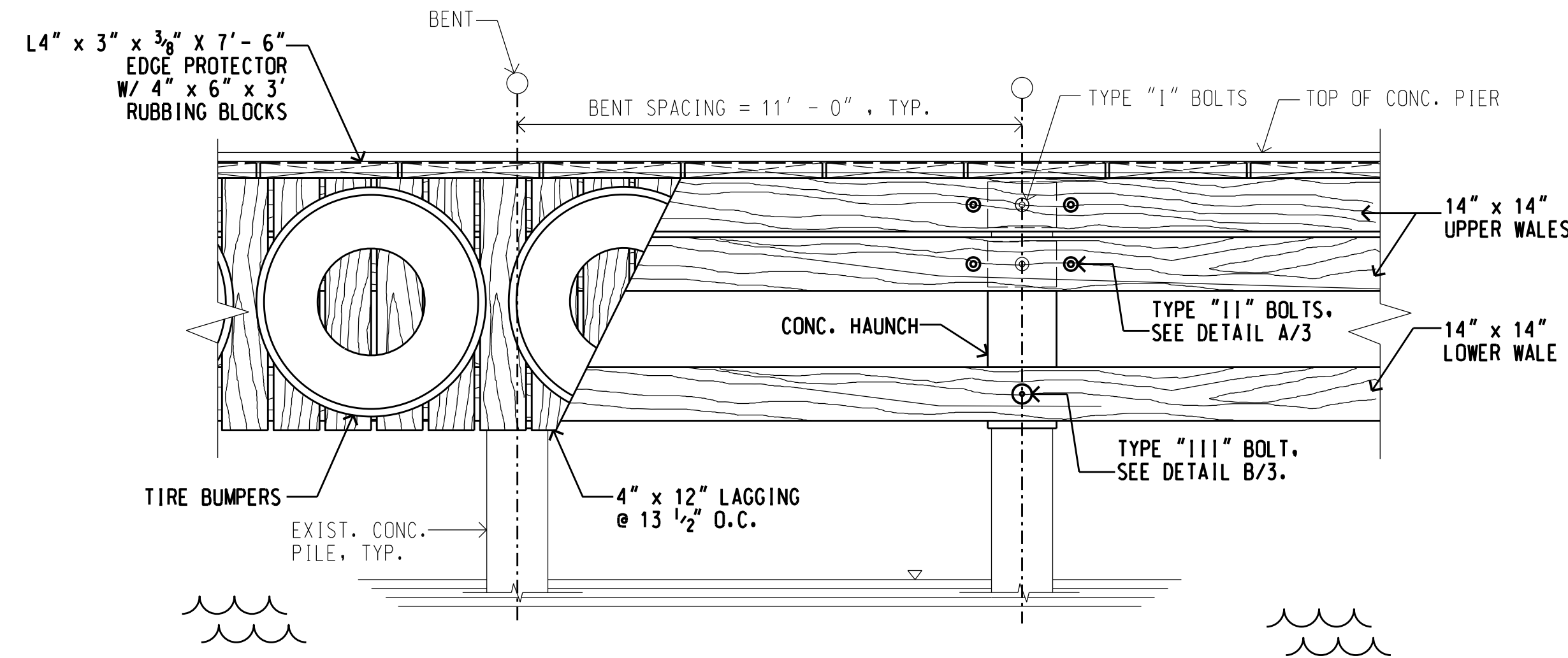
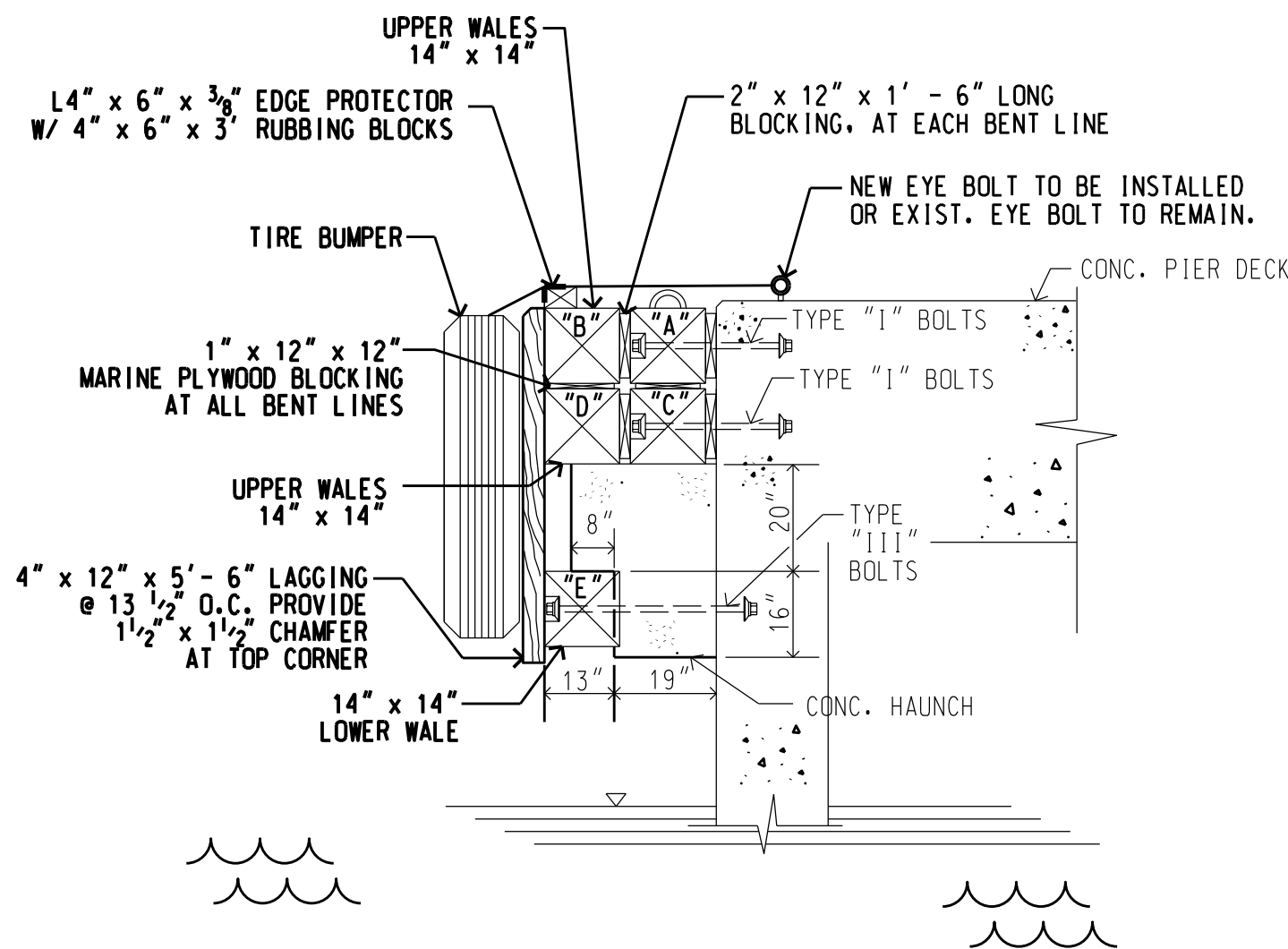


LOCATION MAP - HARBOR



EXISTING ELEVATION - PIER 3 FENDER SYSTEM

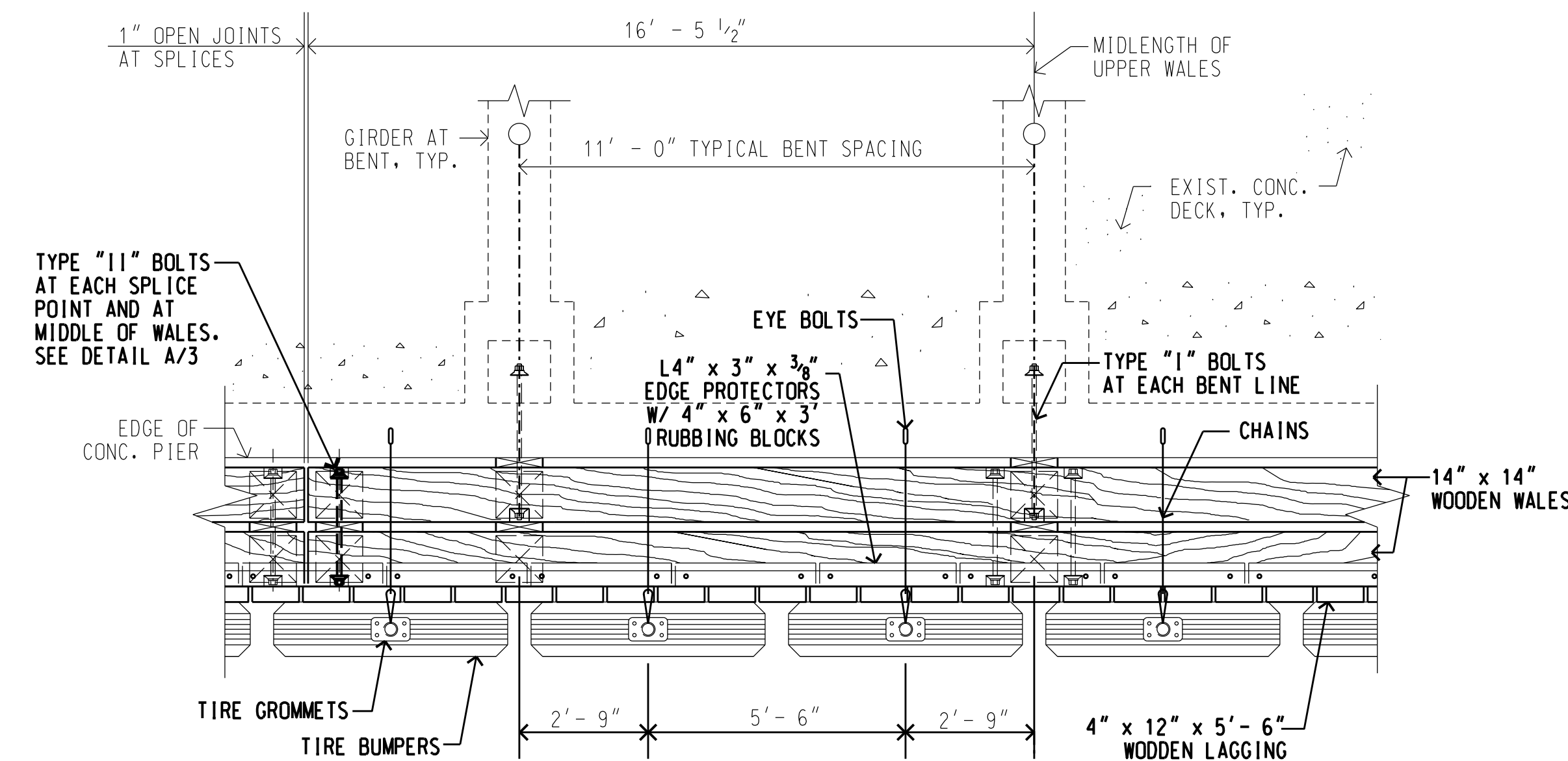
SCALE: 3/8" = 1' - 0"



EXISTING SECTION - PIER 3 FENDER SYSTEM

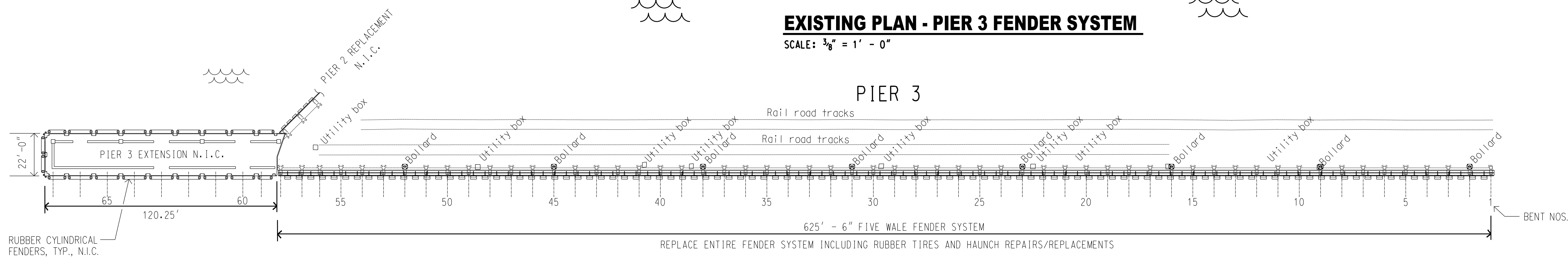
SCALE: 3/8" = 1' - 0"

NOTE: TIRE FENDER SYSTEM NOT SHOWN FOR CLARITY PURPOSES SEE DETAIL BELOW AND C/3.



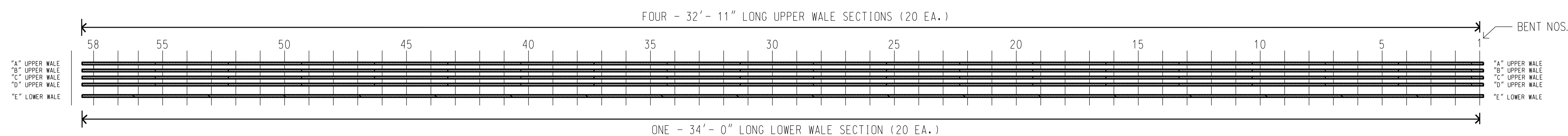
EXISTING PLAN - PIER 3 FENDER SYSTEM

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



PLAN - PIER 3

SCALE: 1" = 30' - 0"



===== "UPPER" WALE SECTION TO BE REPLACED
 ===== "LOWER" WALE SECTION TO BE REPLACED

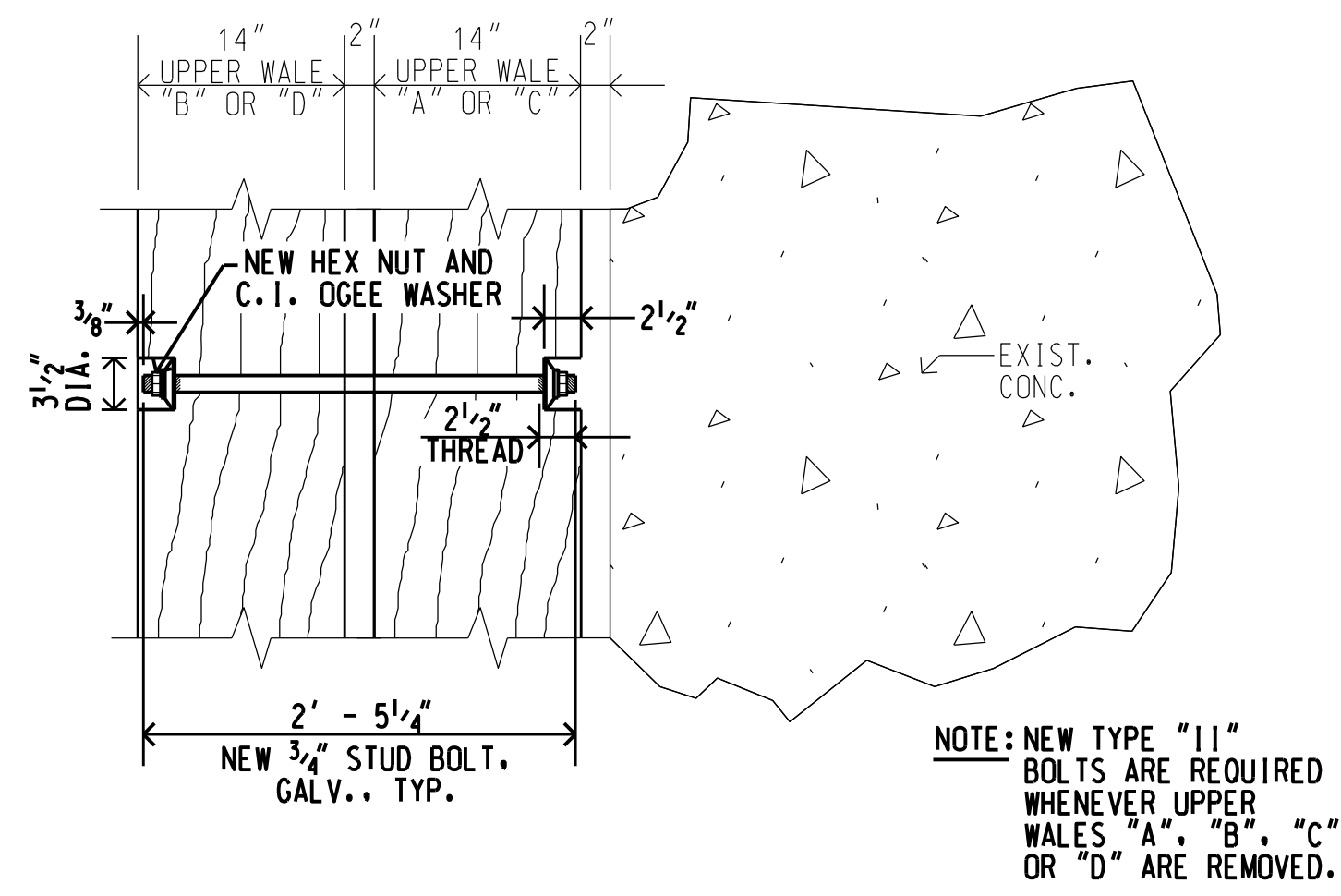
PIER 3 - FENDER WALE REPLACEMENT PLAN

SCALE: 1" = 30' - 0"

GENERAL NOTES

- CONTRACTOR SHALL VERIFY CONDITIONS IN FIELD PRIOR TO BIDDING. EXISTING CONDITIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL MAKE NO CLAIM FOR EXTRA COMPENSATION SHOULD ACTUAL EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO ORDERING MATERIALS. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL EXERCISE CAUTION TO PREVENT DAMAGE TO EXISTING STRUCTURES, UTILITIES, AND EQUIPMENT IN THE AREA.
- CONTRACTOR SHALL COORDINATE ITS WORK WITH THE HARBORS DIVISION HAWAII DISTRICT MANAGER AND THE CONSTRUCTION ENGINEER SO AS TO MINIMIZE INTERFERENCE WITH HARBOR OPERATIONS.
- THE CONTRACTOR WILL NOT BE ALLOWED TO WORK WHEN A PASSANGER CRUISE VESSEL OR FUEL BARGE ARE BERTHED AT THE PIER. THE EXACT SCHEDULING OF THE WORK AND RESTRICTIONS ON THE CONTRACTOR'S ACTIVITIES WILL BE ESTABLISHED AT THE PRE-CONSTRUCTION MEETING.
- THE CONTRACTOR SHALL COMPLY WITH THE CLEAN WATER ACT AND THE STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION STORMWATER MANAGEMENT PROGRAM. NO POLLUTANTS ARE ALLOWED TO BE DISCHARGED DIRECTLY OR INDIRECTLY THROUGH THE HARBORS SMALL MS4 OR OTHER POTENTIAL PATHWAYS INTO ADJACENT HARBOR WATERS.
- THE CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC BEST MANAGEMENT PRACTICE (BMP) PLAN TO HARBORS CONSTRUCTION ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO THE START OF ANY CONSTRUCTION WORK. THE SITE-SPECIFIC BMP PLAN SHALL COMPLY WITH THE TEMPORARY WATER POLLUTION, DUST, AND EROSION CONTROL ARTICLE IN THE SPECIFICATIONS AND PROPOSAL.
- IN CASE OF SPILL, LEAK, OR OTHER RELEASE CONTAINING A HAZARDOUS SUBSTANCE OR OIL, THE CONTRACTOR SHALL NOTIFY APPROPRIATE FACILITY PERSONNEL, EMERGENCY RESPONSE AGENCIES, AND REGULATORY AGENCIES FOLLOWING NOTIFICATION PROCEDURES, AND SHALL NOTIFY HARBORS DIVISION ENVIRONMENTAL HOTLINE (808-587-1962) AND DESIGNATED PROJECT ENGINEER IMMEDIATELY (I.E. WITHIN 24-HOURS). SUCH CONTACT INFORMATION MUST BE SHOWN IN LOCATIONS THAT ARE READILY ACCESSIBLE AND AVAILABLE.
- ALL STRUCTURES AND PORTIONS OF STRUCTURES SHOWN ON THE PLANS ARE EXISTING UNLESS SPECIFICALLY NOTED. CLEAR WITH HAWAII ONE CALL CENTER (HOCC) BEFORE EXCAVATION (811) OR (866-427-7287).
- 6 CONC. HAUNCH FULL REPLACEMENTS AND 150 SF OF CONC. HAUNCH SPALL REPAIRS ARE INCLUDED IN THE PROPOSAL SCHEDULE FOR BIDDING PURPOSES. THE EXACT LOCATIONS OF THE CONC. HAUNCH REPAIRS AND REPLACEMENTS WILL BE DETERMINED IN THE FIELD AND THE QUANTITIES ARE SUBJECT TO CHANGE BY INSTRUCTION FROM THE CONSTRUCTION ENGINEER.
- ALL EXISTING TIRE FENDERS ARE TO BE INSPECTED AND APPROVED FOR RE-INSTALLATION BY THE CONSTRUCTION ENGINEER AND HARBOR AGENT. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE QUANTITIES OF VARIOUS SIZED TIRE FENDERS WITH THE CONSTRUCTION ENGINEER AND HARBOR AGENT BEFORE BIDDING AND CONSTRUCTION BEGINS.
- SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

REV	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION				
JOB TITLE FENDER REPAIRS AT PIER 3 HILO HARBOR, HILO, HAWAII				
PIER 3 - PLAN, ELEVATION, SECTION, AND NOTES				
DESIGNED BY: JM				SHEET
DRAWN BY: JM				2
CHECKED BY: AF	JOB NUMBER			2 of 5 SHTS.
DATE: APR 2023	S50208			
SCALE: AS SHOWN				

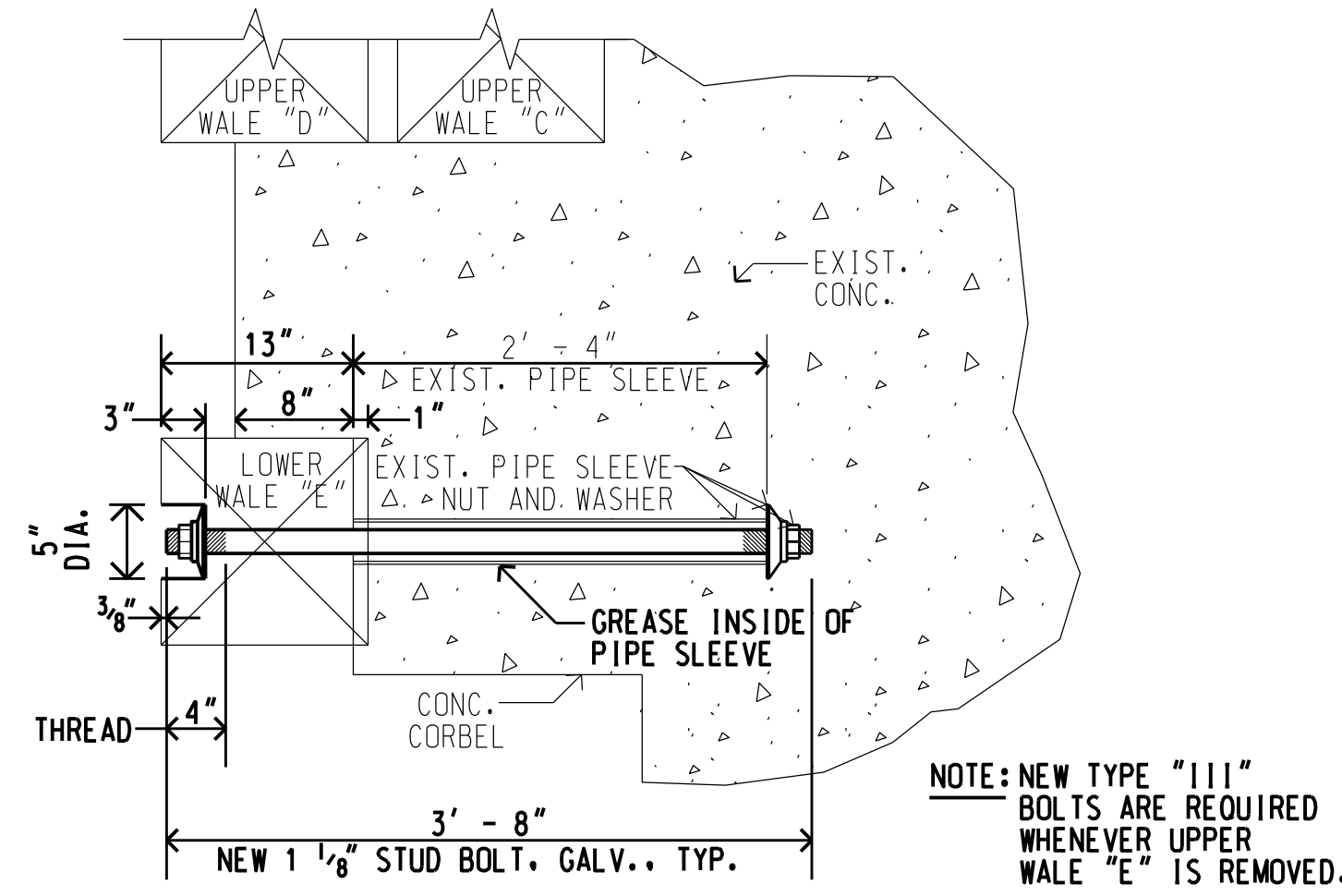


NOTE: NEW TYPE "II" BOLTS ARE REQUIRED WHENEVER UPPER WALES "A", "B", "C", OR "D" ARE REMOVED.

PLAN - TYPE "II" BOLTS

SCALE: 1 1/2" = 1' - 0"

A
3



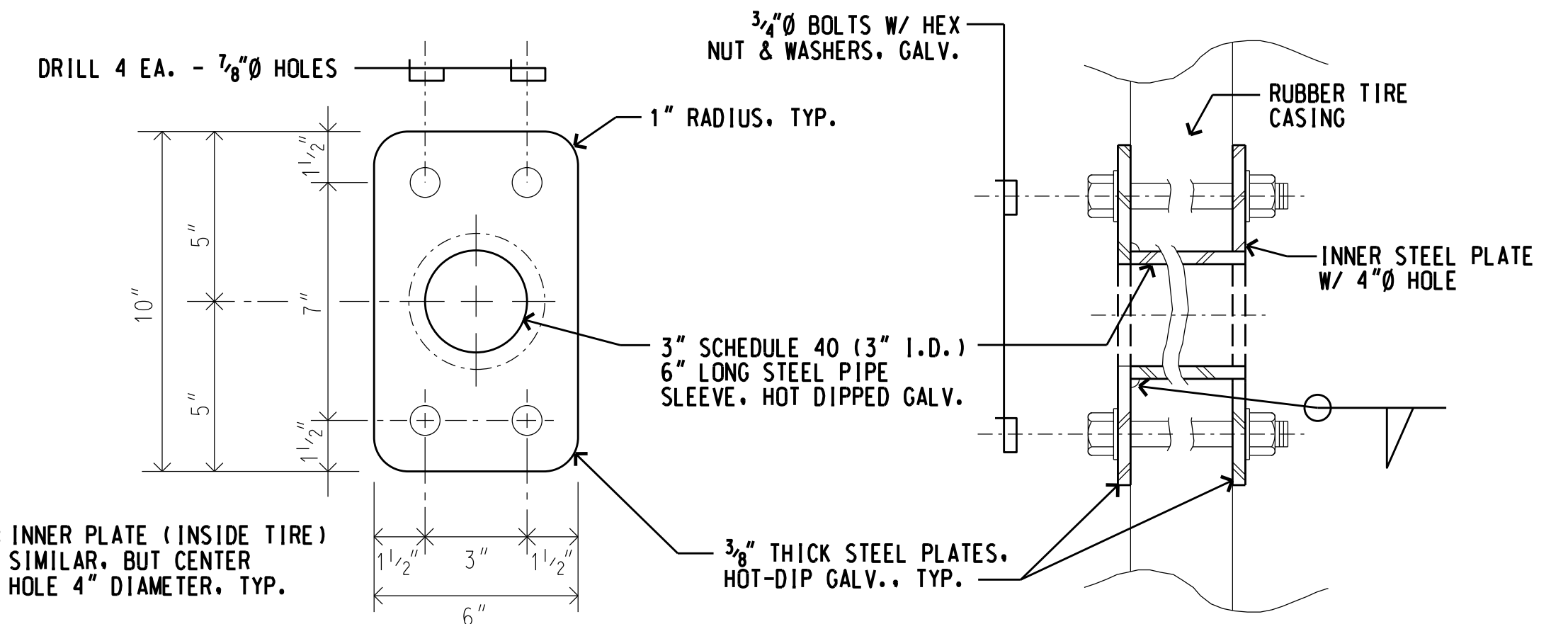
NOTE: NEW TYPE "III" BOLTS ARE REQUIRED WHENEVER UPPER WALE "E" IS REMOVED.

SECTION - TYPE "III" BOLTS

SCALE: 1 1/2" = 1' - 0"

D
3

NOTE: STEEL PLATES SHALL CONFORM TO ASTM A-36 AND SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY REQUIREMENTS. PIPE SHALL BE STANDARD STEEL PIPE SCH. 40, HOT-DIP GALV., WELDED AND SEAMLESS CONFORMING TO ASTM A-53. FASTENERS SHALL BE HOT-DIP GALVANIZED AND SIZED TO FIT.



NOTE: INNER PLATE (INSIDE TIRE) SIMILAR, BUT CENTER HOLE 4" DIAMETER, TYP.

NOTE: HOT-DIP GALV. AFTER FABRICATION. QUANTITY TO BE DETERMINED IN FIELD.

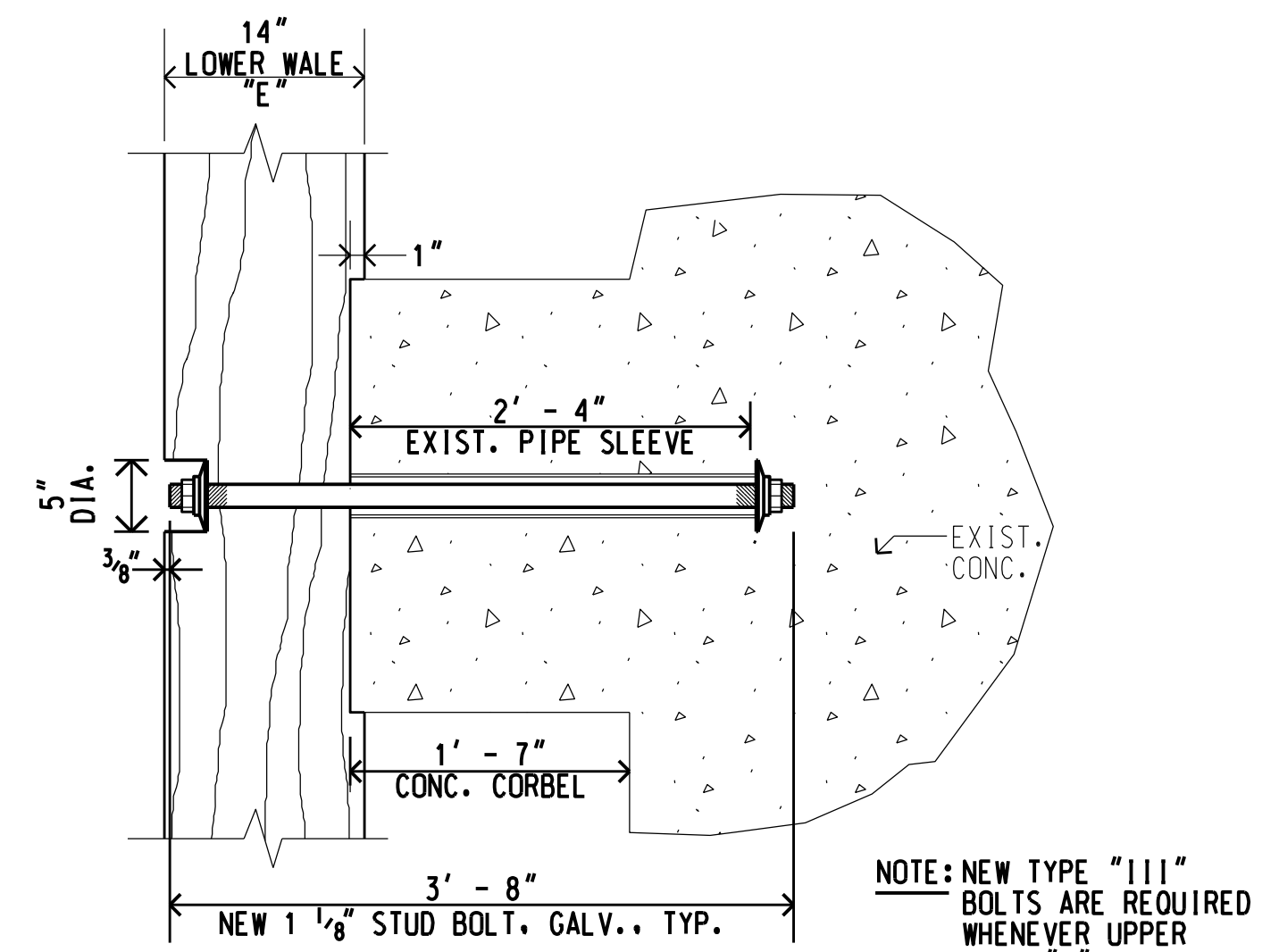
PLAN

SECTION

TIRE GROMMET DETAIL

SCALE: 3" = 1' - 0"

F
3

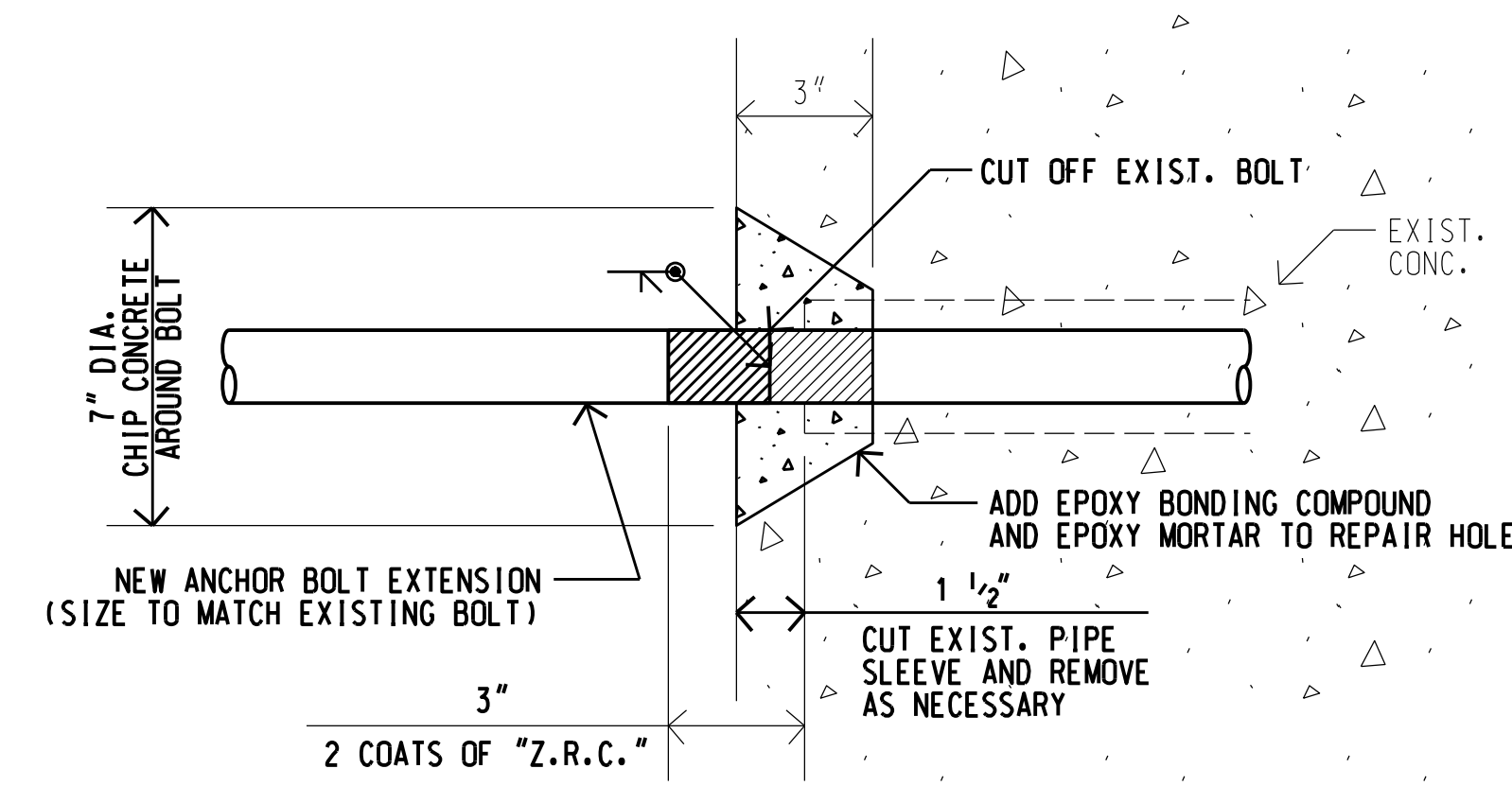


NOTE: NEW TYPE "III" BOLTS ARE REQUIRED WHENEVER UPPER WALE "E" IS REMOVED.

PLAN - TYPE "III" BOLTS

SCALE: 1 1/2" = 1' - 0"

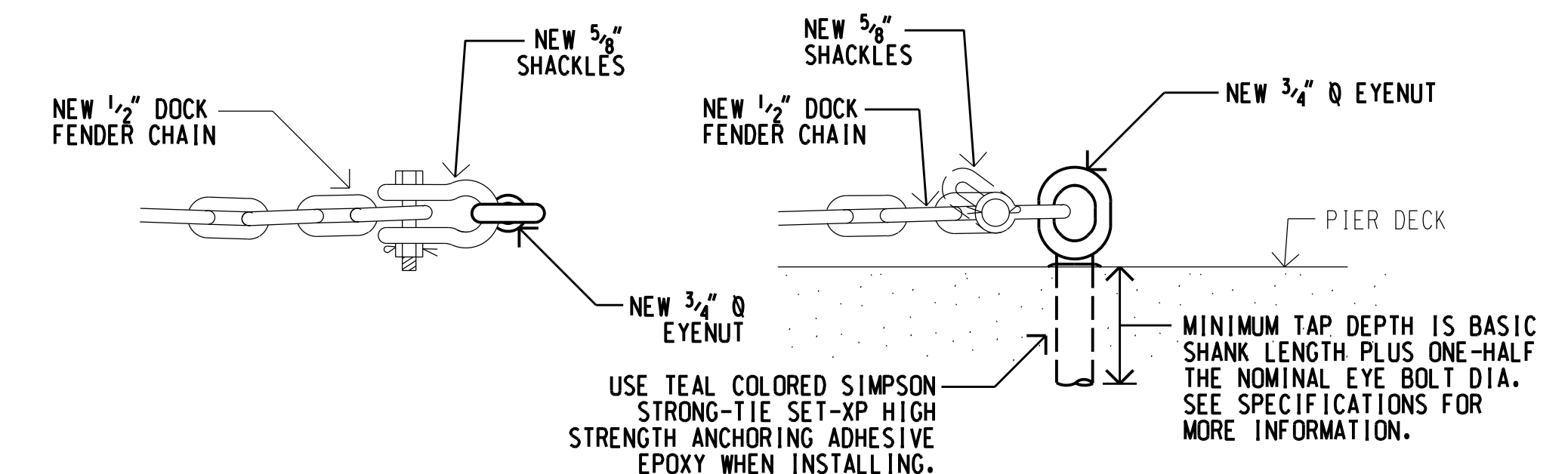
B
3



DETAIL - TYPE "III" BOLT EXTENSION

SCALE: 3" = 1' - 0"

E
3



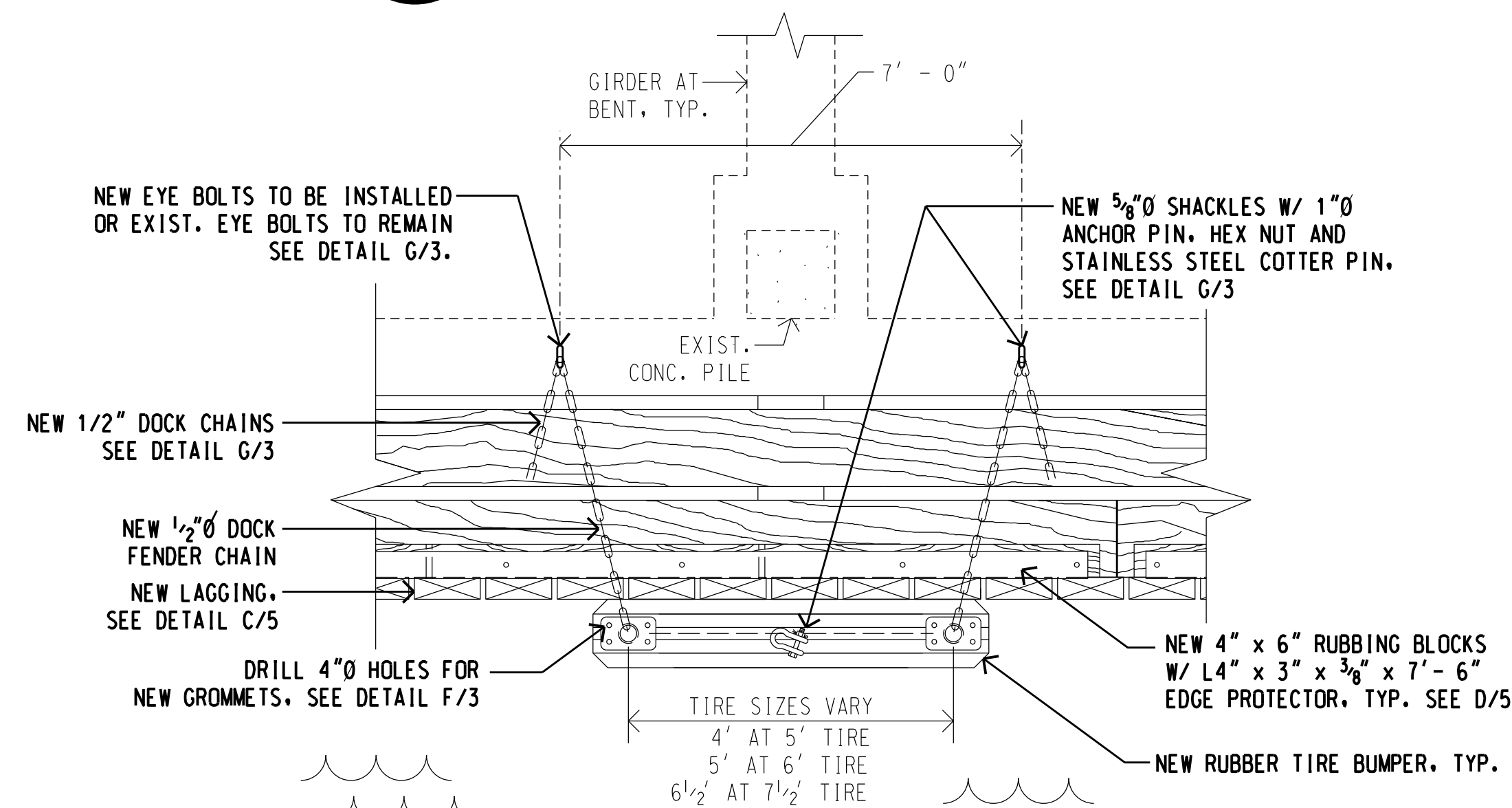
PLAN

SECTION

EYENUT ASSEMBLY DETAIL

SCALE: 1 1/2" = 1' - 0"

G
3

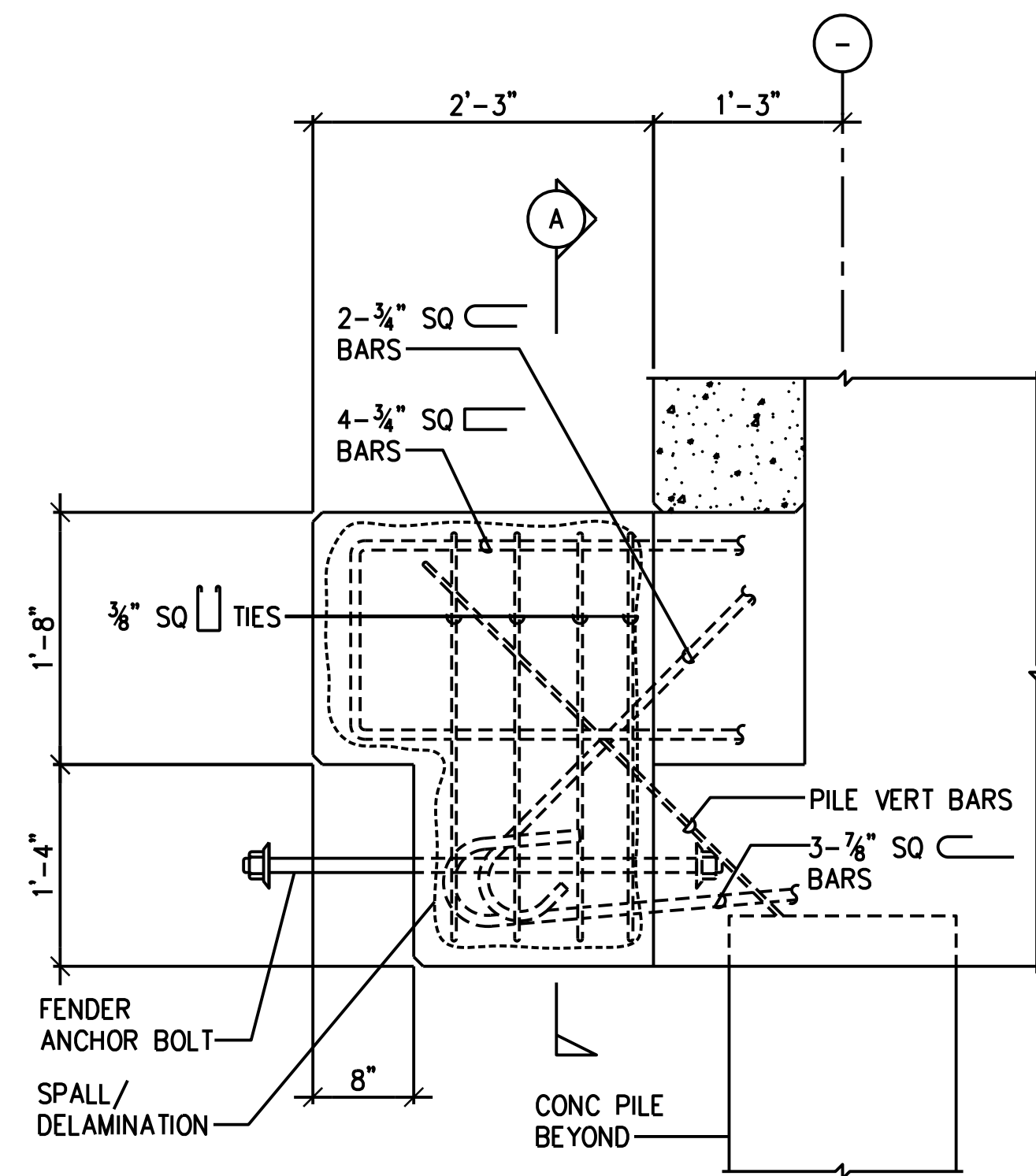


NEW TIRE BUMPER ASSEMBLY DETAIL AT EYE-BOLTS

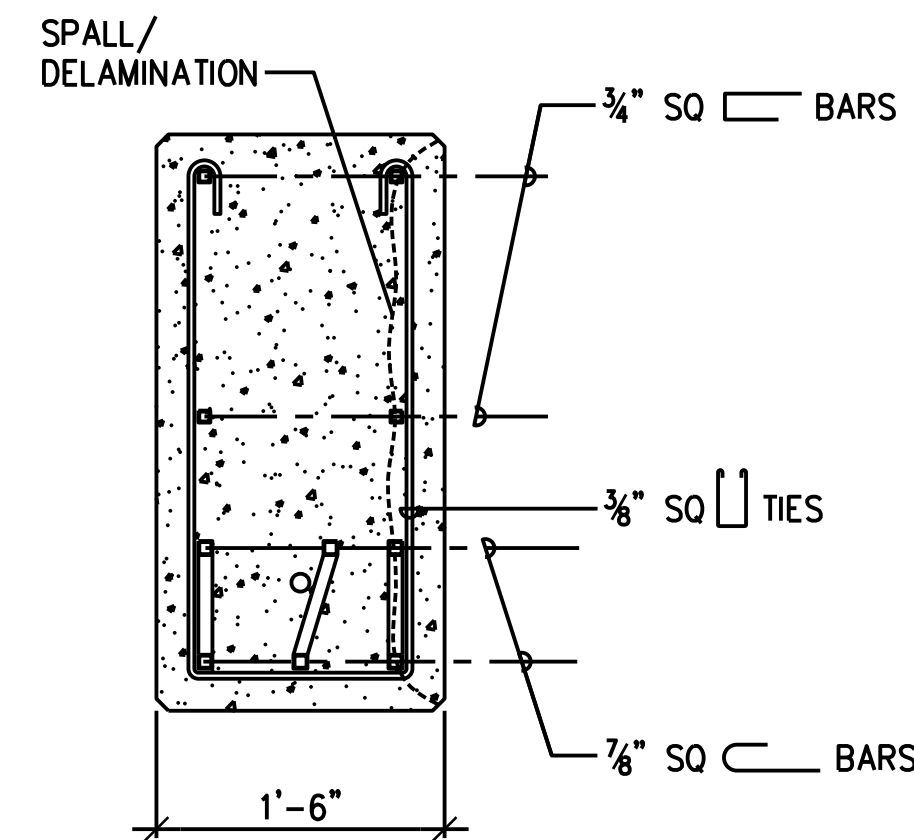
SCALE: 1/2" = 1' - 0"

C
3

REV	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION				
JOB TITLE FENDER REPAIRS AT PIER 3 HILO HARBOR, HILO, HAWAII				
PIER 3 - REPAIR DETAILS				
DESIGNED BY: JM				SHEET
DRAWN BY: JM				3
CHECKED BY: AF	JOB NUMBER			
DATE: APR 2023	S50208			
SCALE: AS SHOWN				3 of 5 SHTS.



ELEVATION



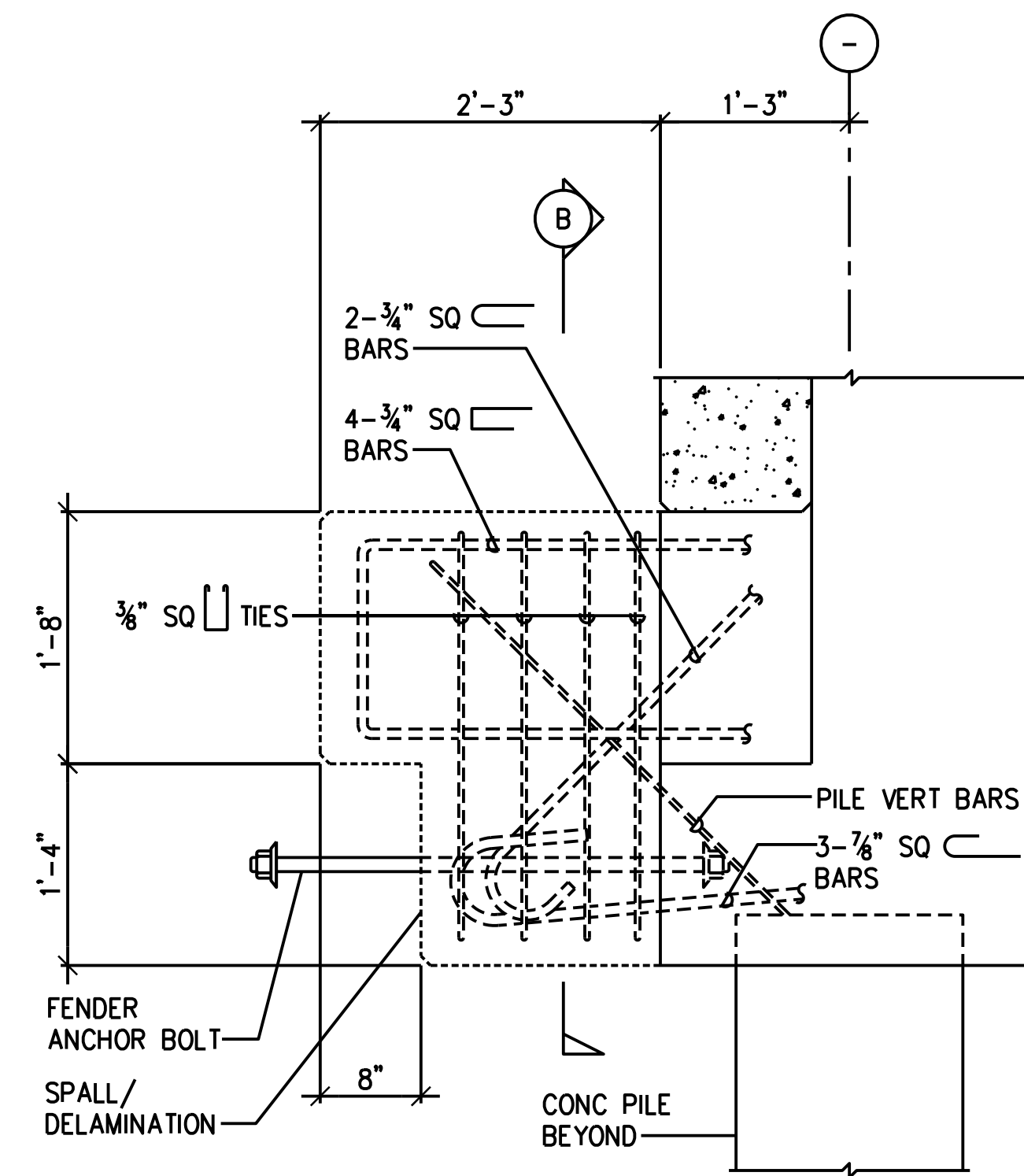
NOTE:
DIAGONAL BARS INCLUDING PILE VERT BARS
NOT SHOWN FOR CLARITY.

SECTION

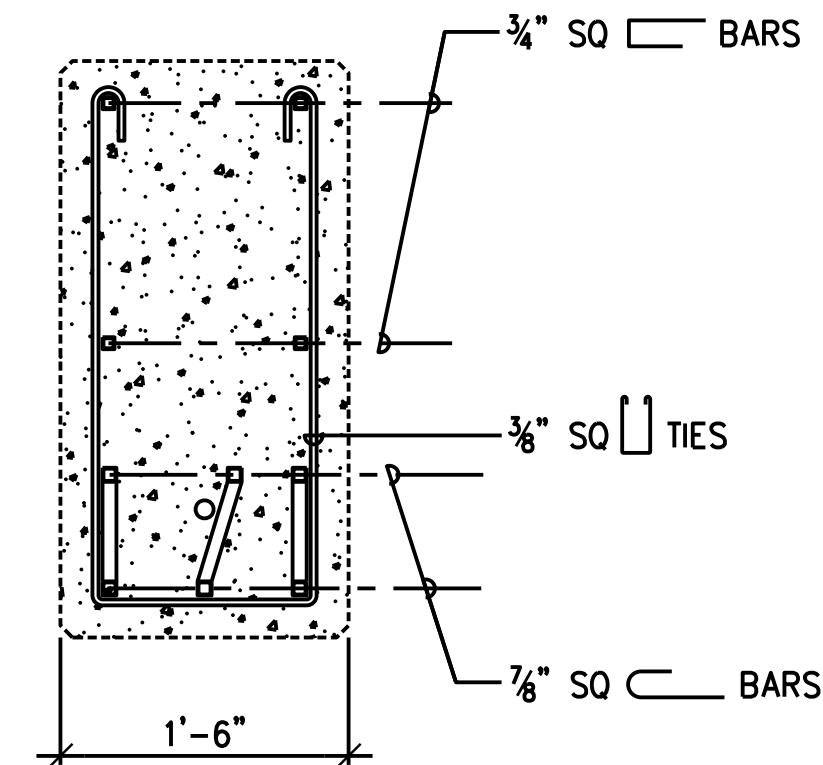
EXISTING PARTIAL HAUNCH SPALL

SCALE : NTS

A
4



ELEVATION



NOTE:
DIAGONAL BARS INCLUDING PILE VERT BARS
NOT SHOWN FOR CLARITY.

SECTION

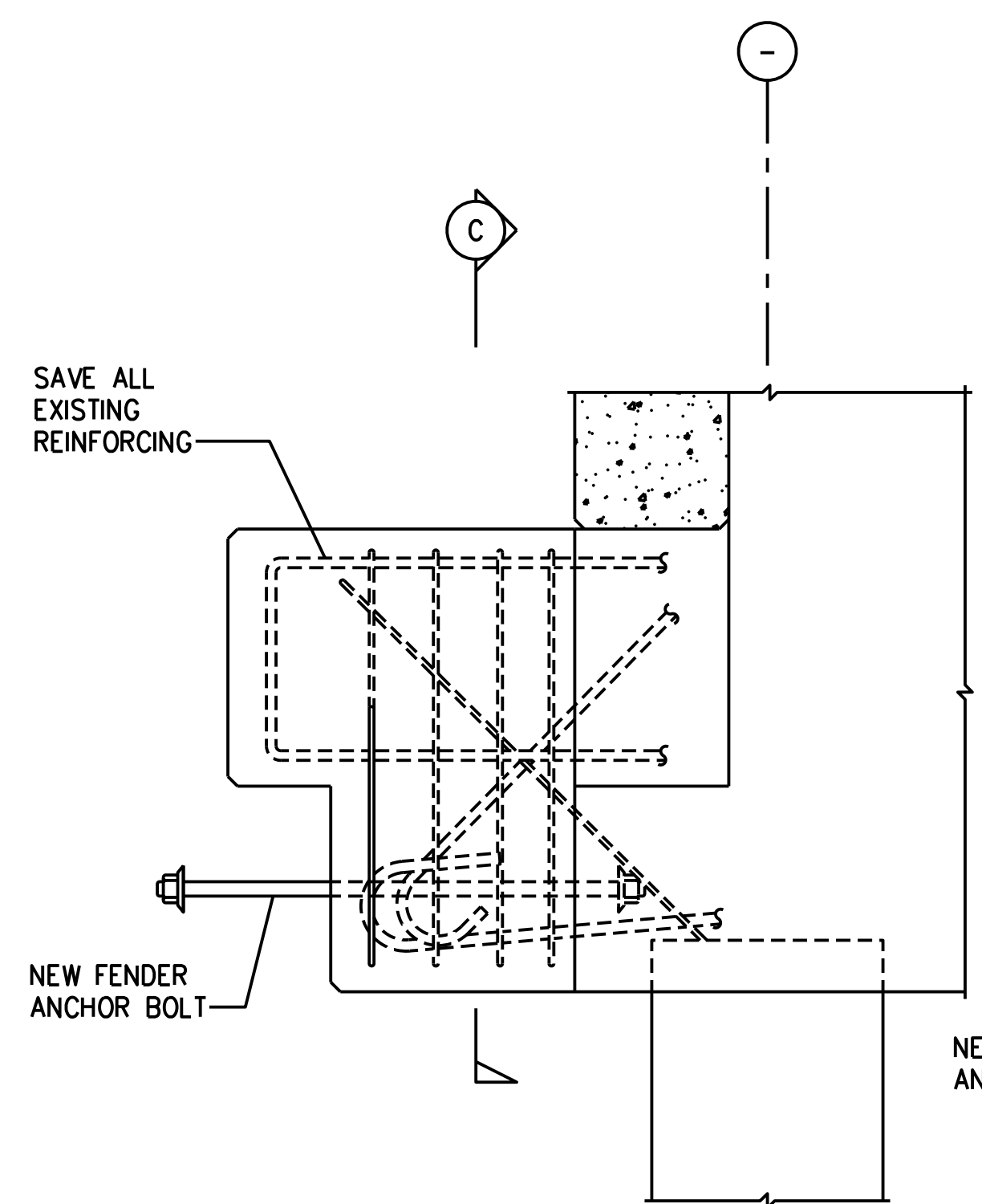
EXISTING FULL HAUNCH SPALL

SCALE : NTS

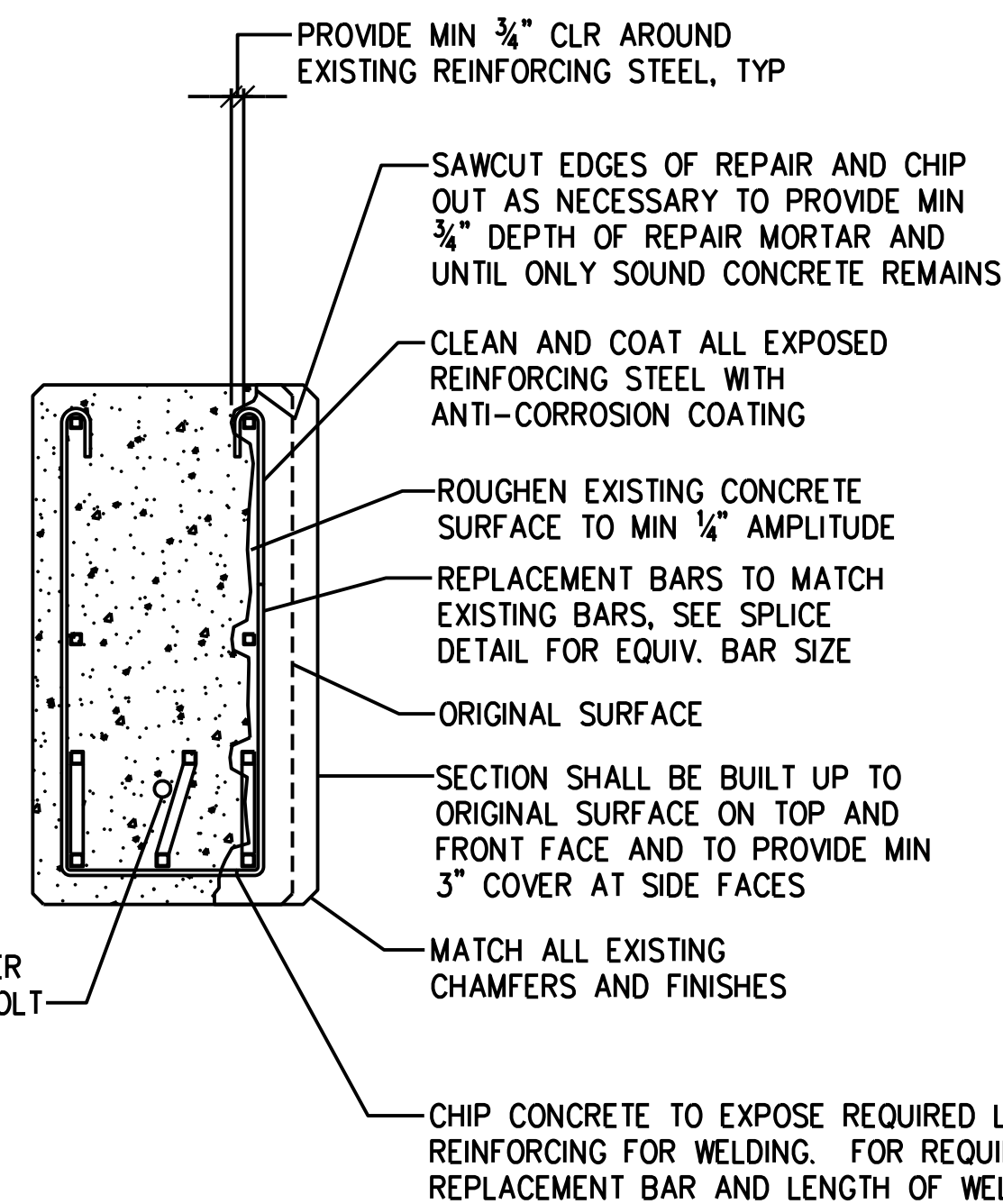
C
4

NOTES:

- FOR CLARITY TIMBER MEMBERS OF FENDER SYSTEM NOT SHOWN.
- HAUNCH REPAIRS SHALL BE PERFORMED PRIOR TO INSTALLING BOTTOM WALE.
- FRONT, TOP AND BOTTOM SURFACES SHALL BE BUILT UP TO THEIR ORIGINAL SURFACE. CONCRETE REPAIRS ON THE SIDES SHALL BE BUILT UP TO PROVIDE MIN 3" COVER AND TO FACILITATE REPAIR WORK.
- MATCH ALL EXISTING CHAMFERS AND FINISHES.
- PAY AREA SHALL BE THE TOTAL REPAIRED AREA ON ALL HAUNCH FACES.
- LOCATION OF HAUNCH SPALLS ARE NOT SHOWN ON PLANS AND SHALL BE DETERMINED AFTER REMOVAL OF THE EXISTING FENDER SYSTEM.
- SEE SPECIFICATIONS FOR CONCRETE REPAIR INFORMATION.



ELEVATION

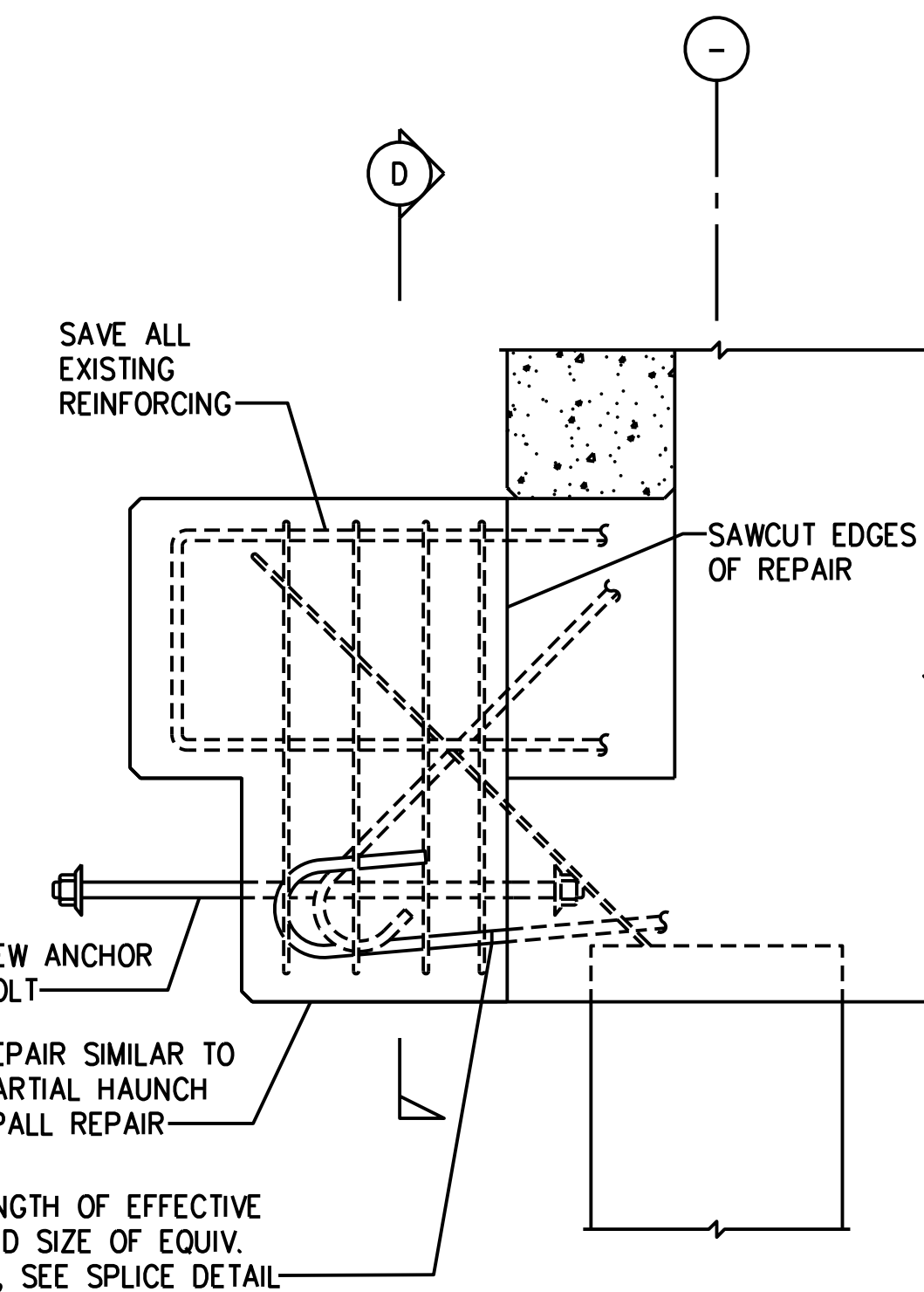


SECTION

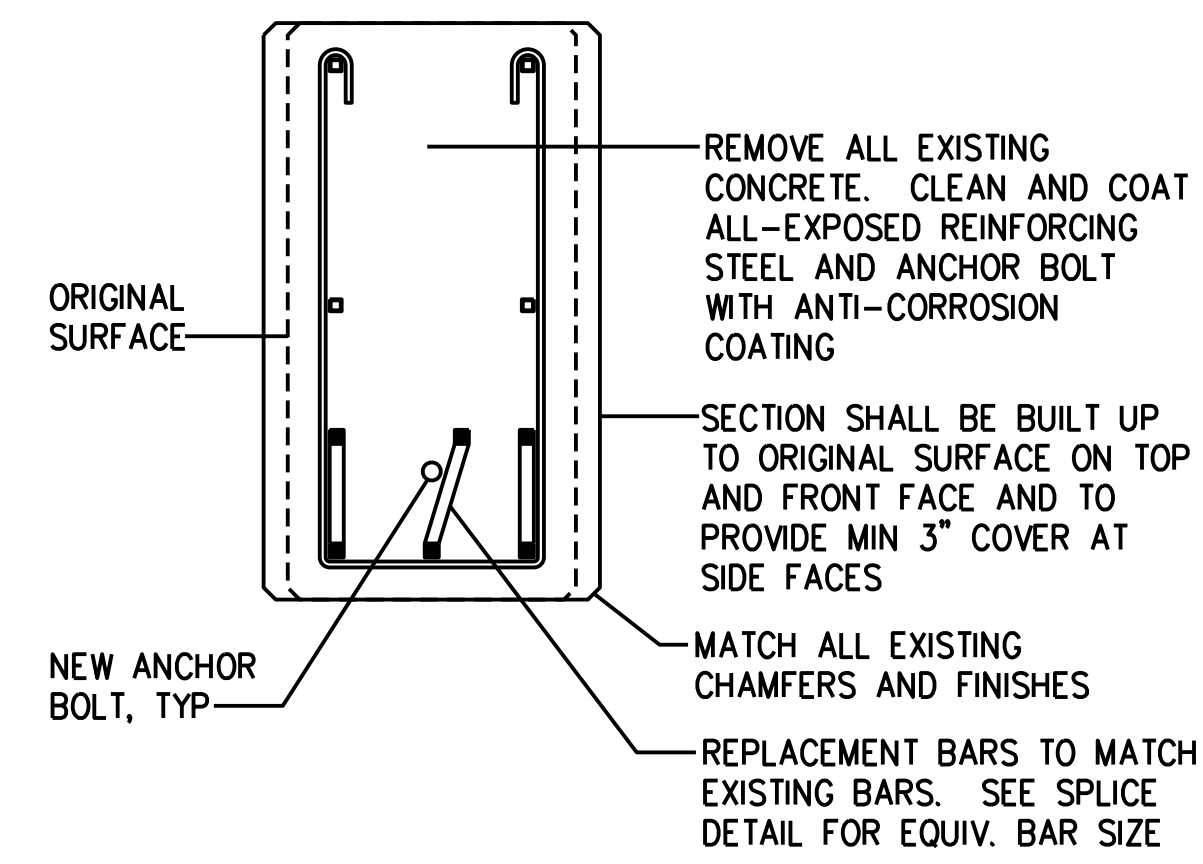
PARTIAL HAUNCH SPALL REPAIR

SCALE : NTS

B
4



ELEVATION



SECTION

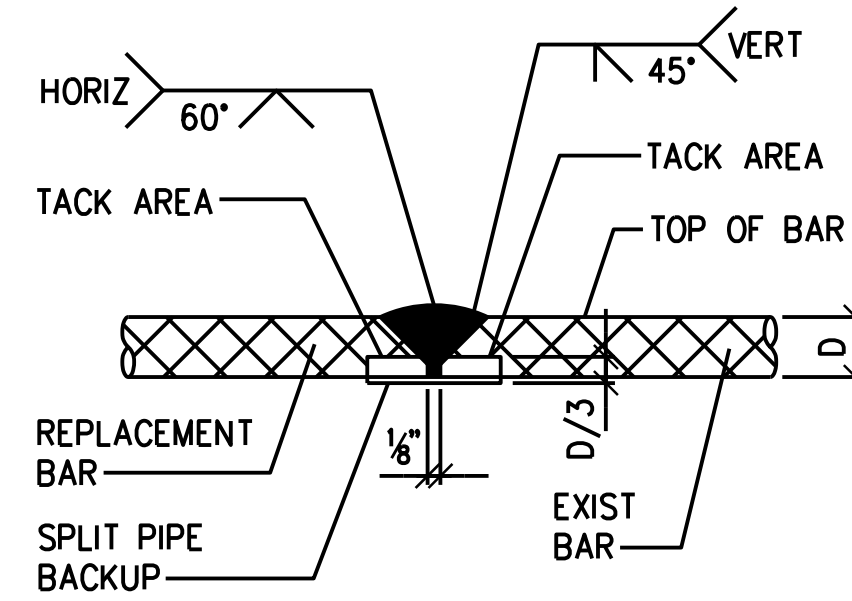
FULL HAUNCH SPALL REPAIR

SCALE : NTS

D
4

REV	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION				
JOB TITLE FENDER REPAIRS AT PIER 3 HILO HARBOR, HILO, HAWAII				
PIER 3 - REPAIR DETAILS				
DESIGNED BY: JM				SHEET
DRAWN BY: JM				4
CHECKED BY: AF	JOB NUMBER			4 OF 5 SHTS.
DATE: APR 2023	S50208			
SCALE: AS SHOWN				

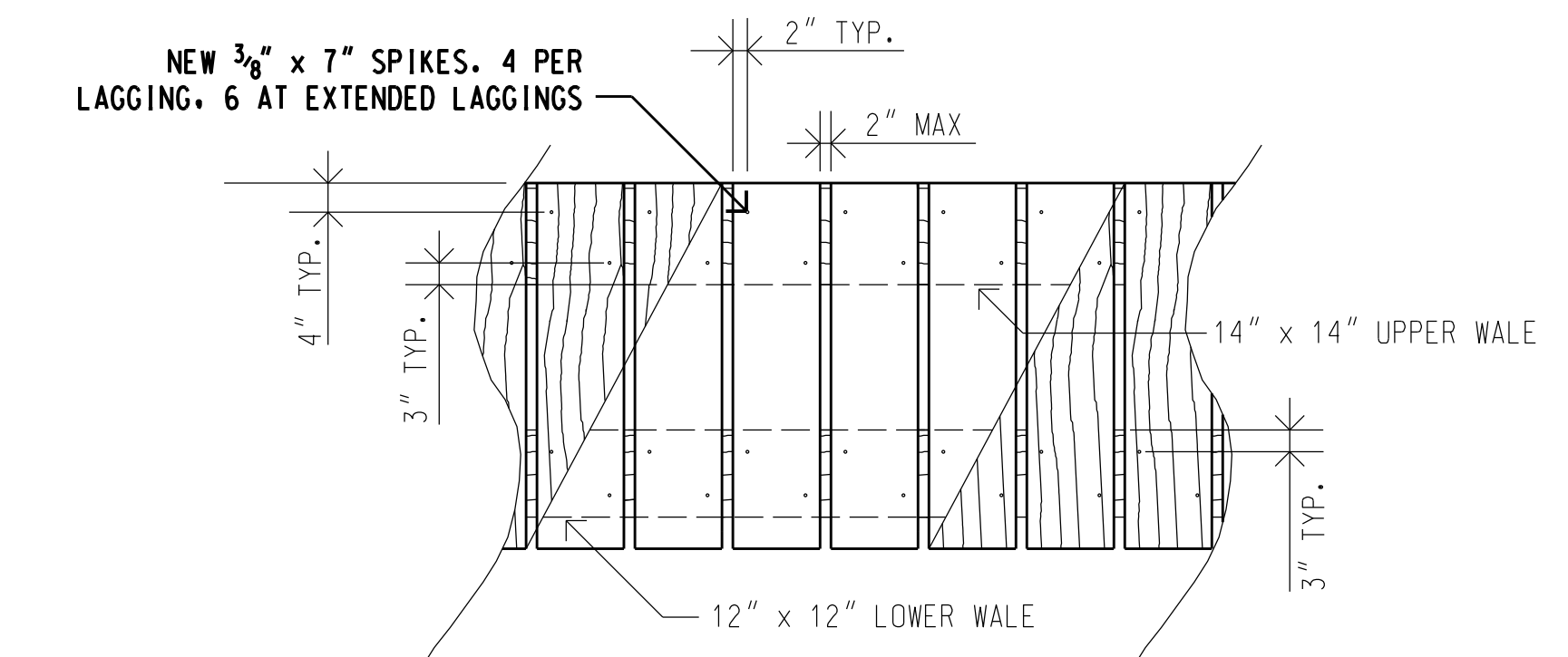
USE DETAIL A FOR #7 BARS AND LARGER



BUTT SPLICE

A
5

SCALE : NTS



NOTE: 1. STAGGER SPIKES TO PREVENT SPLITTING OF WALES.
2. PRE-DRILL LAGGINGS FOR SPIKES TO PREVENT SPLITTING W/ 3/8" Ø HOLE

LAGGING DETAIL

C
5

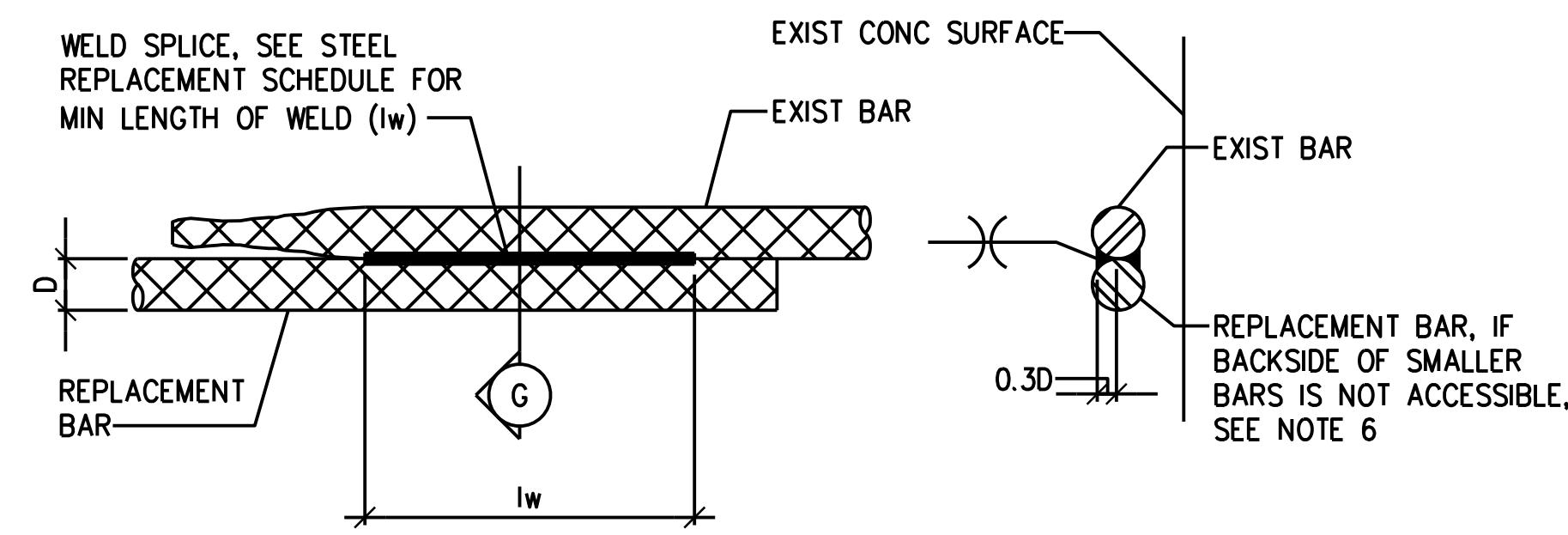
SCALE: 1/2" = 1' - 0"

REINFORCING STEEL WELDING NOTES:

1. CHIP, GRIND, OR GOUGE TO SOUND METAL BEFORE WELDING.
2. CLEAN EXIST REBAR AND PREPARE ACCORDING TO SPECIFICATIONS. APPLY COATING AFTER WELDING.
3. SEE STEEL REPLACEMENT SCHEDULE BELOW FOR REPLACEMENT BAR SIZE.
4. USE E70 ELECTRODES.
5. SEE AWS D1.4 FOR WELDING PROCESS AND OTHER DETAILS.
6. FOR WELDING OF #3, #4, AND #5 REPLACEMENT REINFORCING, WELDING MAY BE PERFORMED ON ONE SIDE ONLY, IF l_w IS INCREASED TO l_{w1} AS FOLLOWS

STEEL REPLACEMENT SCHEDULE				
SIZE OF EXISTING REINFORCING		SIZE OF REPLACEMENT REINFORCING	MINIMUM LENGTH OF WELD EACH SIDE (l_w)	MINIMUM LENGTH OF WELD ONE SIDE l_{w1}
SQUARE	ROUND			
3/8"	#3, #4	#4	2"	4"
1/2"	#5	#5	2 1/2"	5"
5/8"	#6	#6	3 1/2"	-
3/4"	#7	#7	-	-
7/8"	#8	#8	-	-

USE DETAIL B FOR #6 BARS AND SMALLER



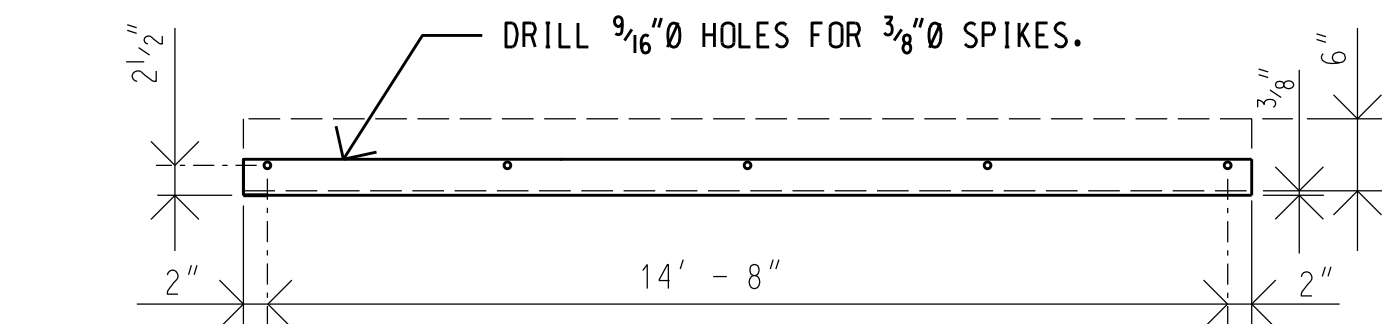
NOTE:
 l_w = LENGTH OF WELD EACH SIDE
(SEE STEEL REPLACEMENT SCHEDULE)

SECTION

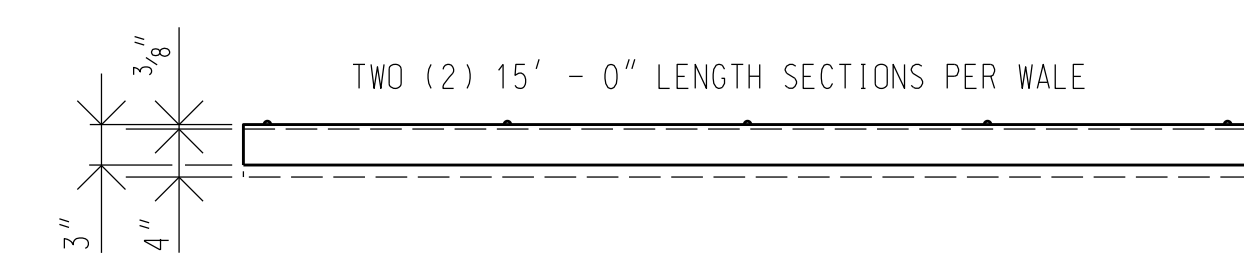
LAP SPLICE

B
5

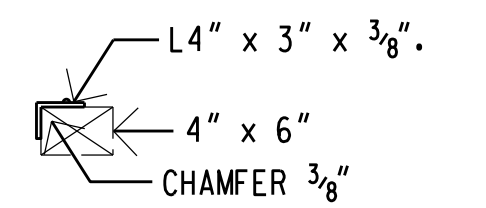
SCALE : NTS



PLAN



ELEVATION



SECTION

NOTE: TO REUSE THE EXISTING EDGE PROTECTORS, INSPECTION AND APPROVAL MUST BE GIVEN FROM THE CONSTRUCTION ENGINEER AND HARBOR AGENT.

EDGE PROTECTOR DETAIL

D
5

SCALE: 3/4" = 1' - 0"

REINFORCING STEEL SPLICE DETAIL
NOT TO SCALE

REV	DATE	DESCRIPTION	BY	APPROVED
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION				
JOB TITLE FENDER REPAIRS AT PIER 3 HILO HARBOR, HILO, HAWAII				
PIER 3 - REPAIR DETAILS				
DESIGNED BY: JM				SHEET
DRAWN BY: JM				5
CHECKED BY: AF	JOB NUMBER			
DATE: APR 2023	S50208			
SCALE: AS SHOWN				5 OF 5 SHEETS