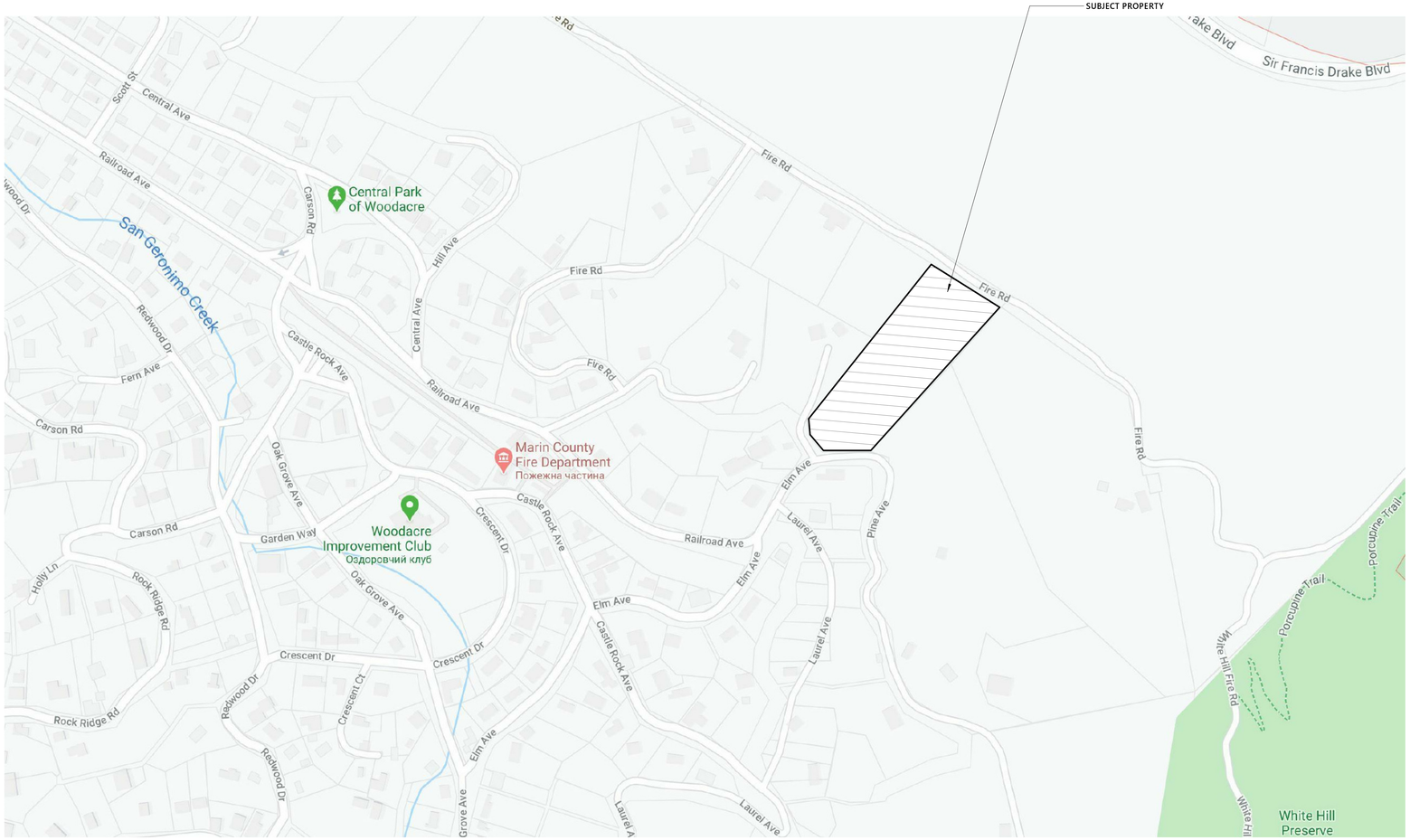
PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973



1 A0.00 VICINITY MAP
NTS

PROJECT INFORMATION

OWNERS NAME	: ANDREW & SARA PETERS
ADDRESS / APN	: 172-041-04, WOODACRE, CA 94973
ZONING	: RSP-0.5 RESIDENTIAL SINGLE FAMILY PLANNED
OCCUPANCY CLASS	: R3
CURRENT USE	: VACANT LOT
PROPOSED USE	: SINGLE-FAMILY HOME
CONSTRUCTION TYPE	: VB
SCOPE OF WORK	: CONSTRUCTION OF (N) 3,480 SF SINGLE FAMILY HOME 1-STORY OVER GARAGE, PERMIT EXEMPT PLAY / RECRIATIONAL SPACE, RELATED GRADING, LANDSCAPING & ENGINEERING WORK
MINIMUM SETBACKS	
FRONT SETBACK	: 30 FT MIN.
REAR SETBACK	: 25 FT MIN.
SIDE SETBACK	: 15 FT MIN.
MAXIMUM HEIGHT	: 30 FT MAX. - MAIN BLDG. 15 FT MAX - DETACHED STRUCTURES

AREAS / HEIGHTS / SOIL DISTURBANCE	EXISTING	PROPOSED
LOT AREA (AC)	4.8	4.8 (NO CHANGE)
FLOOR AREA (SF)	N/A	3,480
FLOOR AREA RATIO	N/A	0.02
SUBGRADE GARAGE (SF)	N/A	539
PERMIT EXEMPT PLAY / REC. SPACE (SF)	N/A	298
BUILDING HEIGHT (FT)	N/A	18'-0"
SOIL DISTURBANCE (SF)	N/A	26,637
EXCAVATION:		
CUT (CU YA)	N/A	2,046
FILL (CU YA)	N/A	1,228
OFF-HAUL GARAGE, FOOTINGS, POOL (CU YA)	N/A	532
OFF-HAUL GENERAL GRADING (CU YA)	N/A	286
TOTAL OFF-HAUL (CU YA)	N/A	818

SHEET INDEX

REV.	SHEET #	SHEET NAME
2	A0.00	COVER SHEET
	S1	SURVEY
2	A0.40	PROPOSED SITE PLAN
2	A0.41	PROPOSED FOCUSED SITE PLAN
2	A0.50	PROPOSED GRADING PLAN
1	A0.60	PROPOSED DRAINAGE PLAN
2	A0.70	PROPOSED UTILITY PLAN
1	A0.80	PROPOSED STAKING PLAN
2	A0.90	PROPOSED LANDSCAPE LIGHTING PLAN
1	A1.50	PROPOSED ROOF PLAN
1	C1	SEPTIC PLAN
	C2	DETAIL SHEET
	C3	DETAIL SHEET

2

PROJECT DIRECTORY

ARCHITECT
MICHAEL FORD
LICENSE #36260
PETERS DESIGN-BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
P: 415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

GENERAL CONTRACTOR
PETERS DESIGN-BUILD
CONTRACTOR LICENSE #1024720
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
P: 415.290.8184
ANDREW@PETERSDESIGNBUILD.COM

STRUCTURAL ENGINEER
MOSSWOOD ENGINEERING
3360 ADELINE STREET
BERKLEY, CA 94703
P: 415.839.1022
MOSSWOODENGINEERING.COM

ALL WORK PER 2019 CBC AND MARIN COUNTY DEVELOPMENT CODE

PETERS DESIGN - BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:28 PM

REVISIONS

SCALE 12" = 1'-0"
0'-0" NTS NTS

COVER SHEET

A0.00

TOPOGRAPHIC AND BOUNDARY SURVEY

PINE/ELM AVENUE

UNINCORPORATED WOODACRE

MARIN COUNTY – CALIFORNIA

SCALE: 1 INCH = 30 FEET DECEMBER 2019

ASSESSOR PARCEL NUMBER:

172-041-04

LOT AREA:

210,157± SQUARE FEET

LEGAL DESCRIPTION

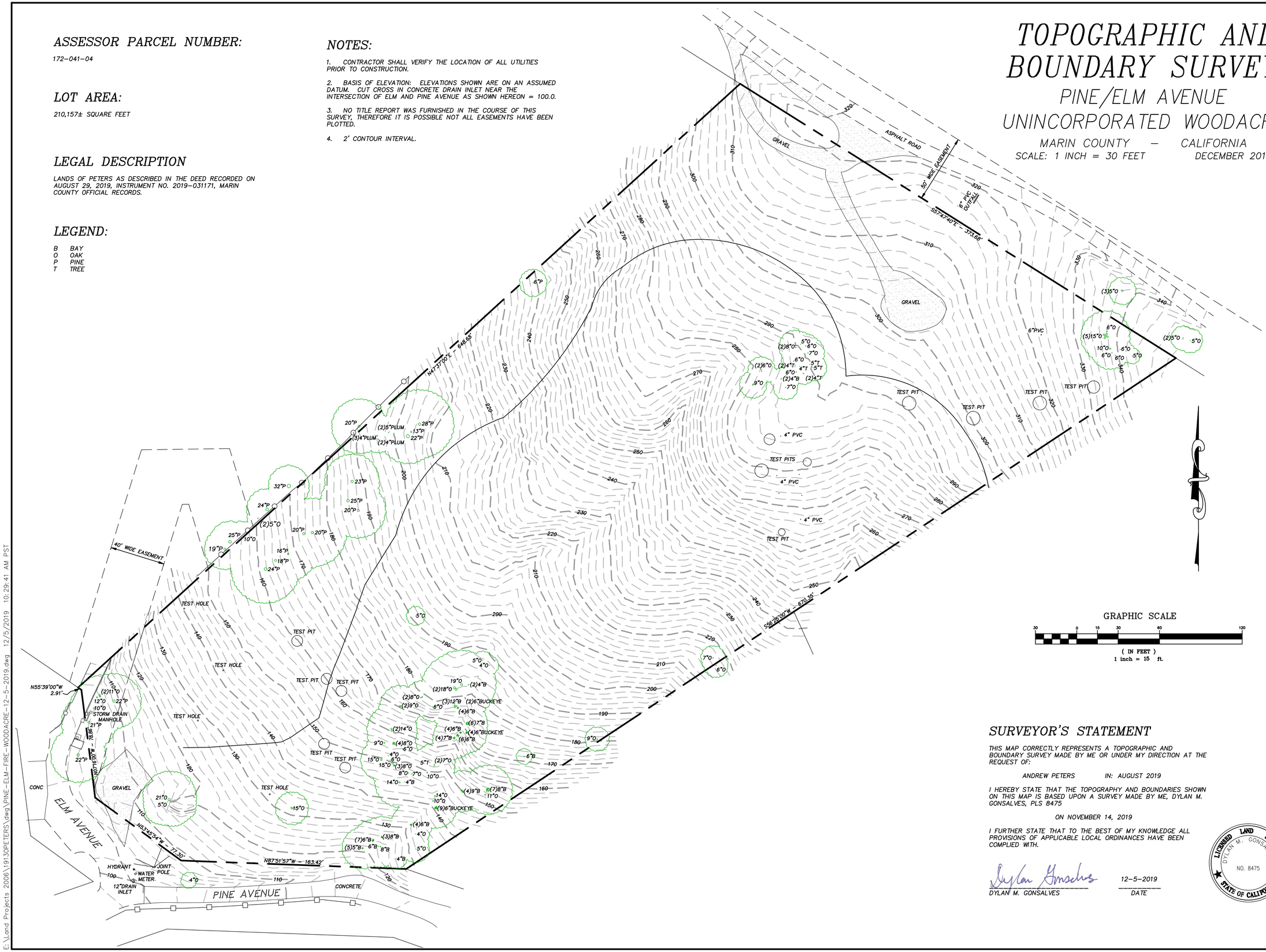
LANDS OF PETERS AS DESCRIBED IN THE DEED RECORDED ON AUGUST 29, 2019, INSTRUMENT NO. 2019-031171, MARIN COUNTY OFFICIAL RECORDS.

NOTES:

1. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
2. BASIS OF ELEVATION: ELEVATIONS SHOWN ARE ON AN ASSUMED DATUM. CUT CROSS IN CONCRETE DRAIN INLET NEAR THE INTERSECTION OF ELM AND PINE AVENUE AS SHOWN HEREON = 100.0.
3. NO TITLE REPORT WAS FURNISHED IN THE COURSE OF THIS SURVEY, THEREFORE IT IS POSSIBLE NOT ALL EASEMENTS HAVE BEEN PLOTTED.
4. 2' CONTOUR INTERVAL.

LEGEND:

B BAY
O OAK
P PINE
T TREE



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 15 ft.

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A TOPOGRAPHIC AND BOUNDARY SURVEY MADE BY ME OR UNDER MY DIRECTION AT THE REQUEST OF:

ANDREW PETERS IN: AUGUST 2019

I HEREBY STATE THAT THE TOPOGRAPHY AND BOUNDARIES SHOWN ON THIS MAP IS BASED UPON A SURVEY MADE BY ME, DYLAN M. GONSALVES, PLS 8475

ON NOVEMBER 14, 2019

I FURTHER STATE THAT TO THE BEST OF MY KNOWLEDGE ALL PROVISIONS OF APPLICABLE LOCAL ORDINANCES HAVE BEEN COMPLIED WITH.

DYLAN M. GONSALVES — 12-5-2019 DATE

LICENSED LAND SURVEYOR — DYLAN M. GONSALVES — NO. 8475 — STATE OF CALIFORNIA

DMG ENGINEERING, Inc.
30 OAKVUE COURT
PLEASANT HILL, CA 94523
PHONE: (925) 787-0463
FAX: (925) 287-8503

REVISIONS

NO.	DATE	DESCRIPTION	BY

TOPOGRAPHIC AND BOUNDARY SURVEY
PINE/ELM AVENUE
UNINCORPORATED WOODACRE
SCALE: 1 INCH = 30 FEET DECEMBER 2019

SHEET 1
OF 1 SHEETS
ORIG.DWG: 12-5-2019
REV.DWG:
JOB: 19-130

E:\Land Projects 2006\1913OPETERS\dwg\PINE-ELM-FIRE-WOODACRE-12-5-2019.dwg 12/5/2019 10:29:41 AM PST

EXSISTING TREE LEGEND:

1 - MONTEREY PINE (PINUS RADIATA)
2 - COAST LIVE OAK (QUERCUS AGRIFOLIA)
3 - CHERRY PLUM (PRUNUS CERASIFERA)
4 - CALIFORNIA BUCKEYE (AESCULUS CALIFORNICA)
5 - CALIFORNIA BAY (UMBELLULARIA CALIFORNICA)
6 - ARROYO WILLOW (SALIX LASIOLEPIS)

NOTE:

NO EXISTING TREES TO BE REMOVED. ALL ORNAMENTAL PLANTING TO BE NATIVE AND DROUGHT TOLERANT SPECIES

1

1 PROPOSED SITE PLAN
A0.40 1" = 40'-0"

PETERS DESIGN - BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:33 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE: 1" = 40'-0"
0'-0" 40'-0" 100'-0"

PROPOSED SITE PLAN

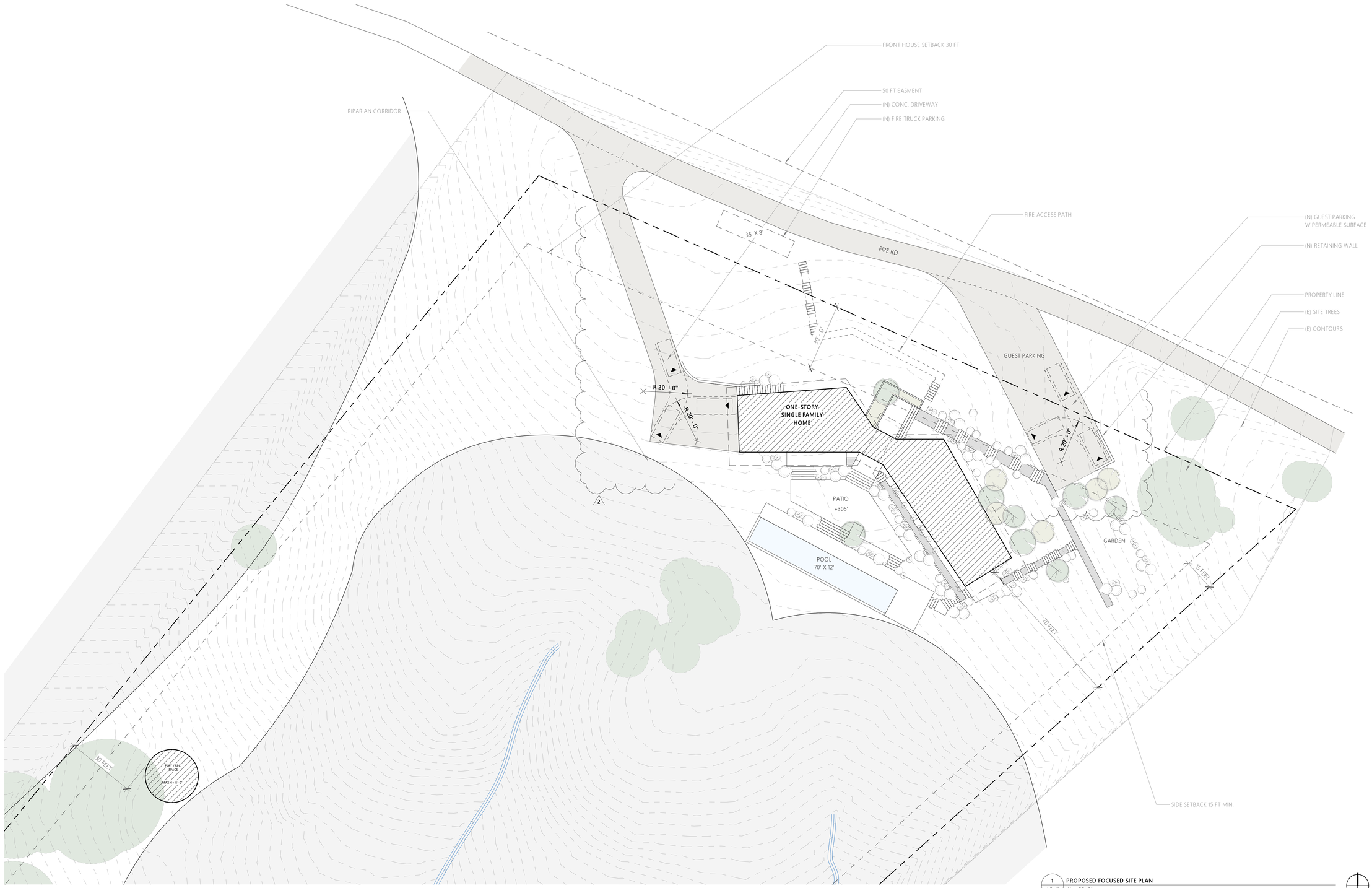
A0.40

1

NOTE:

NO EXISTING TREES TO BE REMOVED. ALL ORNAMENTAL PLANTING TO BE NATIVE AND DROUGHT TOLERANT SPECIES

1



1 PROPOSED FOCUSED SITE PLAN
A0.41 1" = 20'-0"

PETERS DESIGN - BUILD

2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:36 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE: 1" = 20'-0"
0'-0" 20'-0" 50'-0"

PROPOSED FOCUSED SITE PLAN

A0.41

GRADING LEGEND:

- (E) CONTOURS
- (N) CONTOURS
- +300' (E) ELEVATION MARKS
- **+300'** (N) ELEVATION MARKS

NOTE:

NO EXISTING TREES TO BE REMOVED. ALL ORNAMENTAL PLANTING TO BE NATIVE AND DROUGHT TOLERANT SPECIES

1

1 A0.50 **PROPOSED GRADING PLAN**
1" = 20'-0"

PETERS DESIGN - BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:40 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE: 1" = 20'-0"
0'-0" 20'-0" 50'-0"

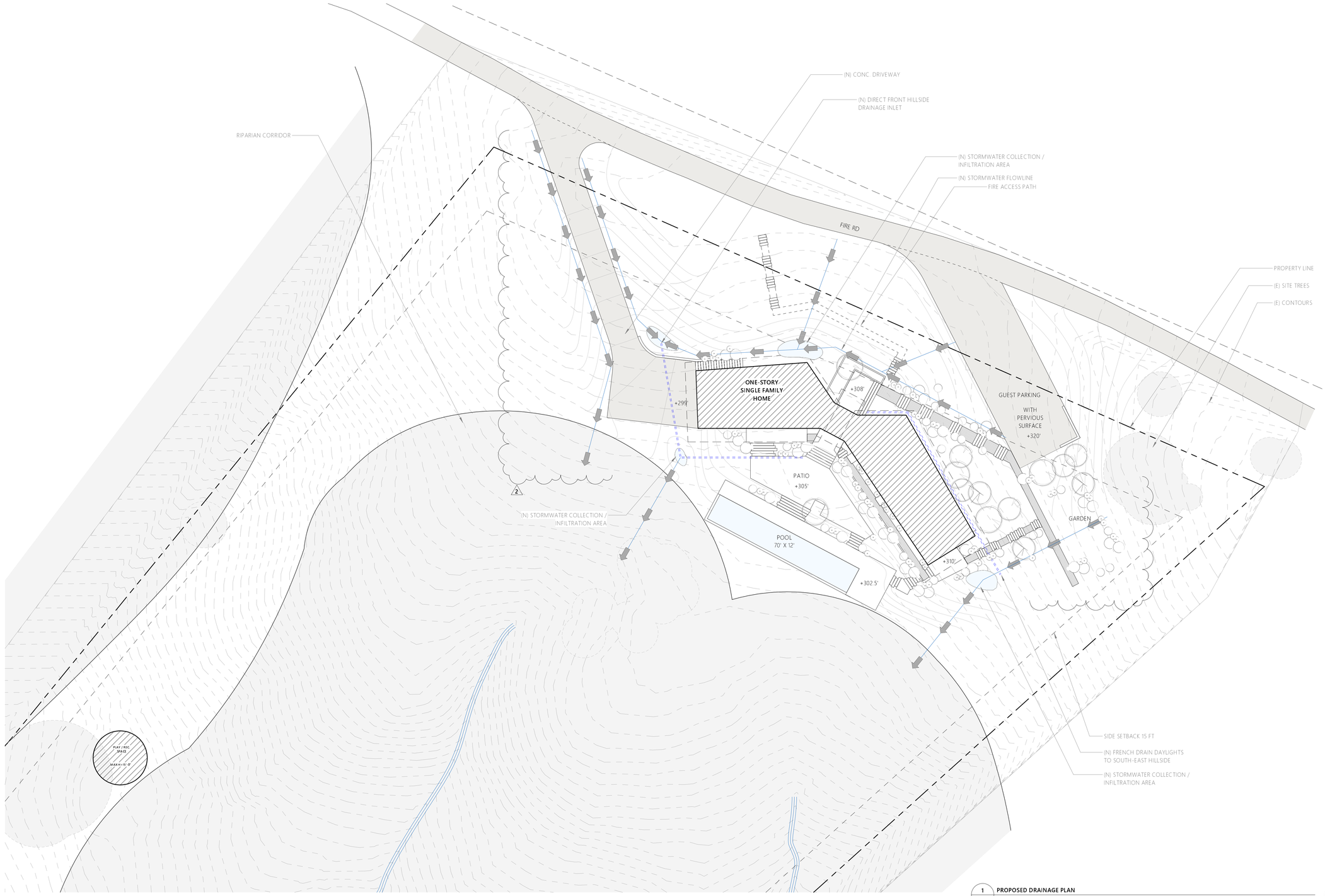
PROPOSED GRADING PLAN

A0.50

DRAINAGE PATH TYPES:

WATER RUNOFF

FRENCH DRAIN



1 A0.60 **PROPOSED DRAINAGE PLAN**
1" = 20'-0"

PETERS DESIGN - BUILD

2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

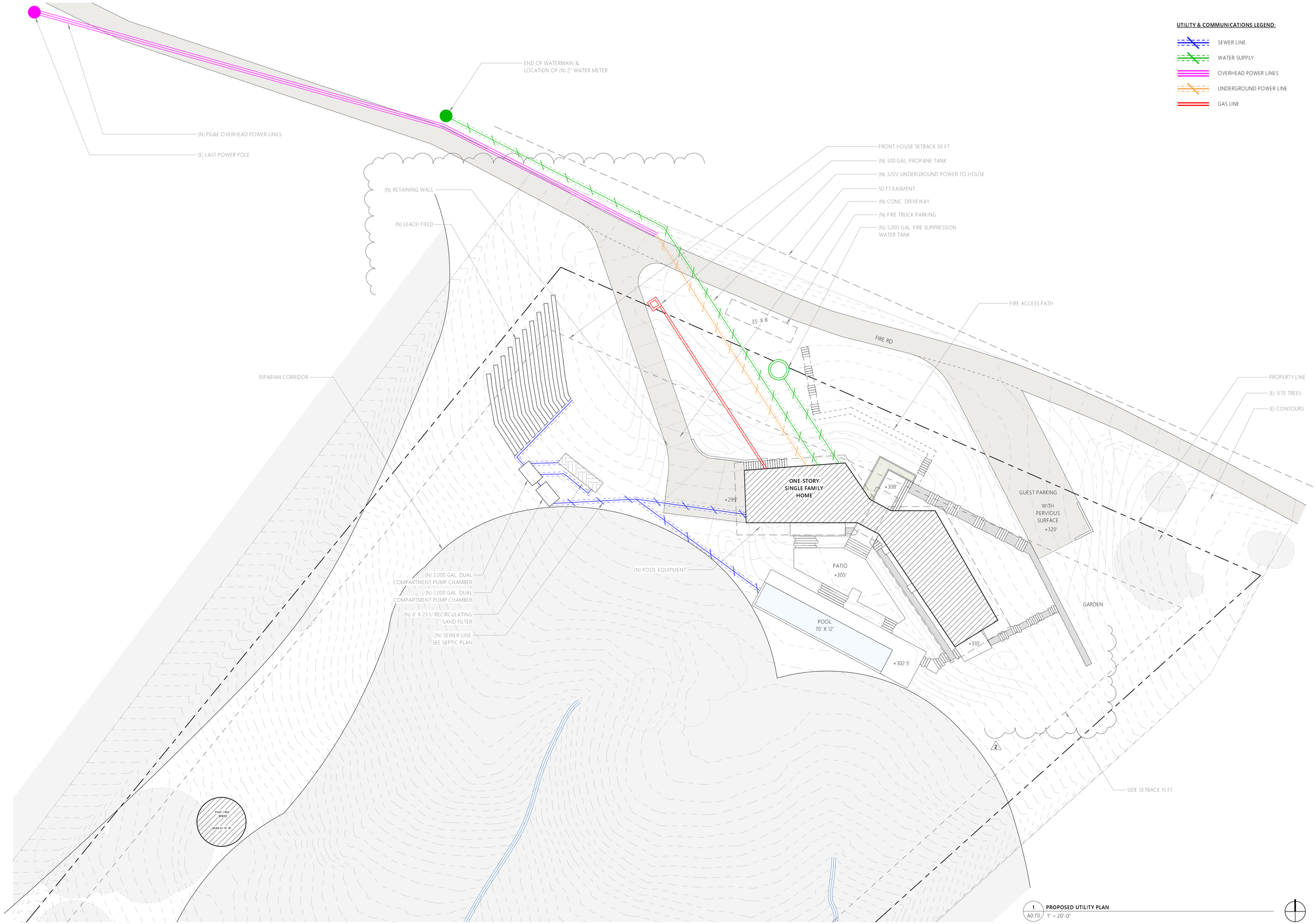
DATE
5/12/2021 5:33:42 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE: As indicated
0'-0" 20'-0" 50'-0"

PROPOSED DRAINAGE PLAN

A0.60



1 A0.70 **PROPOSED UTILITY PLAN**
1" = 20'-0"

PETERS DESIGN - BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:46 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE As indicated
0'-0" 20'-0" 50'-0"

PROPOSED UTILITY PLAN

A0.70

LANDSCAPE LIGHTING LEGEND

L.E.D. SCONCE 7W AVG.	50	50 WATTS
PATH LIGHT, 1W	11	77 WATTS
BOLLARD LIGHT, 1.6W	4	6.4 WATTS
DECK LIGHT, 6W	75	45 WATTS
LIGHTED HOUSE NUMBERS	1	1 WATT
TOTAL	141	179.4 WATTS

NOTE: ALL EXTERIOR LIGHTING VISIBLE FROM OFF-SITE SHALL BE HIGH-EFFICACY L.E.D. FIXTURES. FIXTURES VISIBLE FROM OFF-SITE TO BE SHIELDED AND DIRECTED DOWNARD TO PREVENT ADVERSE IMPACT ON NEIGHBORING PROPERTIES.

ONE-STORY
SINGLE FAMILY
HOME

+299'

+308'

+320'

+310'

PATIO

+305'

POOL
70' X 12'

+302.5'

GUEST PARKING

WITH
PERVIOUS
SURFACE

GARDEN

1 PROPOSED LANDSCAPE LIGHTING PLAN
A0.90 1" = 10'-0"

PETERS
DESIGN
- BUILD

2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:33:59 PM

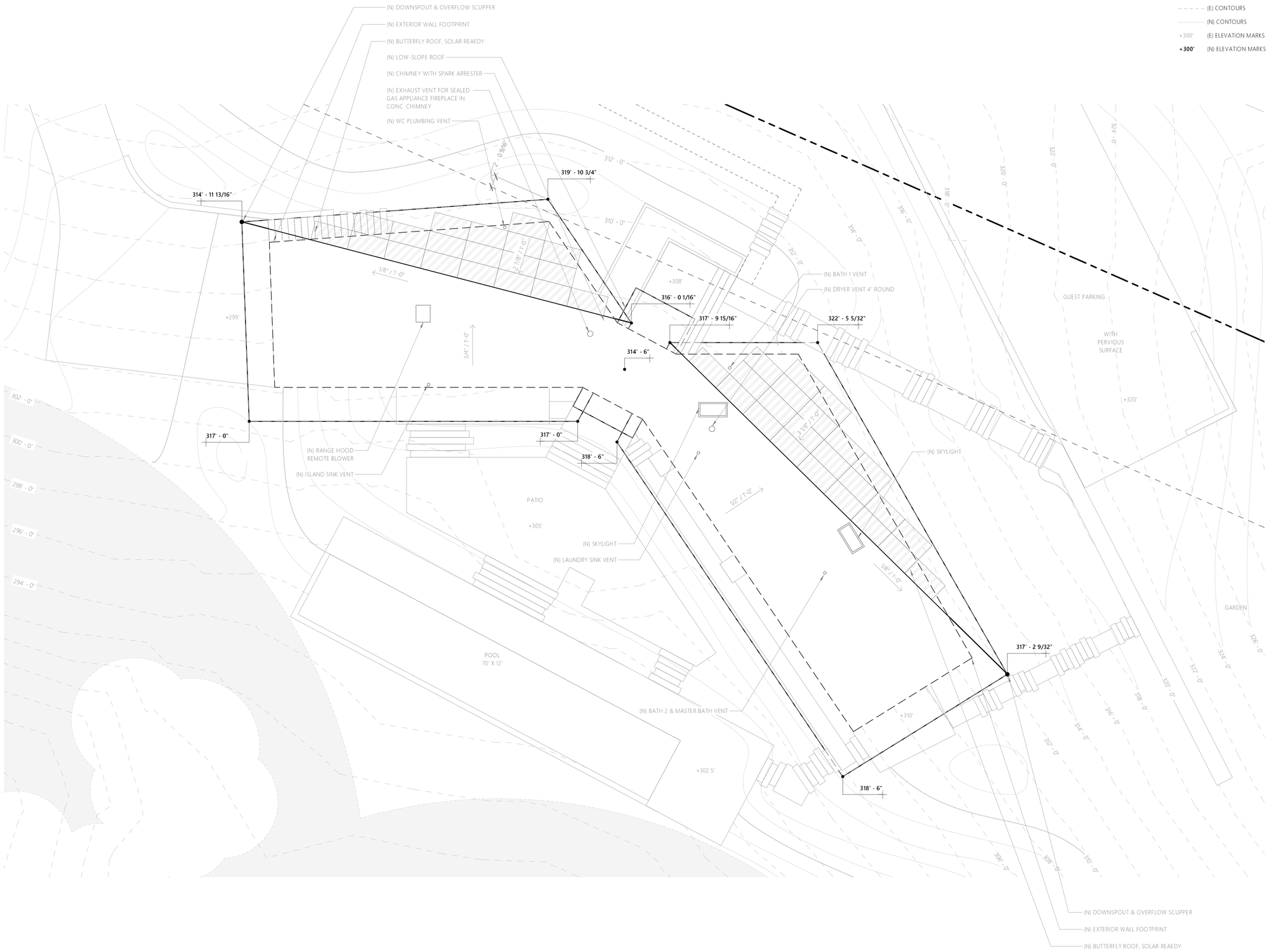
REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

SCALE 1" = 10'-0"
0'-0" 10'-0" 25'-0"

PROPOSED LANDSCAPE LIGHTING PLAN

A0.90

1



1 A1.50 **PROPOSED ROOF PLAN**
1/8" = 1'-0"

PETERS DESIGN - BUILD
2746 JUDAH STREET
SAN FRANCISCO, CA 94122
415.320.8735
MICHAEL@PETERSDESIGNBUILD.COM

PETERS RESIDENCE

APN 172-041-04, WOODACRE, CA 94973

PROJECT APPLICATION #

LICENSED ARCHITECT
MICHAEL FORD
NO. 36260
REN 9/30/21
STATE OF CALIFORNIA

DRAWING SET TITLE
SITE PLAN REVIEW

DATE
5/12/2021 5:34:02 PM

REVISIONS
1 PLANNING RESPONSE 10/22/20
2 PLANNING RESPONSE 05/17/21

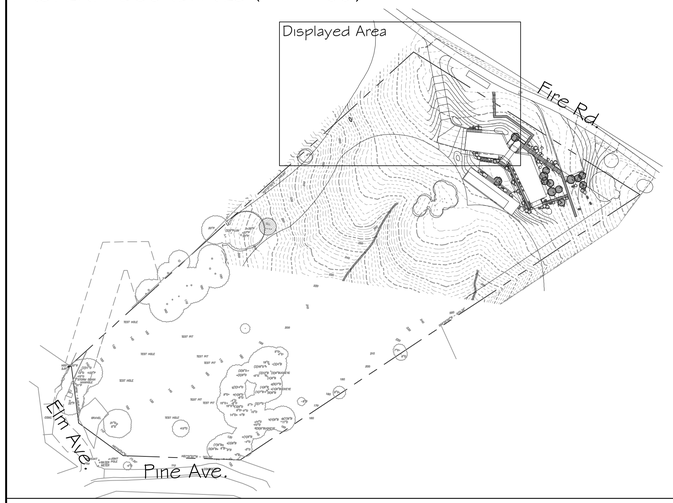
SCALE As indicated
0'-0" 8'-0" 20'-0"

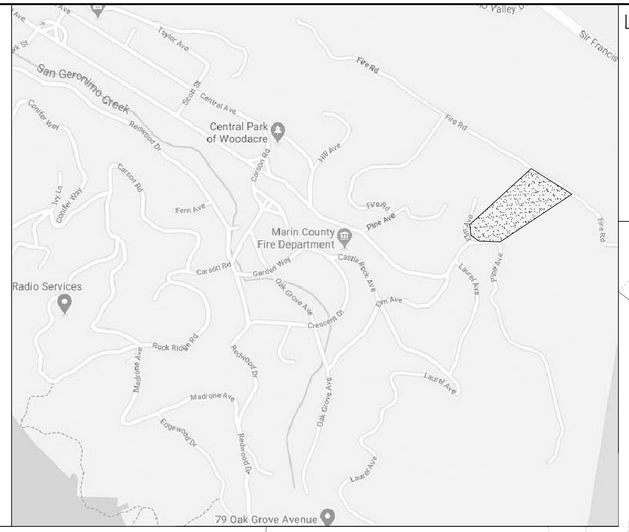
PROPOSED ROOF PLAN

A1.50

1

PROPERTY BOUNDARIES (1" = 100')





LEGEND

- Soil Profile Trench
- Percolation Test
- Check Valve
- Monitoring Well
- Clean Out
- Contour Line
- Gravity Line
- Pressure Line

NOTES

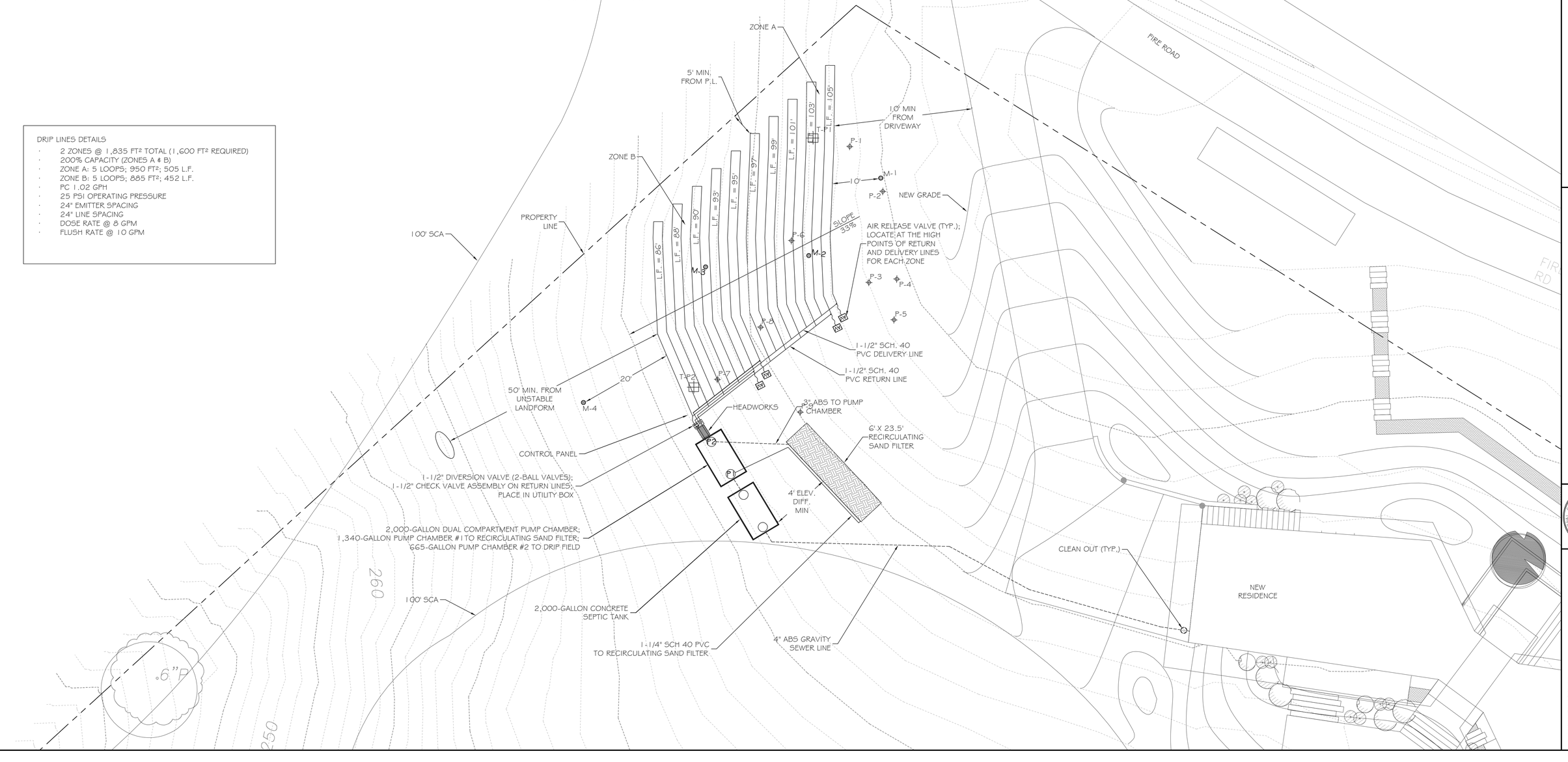
* Survey provided by owner. EED assumes no responsibility.
* 630 GPD System
* 2' contours shown

APN	172-041-04
DATE / REV.	05-01-2021/ B
SCALE/SIZE	1" = 10' / ARCHD
SHEET	1 OF 3

CLASS I SIX-BEDROOM ON-SITE WASTEWATER SYSTEM SITE PLAN

0' 5' 10' 20'
SCALE: 1" = 10'

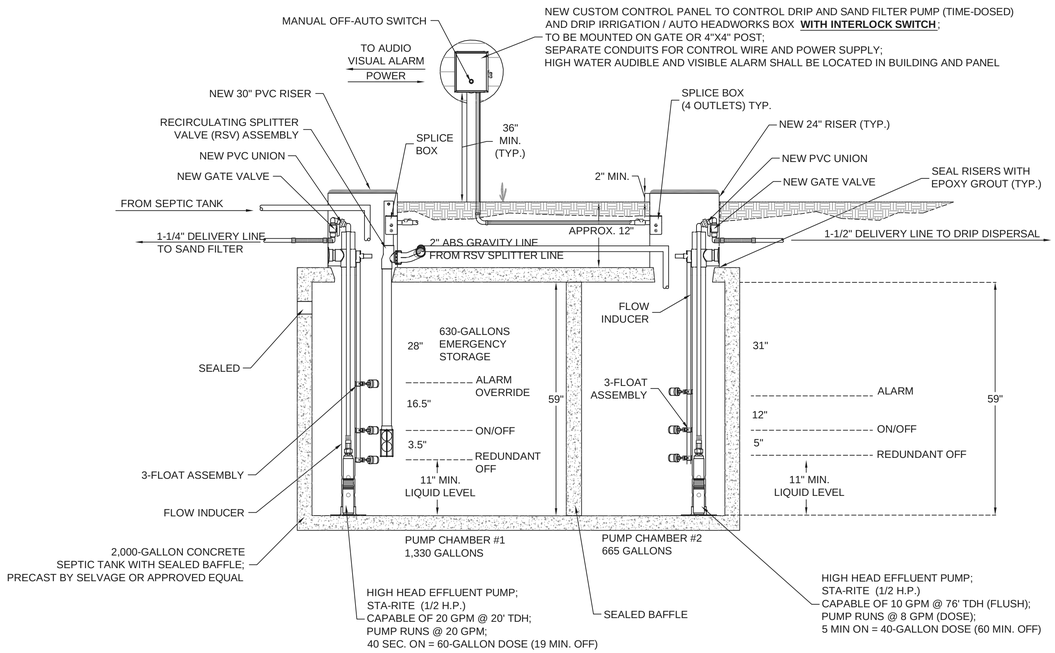
DRIP LINES DETAILS
- 2 ZONES @ 1,835 FT² TOTAL (1,600 FT² REQUIRED)
- 200% CAPACITY (ZONES A & B)
- ZONE A: 5 LOOPS; 950 FT²; 505 L.F.
- ZONE B: 5 LOOPS; 885 FT²; 452 L.F.
- PC 1.02 GPH
- 25 PSI OPERATING PRESSURE
- 24" EMITTER SPACING
- 24" LINE SPACING
- DOSE RATE @ 8 GPM
- FLUSH RATE @ 10 GPM



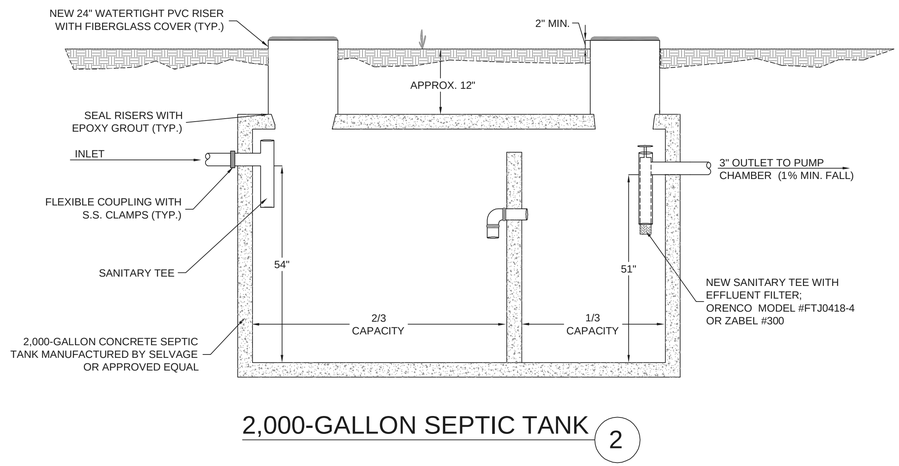
PETERS RESIDENCE
PINE / ELM AVENUE
WOODACRE, CALIFORNIA

PROFESSIONAL ENGINEER — NOADIAH S. ECKMAN — No. 7486 — REGISTERED CIVIL ENGINEER — STATE OF CALIFORNIA

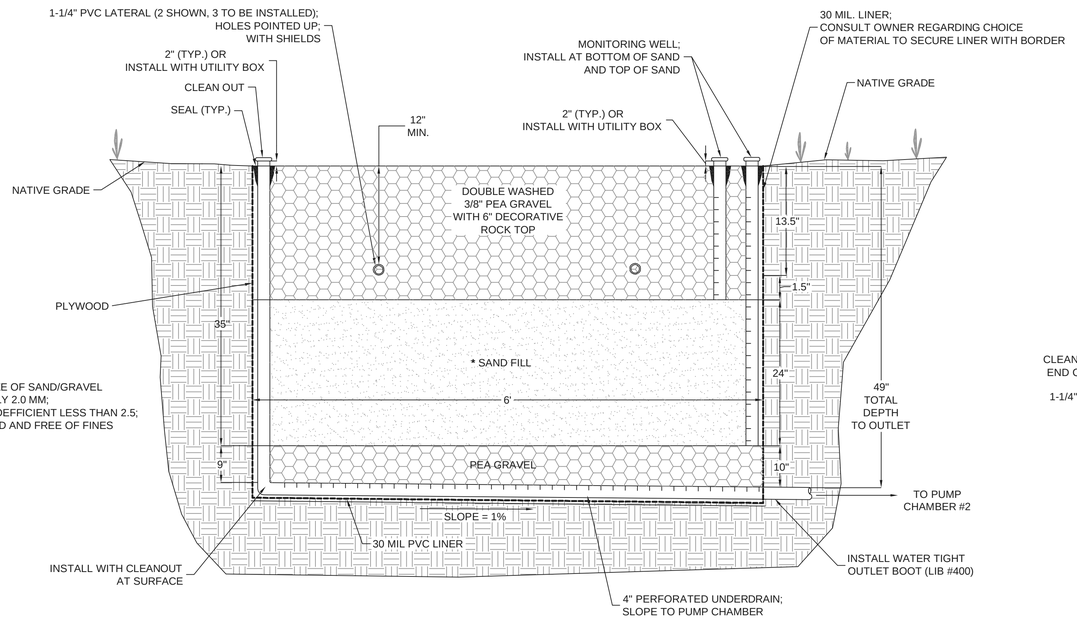
eckman environmental designs, inc
100 Shoreline Highway
Bld B, Suite 6100
Mill Valley, CA 94941
510.390.3992



2,000-GALLON DUAL PUMP CHAMBER 1

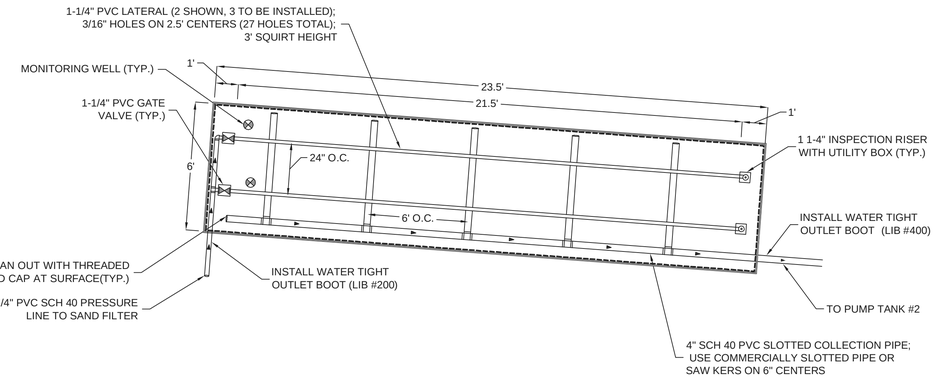


2,000-GALLON SEPTIC TANK 2



RECIRCULATING SAND FILTER 3

CROSS SECTION



RECIRCULATING SAND FILTER 4

TOP VIEW

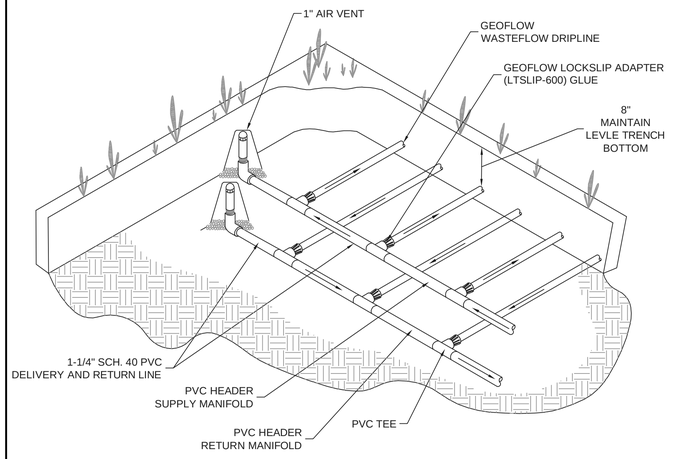
APN	172-041-04
DATE / REV.	05-01-2021/ B
SCALE/SIZE	NONE / ARCHD
SHEET	2 OF 3

ON-SITE WASTEWATER SYSTEM PLAN CONSTRUCTION DETAILS

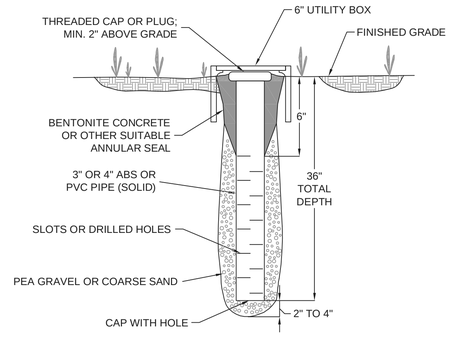
PETERS RESIDENCE
PINE / ELM AVENUE
WOODACRE, CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER NOADIAH S. ECKMAN No. 7466 STATE OF CALIFORNIA

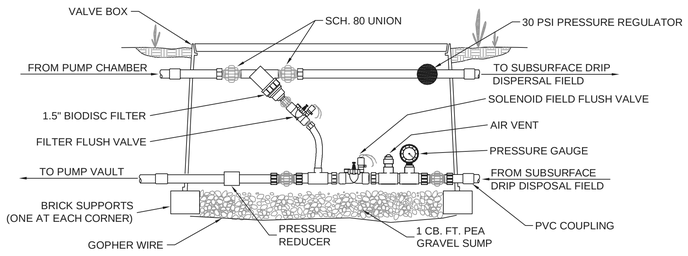
eckman environmental designs, inc
100 Shoreline Highway
Bld B, Suite 6100
Mill Valley, CA 94941
510.390.3992



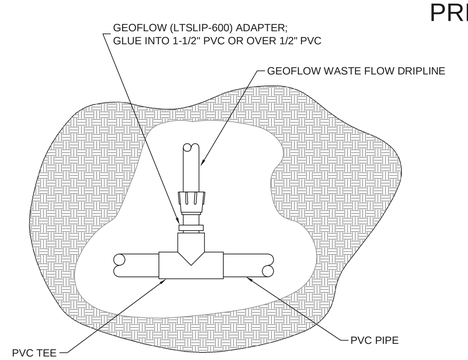
MANIFOLD CONNECTION (END FEED) 5



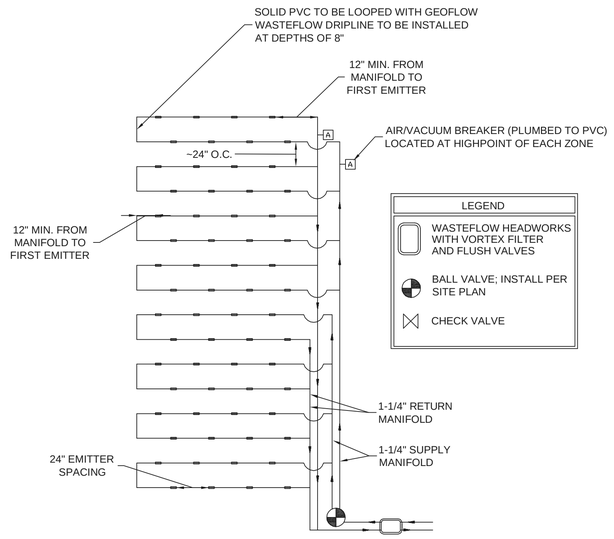
MONITORING WELL 6



SIMPLE WASTE FLOW HEADWORKS BOX MODEL # WHW-1.5-AUTO AND 30 PSI PRESSURE REGULATOR 7



MANIFOLD CONNECTION (PVC TO ADAPTER) 8



SLOPE LAYOUT FOR WASTEFLOW PRESSURE COMPENSATING DRIPLINE (LOOPED) 9

CONSTRUCTION SPECIFICATIONS

GENERAL

Changes to plans or specifications shall be made only after consultation with and approval of the Designer.

At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment. Stockpile excavated material in a manner that will cause the least damage to native vegetation and landscaping. Leave the project site free of rubbish or excess materials of any kind.

Construction inspection by the Designer shall be required at points outlined in the attached Construction Inspection Schedule. It shall be the responsibility of the contractor to call for the required inspections, and to provide at least 48-hours advance notification of the Designer and Marin County EHS Department.

All installation shall be in accordance with Marin County Environmental Health Building Codes.

Marin County Building Division Electrical Permit Required.

MATERIALS

Eckman Environmental Designs Inc. to approve construction material prior to placement.

1. **Access Risers**. Shall be made of PVC, watertight, and shall be installed over the inlet and outlet openings of the septic tank and pump basins with fiberglass lids. The riser must be watertight at all points and have a watertight seal at the top of the tank. Manufactured by Orenco Systems Inc. 814 Airway Avenue, Sutherlin, OR, (800) 348-9843, or equal.

2. **Septic Tank.** New 2,000-gallon concrete tank to be watertight tested.

3. **Pump Vaults**. Chamber #1 is to be 1,330-gallon with pump capable of 20 gpm at 20 ft TDH to time dose pretreatment unit. Chamber #2 is to be 665-gallon. The pump for the dripfield is to be Sta-Rite model 10GPM or equal; capable of delivering 10 gpm at 76 ft TDH. Junction boxes #SB4 and #SB1 and high head assembly.

4. **Distribution Piping**. All piping for the delivery and pressure distribution network shall be Schedule 40 PVC and have a minimum pressure rating of 150 psi unless otherwise specified. All joints shall be solvent-cement socket type conforming to ASTM D-2672.

5. **Control Panel**. The treatment pumping system and drip irrigation system will be controlled by control panel which meets all specifications for Marin County Codes. The pumping system includes two effluent pump with time-dosing. The control panel will also operate the Geoflow® automatic Headworks box.

6. **Dripline**. Dripline shall be Geoflow® Wasteflow™ PC with line spacing of 24-inches. There shall be pressure-regulating emitters inserted every 24 inches inside the tube. These emitters shall have a nominal flow rate of 1.0 gallon per hour. The emitters shall be impregnated with Treflan to inhibit root intrusion for a minimum period of 10 years, a period guaranteed by the manufacturer. The dripline shall be identified as being used with non-potable water by means of two purple stripes permanently incorporated into the outside wall of the tube. Operating pressure is 10 to 40 psi. As manufactured by Geoflow, Inc., 1(800) 828-3388.

7. **Automatic Headworks Box**. The preassembled headworks box shall be Geoflow® #WHW-1.5-AUT with an automatic flush configuration and shall include the following: biodisc filter, zone flush valve, filter flush valve, pressure gauge, air vent, and utility box. As manufactured by Geoflow, Inc.

   Vortex Filter Flush Valve (Solenoid). Set the control panel so that the filter flush valve will automatically open for 15 seconds at the end of the pump cycle. When the vortex filter flush is complete the filter flush valve will close and the system drain function begins.

   Field Flush Valve. Will open at the end of the dosing cycle. The pump will continue to run for 5 seconds (field adjustable) to accommodate the opening of this valve. After the pump is deactivated the field flush valve will remain open for five minutes (field adjustable) to allow for drainage of the return line. **It is best to clock the length of time it takes to return flush line to drain and use this to set your drain time.** The field flushing will be directed to the inlet side of the septic tank and is controlled by a solenoid valve located in the automatic headworks box. This setting shall be programmed by Contractor into the control panel.

8. **Supply Manifold.** The supply manifold delivers treated effluent from the pump. The supply manifold shall be 1-1/2-inch Schedule 40 PVC. 1-1/4-inch Schedule 40 PVC for Sand Filter.

9. **Return Manifold**. The return manifold collects the water flushed from the emitter lines and returns it to the pump chamber #2. The return manifold shall be 1-1/2-inch Schedule 40 PVC.

10. **Dripline Fittings**. All connections shall be made with barb or compression-type fitting connections. Fitting shall be as manufactured by Geoflow® to ensure the integrity of the subsurface disposal system.

11. **Geoflow Air/Vacuum Relief Valves**. The air and vacuum relief valves shall be Model No. APVBK-1, or equivalent. The dispersal zone shall utilize a 1-inch MPT air/vacuum relief valve at its high point(s). The purpose of this valve is to evacuate air from the zones at startup and to relieve vacuum at system shut down to prevent back siphoning or back pressure.

12. **Recirculating Sand Filter.** See detail #3 for sand specifications.

GENERAL CONSTRUCTION

13. **Installation**. All installation work shall be in accordance with applicable Marin County

14. **Septic Tank and Pump Chamber Leak Test**. All tanks shall be required to be certified as watertight. Field testing of tanks shall be required and conducted as follows:

    Designer to visually inspect tank prior to conducting leak test. Fill existing septic tank and pump chamber so water level is 2 inches ± above tank/access riser joints. Note depth of water and re-measure not less than 1 hour later. A water drop will be considered to be an indicator of a leaking tank; and tank shall be repaired or replaced to the satisfaction of the designer.

15. **Location of Drip Disposal Area.** Location shown for the drip disposal area is approximate, subject to adjustment in the field by the Contractor according to building constraints and noted setback requirements.

16. **Pump Chamber Locations**. Location for the pump chamber is approximate, subject to adjustment in the field by the contractor according to building constraints and any noted setback requirements.

17. **Pump Controls**. Pumps controlled on a timed basis. Timer setting and final setting of float switches shall be determined in the field, based on actual pump chamber dimensions.

18. **Electrical**.
    - High water audio and visual alarm IS required within the house.
    - All electrical work shall conform to procedures and codes of Marin County Building Department.

    Effluent Pump: The pump shall be of the size and type to accommodate the intended use and shall include the following:

    a. A "Hand-off-auto" (HOA) switch.

    b. An audio and visible alarm and necessary sump water sensing device to indicate a"high water" condition.

    c. Float switches shall be anchored to a suitable float tree for controlling the starting and stopping of pump operation.

    d. The pump intake shall be set a minimum of 4 inches above the sump bottom.

    Sump:

    a. Access shall be provided by a minimum 24-inch diameter opening;

    b. All pipes and/or electrical conduits through the sump shall be either precast into the sump or sealed with gas-tight compression connectors.

    Electrical Features: The following electrical features shall be provided:

    a. An outdoor-type control box containing fused disconnect and motor protection switch.

    b. The control box may be mounted on the building served if located within 30 feet and within direct view of the sump, otherwise the control box shall be mounted on a pipe stand or wooden post.

    c. Electrical conduit shall be PVC. Separate conduits shall be provided for control wire and power supply. Separate circuits with individual breakers at the main panel shall be provided for the control panel/alarm and pump.

19. **Pressure Pipe Network**.
    - All pressure pipe shall be Schedule 40 PVC or approved equal.
    - All joints shall be glued with solvent cement.
    - Hydraulic testing shall be conducted in the presence of the Designer to determine any leaks in the system and pump operation.
    - A concrete thrust block shall be installed at all pipe bends of 45o or greater in all pressure lines .

GEOFLOW INSTALLATION

All Geoflow drip systems require:
100 micron / 150 mesh filter, Filter flush valve, Field flush valve and Air vent in each zone. All Wasteflow PD drip systems require pressure regulation.
Handle your dripline and components with care. ROOTGUARD® is temperature sensitive. To assure a long life store the drip line out of direct sunlight in a cool place. Install the system headfirst: pumps, control panel, and automatic headworks box.

1. All dripfield construction shall be done in accordance with Local rules and regulations.

2. No utilities, cable wire, drain tile, etc shall be located in dripfield.

3. Fence off entire dripfield prior to any construction.

4. System is not to be installed when ground is wet.

5. Be sure you have everything required for the installation before opening trenches. Pre-assemble as many sets of components as practical above ground and in a comfortable place. Compression or Lockslip adapters should be glued to PVC tees, riser units should be pre-assembled, the submain manifold with tees can be pre-assembled and used to mark the beginning and end of WASTEFLOW lines.

6. For particularly tough soil conditions moisten the soil the day before opening trenches or installing WASTEFLOW. Remember it is much easier to install the system in moist soil. The soil should be moist but still should allow the proper operation of the installation equipment and not cause smearing in the trenches. The soil surface should be dry so that the installation equipment maintains traction.

7. Mark the four corners of the field. The top two corners should be at the same elevation and the bottom two corners should be at a lower elevation. In freezing conditions the bottom dripline must be higher than the supply and return line elevation at the dosing tank.

8. Install the PVC supply line from the dosing tank, up hill through one lower and one upper corner stake of the dispersal field. 18-inch depth of burial.

9. Paint a line between the two remaining corner stakes.

10. Install the Geoflow WASTEFLOW dripline from the supply line trench to the painted line, approximately 8" deep as specified. Upon reaching the painted line, pull the plow out of the ground and cut the dripline 1' above the ground. Tape the end of the dripline to prevent debris from entering. Continue this process until the required footage of pipe is installed. Geoflow dripline must be spaced according to specification. Depth of burial of dripline must be consistent throughout the field. Take care not to get dirt into the lines.

11. Install the supply header with tees lined up at each Geoflow line. Hook up the Geoflow lines to the supply header. Do not glue WASTEFLOW dripline.

12. Installing Lockslip fittings:
    a) Hold the fitting in one hand and position the tubing with the other hand.
    b) Move the sleeve back, and push the tubing onto the exposed stem as far as possible.
    c) Push the sleeve out over the tubing and thread the sleeve onto tubing, as though tightening a nut to a bolt. Hand tighten. Do not use tools.

13. Install the pre-assembled Headworks between the field and the pump tank on the supply line.

14. If using a pressure regulator, install it downstream of the filter or Headworks, just ahead of the dispersal field, on the supply line. The pressure regulator can be installed inside a small valve box for easy access.

15. Install the floats in the dosing tank and wire up to the timer control. The timer control should be set to pump no more than the design flow, do not set to match the treatment capacity.

16. Fill the dosing tank with fresh water and turn on the pump. Check for flow out the ends of all of the Geoflow lines. Let the pump run for about five minutes to flush out any dirt. Shut off the pump and tape the ends of the lines.

17. Dig the return header ditch along the line painted on the ground and back to the pre-treatment tank. Start the return header at the farthest end from the dosing tank. The return line must have slope back to the treatment tank or septic tank.

18. Install the return header and connect all of the Geoflow lines. Care must be taken not to kink the dripline.

19. Install air vacuum breakers at the highest points in the dispersal field. Use pipe dope or Teflon tape and hand tighten.

20. If Headworks was installed on the supply line, connect the return line back through the Headworks box. Open the field flush valve and turn on the pump to flush lines then close the valve and check the field and all piping and connections for leaks. Turn off the system

21. Turn on the pump and check the pressure at the air vacuum breaker(s). It should be between 15 to 60 PSI. Check the pressure in the WASTEFLOW Headworks if used. It should be five psi or higher. If using a manual valve for field flushing, crack it open until at least one PSI is lost or design pressure is reached and leave in that position.

22. Check the filter for construction debris and clean.

CONSTRUCTION INSPECTION SCHEDULE

In accordance with requirements of Marin County EHS, the following construction activities shall be inspected by Designer and EHS Staff.

INSPECTION #1
- Onsite pre-construction conference to discuss project with Contractor.
- Staking of pump chamber.
- Staking of and installation review for sand filter.
- Staking and layout of subsurface drip dispersal system.

INSPECTION #2
- Septic Tank and pump chamber leak test.
- Check water tight sand filter liner.
- Placement of ABS, delivery & return drip lines to drip, delivery lines and gravity lines.

INSPECTION #3
- Assembly and layout of Geoflow drip pipe network, check level layout.
- Testing of pumps and distribution systems.

INSPECTION #4
- Complete Geoflow installation. Set timer and determine dose rates and other settings.
- Final backfill of distribution area and sand filter.
- Final grading for drainage and erosion control.
- General site clean up.

APN	172-041-04
DATE / REV.	05-01-2021/ B
SCALE/SIZE	NONE / ARCHD
SHEET	3 OF 3

ON-SITE WASTEWATER SYSTEM PLAN
CONSTRUCTION DETAILS

PETERS RESIDENCE
PINE / ELM AVENUE
WOODACRE, CALIFORNIA

PROFESSIONAL ENGINEER — REGISTERED — JOAQUIAH S. ECKMAN — No. 7466 — STATE OF CALIFORNIA

eckman environmental designs, inc
100 Shoreline Highway
Bld B - Suite 6100
Mill Valley, CA 94941
510.390.3992