRAZZO, WITH POLISHED STAINLESS STEEL STRAINERS..
 1	SHOWER	SYMMONS 1-100-1.5-X	-	-	1/2"	1/2"	SHOWER WITH THERMOSTATIC MIXING VALVE CONTROL. 1.5 GPM FLOW RATE.
 2	SHOWER ADA COMPLIANT	SYMMONS 1-25-FSB-1.5-X	-	-	1/2"	1/2"	SHOWER WITH THERMOSTATIC MIXING VALVE CONTROL. 1.5 GPM FLOW RATE.
 1	DRINKING FOUNTAIN	MURDOCK A172108-F-UBL-BF2S	2"	1-1/2"	1/2"	-	WALL-HUNG, BUBBLER STYLE, AIR-COOLED CONDENSING UNIT, 4.75 GPH MINIMUM CAPACITY, STAINLESS STEEL SPLASH RECEPTOR AND BASIN, AND STAINLESS STEEL CABINET. PROVIDE BOTTLE FILLER AND FILTER.
 1	FLOOR DRAIN	ZURN Z415B-G-P	2"	2"	-	-	ROUND TOP, NO-HUB OUTLET. PROVIDE WITH TRAP PRIMER CONNECTION.
 1	WALL HYDRANT	WOODFORD 67BX	-	-	3/4"	-	FREEZELESS WALL HYDRANT, BOX TYPE, AUTOMATIC DRAINING WITH DOUBLE CHECK BACKFLOW PREVENTER. ASSE STANDARD 1052. 3/4" INLET/ OUTLET. STAINLESS STEEL OPERATING STEM & ONE-PIECE VALVE PLUNGER TO CONTROL FLOW & DRAIN, CHROME PLATED, TEE KEY. MOUNTING HEIGHT 36".
 1	FLOOR SINK	ZURN MODEL Z1900-P-2-32	3"	2"	-	-	3" PIPE SIZE NO-HUB OUTLET (3NH) , 12" x 12" x 6" SANI-FLOR RECEPTOR, CAST IRON BODY, 1/2 GRATE, WHITE ACID RESISTANT PORCELAIN ENAMEL INTERIOR, ALUMINUM DOME STRAINER, AND RAIN COVER.



REVISIONS	DATE	DESCRIPTION
90% DESIGN SUBMITTAL	MAR 10 2020	
PRE-FINAL SUBMITTAL	APR 07 2020	
FINAL SUBMITTAL	MAY 12 2020	
FINAL RE-SUBMITTAL	MAY 25 2020	
FINAL RE-SUBMITTAL	JUN 15 2020	
FINAL ISSUED FOR CONST.	JUN 25, 2020	



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FILE NAME: i:\246-000 - APTIM\Drawings\Bldg 320\P-602 PLUMBING SCHEDULES.dwg LAYOUT NAME: P-602 PLUMBING SCHEDULES PLOTTED: Tuesday, June 23, 2020 - 4:55pm USER: Elnayon

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WATER HEATER SCHEDULE												
TAG	MANUFACTURER & MODEL NO.	WATER HEATER TYPE	FUEL TYPE	APPROX. CAPACITY (GAL)	PERFORMANCE DATA				ELECTRICAL		OPER. WEIGHT (LBS)	REMARKS
					INPUT (MBH)	EFF (%)	EWT (°F)	LWT (°F)	POWER SUPPLY			
									TOTAL FLA	V/PH/Hz		
WH 1	PVI CONQUEST 100	CONDENSING	NATURAL GAS	100.0	199,000	95.0	60.0	140.0	5	120/1/60	1,470.0	1,2,3,4,5,6,7,8

NOTES:

1. ASME RATED CONSTRUCTION
2. PROVIDE 5:1 MODULATING BURNER
3. PROVIDE STAINLESS STEEL HEAT EXCHANGER AND FLUE VENT
4. PROVIDE VARIABLE SPEED BLOWER
5. PROVIDE MODULATING TEMPERATURE MIXING VALVE
6. PROVIDE 125 PSI RELIEF VALVE
7. PROVIDE LOW WATER CUT-OFF
8. PROVIDE 5 GALLON TYPE CONDENSATE NEUTRALIZATION KIT WATTS, MODEL T13 OR EQUAL.

CIRCULATION PUMP SCHEDULE											
TAG	MANUFACTURER & MODEL NO.	SERVICE	LOCATION	TYPE	PERFORMANCE DATA			ELECTRICAL		OPER. WEIGHT (LBS)	REMARKS
					FLOW RATE (GPM)	DESIGN PD (FT HD)	NPSHR (FT HD)	MOTOR	POWER SUPPLY		
								HP	V/PH/Hz		
CP 1	GRUNDFOS UPS 15-55 SFC	DHW RETURN	WATER HEATER ROOM	3- SPEED INLINE WETROTOR	2.0	18.0	9.1	1	120/1/60	6	1,2,3,4

NOTES:

1. PROVIDE SUPPORTS AT PUMP BASE
2. CAST IRON PUMP VOLUTE
3. BRONZE IMPELLER WITH 316L STAINLESS STEEL SHAFT
4. PROVIDE NEMA PREMIUM EFFICIENCY TEFC MOTOR
5. PROVIDE PROVIDE INVERTER DUTY MOTOR

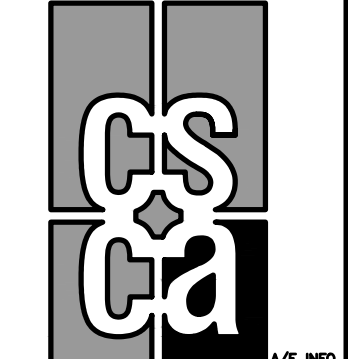
EXPANSION TANK SCHEDULE									
TAG	MANUFACTURER & MODEL NO.	SERVICE	LOCATION	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	CHARGE (PSI)	MAX. OPER. PRESSURE (PSI)	OPER. WEIGHT (LBS)	REMARKS
ET 1	AMTROL THERM-X-TROL - ST-12	DHW SYSTEM	WATER HEATER ROOM	4.4	3.2	55.0	150.0	46	1,2,3,4,5,6,7,8.

REMARKS:

1. PROVIDE BASE MOUNTING RING & FLANGED CONNECTIONS.
2. PROVIDE AUTOMATIC AIR VENT & AIR CHARGING VALVE.
3. PROVIDE SITE GLASS.
4. PROVIDE DRAIN VALVE.
5. ASME RATED CONSTRUCTION.
6. PROVIDE FIXED DIAPHRAGM: BUTYL - FDA APPROVED
7. PROVIDE COASTAL CORROSION PROTECTION.
8. PROVIDE HEAVY DUTY BUTYL



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BRANCH MANAGER MSS
CHIEF ENG/ARCH
<<OD>>

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC	
MARINE CORPS NORTH CAROLINA IPT	<<NAVFAC ATLANTIC ~ NORFOLK, VIRGINIA>>
MCB CAMP LEJEUNE	JACKSONVILLE, NORTH CAROLINA
HADNOT POINT FACILITY REPAIR	
BUILDING 320	
PLUMBING SCHEDULES	

SCALE:
EPROJECT NO.: # 19-0139
CONSTR. CONTR. NO.
N6247019D8023/N4008520F4102
NAVFAC DRAWING NO.
60026380
SHEET 82 OF 110
P-602

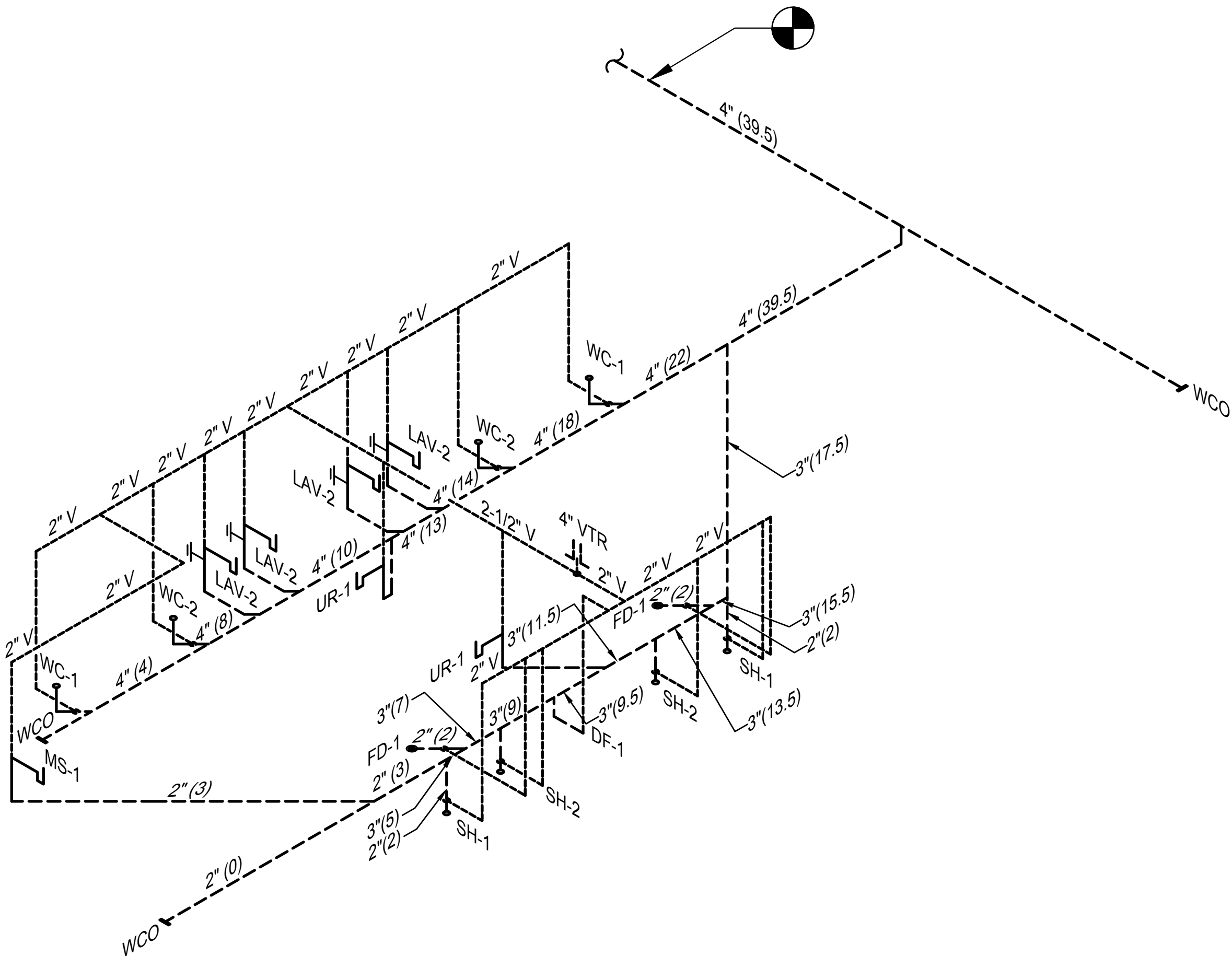
FILE NAME: i:\246-000 - APTIM\246-002 - Hadnot Point Facility Repair Comp. Lejeune\Drawings\Bldg 320\2-603 PLUMBING V & W ISOMETRIC.dwg LAYOUT NAME: P-603 PLUMBING V & W ISOMETRIC PLOTTED: Tuesday, June 23, 2020 - 4:45pm USER: Elnoyon

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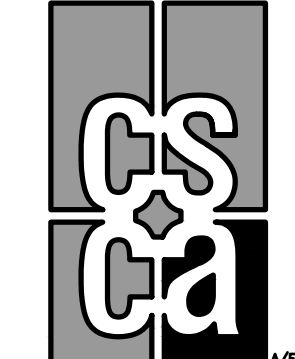
1 PLUMBING V & W ISOMETRIC
P-603 NTS

FLOOR PLAN GENERAL NOTES

1. NUMBERS IN () INDICATES DFU.



REVISIONS	DATE
MAR 10 2020	
50% DESIGN SUBMITTAL	APR 07 2020
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BRANCH MANAGER MSS

CHIEF ENG/ARCH

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
MARINE CORPS NORTH CAROLINA IPT
MCB CAMP LEJEUNE
HADNOT POINT FACILITY REPAIR
BUILDING 320
PLUMBING V & W ISOMETRIC

SCALE:

PROJECT NO.: # 19-0139

CONSTR. CONTR. NO.

N6247019D8023/N4008520F4102

NAVFAC DRAWING NO.

60026381

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FINAL ISSUED FOR CONSTRUCTION - JUNE 25, 2020

