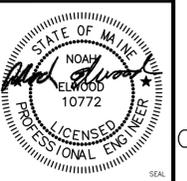


GENERAL NOTES:

- DIMENSIONS, ELEVATIONS & CONDITIONS SHALL BE VERIFIED IN THE FIELD. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE WORKERS, FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND ERECTION UNLESS OTHERWISE DIRECTED. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- A WORK PLAN DETAILING METHODS OF DEMOLITION, CONSTRUCTION, AND ERECTION SHALL BE SUBMITTED AND APPROVED BY THE CONTRACTING OFFICER PRIOR TO COMMENCING WORK.
- DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION ARE FROM ARCHIVE DRAWINGS AND UTILITY LOCATION MAPS FURNISHED BY THE GOVERNMENT. DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION SHALL BE CHECKED AND VERIFIED IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION.
- THE GOVERNMENT MAY CHARGE TO THE CONTRACTOR ADDITIONAL COST OF REINSPECTION OR RETEST WHEN PRIOR REJECTION MAKES REINSPECTION OR RETEST NECESSARY.
- PRIOR TO THE START OF CONSTRUCTION, PROVIDE CALCULATIONS, SKETCHES, PROCEDURES AND OTHER DOCUMENTS AS NECESSARY, STAMPED BY A PROFESSIONAL ENGINEER, DEMONSTRATING LAY-DOWN, EQUIPMENT AND CONSTRUCTION TECHNIQUES WILL NOT EXCEED THE DESIGN CAPACITY OF THE PIER, 500 PSF.
- PROVIDE DEBRIS BOOMS OUTBOARD OF THE PROJECT SITE AS NOTED ON SHEET G-006. MAINTAIN THE BOOMS DURING CONSTRUCTION.
- IN WATER WORK, WHICH INCLUDES PILE REMOVAL, SHALL BE COMPLETED BETWEEN NOVEMBER 15TH AND MARCH 15TH IN ACCORDANCE WITH ISSUED PERMITS.
- MECHANICALLY DREDGING MATERIAL FROM FACE OF PUMP WELL SHALL NOT BE PERMITTED. MATERIAL MOVEMENT SHALL BE COMPLETED BY DIVERS USING HAND METHODS. MATERIAL SHALL BE REPLACED AFTER JACKET INSTALLATION.
- CLEAN ALL MARINE GROWTH FROM PUMP WELL WALLS PRIOR TO SEALING JOINTS AND INSTALLATION OF FIBERGLASS PANELS.

REV	DATE	DESCRIPTION
1	07/15/15	ISSUED FOR CONSTRUCTION



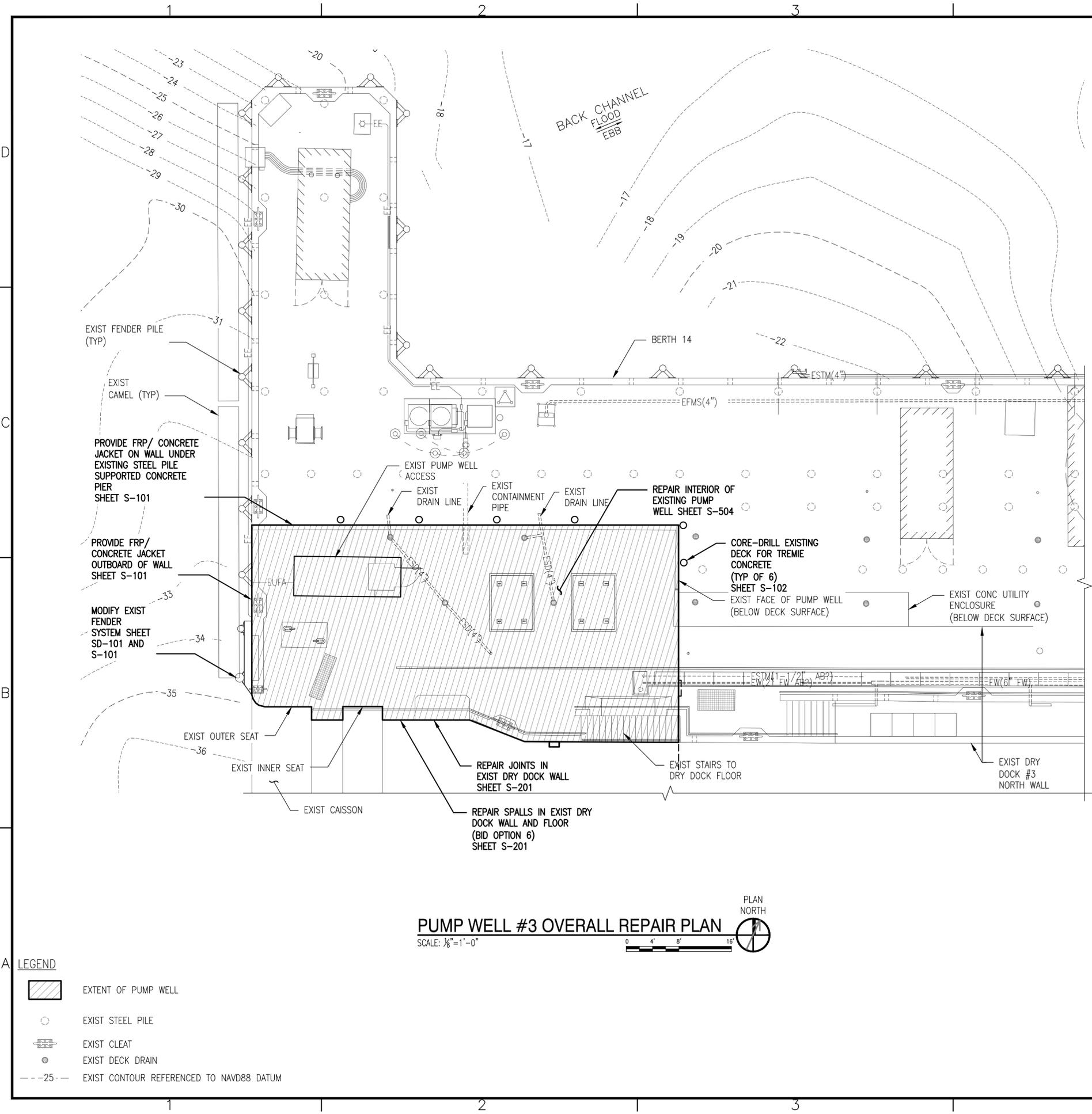
Appledore Marine Engineering, LLC
A/E/C/PM

ACTIVITY	SEE G-001 DDCB BLOCK
SATISFACTORY TO	DATE 01/07/15
DES LBL	DRW SNB
CHK	NJE
PM/DM	R C PANTEL
BRANCH MANAGER	AMIN BAHROUR
CHIEF ENG/ARCH	LCDR J ROCHE
FIRE PROTECTION	P BAKAJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME
NAVAL SHIPYARD
KITTERY, ME
DRY DOCK #3 PUMP WELL REPAIRS
OVERALL REPAIR PLAN

MAXIMO No:	
EPROJCT NO.:	1332591
CONSTR. CONTR. NO.:	N40085-15-C-6109
NAVFAC DRAWING NO.:	12686284
SHEET	16 OF 66
PROJECT NO.:	DX101 DD3-14-675

DRAWING REVISION: 10 MARCH 2009



PUMP WELL #3 OVERALL REPAIR PLAN
SCALE: 1/8"=1'-0"

LEGEND

	EXTENT OF PUMP WELL
	EXIST STEEL PILE
	EXIST CLEAT
	EXIST DECK DRAIN
	EXIST CONTOUR REFERENCED TO NAVD88 DATUM

REMOVALS NOTES:

1. PROVIDE CONTROL MEASURES AS REQUIRED BY ENVIRONMENTAL REGULATIONS AND AS REQUIRED TO PREVENT DEBRIS CONTAMINANTS (SOLID, LIQUID OR DISSOLVED) FROM ENTERING THE RIVER AND DRY DOCK DEWATERING TUNNELS. UNDERWATER INSPECTIONS MAY BE CONDUCTED BY THE CONTRACTING OFFICER TO ENSURE THE CONTRACTOR HAS REMOVED DEMOLITION AND CONSTRUCTION DEBRIS FROM THE RIVERBED.
2. MATERIAL DEMOLISHED AND NOT REUSED OR SALVAGED TO THE GOVERNMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED DAILY FROM THE GOVERNMENT'S PROPERTY. REMOVED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS.
3. UTILITIES ARE NOT SHOWN. FOR EXISTING UTILITIES SEE SHEET CX102.
4. COORDINATE STRUCTURAL REMOVALS WITH OTHER DISCIPLINES. SEE SHEETS G-003 AND SX101 FOR ADDITIONAL REQUIREMENTS.

REV	DATE	DESCRIPTION
1	07/07/15	ISSUED FOR CONSTRUCTION



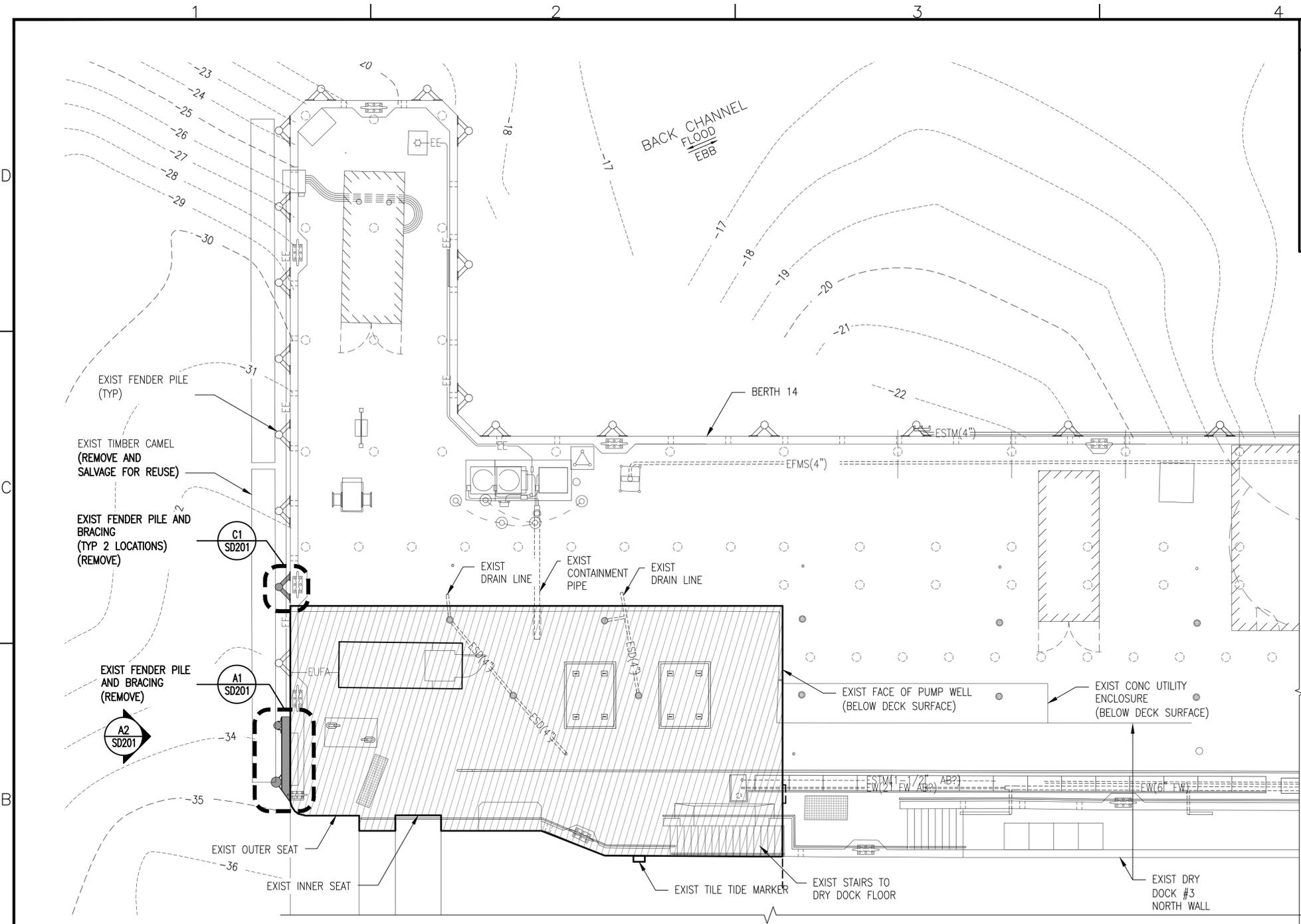
Appledore Marine Engineering, LLC
A/E/PRO

FOR COMMANDER NAVFAC
ACTIVITY
SEE G-001 DDCB BLOCK
SATISFACTORY TO DATE 01/07/15
DES LBL DRAW SNB CHK NJE
PM/DM R C PANTEL
BRANCH MANAGER AMIN BAHROUR
CHIEF ENG/ARCH LCDR J ROCHE
FIRE PROTECTION P BAKAJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME
NAVAL SHIPYARD KITTERY, ME
DRY DOCK #3 PUMP WELL REPAIRS
EXISTING CONDITIONS & REMOVALS PLAN

MAXIMO No:	
EPROJECT NO.:	1332591
CONSTR. CONTR. NO.:	N40085-15-C-6109
NAVFAC DRAWING NO.:	12686285
SHEET	17 OF 66
SD101	DD-14-676

DRAWFORM REVISION: 10 MARCH 2009



LEGEND

	EXTENT OF PUMP WELL
	EXTENT OF REMOVALS
	EXIST STEEL PILE WITH CONCRETE FOOTING ON BEDROCK
	EXIST CLEAT
	EXIST DECK DRAIN
	EXIST CONTOUR REFERENCED TO NAVD88 DATUM

PUMP WELL #3 REMOVALS PLAN

SCALE: 1/8" = 1'-0" 0 4' 8' 16' SX101



FENDER SYSTEM REMOVAL NOTES:

1. THE FENDER SYSTEM REMOVALS REQUIRES COMPLETE REMOVAL OF THE ENTIRE SYSTEM WITHIN THE LIMITS SHOWN INCLUDING STRUCTURAL MEMBERS, SUB-MEMBERS, AND CONNECTIONS.
2. EMBEDDED CONCRETE ANCHORS SHALL BE CUT FLUSH WITH THE FACE OF CONCRETE AND COATED WITH INORGANIC ZINC RICH PRIMER.
3. PILES SHALL BE FULLY EXTRACTED.

SRP SUBMISSION	DATE	APPR
NOV 07, 2015		



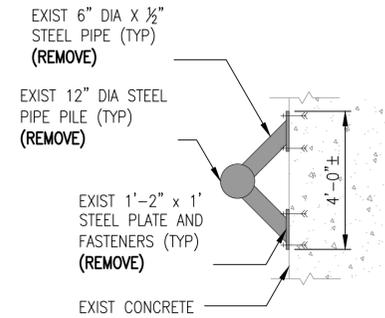
FOR COMMANDER NAVFAC
ACTIVITY
SEE G-001 DDCB BLOCK
SATISFACTORY TO DATE 01/07/15
DES LBL DRAW SNB CHK NJE
PM/TM R C PANTEL
BRANCH MANAGER AMIN BAHROUR
CHIEF ENG/ARCH LCDR J ROCHE
FIRE PROTECTION P. BAKAJ

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
 PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME
 PNO-WAWE
 NAVAL SHIPYARD
 KITTERY, ME
DRY DOCK #3 PUMP WELL REPAIRS
 REMOVALS DETAILS

MAXIMO No:	
EPROJECT NO.:	1332591
CONSTR. CONTR. NO.:	N40085-15-C-6109
NAVFAC DRAWING NO.:	12686286
SHEET 18 OF 66	
SD201 DD-14-677	

FENDER REMOVAL

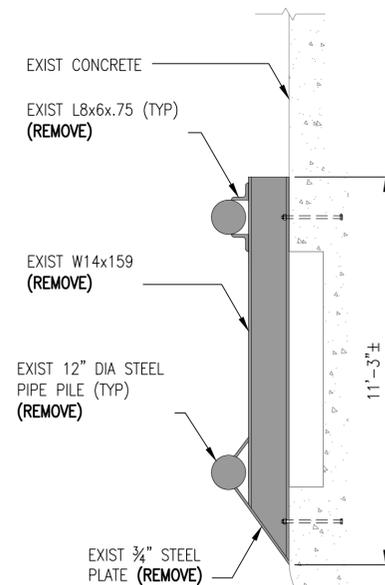
SCALE: 3/8"=1'-0" SD101



C1

FENDER REMOVAL

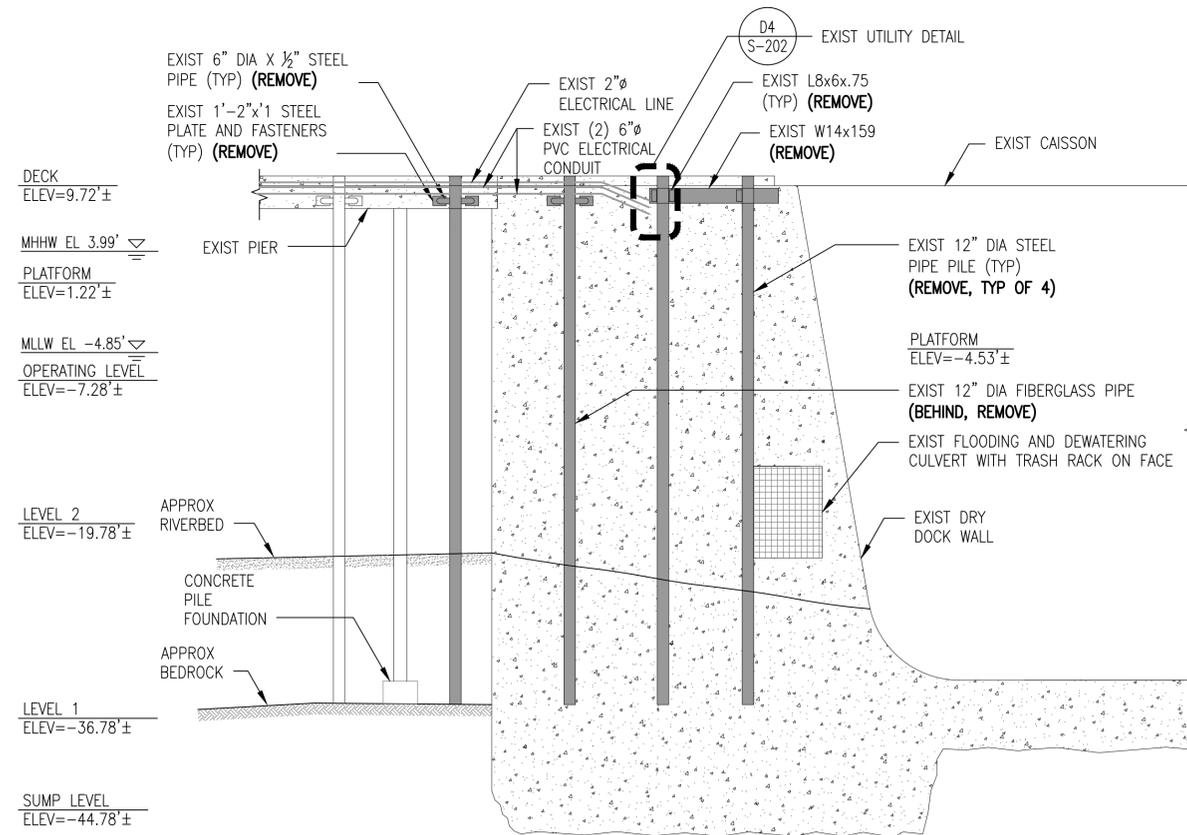
SCALE: 3/8"=1'-0" SD101



A1

FENDER REMOVALS ELEVATION

SCALE: 1/8"=1'-0" SD101



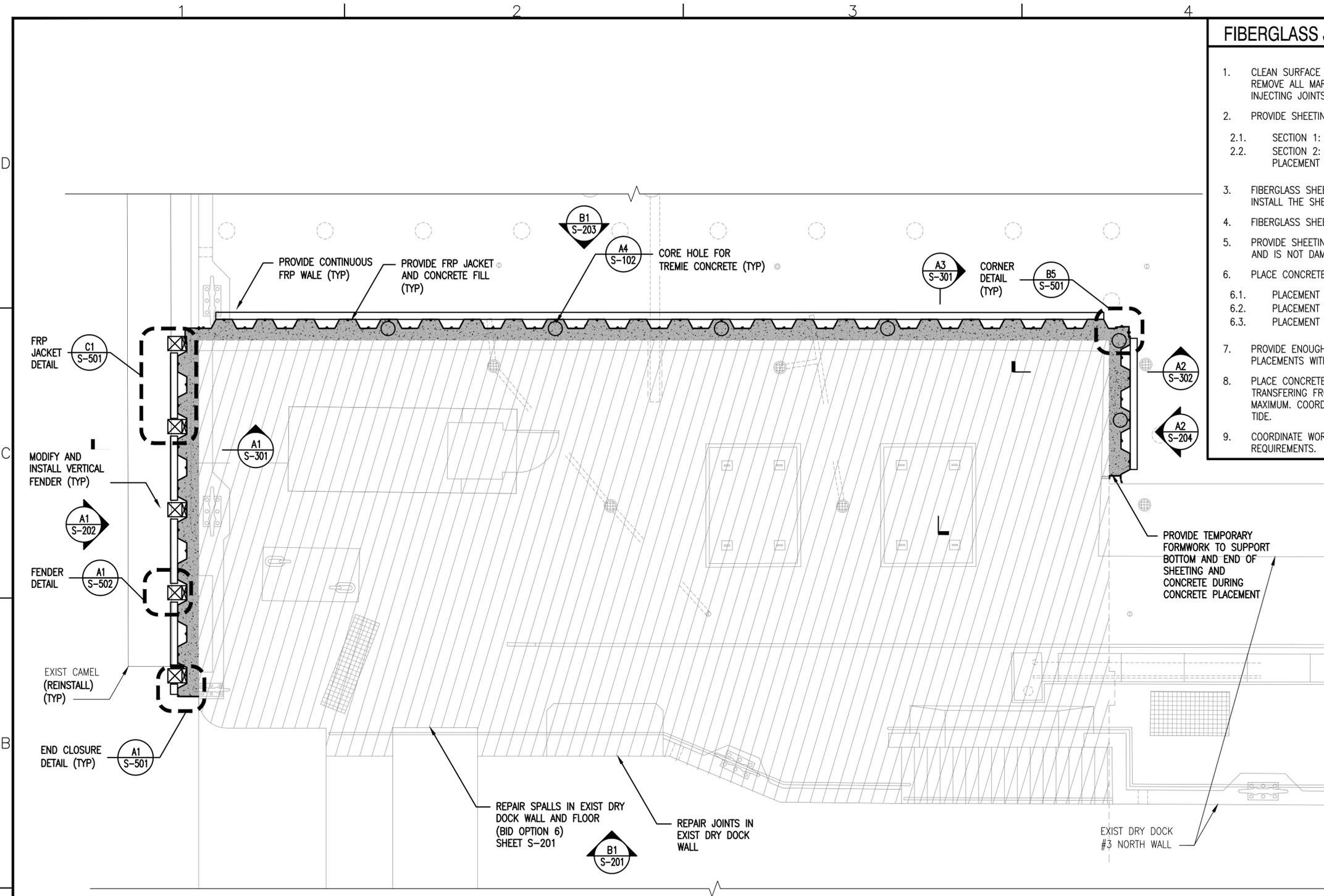
A2

LEGEND

EXTENT OF REMOVALS

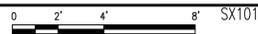
FIBERGLASS JACKET AND CONCRETE INSTALLATION NOTES:

1. CLEAN SURFACE OF EXISTING CONCRETE USING A MINIMUM OF 10,000 PSI HYDROBLAST TO REMOVE ALL MARINE GROWTH. COMPLETE REMOVAL IMMEDIATELY PRIOR TO COMMENCING INJECTING JOINTS AND INSTALLATION OF FIBERGLASS SHEETING.
2. PROVIDE SHEETING IN TWO SECTIONS.
 - 2.1. SECTION 1: 2' MIN BELOW MUDLINE TO EL 4.2 FT.
 - 2.2. SECTION 2: ELEVATION 1.7 FT TO TOP OF WALL. PROVIDE SECOND SECTION AFTER PLACEMENT 2. BOTH SECTIONS SHALL BE CONNECTED BY THE WALE AT EL 2.2 FT.
3. FIBERGLASS SHEETING SHALL BE PROVIDED UNDER THE DECK. DO NOT CUT THE DECK TO INSTALL THE SHEETING.
4. FIBERGLASS SHEETING ALONG EACH FACE OF PUMP WELL WALL SHALL BE CONTINUOUS.
5. PROVIDE SHEETING WITH ADDITIONAL SUPPORT AS REQUIRED TO ENSURE SYSTEM REMAINS RIGID AND IS NOT DAMAGED DURING INSTALLATION AND CONCRETE PLACEMENT.
6. PLACE CONCRETE IN THREE PLACEMENTS AS DESCRIBED BELOW.
 - 6.1. PLACEMENT 1: 3-5 FEET THICK CLOSURE PLACEMENT. SEE DETAIL
 - 6.2. PLACEMENT 2: TOP OF CLOSURE TO EL 3 FT
 - 6.3. PLACEMENT 3: EL 3 FT TO TOP OF WALL
7. PROVIDE ENOUGH TREMIE PIPES, ONE FOR EACH SPECIFIED HOLE, TO ALLOW CONTINUOUS PLACEMENTS WITH NO VERTICAL JOINTS.
8. PLACE CONCRETE CONTINUOUSLY IN A CIRCULAR PATTERN AROUND THE PUMP WELL TRANSFERRING FROM ONE TREMIE HOLE TO THE NEXT. LIMIT THE LIFT HEIGHT TO FIVE FEET MAXIMUM. COORDINATE LIFTS WITH THE TIDES TO ALLOW PLACEMENT TO OCCUR DURING A RISING TIDE.
9. COORDINATE WORK WITH ADDITIONAL DISCIPLINES. SEE SHEET G-003 FOR ADDITIONAL REQUIREMENTS.



PUMP WELL #3 EXTERIOR PLAN

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



LEGEND

- EXTENT OF PUMP WELL
- EXIST STEEL PILE WITH CONCRETE FOOTING ON BEDROCK
- EXIST CLEAT
- EXIST DECK DRAIN

REV	DATE	SYM	DESCRIPTION	DATE	APPR
1	07/15				PFD
APPROVED FOR COMMANDER NAVFAC ACTIVITY SEE G-001 DDCB BLOCK SATISFACTORY TO DATE 01/07/15 DES: LBL DRW: SNB CHK: NJE PM/DM: R C PANTEL BRANCH MANAGER: AMIN BAHROUR CHIEF ENG/ARCH: LCDR J ROCHE FIRE PROTECTION: P. BAKAJ					
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME NAVAL SHIPYARD DRY DOCK #3 PUMP WELL REPAIRS EXTERIOR PUMP WELL REPAIR PLAN					
MAXIMO No: EPROJECT NO.: 1332591 CONSTR. CONTR. NO.: N40085-15-C-6109 NAVFAC DRAWING NO.: 12686287 SHEET 19 OF 66 S-101 DD3-14-678 <small>DRAWING REVISION: 10 MARCH 2009</small>					

TREMIE CORE NOTES:

1. LOCATE EXISTING REINFORCING STEEL PRIOR TO CORING DECK HOLES. DO NOT CORE THROUGH EXISTING REINFORCING STEEL.
2. LOCATIONS ARE APPROXIMATE. COORDINATE LOCATIONS OF THE CORES WITH THE LAYOUT OF THE SHEET PILE AND ENSURE THAT THE CORES REMAINS BEHIND THE FRP SHEET PILE AS SHOWN. COORDINATE EXACT LOCATIONS WITH THE CONTRACTING OFFICER PRIOR TO CORING.
3. COVER CORE HOLES WITH STEEL PLATE WHEN NOT IN USE.
4. WITHIN 48 HOURS OF COMPLETED TREMIE PLACEMENTS FILL CORE HOLES IN WITH NON-SHRINK GROUT.

REV	DATE	DESCRIPTION

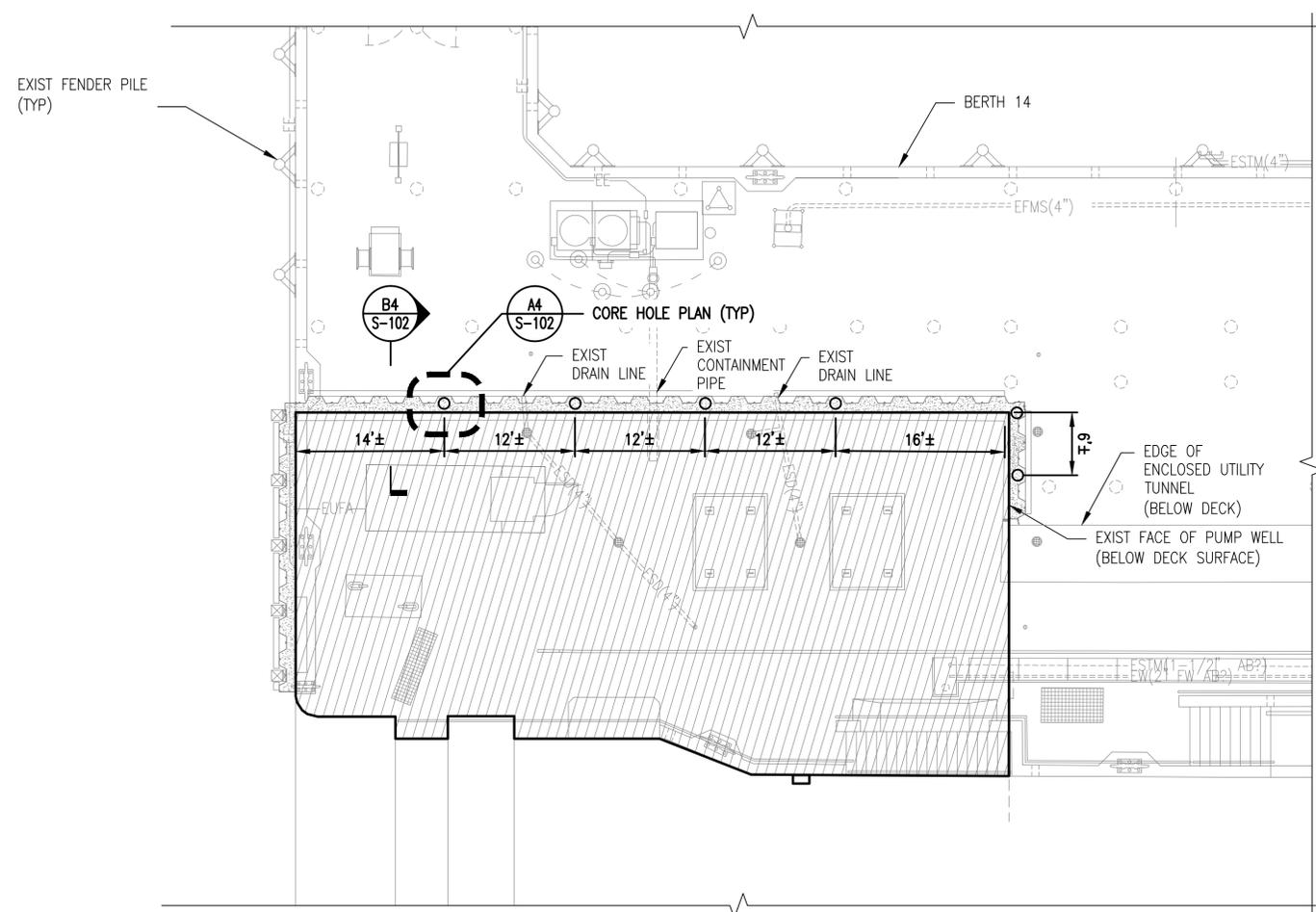


FOR COMMANDER NAVFAC
ACTIVITY
SEE G-001 DDCB BLOCK
SATISFACTORY TO DATE 01/07/15
DES: LBL DRAW: SNB CHK: NJE
PM/DM: R C PANTEL
BRANCH MANAGER: AMIN BAHROUR
CHIEF ENG/ARCH: LCDR J ROCHE
FIRE PROTECTION: P. BAKAJ

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
 PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME
 PNO-NAME: NAVAL SHIPYARD
 KITTERY, ME
DRY DOCK #3 PUMP WELL REPAIRS
 DECK CORE PLAN

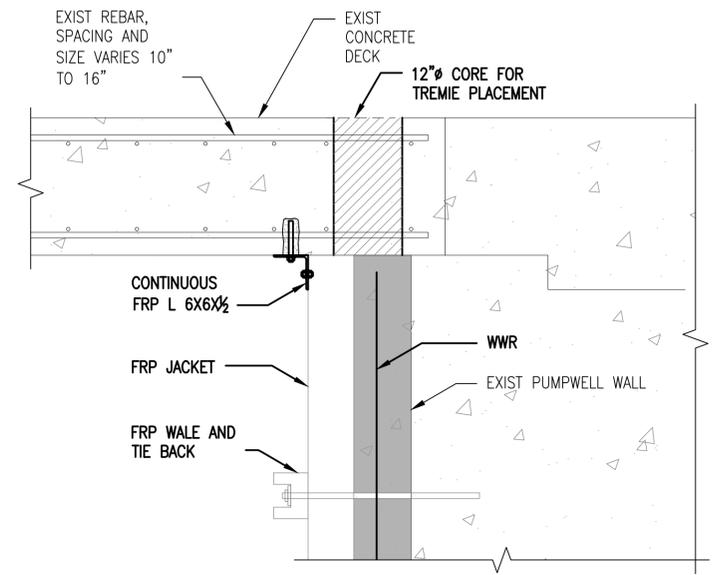
MAXIMO No:	
EPROJECT NO.:	1332591
CONSTR. CONTR. NO.:	N40085-15-C-6109
NAVFAC DRAWING NO.:	12686288
SHEET 20 OF 66	
S-102	DD-14-679

DRAWFORM REVISION: 10 MARCH 2009

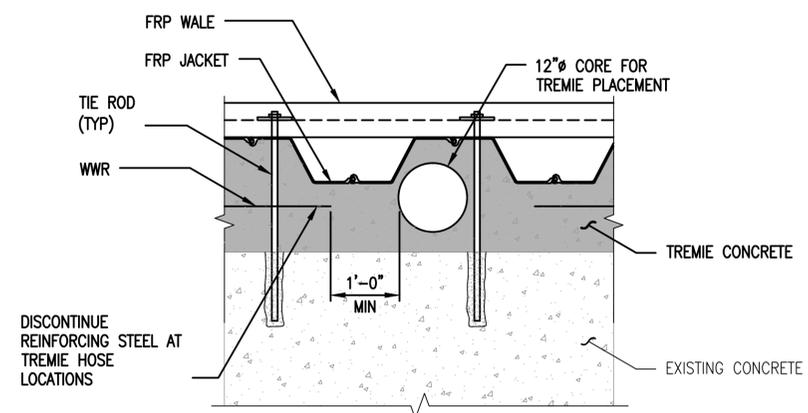


DECK CORE PLAN
 SCALE: 1/8"=1'-0"

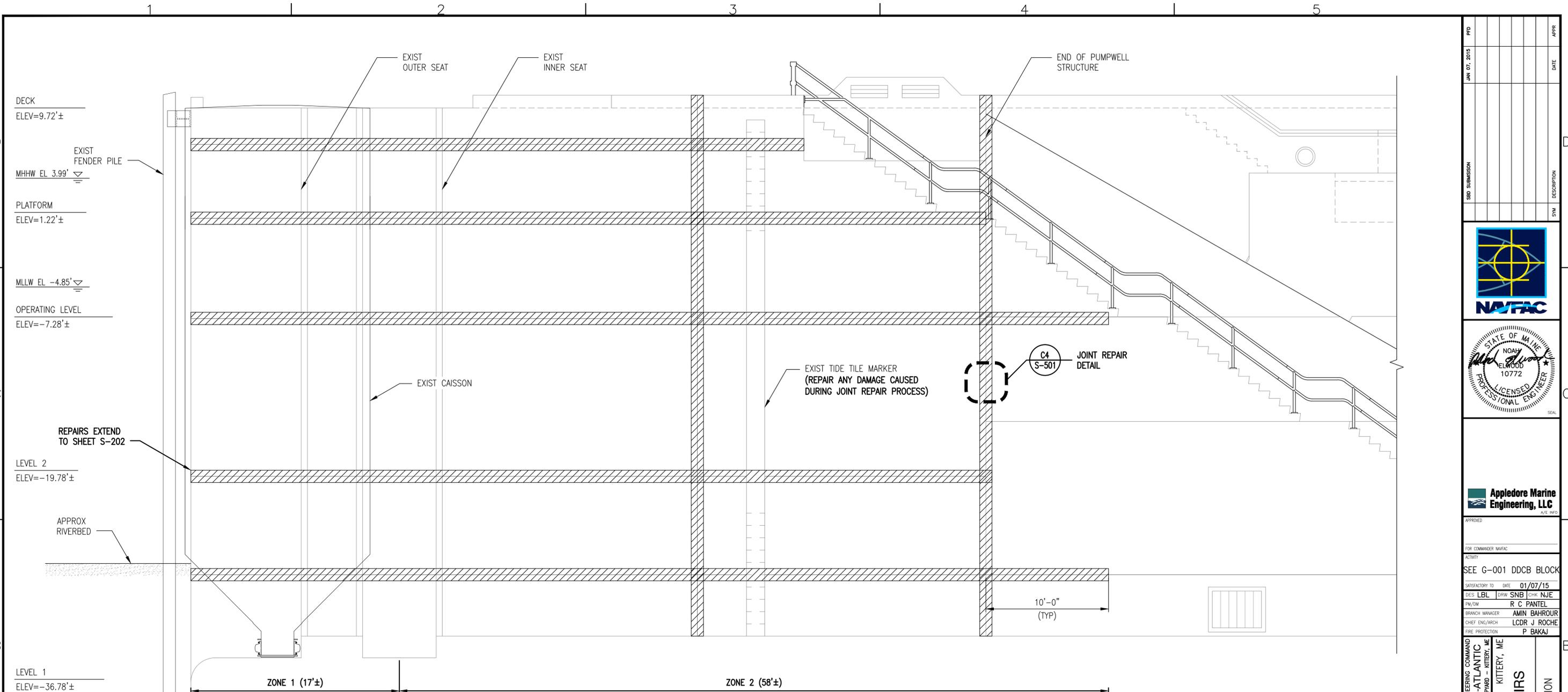
- LEGEND**
- ▨ EXTENT OF PUMP WELL
 - EXIST STEEL PILE WITH CONCRETE FOOTING ON BEDROCK
 - ▬ EXIST CLEAT
 - EXIST DECK DRAIN



CORE HOLE SECTION (TYP) B4
 SCALE: 3/4"=1'-0"



CORE HOLE PLAN (TYP) A4
 SCALE: 3/4"=1'-0"



DRY DOCK 3 PUMP WELL SOUTH ELEVATION (LOOKING NORTH)

SCALE: 1/4"=1'-0" B1

G-003
SX101
S-101

SPALL REPAIR OPTION 6 NOTES:

1. 1500 SF OF SPALL REPAIRS SHALL BE COMPLETED ON THE WALLS AND FLOOR OF THE DRY DOCK. WORK LOCATIONS SHALL BE DETERMINED BY THE CONTRACTING OFFICER. GENERAL LOCATIONS INCLUDE THE INNER SEAT WALLS AND FLOOR, AND THE WALLS OF BOTH SIDES OF THE DRY DOCK AT THE ENTRANCE.
2. SPALL REPAIR WORK SHALL BE COMPLETED IN THE DRY WITHOUT A SUBMARINE IN THE DRY DOCK. THE CAISSON WILL BE LOCATED IN THE OUTER SEAT DURING REPAIRS.
3. NO WATER OR DEBRIS SHALL BE ALLOWED TO ENTER THE DRY DOCK DEWATERING SYSTEM. BLOCK OFF ALL DEWATERING INLETS ON THE FLOOR OF THE DRY DOCK PRIOR TO COMMENCING WORK. ALL WATER AND DEBRIS PRODUCED FROM THE DEMOLITION, PLACEMENT, AND CURING PROCESS SHALL BE COLLECTED AND DISPOSED OF BY THE CONTRACTOR.
4. WATER USED AND PRODUCED DURING THE CONSTRUCTION PROCESS SHALL NOT BE DISCHARGED INTO THE RIVER WITHOUT BEING TESTED TO ENSURE IT MEETS THE MAINE DEP CONSTRUCTION GENERAL PERMIT. USE OF THE SHIPYARD'S DEWATERING SYSTEM SHALL NOT BE PERMITTED.
5. SPALL REPAIR REQUIREMENTS ARE FURTHER DETAILED SHEET S-503.

CONSTRUCTION JOINT REPAIR NOTES:

1. CONSTRUCTION JOINTS ON THE SOUTH WALL OF THE DRY DOCK AS WELL AS ALL EXTERIOR WALLS OF THE PUMP WELL SHALL BE SEALED WITH INJECTION GROUT TO PREVENT WATER INTRUSION THROUGH THE JOINTS.
2. GROUT INJECTION LOCATIONS SHALL BE SPACED PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
3. CLEANING AND PREPARATION OF JOINTS SHALL BE IN ACCORDANCE WITH MANUFACTURE'S WRITTEN RECOMMENDATIONS INCLUDING DETERIORATED CONCRETE REMOVAL AND SURFACE CLEANING FOR CHLORIDE REMOVAL.
4. ZONE 2 REPAIR GROUT MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND BE APPROVED FOR MARINE APPLICATION.
6. ZONE 1 REPAIR GROUT MATERIAL SHALL BE APPROVED FOR UNDERWATER APPLICATION.
7. ALL DEBRIS AND WATER INCLUDING DUST PRODUCED DURING THE JOINT REPAIR PROCESS SHALL BE FULLY CONTAINED AND NOT ALLOWED TO ENTER THE DEWATERING SYSTEM OF THE DRY DOCK.

JOINT REPAIR SEQUENCING NOTES:

1. ZONE 2 REPAIRS SHALL BE COMPLETED IN THE DRY WITH A SUBMARINE IN THE DRY DOCK. THE USE OF A JLG WILL BE PERMITTED. REPAIRS SHALL BE PRIORITIZED AND COMPLETED WITHIN 90 DAYS OF NOTICE TO PROCEED.
2. FULL CONTAINMENT IS REQUIRED TO PREVENT DEMOLITION DEBRIS AND REPAIR WASTE MATERIALS, INCLUDING SOLIDS, LIQUIDS, AND AIRBORNE DUST, FROM EXITING THE WORK AREA AROUND ZONE 2 DURING REPAIR.
3. WORK IN THE AREA OF THE STAIRS SHALL BE COMPLETED DURING OFF HOURS AS DIRECTED BY THE CONTRACTING OFFICER.
4. ZONE 1 REPAIRS SHALL BE COMPLETED UNDERWATER. REPAIRS IN THIS AREA SHALL BE COORDINATED WITH THE CONTRACTING OFFICER AND SHALL BE COMPLETED AFTER THE SUBMARINE IS UNDOCKED AND THE DRY DOCK IS FLOODED. WORK SHALL BE COMPLETED WITHIN 14 DAYS OF UNDOCKING OF THE SUBMARINE.

LEGEND
 EXIST CONSTRUCTION JOINT INJECTION SEAL LOCATIONS

PPD		DATE	APPR
APR 07, 2015			
SRP SUBMISSION		DESCRIPTION	SYM
APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
SEE G-001 DDCB BLOCK			
SATISFACTORY TO	DATE		
DES: LBL	DRW: SNB	CHK: NJE	
PM/DM	R C PANTEL		
BRANCH MANAGER	AMIN BAHROUR		
CHIEF ENG/ARCH	LCDR J ROCHE		
FIRE PROTECTION	P. BAKAJ		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL SHIPYARD
	MID-ATLANTIC	PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME	KITTERY, ME
	PNO-NAME	DRY DOCK #3 PUMP WELL REPAIRS	
		SOUTH PUMP WELL EXTERIOR REPAIR ELEVATION	
MAXIMO NO:			
EPROJCT NO:	1332591		
CONSTR. CONTR. NO:	N40085-15-C-6109		
NAVFAC DRAWING NO:	12686289		
SHEET	21	OF 66	
S-201	DD3-14-680		
DRAWING REVISION: 10 MARCH 2009			

DECK
ELEV=9.72'±

MHHW EL 3.99'

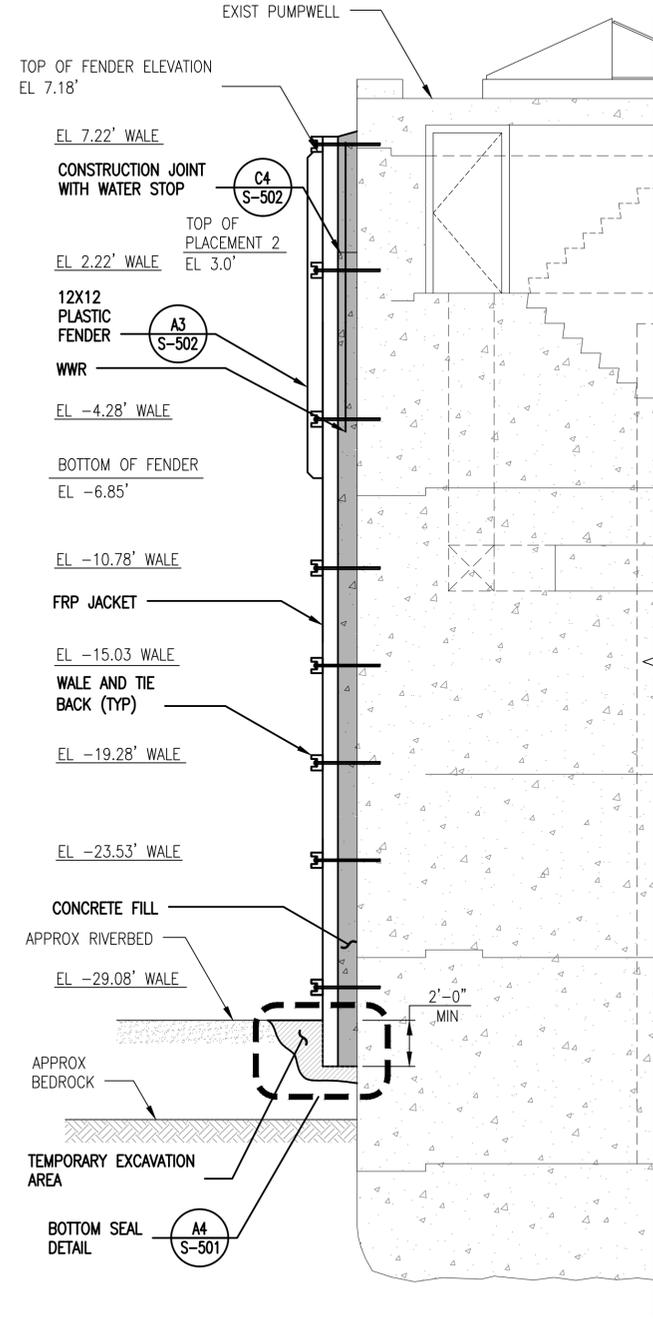
PLATFORM
ELEV=1.22'±

MLLW EL -4.85'

OPERATING LEVEL
ELEV=-7.28'±

LEVEL 2
ELEV=-19.78'±

LEVEL 1
ELEV=-36.78'±



**WEST WALL
PUMP WELL SECTION**
SCALE: 1/4"=1'-0" 0 2' 4' 8' S-101 A1

DECK
ELEV=9.72'±

MHHW EL 3.99'

PLATFORM
ELEV=1.22'±

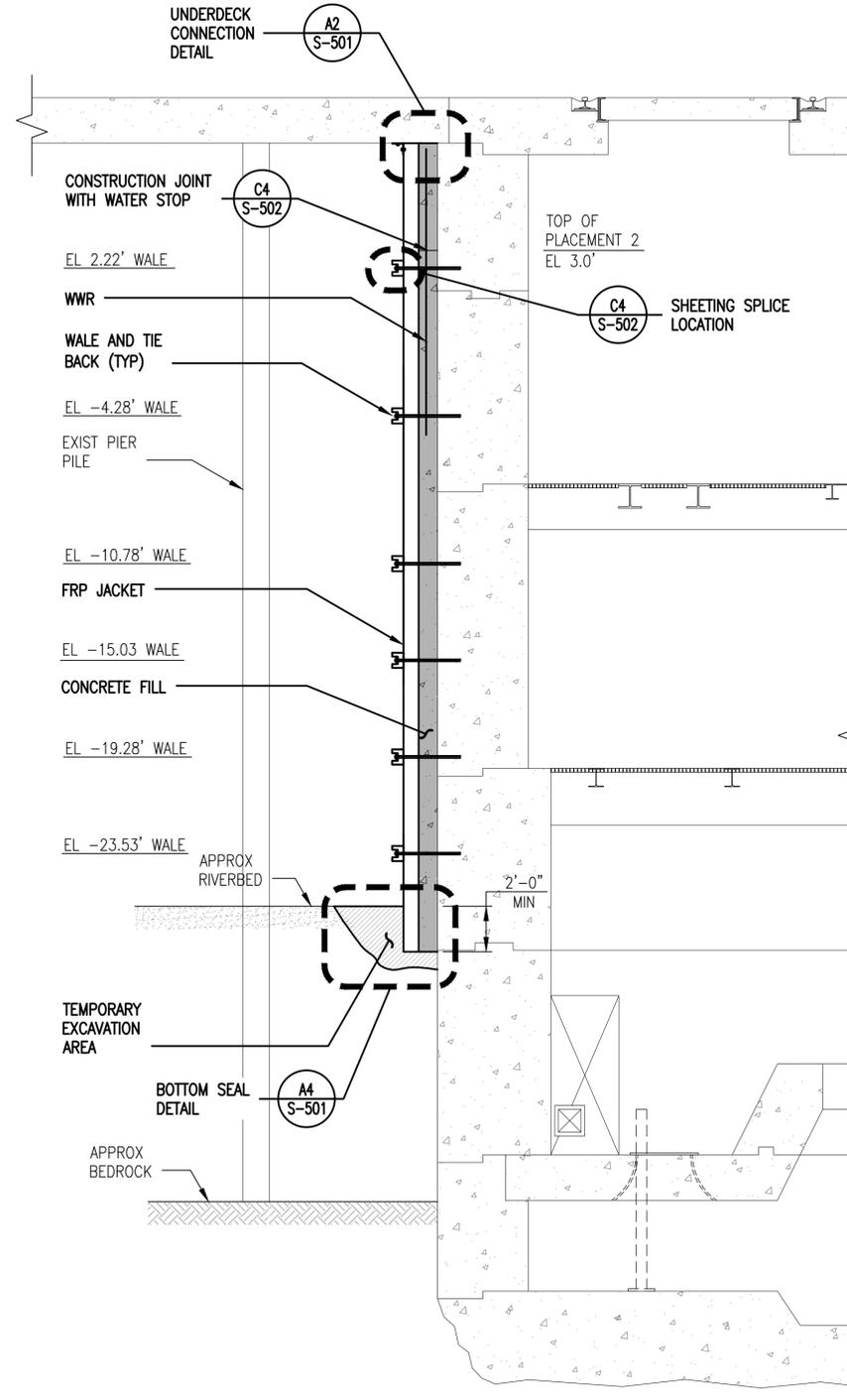
MLLW EL -4.85'

OPERATING LEVEL
ELEV=-7.28'±

LEVEL 2
ELEV=-19.78'±

LEVEL 1
ELEV=-36.78'±

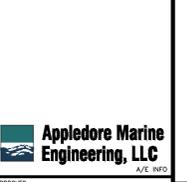
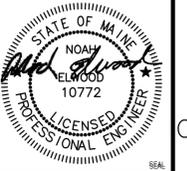
SUMP LEVEL
ELEV=-44.78'±



**NORTH WALL
PUMP WELL SECTION**
SCALE: 1/4"=1'-0" 0 2' 4' 8' S-101 A3

NOTE:
1. EXISTING CONCRETE PIER COVERS WORK AREA.

REV	DATE	DESCRIPTION
1	07/07/15	FOR COMMANDER NAVFAC

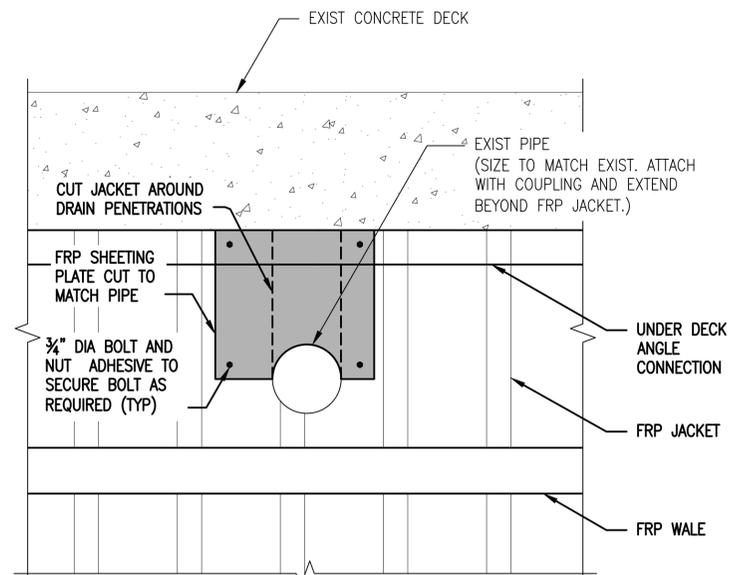


ACTIVITY	SEE G-001 DDCB BLOCK
SATISFACTORY TO	DATE 01/07/15
DES LBL	DRW SNB CHK NJE
PM/DM	R C PANTEL
BRANCH MANAGER	AMIN BAHROUR
CHIEF ENGINEER	LCDR J ROCHE
FIRE PROTECTION	P. BAKAJ

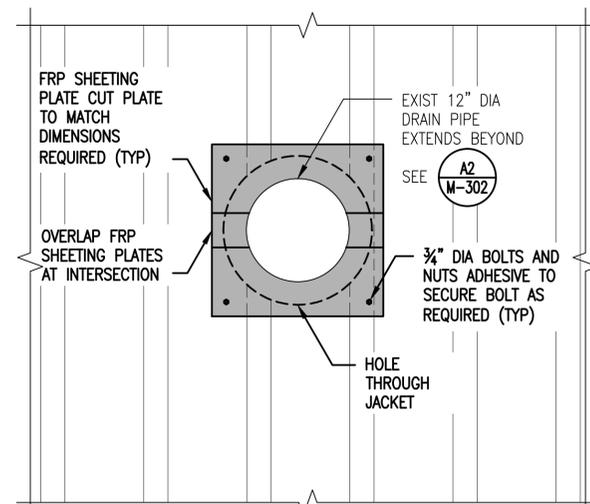
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME
NAVAL SHIPYARD
KITTERY, ME
DRY DOCK #3 PUMP WELL REPAIRS
REPAIR SECTIONS - 1

MAXIMO No:	
EPROJCT NO.:	1332591
CONSTR. CONTR. NO.:	N40085-15-C-6109
NAVFAC DRAWING NO.:	12686293
SHEET	25 OF 66

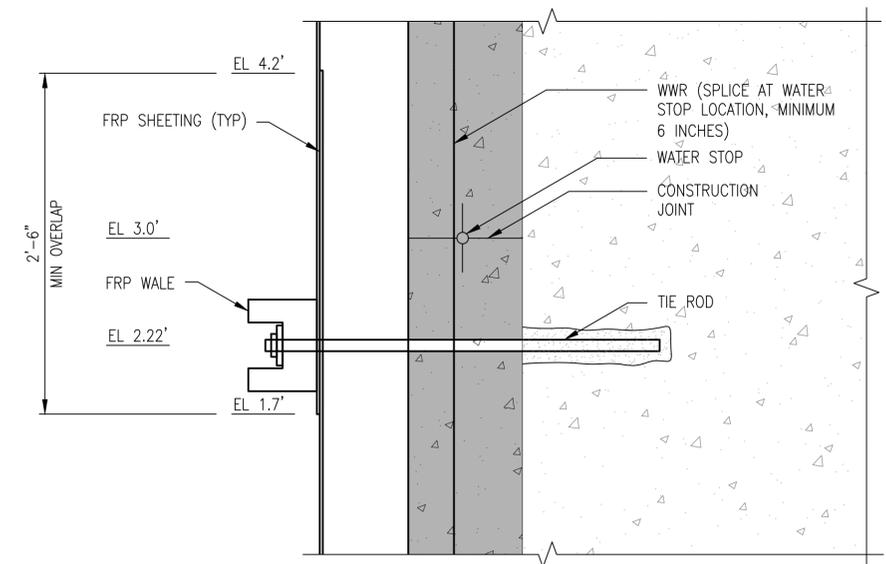
S-301 DD3-14-684
DRAWING REVISION: 10 MARCH 2009



TYPICAL UPPER DRAIN AND CONTAINMENT PIPE PENETRATION DETAIL (C1)
SCALE: 3/4"=1'-0"

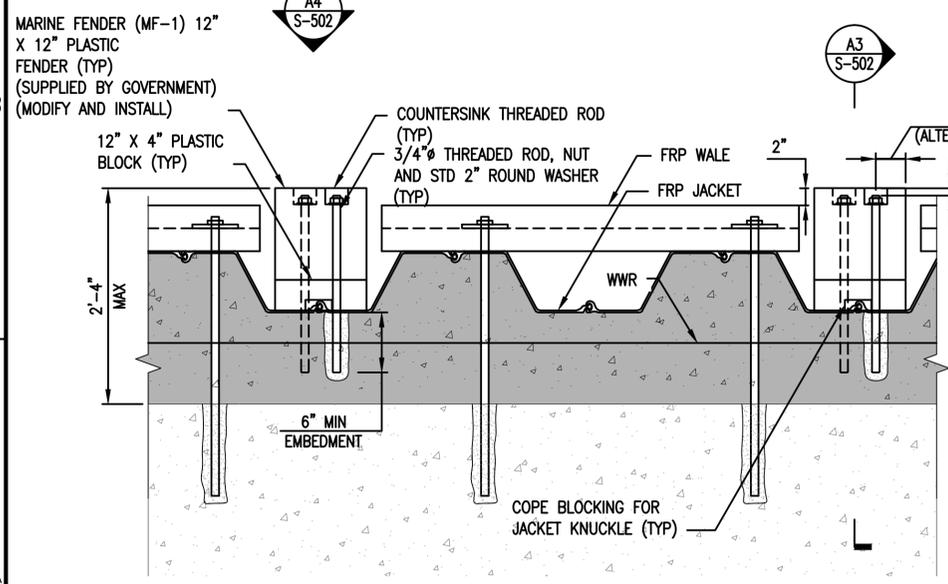


LOWER PIPE PENETRATION DETAIL (C2)
SCALE: 3/4"=1'-0"

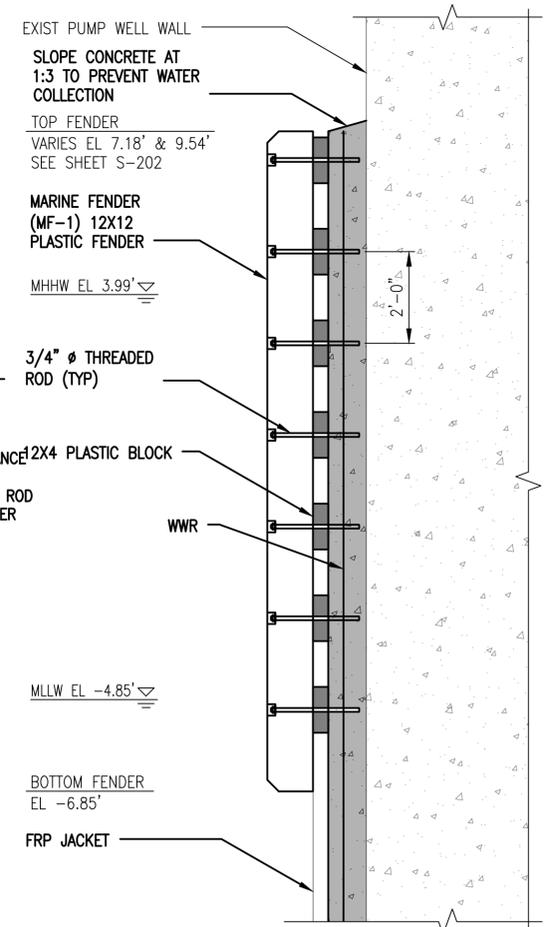


SHEETING SPLICE DETAIL (C4)
SCALE: 3/4"=1'-0"

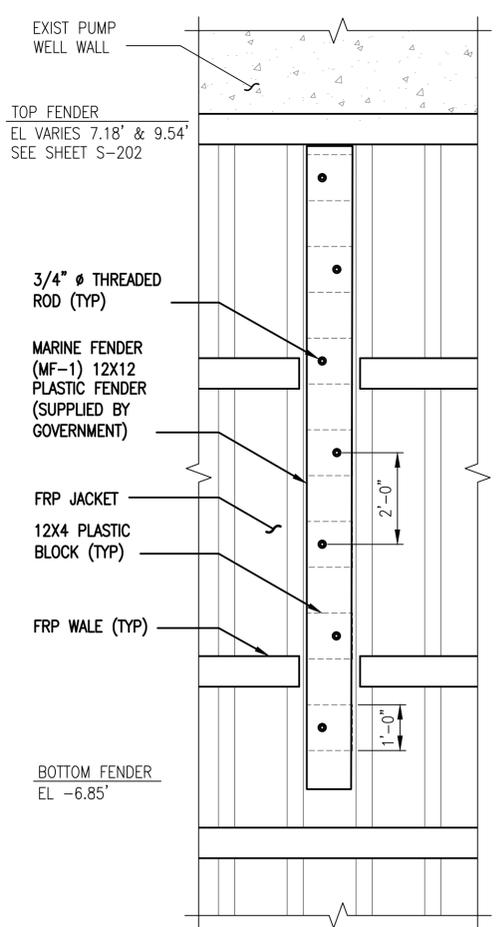
NOTE:
1. DUE TO CHANGE IN PROFILE SHAPE OF FRP JACKET, ADDITIONAL WORK MAY BE REQUIRED TO ENSURE CONCRETE LEAKAGE DOES NOT OCCUR.



FENDER PLAN DETAIL (A1)
SCALE: 1"=1'-0"



FENDER SECTION DETAIL (A3)
SCALE: 1/2"=1'-0"



FENDER ELEVATION DETAIL (A4)
SCALE: 1/2"=1'-0"

NOTES:
1. INSTALL FENDERS 28 DAYS AFTER FINAL CONCRETE PLACEMENT.
2. 12x12 FENDER SUPPLIED BY GOVERNMENT. FENDERS ARE LOCATED AT THE SHIPYARD, PICK UP, MODIFY, AND INSTALL.
3. ALL ANCHOR RODS ABOVE ELEVATION 2.5' SHALL BE STAINLESS STEEL. REMAINING ANCHORS SHALL BE HOT DIPPED GALVANIZED. REPAIR GALVANIZING AFTER CUTTING THREADED ROD TO PROVIDE CLEARANCE FROM FENDER FACE.

REV	DATE	DESCRIPTION
APR 07, 2015		
NO. SUBMISSION	DATE	DESCRIPTION
APPROVED FOR COMMANDER NAVFAC		
ACTIVITY: SEE G-001 DDCB BLOCK		
SATISFACTORY TO	DATE	
DWG	DATE	01/07/15
DES	LBL	DRW
SNB	CHK	NJE
PNM/TM		R C PANTEL
BRANCH MANAGER		AMIN BAHROUR
CHIEF ENGINEER		LCDR J ROCHE
FIRE PROTECTION		P. BAKAJ
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND PNO-NAME NAVAL SHIPYARD KITTERY, ME		
DRY DOCK #3 PUMP WELL REPAIRS EXTERIOR PUMP WELL REPAIR DETAILS - 2		
MAXIMO No:		
PROJECT NO.:	1332591	
CONSTR. CONTR. NO.:	N40085-15-C-6109	
NAFAC DRAWING NO.:	12686296	
SHEET	28	OF 66
S-502	DD3-14-687	
DRAWING REVISION: 10 MARCH 2009		

SPALL REPAIR NOTES:

- PRIOR TO BEGINNING REPAIR WORK, PERFORM A SURVEY TO VERIFY REPAIR QUANTITIES AND LOCATIONS INDICATED ON THE DRAWINGS. FOR BIDDING, ASSUME AN ADDITIONAL 25% OF SPALL REPAIR SQUARE FOOTAGE FROM THOSE SHOWN IN THE SPALL REPAIR TABLES ON S-503 AND S-504. NOTIFY THE GOVERNMENT IN WRITING OF DISCREPANCIES EFFECTING THE PRICE OR SCHEDULE OF THE WORK PRIOR TO BEGINNING CONSTRUCTION.
- CONCRETE AND REINFORCING STEEL PREPARATION FOR REPAIR, REPAIR MATERIALS AND METHODS OF APPLICATION EMPLOYED, SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION 03 01 32 CONCRETE REHABILITATION.
- BOTH FORMS OF CONCRETE DETERIORATION, SPALLS AND DELAMINATION, ARE CALLED OUT AS SPALLS ON THE PLANS AND NO SEPARATE DISTINCTION IS MADE AS THE REPAIR PROCEDURES ARE THE SAME.
- INTERFERENCES MAY OCCUR AT SPALL LOCATIONS INCLUDING, BUT NOT LIMITED TO, UTILITY HANGERS, ELECTRICAL AND MECHANICAL UTILITY PIPES, AND CONDUITS ETC. UTILITY PIPES SHALL BE PROTECTED AND SUPPORTED THROUGHOUT THE DURATION OF THE SPALL REPAIR.
- CONCRETE REMOVAL REQUIRES FULL CONTAINMENT. NO DUST OR DEBRIS WILL BE PERMITTED INSIDE THE PUMP WELL. REPLACEMENT OF DAMAGED COMPUTER OR PUMP EQUIPMENT WILL BE AT THE COST OF THE CONTRACTOR IF DEBRIS OR DUST IS PRESENT IN THE PUMP WELL.
- THE OPERATIONS EMPLOYED IN CONCRETE REMOVAL AND PREPARATION OF THE CONCRETE AND REINFORCEMENT FOR REPAIR SHALL NOT WEAKEN THE SURROUNDING EXISTING CONCRETE AND REINFORCEMENT AND THE BOND BETWEEN THEM. LIMIT THE SIZE OF IMPACT HAMMERS TO 15 LBS.
- REMOVAL OF CONCRETE SHALL BE A MINIMUM OF 3/4" BEHIND REINFORCING STEEL. REPAIR SHALL EXTEND AN ADDITIONAL 2 INCHES AROUND DEFECT INTO SOUND CONCRETE. MINIMUM REPAIR DEPTH IS 4 INCHES. ASSUME 8 INCHES FOR ALL BASE BID SPALL REPAIRS AND 10" FOR BID OPTION SPALL REPAIRS FOR BIDDING PURPOSES.
- AREAS REQUIRING REPAIR SHALL BE MODIFIED TO PROVIDE FOR SIMPLE LAYOUTS TO REDUCE EDGE LENGTH AND ELIMINATE ACUTE ANGLES. THE PERIMETERS OF REPAIRS SHALL PROVIDE RIGHT ANGLE CUTS TO THE CONCRETE SURFACE BY SAW CUTTING. SAW CUTS SHALL BE A MINIMUM 3/4 INCH DEEP. DO NOT CUT EXISTING REINFORCING STEEL.
- THE MOISTURE CONDITION OF CONCRETE SUBSTRATE PRIOR TO APPLICATION OF REPAIR MATERIAL SHALL BE SATURATED SURFACE DRY (SSD).
- EXPOSED REINFORCING STEEL SHALL BE CLEANED OF SCALE, RUST, DIRT, OIL, OR OTHER DELETERIOUS MATERIAL. REMOVE EXISTING REINFORCING STEEL WITH 20% OR GREATER LOSS OF CROSS SECTIONAL DIAMETER, AND PROVIDE REINFORCING STEEL OF THE SAME SIZE AND SPACING AS THE EXISTING REINFORCING STEEL. SEE REINFORCING STEEL NOTES AND THE FOLLOWING DETAIL:
- EXTERIOR SURFACES REQUIRE A HIGH-PRESSURE HYDROBLASTING PRIOR TO REPAIR. HYDROBLASTING SHALL NOT BE PERMITTED INSIDE THE PUMP WELL.
- CONCRETE REPAIRS SHALL BE COMPLETED USING THE FOLLOWING REPAIR METHODS:
 - VERTICAL AND OVERHEAD REPAIRS WITH AREAS GREATER THAN 2 SQUARE FEET SHOULD BE PERFORMED BY FORM AND PUMP (F&P) METHOD. SEE THE FOLLOWING DETAIL:
 - TYPICAL HORIZONTAL REPAIRS SHALL BE PERFORMED BY POUR AND TROWEL (P&T) METHOD.
- INSTALL EMBEDDED GALVANIC ANODES FOR CATHODIC PROTECTION IN REPAIRS WITH AREAS GREATER THAN 2 SQUARE FEET PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS. GALVANIC ANODES SHALL CONSIST OF ZINC AND PROVIDE A MINIMUM SERVICE LIFE OF 20 YEARS. FOR BIDDING PURPOSES, ASSUME 80 EMBEDDED GALVANIC ANODES ARE REQUIRED FOR THE BASE BID AND 750 EMBEDDED GALVANIC ANODES ARE REQUIRED FOR THE BID OPTION.
 - ANODES SHALL BE PLACED AROUND THE PERIMETER OF THE REPAIR AREA AND IN NO CASE SHALL THE DISTANCE BETWEEN ANODES EXCEED 12 INCHES CENTER TO CENTER.
 - INSTALL ANODE TO CLEANED REINFORCING STEEL AND SECURE PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - ANODE SHALL BE PACKED WITHIN A LOW RESISTANCE EMBEDDING MATERIAL PRIOR TO PLACING IN REPAIR MATERIAL. THE EMBEDDING MATERIAL SHALL COVER THE ANODES BY A MINIMUM THICKNESS OF 1/2 INCH AND BE IN DIRECT CONTACT WITH THE CONCRETE SUBSTRATE.
 - ANODES SHALL BE ELECTRICALLY CONNECTED TO REINFORCING STEEL WITHIN 1" OF THAT REINFORCING STEEL ELEMENT ENTERING INTO THE SURROUNDING CONCRETE SUBSTRATE.
 - MAINTAIN MINIMUM CONCRETE COVER OVER ANODES.
- CHAMFER EXPOSED REPAIR EDGES TO MATCH EXISTING.
- BONDING COMPOUNDS SHALL NOT BE PERMITTED. PROVIDE A ROUGHENED CLEAN SURFACE AND ADEQUATE INTIMATE CONTACT BETWEEN REPAIR MATERIAL AND SUBSTRATE FOR BONDING.

REINFORCING STEEL REPAIR NOTES:

- REINFORCING STEEL USED IN SPALL REPAIRS SHALL CONFORM TO ASTM A706 GRADE 60.
- THE CONDITION OF THE EXIST REINFORCEMENT IS UNKNOWN. IT IS ASSUMED THAT 10% OF SPALLED AREAS WILL REQUIRE REINFORCING REPAIRS. FOR BIDDING PURPOSES ASSUME 25 LBS OF REPLACEMENT REINFORCING STEEL.
- WELDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE - REINFORCING STEEL" (AWS-D1.4). SEE THE FOLLOWING DETAIL:

(B1)
S-503 TYPICAL REINFORCING BAR WELDED SPLICE

 - USE DETAIL A & C FOR #9 BAR AND LARGER, DETAIL B FOR #8 BAR AND SMALLER, DETAIL D FOR #6 BAR AND SMALLER.
 - WHEN WELDING TO EXIST REINFORCING, REPRESENTATIVE SAMPLES OF THE EXISTING STEEL SHALL BE ANALYZED TO DETERMINE WELDING REQUIREMENTS. MECHANICAL REINFORCING BAR CONNECTORS MAY BE USED PROVIDED THEY HAVE 125% MINIMUM YIELD STRENGTH OF THE REINFORCEMENT BAR AND MAINTAIN EXISTING CONCRETE COVER.
 - CARBON EQUIVALENT OF EXIST BARS SHALL BE DETERMINED PER AWS-D1.4 FOR PROPER WELDING PROCEDURE.
 - CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING.
 - SEE AWS D1.4 FOR WELDING PROCESS AND OTHER REQUIREMENTS.
- MAINTAIN EXISTING REINFORCEMENT CONCRETE COVER.

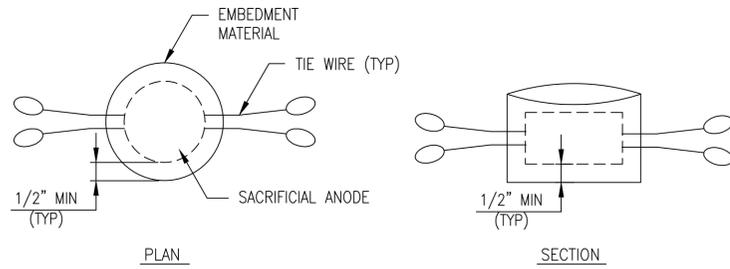
EXTERIOR CONCRETE SPALL REPAIR SCHEDULE

FACILITY	DEFECT NO.	ASSET TYPE	REPAIR AREA (SF)	PROVIDE ANODE	REPAIR DETAIL	REPAIR METHOD
TOP OF DECK	SEE SHEETS CD101 AND C-101	DECK	308	YES	FS	P&T
WALLS OF DRY DOCK	N/A	WALL	1200	YES	FS	F&P

NOTES:

- FOR BIDDING PURPOSES ADD 25% TO PROVIDED QUANTITIES.
- WALLS OF DRY DOCK ARE BID OPTION 6. ACTUAL LOCATIONS SHALL BE SELECTED IF AWARDED. GENERAL LOCATIONS ARE SHOWN ON SHEET S-201.

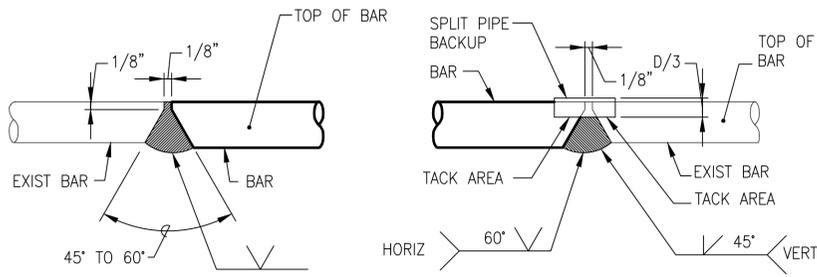
FS = FACE SPALL
F&P = FORM AND PUMP
P&T = POUR AND TROWEL



TYPICAL ANODE DETAIL

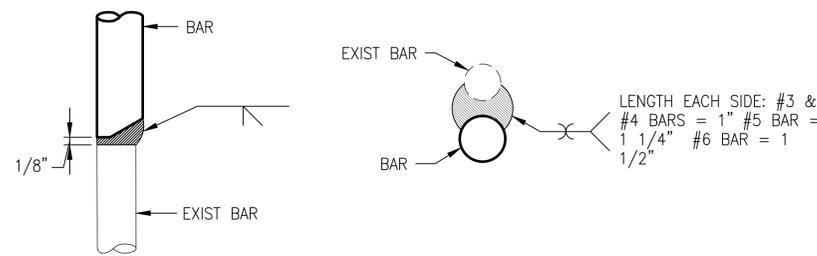
SCALE: NTS

S-503 (D1)



(A) HORIZONTAL

(B) HORIZONTAL & VERTICAL



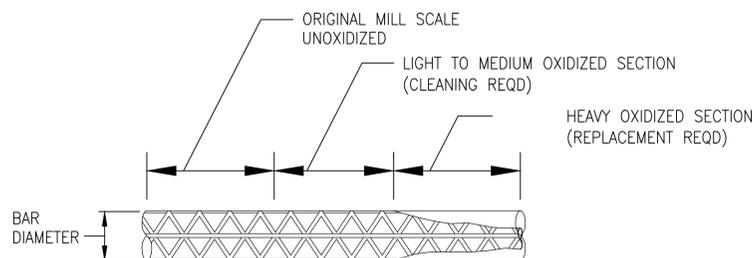
(C) VERTICAL

(D) LAP SPLICE

TYPICAL REINFORCING BAR WELDED SPLICE

SCALE: NTS

S-503 (B1)



ALLOWABLE BAR DIAMETER CHART (INCHES)		
BAR SIZE	ORIGINAL ϕ	MINIMUM ϕ
#3	.375	.30
#4	.500	.40
#5	.625	.50
#6	.750	.60
#7	.875	.70
#8	1.00	.80

ALLOWABLE BAR DIAMETER

SCALE: NTS

S-503 (A1)

NOV 07 2015

DATE

DESCRIPTION

SYN

APPR

NAVFAC

STATE OF MAINE
NOAH ELWOOD
10772
LICENSED PROFESSIONAL ENGINEER

Appledore Marine Engineering, LLC

FOR COMMANDER NAVFAC

ACTIVITY

SEE G-001 DDCB BLOCK

SATISFACTORY TO DATE 01/07/15

DWG LBL SNB CHK NJE

R C PANTEL

BRANCH MANAGER AMIN BAHROUR

CHIEF ENGINEER LCDR J ROCHE

FIRE PROTECTION P BAKAJ

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME

NAVAL SHIPYARD
KITTERY, ME

DRY DOCK #3 PUMP WELL REPAIRS

CONCRETE REPAIR NOTES

MAXIMO No:

EPROJECT NO.: 1332591

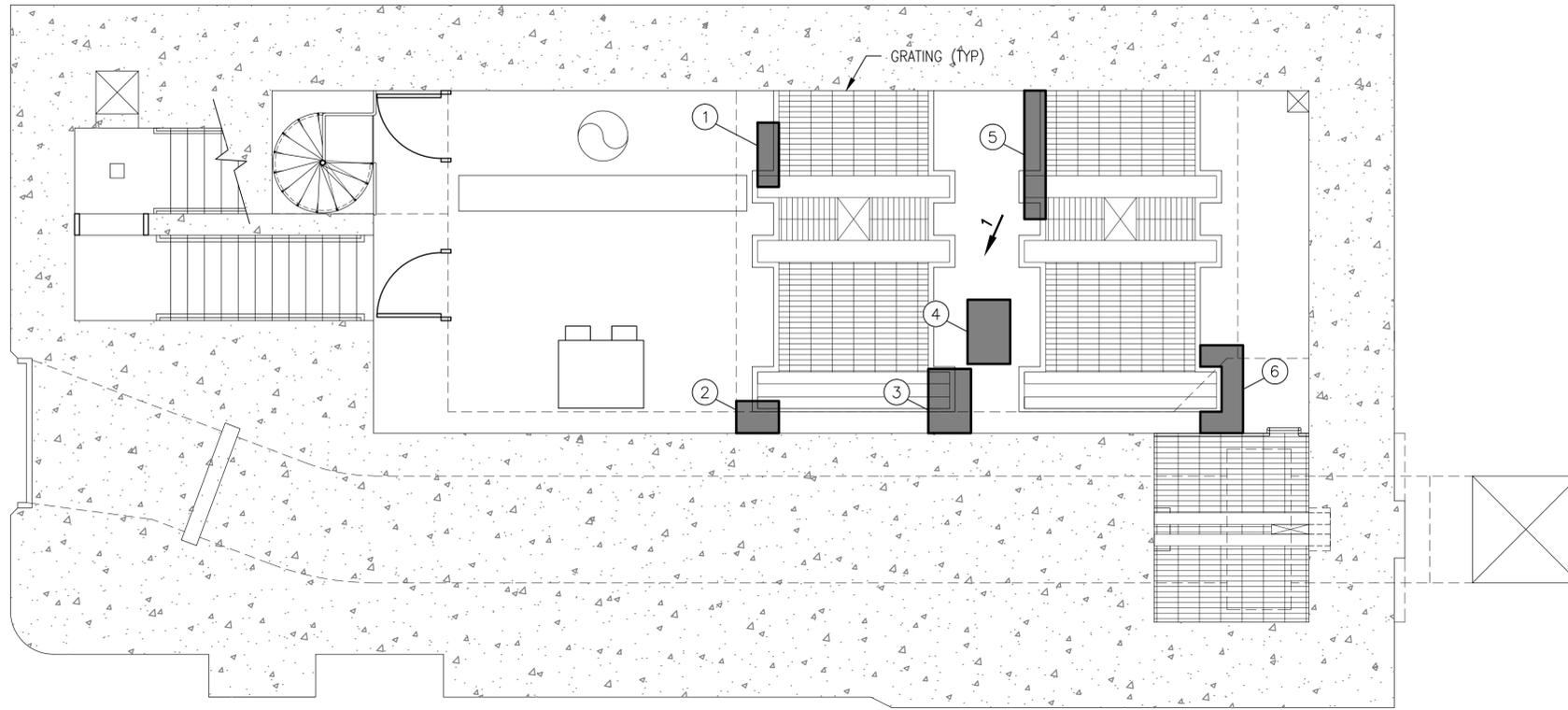
CONSTR. CONTR. NO. N40085-15-C-6109

NAVFAC DRAWING NO. 12686297

SHEET 29 OF 66

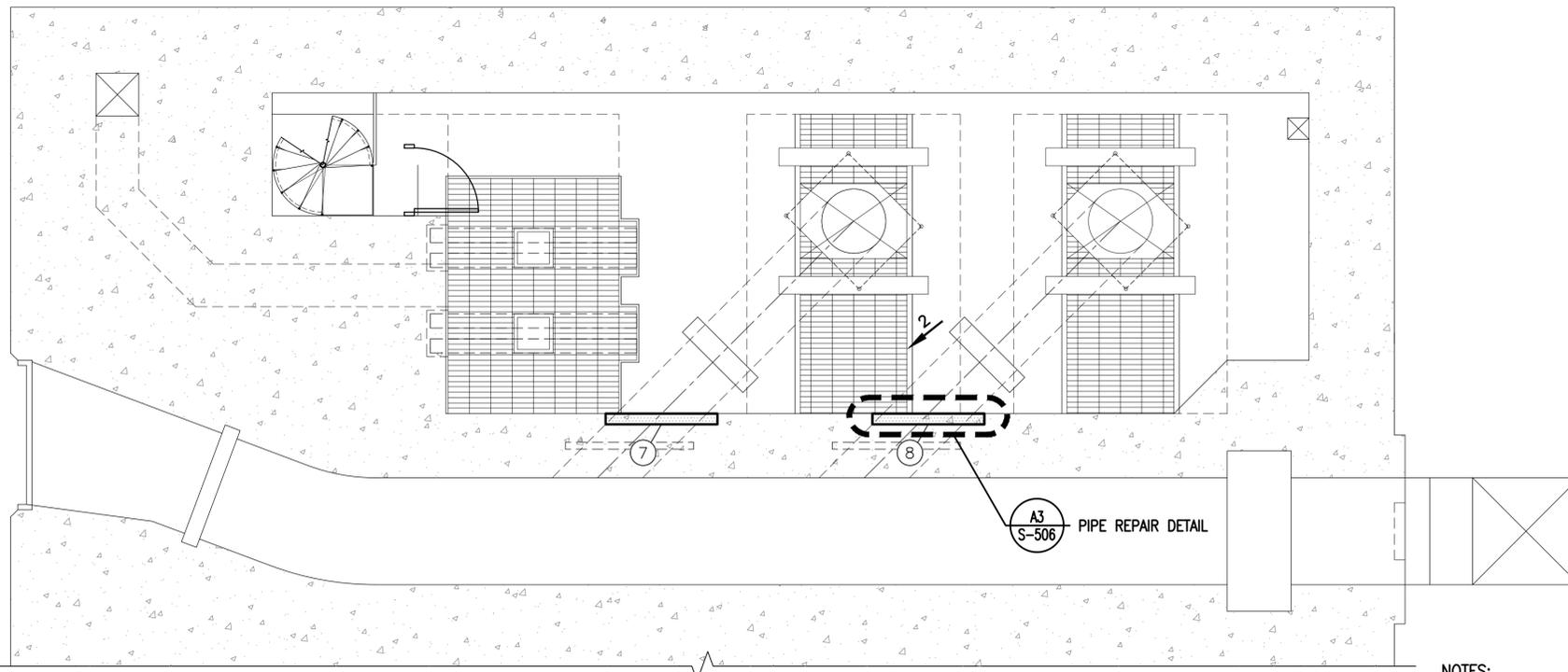
S-503 DD3-14-688

DRAWING REVISION: 10 MARCH 2009



OPERATING LEVEL EL -7.28' PARTIAL PLAN

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



LEVEL 2 EL -19.78' PARTIAL PLAN

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



LEGEND

-  SPALL REPAIR, REFER TO CONCRETE REPAIR SCHEDULE AND NOTES SHEET S-504
-  PIPE REPAIR
-  CONCRETE REPAIR DEFECT NUMBER
-  PHOTO DESIGNATION

NOTES:

1. EXISTING SURFACE MOUNTED CONDUITS, UTILITIES, DUCT WORK, AND EQUIPMENT NOT SHOWN.
2. PHOTOS IDENTIFY GENERAL CONDITIONS AND UTILITIES INSIDE PUMP WELL.
3. REFER TO SHEET S-504 FOR INTERIOR CONCRETE REPAIR SCHEDULE.



PHOTO 1 - SPALL REPAIR AREA C4



PHOTO 2 - PIPE REPAIR AREA B4

PFD		DATE	APPR
REV SUBMISSION	SYM	DESCRIPTION	DATE
NOV 07, 2015			
			
			
			
APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
SEE G-001 DDCB BLOCK			
SATISFACTORY TO DATE 01/07/15			
DES: LBL DRW: SNB CHK: NJE			
PM/DM: R C PANTEL			
BRANCH MANAGER: AMIN BAHROUR			
CHIEF ENG/ARCH: LCDR J ROCHE			
FIRE PROTECTION: P. BAKAJ			
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PORTSMOUTH NAVAL SHIPYARD - KITTERY, ME PWD-WANE NAVAL SHIPYARD KITTERY, ME			
DRY DOCK #3 PUMP WELL REPAIRS INTERIOR PUMP WELL REPAIR DETAILS - 2			
MAXIMO No: EPROJECT NO.: 1332591 CONSTR. CONTR. NO.: N40085-15-C-6109 NAVFAC DRAWING NO.: 12686299 SHEET 31 OF 66 S-505 DD3-14-690			
DRAWING REVISION: 10 MARCH 2009			

