



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 10, 2023

Addendum No. 1

Contract No.: DA00569

WBS Element: 16.33001

Work Barge Skyco Drydock, in Craven County

To Whom It May Concern:

Reference is made to the proposal and plans previously furnished for this project.

The following revisions have been made to the proposal and plans:

Changes were only made to the following pages 66,67,68,71,73,86,94 & 95. Please staple and replace the original pages 66,67,68,71,73,86,94 & 95, with the revised pages 66,67,68,71,73,86,94 & 95.

I also included some additional drawings that were requested in Plans Addendum. Drawings include

- DWG NC-140-16 Machinery Arrangement
- DWG NC-140-17 Fuel Oil Piping
- DWG NC-140-21 Fresh Water Piping
- DWG NC-140-22 Sewage and Sanitary Piping
- DWG NC-140-23 Fills, Vents and Sounds
- DWG VT0500-46 Zero Discharge Tank

Lastly to answer some of the questions that were not specifically addressed with the changes included in the addendum, I have the following responses to offer.

1. Work Item 11 – Crop Out Deck Tie Downs etc. : DWG NC-140-03B does not show or provide any information on the 14 each 4.2 ton SWL weld on pivot link lifting points. Please provide the make and model of the pivot link for pricing.

Unable to specify make and model per NCDOT policies.

2. Work Item 14 – Install Owner Furnished Weld on Bow Fender: Contractor requests pictures, drawings, dimensions of unit(s) to be installed to determine level of effort to complete this item.

NCDOT will provide Duramax DB-1909 “Segmented Tow-Knees” They have 6x 4”x10” welding plates per 3’ of fender. https://www.duramaxmarine.com/pdf/DockBumper_PC.pdf

3. Work Item 15 – Shore Tie Jumper Connection: NCDOT to provide contractor with plug receptacle and/or plug style prior to bid to accurately price the level of effort to complete this item.

Something similar to this is the intention:

<https://www.eaton.com/content/dam/eaton/products/wiring-devices-and-connectivity/crouse-hinds/catalog-pages/crouse-hinds-proconnect25-25b-26-26b-catalog-page.pdf>

4. Work Item 7 – Sea Valves, Sea Chest, and Strainer Inspection: Paragraph 7.4, subparagraph a) states, “All valves less than 3 “ shall be replaced in kind or repaired by the contractor.” The contractor recommends that repair or replacement be identified to make sure pricing is standardized during the bidding process.

All “sea valves” less than 3” to be repaired/replaced. NCDOT will leave the option open to the contractor to repair or replace. However, we will clarify that this requirement only applies to sea valves.

5. Work Item 7 – Sea Valves, Sea Chest, and Strainer Inspection: Paragraph 7.4, subparagraph d) states, “Open and inspect sea water system check valves as listed.” The work item does not include a list of valves. Please provide a list of the valves to include valve size, type, system, mounting arrangement, material and pressure rating.

We do not have this detail at this point in time.

6. Work Item 10: Install Concrete Work Pad – Paragraph 10.4 directs the contractor to use sealant on an approved NCDOT product list for Concrete Waterproofing and Sealing. This reference was not provided by NCDOT. Please provide this reference.

This is available online here:

<https://apps.ncdot.gov/vendor/approvedproducts/>.

Products can be found here under Product Group “Concrete Waterproofing and Sealing”

7. Work Item 10: Install Concrete Work Pad – Paragraph 10.4 directs the contractor to place the concrete in accordance with NCDOT 2018 Standard Specification for Roads and Structures – Section 700. This reference was not provided by NCDOT. Please provide this reference.

This is available online here:

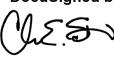
<https://connect.ncdot.gov/projects/construction/ConstManRefDocs/700,%202018%20Standard%20Specifications.pdf>

8. Work Item 10: Install Concrete Work Pad – Paragraph 10.4 directs the contractor to prepare concrete samples for testing by NCDOT, cured in accordance with AASHTO T-23. This reference was not provided by NCDOT. Please provide this reference.

Included in Standard Specifications 2018.

We apologize for any inconvenience and will do our best to answer any additional questions at the Mandatory Pre-Bid Conference. Thank you for your interest in this project.

Sincerely,

DocuSigned by:

CDAEAC77A6394FB...

C. E. Slachta
Division Contract Engineer

Cc: C. W. Bridgers, Jr., PE
R. W. Midgett, PE
R. K. Sawyer, PE
M. B. Gill, PE
W. B. Hobbs, PE
D. B. Otts, PE
J. J. Remme

6.0 MAIN DECK HATCH MAINTENANCE AND REPAIR

6.1 Description:

This section describes the requirements to inspect, repair, and test the main deck hatches. Contractor shall take into consideration work associated with “Open, Clean and Certify Gas Free: Bilges, Holds, and Enclosed Areas” of this section and closely coordinate this work. ~~This section also covers the removal of all the watertight doors maintenance and repair on the main deck.~~

6.2 References:

- 6.2.1 DWG NC-140-02 Rev11 Main Deck & Hold Arrangement
- 6.2.2 DWG NC-140-11 Vertical and Inclined Ladder Details
- 6.2.3 - DWG NC-140-12RevA – Doors, Windows & MH Schedule

6.3 Owner Furnished Equipment:

None

6.4 Hatch Requirements / CHECKPOINT:

The Contractor shall complete the following work on deck hatches:

- a) Contractor shall open and inspect condition of hatch insert rings, hatch gaskets, and hatch operating mechanisms.
- b) Complete inspections and submit a condition found report no later than fifteen (15) working days after taking control of vessel, or within 3 days of opening hatches, whichever comes first. Condition found report must include any missing fasteners. Failure to report fasteners will assume fasteners were damaged or lost by the shipyard and be required to be repaired or replaced at shipyard expense. Close manholes when directed with a new gasket and sealant.
- c) Any hatch required to be opened to fulfill the scope of work in the contract must be fitted with a new gasket and sealed watertight at the contractor’s expense. Watertight integrity of all hatches and manholes must be proven to NCDOT representatives by contractor at contractor’s expense. Based on NCDOT’s inspection of vessel, Contractor shall budget to replace [16] ø18” FLWT gaskets, [1] 24” FLWT Freeman gasket and [1] 48”x48” Machinery Hatch **Gasket** [DWG NC-140-12], as directed by the NCDOT Representative.
- d) Additional equipment may be recommended to be replaced by Contractor, subject to agreement by NCDOT. These repairs or renewals shall be paid by Supplemental Agreement.

6.6 Tests, Trials and Documentation:

Following refurbishment and re-installation of all hatches and doors, Contractor shall prove all deck hatches watertight when subjected to low pressure or hose wash in the presence of the NCDOT inspector/representative. Contractor to deliver Condition Found report.

6.7 Payment:

Include all costs associated with repairs and modifications to the various items outlined in this Special Provision in the lump sum contract price for *Generic Ferry Item (Main Deck Hatch Maintenance and Sounding Tube Repair)* No further compensation will be made.

7.0 SEA VALVES, VALVES, SEA CHEST, AND STRAINER INSPECTION:

7.1 Description:

This section describes the requirements to remove, disassemble, open, clean and inspect **all** the vessel's sea water valves, including:

- Sea valves
- Overboard discharge valves
- Scupper valves

Contractor to open, clean and inspect all sea chests and strainers. Written condition found report to be submitted to NCDOT representative withing 3 days of inspection. After inspection and approval NCDOT representative that any needed work is completed, Contractor to reassemble all strainers and sea chests, at NCDOT Representatives. Contractor shall not reassemble any strainers or sea chests without the approval of NCDOT Representative.

Contractor shall also clean 4-1/2" crossover pipe between sea chests.

Attention is made to the Contractor to note the valve Lockout/Tagout procedures described in Take Control and Dry Dock the [Skyco]."

7.2 References

- 7.2.1 DWG NC-140-18 Bilge, Ballast & Fire Piping
- 7.2.2 DWG NC-140-16 Machinery Arrangement
- 7.2.3 DWG NC-140-21 Fresh Water Piping
- 7.2.4 DWG NC-140-17 – Fuel Oil Piping
- 7.2.5 DWG NC-140-23 – Fills, Vents and Sounds

7.3 Owner Furnished Equipment:

~~See items a) thru f) in section 7.4~~ None.

7.4 Requirements

The Contractor shall complete the following work on sea valves, overboard discharge valves and scupper valves:

- a) Disassemble all sea valves, sea chest vent valves and all overboard discharge for NCDOT Representative inspection of the interior valve body, seats, under bonnet, stem and packing housing. All valves less than 3" shall be replaced in-kind or repaired by the contractor.
- b) Blue the seat contact areas of the discs and perform a blue fit check of the valve seats in the presence of the NCDOT Representative.
- c) Following approval of the NCDOT Representative, clean the valve components, renew the bonnet gasket or seal, lubricate the valve stem, repack the stem gland and reassemble the valves.

- d) Open and inspect sea water system check valves as listed.
- e) Upon completion of valve restoration and prior to installation, hydrostatically test all restored and new valves to the satisfaction of the NCDOT Representative. Reinstall all valves using new Contractor furnished gaskets (Garlock 3760 or equal) and 316 Stainless Steel fasteners.
- f) Complete inspections and submit report no later than thirty (30) working days after dry-docking.

7.5 List of Valves

Approximately 10 **total valves. Including** sea valves, seachest vent valves, and overboard discharge valves for the following systems:

- a) Fire Pump Suction
- b) Bilge Pump Suction
- c) Fire Pump Overboard
- d) Bilge Pump Overboard
- e) MSD overboard
- f) Ballast Overboard
- g) Seachest Vents

7.6 Tests, Trials and Documentation

As indicated in the "Requirements" section above.

Following reassembly of all valves, Contractor shall prove watertight at operating pressure.

Contractor to provide complete valve list to NCDOT, including size, type, and manufacturer.

7.7 Payment

Include all costs associated with repairs and modifications to the various items outlined in this Special Provision in the lump sum contract price for *Generic Ferry Item (Sea Valves)*. All labor, equipment, tools, and new materials to accomplish the work detailed in these Special Provisions, including testing and trials. No further compensation will be made.

Any deficiencies found by NCDOT or contractor will be repaired or renewed and paid by a Supplemental Agreement. **CHECKPOINT:** NCDOT Representative is to witness both the MSD inspection, and visually inspect the condition of the MSD prior to closing the units up.

Prior to closing MSD tank, contractor shall clean and paint all disturbed areas, replace all gaskets and test for leaks using fresh potable water. Test shall consist of filling the tank $\frac{3}{4}$ of the way to full capacity and apply 1.5 psi pressure for 15 minutes. Any leaks are to be identified, corrections made, and retested by the contractor. **CHECKPOINT:** NCDOT Representative is to witness the MSD leak test.

Once there are no leaks, Contractor is to pump out and dispose to 50% of the ~~potable~~ MSD tank capacity and secure the unit against use for the remainder of the shipyard availability. Within 24 hours of the vessel leaving the shipyard, Contractor is to unsecure the RED FOX TANK Unit and unsecure all lavatories and heads, making them available for use.

Contractor is to also add a GREEN MARINE (CrapZapper)[®] MSD packaged mix. The potable water and "mix" will initiate the biological action inside the unit.

9.5 Tests, Trials and Documentation:

Conduct MSD closeout inspection and final tightness and leak tests. Inform NCDOT Representative to provide a witness for MSD closeout. Contractor to supply written condition report of MSD tank.

9.6 Payment:

The lump sum contract bid price for *Generic Ferry Item (Sewage System - Clean, Inspect and Perform Maintenance)* shall include all costs for cleaning all parts of the MSD tank, disposal, testing, replacement parts and inspections by qualified personnel. No further compensation will be made.

10.0 INSTALL CONCRETE WORK PAD:

10.1 Description

This section describes the requirements to install a concrete work pad on the deck.

10.2 References

10.2.1 DWG NC-140-03B Main Deck Structure Modifications

10.3 Owner Furnished Equipment

None

11.0 CROP OUT DECK TIE DOWNS, INSERT DECK PLATE & INSTALL D-RING TIE DOWNS. CROP OUT SOUNDING TUBES AND INSERT DECK PLATE. INSTALL NEW HANDRAILS

11.1 Description

This section describes the requirements to remove deck tiedowns and sounding tubes and replace with deck plate.

11.2 References

11.2.1 DWG NC-140-03B Main Deck Structure Modifications

11.3 Owner Furnished Equipment

None

11.4 Requirements

The Contractor shall crop out twenty inserted deck tie downs and insert back new 3/8" A36 deck plate. Approximately 32"x18" inserts to be used. Inserts shall tie into at least two longitudinal frames. All welds to be continuous.

The Contractor shall also crop out eight 1-1/2" sounding tubes. (4 on the bow deck and 3 4 on the mid deck and insert back with new 3/8" A36 deck plate. Two inserts of approximately 4'x4'. Each insert shall cover 4 sounding tubes. Inserts shall tie into at least three longitudinal frames. All welds to be continuous.

The Contractor shall procure and install fourteen (14) 4.2t SWL weld-on pivot link lifting points as shown in DWG NC-140-03B. Provide product specifications to NCDOT representative prior to ordering. Care shall be taken to ensure lifting points land over frames.

Inserts and any disturbed areas must also be prepped, primed, and painted in accordance to Blast and and Paint – All Decks on the deck side and Prep and Paint Voids, Ballast, And Machinery Room Bilges on the void/tank side.

The contractor shall also remove all old **main deck** handrail, fabricate and reinstall new handrail in same location. Rails should be of the same material as existing. New rails shall be prepped and painted in accordance with Blast and Paint – All Decks.

11.5 Tests, Trials and Documentation

Dye Penetration Tests on all inserts

11.6 Payment:

The lump sum contract bid price for *Generic Ferry Item (General Deck Work)* shall be the total compensation for cropping and renewing steel, installing new D-Rings, removing, and reinstalling new handrails. All labor, equipment, tools and new materials to accomplish the work detailed in these Special Provisions, including testing and trials. No further compensation will be made.

20.0 BLASTING AND PAINTING - HULL BELOW DLWL:

20.1 Description:

This section describes the requirements for blasting and painting the vessel hull (underwater body), from the keel to 12" above the design load waterline.

After high-pressure water washing of the hull, as outlined in the "High-Pressure Water Wash – Hull Below DLWL" section, the Contractor shall blast and paint the hull below the DLWL.

20.2 References:

20.2.1 "General Painting Instructions" as part of these Special Provisions:

20.3 Owner Furnished Equipment:

None

20.4 Requirements:

The Contractor shall blast the hull below the DLWL by abrasive blast to a SSPC-SP-10. Contractor shall mechanically or by hand SSPC-SP-11 all areas that are not accessible by blasting.

After surface preparation, dry the area with clean dry compressed air. The Contractor shall assure that the areas to be painted are free of dust, dirt, salt, loose paint, moisture, and other contaminants before painting.

Anti-corrosive paint at the perimeter of the blasted areas shall be feathered or otherwise made tight to eliminate paint failure points and present a clean mechanically etched surface for a secure bond with new Primer applied to the blasted surfaces. Coat all bare metal areas the same day they are exposed by blasting. Apply anti-corrosive paint by conventional industrial airless spray or compressed air spray equipment, contractor may utilize brush application for small touch up jobs. **Vessel to be shifted to ensure 100% coverage of underwater hull.**

The Contractor shall determine the Manufacturer's minimum and maximum "dry to self-re-coat" criteria and apply the second anti-corrosive coat inside this window. The anti-corrosive coating system in these selected areas shall be:

- Primer Coat: Amercoat 370 red oxide applied @ 4.0-6.0 Mils DFT

(NOTE: Paint manufacture requires 2 coats of primer)

- Stripe Coat: Amercoat 370 grey applied @ 4.0-6.0 Mils DFT

- Third Coat: ABC #3 red applied @ 4.0-6.0 Mils DFT

(NOTE: 2 coats of Anti-Fouling pant shall be applied)

26.0 STEEL CROP AND RENEW

26.1 Description:

This section describes the requirement to crop and renew steel on the main deck and hull.

26.2 References:

- 26.2.1 – NC-240-0087 Deck Plating Details
- 26.2.2 – NC-240-0011 Structure Above Main Deck
- 26.2.3 – NC-240-0081 Deck & Bottom Scantlings

26.3 Owner Furnished Equipment:

None

26.4 Requirements:

Once the contractor has blasted the main deck, they shall conduct 1000 UT shots in the presence of the NCDOT inspector to determine locations of concern. The contractor shall also conduct additional 1000 UT shots on the hull and in the presence of the NCDOT inspector to determine locations of concern. Once locations are identified on the main deck and hull, the contractor shall ~~conduct a water hose test or soap and blow test of the concern areas and~~ submit a condition found report. Contractor shall estimate 500 sq. ft. of deck plate replacement. The contractor shall do the same process on the hull and shall estimate 100sq. ft. of hull plate replacement.

All disturbed or new steel to be painted in line with “Blast & Paint Decks” or “Blast & Paint Hull above and below DLWL” as applicable.

26.5 Test, Trials and Documentation:

Dye Penetration Tests for 100% of all **new** Hull and Deck Welds. Weld Procedures and Welder Certifications.

26.6 Payment:

The contract unit bid price per Square Foot for *Generic Miscellaneous Item (Crop and Renew Steel – Deck Plate)* shall be the total compensation for removal and replacement of all wasted metal, welding, labor, equipment, tools and new materials to accomplish the work detailed in these Special Provisions, including testing and trials. No further compensation will be made. If no replacement is required than no payment can be claimed.

The contract unit bid price Lump Sum for *Generic Miscellaneous Item (UT Shots)* shall be the total compensation for all UT shots called out in this section.

The contract unit bid price per Square Foot for *Generic Miscellaneous Item (Crop and Renew Steel – Hull Plate)* shall be the total compensation for removal and replacement of all wasted metal, welding, labor, equipment, tools and new materials to accomplish the work detailed in these Special Provisions, including testing and trials. No further compensation will be made. If no replacement is required than no payment can be claimed.

27.0 REFURBISH ROOF DRAIN SCUPPERS:**27.1 Description:**

This section describes the requirement to remove and roof drain scuppers.

27.2 References:

None

27.3 Owner Furnished Equipment:

None

27.4 Requirements:

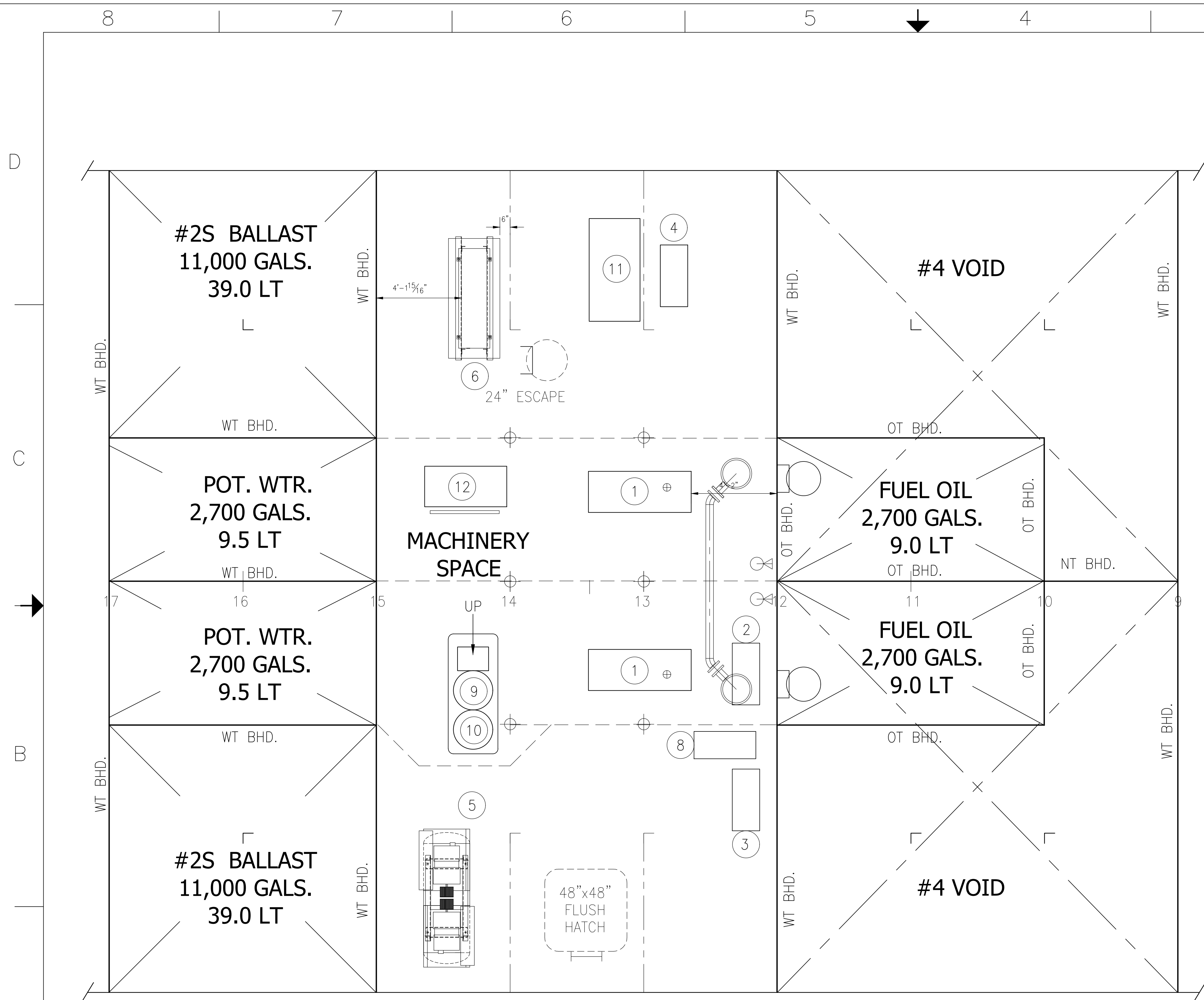
The Contractor shall remove all the old drains on the vessel. Contractor shall remove all interferences and reinstall new drains **with grates** in the same locations. All piping and hardware shall match what is currently existing. Contractor shall mechanically or by hand surface prep, and paint to correct color, refer to Section 16 "Painting-General Special Provisions".

27.5 Test, Trials and Documentation:

Contractor shall prove to NCDOT representatives the drains are in working condition.

27.6 Payment:

The lump sum contract bid price for *Generic Miscellaneous Item (Refurbish Roof Drain Scuppers)* shall be the total compensation for removing and reinstalling all roof drain scuppers, metal, paint, and welding. All labor, equipment, tools, hardware and new materials to accomplish the work detailed in these Special Provisions, including testing and trials. No further compensation will be made.




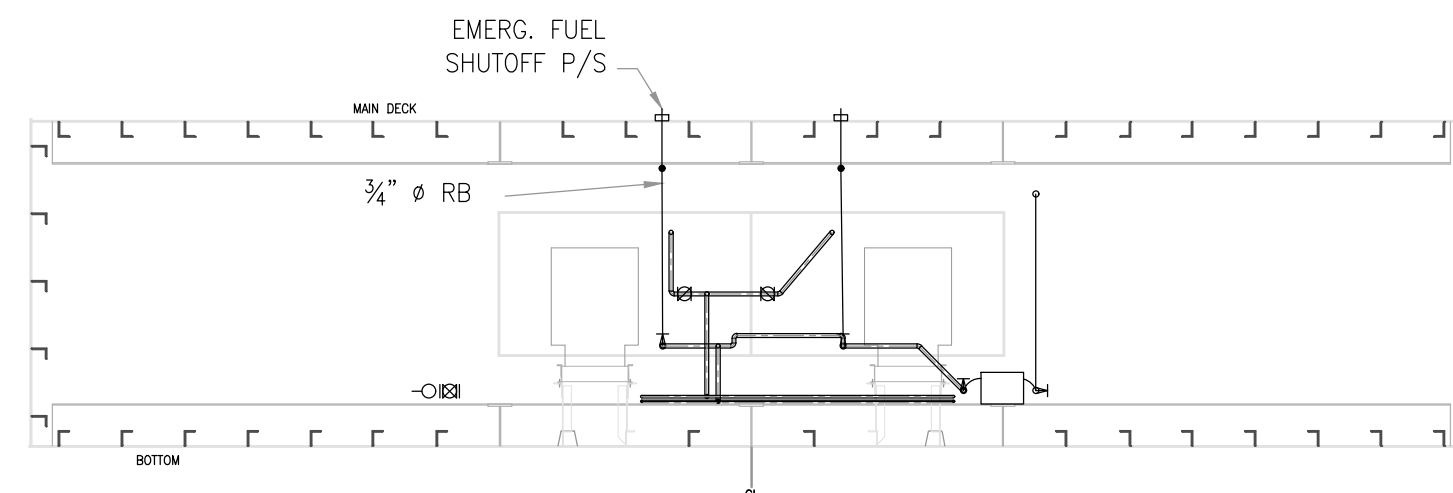
MACHINERY PLAN

MACHINERY LIST			
ITEM	QTY	DESCRIPTION	MANUFACTURER/ MODEL NO.
1	2	GENERATOR, 208/120V 3HP, ELEC START & KEEL COOLED	JOHN DEERE
2	1	FIRE PUMP, 810 GPM @ 150FT HEAD MIN	AURORA/ 341CC-10HP
3	1	BALLAST PUMP	FLOMAX/ FLOMAX 15-5HP
4	1	BILGE PUMP	FLOMAX/ FLOMAX 8-3HP
5	1	AIR COMPRESSOR & RECEIVER	QUINCY/310 x 2 120 GAL / 200 PSI
6	1	SEWAGE UNIT(MSD), 6 PER CAP (BLK WTR ONLY)	OWENS KLEENTANK/ MODEL B
7	2	VENTILATION FAN, 2000 CFM @ 1" SP-1.5HP @ 1750RPM	HARTZELL OR EQUAL/ 44 SERIES 18" DIA
8	1	FUEL OIL TRANSFER PUMP, 3/4" NPT-15GPM W/RLF VLV	VIKING OR BLACKMER 3/4" NPT-15GPM W/RELIEF VLV
9	2	POTABLE WATER PRES SET	MYERS OR EQUAL/ 3/4" NPT W/ 3/4 HP
10	1	WATER HEATER, UL-174 PER USCG	RHEEM OR EQUAL/40 GAL UL-174 PER USCG
11	1	WORK BENCH, W/TOOLCHEST	SEARS OR EQUAL/METAL W/DRAWERS INCLUDES TOOL CHEST
12	1	SWITCHGEAR, 208/120 VOLT 42kW	IPS
13	X		
14	X		
15	X		
16	X		
17	X		
18	X		
19	X		
20	X		
21	X		
22	X		

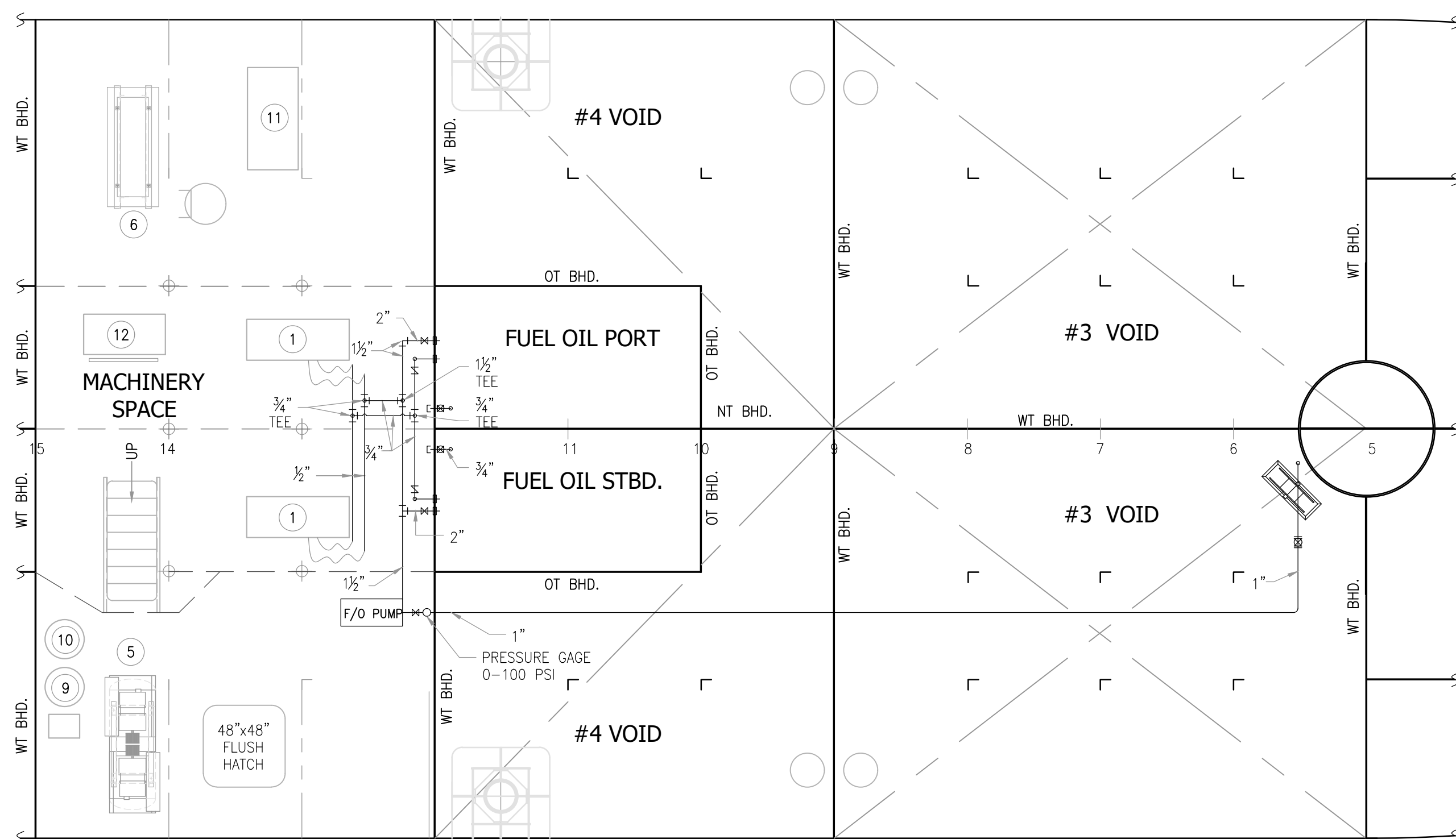
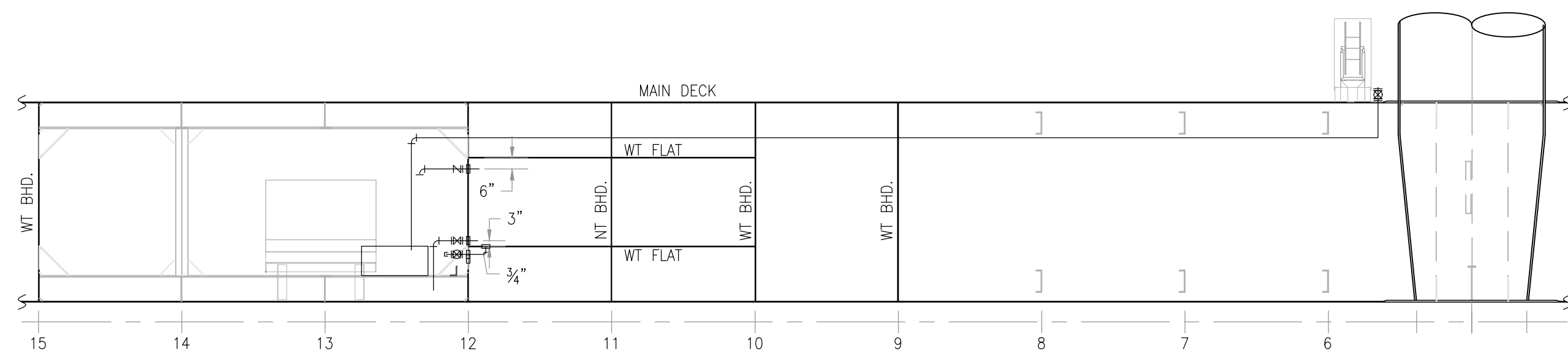
REV.	DESCRIPTION	DATE	APPROVED BY
1	RELOCATED PUMPS IN ER & ADDED ITEM 13.	3.11.2008	WALDREP

REVISIONS

		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FERRY DIVISION	
113 HENSEL STREET WAREHOUSES CITY, NC 28587		136'-6" x 40' x 9' CRANE BARGE MACHINERY ARRANGEMENT	
DWG. BY: JOE WALDREP	APPROVED BY: DON CHAPMAN	SIZE: D	PROJECT NO. 078
DATE: JUNE 1, 2008	DATE APPROVED:	DWG. NO. NC-140-16	REV A
SCALE: 3/8"=1'-0"		SHEET 1 OF 1	



TRANSVERSE FRAME 12
LOOKING FWD



HOLD PLAN

BILL OF MATERIALS

ITEM	QTY.	SIZE	DESCRIPTION	MATERIAL	ASTM NO.	REMARKS
1	20'	2"	PIPE - SCH. 80	STEEL		
2	20'	1 1/2"	PIPE - SCH. 80	STEEL		
3	20'	1 1/4"	PIPE - SCH. 80	STEEL		
4	40'	1"	PIPE - SCH. 80	STEEL		
5	80'	3/4"	PIPE - SCH. 80			
6	6	1 1/2"	3000# FS SCWD. 90			
7	4	1 1/2"	3000# FS SCWD. 90			
8	8	1"	3000# FS SCWD. 90			
9	8	3/4"	3000# FS SCWD. 90			
10	2	1 1/2"	3000# FS SCWD. TEE			
11	2	1 1/2"	3000# FS SCWD. TEE			
12	1	1"	3000# FS SCWD. TEE			
13	2	3/4"	3000# FS SCWD. TEE			
14	16	2"x1 1/2"	FS BUSHING			
15	0	1 1/2"x1 1/4"				
16	0					
17	0	1"x 3/4"				
18	0	0				
19	0	0				
20	0	0				

REV.	DESCRIPTION	DATE	APPROVED BY

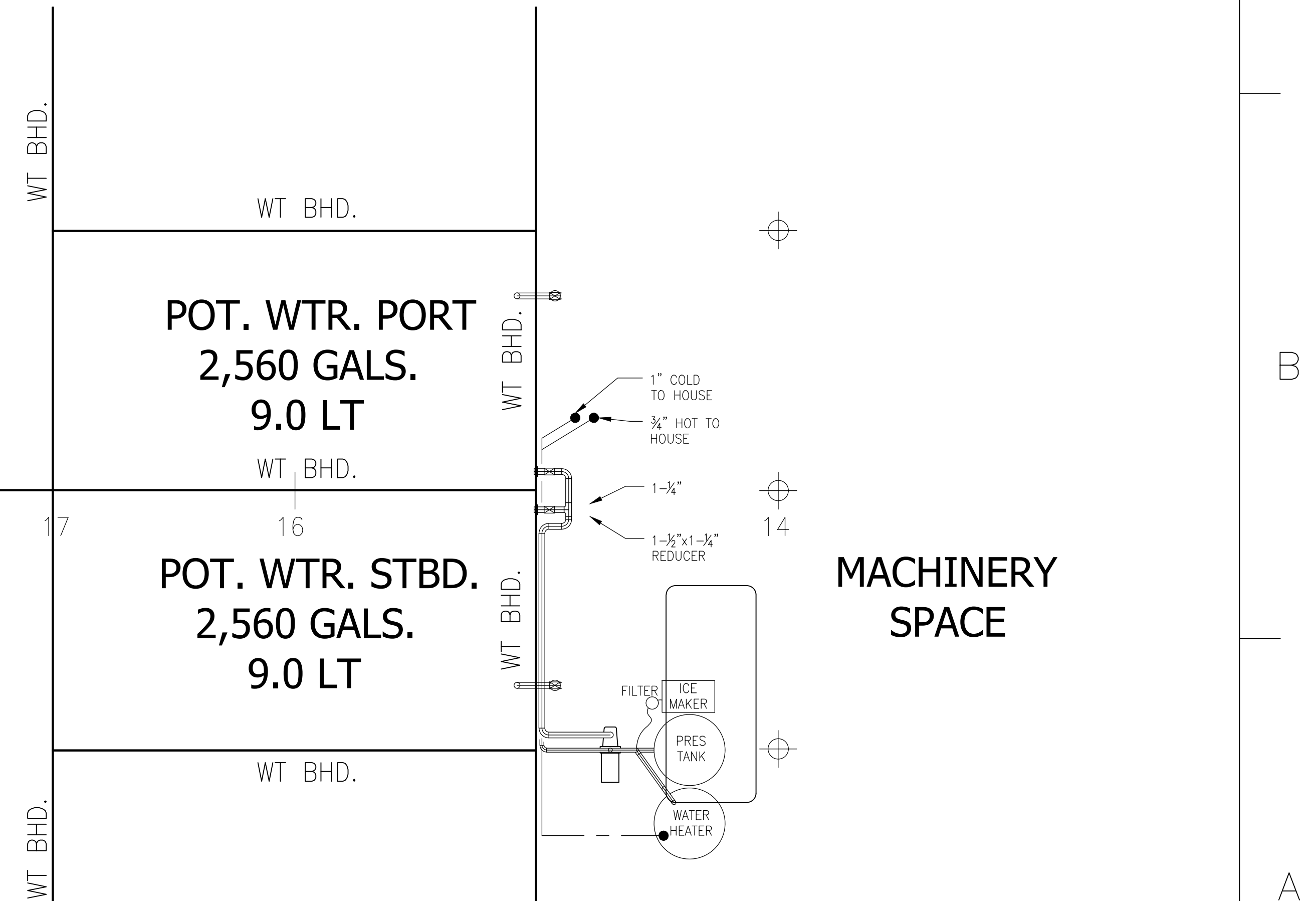
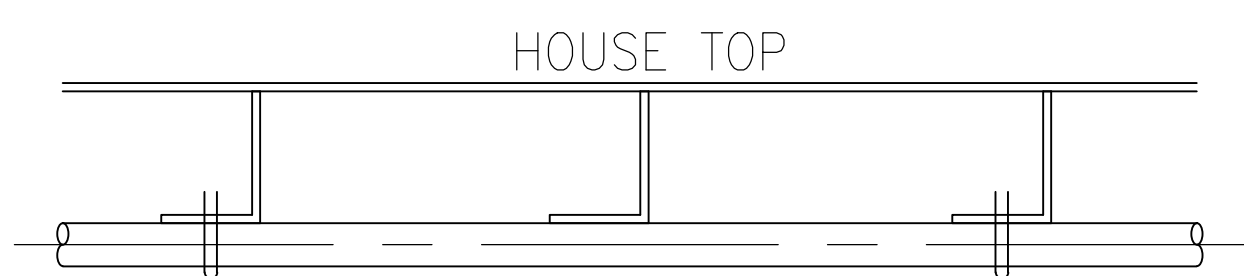
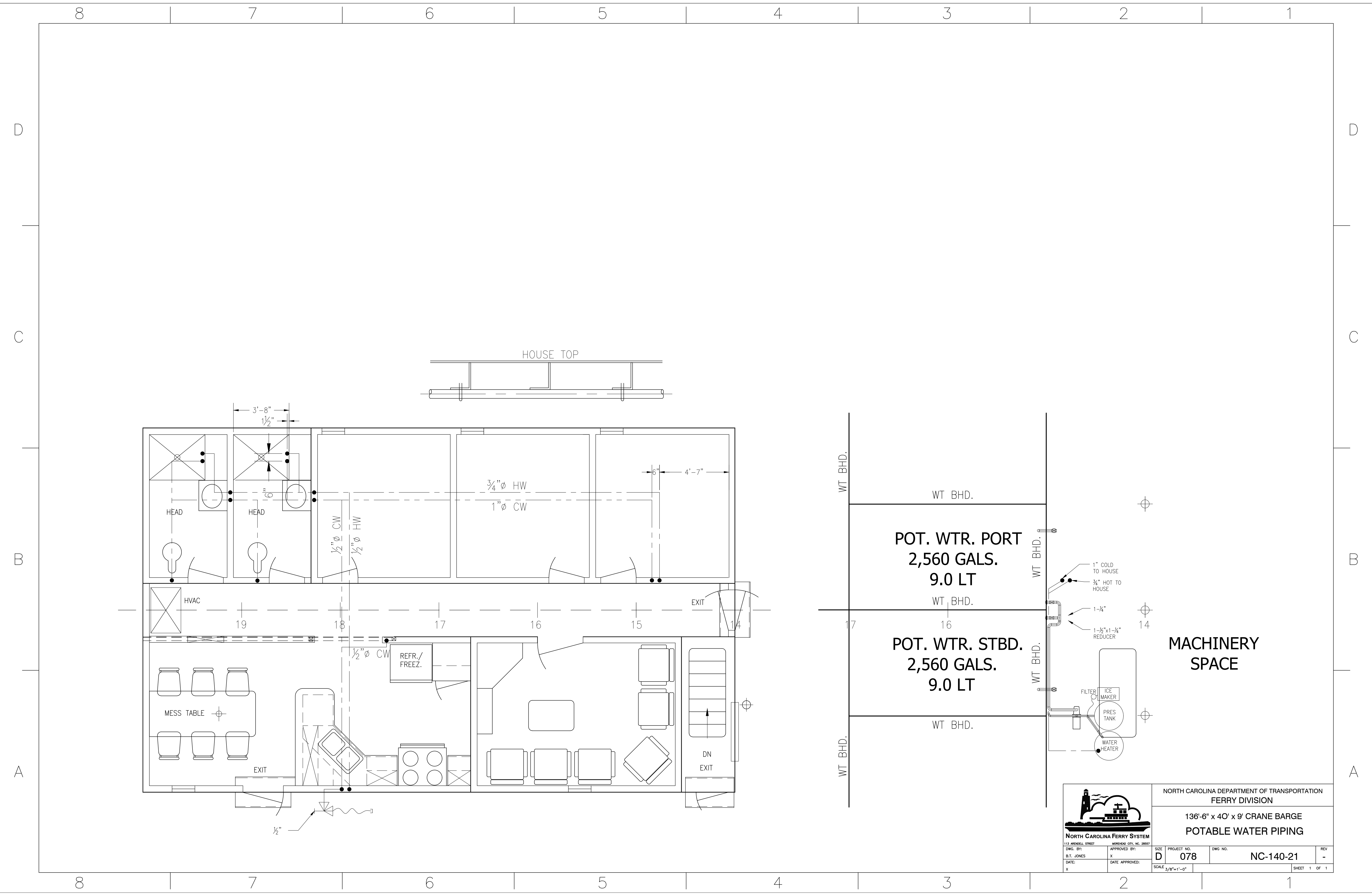
REVISIONS


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FERRY DIVISION

136'-6" x 40' x 9' CRANE BARGE

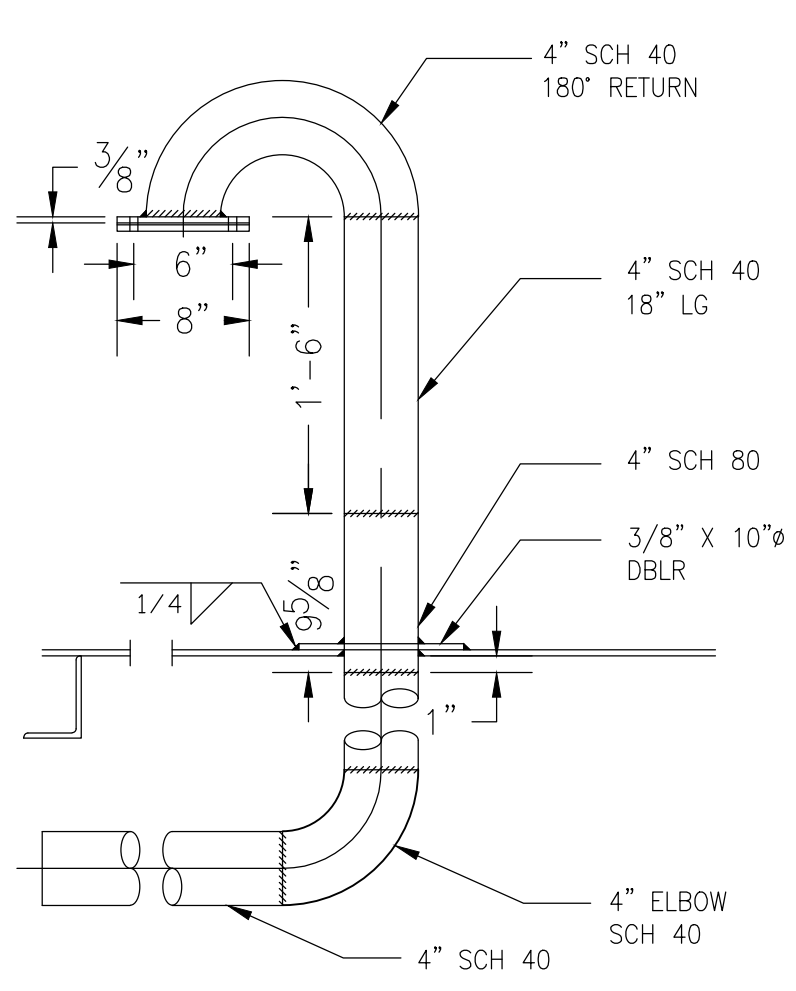
FUEL OIL PIPING

DWG. BY: B.T. JONES	APPROVED BY: X	SIZE: D	PROJECT NO.: 078	DWG. NO.: NC-140-17	REV: -
DATE: JUNE 3, 2008	DATE APPROVED:	SCALE: 3/16"=1'-0"	SHEET 1 OF 1		

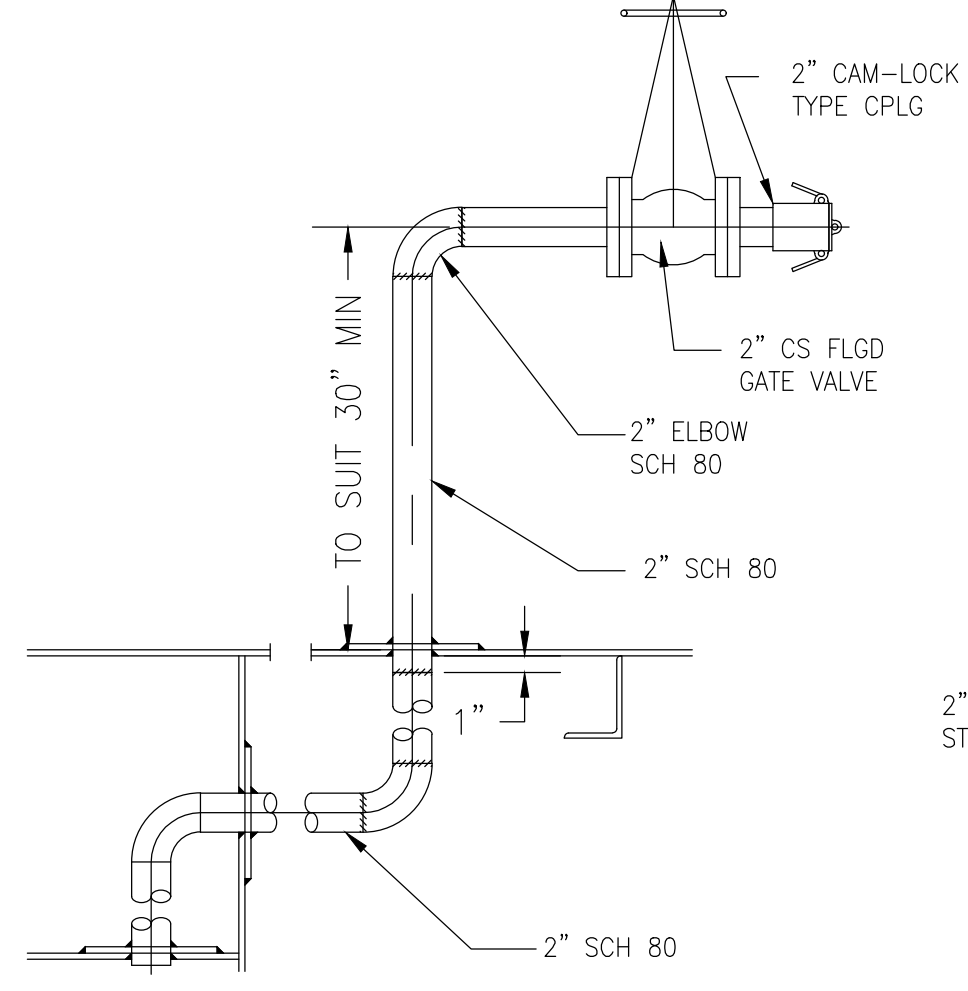
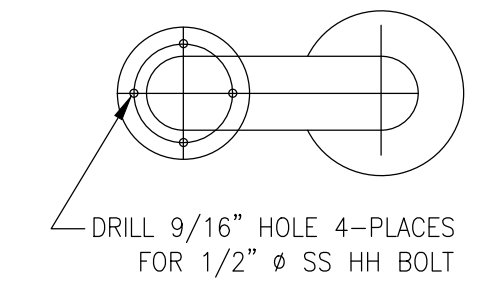


		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FERRY DIVISION		
		136'-6" x 40' x 9' CRANE BARGE POTABLE WATER PIPING		
113 ARENELL STREET WAREHOUSING CITY, NC 28587	APPROVED BY: B.T. JONES	PROJECT NO. 078	DWG. NO. NC-140-21	REV -
DATE: X	DATE APPROVED: X	SCALE 3/8"=1'-0"	SHEET 1 OF 1	

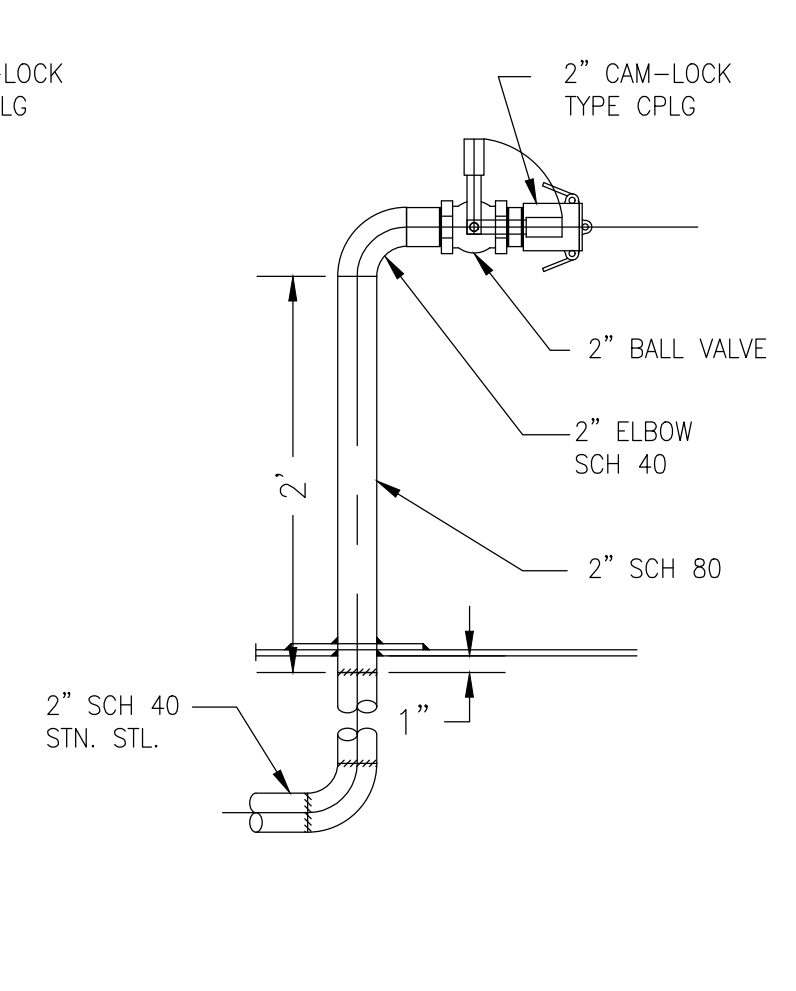
BILL OF MATERIALS						
ITEM	QTY.	SIZE	DESCRIPTION	MATERIAL	ASTM NO.	REMARKS
1	0	4"	PIPE - SCH. 40 ERW	STEEL	A53 GR B	
2	14'	4"	PIPE - SCH. 80 ERW	STEEL	A53 GR B	
3	0	3"	PIPE - SCH. 80 ERW	STEEL	A53 GR B	
4	0	2"	PIPE - SCH. 40	STEEL	A53 GR B	
5	0	2"	PIPE - SCH. 80	STN. STL.		
6	19	4"	180° RETURN - SCH. 40			
7	6	4"	90° ELBOW - SCH. 40			
8	0	2"	90° ELBOW - SCH. 40	STN. STL.		
9	2	2"	BALL VALVE			
10	2	2"	GATE VALVE	CAST STEEL		
11	2	3"	GATE VALVE	CAST STEEL		
12	0	3"	CAM-LOCK TYPE CPLG			
13	0	2"	CAM-LOCK TYPE CPLG			
14	16	2"	1 1/2" WELD TYPE DK PLUG			
15	0	0				
16	0	0				
17	0	3/8"	STEEL PLATE 36" X 48" X 3/8"			
18	0	0				
19	0	0				
20	0	0				



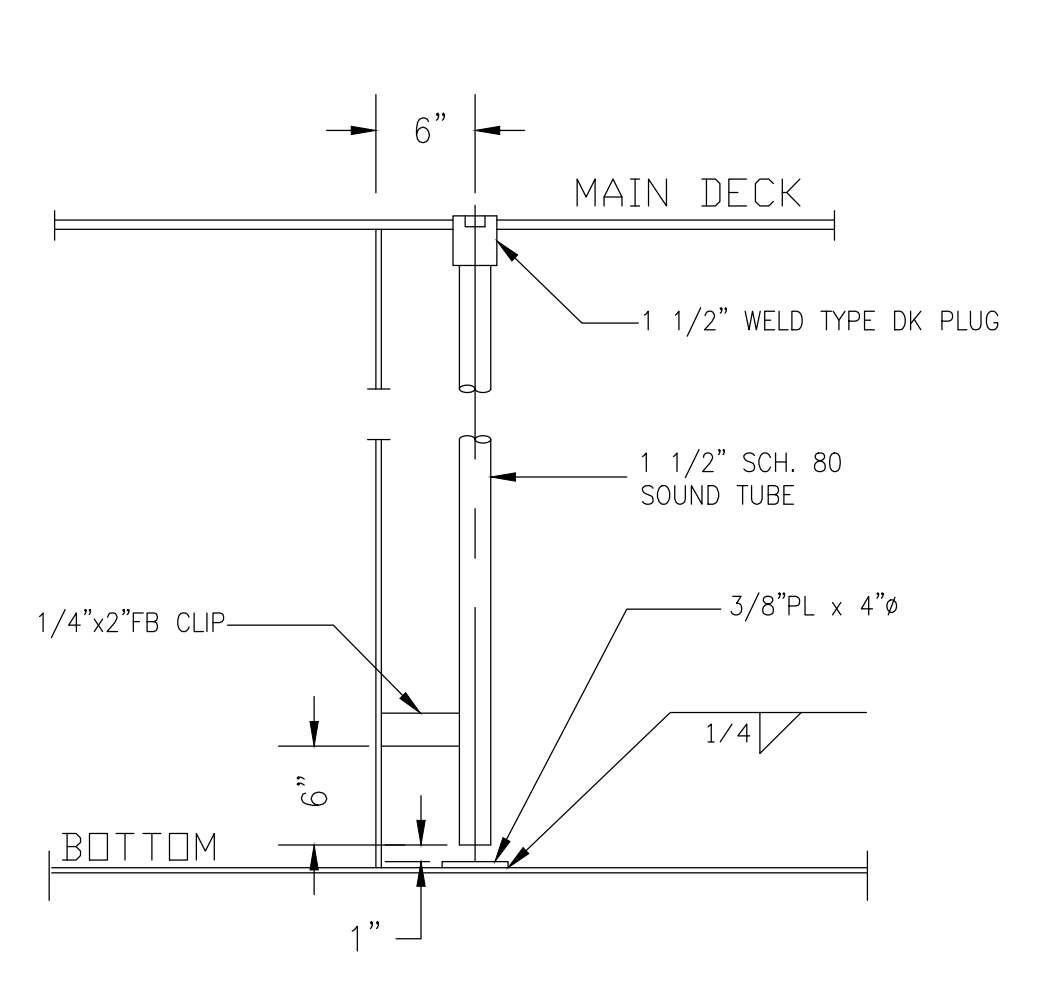
DETAIL 1-8D
VENT
SCALE 1=12



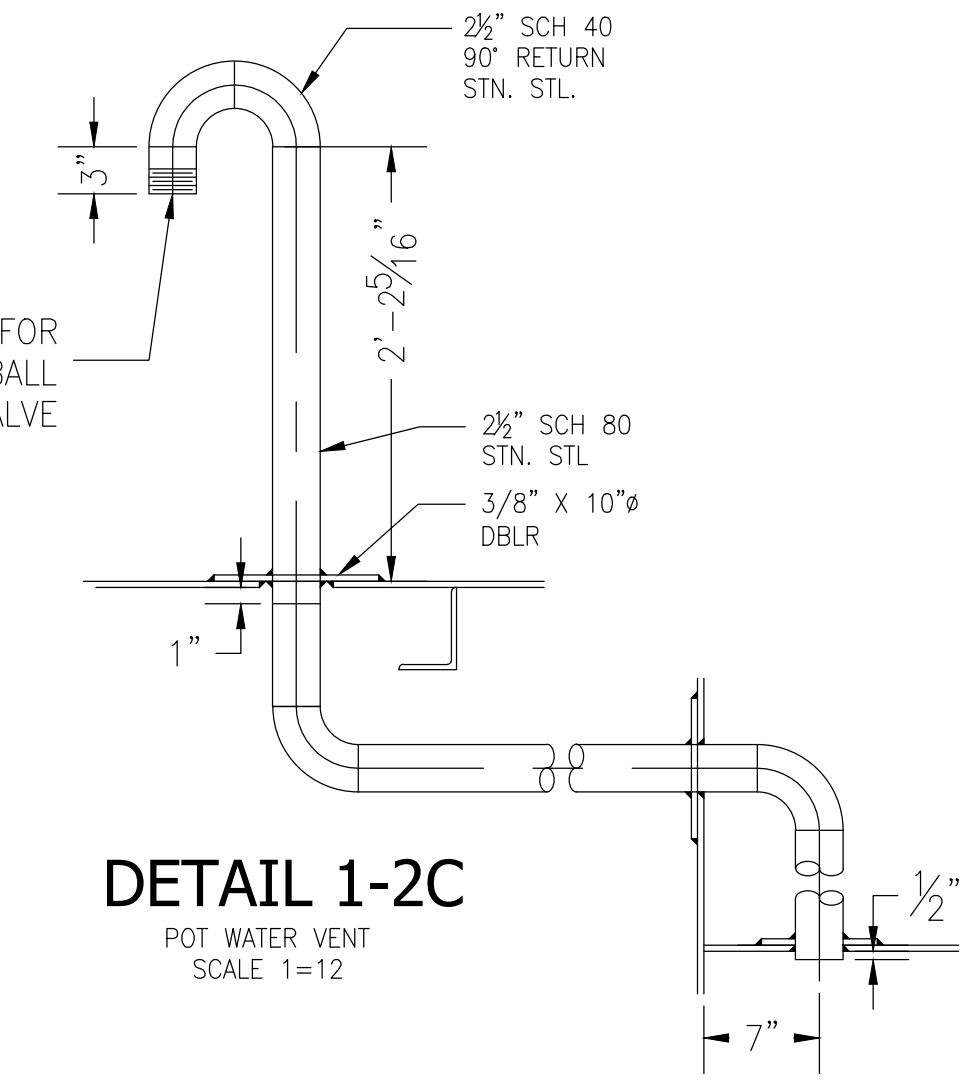
DETAIL 1-6D
FULE OIL FILL
SCALE 1=12



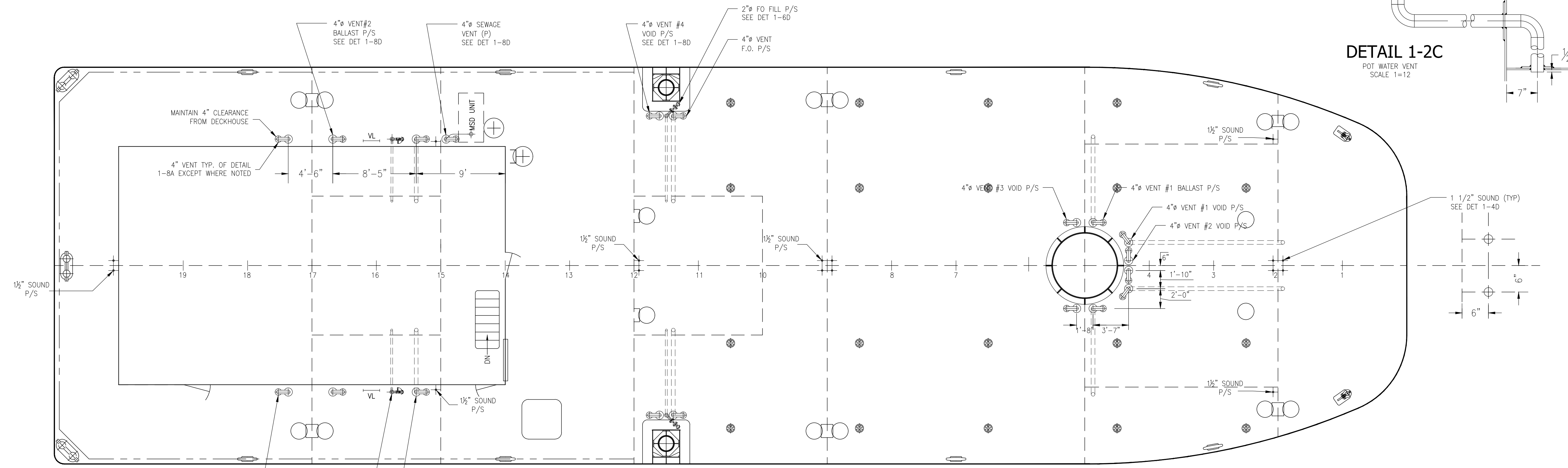
DETAIL 1-5D
POT WATER FILL
SCALE 1=12



DETAIL 1-4D
SOUND
SCALE 1=12



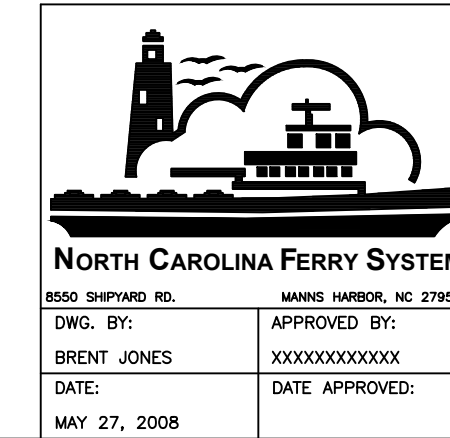
DETAIL 1-2C
POT WATER VENT
SCALE 1=12



MAIN DECK PLAN

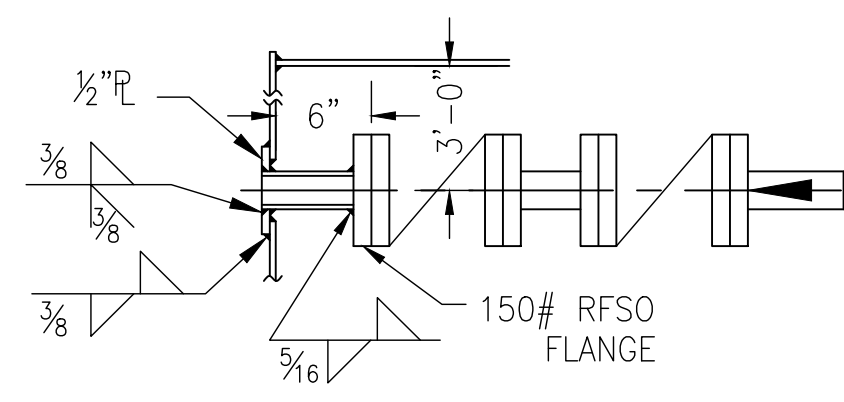
REV.	DESCRIPTION	DATE	APPROVED BY

REVISIONS

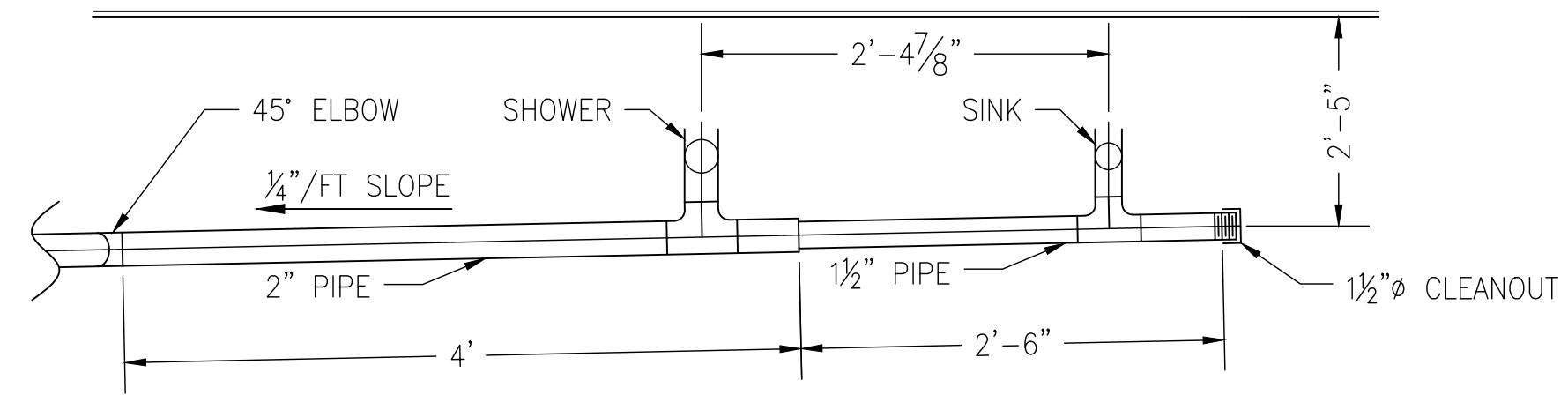


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FERRY DIVISION			
136'-6" x 40' x 9' CRANE BARGE			
VENTS, FILLS & SOUNDS			
DWG. BY: BRENT JONES	APPROVED BY: XXXXXXXXXXXX	DATE: MAY 27, 2008	SCALE: 3/16"=1'-0"
SIZE: D	PROJECT NO. 078	DWG. NO. NC-140-23	REV A
SHEET 1 OF 1			

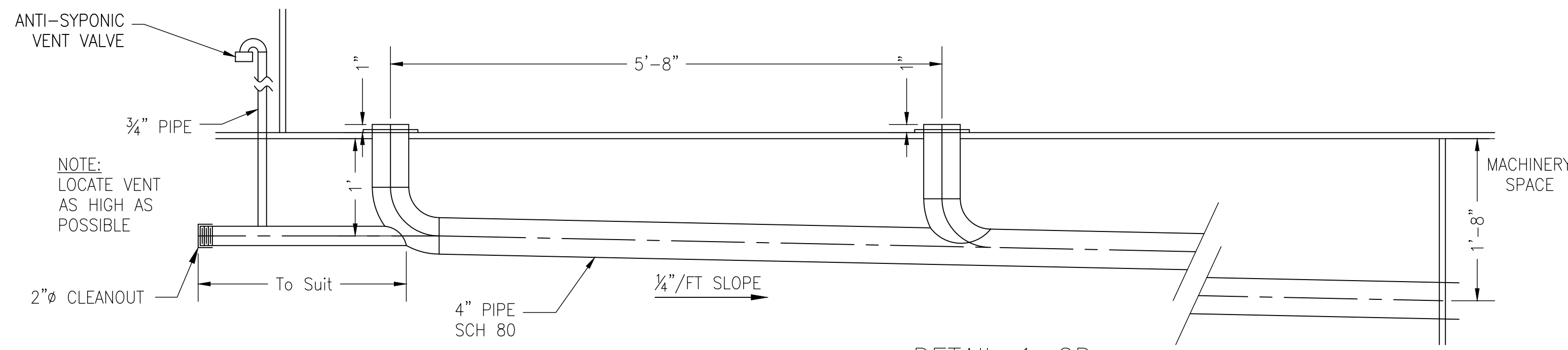
REVISIONS			
REV No.	DESCRIPTION	BY	DATE
1	ADDED MSD HOLDING TANK FOR ZERO DISCHARGE.	BTJ	5/23/16



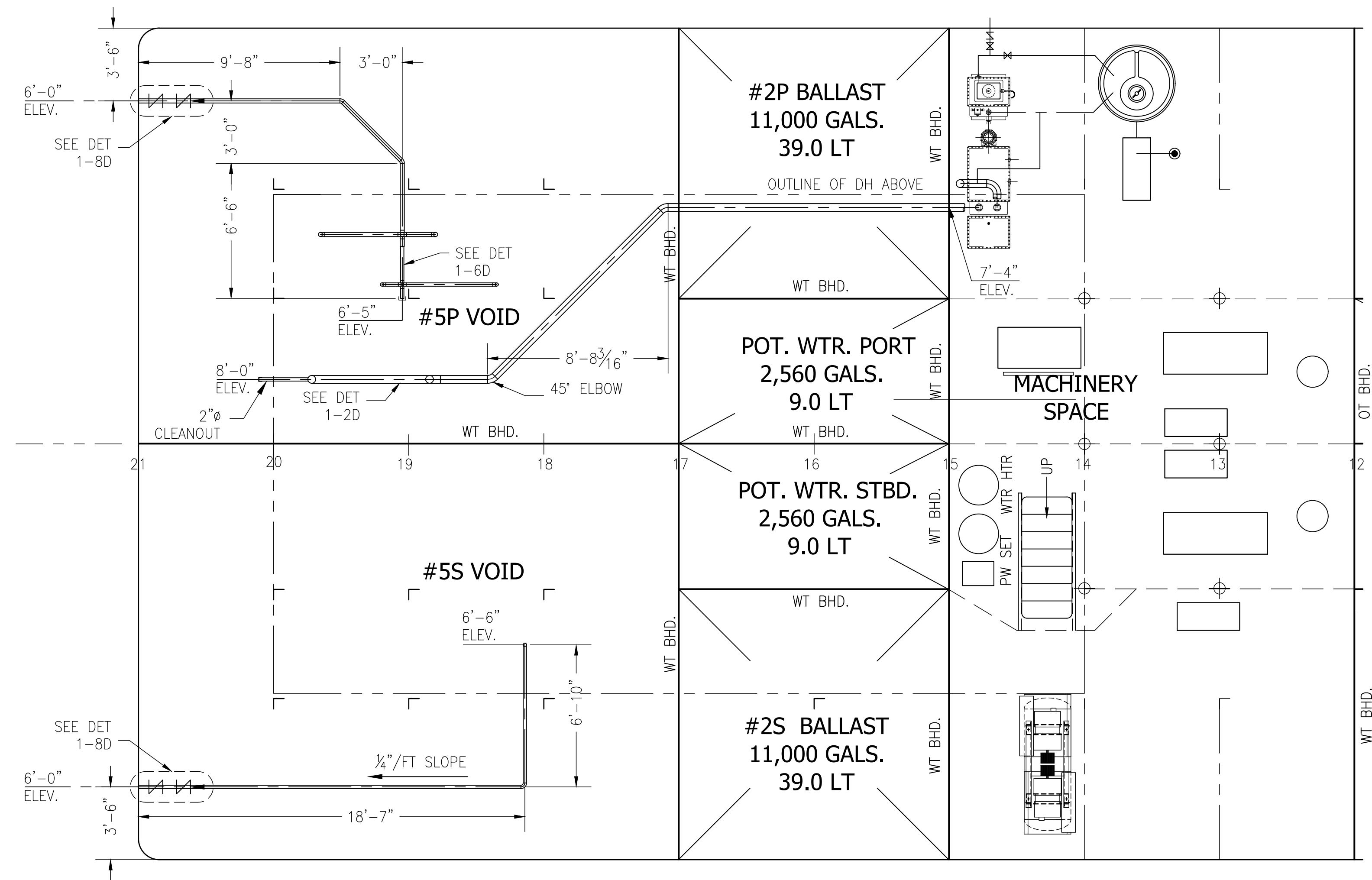
DETAIL 1-8D
OVERBOARD
SCALE: 1"=1'



DETAIL 1-6D
SANITARY DRAIN
SCALE: 1"=1'



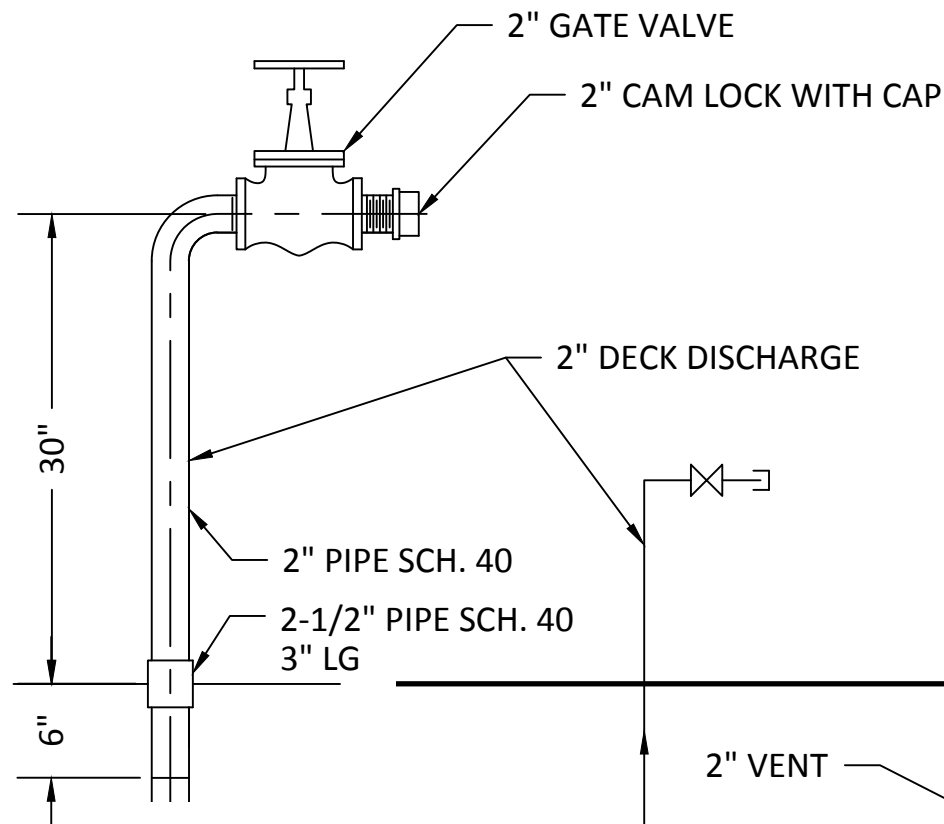
DETAIL 1-2D
WATER CLOSET DRAIN
SCALE: 1"=1'



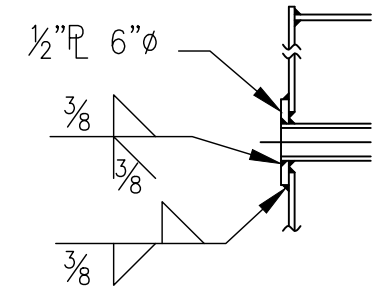
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FERRY DIVISION
SKYCO

SEWAGE & SANITARY
PIPING

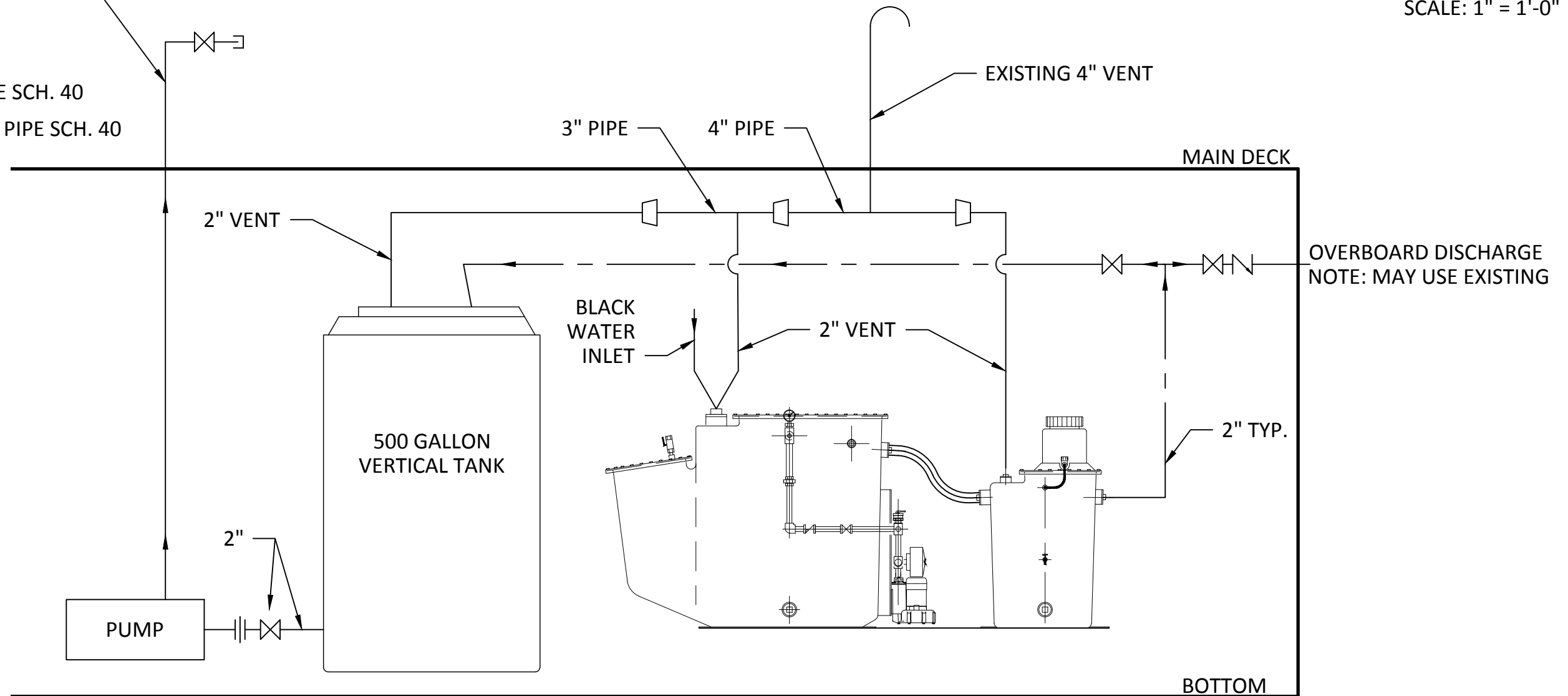
DWG BY: BTJ	APPROVED BY: JDW	SIZE D	PROJECT NO. 078	DWG NO. NC-140-22	REV 1
DATE: JUN. 23, 08	DATE APPROVED:	SCALE: 1/4" = 1'-0"		SHEET: 01 OF 02	



MAIN DECK
 DISCHARGE STATION
 SCALE: 1" = 1'-0"

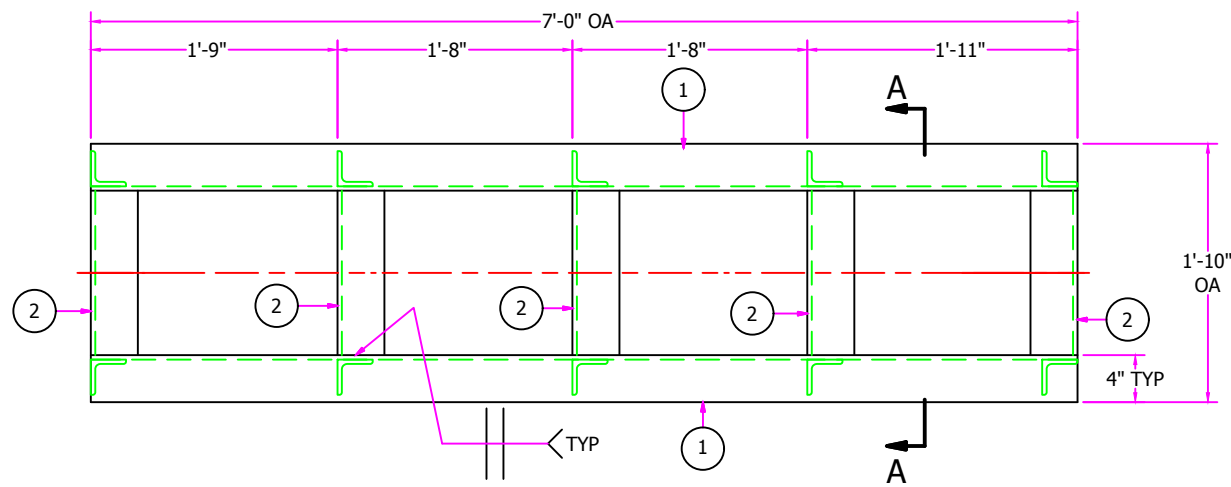


OVERBOARD DISCHARGE
 SCALE: 1" = 1'-0"

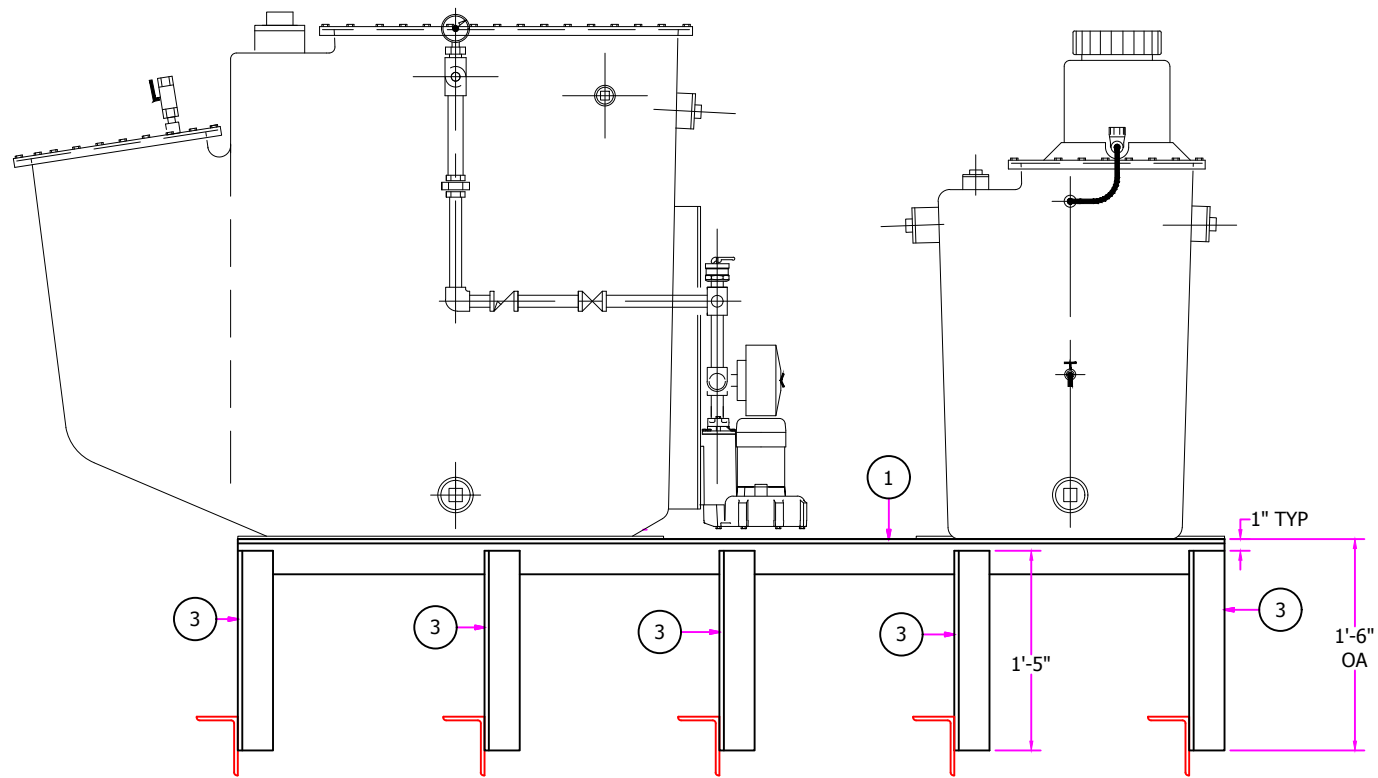


DWG. BY: BTJ	APPROVED BY: JDW	SIZE B	PROJECT NO. X	DWG NO. NC-140-22	REV 1
DATE: JUNE 13, 2016	DATE APPROVED:	SCALE: NOT TO SCALE		SHEET 2 OF 2	

PARTS LIST								
ITEM	QTY	PART NUMBER	KEYNOUN	DESCRIPTION	LENGTH	EXT	UNIT	
1	2		ANGLE	4.00X3.00X0.38 A36	7'-0"	14 ft	ft	
2	5		ANGLE	4.00X3.00X0.38 A36	1'-2"	5.83 ft	ft	
3	10		ANGLE	3.00X3.00X0.38 A36	1'-5"	13.75 ft	ft	

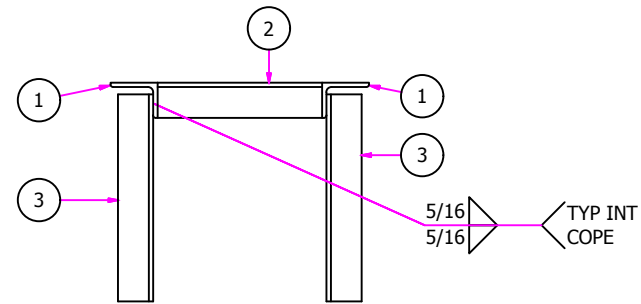
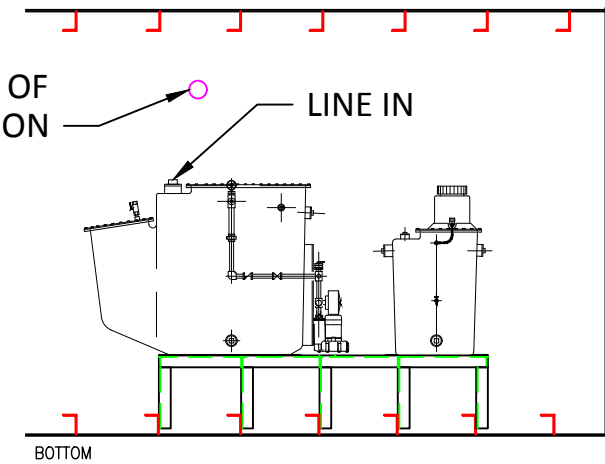


SCALE 3/4" = 1'-0"
PLAN

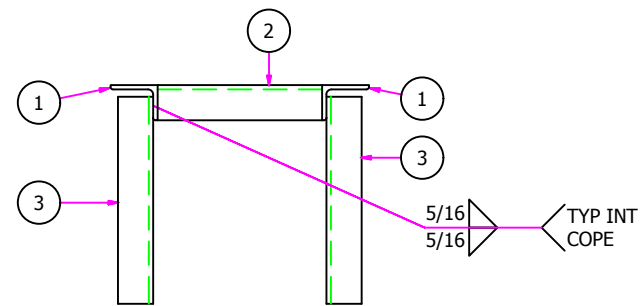
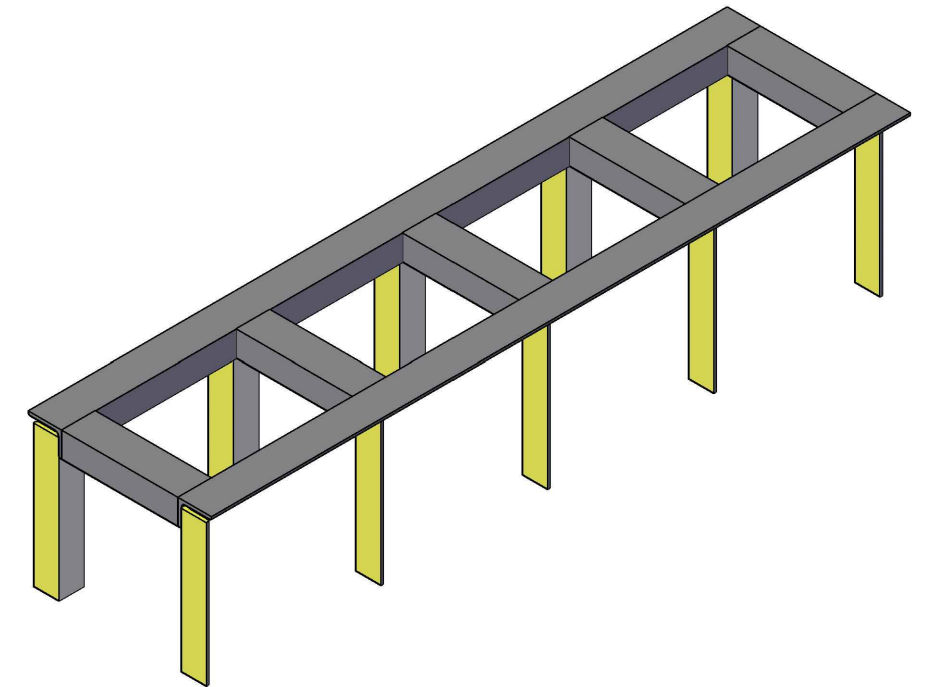


SIDE
SCALE 3/4" = 1'-0"

APPROXIMATE LOCATION OF
SEWAGE LINE BH PENETRATION




SECTION A-A
SCALE 3/4" = 1'-0"



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

GENERAL NOTES
VERTICAL SUPPORTS SHALL BE FITTED TO
BOTTOM STRUCTURE OF VESSEL. HEIGHT
MAY BE ADJUSTED TO SUIT INSTALLATION

 NORTH CAROLINA FERRY SYSTEM <small>5500 SHIPYARD RD. WAREHOUSES, NC 27683</small>		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FERRY DIVISION			
		SKYCO NEW M.S.D. FOUNDATION			
DWG. BY: BTJ	APPROVED BY: JDW	SIZE B	PROJECT NO. X	DWG NO. NC-140-22B	REV -
DATE: JUNE 13, 2016	DATE APPROVED:	SCALE AS NOTED		SHEET 1 OF 1	

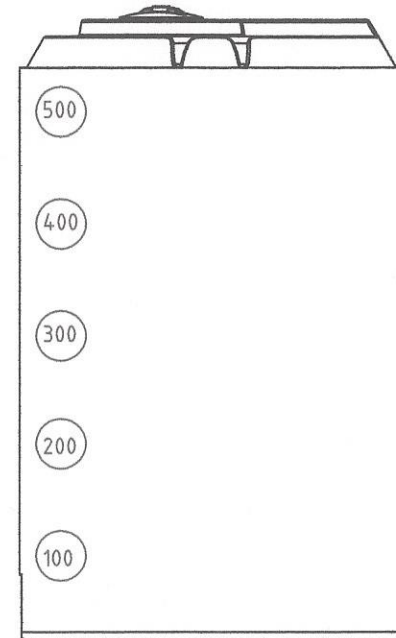
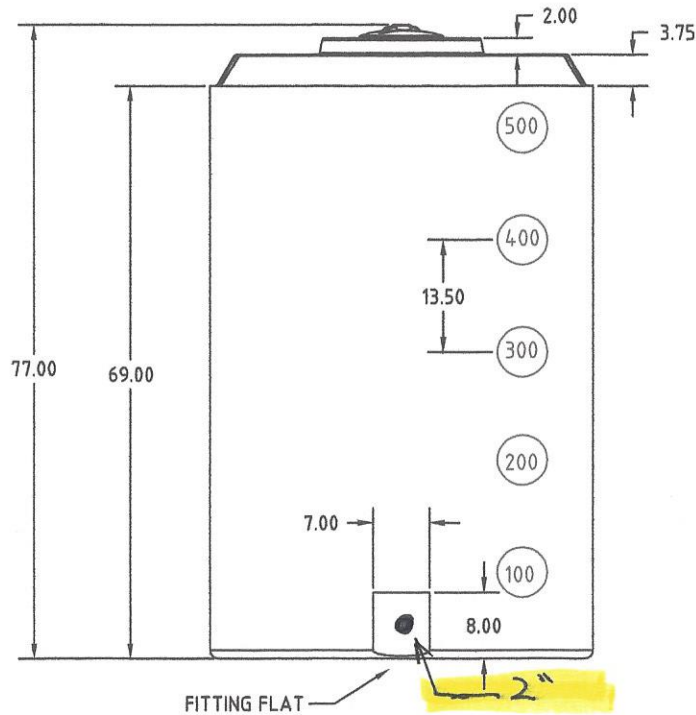
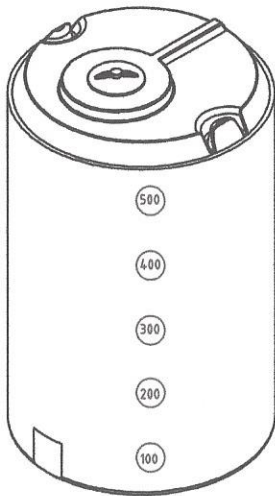
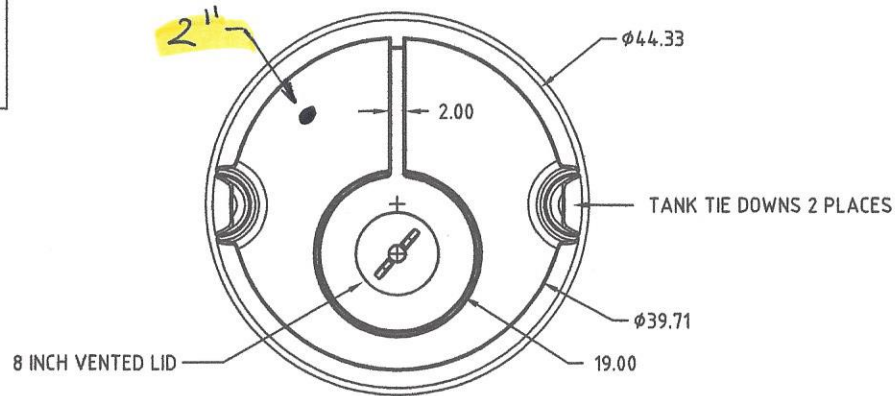
PROPRIETARY DATA

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VT0500-46

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				DRAWN / DATE NVE 8/19/05	MATERIAL
A	SPECIFIC GRAVITY REMOVED CCN 1679	6/16/08	ADH	APPRD. / DATE DHJ 9/21/05	HDPE OR EQUIVALENT REFERENCE MATERIAL DATA SHEET FOR SPECIFIC PROPERTIES.
REV	DESCRIPTION	DATE	APPRD		
ALL DIMENSIONS ARE IN DECIMAL INCHES TOLERANCES UNLESS OTHERWISE SPECIFIED \pm 1% @ 68° F				THIRD ANGLE PROJECTION ANSI 14.5M 	NOTES: 1. SHOT WEIGHT 118 LBS. 2. NOM. WALL @ .248

ACE ROTO-MOLD A DIVISION OF DEN HARTOG INDUSTRIES, INC. 4010 HOSPERS DRIVE SOUTH, BOX 425, HOSPERS, IS 51238	
CLIENT / DESCRIPTION 500 GALLON VERTICAL TANK	
SCALE N.S.	PART NO. VT0500-46