

GENERAL NOTES:

1. APPLICABLE CODES

- A. These general notes apply to all OWTS drawings and details stated within. This project is designed in accordance with Local Environmental Health Department and the state of Colorado's most current codes and standards.
- B. All materials and workmanship shall be in accordance with applicable provisions of the codes specified above.

2. COORDINATION

- A. **DO NOT SCALE THESE DRAWINGS.** If questions arise, call Allegro Design Co. Immediately
- B. This design is prepared for the exclusive use at the address stated on these plans and shall not be used elsewhere.
- C. It is the responsibility of the owner and / or representative to ensure that all contractors and sub-contractors carry out these recommendations to the fullest during the construction phase.
- D. Changes and / or deviations from the original documents made by the property owner, builder, contractor, sub-contractor and / or their suppliers without the written consent of Allegro Design Co. LLC are unauthorized changes and / or deviations and as such shall relieve Allegro Design Co. LLC of all responsibility for any and all consequences arising therefrom.
- E. The installer shall review all local codes and covenants to verify setbacks or land-clearing restrictions and requirements that might affect the system installation PRIOR to construction.
- F. Allegro Design Co. LLC has provided this design in accordance with the standards of general construction practices and per State and Local jurisdictions. However, as with all underground soil treatment areas, guarantee against failure is impossible. With proper installation, there remain many uncertainties and difficulties that can still arise in the operation of the system in the future. Proper design, construction, and maintenance can assist in minimizing uncertainties, but cannot eliminate them. Allegro Design Co. LLC does not provide, nor implies, any warranty of this design or installation.

CONSTRUCTION NOTES:

- A. The homeowner/contractor is responsible for the permit. The contractor must obtain approval of the proposed OWTS system from the County Health Department.
- B. The homeowner/contractor must verify all setbacks and obtain utility clearances prior to construction.
- C. Maintain a minimum 2.0% grade on pipe feeding septic tank and on pipe from field back to sump pit or pump station.
- D. Provide a drainage swale or berm on the uphill slope of the absorption field or treatment area.
- E. Do not locate the soil treatment area within the specified distance of the well per State & County Environmental Health Department recommendations. See sheet SP-2 for specifications.
- F. The location of the absorption field or soil treatment area may be adjusted to fit site contours. Significant change to the location of the absorption field or treatment area requires engineer approval and may require additional testing beyond that already conducted.
- G. Backfill shall consist of onsite materials free of frozen soil, ice, snow, cobbles and boulders larger than 6", debris, stumps, and construction trash.
- H. Install cleanouts in gravity lines if change of direction exceeds 135 degrees.
- I. All septic tanks to have a minimum of 24" and a maximum of 48" backfill cover. Refer to manufacturer specifications.

REQUIRED INSPECTIONS: NON PRESSURIZED DESIGN

Allegro Design Co. requires construction compliance inspections. THESE DESIGNER INSPECTIONS ARE IN ADDITION TO ALL INSPECTIONS REQUIRED TO BE PERFORMED BY COUNTY OR STATE PERSONNEL.

The inspections are as follows (notification of needed inspection must be a minimum of 72 hours prior to requested inspection time):

- 1. OPEN EXCAVATION INSPECTION TO OBSERVE COMPLETED EXCAVATION OF SOIL TREATMENT AREA PRIOR TO PLACEMENT OF COMPONENTS AND OF SAND FILTER.
- 2. COMPONENT INSPECTION TO OBSERVE PLACEMENT OF ALL COMPONENTS PRIOR TO BACKFILL AND TESTING OF SYSTEM.
- 3. FINAL GRADE INSPECTION TO OBSERVE PLACEMENT OF BACKFILL, SWALE AND FINAL GRADING OF OWTS.

MAINTENANCE SCHEDULE:

- 1. The homeowner (or certified profesional) shall inspect the septic system once a year to verify proper working condidtions of tank, pumps, floats, effluent filter, inspection ports, controls and alarms, etc. Replace batteries in dosing siphon counter or control modual(s) if applicable. Remove effluent filter from tank and and inspect the effluent filter deformities, solids, or items that may cause effluent to not pass through the filter. If solids are found in the effluent filter, use a soft bristled brush to scrub effluent filter. Use extreme care when brushing the effluent filter to not cause deformation to the filter. Clean the effluent filter with running water, like a garden hose, until water runs clear through the effluent filter.
- 2. You should have a typical septic system inspected at least every 3 years by a professional and your tank pumped as recommended by the inspector. Alternative systems with electrical float switches, pumps, or mechanical components need to be inspected more often, generally once a year. Your service provider should inspect for leaks and look at the scum and sludge layers in your septic tank. If the bottom of the scum layer is within 6 inches of the bottom of the outlet tee or the top of the sludge layer is within 12 inches of the outlet tee, your tank needs to be pumped. Remember to note the sludge and scum levels determined by your service provider in your operation and maintenance records. This information will help you decide how often pumping is necessary.
- 3. Check with the local regulatory agency or inspector/pumper if you have a garbage disposal unit to make sure that your septic system can handle this additional waste.
- 4. Use water efficiently to avoid overloading the septic system. Be sure to repair leaky faucets or toilets, and check the toilet flapper valves regularly to be sure they are not leaking. Use high-efficiency fixtures.
- 5. Use commercial bathroom cleaners and laundry detergents in moderation.
- 6. Check with your local regulatory agency or inspector/pumper before allowing water softener backwash to enter your septic tank.
- 7. Use composting or trash to dispose of kitchen waste instead of using a garbage disposal.
- 8. Keep records of repairs, pumping's, inspections, permits issued, and other system maintenance activities.
- 9. Learn the location of your septic system. Keep a sketch of it with your maintenance record for service visits.
- 10. Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the soil treatment area.
- 11. Your septic system is not a trash can. Do not put dental floss, feminine hygiene products, condoms, diapers, cotton swabs, cigarette butts, coffee grounds, cat litter, paper towels, latex paint, pesticides, or other hazardous chemicals into your system.
- 12. Do not use caustic drain openers for a clogged drain. Instead, use boiling water or a drain snake to open clogs.
- 13. Do not direct hot tub and pool drains to your septic system.
- 14. Do not direct water purification or softener backwash to your septic system.
- 15. Do not use plastic landscape sheets or irrigation over your soil treatment area.
- 16. Vehicular and/or hooped animal traffic of any kind over any part of the system may cause premature failure and damage to the septic system and is prohibited.
- 17. Provide markers at the corners of the soil treatment area or fence off the soil treatment area so it is easily identified.



Design, with family in mind

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Pagosa Springs,

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COLORADO SPRINGS,
CO

JONATHAN CROSS, NAWT CERTIFIED DESIGNER
RODNEY O'MALEY, NAWT CERTIFIED DESIGNER

PROJECT No. 24-0062

DATE 5/21/2024

DRAWN BY ADC

CHECKED BY RKO/JC

SP-1

GENERAL NOTES

CALCULATIONS FOR BED TREATMENT AREA WITH SAND FILTER
 THE DESIGN IS BASED ON THE OWTS PROFILE PIT EVALUATION BY ALLEGRO DESIGN CO. JOB NUMBER **24-0062**, DATED **APRIL 24, 2024**. ALL CHANGES TO THE DESIGN AND LAYOUT ARE REQUIRED TO BE APPROVED BY ALLEGRO DESIGN CO. LLC FOR INCLUSION INTO THESE PLANS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ALLEGRO DESIGN CO. LLC IMMEDIATELY.

DESIGN PARAMETERS

- 1. TOTAL # OF BEDROOMS: 3 BEDROOMS
- 2. OCCUPANCY: 6 PERSONS
- 3. TOTAL GPD: 450 GPD
- 4. LTAR: 0.60
- 5. ADJUSTMENTS TABLE 10.2: 1.0
- 6. ADJUSTMENTS TABLE 10.3: 0.7
- 7. TREATMENT LEVEL: TL1
- 8. EFFLUENT APPLICATION: TRENCH
- 9. DISTRIBUTION MEDIA: CHAMBER
- 10. SAND FILTER: NO
- 11. DISTANCE FROM WELL: 100FT

REQUIRED TRENCH STA SIZE

AREA = (450)(1.0)(0.7) / 0.60 = **525 SQ. FT. MIN INFILTRATIVE SURFACE**

ARC36 CHAMBERS: (ANY ARC36 MODEL)

- 1. ARC36 CHAMBERS - (525) / 15 SQ. FT. = 35 CHAMBERS
- 2. # OF TRENCHES: 3 TOTAL
- 3. # OF CHAMBERS PER TRENCH: 12 PER TRENCH
- 4. TRENCH DIMENSIONS (MIN): 3' WIDE x 60' LONG
- 5. TOTAL TRENCH AREA (MIN): 540 SQ. FT.

QUICK4 CHAMBERS: (ANY QUICK4 MODEL)

- 1. QUICK4 CHAMBERS - (525) / 12 SQ. FT. = 44 CHAMBERS
- 2. # OF TRENCHES: 3 TOTAL
- 3. # OF CHAMBERS PER TRENCH: 15 PER BED
- 4. TRENCH DIMENSIONS (MIN): 3' WIDE x 60' LONG
- 5. TOTAL TRENCH AREA (MIN): 540 SQ. FT.

INFILTRATIVE DEPTH: 4'-0" MAX FROM GRADE HIGH SIDE
TRENCH COVER: 2'-0" MIN. - 4'-0" MAX FROM GRADE

COMPONENTS LIST - GRAVITY TRENCH SYSTEM

TANK:

- 1. NEW 2 COMPARTMENT CONCRETE OR PLASTIC TANK : 1,000 GAL MIN FIRST TWO COMPARTMENTS
- 2. EFFLUENT FILTER REQUIRED AT OUTLET OF SECOND COMPARTMENT
- 3. SEE TANK DETAILS ON SHEET SP-5
- 4. SEE TANK MANUFACTURER FOR ADDITIONAL SPECIFICATIONS AND BEST INTSTALLATION PRACTICES
- 5. NO MIDSEAM CONCRETE TANKS SHALL BE ALLOWED

PIPE (TANK TO FIELD):

- 1. ALL PIPE SHALL BE SCHEDULE 40
- 2. CLEAN OUTS: 5'-0" FROM HOUSE & 100' O.C.
- 3. PIPE FROM HOUSE TO TANK: 4"Ø SCH40
- 4. PIPE FROM TANK TO D-BOX: 4"Ø SCH40
- 5. PIPE FROM D-BOX TO FIELD: 4"Ø SCH40
- 6. PIPE LENGTH TANK TO FIELD: 90' MIN 110' MAX
- 7. ALL PIPE SHALL CONFORM TO COUNTY CODE SPECIFICATIONS. THE ENGINEER IS NOT RESPONSIBLE FOR CODE VIOLATIONS.

FIELD:

- 1. TOTAL FIELD TRENCHES: 3 TRENCHES
- 2. **ARC36 FIELD INFORMATION:**
 A. TOTAL CHAMBERS 36 CHAMBERS (3 TRENCHES OF 12)
- 3. **QUICK4 FIELD INFORMATION:**
 A. TOTAL CHAMBERS 45 CHAMBERS (3 TRENCHES OF 15)
- 4. DISTRIBUTION BOX: 4-HOLE, 4.0" PIPE WITH SOLID COVER, D-BOX MUST BE SET LEVEL AND SET SO THAT IT IS ACCESSIBLE FROM GRADE, ALSO MUST BE PLACED AT A POINT HIGHER THE THE REST OF STA
- 5. INSPECTION PORTS AT BOTH DISTAL AND PROXIMAL END OF EACH CHAMBER ROW
- 6. CHAMBERS SHALL BE SET LEVEL FOR EVEN DISTRIBUTION
- 7. SEE DETAILS ON SHEET SP-3/4

CODE INFORMATION AND FORMULAS

COUNTY CODE -
 EL PASO COUNTY, STATE REGULATION 43

GALLONS PER DAY (GPD) -
 TABLE 6-1

TANK SIZE -
 TABLE 9-1

SOILS LTAR -
 TABLE 10-1 AND 10-1A

PIPE STANDARDS -
 SECTION 43.9.D

STA SIZE FORMULA -
 A= (GPD)(PB 10-2)(CR 10-3) / LTAR
 SECTION 43.10.C

No. OF MIN CHAMBERS -
 QUANTITY= (A) / (CH)
 SECTION 43.10.G.2

NOTE: CHANGES AND / OR DEVIATIONS FROM THE ORIGINAL DOCUMENTS MADE BY THE PROPERTY OWNER, BUILDER, CONTRACTOR, SUB-CONTRACTOR AND / OR THEIR SUPPLIERS WITHOUT THE WRITTEN CONSENT OF ALLEGRO DESIGN CO. LLC ARE UNAUTHORIZED CHANGES AND / OR DEVIATIONS AND AS SUCH SHALL RELIEVE ALLEGRO DESIGN CO. LLC OF ALL RESPONSIBILITY FOR ANY AND ALL CONSEQUENCES ARISING THEREFROM.



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PROJECT No. 24-0062

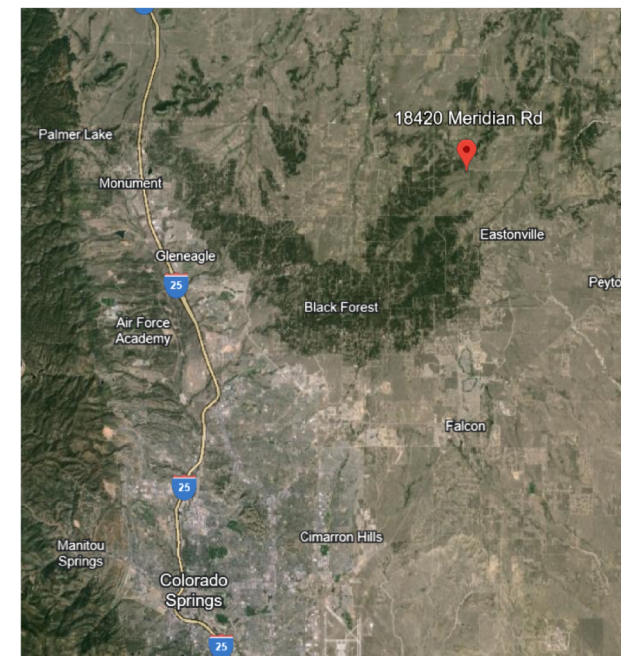
DATE 5/21/2024

DRAWN BY JC

CHECKED BY RKO/BLD

SP-2

CALCULATIONS &
 COMPONENTS LIST



VICINITY MAP

SCALE : NOT TO SCALE

OWTS DESIGN
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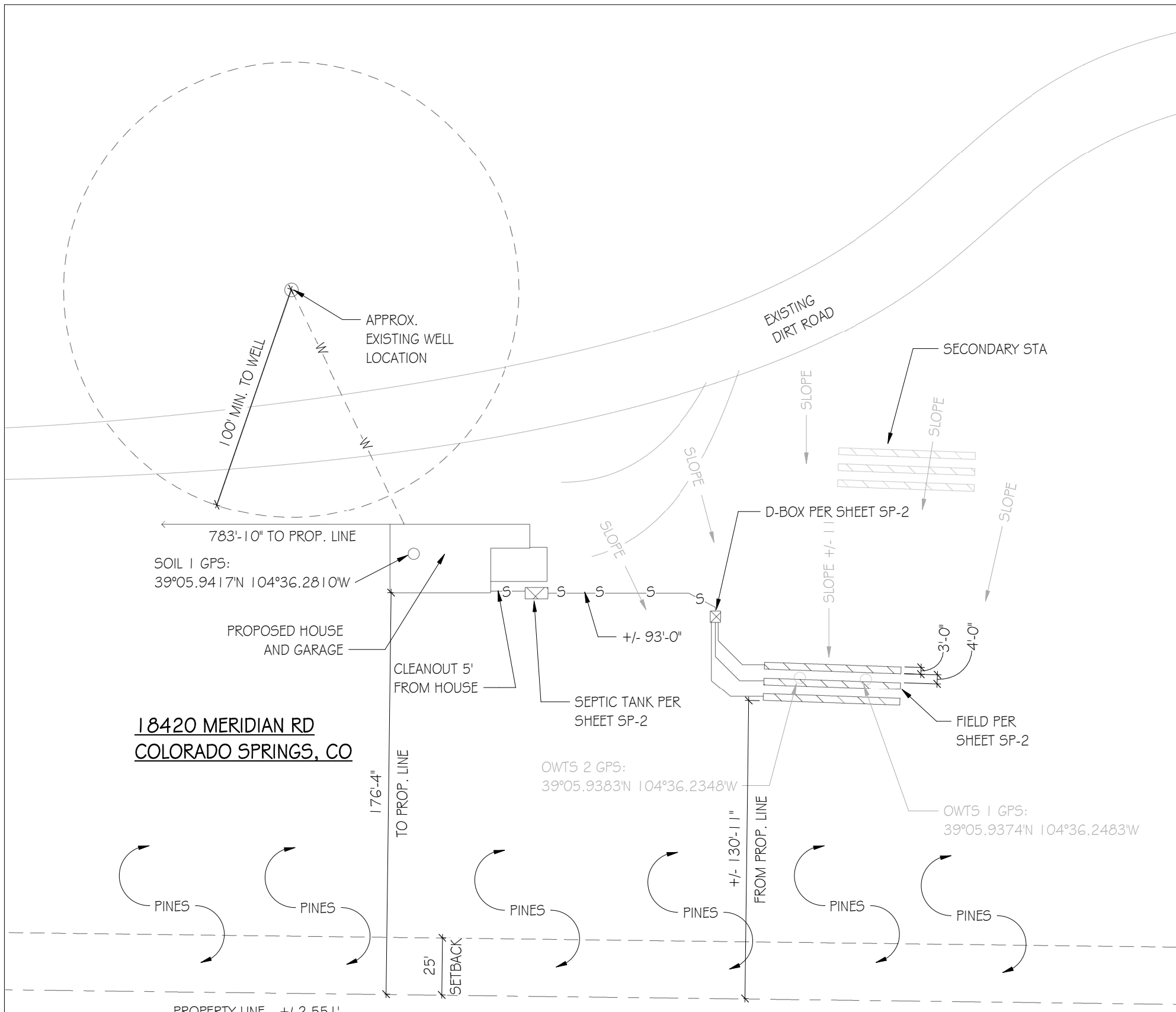
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SP-3

SITE PLAN

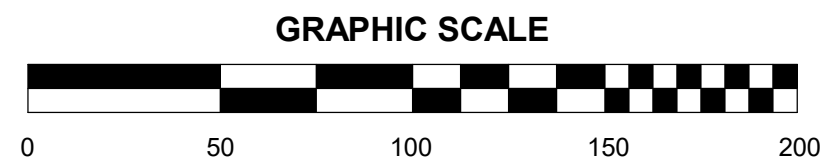


NOTE: PROPERTY LINES IMPORTED FROM COUNTY GIS MAPPING. THIS SITE PLAN IS FOR GENERAL REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO VERIFY ALL SETBACK REQUIREMENTS AND PROPERTY LINE LOCATIONS PRIOR TO INSTALLATION.

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SITE PLAN

SCALE 1" = 50'-0"



REFERENCE SHEET SP-1 AND SP-2 FOR GENERAL NOTES, CALCULATIONS, AND COMPONENT SPECIFICATIONS AND DESIGNATIONS



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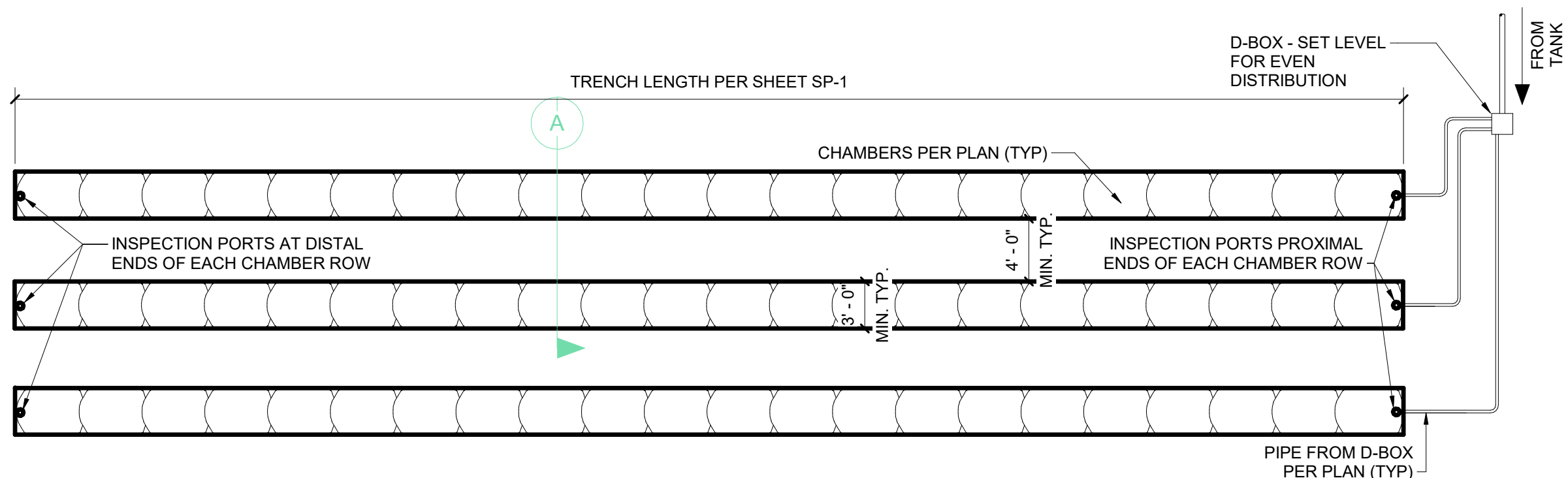
DATE 5/21/2024

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SP-4

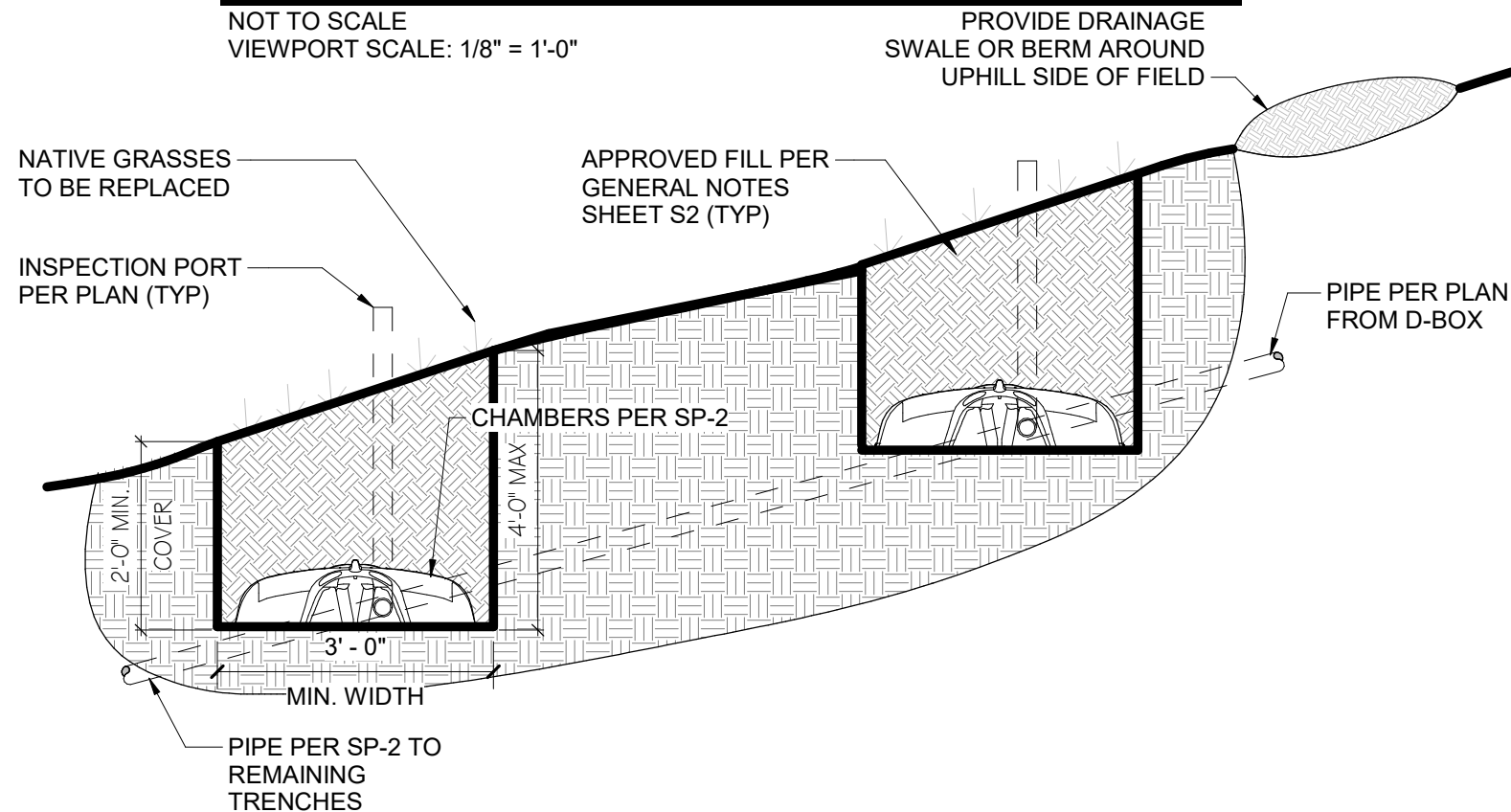
FIELD DETAILS



TRENCH / CHAMBER FIELD PLAN

NOT TO SCALE
VIEWPORT SCALE: 1/8" = 1'-0"

PROVIDE DRAINAGE
SWALE OR BERM AROUND
UPHILL SIDE OF FIELD



TRENCH CROSS SECTION (CHAMBERS)

NOT TO SCALE

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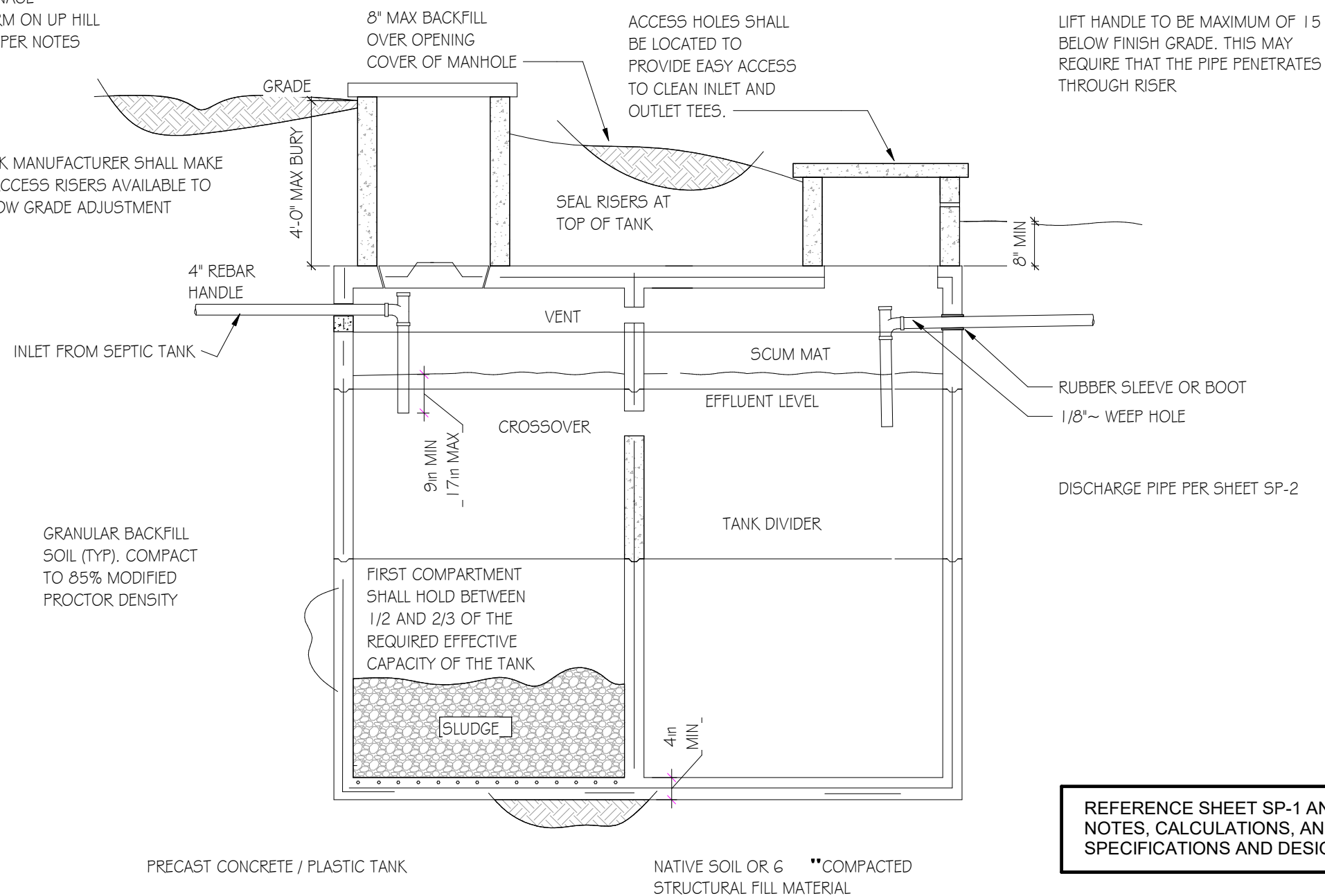
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SP-5

TANK DETAILS

PROVIDE DRAINAGE
SWALE OR BERM ON UP HILL
SIDE OF TANK PER NOTES

TANK MANUFACTURER SHALL MAKE
6" ACCESS RISERS AVAILABLE TO
ALLOW GRADE ADJUSTMENT



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PUMP TANK CROSS SECTION

NOT TO SCALE