

LEGEND

SYMBOL/LINETYPE	ABBREV.	DESCRIPTION
⊕	FD	FLOOR DRAIN
⊗	SOV	SHUT OFF VALVE
⊗	SOV	SHUT OFF VALVE @ RISER
---	(E)	EXISTING (LIGHTEN COLOR)
-x-x-		DEMOLISH
---	(N)	NEW (DARKEN COLOR)
---	SS	SANITARY SEWER
---	V	VENT
⊕	FCO COTG	FLOOR CLEAN OUT CLEAN OUT TO GRADE
⊕	WCO	WALL CLEAN OUT
---	CW	COLD WATER
---	HW	HOT WATER

GENERAL NOTES:

- CONTRACTOR SHALL VISIT JOB SITE, VERIFY FIELD CONDITIONS, REVIEW PLAN AND SPECIFICATIONS AND SHALL INCLUDE IN HIS PRICE THE NECESSARY COST TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE MECHANICAL DRAWING AND SHALL MEET ALL APPLICABLE CODES.
- ALL MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED SHALL BE NEW, FREE FROM DEFECTS AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER. SHOULD ANY TROUBLE DEVELOP DURING THE PERIOD DUE TO FAULTY WORKMANSHIP OR MATERIAL, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIAL AND LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
- CONTRACTOR IS TO REVIEW THE PLANS OF OTHER DISCIPLINES AND COORDINATE WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION TO AVOID ANY CONFLICT BETWEEN DUCTS, CONDUITS, SPRINKLERS, PIPING, LIGHTING FIXTURES, ETC. NO EXTRAS WILL BE ALLOWED FOR CORRECTION OF CONFLICTS DUE TO LACK OF COORDINATION.
- THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION OF PIPING, DUCT WORK OR DIFFUSERS.
- THE CONTRACTOR SHALL BRING TO THE ARCHITECT'S ATTENTION ANY DISCREPANCY OR CONFLICTS IN THE PLANS OR THE SITE CONDITIONS. ALL NECESSARY CHANGES MUST BE APPROVED IN WRITING BY THE ARCHITECT BEFORE START OF WORK.
- CONTRACTOR TO SUBMIT CATALOG CUT SHEETS OF ALL THE MATERIAL AND EQUIPMENT TO BE USED AND WORKING SHOP DRAWINGS FOR APPROVAL BEFORE START OF WORK.
- SUPPORTS FOR ALL PIPING SHALL BE IN ACCORDANCE WITH LATEST SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF PLUMBING SYSTEMS" AND CMC.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND FEES REQUIRED FOR THE WORK.
- MHC ENGINEERS SHALL NOT BE RESPONSIBLE FOR THE DESIGN AND PERFORMANCE OF ANY EXISTING WORK TO REMAIN.

PLUMBING GENERAL NOTES:

- HORIZONTAL LINES SHALL HAVE HANGERS OR SUPPORTS SPACED AS FOLLOWS(BASED ON CPC TABLE 3-2):
 A. CAST IRON PIPE - 5' CENTERS FOR LEAD AND OAKUM JOINT; FOR OTHER JOINTS, EVERY OTHER JOINT, UNLESS OVER 4', EVERY JOINT.
 B. STEEL PIPE - 10' CENTERS FOR 3/4" AND SMALLER, 12' FOR 1" AND LARGER.
 C. COPPER TUBING - 5' CENTERS FOR 1 1/2" AND SMALLER, 10' CENTERS FOR 2" AND LARGER.
- PIPING SHALL BE NEW AND FREE FROM FOREIGN SUBSTANCES. REAM OUT ALL BURRS FORMED IN CUTTING PIPE. THREAD SHALL BE CUT ACCURATELY AND NOT OVER TWO THREADS SHALL SHOW BEYOND THE FITTING. FRICTION WRENCHES SHALL BE USED WITH PLATED POLISHED OR SOFT METAL PIPING.
- CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCING FITTINGS, AND BUSHING WILL NOT BE PERMITTED.
- PROVIDE ISOLATED COUPLINGS AND/OR UNIONS AT POINTS OF CONNECTION BETWEEN COPPER, STEEL AND BRASS PIPING, EPCCO OR EQUAL.
- ALL WATER PIPING SYSTEMS AND DRAINAGE PIPING SYSTEMS, INCLUDING SUPPLY, WASTE AND DRAIN SHALL BE INSTALLED WITH VIBRATION ISOLATORS.
- INSTALL ALL CLEANOUTS WHERE REQUIRED BY CODE AND ORDINANCES, AND AT ENDS OF HOUSE DRAINS, AT ALL CHANGES IN DIRECTIONS, IN ALL STRAIGHT RUNS AT 100 FOOT INTERVALS, WHERE HORIZONTAL MAINS CHANGE SIZE, AND AT ALL ENDS OF ALL BRANCH PIPES WHICH ARE 5' OR OVER IN LENGTH.
- FITTINGS SHALL AVOID THE TYPE WITH POTENTIAL FOR LEAD CONTAMINATION.
- MATERIALS, METHODS AND LOCATIONS OF SERVICE MAINS CONNECTING THE NEW CONSTRUCTION TO ALL NEW AND EXISTING SERVICES SHALL BE IN STRICT ACCORDANCE WITH RULES, REGULATIONS, CODES AND REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THIS INSTALLATION. LOCATE AND EXCAVATE ALL EXISTING BURIED STUBS TO BE CONNECTED TO IN THIS CONTRACT BEFORE EXCAVATION OF TRENCHES IS STARTED. COORDINATE LOCATION OF WATER AND SEWER CONNECTIONS WITH SITE UTILITY WORK.
- UNION CONNECTION SHALL BE INSTALLED DOWNSTREAM OF ALL VALVES, AT ALL EQUIPMENT CONNECTIONS AND AT OTHER POINTS AS REQUIRED.
- WATER OR DRAINAGE PIPING SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT UNLESS ADEQUATE INSULATION PROTECTION IS PROVIDED AGAINST DRIP CAUSED BY CONDENSATION OR LEAKS.
- HORIZONTAL DRAINAGE PIPING SHALL BE RUN IN PRACTICAL ALIGNMENT AND A UNIFORM SLOPE OF NOT LESS THAN 1/4" PER FT AS PER CPC 708.
- CONTRACTOR AND OWNER SHALL PROVIDE NECESSARY MARKING AND/OR BARRICADE TO AREA(S) FOR PUBLIC SAFETY.
- ALL PIPE SUPPORT, FASTENER, AND BRACING MUST BE STAINLESS STEEL. PROVIDE ISOLATION BETWEEN COPPER TUBING AND PIPE SUPPORT.

WATER HAMMER ARRESTER
(SIOUX CHIEF SERIES 650 OR EQUAL)

SIZE	A	B	C	D
FU	1-11	12-32	33-60	61-113

PLUMBING EQUIPMENT SCHEDULE

- ALT. BID **WH 01**
WH 02
 ALT. BID **PUMP 01**
PUMP 02
- WATER HEATER (ELECTRIC) - SEE P2.05 FOR RESTROOM LOCATIONS.
 A.O. SMITH DURA-POWER DEL-20 LOW BOY ELECTRIC WATER HEATER
 2,500 WATT INPUT, 208 V, 20 GALLON TANK. 73 LB. SHIPPING WEIGHT.
 PROVIDE EXPANSION TANK, AND SHEETMETAL DRAIN PAN UNDERNEATH. COMPLETE WITH SEISMIC STRAP TO WALL STRUCTURE, NOTE: DRAIN PAN SHALL INDIRECT TO UTILITY SINK BELOW.
- NEW SEWAGE EJECTOR PUMPS**
 PLEASE CONTACT CALIFORNIA HYDRONICS FOR COMPLETE DUPLEX SEWAGE EJECTOR PUMP PACKAGE.
 PUMPS: (2) WEIL MODEL 2516, 3450 RPM, 2-IN SUBMERSIBLE GRINDER PUMP, 208V, 3Ø, 5HP, 275 LB. 42 GPM @ 54 FT. HEAD. UL EXPLOSION PROOF MOTOR. COMPLETE WITH DUPLEX ALTERNATING CONTROL PANEL, REMOVAL SYSTEM, VALVE ASSEMBLY ABOVE COVER WITH CHECK VALVE AND SHUTOFF VALVE FOR EACH PUMP DISCHARGE. OTHER ACCEPTABLE MANUFACTURERS INCLUDE ZOELLER, BELL & GOSSETT, AND LIBERTY PUMPS. SIZE AND SPEC TO MATCH CRITERIA OF 42 GPM @ 54 FT. HEAD.
 SUMP: YUBA CITY STEEL PRODUCTS, 42" DIAMETER BY 96" DEEP SUMP BASIN. 3/16" THICK STEEL WITH FARBERTITE EPOXY COATING INSIDE AND OUT. SEE SPEC 09872.
 CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUITS FOR POWER AND CONTROL BETWEEN THE SUMP PUMP AND THE PUMP CONTROLLER. CONTRACTOR TO PROVIDE REMOTE MONITORING UNIT (RMU) MANUFACTURED BY RACO ALARM AGENT MODEL #902AA-102DCNEMART, POWER SUPPLY FOR RMU MODEL #811AA-AC, 3 YEAR SERVICE AGREEMENT FOR RMU PAID BY CONTRACT UNDER PORT OF SAN FRANCISCO'S NAME MODEL #840AAS3TR.

PLUMBING FIXTURE SCHEDULE

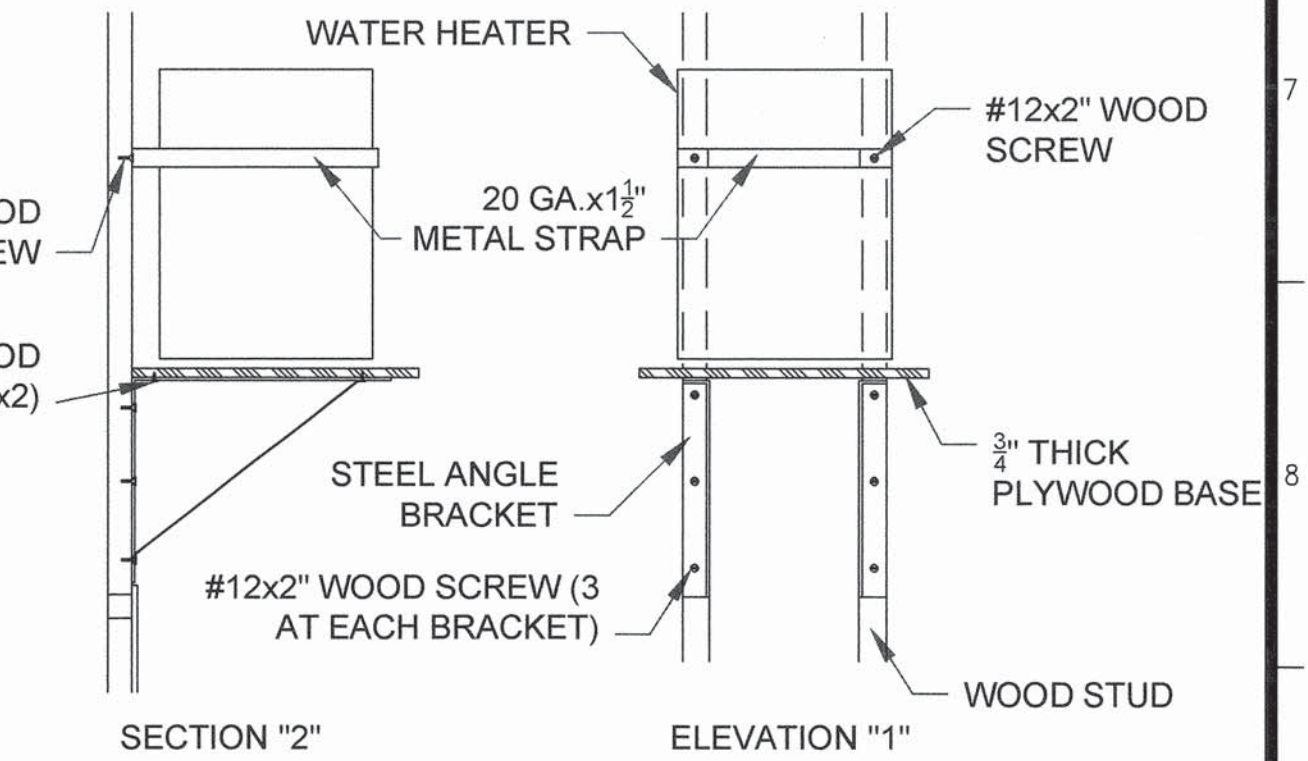
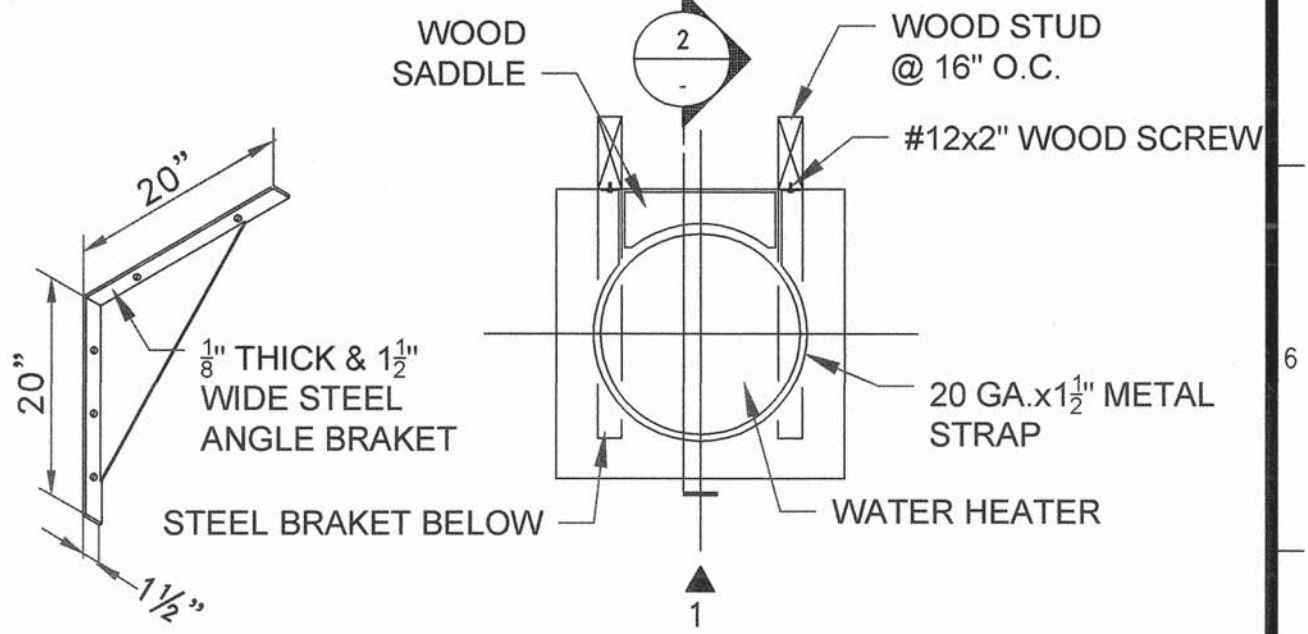
- ARCHITECT TO HAVE FINAL APPROVAL OF ALL PLUMBING FIXTURES.
- WC - WATER CLOSET
 AMERICAN STANDARD ADA COMPLIANT ELONGATED BOWL
 AFWALL 2856.128, WALL MOUNTED, 1.28 GPF HIGH
 EFFICIENCY. COMPLETE WITH AMERICAN STANDARD MANUAL
 FLUSH VALVE 1.28 GPF AND 5901.100 OPEN FRONT SEAT,
 LESS COVER.
- LAV - LAVATORY
 SINK: AMERICAN STANDARD LUCERNE 0356.015 WALL-MOUNT,
 4" CENTER SET, ADA COMPLIANT WITH OVERFLOW.
 P-TRAP INSULATION: TRUBRO LAV GUARD 2 UNDERSINK
 PIPING COVER.
 FAUCET:
 MOEN MODEL #CA40711, TWO HANDLE, 4" CENTER SET, ADA
 COMPLIANT, PROVIDE AERATOR WITH 1.5 GPM FLOW RATE.
 FAUCET SHALL BE COMPLIANT WITH CA AB 1953 FOR LEAD
 FREE FIXTURES.
 (ALTERNATE APPROVED EQUAL FAUCET SHALL HAVE THE
 SAME 1.5 GPM FLOW RATE.)
- UR - URINAL
 AMERICAN STANDARD ADA COMPLIANT "WASHBROOK"
 6501.511, WALL MOUNTED, 0.5 GPF.
 COMPLETE WITH AMERICAN STANDARD MANUAL FLUSH
 VALVE 0.5 GPF.
- FD - FLOOR DRAIN
 JOSAM 30000, 2"Ø PIPE, 5"Ø STRAINER, SATIN FINISH
 BRONZE TOP; FLOOR DRAIN SHALL BE SPECIFIED TO
 ACCEPT WATERPROOFING MEMBRANE.
 COMPLETE WITH TRAP PRIMER. ARCHITECT TO HAVE FINAL
 APPROVAL.
- TP - TRAP PRIMER
 MIFAB MI-TSP TRAP SEAL PRIMER. CONNECT TO
 NEARBY COLD WATER SUPPLY PIPING. COMPLETE WITH
 7x7 ACCESS PANEL.
- BFP - BACK FLOW PREVENTER
 WATTS 994-OSY 4"Ø LEAD-FREE, STAINLESS STEEL,
 REDUCED PRESSURE BACKFLOW PREVENTER. COMPLETE
 WITH WATTS 77F-CSSI 4"Ø STAINLESS STEEL, FLANGED,
 LEAD-FREE, WYE-PATTERN STRAINERS.
- JS/US - JANITOR/UTILITY SINK
 FLORESTONE MODEL FM FREE STANDING UTILITY SINK.
 COMPLETE WITH CHICAGO 897 SERVICE SINK FAUCET.
 FAUCET SHALL BE COMPLIANT WITH CA AB 1953 FOR
 LEAD FREE FIXTURES.

PIPE MATERIAL SCHEDULE

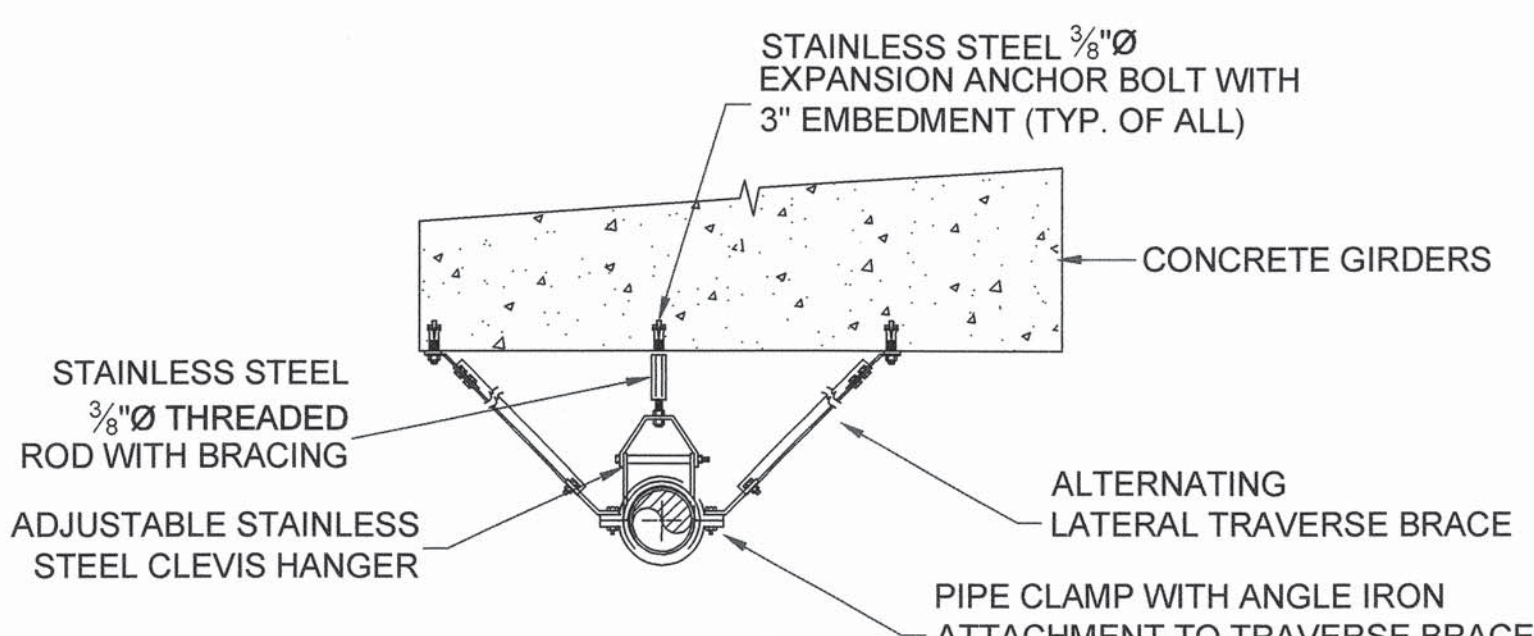
CODE	ITEM	MATERIAL DESCRIPTION
SS	ABOVE GROUND SANITARY SEWER AND VENT PIPING	NO HUB CAST IRON PIPE AND FITTINGS WITH STANDARD STAINLESS STEEL SHIELDED COUPLINGS WITH NEOPRENE GASKETS AND OR DWV COPPER PIPE AND FITTINGS WITH 95/5 SOLDERED JOINTS
FM	ABOVE GROUND FORCED MAIN SEWER PIPING	GALVANIZED SCHEDULE 40 STEEL CUT, GROOVED PIPING WITH GROOVED FITTINGS AND GROOVED COUPLINGS
SS	BELOW DECK SANITARY SEWER AND VENT PIPING	NO HUB CAST IRON PIPE. STAINLESS STEEL HANGERS AND HEAVY DUTY STAINLESS STEEL SHIELDED NO HUB 4-BAND COUPLINGS.
CW HW	ABOVE GROUND DOMESTIC WATER PIPING	TYPE "L" COPPER PIPE AND COPPER FITTINGS WITH: LEAD-FREE SOLDER JOINTS FOR SIZES 1/2"-2". BRAZED JOINTS FOR SIZES 2-1/2" AND LARGER
G	NATURAL GAS PIPING	BLACK STEEL ANSI B36-20 SCHEDULE 40. 2-1/2" AND SMALLER=THREADED 3" AND LARGER=WELDED. NO GAS PIPING ALLOWED UNDER PIER.

PLUMBING FIXTURE CONNECTION SIZE (Ø INCHES)

SYMBOL	SIZE (INCHES)				REMARK
	SS	V	HW	CW	
WC	3	2	-	1/4	WATER CLOSET (FLUSH VALVE)
LAV	2	1 1/2	1/2	1/2	LAVATORY
UR	2	1 1/2	-	1	URINAL (FLUSH VALVE)
FD	2	1 1/2	-	1/2	FLOOR DRAIN W 1/2"Ø CW FEED AND TIE TO ACCESSIBLE TRAP PRIMER
JS/US	2	1 1/2	3/4	3/4	JANITOR/UTILITY SINK

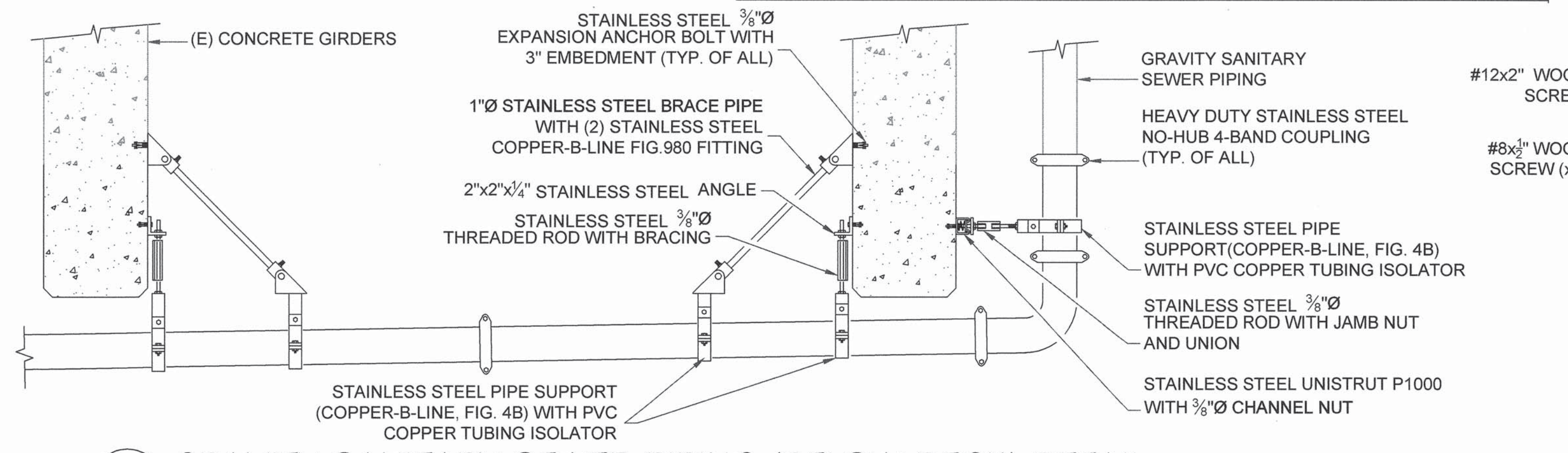


NOTE: WATER HEATER TO BE MOUNTED AS HIGH AS POSSIBLE. FINAL LOCATION SUBJECTS TO ARCHITECT'S APPROVAL.



1 GRAVITY SEWER PIPING LATERAL BRACE

SCALE: N.T.S. NOTE:
 1. MINIMUM (1) PAIR OF LONGITUDINAL AND LATERAL SUPPORT @ EACH 10FT. SECTION OF PIPE



2 GRAVITY SANITARY SEWER PIPING (BELOW DECK) DETAIL

SCALE: N.T.S. NOTE:
 1. ALL PIPE SUPPORT, FASTENER, AND BRACING MUST BE STAINLESS STEEL.
 2. PROVIDE MIN. (1) PAIR OF LONGITUDINAL AND LATERAL SUPPORT SEISMIC BRACING AT EVERY SECTION OF PIPE (APPROXIMATELY EVERY 10 FEET).

3 WATER HEATER MOUNTING DETAIL

SCALE: N.T.S.

NO.	DATE	DESCRIPTION	BY	APP.
	MAY 2017	BID SET	JL	TL
	MAR 2017	REVISED SET	JL	TL
	FEB 2017	BID SET	JL	TL
	JUN 2016	PROGRESS SET	JL	TL

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 & FILE NO. OF SURVEYS

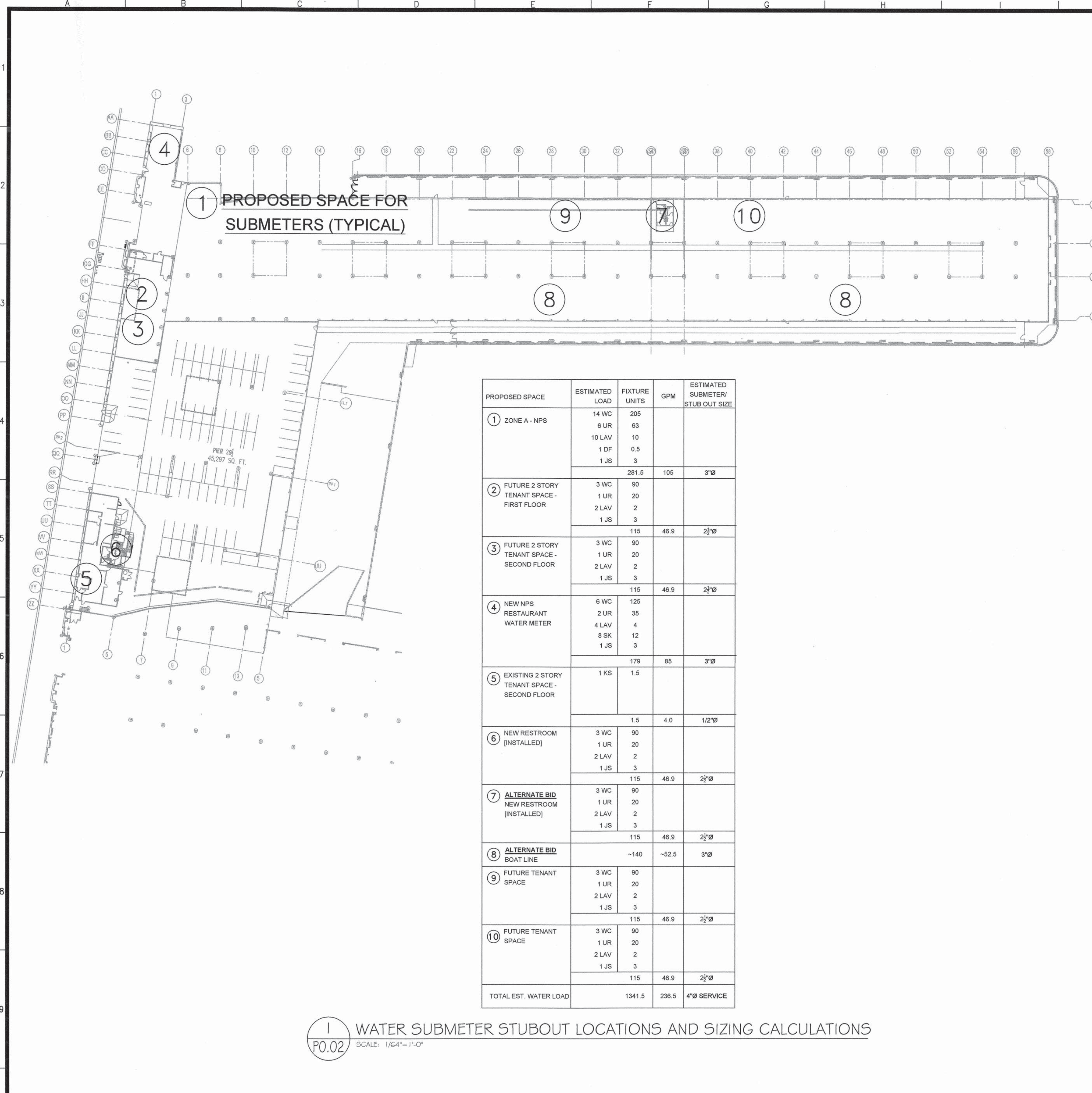
SAN FRANCISCO PORT COMMISSION
PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

DESIGNED: DATE: JL 3/2017
 APPROVED BY: SAN FRANCISCO PORT COMMISSION
 DATE: 4-28-17
 Uday Bhandari
 CHIEF HARBOR ENGINEER

SCALE:
 REV. NO.

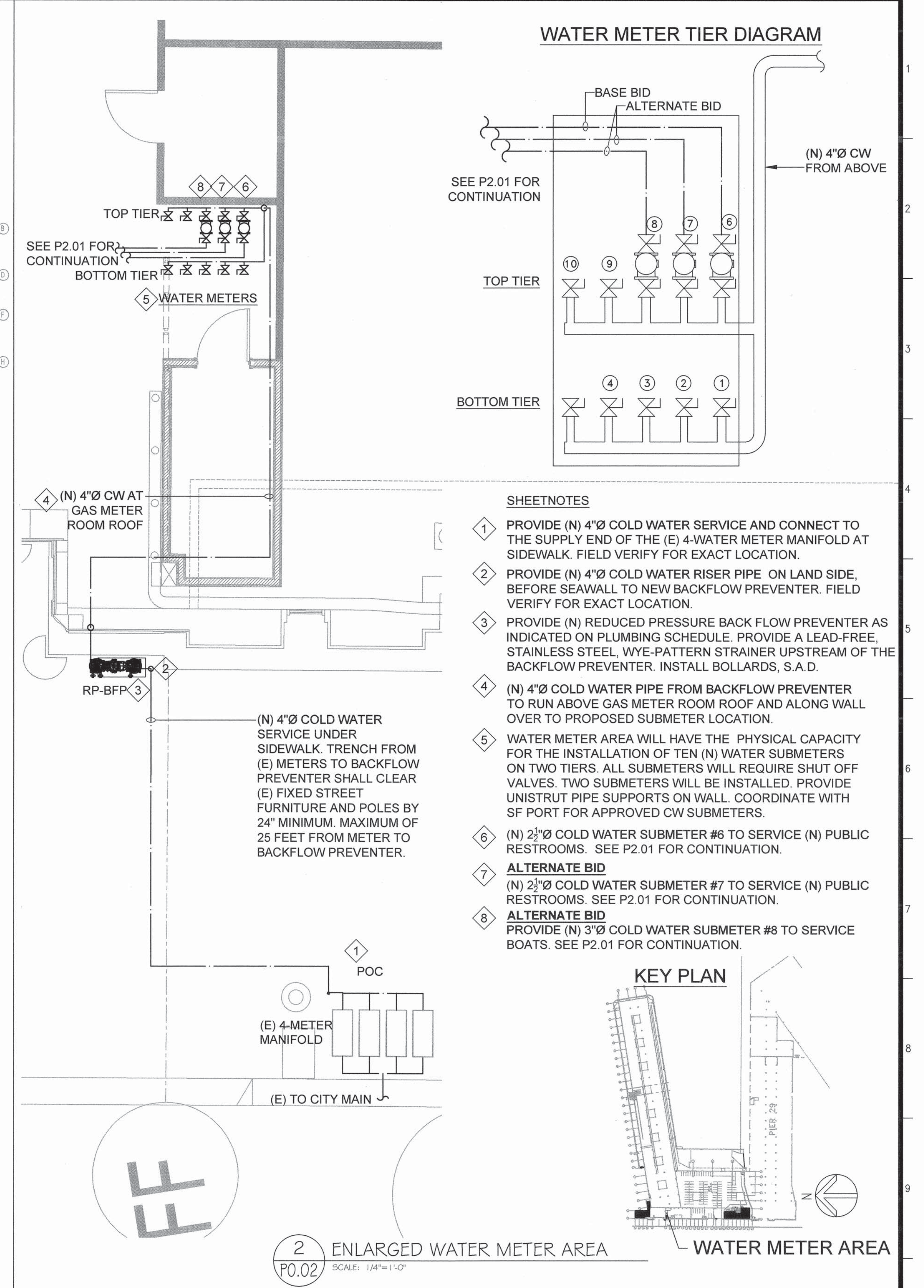
PIER 31 UTILITY & RESTROOM PROJECT
PLUMBING LEGEND, NOTES, AND SCHEDULE

CONTRACT NO. 2783
 DRAWING NO.
 SHEET NO. **P0.01**
 37 OF 60

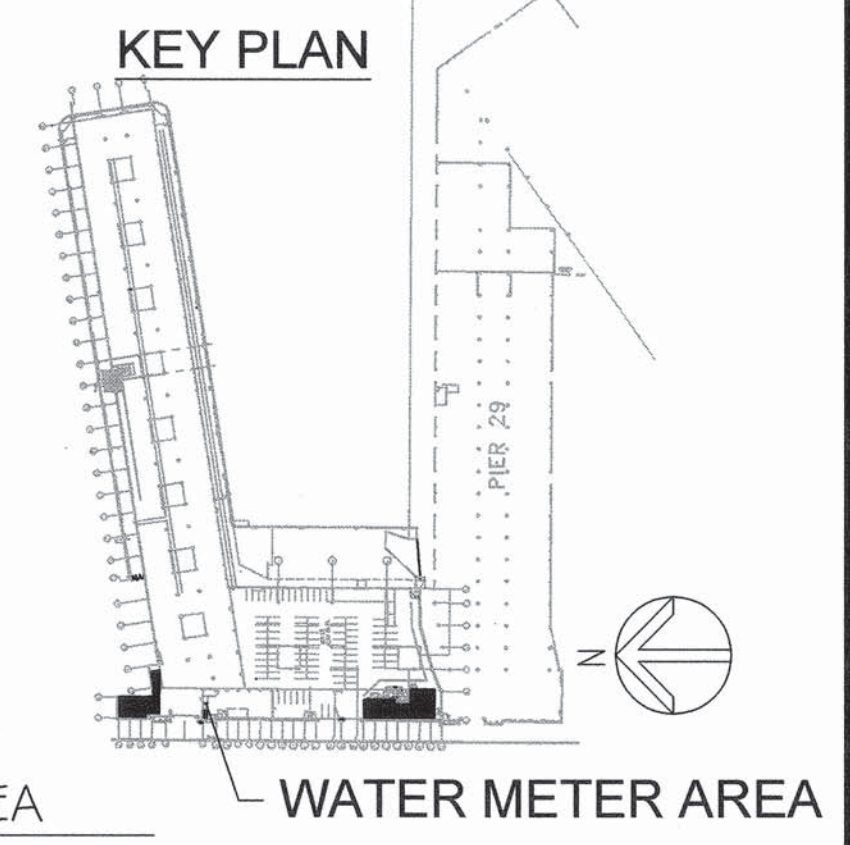


PROPOSED SPACE	ESTIMATED LOAD	FIXTURE UNITS	GPM	ESTIMATED SUBMETER/STUB OUT SIZE	
① ZONE A - NPS	14 WC	205			
	6 UR	63			
	10 LAV	10			
	1 DF	0.5			
	1 JS	3			
		281.5	105	3"Ø	
② FUTURE 2 STORY TENANT SPACE - FIRST FLOOR	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
③ FUTURE 2 STORY TENANT SPACE - SECOND FLOOR	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
④ NEW NPS RESTAURANT WATER METER	6 WC	125			
	2 UR	35			
	4 LAV	4			
	8 SK	12			
	1 JS	3			
		179	85	3"Ø	
⑤ EXISTING 2 STORY TENANT SPACE - SECOND FLOOR	1 KS	1.5			
			1.5	4.0	1/2"Ø
⑥ NEW RESTROOM (INSTALLED)	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
⑦ ALTERNATE BID NEW RESTROOM (INSTALLED)	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
⑧ ALTERNATE BID BOAT LINE			-140	-52.5	3"Ø
⑨ FUTURE TENANT SPACE	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
⑩ FUTURE TENANT SPACE	3 WC	90			
	1 UR	20			
	2 LAV	2			
	1 JS	3			
		115	46.9	2½"Ø	
TOTAL EST. WATER LOAD		1341.5	236.5	4"Ø SERVICE	

① WATER SUBMETER STUBOUT LOCATIONS AND SIZING CALCULATIONS
 P0.02 SCALE: 1/64"=1'-0"



- SHEETNOTES**
- ① PROVIDE (N) 4"Ø COLD WATER SERVICE AND CONNECT TO THE SUPPLY END OF THE (E) 4-WATER METER MANIFOLD AT SIDEWALK. FIELD VERIFY FOR EXACT LOCATION.
 - ② PROVIDE (N) 4"Ø COLD WATER RISER PIPE ON LAND SIDE, BEFORE SEAWALL TO NEW BACKFLOW PREVENTER. FIELD VERIFY FOR EXACT LOCATION.
 - ③ PROVIDE (N) REDUCED PRESSURE BACK FLOW PREVENTER AS INDICATED ON PLUMBING SCHEDULE. PROVIDE A LEAD-FREE, STAINLESS STEEL, WYE-PATTERN STRAINER UPSTREAM OF THE BACKFLOW PREVENTER. INSTALL BOLLARDS, S.A.D.
 - ④ (N) 4"Ø COLD WATER PIPE FROM BACKFLOW PREVENTER TO RUN ABOVE GAS METER ROOM ROOF AND ALONG WALL OVER TO PROPOSED SUBMETER LOCATION.
 - ⑤ WATER METER AREA WILL HAVE THE PHYSICAL CAPACITY FOR THE INSTALLATION OF TEN (N) WATER SUBMETERS ON TWO TIERS. ALL SUBMETERS WILL REQUIRE SHUT OFF VALVES. TWO SUBMETERS WILL BE INSTALLED. PROVIDE UNISTRUT PIPE SUPPORTS ON WALL. COORDINATE WITH SF PORT FOR APPROVED CW SUBMETERS.
 - ⑥ (N) 2½"Ø COLD WATER SUBMETER #6 TO SERVICE (N) PUBLIC RESTROOMS. SEE P2.01 FOR CONTINUATION.
 - ⑦ ALTERNATE BID (N) 2½"Ø COLD WATER SUBMETER #7 TO SERVICE (N) PUBLIC RESTROOMS. SEE P2.01 FOR CONTINUATION.
 - ⑧ ALTERNATE BID PROVIDE (N) 3"Ø COLD WATER SUBMETER #8 TO SERVICE BOATS. SEE P2.01 FOR CONTINUATION.



② ENLARGED WATER METER AREA
 P0.02 SCALE: 1/4"=1'-0"

NO.	DATE	DESCRIPTION	BY	APP.

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REFERENCE INFORMATION & FILE NO. OF SURVEYS

SAN FRANCISCO PORT COMMISSION
PORT OF SAN FRANCISCO
DEPARTMENT OF ENGINEERING

DESIGNED: DATE: 3/2017
 JL

DRAWN: DATE: 3/2017
 JL

CHECKED: DATE: 3/2017
 TL

APPROVED BY
 SAN FRANCISCO PORT COMMISSION

DATE: 4-28-17

Uday Prasad
 CHIEF HARBOR ENGINEER

SCALE:

REV. NO.

PIER 31 UTILITY & RESTROOM PROJECT

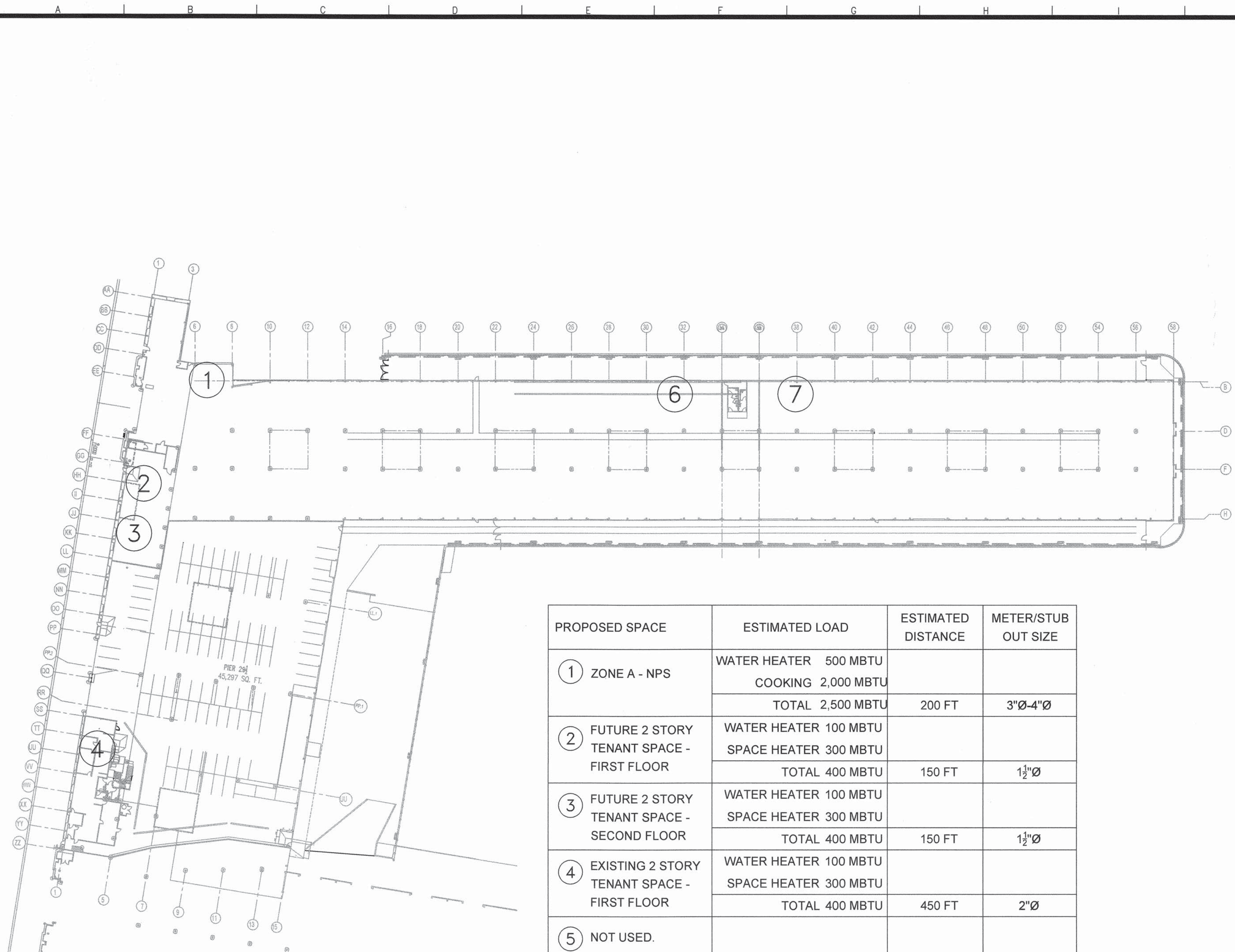
WATER METER AND SERVICE

CONTRACT NO. 2783

DRAWING NO.

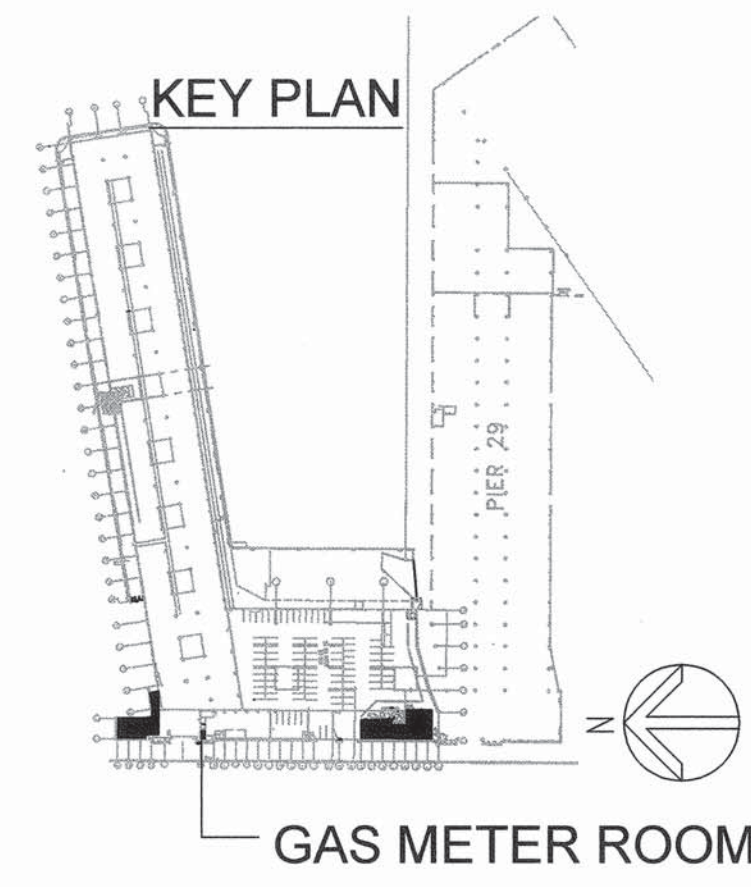
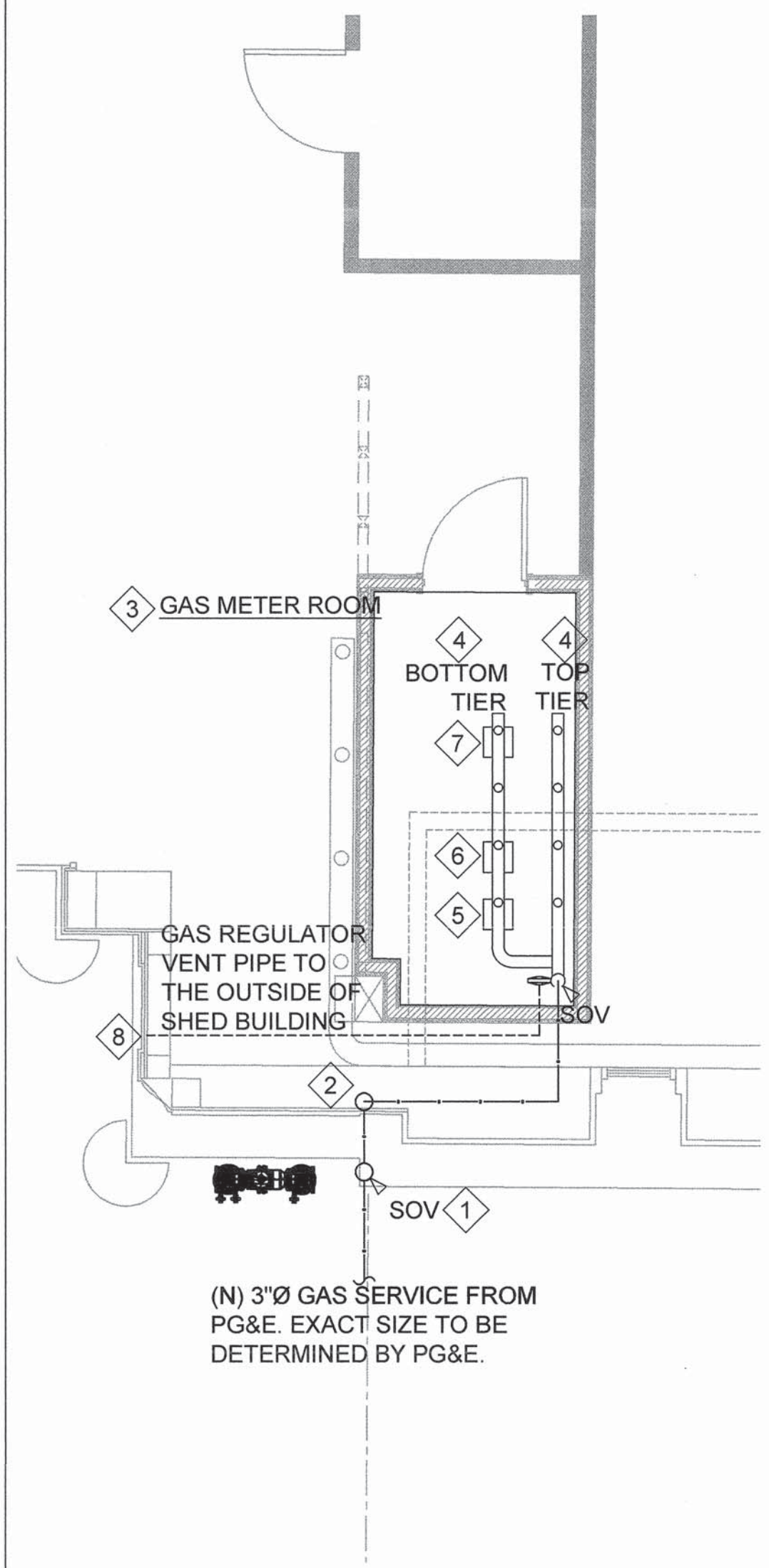
SHEET NO. **P0.02**

38 OF 60

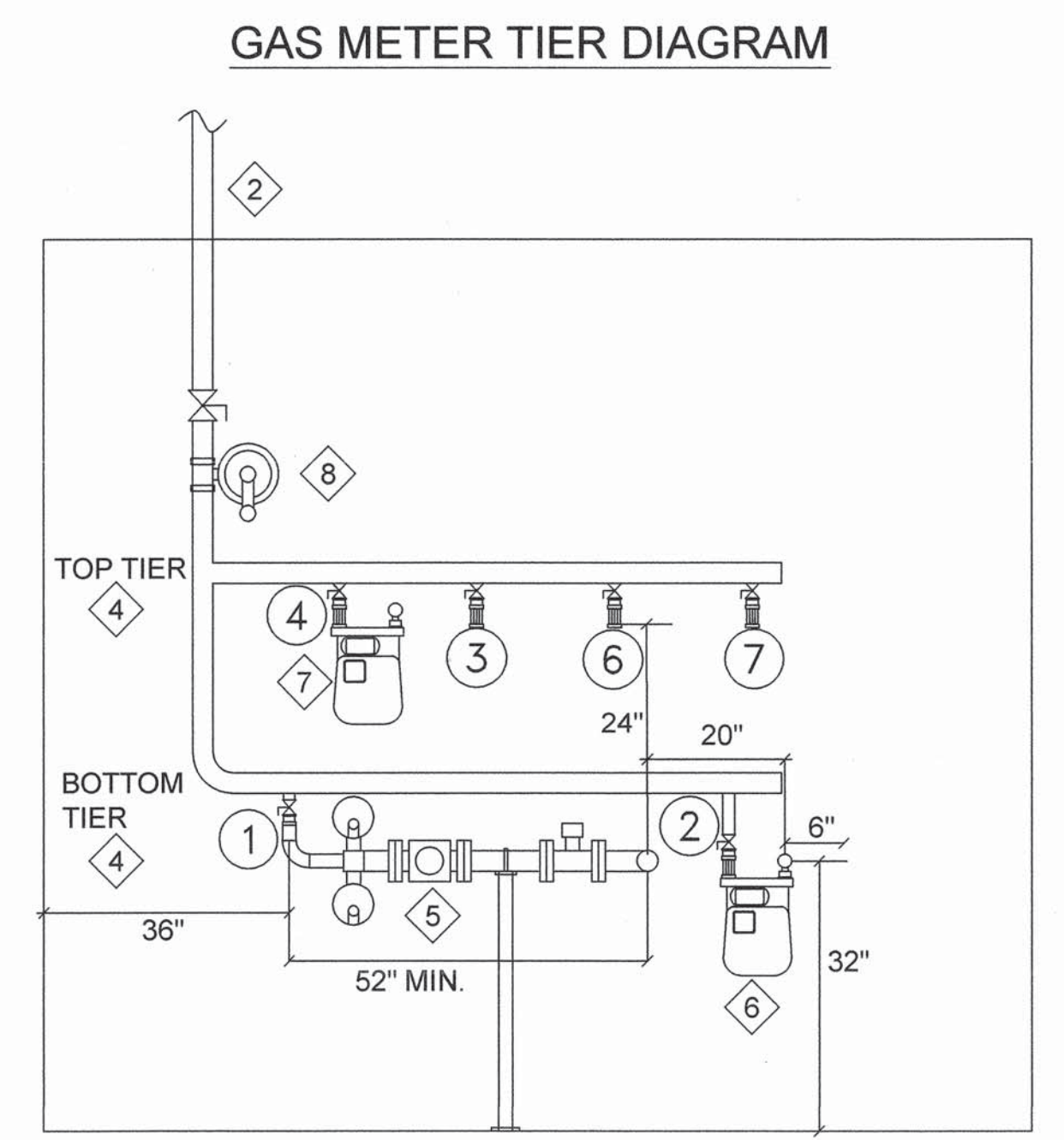


PROPOSED SPACE	ESTIMATED LOAD	ESTIMATED DISTANCE	METER/STUB OUT SIZE
① ZONE A - NPS	WATER HEATER 500 MBTU	200 FT	3"Ø-4"Ø
	COOKING 2,000 MBTU		
② FUTURE 2 STORY TENANT SPACE - FIRST FLOOR	WATER HEATER 100 MBTU	150 FT	1½"Ø
	SPACE HEATER 300 MBTU		
③ FUTURE 2 STORY TENANT SPACE - SECOND FLOOR	WATER HEATER 100 MBTU	150 FT	1½"Ø
	SPACE HEATER 300 MBTU		
④ EXISTING 2 STORY TENANT SPACE - FIRST FLOOR	WATER HEATER 100 MBTU	450 FT	2"Ø
	SPACE HEATER 300 MBTU		
⑤ NOT USED.			
⑥ FUTURE TENANT	WATER HEATER 100 MBTU	550 FT	2"Ø
	SPACE HEATER 300 MBTU		
⑦ FUTURE TENANT	WATER HEATER 100 MBTU	650 FT	2"Ø
	SPACE HEATER 300 MBTU		
TOTAL ESTIMATED SERVICE LOAD 4,900 MBTU			

1 GAS METER AND STUBOUT SIZING LOCATION AND CALCULATIONS
SCALE: 1/64"=1'-0"



2 ENLARGED GAS METER ROOM
SCALE: 1/4"=1'-0"



- SHEETNOTES**
- ① PROVIDE (N) MAIN GAS RISER WITH SHUT OFF VALVE AT 18" A.F.F. OUTSIDE THE BUILDING.
 - ② RUN (N) GAS PIPING OVER INTO GAS METER ROOM.
 - ③ NEW GAS METER ROOM WILL HAVE THE CAPACITY FOR EIGHT (N) GAS METERS ON TWO TIERS. ALL METERS WILL REQUIRE SHUT OFF VALVES. THREE NEW GAS METERS WILL BE INSTALLED BY PG&E.
 - ④ PROVIDE SHUT OFF VALVE TO GAS METER TIERS AND AT EACH STUBOUT.
 - ⑤ INSTALL (N) 3"Ø-4"Ø GAS ROTARY METER #1 FOR 1 STORY ZONE A - NPS TENANT SPACE.
 - ⑥ INSTALL (N) 1½"Ø GAS METER #2 FOR FUTURE 2 STORY TENANT SPACE: FIRST FLOOR.
 - ⑦ INSTALL (N) 2"Ø GAS METER #4 FOR EXISTING 2 STORY TENANT SPACE: FIRST FLOOR.
 - ⑧ PROVIDE (N) GAS REGULATOR TO STEP DOWN MAIN SERVICE PRESSURE DOWN TO 0.25 PSI. PROVIDE (N) GAS REGULATOR VENT PIPING TO DISCHARGE OUT THE EXTERIOR WALL. GAS REGULATOR VENT TERMINATION SHALL COMPLY WITH PG&E REQUIREMENTS.

NO.	DATE	DESCRIPTION	BY	APP.
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		MAR 2017 REVISED SET	JL	TL
		FEB 2017 BID SET	JL	TL
		JUN 2016 PROGRESS SET	JL	TL

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DEPARTMENT OF ENGINEERING



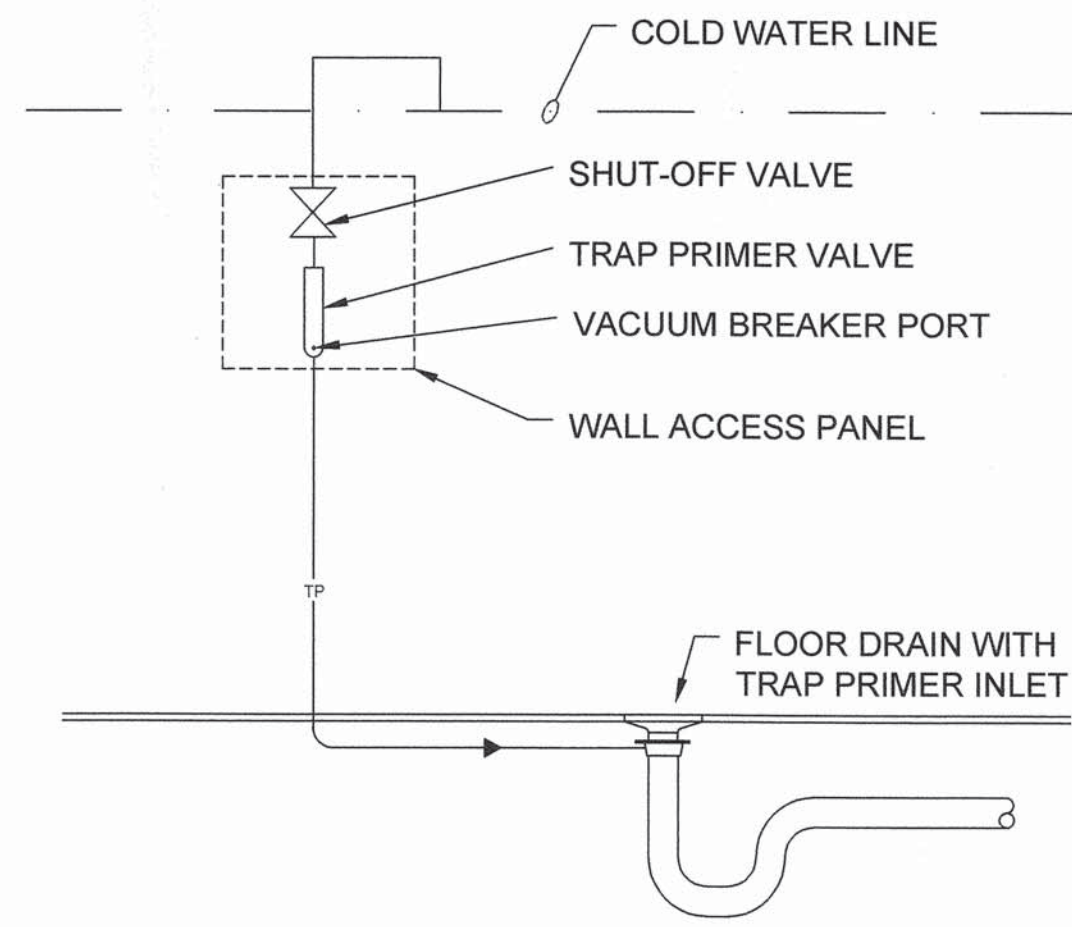
DESIGNED: DATE: JL 3/2017
DRAWN: DATE: JL 3/2017
CHECKED: DATE: TL 3/2017

APPROVED BY: SAN FRANCISCO PORT COMMISSION
DATE: 4-28-17
Wesley Brand
CHIEF/HARBOR ENGINEER

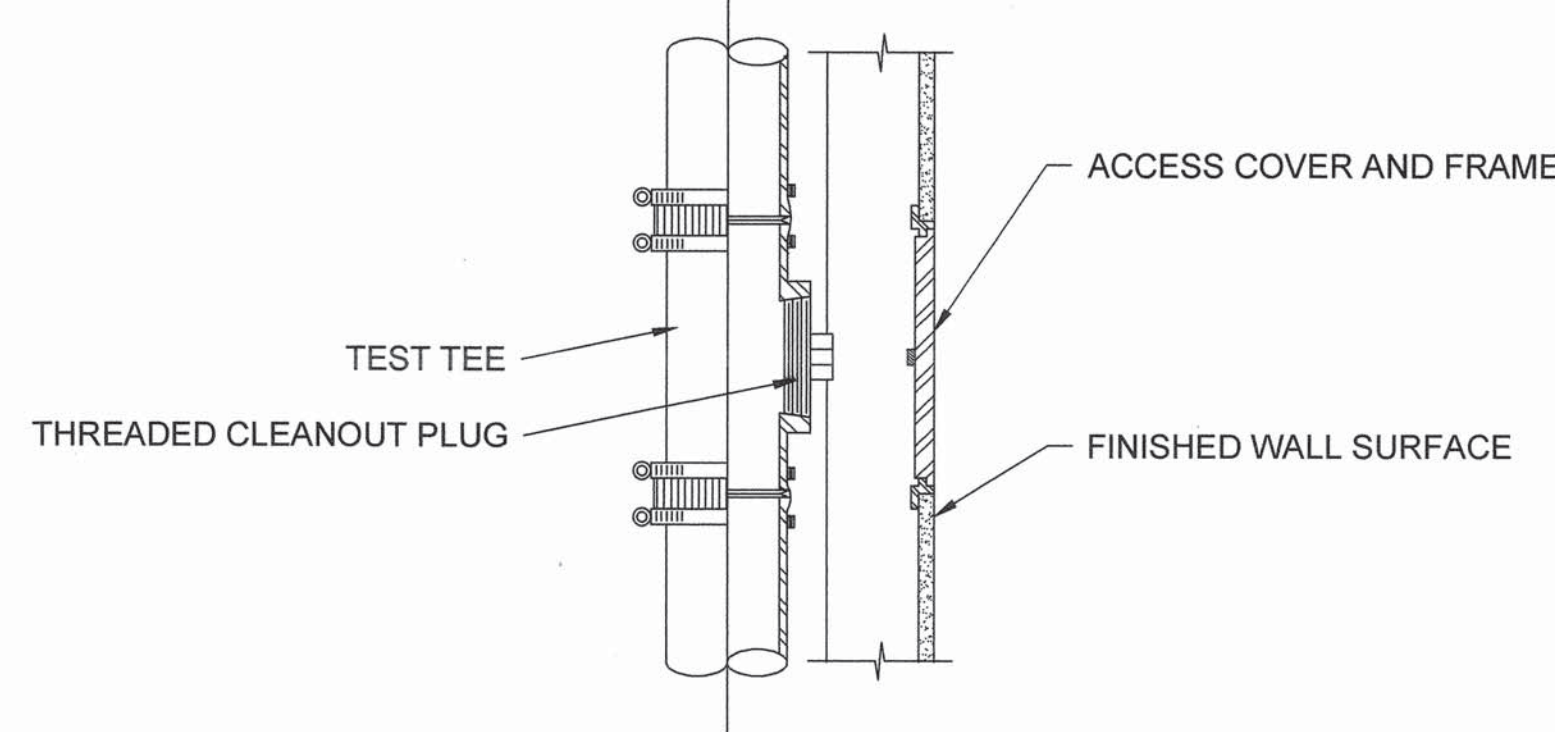
SCALE:
REV. NO.

PIER 31 UTILITY & RESTROOM PROJECT
GAS METER AND SERVICE

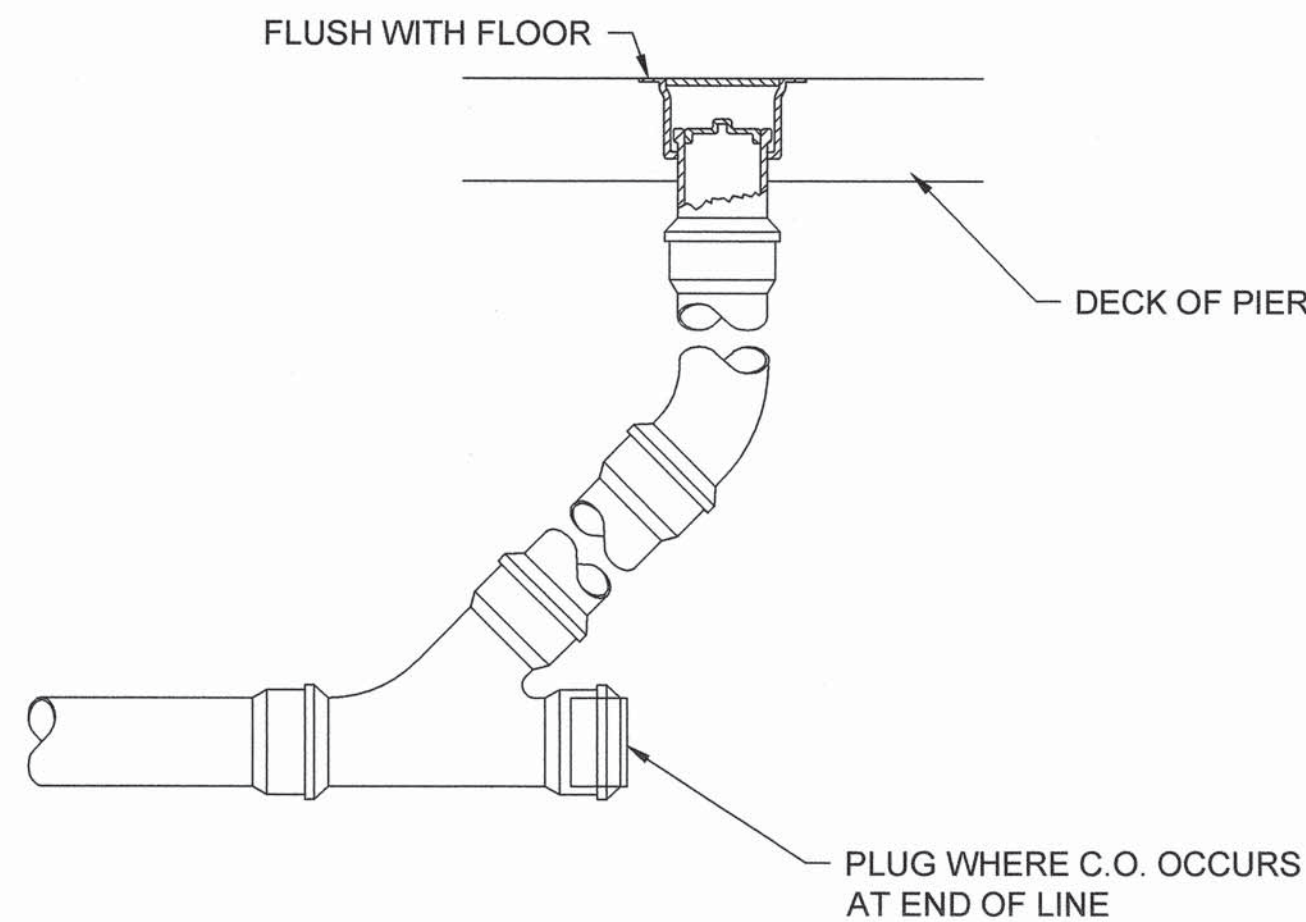
CONTRACT NO. 2783
DRAWING NO.
SHEET NO. **P0.03**
39 OF 60



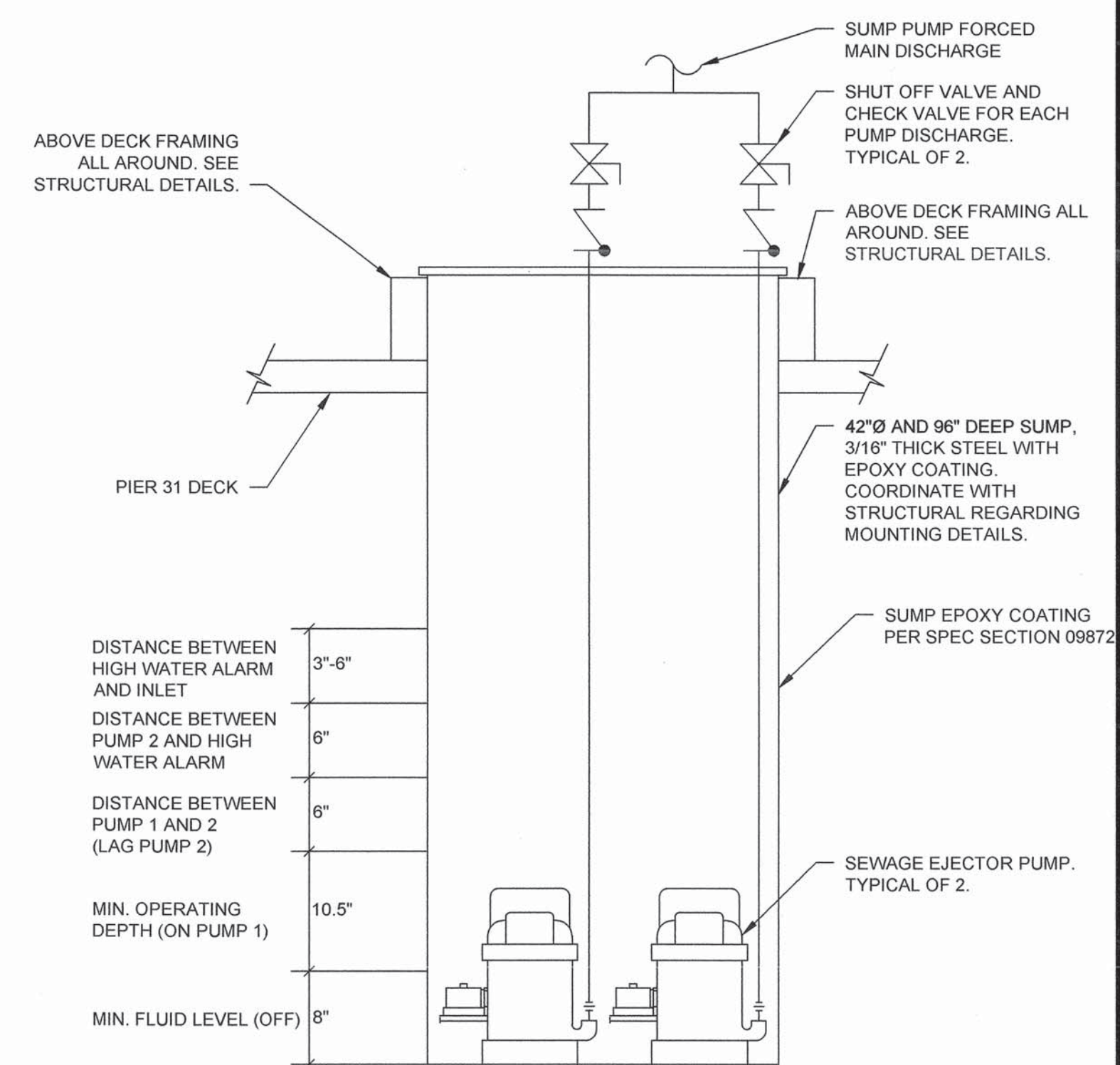
1 TRAP PRIMER DETAIL
SCALE: N.T.S.



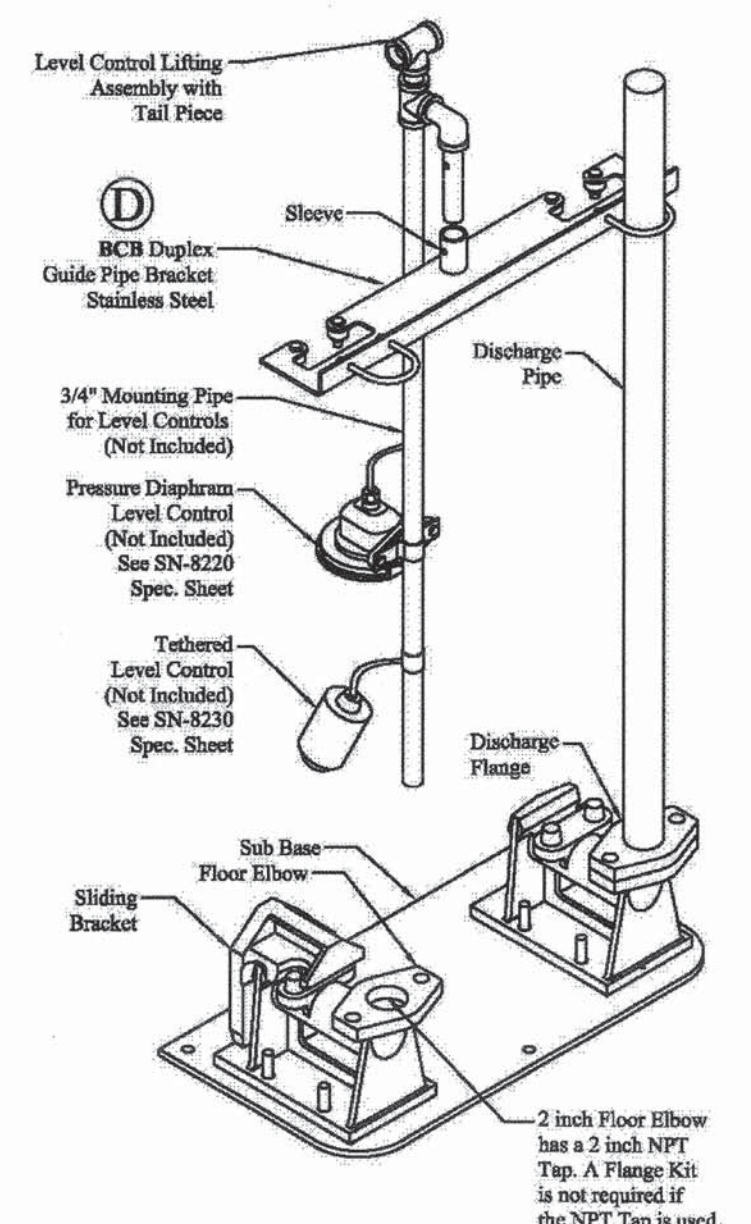
2 WALL CLEANOUT DETAIL
SCALE: N.T.S.



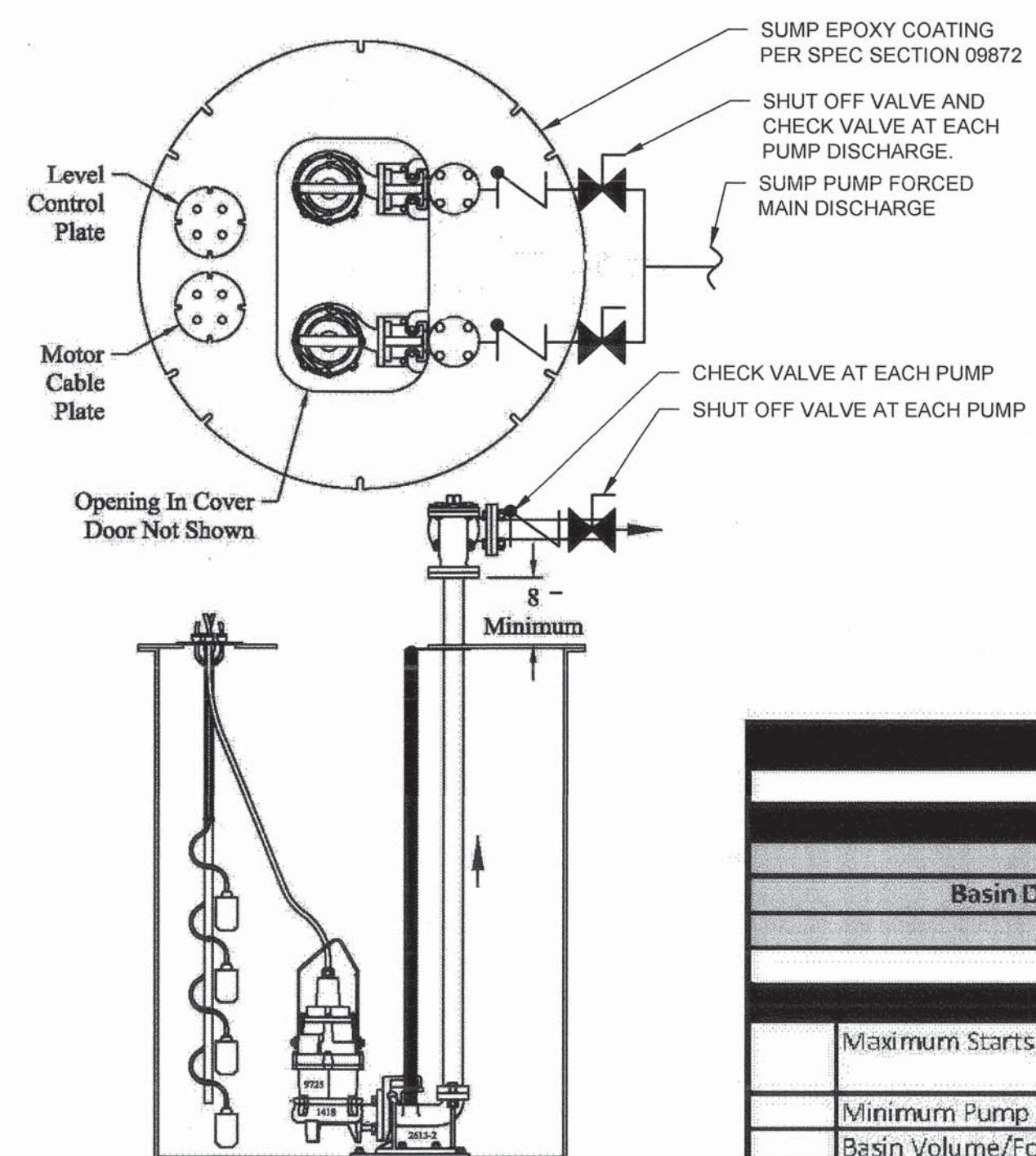
3 FLOOR CLEANOUT DETAIL
SCALE: N.T.S.



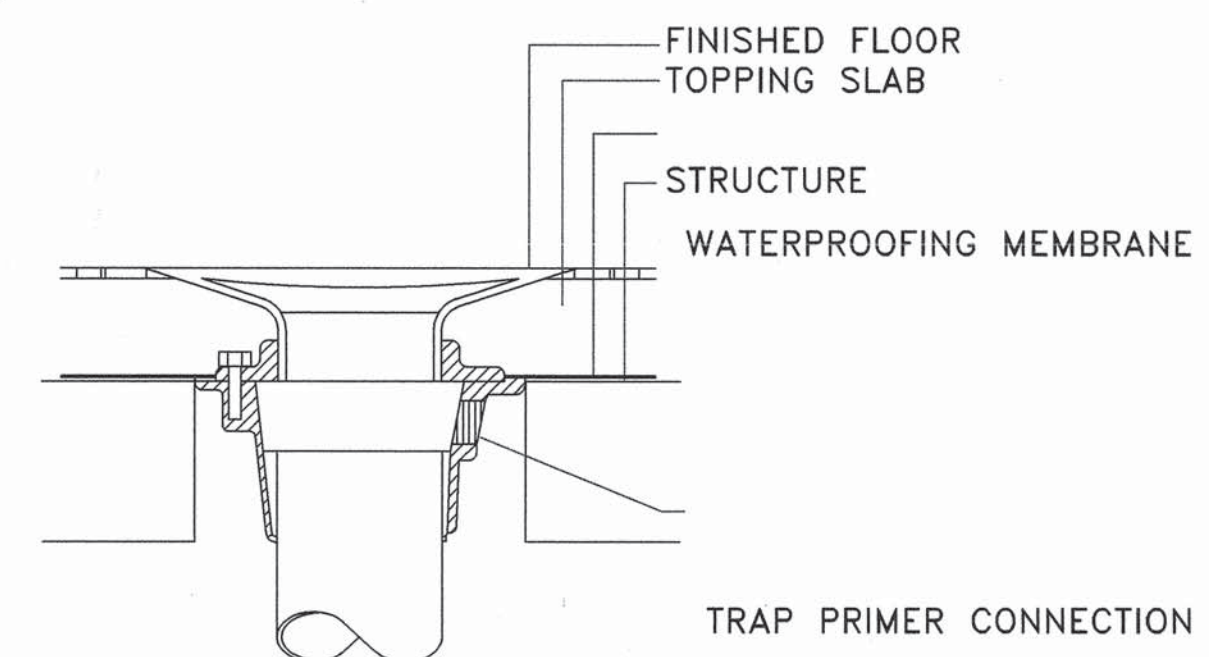
4 SEWAGE EJECTOR PUMP DETAIL
SCALE: N.T.S.



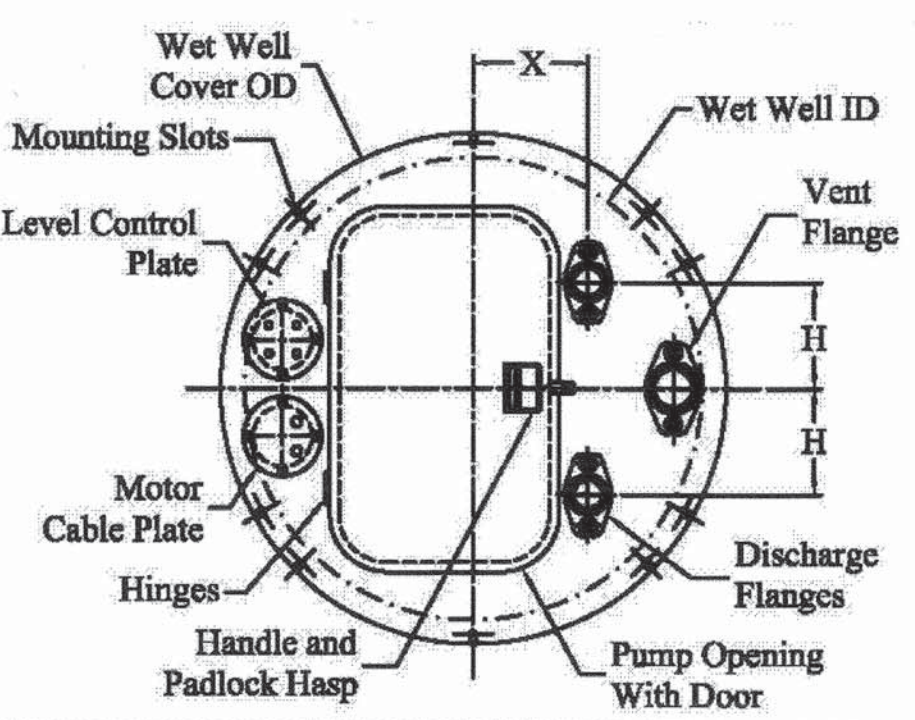
5 DUPLEX EJECTOR PUMP DETAIL
SCALE: N.T.S.



6 DUPLEX WASTEWATER VALVE ASSEMBLY
SCALE: N.T.S.



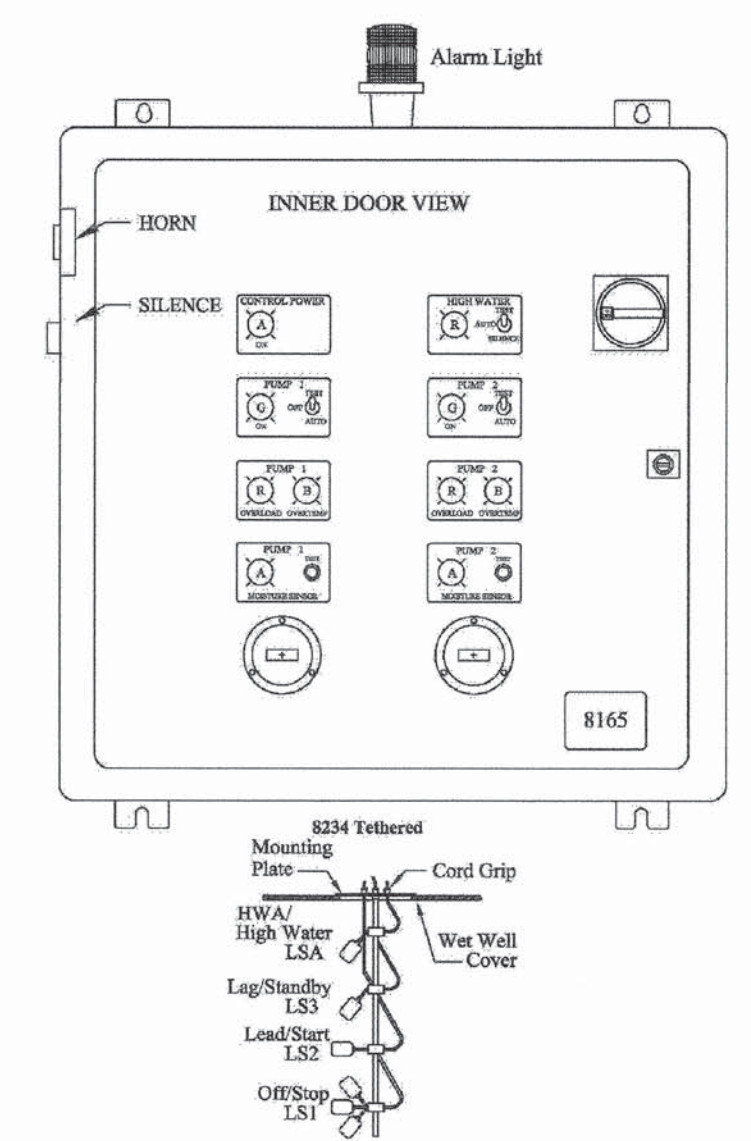
7 FLOOR DRAIN DETAIL
SCALE: N.T.S.



8 EJECTOR PUMP COVER DETAIL
SCALE: N.T.S.

SUMP BASIN SIZING			
SPECIFICS			
System Type	Duplex		
Basin Diameter or Dimensions	42	inches	
Pump Flow	42	GPM	
DESIGN CONDITIONS			
Maximum Starts (Weil Recommendation)	10	starts/hour	
	6	min/start	
Minimum Pump Run Time	1.5	minutes	
Basin Volume/Foot (Based on basin diam. above)	72	gallons/foot	
A Pump Minimum Fluid Depth (Provided by Well)	8	inches	
C Distance between PUMP1 on and PUMP2 (3-6 in.)	6	inches	
D Distance between PUMP2 and HWA (3-6 in.)	6	inches	
E Distance between HWA and Cover OR Invert (3-6 in.)*	3	inches	
RESULTS			
Volume pumped in minimum pump run time (3)	63	gallons	
B Minimum operating depth (Float Placement)	10.5	inches	
H Minimum Sump Height for Duplex System	33.5	inches	
	2.8	feet	

9 SUMP SIZING CALCULATION
SCALE: N.T.S.



10 PUMP CONTROLLER DIAGRAM
SCALE: N.T.S.

GENERAL NOTES:
1) CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUITS FOR POWER AND CONTROL BETWEEN THE SUMP PUMP AND THE PUMP CONTROLLER.
2) CONTRACTOR TO PROVIDE REMOTE MONITORING UNIT (RMU) MANUFACTURED BY RACO ALARM AGENT MODEL #902AA-102DCNEMART, POWER SUPPLY FOR RMU MODEL #811AA-AC, 3 YEAR SERVICE AGREEMENT FOR RMU PAID BY CONTRACT UNDER PORT OF SAN FRANCISCO'S NAME MODEL #840AASJTR.

NO.	DATE	DESCRIPTION	BY	APP.
		MAY 2017 BID SET	JL	TL
		MAR 2017 REVISED SET	JL	TL
		FEB 2017 BID SET	JL	TL
		JUN 2016 PROGRESS SET	JL	TL

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SAN FRANCISCO PORT COMMISSION
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DEPARTMENT OF ENGINEERING

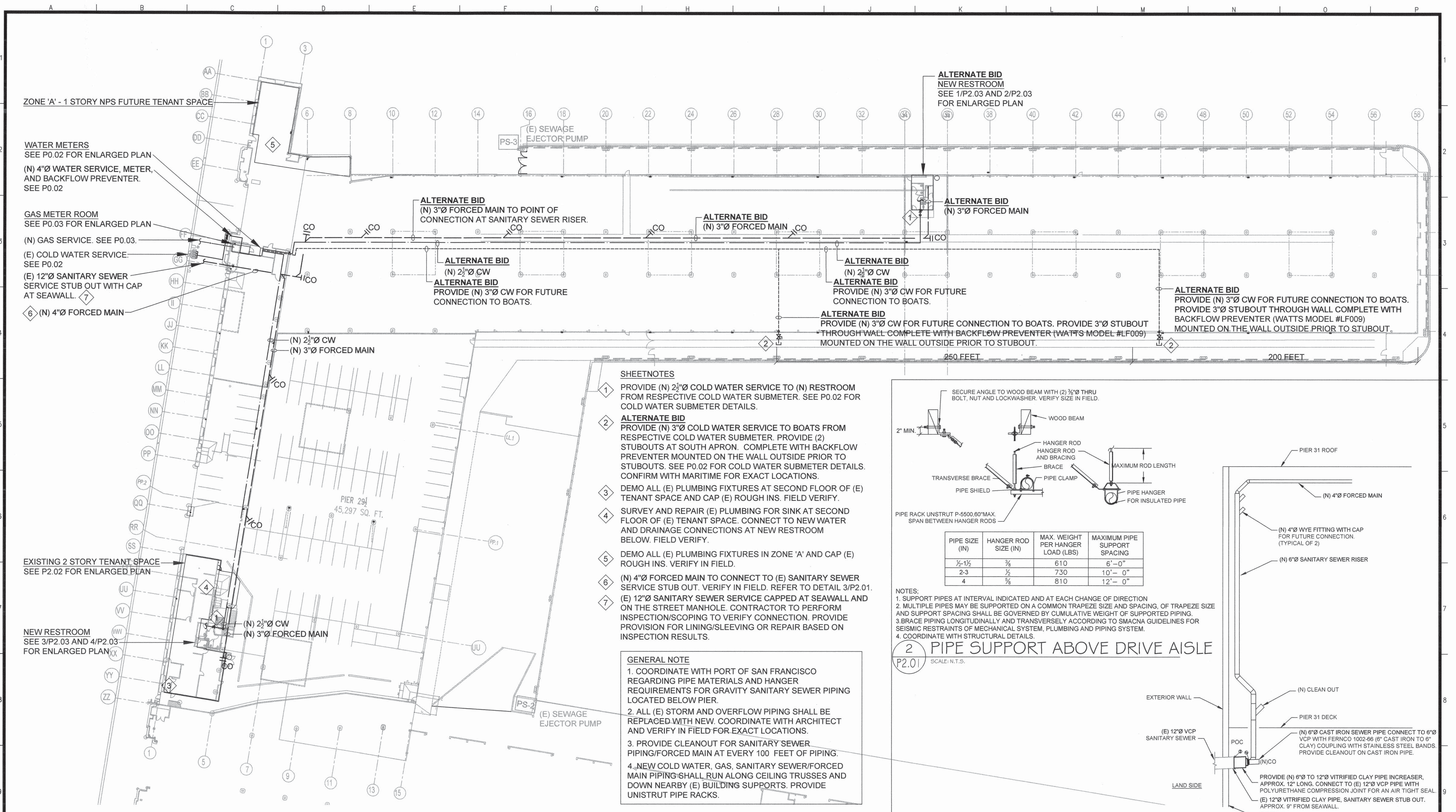
DESIGNED: DATE: JL 3/2017
DRAWN: DATE: JL 3/2017
CHECKED: DATE: TL 3/2017

APPROVED BY: SAN FRANCISCO PORT COMMISSION
DATE: 4-28-17
Veddy Prabodh
CHIEF HARBOR ENGINEER

SCALE:
REV. NO.

PIER 31 UTILITY & RESTROOM PROJECT
PLUMBING DETAILS

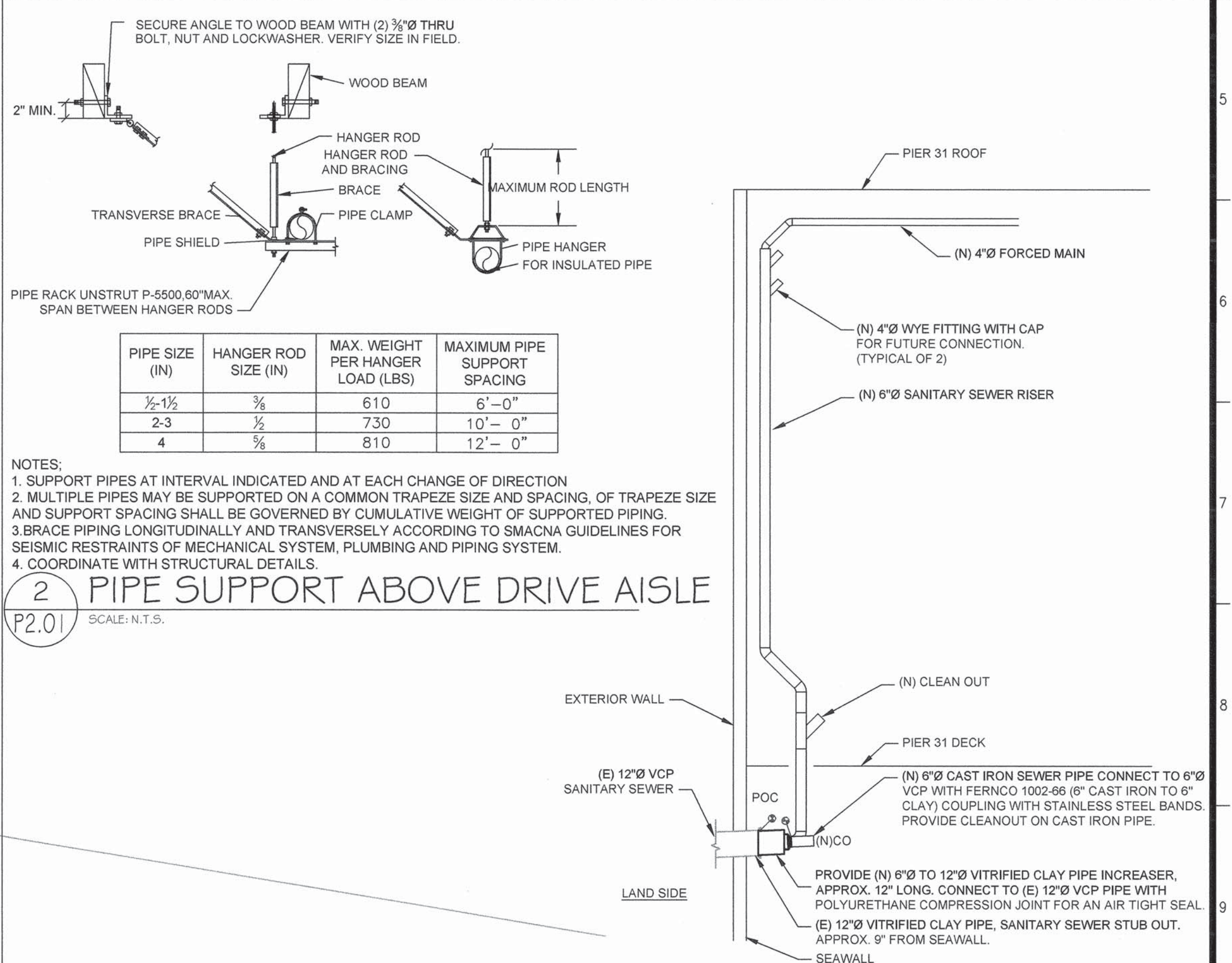
CONTRACT NO. 2783
DRAWING NO. P0.04
SHEET NO. 40 OF 60



- SHEETNOTES**
- 1 PROVIDE (N) 2 1/2" Ø COLD WATER SERVICE TO (N) RESTROOM FROM RESPECTIVE COLD WATER SUBMETER. SEE P0.02 FOR COLD WATER SUBMETER DETAILS.
 - 2 **ALTERNATE BID** PROVIDE (N) 3" Ø COLD WATER SERVICE TO BOATS FROM RESPECTIVE COLD WATER SUBMETER. PROVIDE (2) STUBOUTS AT SOUTH APRON. COMPLETE WITH BACKFLOW PREVENTER MOUNTED ON THE WALL OUTSIDE PRIOR TO STUBOUTS. SEE P0.02 FOR COLD WATER SUBMETER DETAILS. CONFIRM WITH MARITIME FOR EXACT LOCATIONS.
 - 3 DEMO ALL (E) PLUMBING FIXTURES AT SECOND FLOOR OF (E) TENANT SPACE AND CAP (E) ROUGH INS. FIELD VERIFY.
 - 4 SURVEY AND REPAIR (E) PLUMBING FOR SINK AT SECOND FLOOR OF (E) TENANT SPACE. CONNECT TO NEW WATER AND DRAINAGE CONNECTIONS AT NEW RESTROOM BELOW. FIELD VERIFY.
 - 5 DEMO ALL (E) PLUMBING FIXTURES IN ZONE 'A' AND CAP (E) ROUGH INS. VERIFY IN FIELD.
 - 6 (N) 4" Ø FORCED MAIN TO CONNECT TO (E) SANITARY SEWER SERVICE STUB OUT. VERIFY IN FIELD. REFER TO DETAIL 3/P2.01.
 - 7 (E) 12" Ø SANITARY SEWER SERVICE CAPPED AT SEAWALL AND ON THE STREET MANHOLE. CONTRACTOR TO PERFORM INSPECTION/SCOPING TO VERIFY CONNECTION. PROVIDE PROVISION FOR LINING/SLEEVE OR REPAIR BASED ON INSPECTION RESULTS.

GENERAL NOTE

1. COORDINATE WITH PORT OF SAN FRANCISCO REGARDING PIPE MATERIALS AND HANGER REQUIREMENTS FOR GRAVITY SANITARY SEWER PIPING LOCATED BELOW PIER.
2. ALL (E) STORM AND OVERFLOW PIPING SHALL BE REPLACED WITH NEW. COORDINATE WITH ARCHITECT AND VERIFY IN FIELD FOR EXACT LOCATIONS.
3. PROVIDE CLEANOUT FOR SANITARY SEWER PIPING/FORCED MAIN AT EVERY 100 FEET OF PIPING.
4. NEW COLD WATER, GAS, SANITARY SEWER/FORCED MAIN PIPING SHALL RUN ALONG CEILING TRUSSES AND DOWN NEARBY (E) BUILDING SUPPORTS. PROVIDE UNISTRUT PIPE RACKS.



PIPE SIZE (IN)	HANGER ROD SIZE (IN)	MAX. WEIGHT PER HANGER LOAD (LBS)	MAXIMUM PIPE SUPPORT SPACING
1/2-1 1/2	3/8	610	6'-0"
2-3	1/2	730	10'-0"
4	3/4	810	12'-0"

- NOTES:**
1. SUPPORT PIPES AT INTERVAL INDICATED AND AT EACH CHANGE OF DIRECTION
 2. MULTIPLE PIPES MAY BE SUPPORTED ON A COMMON TRAPEZE SIZE AND SPACING. OF TRAPEZE SIZE AND SUPPORT SPACING SHALL BE GOVERNED BY CUMULATIVE WEIGHT OF SUPPORTED PIPING.
 3. BRACE PIPING LONGITUDINALLY AND TRANSVERSELY ACCORDING TO SMACNA GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEM, PLUMBING AND PIPING SYSTEM.
 4. COORDINATE WITH STRUCTURAL DETAILS.

1 PLUMBING SITE PLAN
P2.01 SCALE: 1/32"=1'-0"

3 SCHEMATIC SANITARY SEWER CONNECTION DETAIL
P2.01 SCALE: N.T.S.

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MAR 2017	REVISED SET		JL	TL
FEB 2017	BID SET		JL	TL
JUN 2016	PROGRESS SET		JL	TL

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APPROVED BY: SAN FRANCISCO PORT COMMISSION
DATE: 4-28-17
Uday Prasad
CHIEF HARBOR ENGINEER

SCALE: REV. NO.

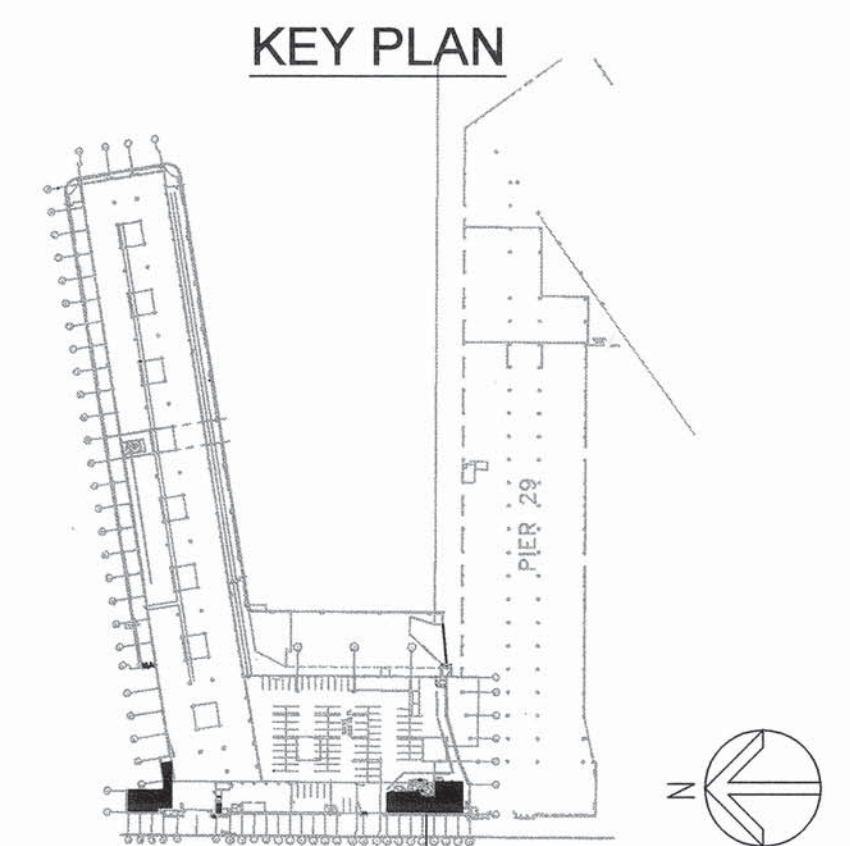
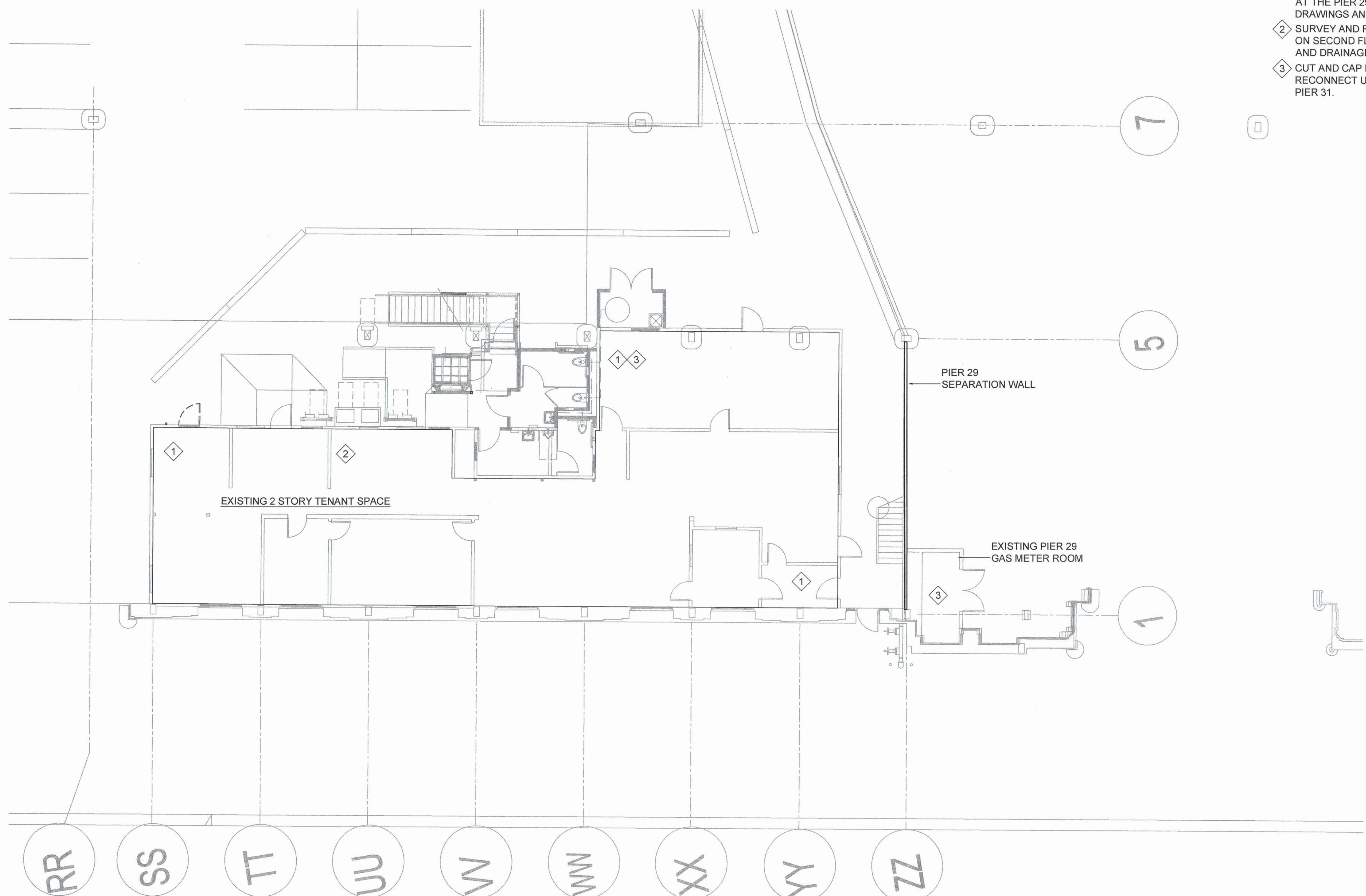
PIER 31 UTILITY & RESTROOM PROJECT

PLUMBING SITE PLAN

CONTRACT NO. 2783
DRAWING NO.
SHEET NO. P2.01
41 OF 60

SHEETNOTES

- 1 DEMO ALL (E) PLUMBING FIXTURE ROUGH-INS, SANITARY SEWER TO POINTS OF CONNECTIONS ON FIRST AND SECOND FLOOR AND CAP WATER SUPPLY LINE AT THE PIER 29 SIDE OF THE PIER 29 SEPARATION WALL. SEE ARCHITECTURAL DRAWINGS AND VERIFY IN FIELD FOR EXISTING PLUMBING LAYOUTS.
- 2 SURVEY AND REPAIR ALL (E) MAIN PLUMBING PIPING FOR KITCHENETTE SINK ON SECOND FLOOR FOR USE BY FUTURE TENANTS. CONNECT TO NEW WATER AND DRAINAGE CONNECTIONS AT NEW RESTROOM BELOW. FIELD VERIFY.
- 3 CUT AND CAP EXISTING GAS LINE(S) FROM PIER 29 EXISTING GAS METER AND RECONNECT UNITS USING GAS WITH NEW GAS LINE FROM NEW GAS METER IN PIER 31.



1 PLUMBING - ENLARGED EXISTING TENANT SPACE
 P2.02 SCALE: 1/8"=1'-0"

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 & FILE NO. OF SURVEYS

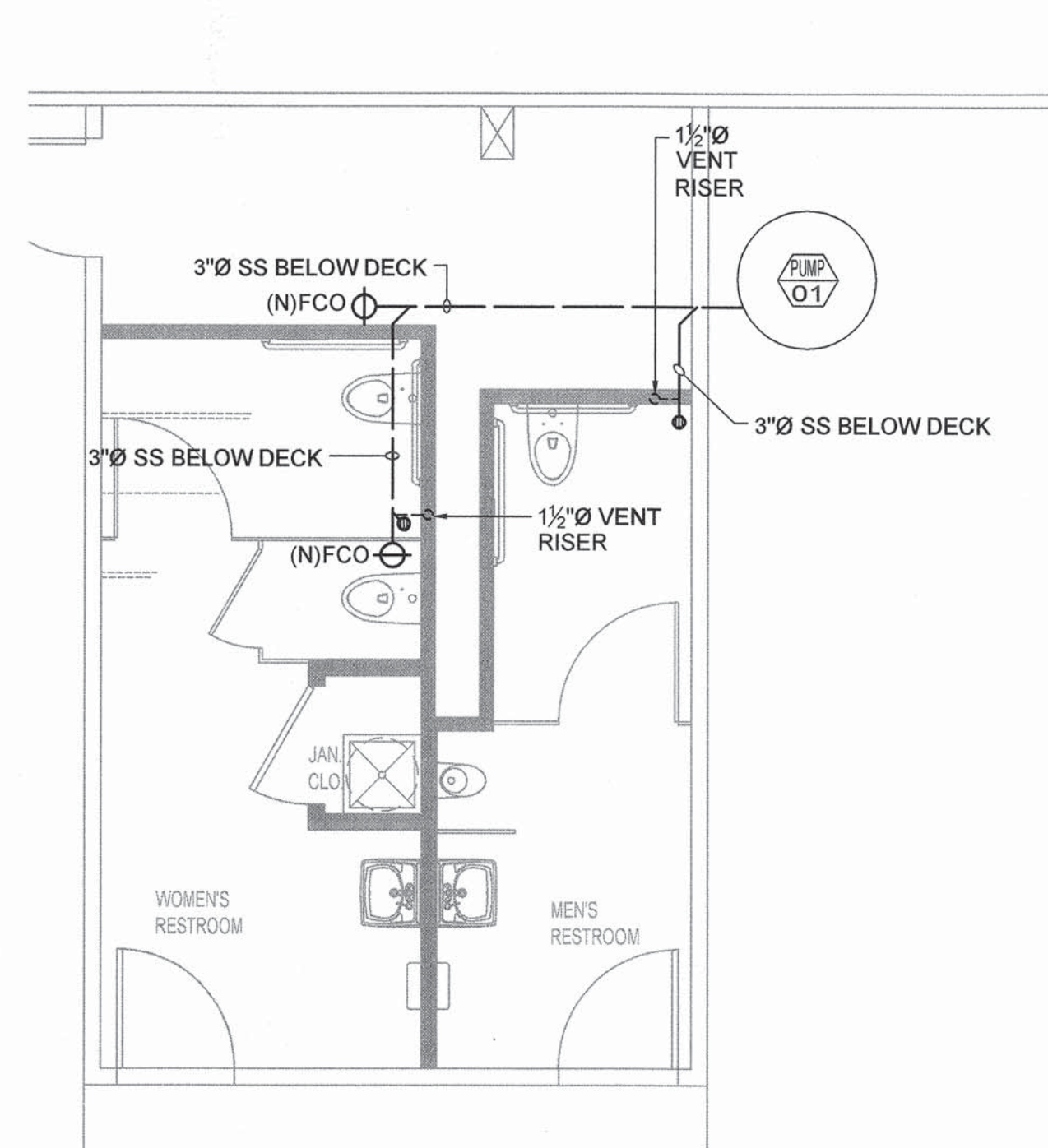
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 Uday Prasad
 CHIEF HARBOR ENGINEER

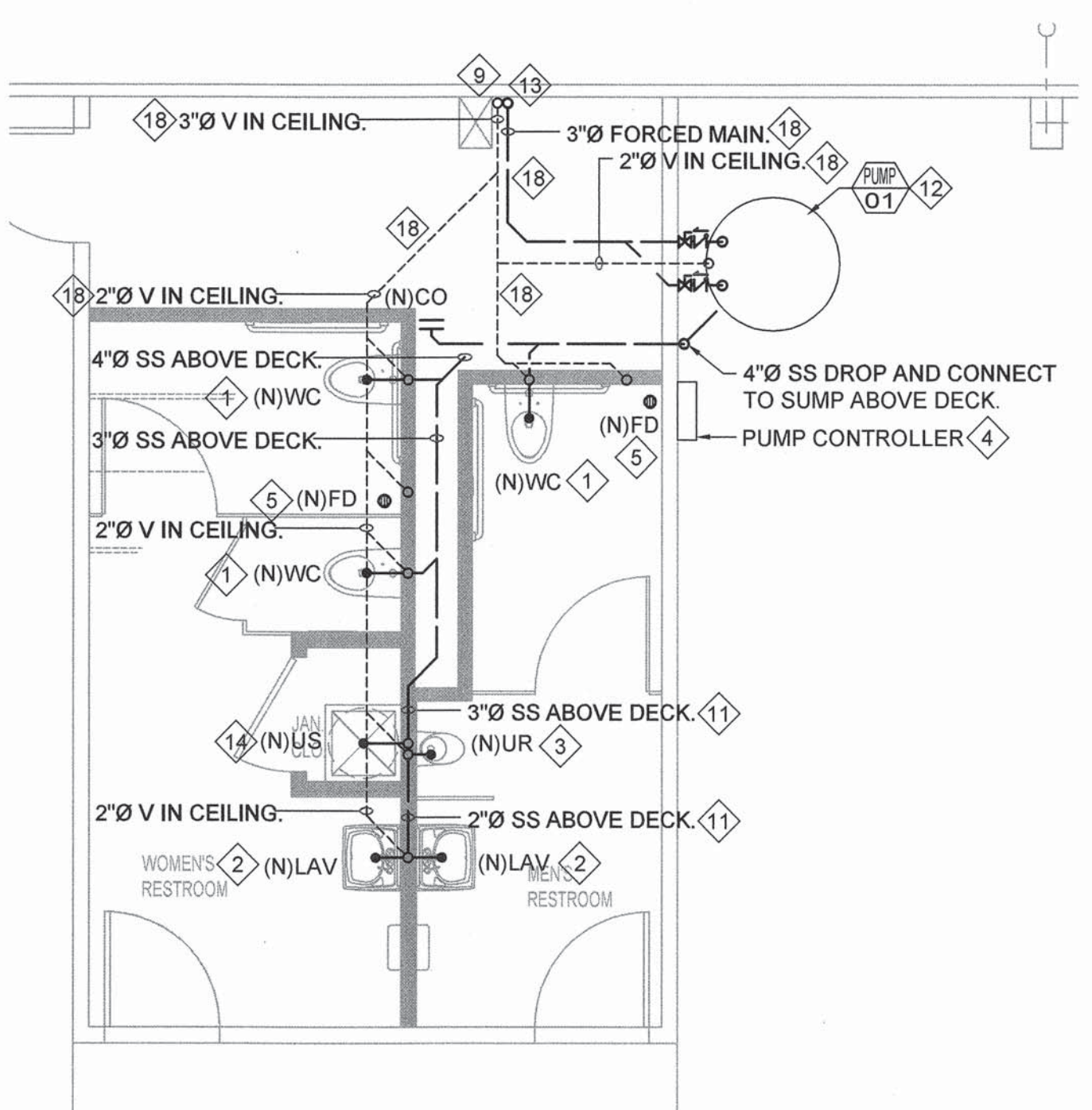
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PIER 31 UTILITY & RESTROOM PROJECT
PLUMBING PLAN - ENLARGED EXISTING TENANT SPACE

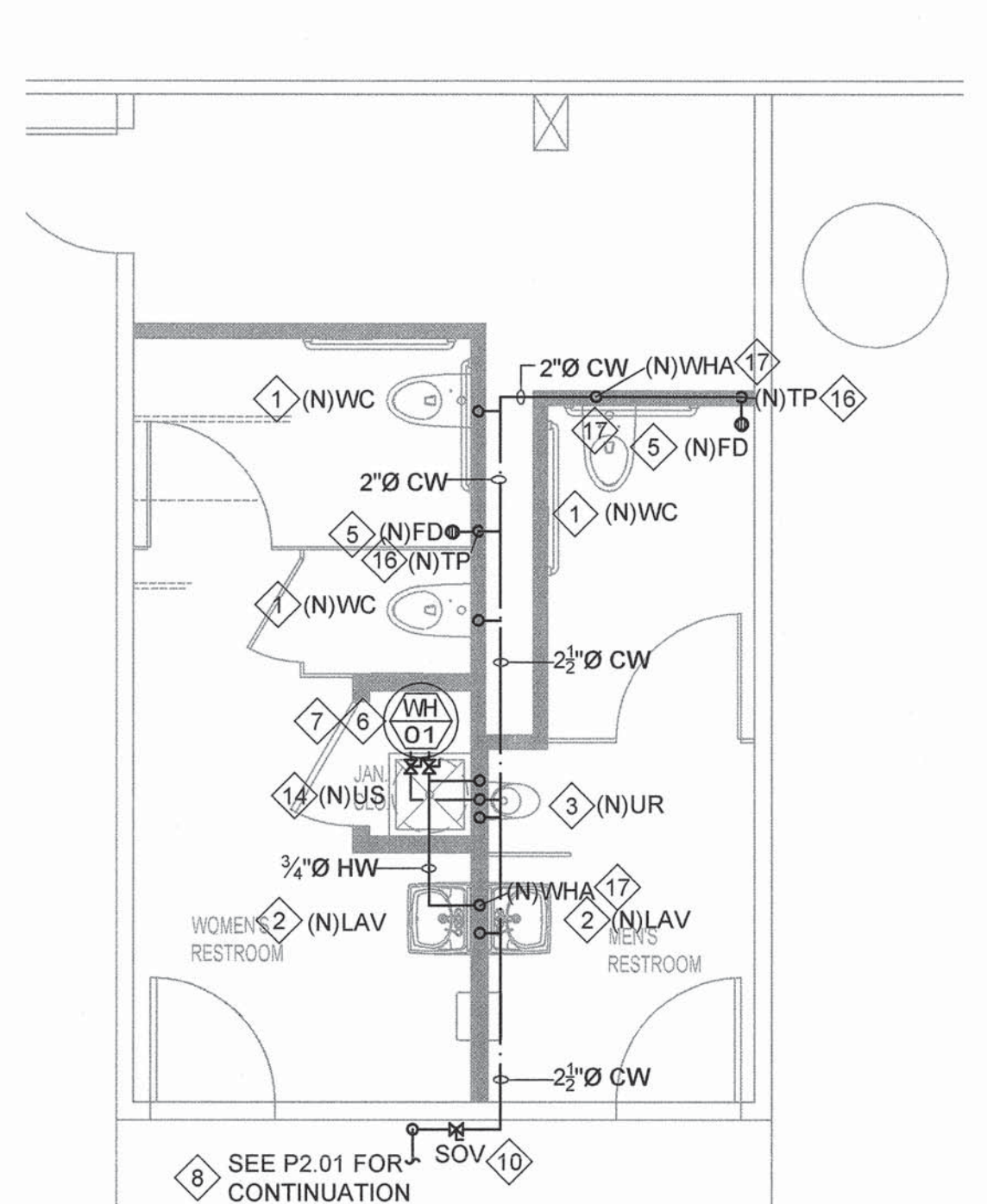
CONTRACT NO. 2783
 DRAWING NO.
 SHEET NO. **P2.02**
 42 OF 60



1
ALTERNATE BID
ENLARGED RESTROOM PLAN
WASTE AND VENT - BELOW DECK
P2.03 SCALE: 1/4"=1'-0"

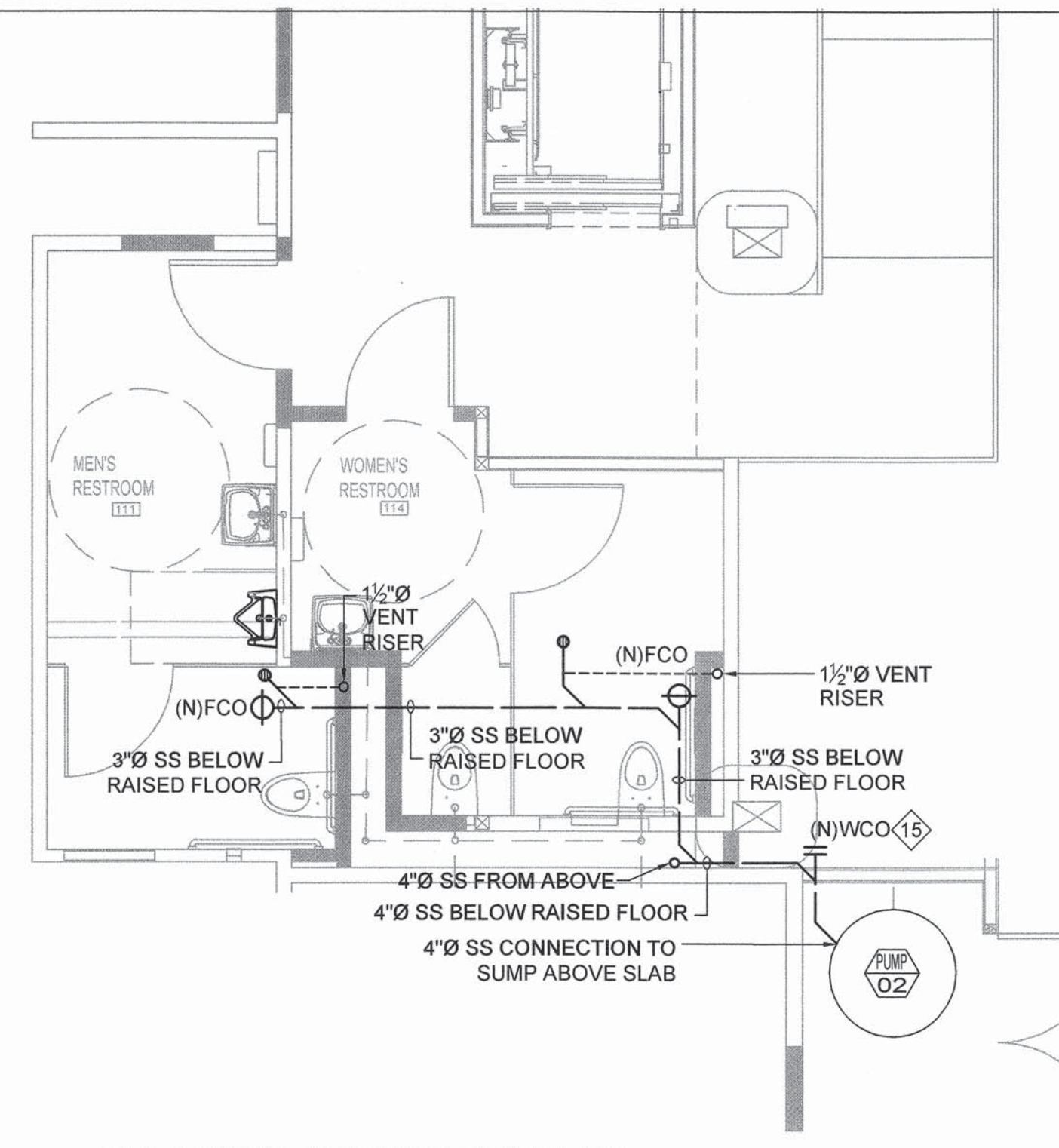
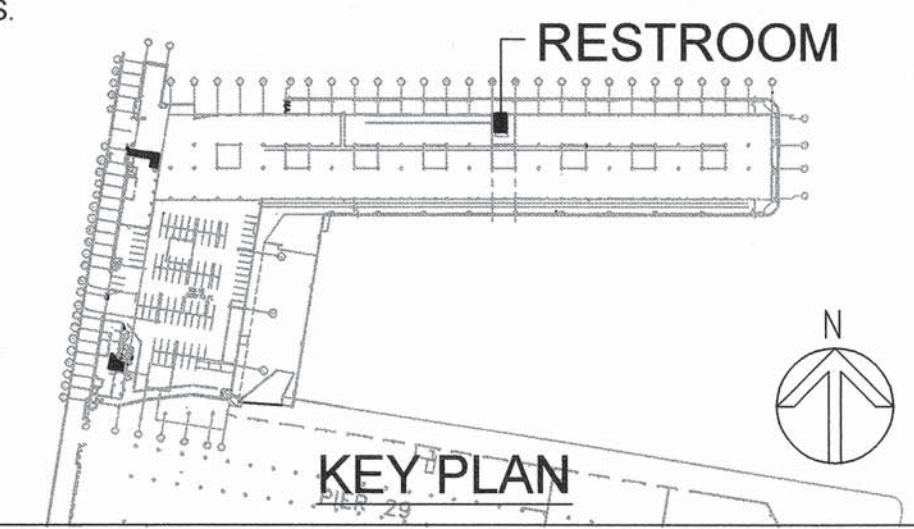


2
ALTERNATE BID
ENLARGED RESTROOM PLAN
WASTE AND VENT - ABOVE DECK
P2.03 SCALE: 1/4"=1'-0"

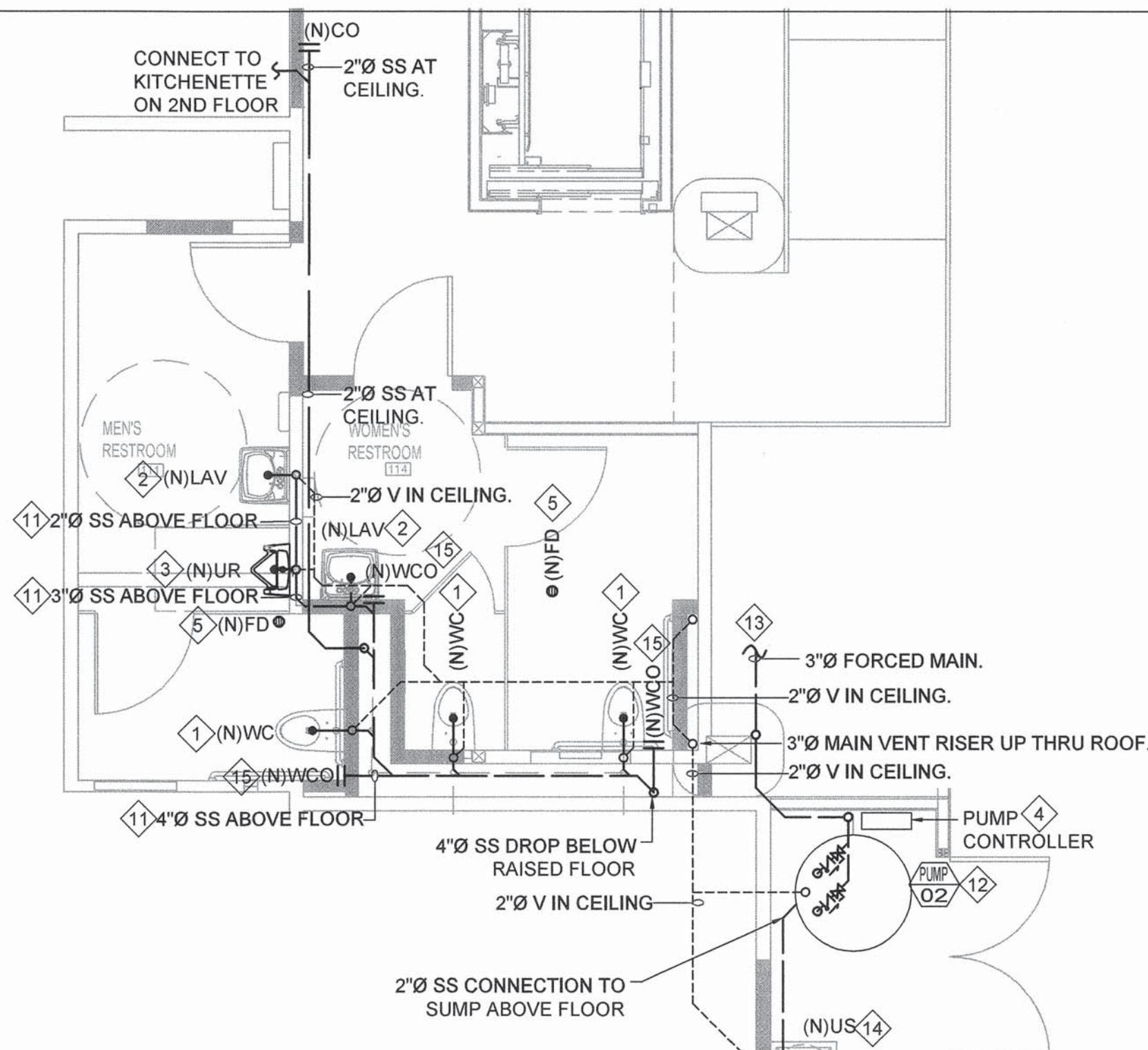


3
ALTERNATE BID
ENLARGED RESTROOM PLAN - CW AND HW
P2.03 SCALE: 1/4"=1'-0"

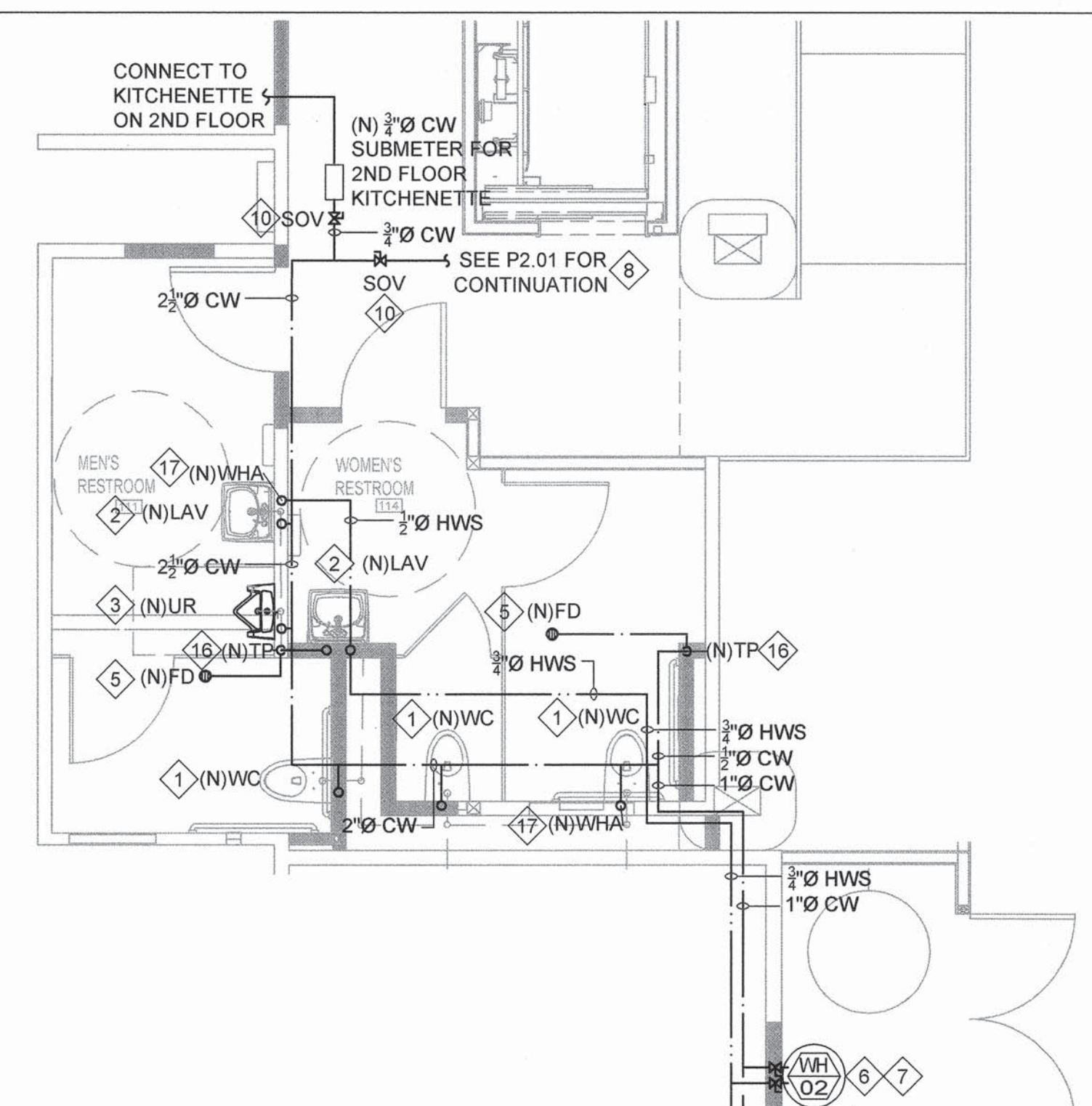
- SHEETNOTES**
- 1 PROVIDE (N) WALL MOUNTED, FLUSH VALVE WATER CLOSET. COMPLETE WITH NEW 3"Ø SS, 2"Ø V, AND 1 1/2"Ø CW PIPING. ALL PIPING SHALL RUN ABOVE DECK.
 - 2 PROVIDE (N) WALL MOUNTED LAVATORY. COMPLETE WITH NEW 2"Ø SS, 1 1/2"Ø V, 1/2"Ø CW, AND 1/2"Ø HW PIPING. ALL PIPING SHALL RUN ABOVE DECK.
 - 3 PROVIDE (N) WALL MOUNTED URINAL. COMPLETE WITH NEW 2"Ø SS, 1 1/2"Ø V, AND 1"Ø CW PIPING. ALL PIPING SHALL RUN ABOVE DECK.
 - 4 CONTRACTOR SHALL PROVIDE ALL NECESSARY WIRING AND CONDUITS FOR POWER AND CONTROL BETWEEN THE SUMP PUMP AND THE PUMP CONTROLLER. CONTRACTOR TO PROVIDE REMOTE MONITORING UNIT (RMU).
 - 5 PROVIDE (N) FLOOR DRAIN. COMPLETE WITH TRAP PRIMER, NEW 2"Ø SS AND 1 1/2"Ø V PIPING.
 - 6 NEW SANITARY SEWER AND TRAP VENT PIPING SHALL RUN ABOVE DECK.
 - 7 PROVIDE 3/4"Ø COLD WATER CONNECTION TO ELECTRIC LOW-BOY WATER HEATER ON CEILING PLATFORM. COORDINATE WITH ARCHITECT FOR EXACT LOCATION.
 - 8 PROVIDE LOW-BOY ELECTRIC WATER HEATER IN JANITOR CLOSET WITH DRAIN PAN. INDIRECT DRAIN TO JANITOR SINK. COORDINATE WITH ARCHITECT FOR EXACT LOCATION.
 - 9 PROVIDE 2 1/2"Ø COLD WATER SERVICE FROM RESPECTIVE COLD WATER SUBMETER. COORDINATE WITH ARCHITECT FOR EXACT LOCATION. SEE P0.02 FOR COLD WATER SUBMETER DETAILS.
 - 10 CONNECT VENT TO (E) ROOF PENETRATIONS. FIELD VERIFY FOR EXACT LOCATION.
 - 11 LOCATE ACCESSIBLE RESTROOM COLD WATER SHUT OFF VALVE AT 8' A.F.F.
 - 12 NEW SANITARY SEWER PIPING SHALL RUN ABOVE DECK. KEEP PIPE AS HIGH AS POSSIBLE WHILE MAINTAINING PROPER SLOPING.
 - 13 PROVIDE NEW DUPLEX SEWAGE EJECTOR SYSTEM COMPLETE WITH SUMP, (2) 5 HP PUMPS, PUMP CONTROLLER WITH ALARM, DISCHARGE PIPING WITH SHUTOFF VALVES AND CHECK VALVES AT EACH PUMP, VENT PIPING, AND GAS TIGHT COVER. INSTALL SUMP WITH COVER AT A MINIMUM OF 6" ABOVE FINISHED FLOOR TO ALLOW FOR PIPE CONNECTION TO THE SUMP ABOVE THE DECK. FOR THE PIPE CONNECTION BELOW THE DECK, THE CONNECTION SHALL NOT BE LESS THAN 34" FROM THE BOTTOM OF THE SUMP. FIELD VERIFY.
 - 14 (N) 3"Ø FORCED MAIN RISER UP TO CEILING. SEE P2.01 FOR CONTINUATION.
 - 15 PROVIDE (N) ABOVE GROUND UTILITY SINK. COMPLETE WITH NEW 2"Ø SS, 1 1/2"Ø V, 3/4"Ø CW, AND 3/4"Ø HW PIPING. NEW SANITARY SEWER PIPING SHALL RUN ABOVE DECK.
 - 16 PROVIDE (N) WALL CLEANOUT WITH A 7x7 STEEL ACCESS PANEL.
 - 17 PROVIDE (N) TRAP PRIMER FOR NEARBY FLOOR DRAIN. COMPLETE WITH A 7x7 STEEL ACCESS PANEL.
 - 18 PROVIDE (N) WATER HAMMER ARRESTOR AT THE END OF THE HOT AND COLD WATER BRANCH PIPING TO THE RESTROOMS. COMPLETE WITH SHUTOFF VALVE AND A 7x7 STEEL ACCESS PANEL.
 - 19 SUPPORT PIPING CROSSING OVER TO NEARBY WALL. PROVIDE UNISTRUT SUPPORTS FASTENED FROM PIER 31 WALL OVER TO THE CEILING OF THE RESTROOMS.



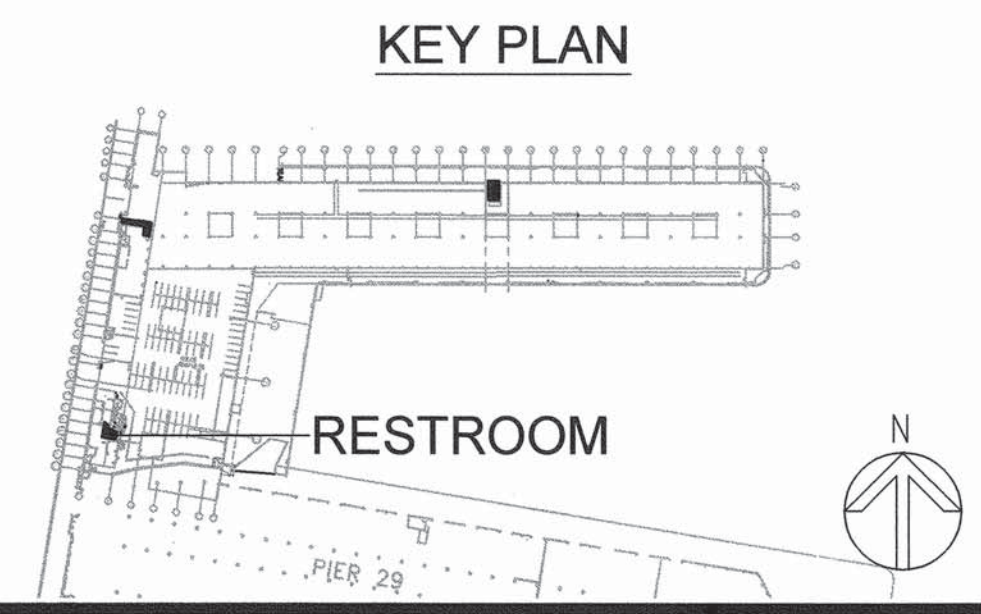
4
ENLARGED RESTROOM PLAN
WASTE AND VENT - BELOW RAISED FLOOR
P2.05 SCALE: 1/4"=1'-0"



5
ENLARGED RESTROOM PLAN
WASTE AND VENT - ABOVE RAISED FLOOR
P2.05 SCALE: 1/4"=1'-0"



6
ENLARGED RESTROOM PLAN - CW AND HW
P2.05 SCALE: 1/4"=1'-0"



NO.	DATE	DESCRIPTION	BY	APP.
MAY 2017	BID SET		JL	TL
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Uday Prasad
CHIEF HARBOR ENGINEER

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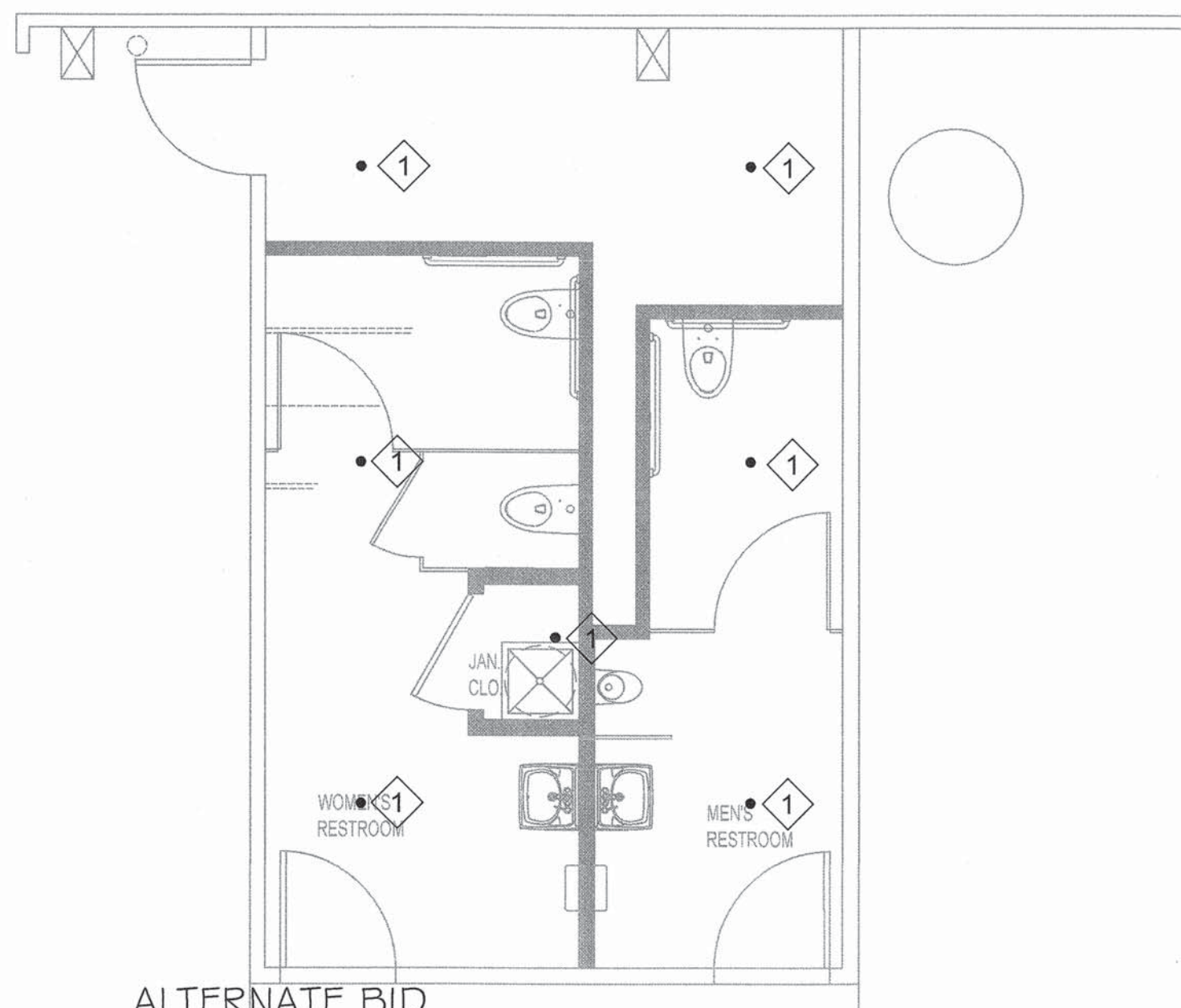
PIER 31 UTILITY & RESTROOM PROJECT
PLUMBING - ENLARGED RESTROOM PLANS

CONTRACT NO. 2783
DRAWING NO.
SHEET NO. **P2.03**
43 OF 60

SHEETNOTES

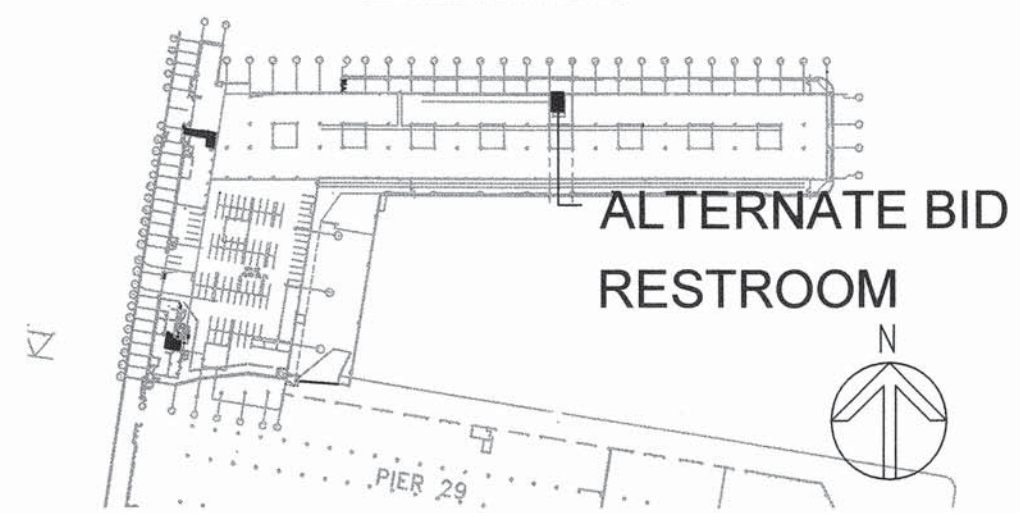
- 1 ALTERNATE BID
PROVIDE (N) FIRE SPRINKLER HEAD. CONNECT TO NEARBY (E) FIRE SPRINKLER PIPING.

FOR REFERENCE ONLY:
FIRE SPRINKLER DESIGN BUILD BY A C-16 LICENSED FIRE PROTECTION CONTRACTOR. PROVIDE PERMIT AND SHOP DRAWINGS.



1
P2.04
ALTERNATE BID ENLARGED RESTROOM PLAN - FIRE SPINKLER
SCALE: 1/4"=1'-0"

KEY PLAN

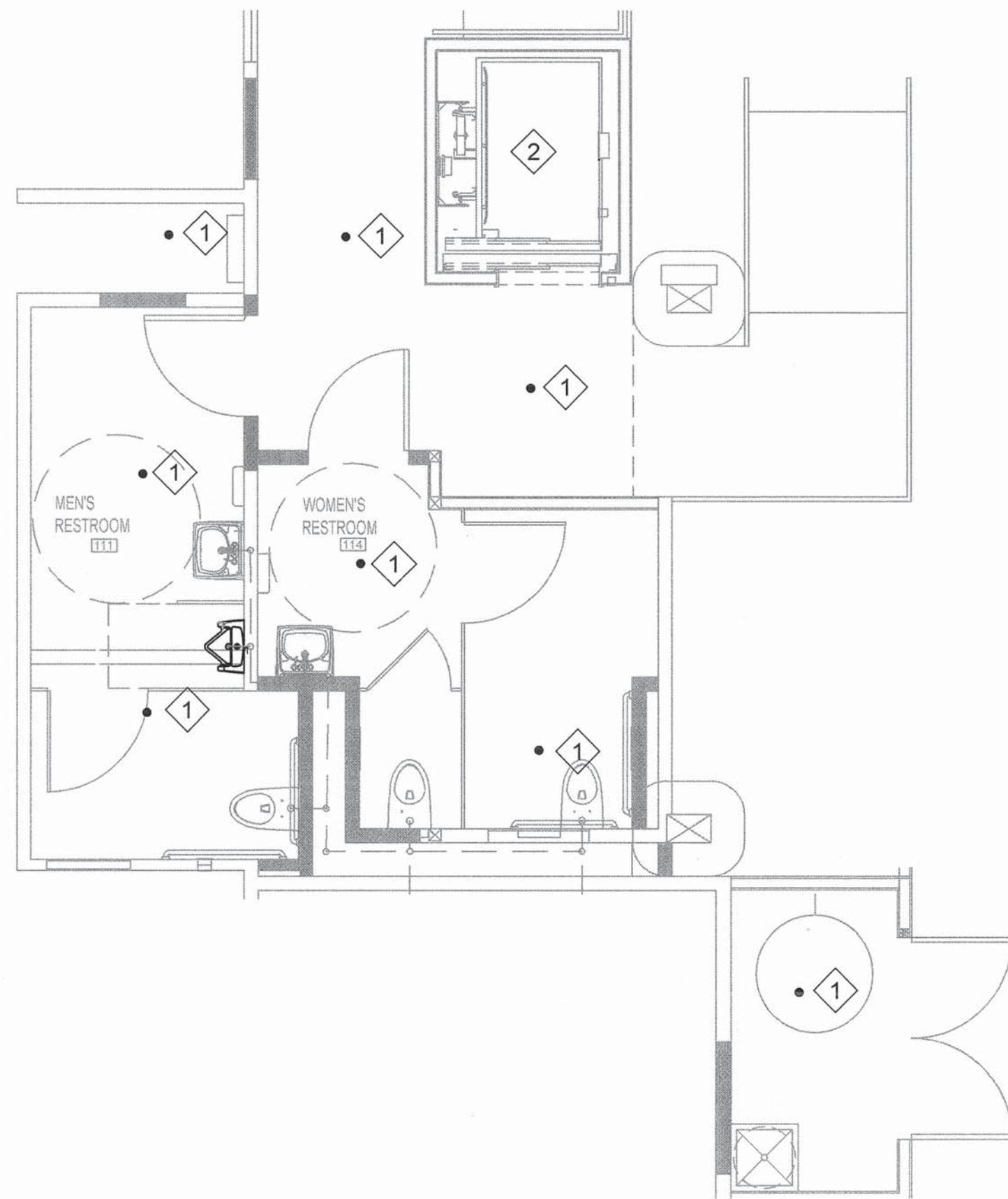


ALTERNATE BID RESTROOM

SHEETNOTES

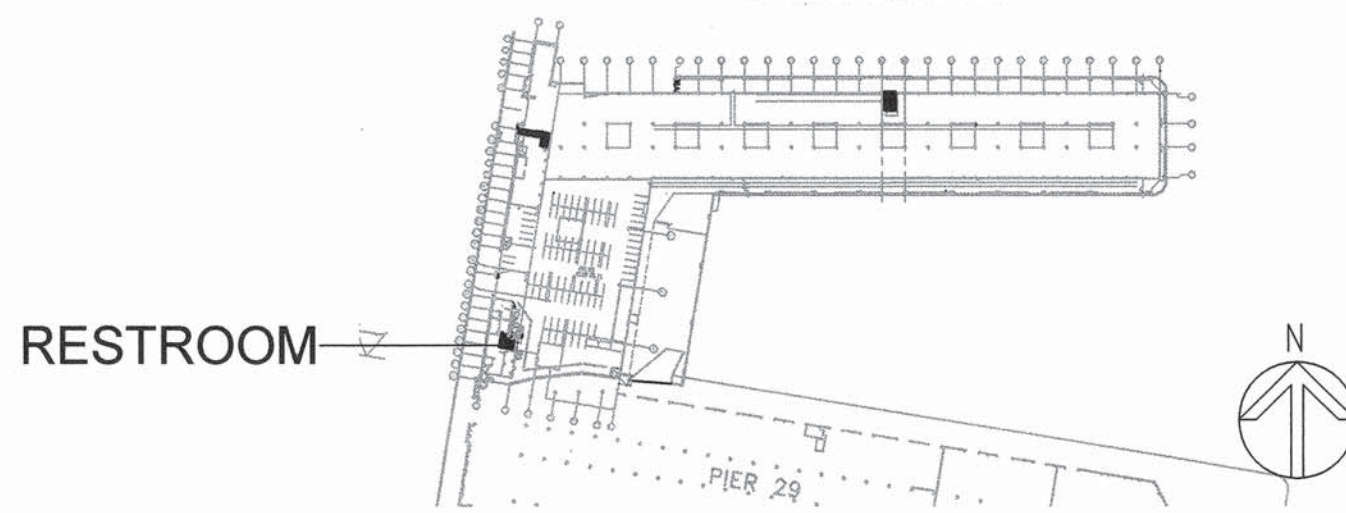
- 1 PROVIDE (N) FIRE SPRINKLER HEAD. CONNECT TO NEARBY (E) FIRE SPRINKLER PIPING.
- 2 PROVIDE (N) FIRE SPRINKLER HEAD AT THE TOP AND BOTTOM OF ELEVATOR SHAFT. CONNECT TO NEARBY (E) FIRE SPRINKLER PIPING.

FOR REFERENCE ONLY:
FIRE SPRINKLER DESIGN BUILD BY A C-16 LICENSED FIRE PROTECTION CONTRACTOR. PROVIDE PERMIT AND SHOP DRAWINGS.



2
P2.04
ENLARGED RESTROOM PLAN - FIRE SPRINKLER
SCALE: 1/4"=1'-0"

KEY PLAN

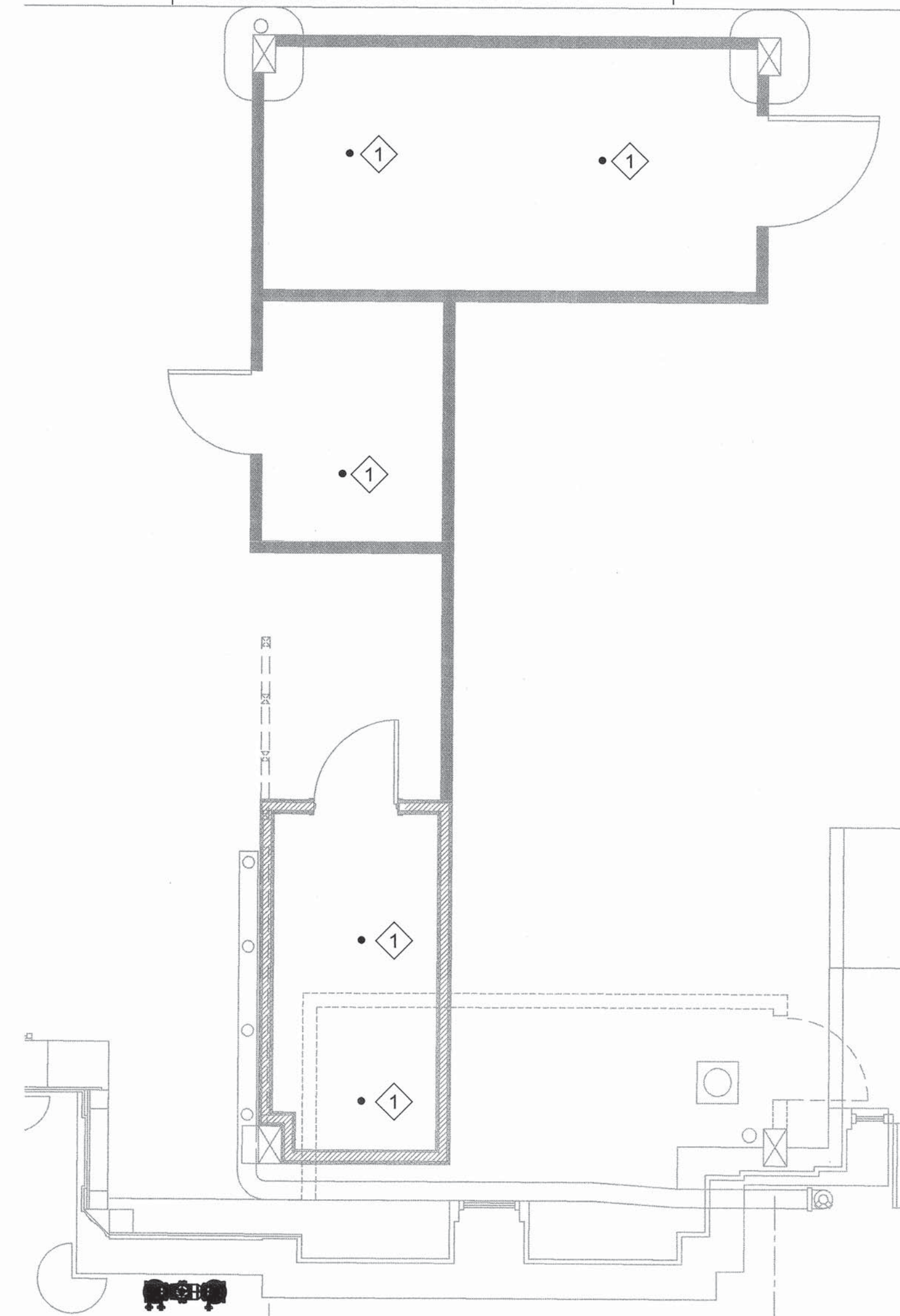


RESTROOM

SHEETNOTES

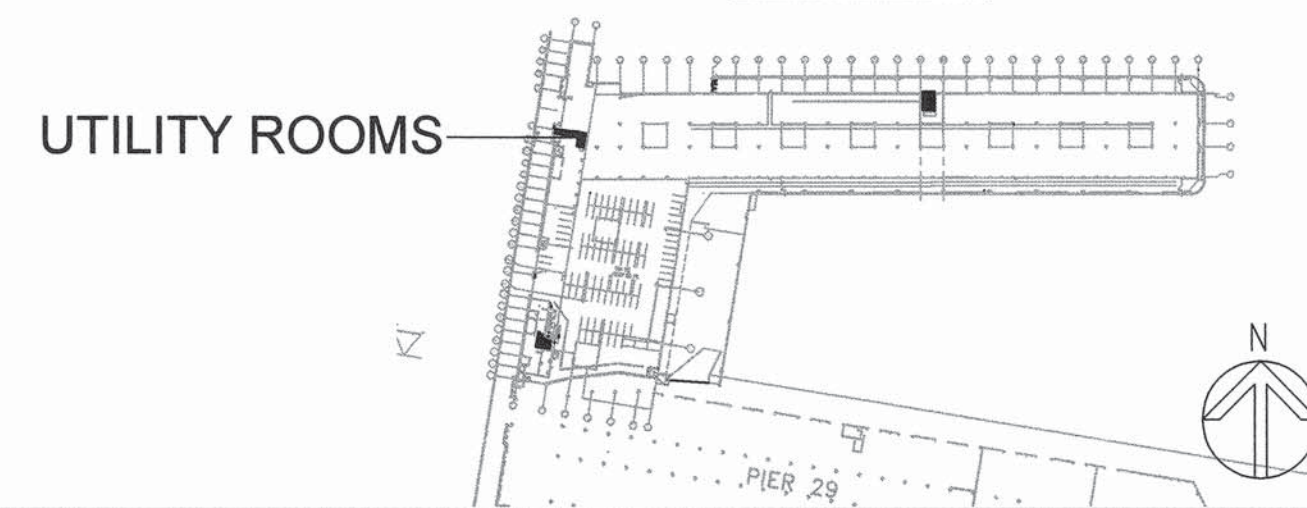
- 1 PROVIDE (N) FIRE SPRINKLER HEAD. CONNECT TO NEARBY (E) FIRE SPRINKLER PIPING.
- 2 PROVIDE (N) FIRE SPRINKLER HEAD AT THE TOP AND BOTTOM OF ELEVATOR SHAFT. CONNECT TO NEARBY (E) FIRE SPRINKLER PIPING.

FOR REFERENCE ONLY:
FIRE SPRINKLER DESIGN BUILD BY A C-16 LICENSED FIRE PROTECTION CONTRACTOR.



3
P2.04
UTILITY ROOMS - FIRE SPRINKLER
SCALE: 1/4"=1'-0"

KEY PLAN



UTILITY ROOMS

NO.	DATE	DESCRIPTION	BY	APP.
	MAY 2017	BID SET	JL	TL
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	FEB 2017	BID SET	JL	TL
	JUN 2016	PROGRESS SET	JL	TL

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DATE: 4-28-17
Uday Bhandari
CHIEF HARBOR ENGINEER

SCALE:
REV. NO.

PIER 31 UTILITY & RESTROOM PROJECT

PLUMBING - FIRE SPRINKLER

CONTRACT NO. 2783
DRAWING NO.
SHEET NO. P2.04
44 OF 60