

NOTES:

Site conditions require an engineer designed septic system. We recommend a system consisting of one septic tank (existing) and a gravity dosed soil treatment area (wide bed, existing). A pump chamber will not be required for this site. This design document is to expand the capacity of the existing soil treatment area. The system will consist of a wide bed with parallel and serial distribution to the expanded zones utilizing the existing style and type of system.

DESIGN CRITERIA:

El Paso County Health Department: Onsite Wastewater Treatment System (OWTS) Regulations Dated July 7, 2018.

TEST PIT OBSERVATION:

Two test pits were observed by Entech Engineering, Inc. and published in the OWTS Site Evaluation, dated January 24, 2023, Entech Job No. 222361. The Long Term Acceptance Rate (LTAR) value of 0.60 gallons per day square foot is recommended for Treatment Level 1. Sandy Loam, USDA Soil Type 2 was encountered in both test pits. No signs of groundwater were encountered in the test pits. Bedrock was not encountered in both test pits.

DESIGN FLOW:

2 Full Time Employees - 15 GPD/employee = 30 GPD
 7 Bar Seats - 30 GPD/seat = 210 GPD
 17 Paper Service Seats - 25 GPD/seat = 425 GPD
 17 Short Term Visitors - 5 GPD per person = 85 GPD
 43 Persons x 17.44 GPD (average) = 750 GPD

43 PERSONS OCCUPANCY @ Average 17.44 GPD/person = 750 GPD (average Daily Flow)

Minimum Area required = $Q(1.2)(0.7) / 0.60 = 630.0 / 0.60 = 1,050$ sq. ft.

DESIGN BASIS:

Size Adjustment Factors of 1.2 (Gravity Bed) and 0.7 (Infiltrators) are from Tables 10-2 and 10-3 of El Paso County Health Department Regulations as above.

Soil Type 2, Sandy Loam (LTAR 0.60)

CALCULATIONS
43 PERSON OCCUPANCY (17.44 GPD/person) LTAR (0.60)
BASIC REQUIRED AREA
$A = \frac{Q}{LTAR}$
FOR WIDE BED SYSTEM (CHAMBERS)
Q = 750 GPD 0.60 = SOIL TYPE 2, TREATMENT LEVEL 1 (LTAR) 1.2 = BED (GRAVITY DISTRIBUTION) 0.7 = CHAMBERS
$A = \frac{(750)(1.2)(0.7)}{0.60}$
A = 1,050 SF USE 1,056 SF
QUICK4 = $\frac{1,056}{12} = 88$ USE 88
EXISTING CHAMBERS = 33 = 396 SQ.FT. (QUICK 4 ASSUMED)
1056 SQ.FT. - 396 SQ.FT. = 660 SQ. FT. 660/12 = 55 NEW QUICK 4 REQUIRED
(1) WIDE BED OF 55 NEW QUICK4s, 33 EXISTING INFILTRATORS, 88 TOTAL

EXISTING SEPTIC TANK:

The septic tank capacity should be a minimum of 1,500 gallons. The septic tanks shall comply with El Paso County Health Department regulations. The tanks should be checked periodically and pumped as needed. Verify condition of existing tank and replace components or tank if condition is unacceptable.

PUMPING CHAMBER:

Not required provided gravity flow can be maintained throughout the system. If gravity flow cannot be maintained contact Entech for pump, pump chamber, and control panel recommendations.

INSTALLATION OBSERVATIONS:

The installation of the septic system shall be observed by El Paso County Health Department to check compliance with the plans provided by Entech Engineering, Inc. Recommended observations include:

- 1) A meeting with Entech, builder, homeowner, and the installer to stake the field locations.
- 2) Site observation during and after the wide bed is fully excavated.
- 3) Site observation of pipe installation, distribution box and manifold assembly, and verify that the stand pipes have been installed;
- 4) final site observation including soil cover over the wide bed and runoff diversion system.

PRE-CONSTRUCTION MEETING:

Contractor should contact Entech Engineering, Inc. to discuss installation and scheduling of recommended observations. A site meeting with an engineer from Entech Engineering, Inc., an El Paso County Health Officer and the OWTS contractor is required prior to excavation or installation of the field. The leach field location will be finalized at the pre-construction meeting. The system shall be installed with minimum horizontal distances maintained from pertinent physical features according to El Paso County Health Department Regulations.

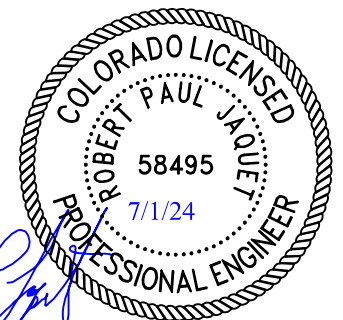
WATER

The existing well must be located a minimum of 67 feet away from the new/existing leach field. Repaired system was installed at 67 feet, original system was approximately 50 feet from well. See permit ON0003539, from December 15, 2001. Install new field at least 67 feet from existing well.



VICINITY MAP
SCALE: N.T.S.

MODIFICATIONS TO THIS DESIGN MAY BE REQUIRED, TO BE DETERMINED AT THE TIME OF SITE OBSERVATIONS.



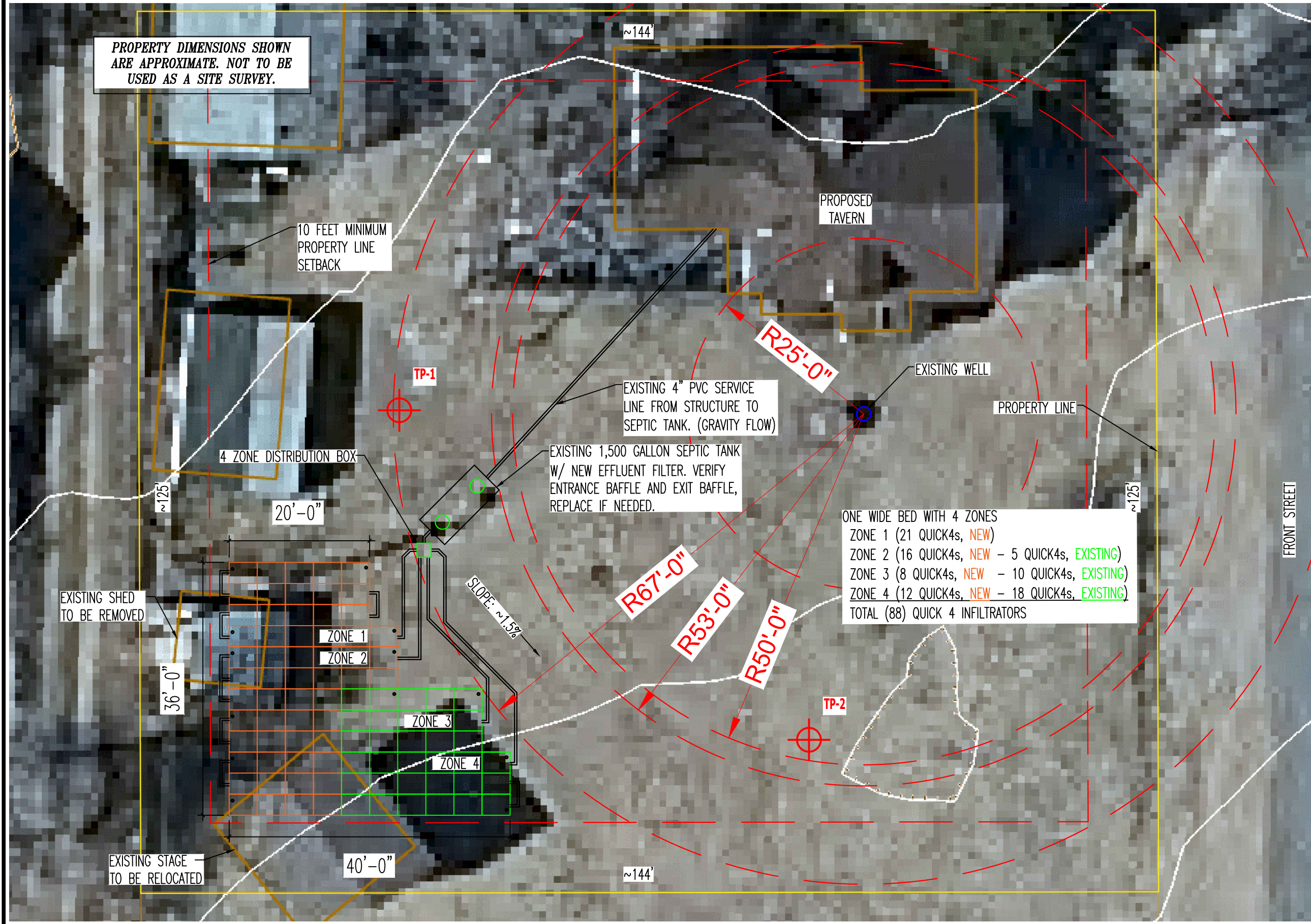
Revisions:			
No.	Description	By	Date



ON-SITE WASTEWATER
TREATMENT SYSTEM
13596 FRONT STREET
EL PASO COUNTY, COLORADO
FOR: ROSS HADLEY

DRAWN BY: R. JAQUET
 DESIGNED BY: R. JAQUET
 CHECKED BY: R. JAQUET
 DATE: 7/1/2024
 SCALE: AS SHOWN
 JOB NO.: 222361
 SHEET NO.:

PROPERTY DIMENSIONS SHOWN ARE APPROXIMATE. NOT TO BE USED AS A SITE SURVEY.



UTILITIES ARE IN THE AREA BETWEEN THE PROPERTY LINE AND SEPTIC TANK, VERIFY LOCATIONS, CALL 811 FOR STANDBY IF NEEDED.



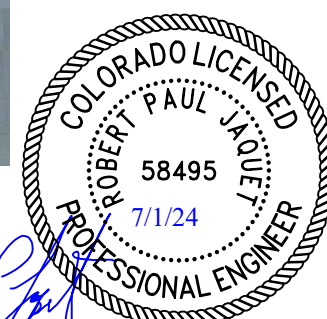
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ON-SITE WASTEWATER TREATMENT SYSTEM
13596 FRONT STREET
EL PASO COUNTY, COLORADO
FOR: ROSS HADLEY

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SITE PLAN
SCALE: 1" = 12.5'



Robert P. Jaquet

NOTE: LOCATE VALVE BOX AT THE "HIGH POINT" IN THE SYSTEM AND PROVIDE AIR RELEASE VALVE.
THE MAXIMUM SOIL COVER OVER THE TOP OF A SEPTIC TANK IS 48" UNLESS OTHERWISE APPROVED BY EL PASO COUNTY

NOTE: BUILDERS/OWNERS SHOULD REVIEW THEIR COVENANTS TO VERIFY IF THERE ARE SETBACK OR LAND-CLEARING RESTRICTIONS THAT MIGHT AFFECT SYSTEM INSTALLATION, PRIOR TO CONSTRUCTION.

NOTE: THE CONFIGURATION OF THE SEPTIC SYSTEM CAN BE ALTERED TO ACCOMMODATE SITE SPECIFIC CONDITIONS AS APPROVED BY ENTECH

ORIENTATION APPROXIMATE; COORDINATE EXACT LOCATION & ORIENTATION WITH ENGINEER ON-SITE, PRIOR TO CLEARING & CONSTRUCTION.

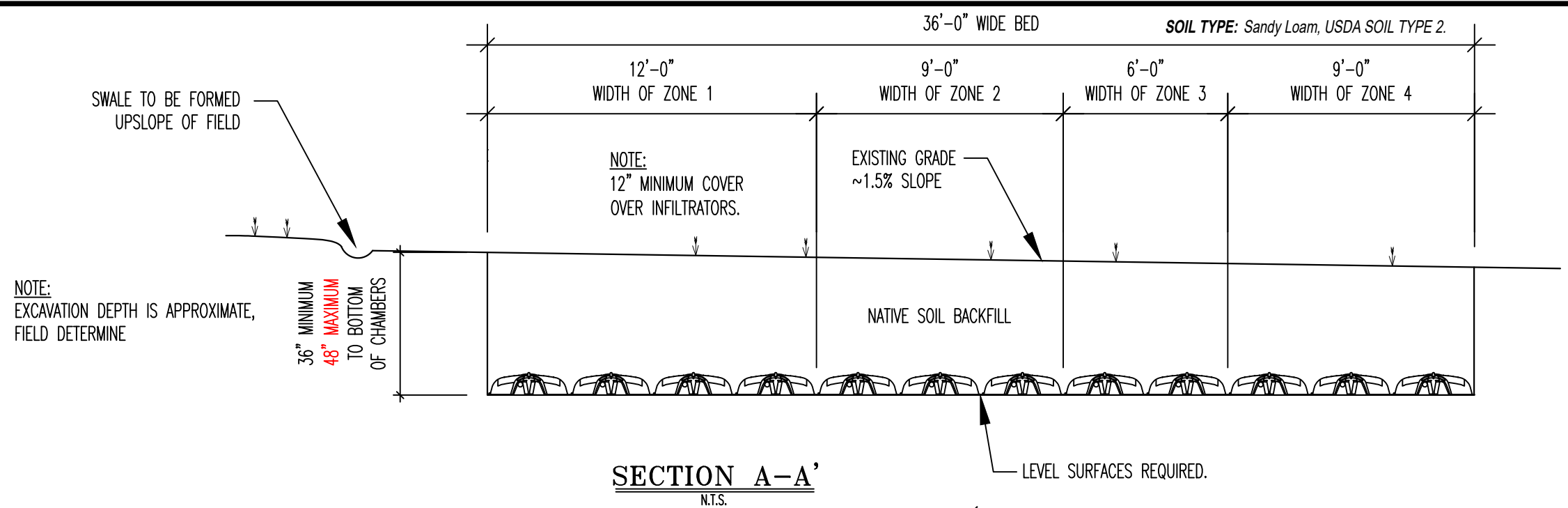
NOTE: ENGINEER TO REVIEW PROPOSED LAYOUT PRIOR TO CONSTRUCTION W/ OWNER & INSTALLER.

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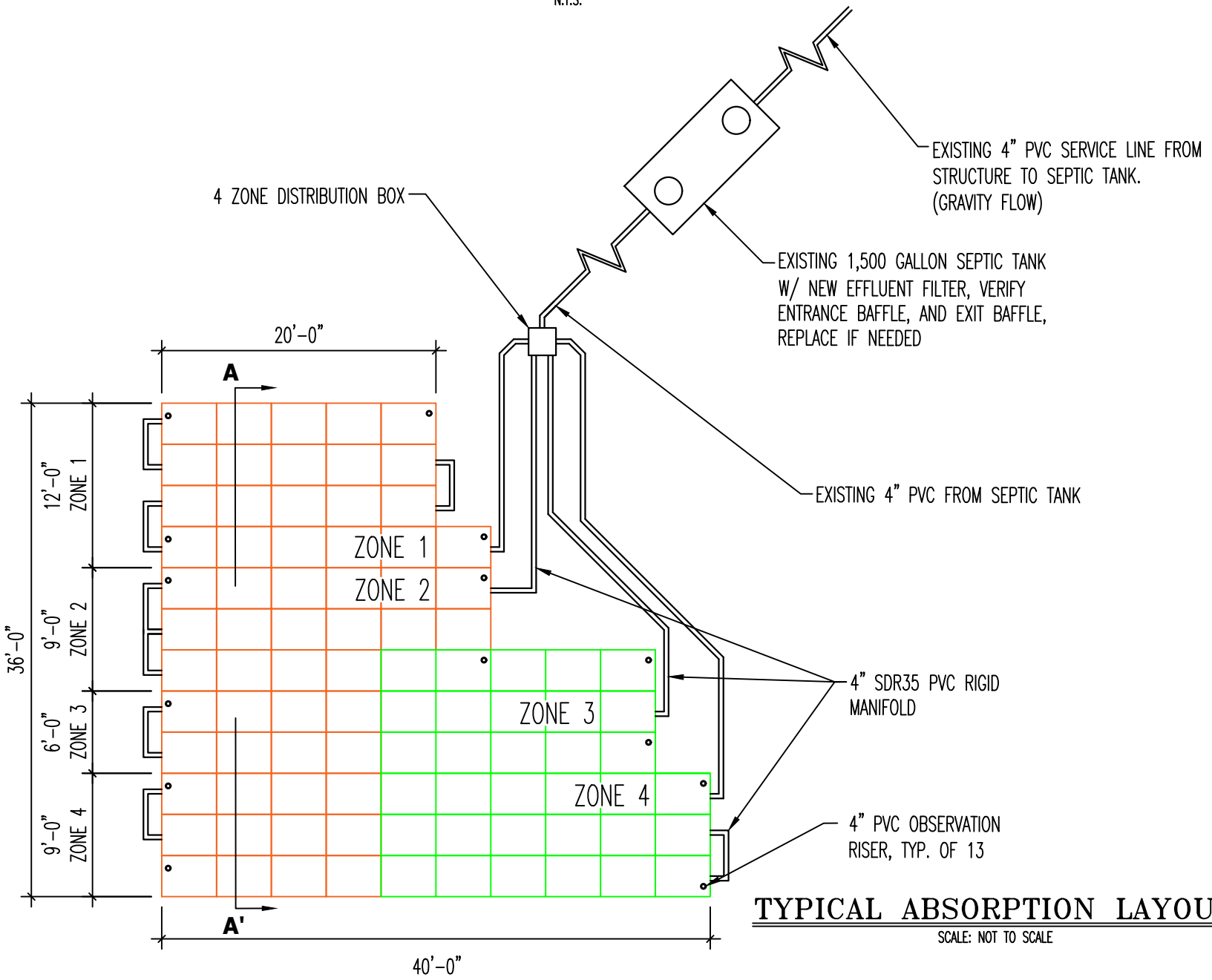
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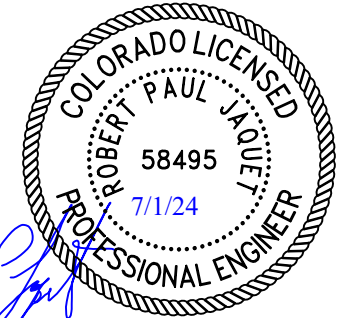
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ZONES MAY BE INSTALLED IN GROUPS AND SPACED AROUND SITE TO AVOID TREES ETC. THE LATERAL WITHIN EACH ZONE MUST BE AT THE SAME ELEVATION AND INSTALLED LEVEL.



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Robert P. Jaquet

TYPICAL ABSORPTION LAYOUT
SCALE: NOT TO SCALE

- (1) WIDE BED WITH 4 ZONES
- ZONE 1 (21 QUICK4s, NEW)
- ZONE 2 (16 QUICK4s, NEW - 5 QUICK4s, EXISTING)
- ZONE 3 (8 QUICK4s, NEW - 10 QUICK4s, EXISTING)
- ZONE 4 (12 QUICK4s, NEW - 18 QUICK4s, EXISTING)
- TOTAL (88) QUICK 4 INFILTRATORS

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