

Design Assumptions for
Nebraska Base Drawing(s) NE200-10-001 a,b,c & d
Rubber Tire Livestock Watering Tank

Drawing revised: 10/14

Rubber Tire Livestock Watering Tank

No design assumptions for these drawings.

Instructions for Nebraska Base Drawing(s) NE200-10-001(a,b,c & d) Rubber Tire Livestock Watering Tank

You have choice of three types of center plugs for your rubber tire tank.

Page 3 is tank with membrane center plug.

Page 4 is tank with steel plate center plug.

Page 5 is tank with concrete center plug.

Page 6 drawing shows appurtenances for your tank.

Fill in the blue data fields on this page to automatically fill in the titleblock areas on the drawings.

You will also need to complete form fill fields on desired drawings.

Left click on yellow boxes on drawing to mark with X as required for job.

Left click blue data fields to type in required information.

Title block

Title line(s)

Subtitle line

County, State

Who / When

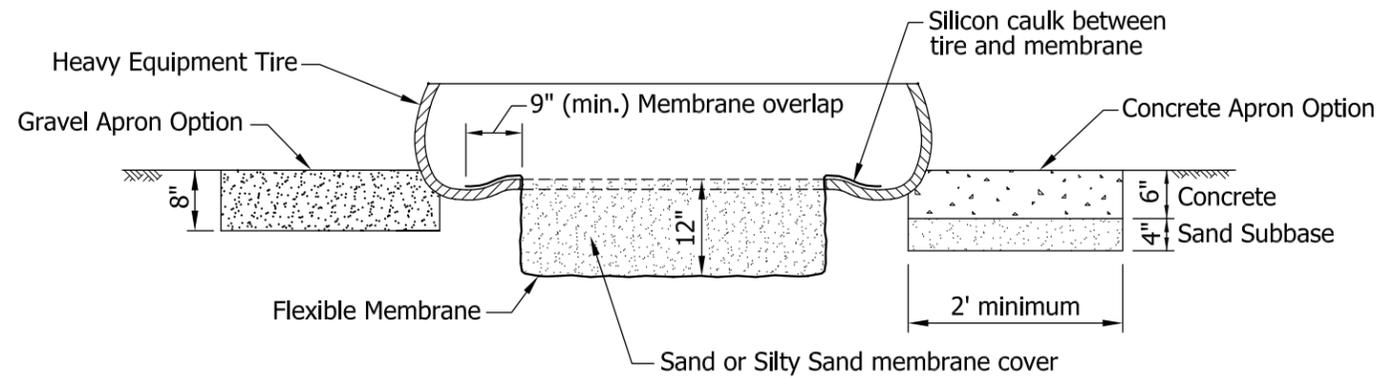
Designed

Drawn

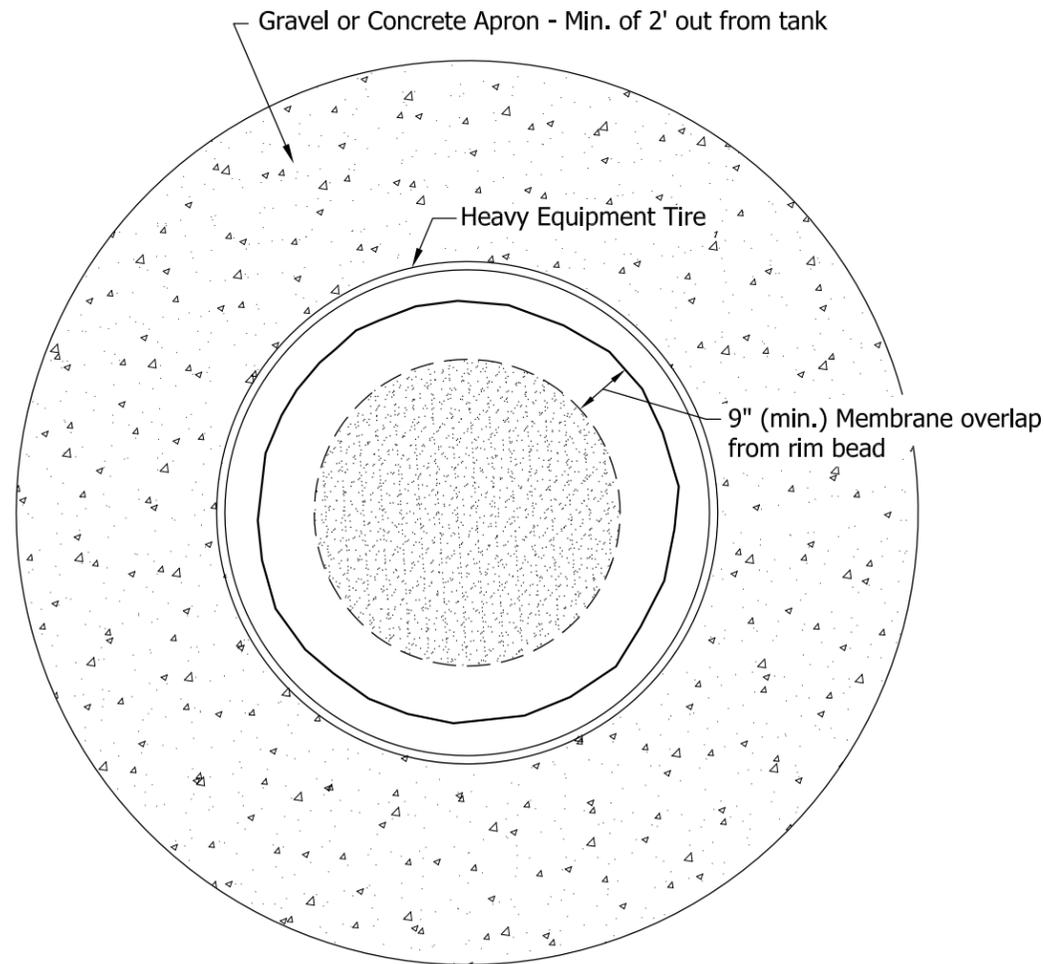
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CONSTRUCTION NOTES

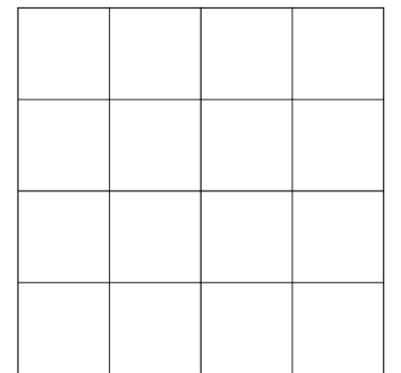
- Used tire casing shall be free of cuts, rips and holes. The tire shall not be worn beyond the tread depth. Minimum casing thickness shall be 2.5 inches.
- The flexible membrane shall be polyvinyl chloride, polyethylene, butyl rubber, or other similar material that is highly resistant to bacterial deterioration. The minimum nominal thickness of the membrane shall be:
 - Polyvinyl Chloride - 4 mils.
 - Polyethylene - 4 mils.
 - Butyl Rubber - 8 mils.
- The size of the flexible membrane shall be such that it will lie loosely on the subgrade (10% slack is desirable) and extend beyond the rim bead a minimum of 9 inches.
- The membrane shall be sealed to tire tank using silicon caulk (ASTM C920). The seal shall be at least 6 inches wide and continuous around the complete perimeter of the rim bead.
- The membrane shall be covered with approximately one foot of sand or silty sand to or slightly above the rim bead.
- The concrete apron (if applicable) must be constructed on a firm, well compacted foundation. A minimum 4 inch thick layer of sand subbase for the concrete will be used for soils classified as a CL, CH, ML, MH or CL-ML based on the Unified Classification System. All concrete shall have a minimum compressive strength of 3000 psi. at 28 days.
- A minimum of one escape ramp is required on all watering facilities. The ramp shall be securely attached to the top edge of tank; fully extends to the bottom of the tank; slope of 30° to 45°; extends to edge of tank to prevent "Swimming-Under"; and consist of a "Graspable" surface.



LIVESTOCK TANK ELEVATION



PLAN VIEW OF TANK INSTALLATION



LOCATION MAP

Sec. _____ T _____ R _____

B.M. Elev. _____

B.M. description _____

CONTRACTOR CERTIFICATION

THE PROJECT HAS BEEN CONSTRUCTED ACCORDING TO ALL APPROVED PLANS AND SPECIFICATIONS.

Contractor Signature _____ Date _____

MATERIALS

DIAMETER OF TIRE _____ FT.

MEMBRANE _____ SQ. FT.

TIRE TANK CAPACITY _____ GALLONS.

DRAIN OUTLET LENGTH _____ FT.
(IF APPLICABLE)

APRON MATERIAL (X in box used)

MATERIAL USED _____

CIRCULAR

SQUARE

NONE

APRON SIZE _____

QUANTITY _____ CU.YD.

WATER APPURTENANCES

HYDRANT WITH OVERFLOW

HYDRANT WITH FLOAT VALVE

CENTER FILL WITH FLOAT VALVE

HYDRANT GUARD (X in box used)

POST ASSEMBLY _____ BD.FT.

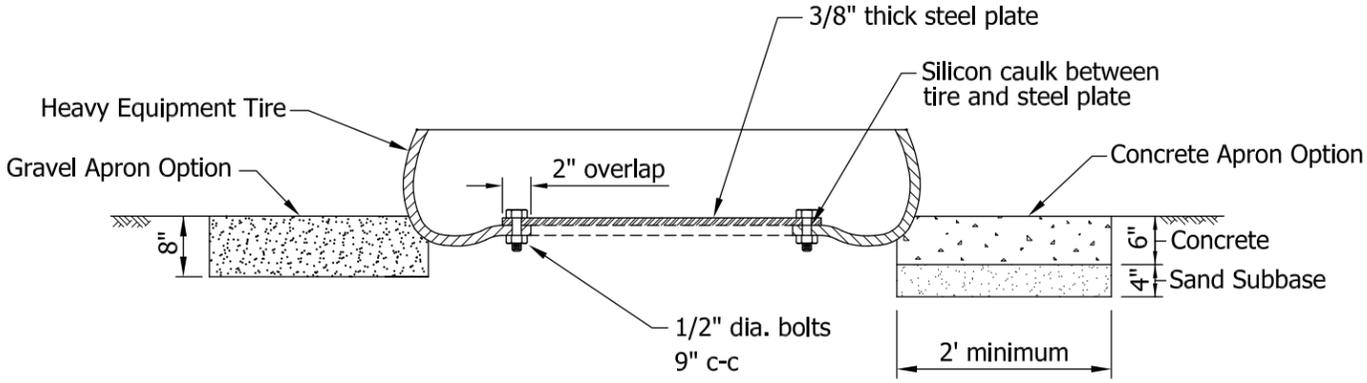
RAIL ASSEMBLY _____ BD.FT.

NONE

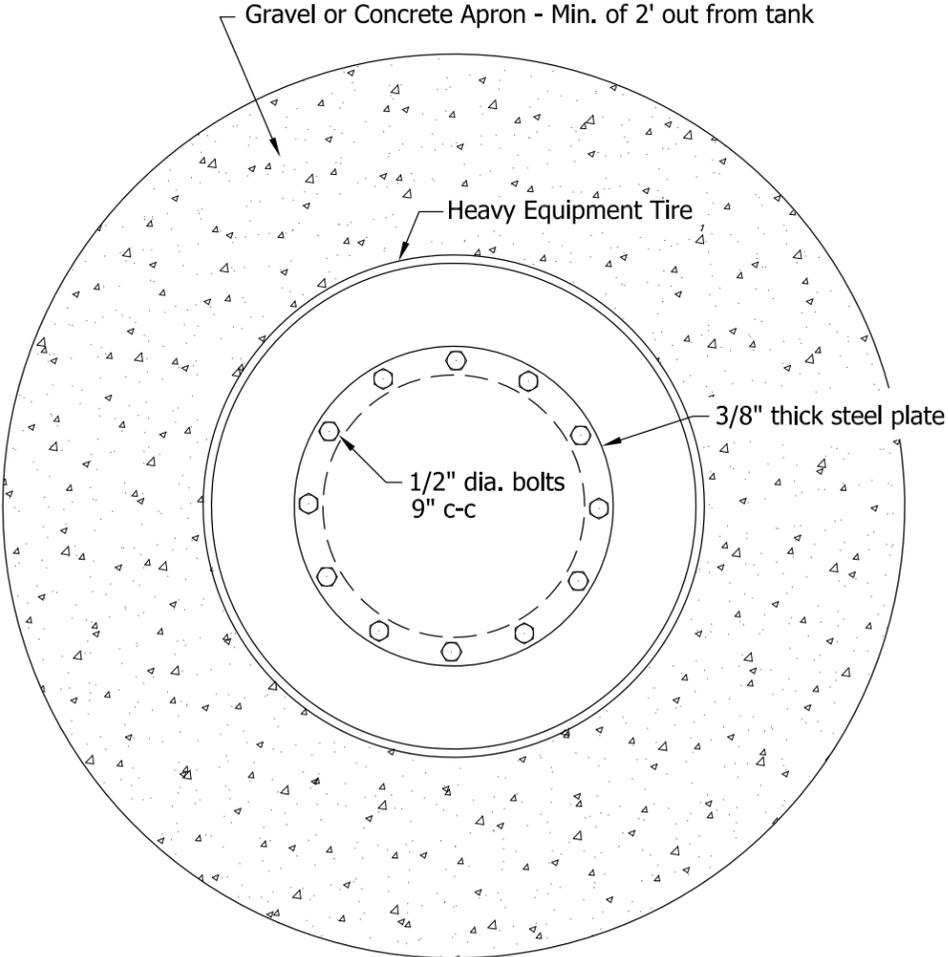
RUBBER TIRE LIVESTOCK WATERING TANK WITH MEMBRANE CENTER PLUG

CONSTRUCTION NOTES

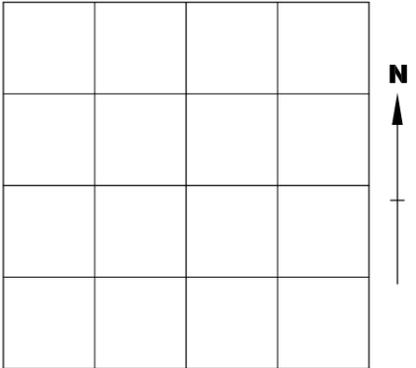
1. Used tire casing shall be free of cuts, rips and holes. The tire shall not be worn beyond the tread depth. Minimum casing thickness shall be 2.5 inches.
2. The 3/8" thick steel plate will extend past the inside edge of the rim bead a minimum of 2 inches. The plate will be bolted to the tire with 1/2" dia. galvanized bolts on 9" centers.
3. Silicon caulk (ASTM C920) will be applied to the tire bead prior to bolting the plate to the tire.
4. The concrete apron (if applicable) must be constructed on a firm, well compacted foundation. A minimum 4 inch thick layer of sand subbase for the concrete will be used for soils classified as a CL, CH, ML, MH or CL-ML based on the Unified Classification System. All concrete shall have a minimum compressive strength of 3000 psi. at 28 days.
5. A minimum of one escape ramp is required on all watering facilities. The ramp shall be securely attached to the top edge of tank; fully extends to the bottom of the tank; slope of 30° to 45°; extends to edge of tank to prevent "Swimming-Under"; and consist of a "Graspable" surface.
6. A minimum of one escape ramp is required on all watering facilities. The ramp shall be securely attached to the top edge of tank; fully extends to the bottom of the tank; slope of 30° to 45°; extends to edge of tank to prevent "Swimming-Under"; and consist of a "Graspable" surface.



LIVESTOCK TANK ELEVATION



PLAN VIEW OF TANK INSTALLATION



LOCATION MAP

Sec. _____ T _____ R _____
 B.M. Elev. _____
 B.M. description _____

CONTRACTOR CERTIFICATION

THE PROJECT HAS BEEN CONSTRUCTED ACCORDING TO ALL APPROVED PLANS AND SPECIFICATIONS.

 Contractor Signature _____ Date _____

MATERIALS

DIAMETER OF TIRE _____ FT.
 STEEL PLATE _____ LBS.
 (3/8" Steel Plate weights 13.81 lb./ft.)
 TIRE TANK CAPACITY _____ GALLONS.
 DRAIN OUTLET LENGTH _____ FT.
 (IF APPLICABLE)
 APRON MATERIAL (X in box used)
 MATERIAL USED _____
 CIRCULAR
 SQUARE
 NONE
 APRON SIZE _____
 QUANTITY _____ CU.YD.

WATER APPURTENANCES

HYDRANT WITH OVERFLOW
 HYDRANT WITH FLOAT VALVE
 CENTER FILL WITH FLOAT VALVE

HYDRANT GUARD (X in box used)

POST ASSEMBLY _____ BD.FT.
 RAIL ASSEMBLY _____ BD.FT.
 NONE

RUBBER TIRE LIVESTOCK WATERING TANK WITH STEEL PLATE CENTER PLUG

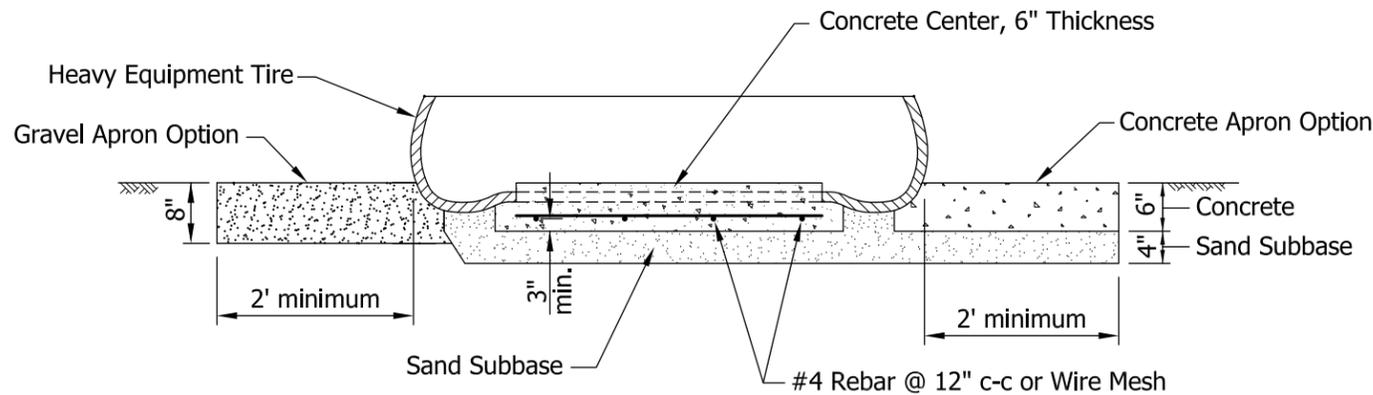
Date _____
 Designed _____
 Drawn _____
 Checked _____
 Approved _____



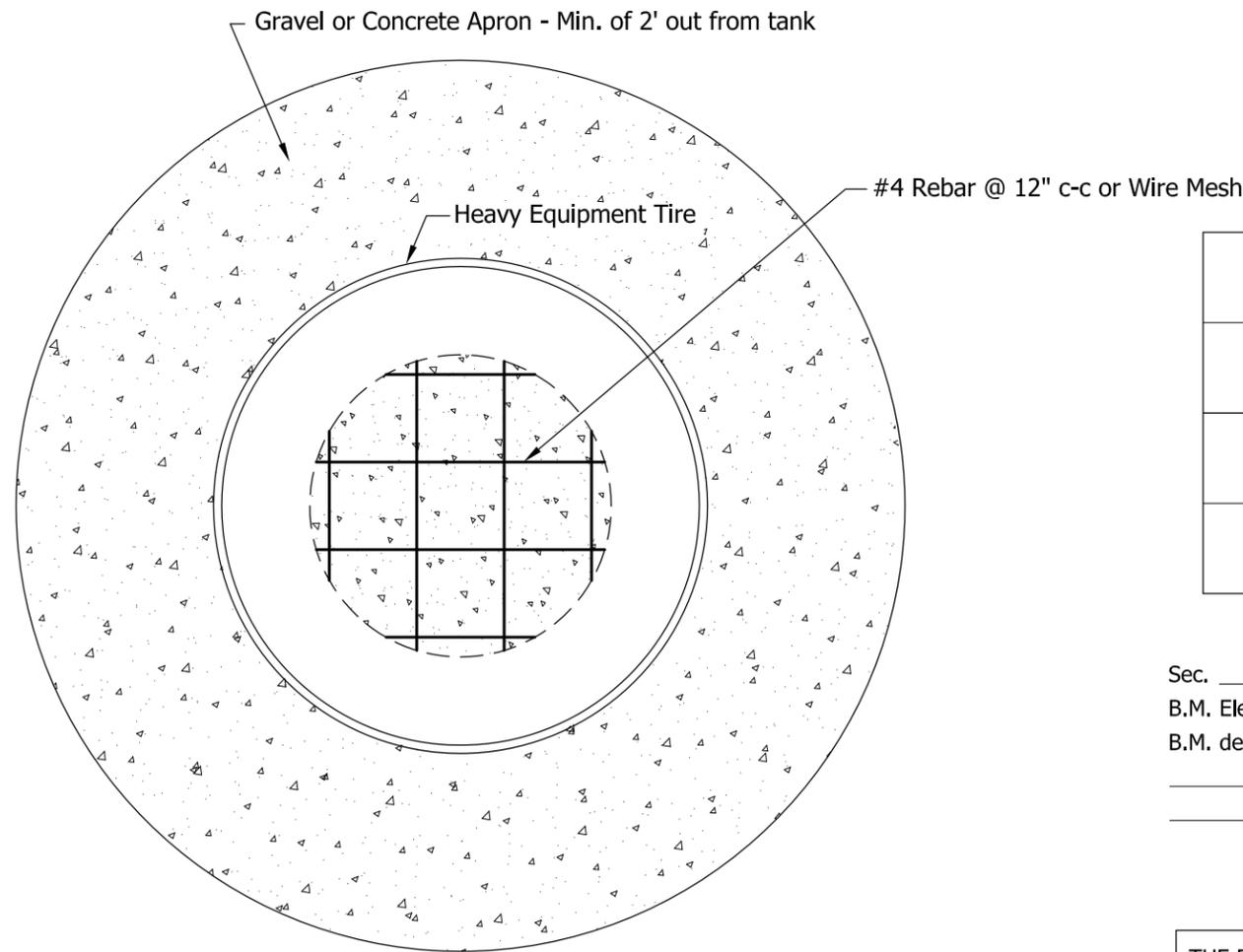
File No. _____
 CAD Dwg. NE200-10-001b.dwg
 Sheet _____ of _____

CONSTRUCTION NOTES

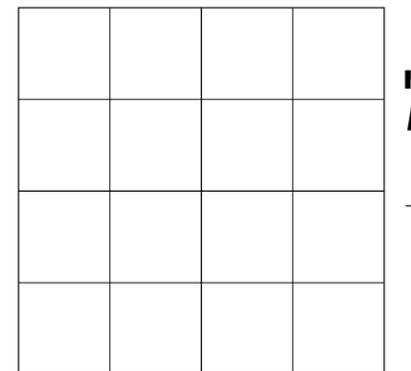
1. Used tire casing shall be free of cuts, rips and holes. The tire shall not be worn beyond the tread depth. Minimum casing thickness shall be 2.5 inches.
2. The concrete center plug and concrete apron (if applicable) must be constructed on a firm, well compacted foundation. A minimum 4 inch thick layer of sand subbase for the concrete will be used for soils classified as a CL, CH, ML, MH or CL-ML based on the Unified Classification System.
3. It is recommended that immediately after placing concrete for the center plug the tire is filled with water to a 1.5 inch depth above the concrete. Care should be taken to not disturb the concrete while water is being added to the tire.
4. All concrete shall have a minimum compressive strength of 3000 psi at 28 days.
5. Rebar will be cut to a length which will not extend past the rim bead or 3 inches from the outside edge of the concrete center plug, whichever is less.
6. W5x3, W7x4 or W10x6 wire mesh can be substituted for #4 rebar.
7. A minimum of one escape ramp is required on all watering facilities. The ramp shall be securely attached to the top edge of tank; fully extends to the bottom of the tank; slope of 30° to 45°; extends to edge of tank to prevent "Swimming-Under"; and consist of a "Graspable" surface.



LIVESTOCK TANK ELEVATION



PLAN VIEW OF TANK INSTALLATION



LOCATION MAP

Sec. _____ T _____ R _____

B.M. Elev. _____

B.M. description _____

CONTRACTOR CERTIFICATION

THE PROJECT HAS BEEN CONSTRUCTED ACCORDING TO ALL APPROVED PLANS AND SPECIFICATIONS.

Contractor Signature _____ Date _____

MATERIALS

DIAMETER OF TIRE _____ FT.

TIRE TANK CAPACITY _____ GALLONS.

DRAIN OUTLET LENGTH _____ FT.
(IF APPLICABLE)

CONCRETE _____ CU.YD.

#4 REBAR _____ LB.
(#4 bar weight = 0.668 lb./ft.)

APRON MATERIAL (X in box used)

MATERIAL USED _____

CIRCULAR

SQUARE

NONE

APRON SIZE _____

QUANTITY _____ CU.YD.

WATER APPURTENANCES

HYDRANT WITH OVERFLOW

HYDRANT WITH FLOAT VALVE

CENTER FILL WITH FLOAT VALVE

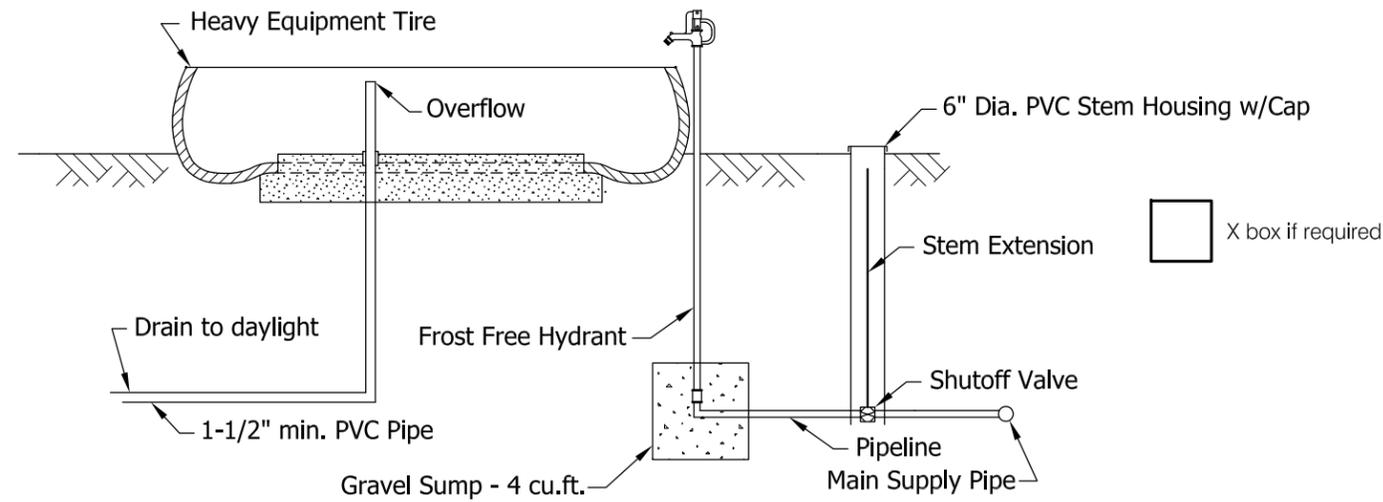
HYDRANT GUARD (X in box used)

POST ASSEMBLY _____ BD.FT.

RAIL ASSEMBLY _____ BD.FT.

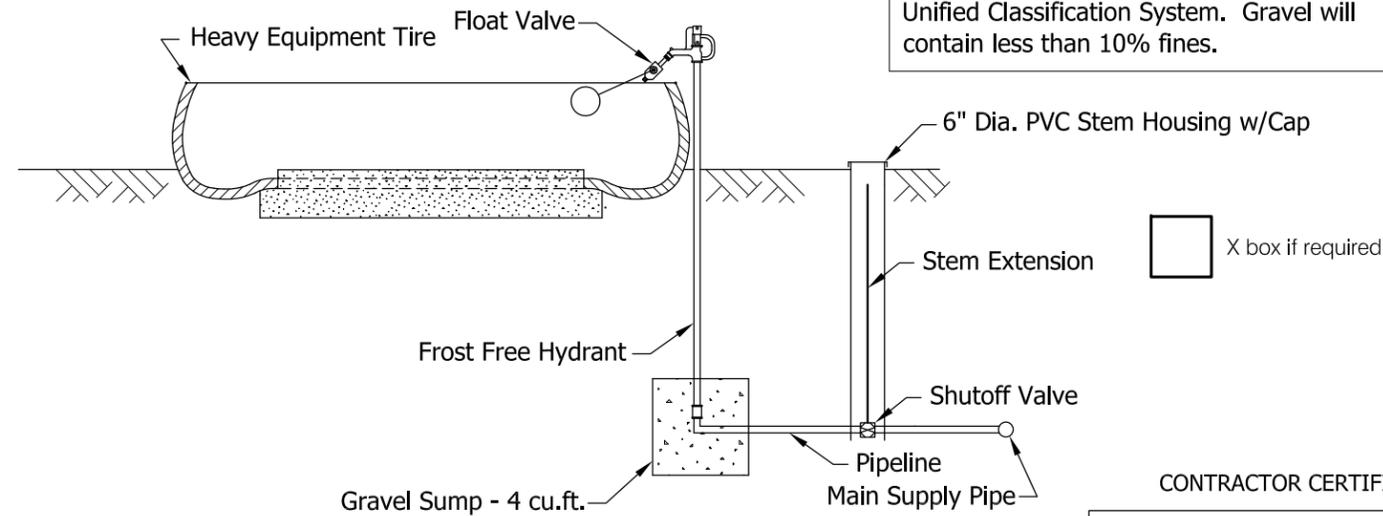
NONE

RUBBER TIRE LIVESTOCK WATERING TANK WITH CONCRETE CENTER PLUG



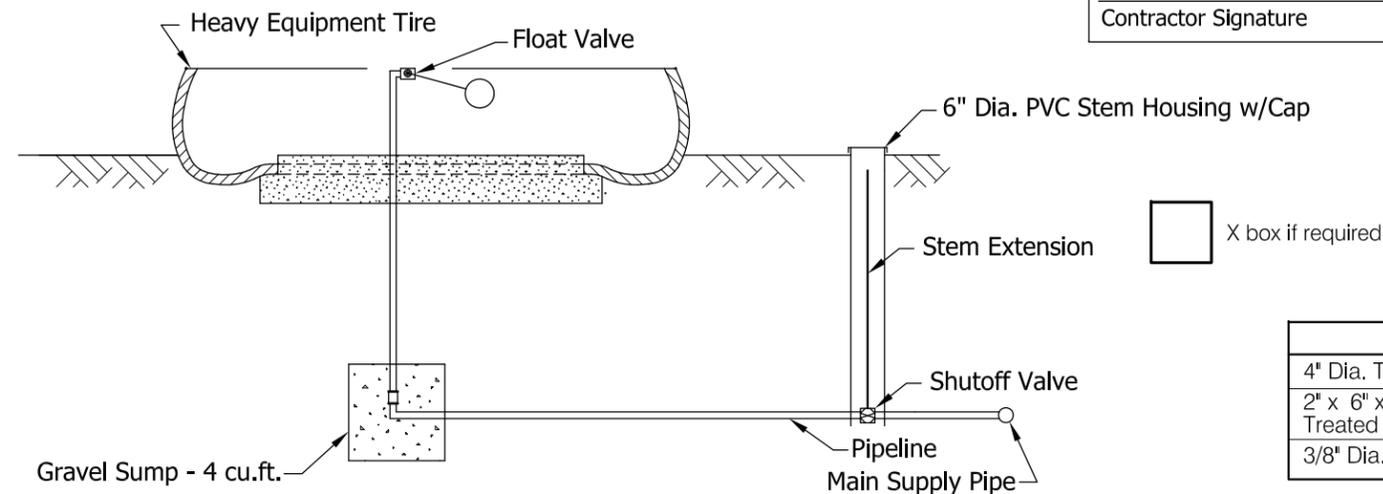
HYDRANT WITH OVERFLOW PIPE

Note:
Gravel sumps are required for soils classified as a CL, CH, ML, MH or CL-ML based on the Unified Classification System. Gravel will contain less than 10% fines.

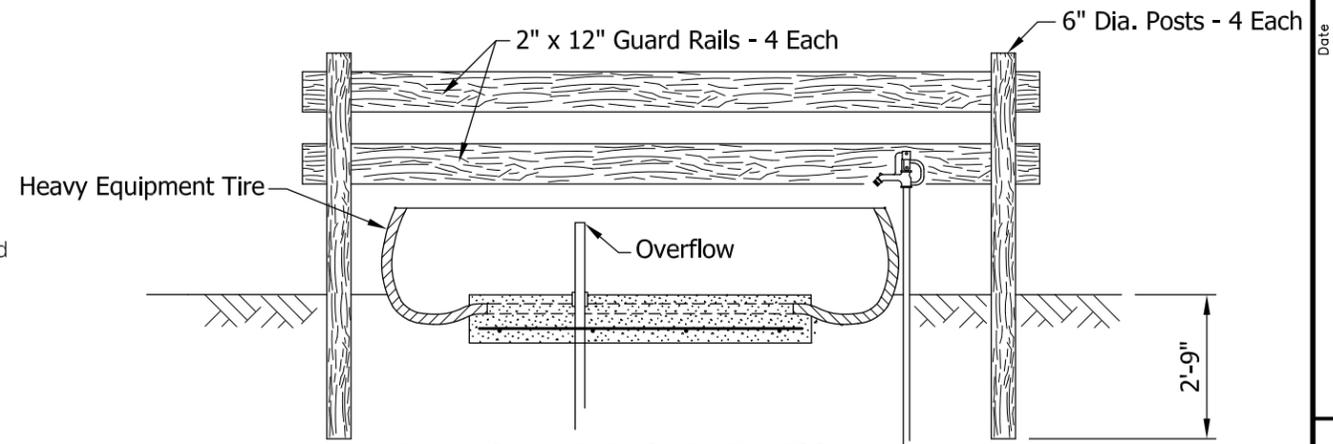


HYDRANT WITH FLOAT VALVE

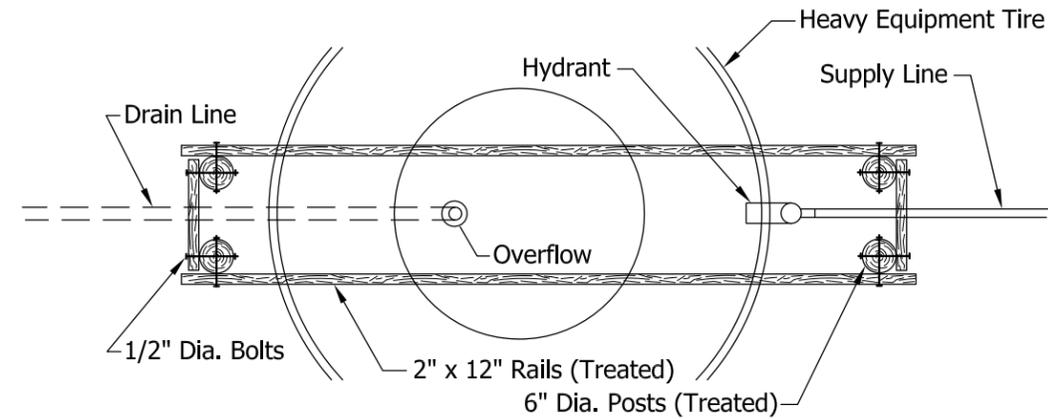
CONTRACTOR CERTIFICATION
THE PROJECT HAS BEEN CONSTRUCTED ACCORDING TO ALL APPROVED PLANS AND SPECIFICATIONS.
Contractor Signature _____ Date _____



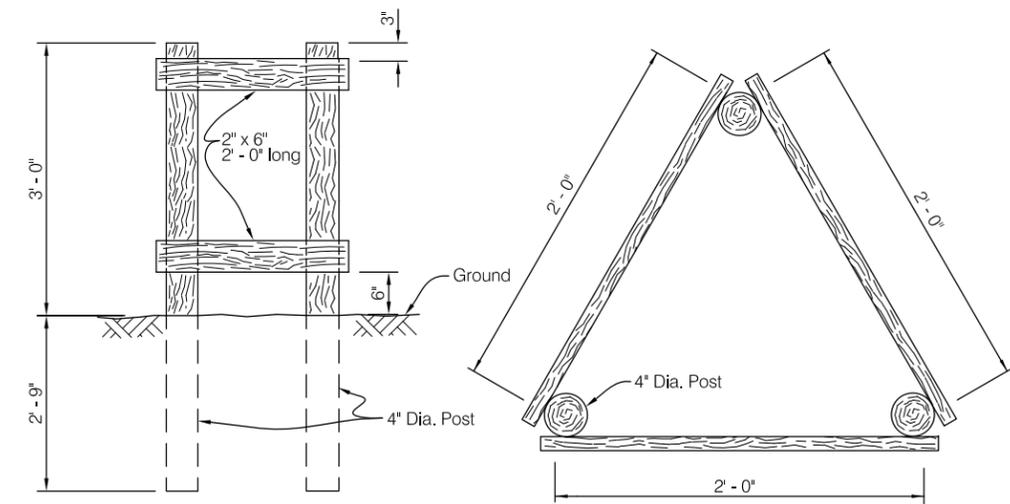
CENTER FILL WITH FLOAT VALVE



TANK GUARD RAIL ELEVATION



TANK GUARD PLAN VIEW



ELEVATION PLAN VIEW GUARD POST ASSEMBLY

TABLE OF QUANTITIES GUARD POST ASSEMBLY

ITEM	UNIT	QUANTITY
4" Dia. Treated timber post	each	3
2" x 6" x 2' - 0" long, Treated timber	each	6
3/8" Dia., 4" long lag screws	each	24

TABLE OF QUANTITIES GUARD RAIL ASSEMBLY

ITEM	UNIT	QUANTITY
6" Dia. Treated timber post	each	4
2" x 12" x _____ long, and 2" x 12" x _____ long Treated timber	each	4
3/8" Dia., 8" long carriage bolts	each	32

WATERING FACILITY APPURTENANCES