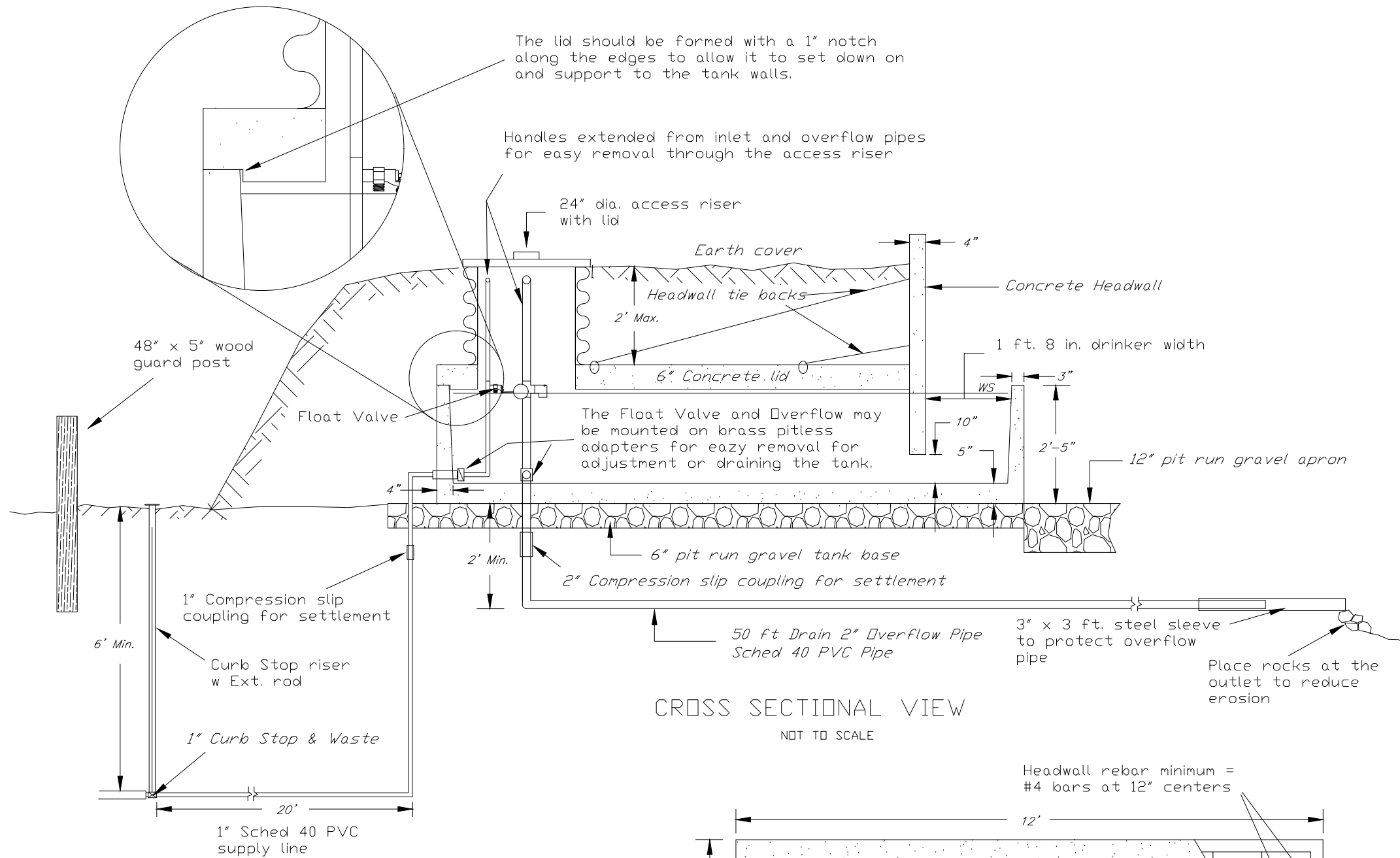
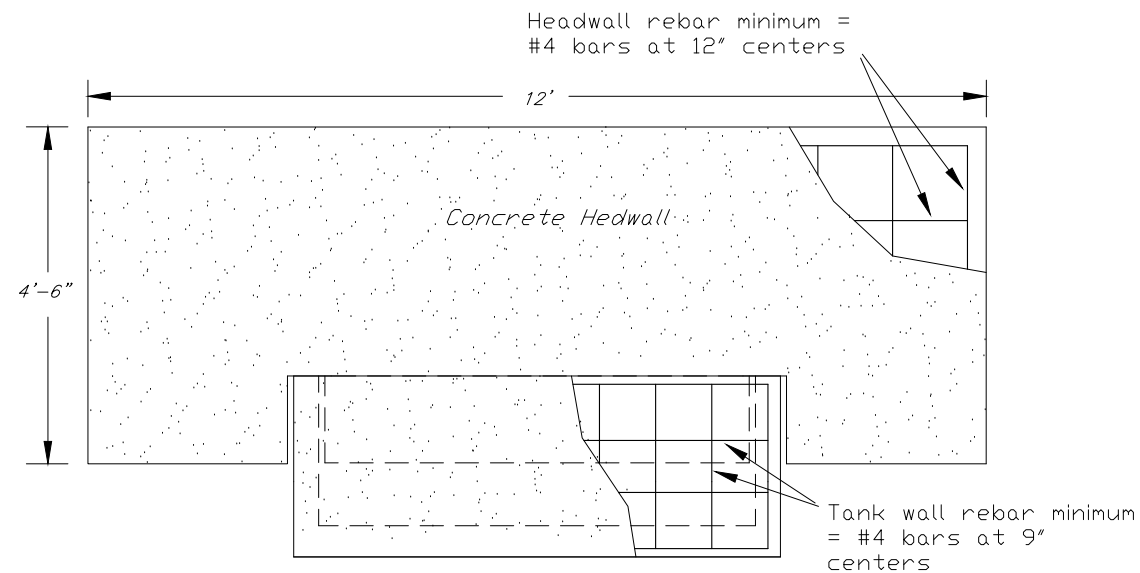




CROSS SECTIONAL VIEW
NOT TO SCALE



END VIEW
NOT TO SCALE

Date _____

Designed _____

Checked _____

Approved _____

WINTER CONCRETE TANK, 1100 GALLONS

OWNER: _____

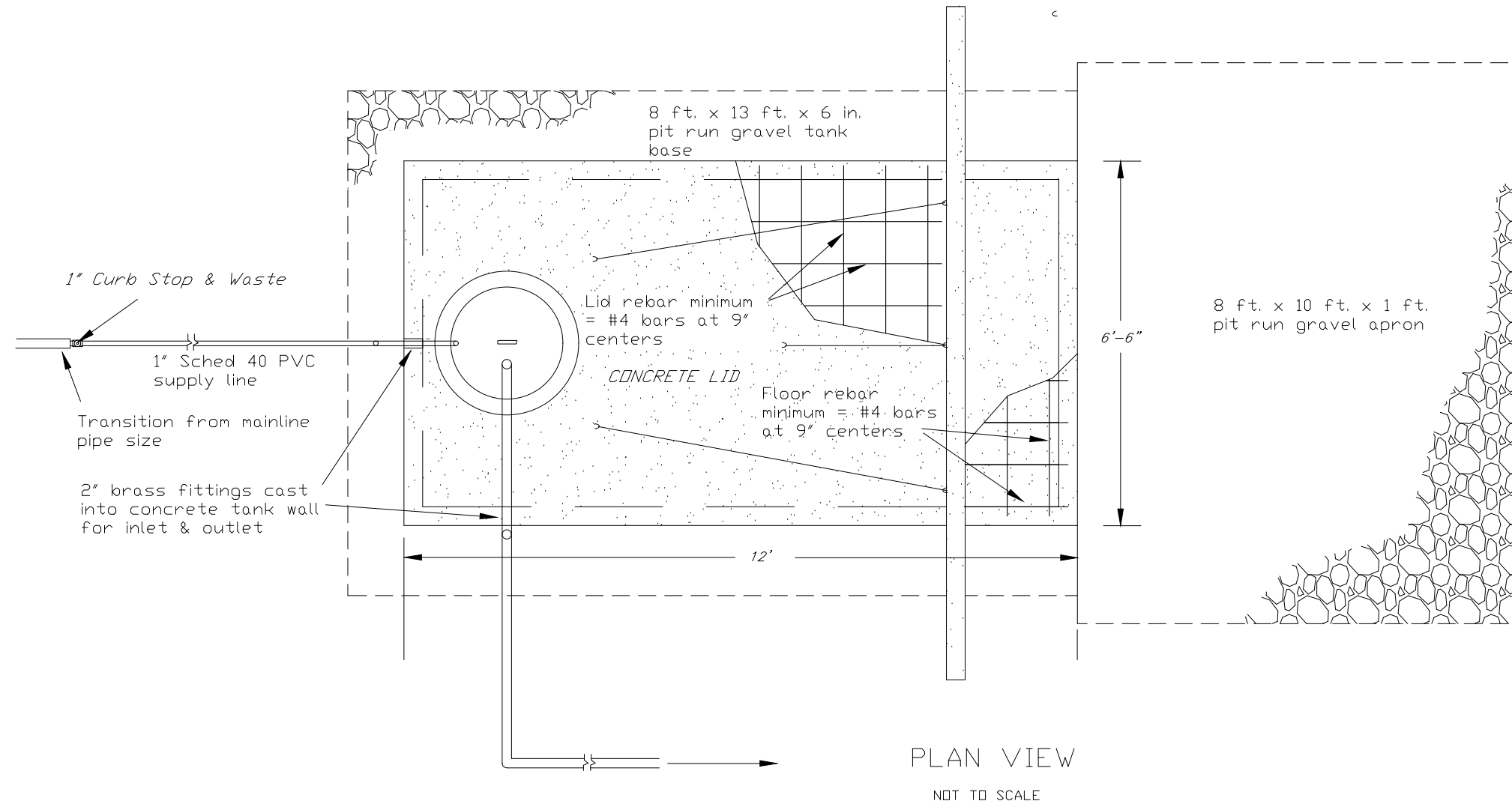
COUNTY: _____



Drawing Number
ND-DWG-109a

Date _____

Sheet _____ of _____



Note

All concrete and reinforcing steel shall meet the requirements of construction specification. Unless otherwise specified in the special provisions, concrete shall be Class 4000 (psi), and air entrained. Concrete walls and floor shall be placed (poured) at the same time. Minimum floor and wall thickness are specified below:

Floors: (maximum width or length - 15 feet)
Min. 5 inches thick - #3 bars of 60ksi steel at 9-inch centers.

Walls: (maximum height 36 inches)
4 inches thick tapered to 3 inches - #3 bars at 9-inch centers
5 inches thick - #4 bars at 12-inch centers.
6 inches thick - #4 bars at 9-inch centers.

Lid:
6 inches thick - #4 bars at 9-inch centers.

Hedwall:
4 inches thick - #4 bars at 12-inch centers

Reinforcing bars shall be made of 60,000 ksi steel and shall be bent and spliced so they are continuous in the floor and walls. Splice lengths shall be a minimum of 21 inches. Wall and floor thickness and steel configuration for concrete tank or trough components NOT meeting these minimums require appropriate structural analysis by NRCS engineering staff.

Note:

1. All tanks shall be pre approved pre-cast concrete w/steel reinforcing. The tank manufacturer has to confirm construction is to NRCS Specifications.
2. All inlet and outlet fittings shall be cast into the forms.
3. The overflow pipe shall be removeable for drainage of the tank.
4. The tank shall be placed on a level of 6" compacted gravel base.
5. The tank, materials, and installation Must meet NRCS Standards and Specifications and according to the tank manufacturers recommendations. Any variations must be approved by NRCS.
6. When ordering the concrete tank from an approved Supplier, specify the location of the inlet and outlet. The inlet and outlet must be 2" dia. min.
7. Tank installation should be fenced to exclude livestock from degrading the earth fill over the tank or increasing the cover load on the tank.

Date _____
Designed _____
Checked _____
Approved _____

WINTER CONCRETE TANK, 1100 GALLONS
POURED IN PLACE

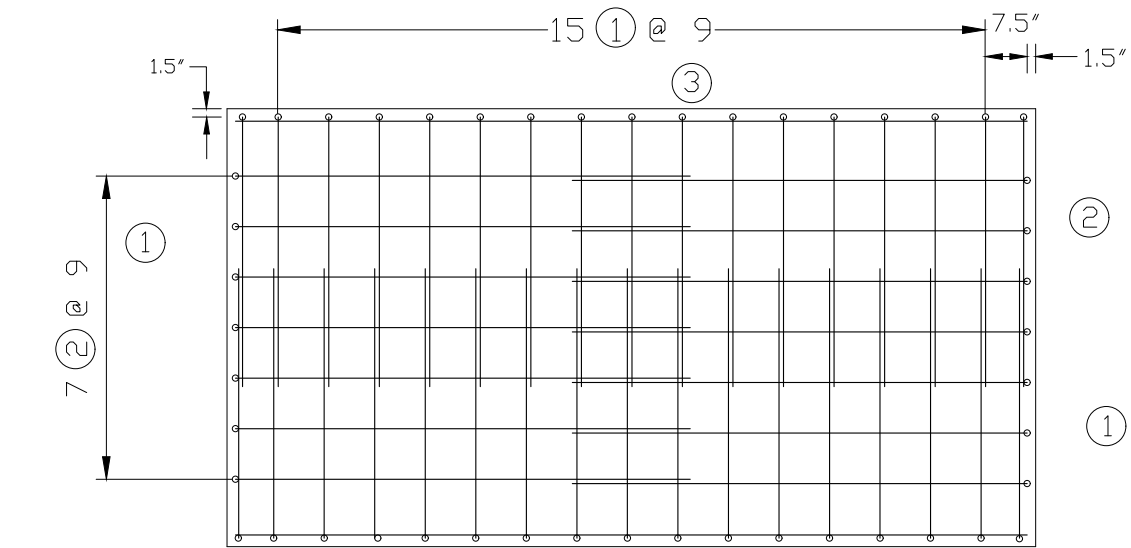
OWNER: _____
COUNTY: _____



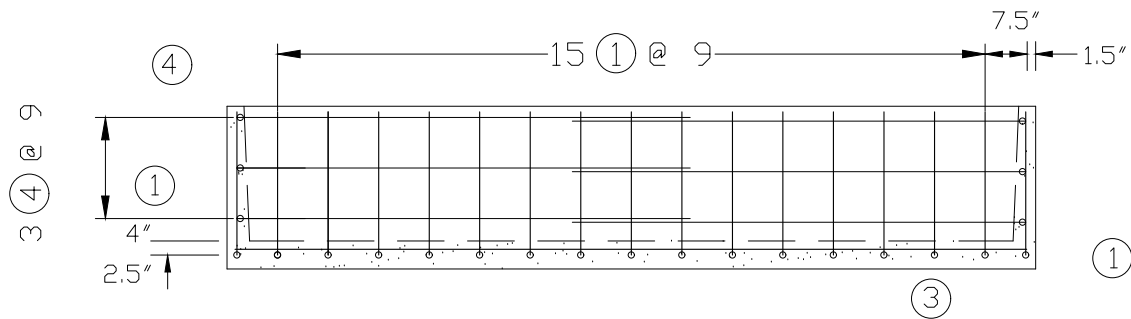
Drawing Number
ND-DWG-109b

Date _____

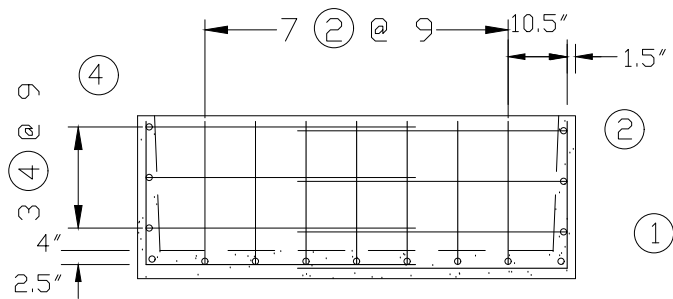
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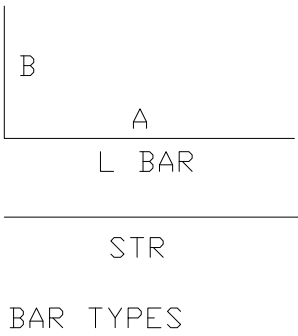
TANK BOTTOM



TANK SIDE WALL



TANK END WALL



BAR TYPES

REBAR SCHEDULE TANK								
Mark	Location	No. of Bars	Bar Type	Bar Size	Bar Length	A	B	Total Length
1	Floor/Wall	34	L	3	6-1	4-0	2-1	206'-10"
2	Floor/Wall	14	L	3	8-10	6-9	2-1	123'-8"
3	Floor	2	STR	3	11-9			23'-6"
4	Walls	12	L	3	10-9	6-9	4-0	129'-0"
							TOTAL	483'-0"

Bars Shall Be Spliced a minimum of 21"
Mark ① and Mark ② Bars are on the outside
face of the walls

TOTAL WEIGHT 181.6 LBS

WINTER CONCRETE TANK, 1100 GALLONS
STEEL REINFORCEMENT

OWNER: _____
COUNTY: _____

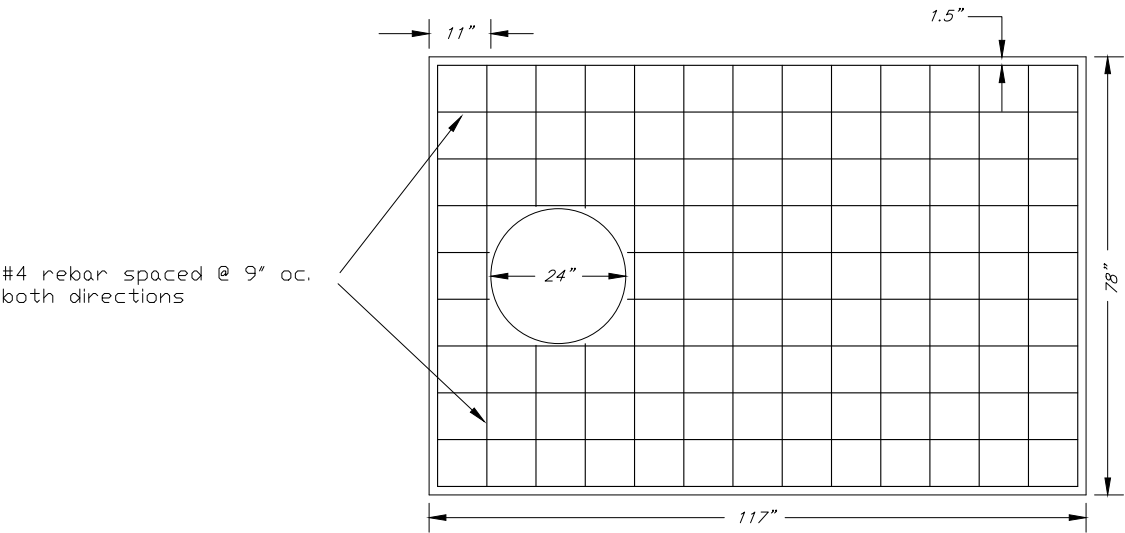
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Date _____



Drawing Number
ND-DWG-109c

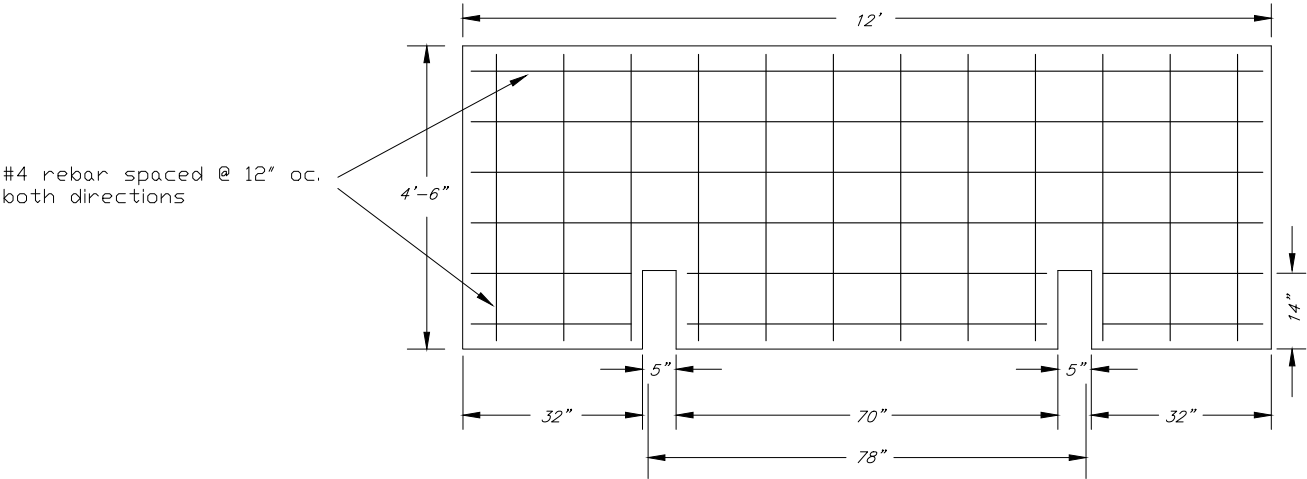
Date

Sheet of



#4 rebar spaced @ 9" oc.
both directions

LID - REBAR



#4 rebar spaced @ 12" oc.
both directions

HEADWALL - REBAR

CONCRETE VOLUME	
Description	Cu. Yd.
Lid	1.1
Headwall	.5
Tank	2
Total Cu. Yd.	3.6

REBAR SCHEDULE - HEADWALL & LID				
Quantity	Description	Size & Spacing	Length	Total Length
6	headwall horizontal bars	#4 @ 12"	11-9	70'-6"
12	headwall vertical bars	#4 @ 12"	4-3	51'
10	lid longer bars	#4 @ 9"	9-6	95'
14	lid short bars	#4 @ 9"	6-3	87'-6"
			Total	304 ft.

WINTER CONCRETE TANK, 1100 GALLONS
LID - HEADWALL

OWNER: _____
COUNTY: _____

Designed _____
Checked _____
Approved _____
Date _____



Drawing Number
ND-DWG-109d

Date

Sheet of