

# *Casa de Dios*

## Ventilated Improved Pit Latrine



## *Construction Plans*

In Association with Baja Christian Ministries [www.bajachristian.org](http://www.bajachristian.org)  
Rev. December 1, 2004

Downloads (PDF) available on-line at [www.teamcasa.org](http://www.teamcasa.org)

Also available – Casa House plans – Casita Plans

Special Thanks to Hector Rubio for his service and help in creating these plans.

CAD files available upon request.

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## Notes For Latrine Construction Plans

1. IMPORTANT Note: As the most common dimension for block is 8"x8"x16", I have added a course layout for this block size. If a different size of block is used, adjust the course layout to insure proper inside dimensions. Detail 2 - 3
2. The latrine should be orientated so the vent pipe is facing the equator (South in Mexico). This one of the most important features as the block (DO NOT PAINT THE VENT PIPE) ABS pipe must be heated by the sun to promote ventilation.
3. The ABS vent pipe must be at least 3 1/2". The larger the better, however, the hole in the concrete cap should not be any larger than 4".
4. The entire vent must stay on the outside of the latrine to permit good heating by the sun.
5. The pit should be as deep as manpower and or money can provide.
6. If the soil is hard clay, it will fill much faster. This soil will not require as many courses of block.
7. If the soil is sandy, then the block should go as deep as possible.
8. Use mortar sparingly on the lower courses or leave hole in the block as to allow for liquid to pass into the lower levels of the soil.
9. Make sure the mortar is good and tight for the top five or six courses. This will prevent liquids from seeping into the topsoil around the latrine.
10. Latrine framing can be nailed to the cap via RAMSET (powdered actuated nailer) type nailer or bolts can be cast into the cap.
11. Toilet risers are available from Fiberfab in Azusa CA

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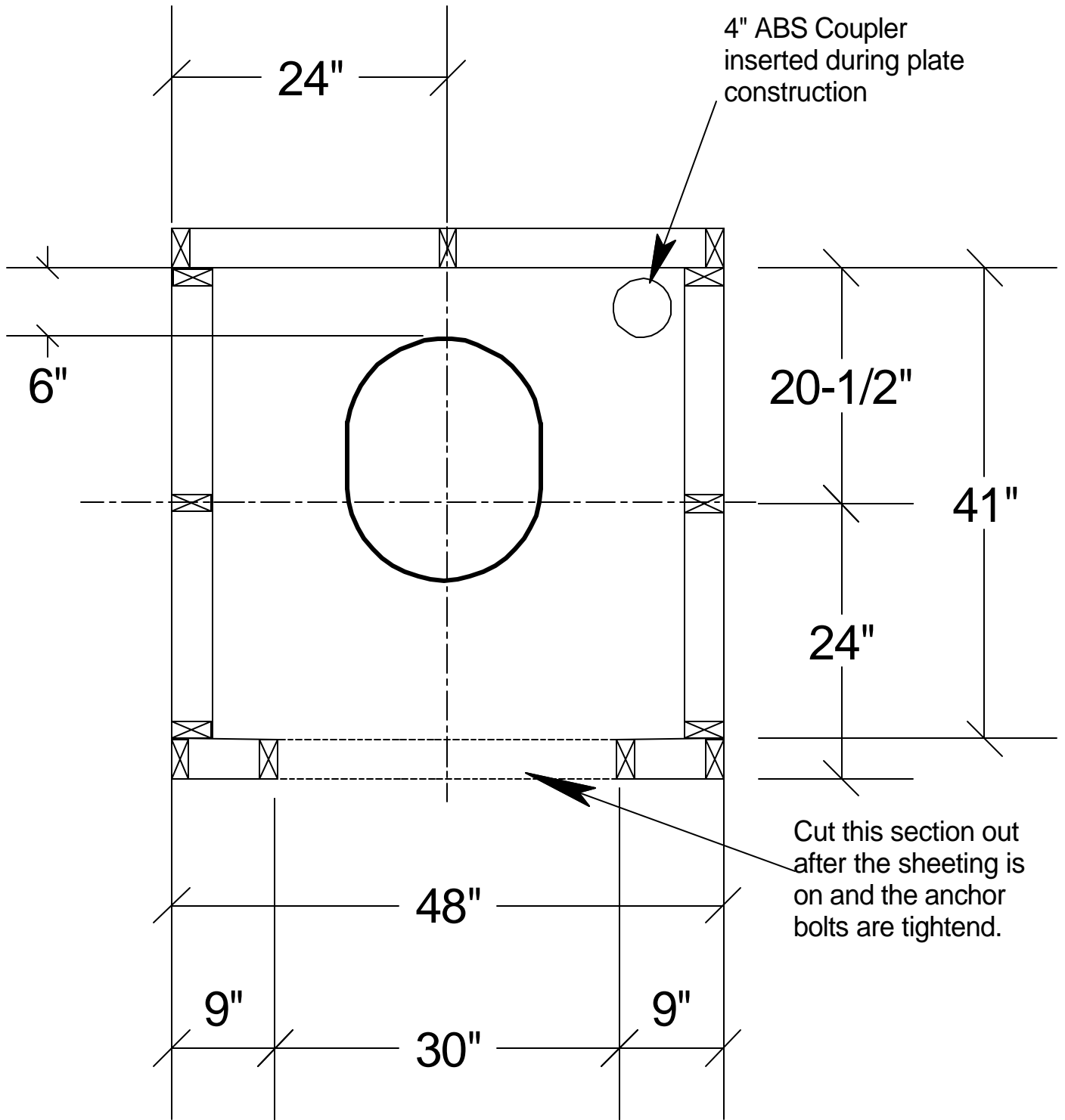
Footnotes:  
Toilet Risers  
Fibrefab  
1030 W. Foothill Bl  
Azusa CA  
+1 (626) 633-0288

## Latrine Materials List

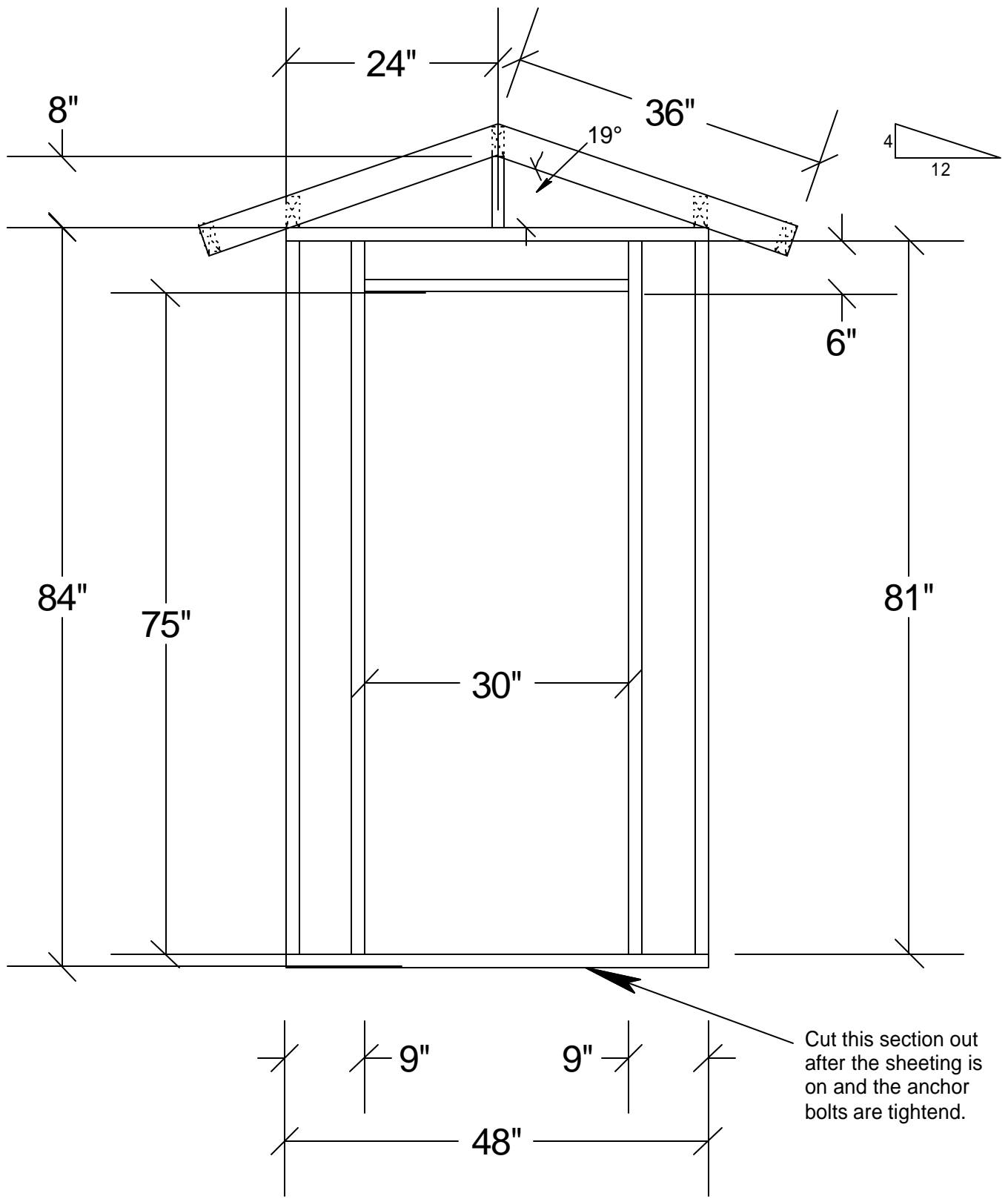
- 25 - 2"x4"x8' Studs
- 15 - 1"x4"x8' Trim
- 6 - 4'x8' plywood
- 1 - 10' ABS 4" pipe
- 2 - 4" ABS street L's 90 deg. Elbows
- 1- 4" ABS connector
- 1 roll of plumbers tape
- 1 packet of roofing shingles
- 3 yards of Felt Paper
- 3 – 2" or 3" FLAT door hinges
- 2 yards of flyscreen
- 1 - screen door spring and latch
- 1 can of ABS glue
- 1 fiberglass taza
- 1 plastic toilet seat
- 2 tubes of caulk
- 1 toilet paper holder
- 5lbs 16p nails
- 5lbs 8p nails
- 5lbs roofing nails

## In Ground List

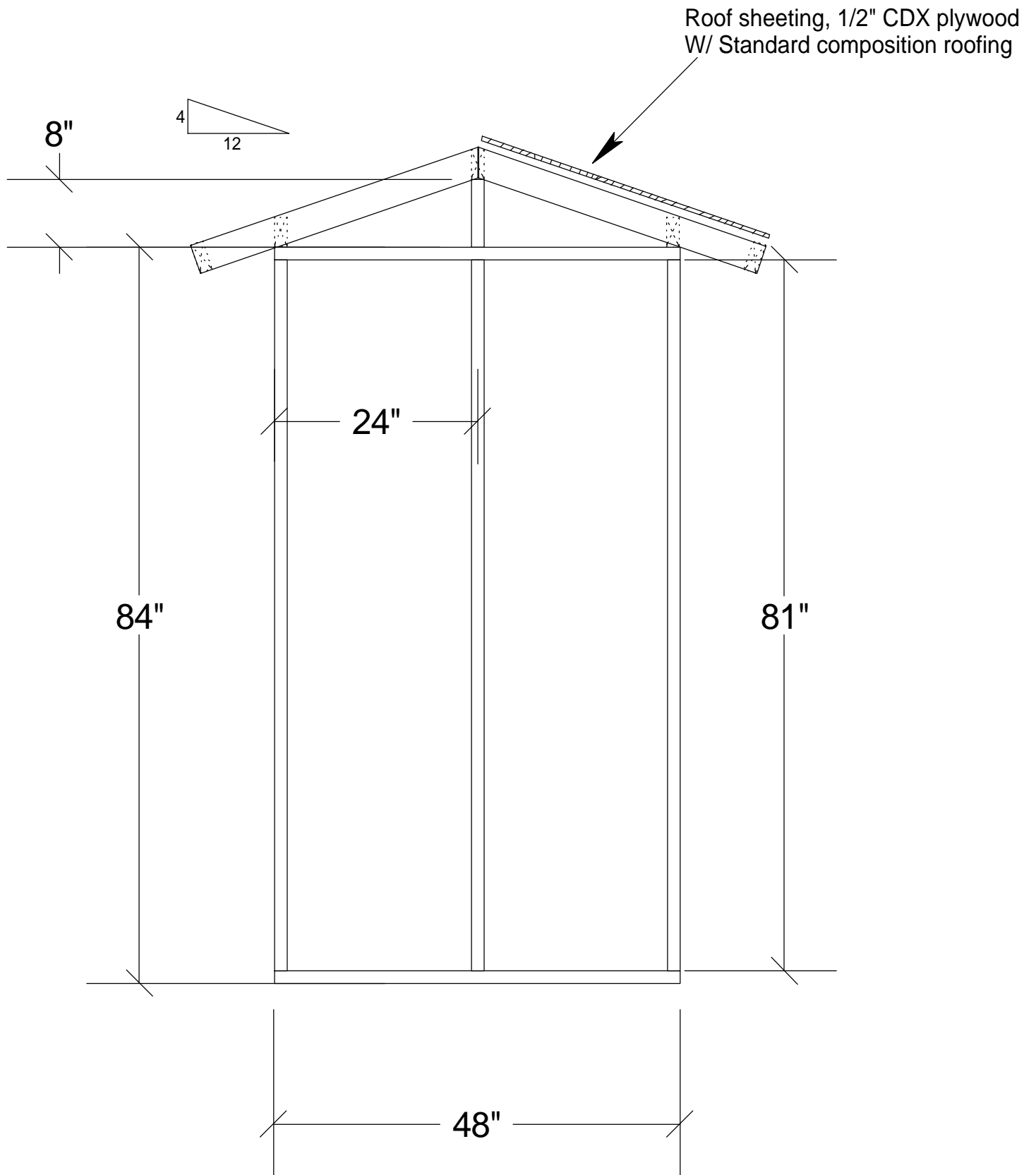
- 120 concrete blocks (+or-)
- 4 sacks Portland cement
- 1 yard of sand
- 1/3 yard 3/4 rock
- 4 -#3 or #4 rebar
- 4 - 2"x4"x8' Studs
- 1 - 4'x4' plywood
- 10 - 6"x1/2" anchors with nuts and washers



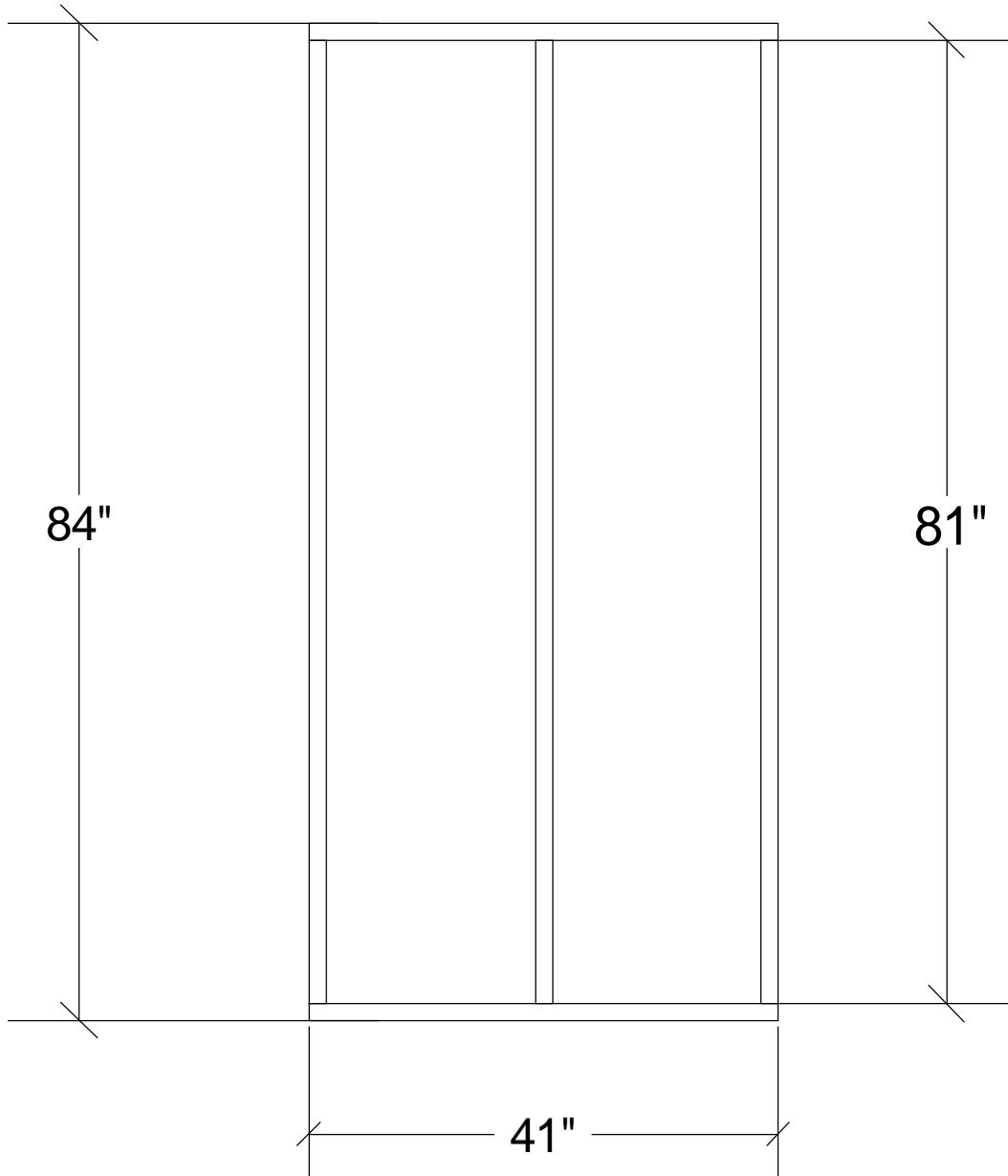
# Latrine Floor Plan



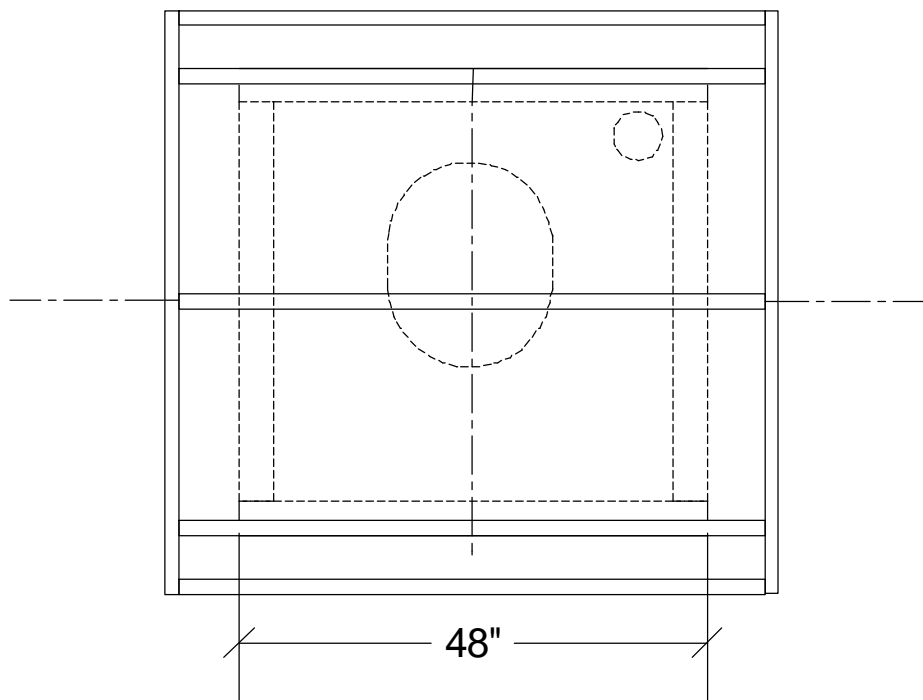
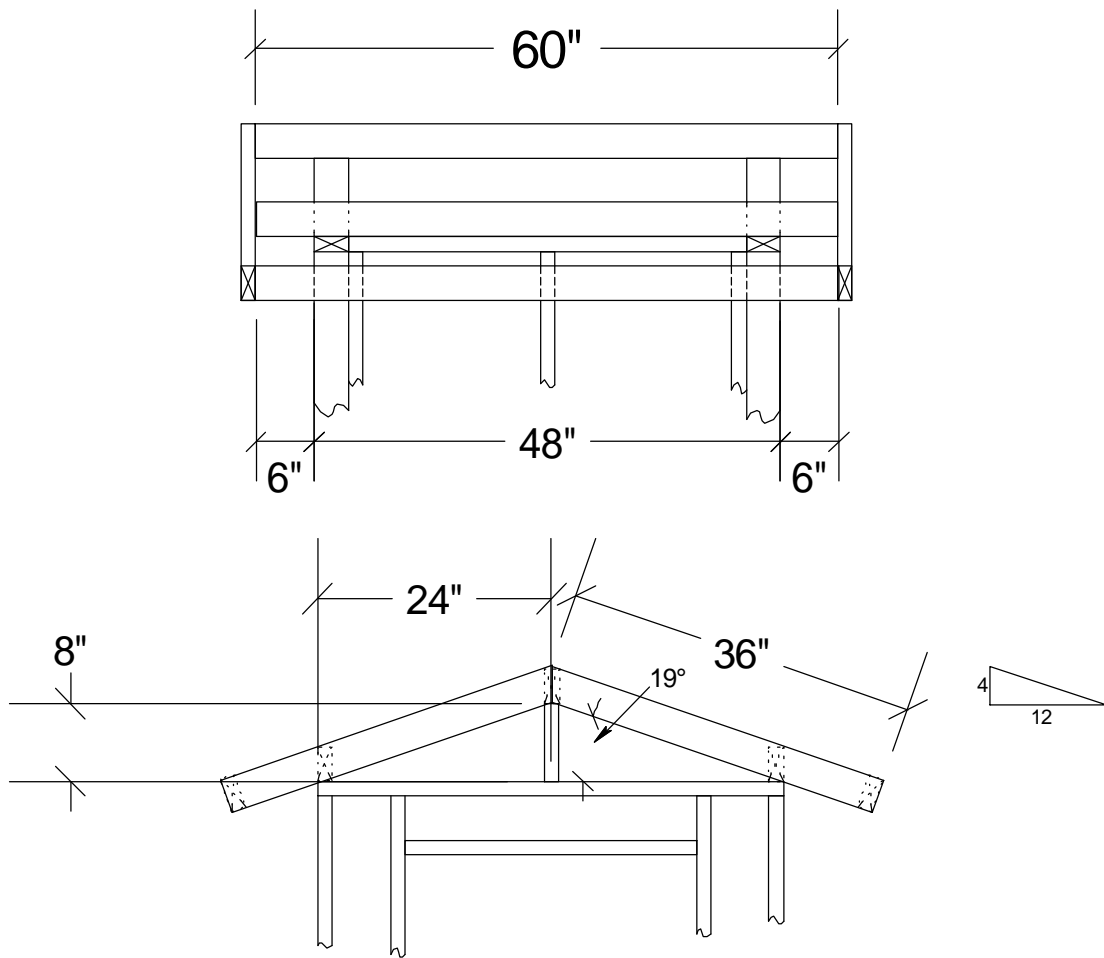
Front Elevation - Door



Rear Elevation

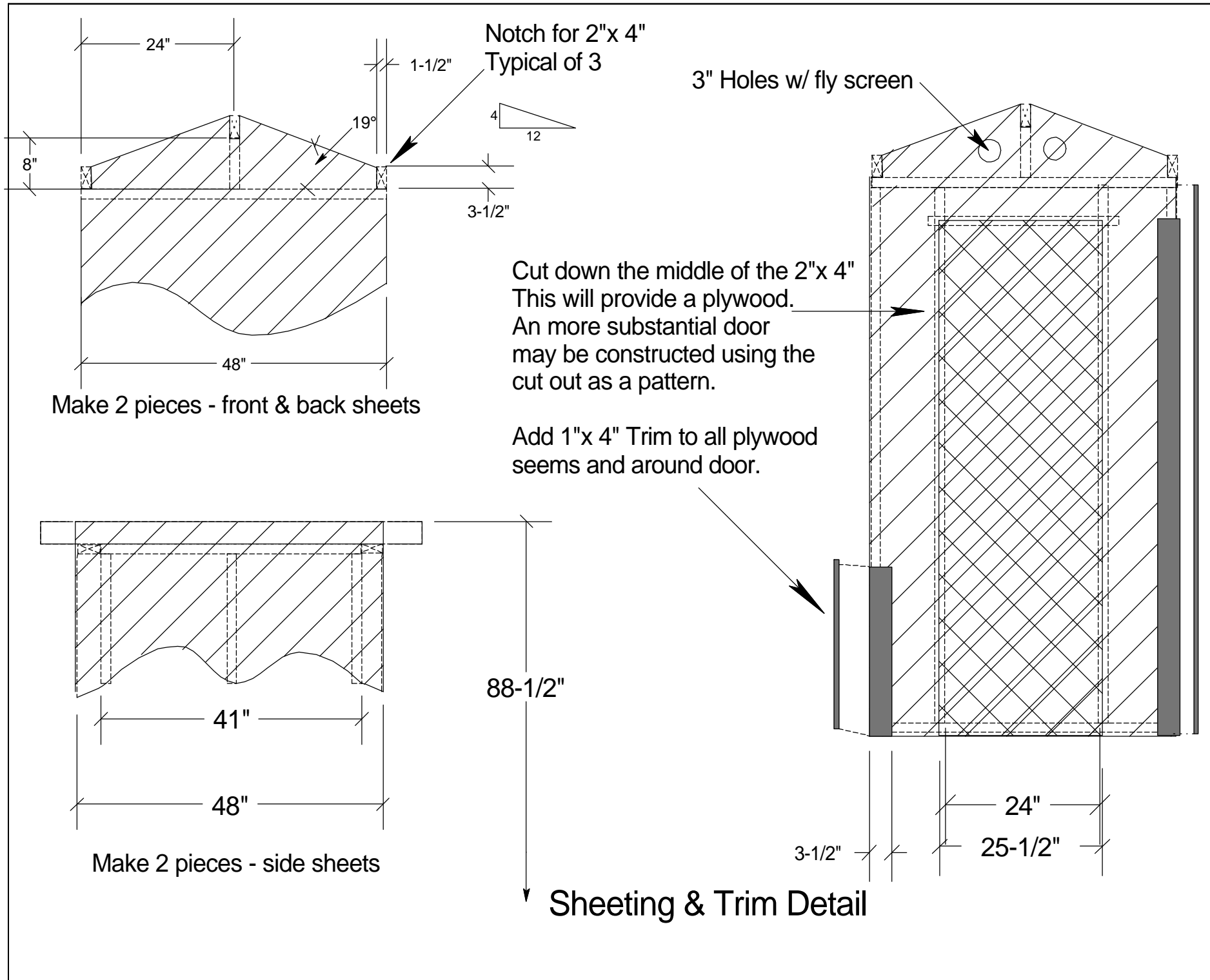


Side Elevation 2 Required



# Roof Framing





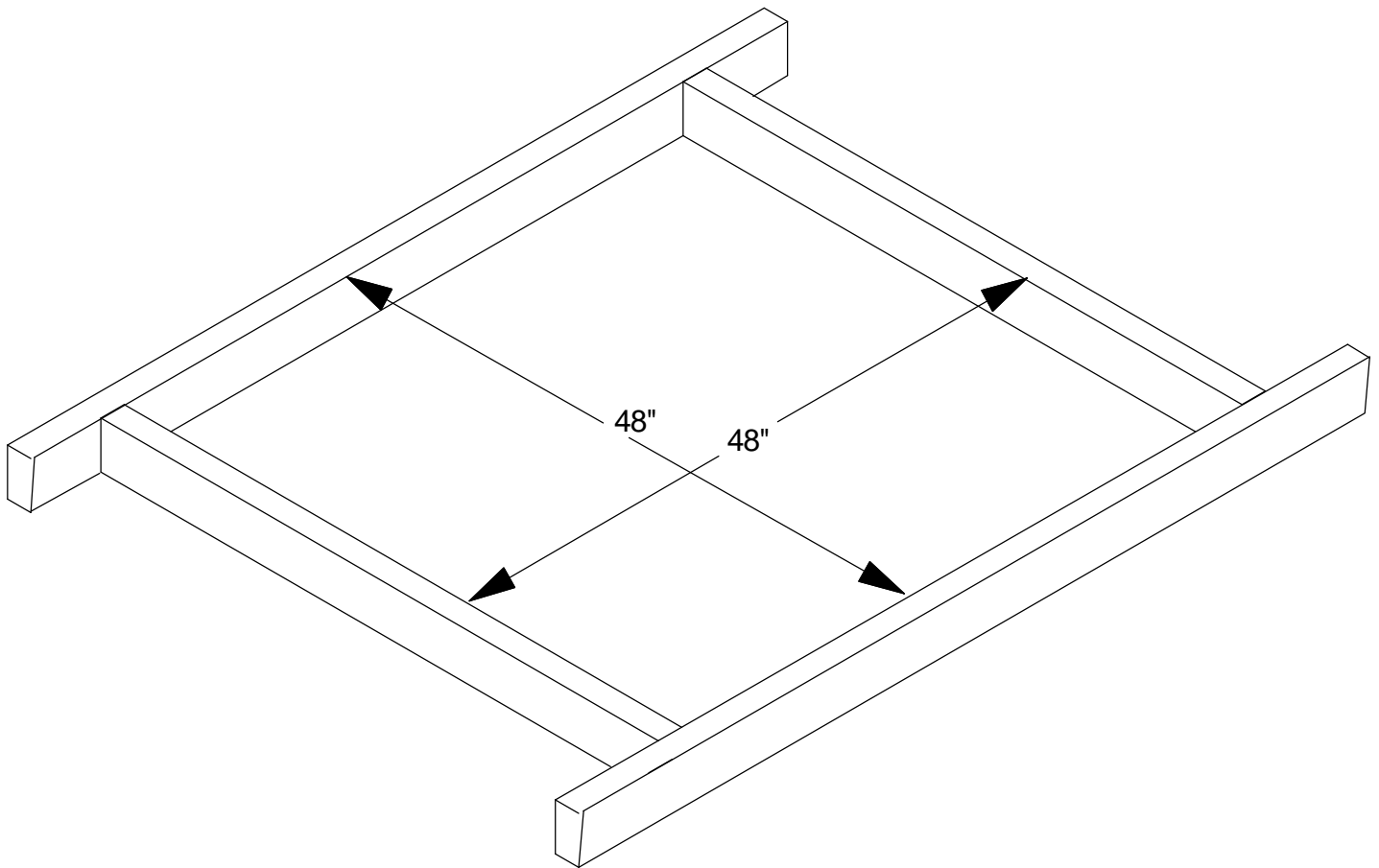
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David Bower  
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Stake 4'x 4' form onto a plastic sheet  
or flat/smooth ground.

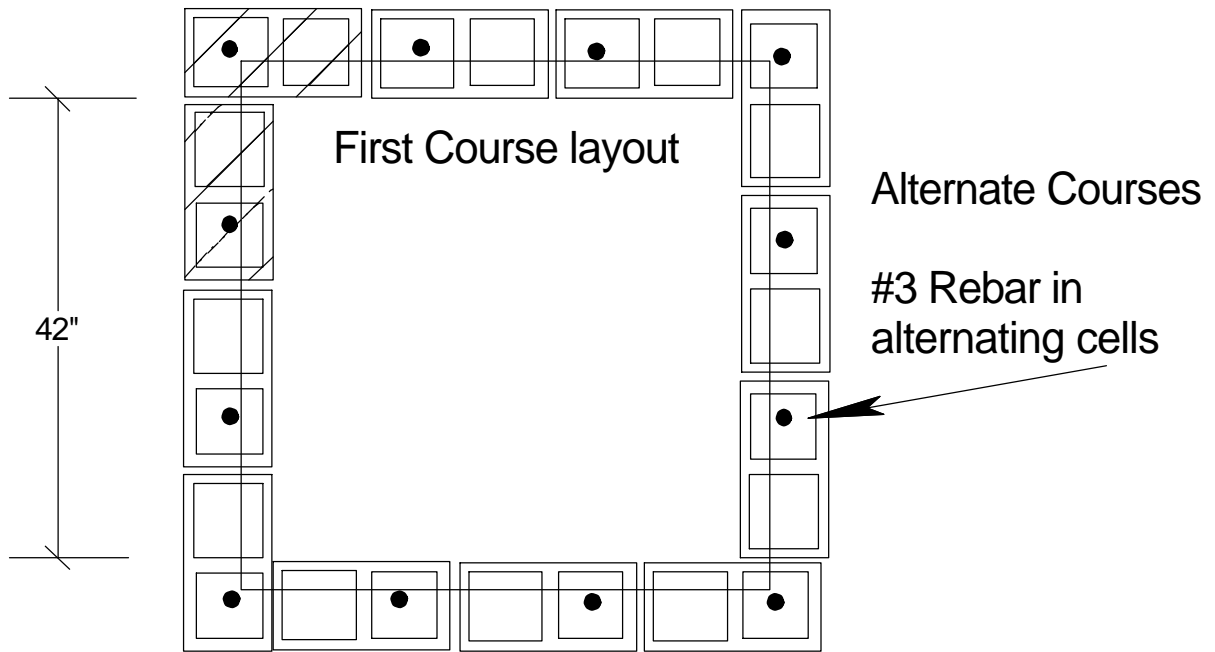
Soak inside of form w/ diesel fuel or  
other release agent.

Pour concrete as per DETAILS 2 and 3

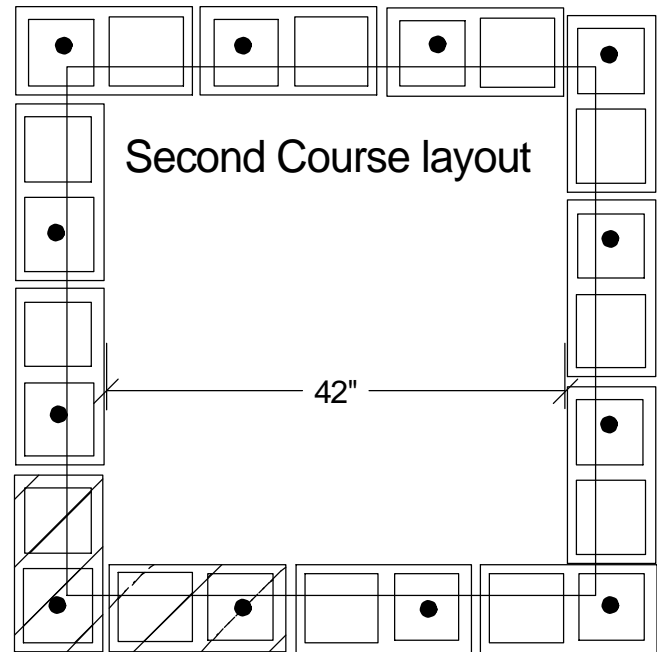
Allow concrete to cure 3 -5 days - keep wet.



Latrine Plate Form

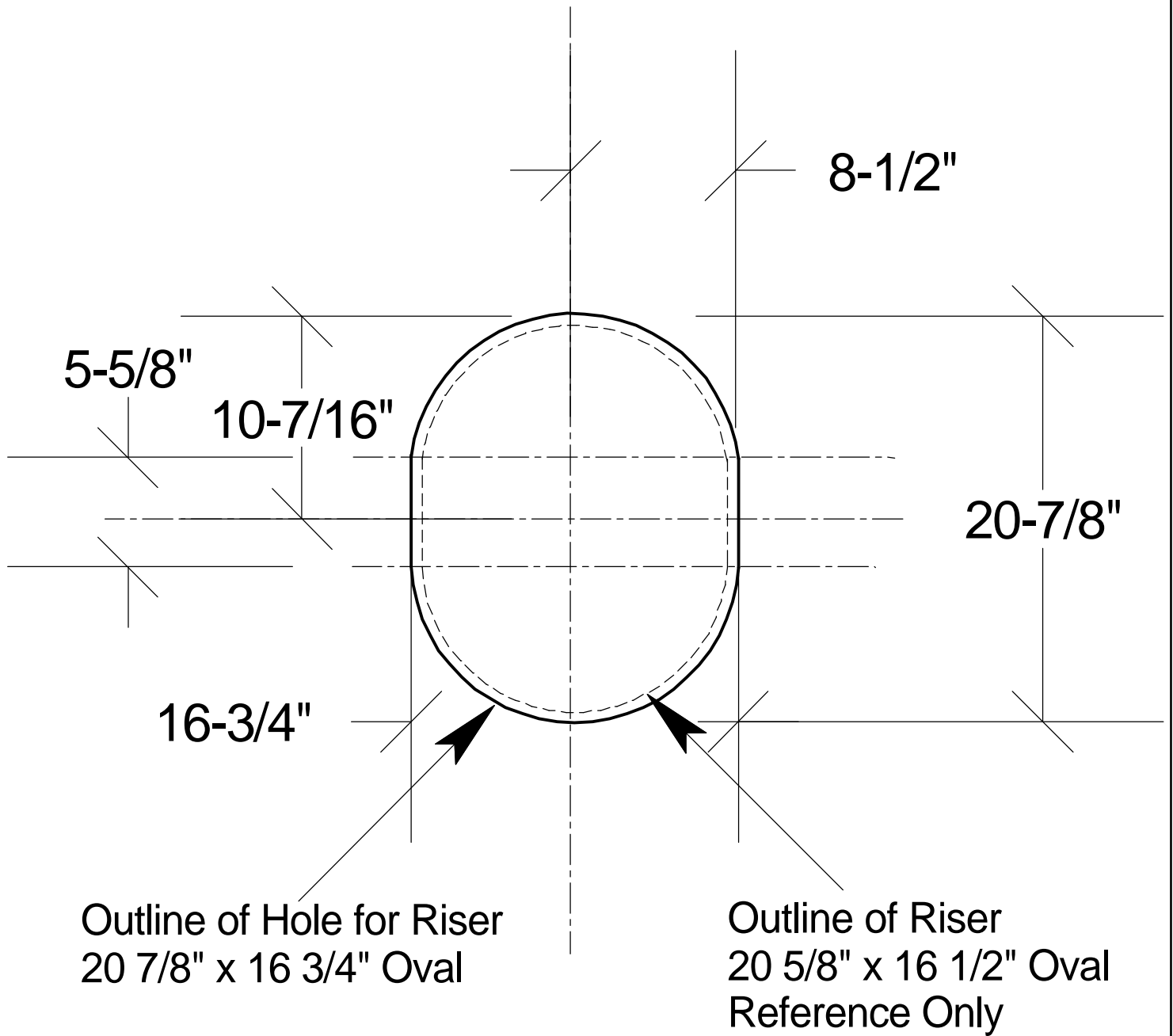


Blocks can be substituted  
 Provide a hole size of 3'-6" sq.  
 Depth is determined by soil types  
 typically 6' 8' deep.

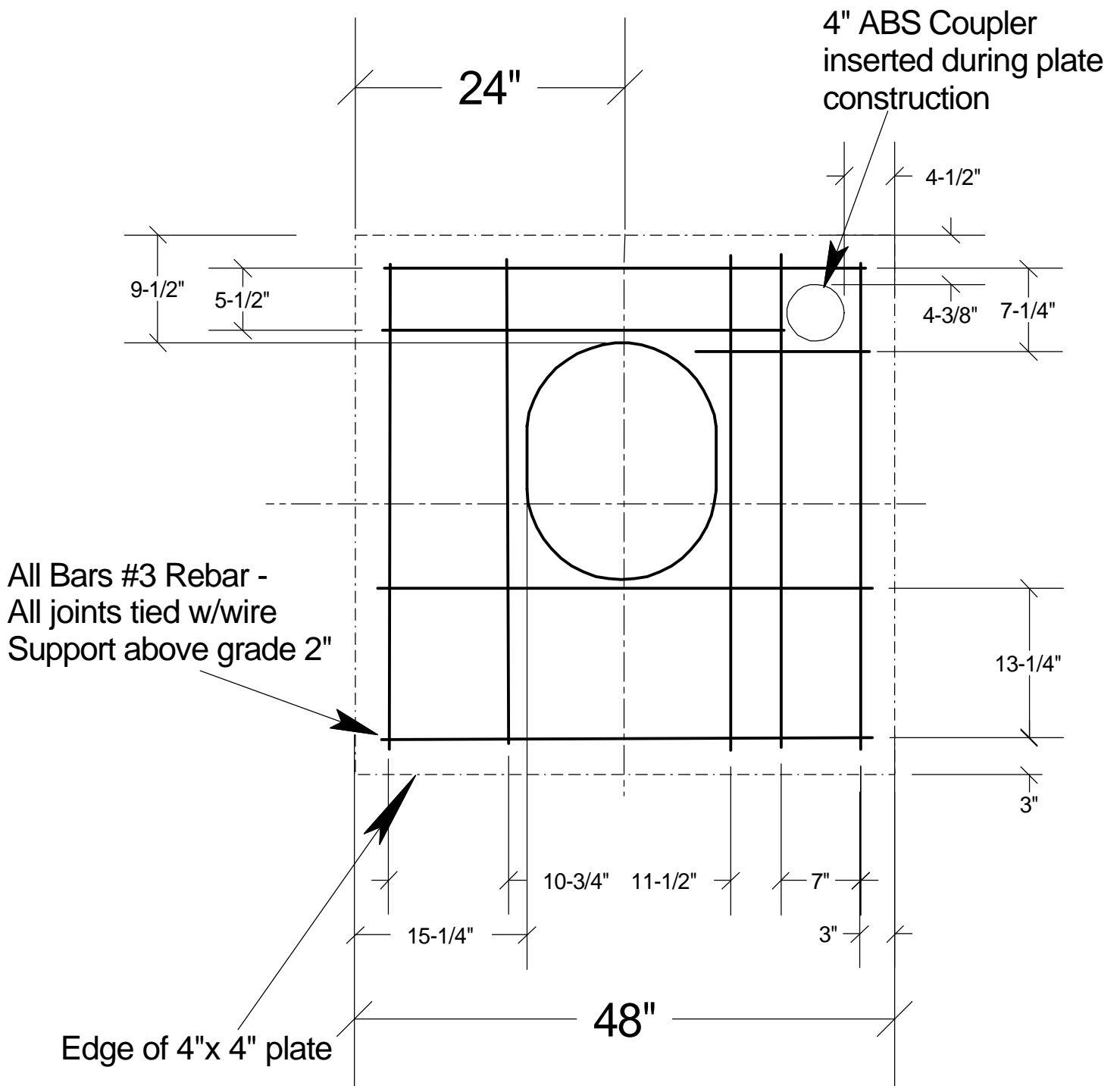


## Concrete Block Layout

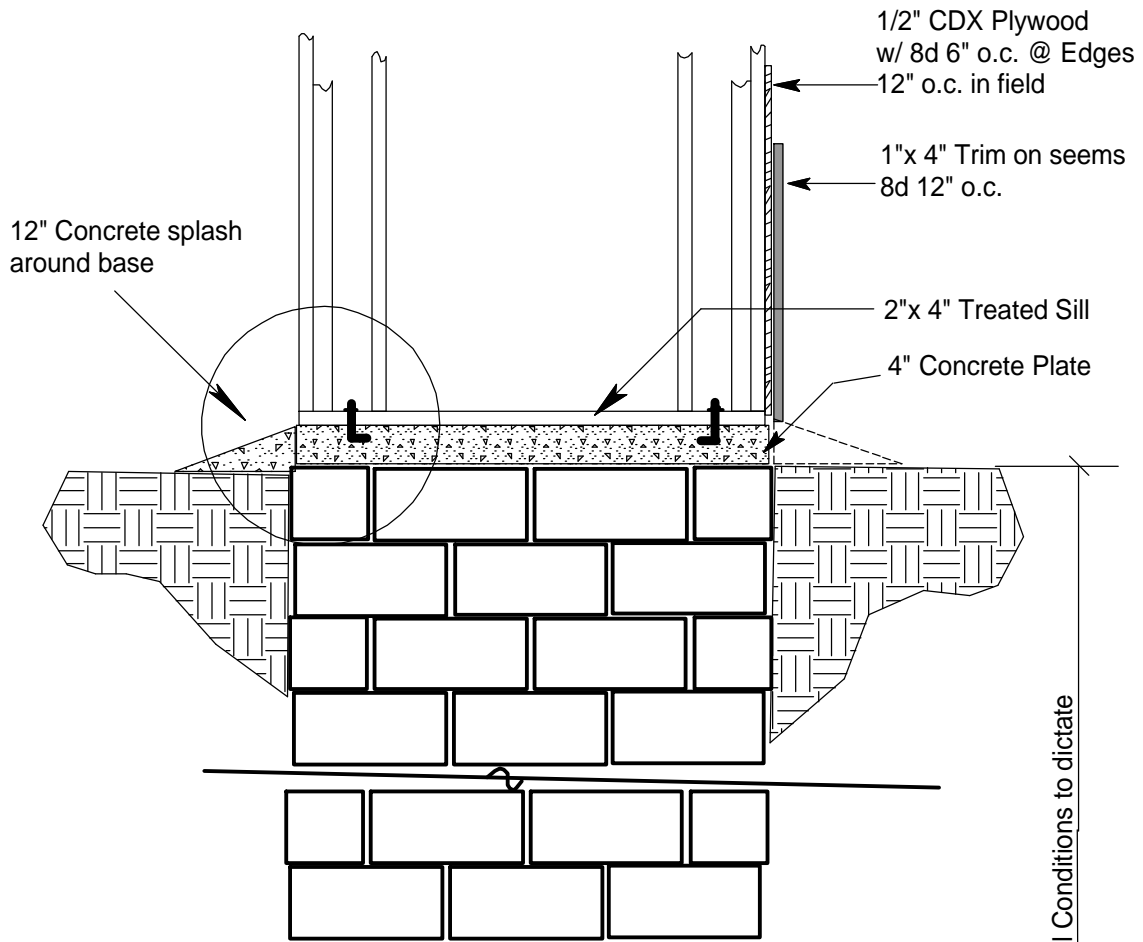
### 8" x 8" x 16" Block



## Latrine Riser Hole Cut sheet



## Latrine Concrete Plate Rebar Layout



1/2" CDX Plywood  
w/ 8d 6" o.c. @ Edges  
12" o.c. in field

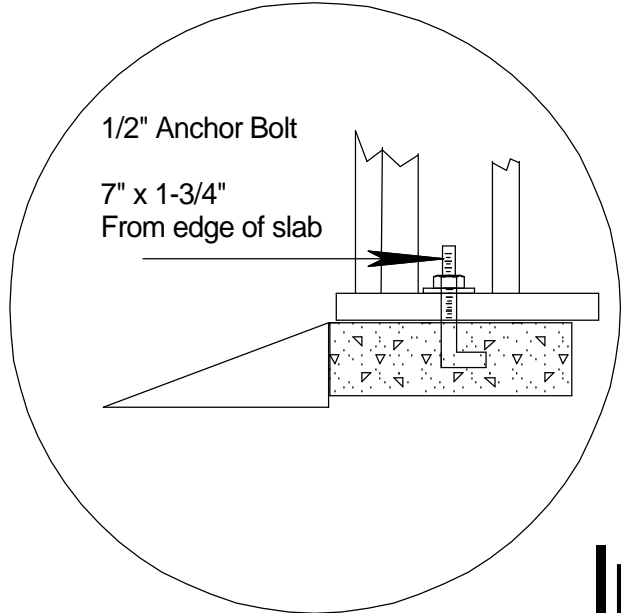
1"x 4" Trim on seems  
8d 12" o.c.

12" Concrete splash  
around base

2"x 4" Treated Sill

4" Concrete Plate

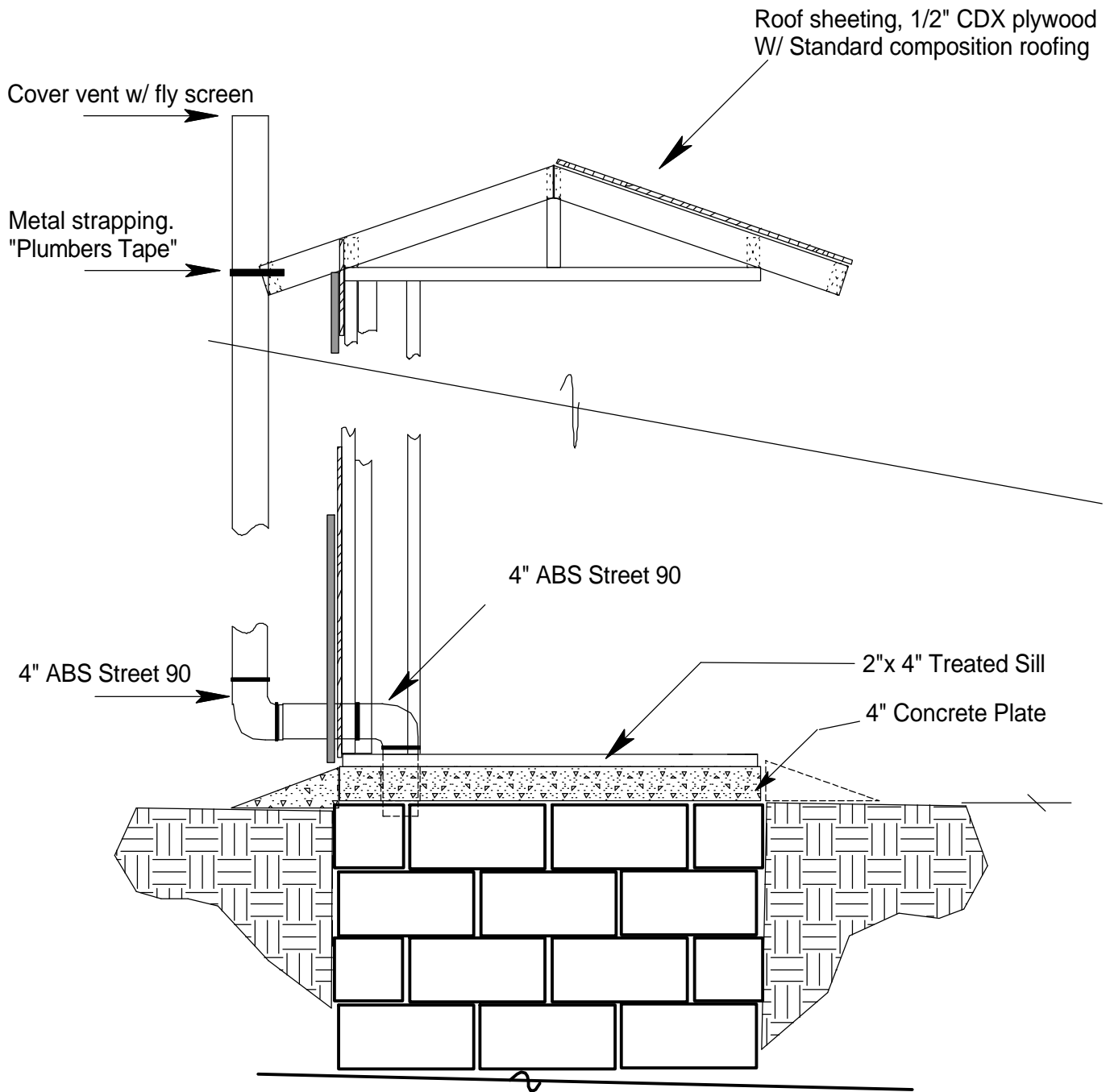
6' to 8' Deep - Soil Conditions to dictate



1/2" Anchor Bolt

7" x 1-3/4"  
From edge of slab

# In-Ground Section



Vent and In-Ground Section