Project Info

Project Description

Construction of a one-story 1,295 ft2 single family residence, driveway, decks, septic system, and landscaping improvements, on an infill parcel where a previous residence owned by the family was destroyed by fire.

All County and LCP building height, yard setback, and FAR limits are complied with, as well as all FEMA base elevation and design standards. A two-bedroom residence previously existed on the property until it was destroyed by a fire in 1983. The applicant's family has continuously owned the property since the 1930s.

Applicant	Address	APN	Lot Area
Brian & Alyce Johnson	P.O. Box 1139 Homewood, CA 96141	195-162-49	15,200 Ft (0.36) Acres

Zoning	Construction Type	FEMA Flood Zones
C-R2 - Residential, Two Family	VA	VE, A0

Square Footage (Proposed)	Footprint (Proposed)	FAR (Proposed)	FAR (Maximum)
1,296	1,296	0.08	0.3

Average Slope	Driveway Slope	Minimum Parking Spaces	Proposed Parking Spaces
7.13%	12% Maximum	2 spaces	2 spaces

Minimum Setbacks for Residence	Proposed Setbacks for Residence	Maximum Heights	Proposed Heights
Front: 25'	Front: 25'	Residence: 25'	Residence: 20' 7"
Rear: 16'	Rear: 16'	Retaining Wall: 4'	Retaining Wall: 4'
Side: 6'	Side: 46'/100'	Boundary Fence: 6'	Boundary Fence: 6'
Rear Deck: 10'	Rear Deck: 10'	**Latitude:**	**Longitude**
Front Porch: 19'	Front Porch: 19'	37.899	-122.645

Sheet Index

Consultant Info

Design	Civil Engineer	Structural Engineer
CivicKnit	AYS Engineering Group, Inc	Paul Krohn, PE
Steve Kinsey (415) 307-1370	Troy Pearce (707) 763-6220	(530) 342-2926
P.O. Box 81 Forest Knolls, CA 94933	P.O. Box 5693 Petaluma, CA 94955	P.O. Box 113 Fairfax, CA 94978

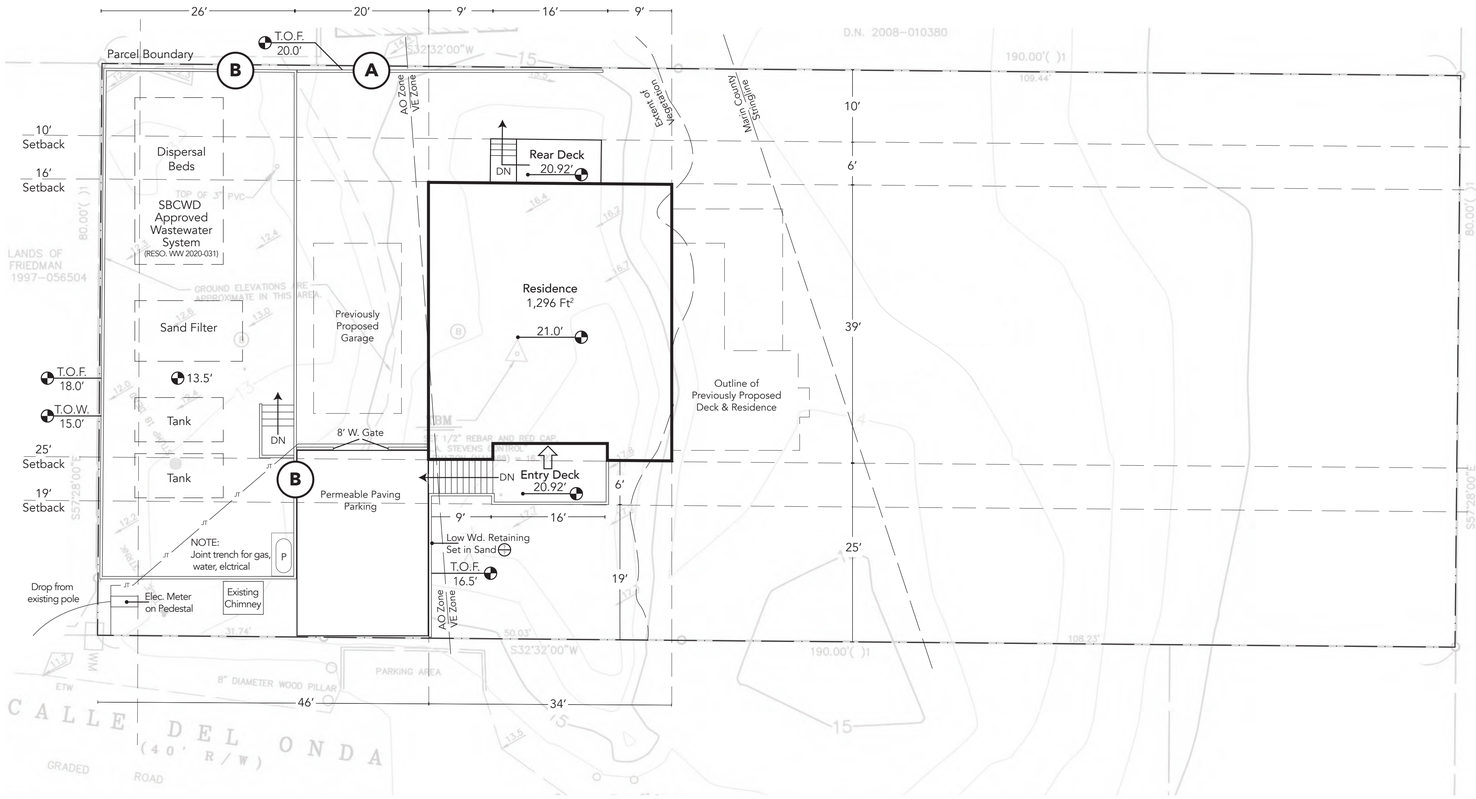
Coastal Engineer	Geotechnical Engineer	Surveyor
Noble Consultants, Inc	Murray Engineers, Inc	L.A. Stevens & Associates, Inc
Ron Noble (415) 884-0727	Christopher Korth (415) 888-8952	Larry Stevens (415) 382-7713
2420 Mountain Ranch Rd. Petaluma, CA 94954	409 4th St, San Rafael, CA 94901	7 Commercial Blvd. Novato, CA 94949

Vicinity Map

Directions

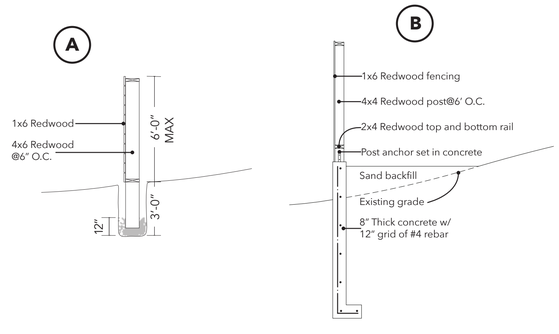
Turn left onto Calle Del Onda going Northbound on Highway 1. The property is the last lot on the left side of the street.

Site Plan

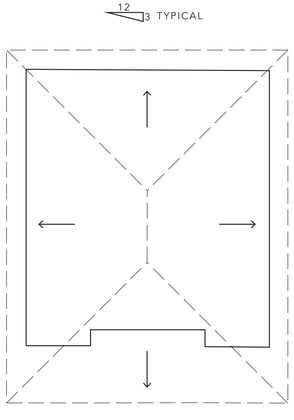


Fence Details

Not to scale



Roofing Plan



1

6/10/22

Revisions

#	Description	Drawn By	Date

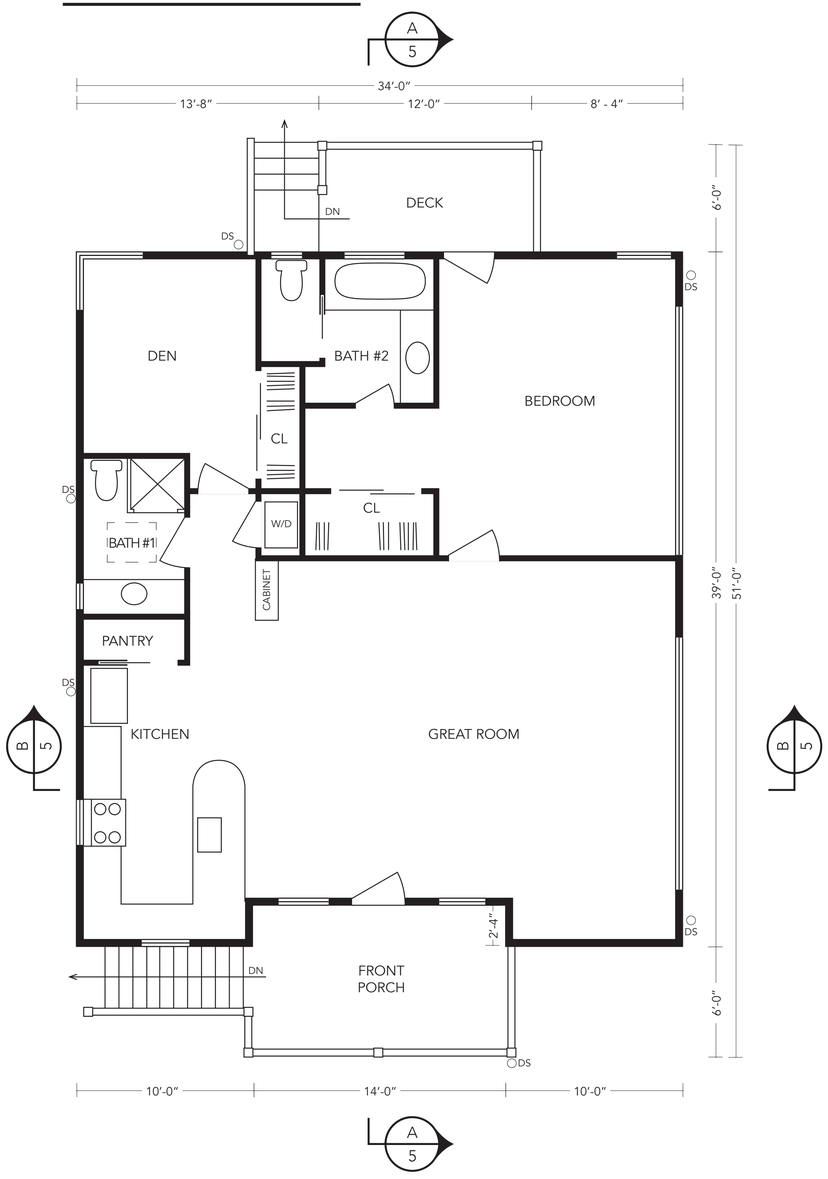
Project Info

21 Calle del Onda
Revised Design

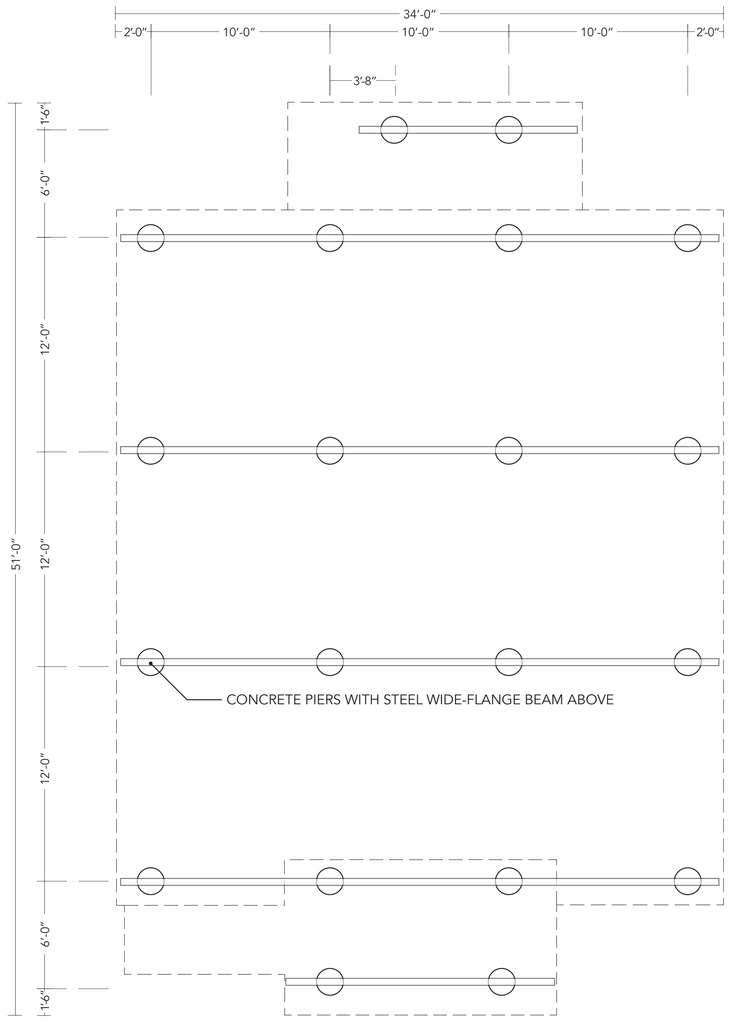
0 10 20 40
1″ = 10′

CivicKnit
P.O. Box 81
Forest Knolls
94933
415.488.4193

Floor Plan



Foundation Plan



FOUNDATION DESIGN TO REFLECT RECOMMENDATIONS OF GEOTECHNICAL ENGINEERING EVALUATION

2
6/10/22

Revisions
Description | Drawn By | Date

Foundation + Floor Plans

21 Calle del Onda
Revised Design

0 4 8 16
1/4″ = 1′

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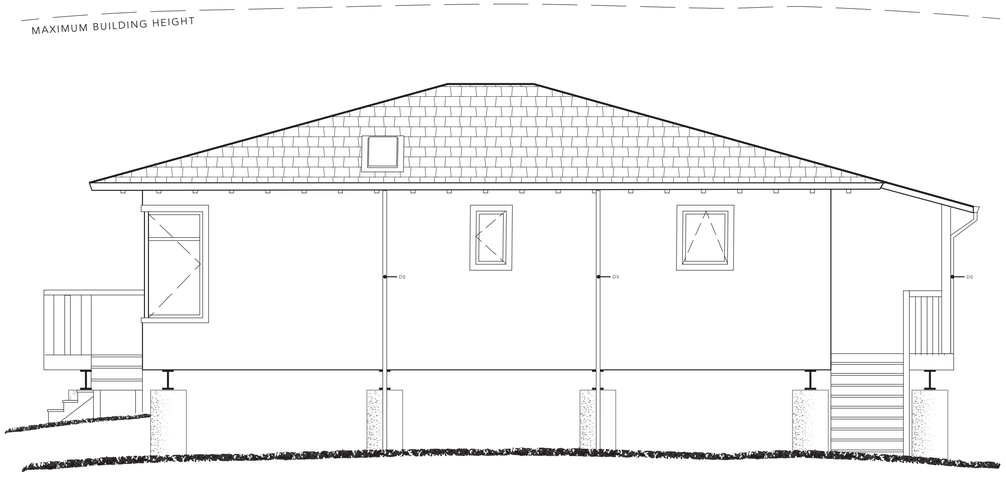
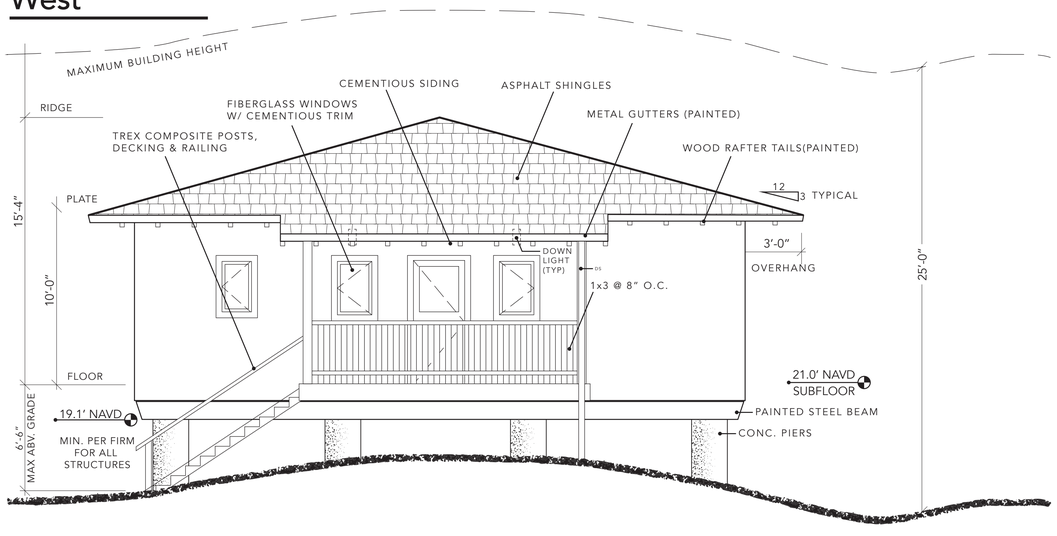
94933
415.488.4193

North

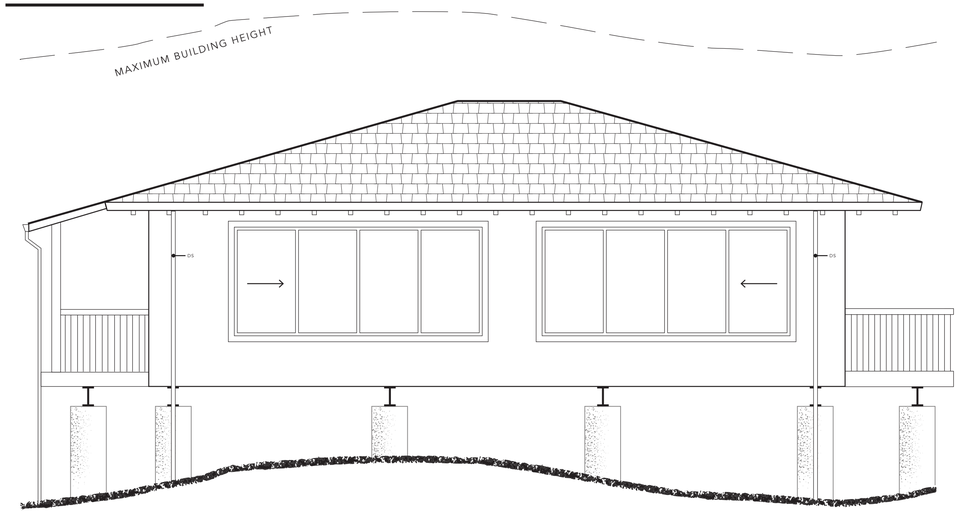


East

West



South



3

6/10/22

Revisions

#	Description	Drawn By	Date

Elevations

21 Calle del Onda
Revised Design

0 10 20 40
1" = 10'

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94933
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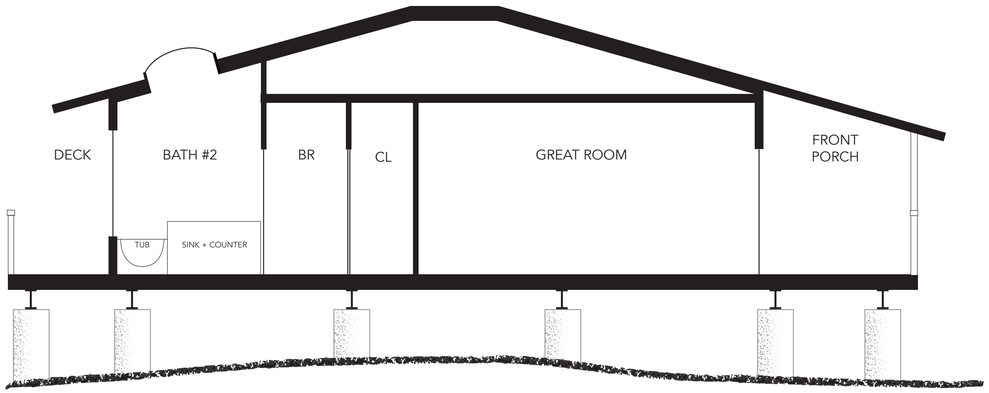
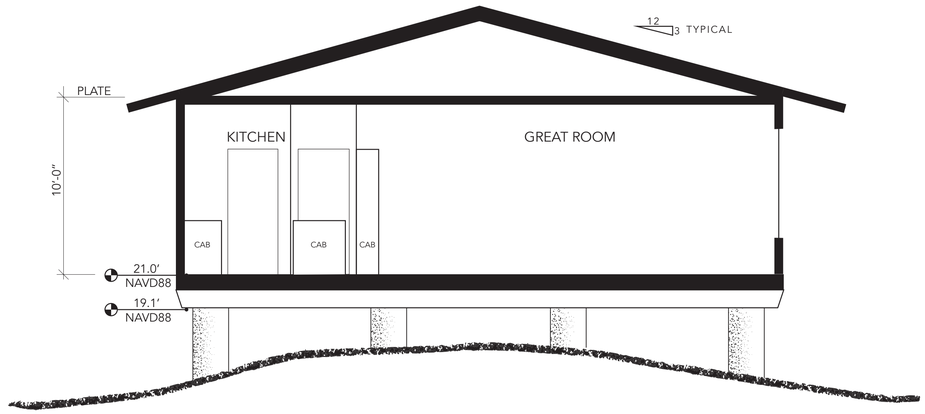
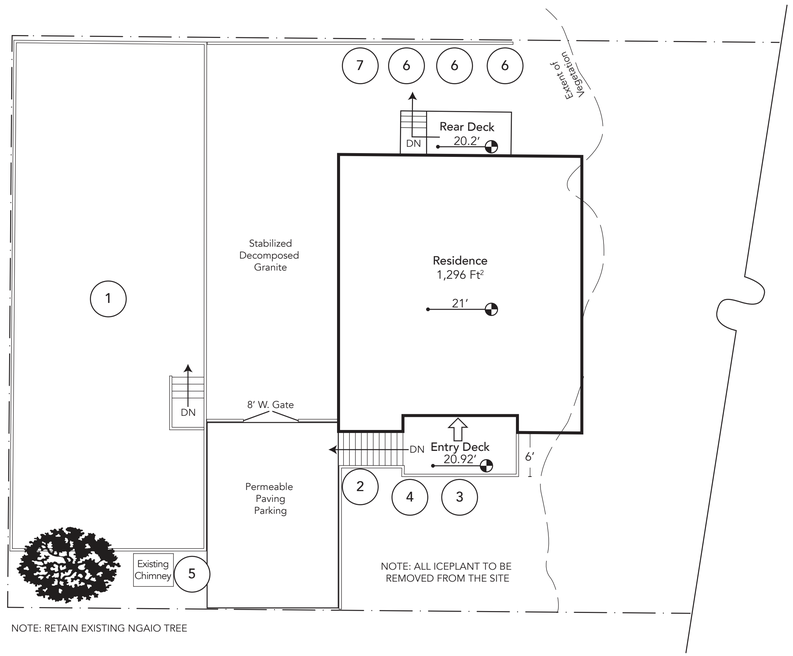
Section A



Section B



Landscaping Plan



Plant Species

#	Latin Name	Common Name	California Native	Notes
1	*Festuca rubra, Trifolium wildenovii*	Native Lawn Grasses and Clover	√	Native grass lawn to cover entirety of wastewater dispersal area
2	*Calamagrostis foliosa*	Reed Grass	√	
3	*Festuca californica*	California Fescue	√	Plant bunches along perimeter of driveway and deck every 2 - 3 feet
4	*Clematis lasiantha*	Chapparal Clematis	√	
5	*Echium vulgare*	Viper's Bugloss		
6	*Cistus creticus*	Rock Rose		
7	*Escallonia Rubra*			

4

6/10/22

Revisions

#	Description	Drawn By	Date

Sections + Landscaping

21 Calle del Onda
Revised Design

0 10 20 40
1" = 10'

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94933
415.488.4193

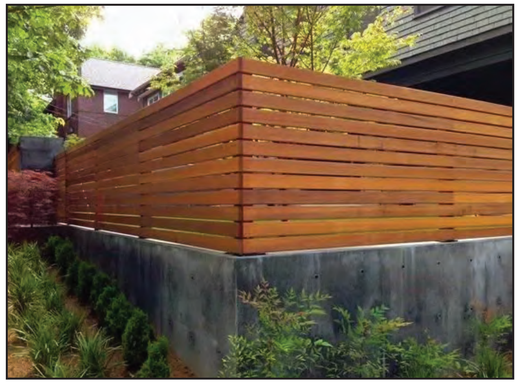
Siding

Exterior siding will be HardieShingle Night Gray fiber cement shake siding

Roofing

Asphalt composite shingles will be used on all pitched roof areas

Fencing



Redwood fencing will be used around the perimeter of the septic area and the rear yard. In some locations these wooden fences will sit atop concrete retaining walls

Lighting Fixtures

Exterior lighting will consist of recessed soffit lights and hooded down lights to minimize light pollution

Decking, Stairs & Railing

Clamshell colored Trex composite material will be used for all decks, railings, and stairs

Windows

Frost colored Milguard fiberglass clad windows will be used at all locations

Revisions
Description | Drawn By | Date

Exterior Materials

21 Calle del Onda
Revised Design

0 10 20 40
1" = 10'

CivicKnit
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GENERAL NOTES

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER AND DESIGN ENGINEER.

ALL MATERIAL, WORKMANSHIP, AND CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS (DATED JULY 1992) AND THE CURRENT MARIN COUNTY UNIFORM CONSTRUCTION STANDARDS AND SPECIFICATIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UNDERGROUND SERVICE ALERT (U.S.A.) CALL TOLL FREE (800) 642–2444 AT LEAST 48 HOURS PRIOR TO EXCAVATION. CONTRACTOR TO UNCOVER EXISTING BURIED UTILITIES WITH UTILITY OWNER TO VERIFY LOCATION AND ELEVATION. BURIED UTILITIES INCLUDE BUT ARE NOT LIMITED TO WATER, SEWER, GAS, ELECTRICAL AND TELEPHONE. ALL UTILITIES CONFLICTING WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION.

CONTRACTOR SHALL OBTAIN A TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE EXCAVATION OF ANY TRENCH GREATER THAN FIVE FEET IN DEPTH.

ALL UNDERGROUND IMPROVEMENTS SHALL BE INSTALLED AND APPROVED PRIOR TO ROAD SURFACING.

NOT TO BE USED AS BOUNDARY SURVEY, TOPOGRAPHIC SURVEY PROVIDED BY LA STEVENS AND ASSOC, NOVATO CA 415–382–7713 ⚠1

ALL TREES TO REMAIN SHALL BE FENCED AS DIRECTED BY ARBORIST OR COUNTY PRIOR TO BEGINNING OF CONSTRUCTION. NO TREES OF PERMIT SIZE TO BE REMOVED WITHOUT OBTAINING A TREE REMOVAL PERMIT.

TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CALTRANS MANUAL OF TRAFFIC CONTROL DEVICES AND AS DIRECTED BY ENGINEER.

PROPERTY LINES , RIGHT OF WAY AND EASEMENTS TO BE FLAGGED PRIOR TO CONSTRUCTION.

GRADING NOTES

CONTRACTOR SHALL ENLIST THE SERVICES OF A REGISTERED GEOTECHNICAL ENGINEER TO MONITOR THE PLACEMENT OF EMBANKMENTS. THE GEOTECHNICAL ENGINEER SHALL SUBMIT A FINAL SOILS REPORT THAT CERTIFIES THAT THE EMBANKMENTS WERE PLACED IN ACCORDANCE WITH THE PROJECT PLANS (AND AMENDMENTS THERETO, IF ANY), SPECIFICATIONS, AND SOUND GEOTECHNICAL PRACTICE. THE REPORT SHALL ADDRESS IN PARTICULAR THE SUSTAINABILITY OF THE NATIVE SOIL ENCOUNTERED AT THE TOE AND BASE OF ALL FILLS. FURTHER, THE REPORT SHALL CONTAIN ANALYSIS OF THE SOILS ENCOUNTERED AND A COMPILATION OF COMPACTION TESTS PERFORMED.

CUT SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1. WITH A GEOTECHNICAL ENGINEER'S WRITTEN PERMISSION, WEATHERED ROCK CUTS MAY BE STEEPENED. FILL SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1 OR REINFORCED WITH GEOGRID PER THE GEOTECHNICAL ENGINEER'S RECOMENDATIONS IF STEEPER THAN 2:1 AND SHALLOWER THAN 1:1.

ALL EXCESS SOIL MATERIAL, STUMPS, AND BOULDERS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ANY ENVIRONMENTAL REGULATIONS AND THE PERMITING AGENCY'S GRADING ORDINANCE AS THEY MAY APPLY.

IF CONSTRUCTION IS PERFORMED EARLIER THAN MAY 1ST OR LATER THAN OCTOBER 1ST IN ANY GIVEN YEAR, AN APPROVED SILTATION CONTROL PLAN, DESIGNED BY A CIVIL ENGINEER OR APPROVED, COMPETENT INDIVIDUAL IS REQUIRED.

STRUCTURAL SECTION NOTES

ACTUAL DIMENSION OF THE DRIVEWAY PAVEMENT SECTION SHALL BE DESIGNED BY THE SOILS ENGINEER.

THE ROAD SUBGRADE WITHIN THE ROADWAY SECTION SHALL BE SCARIFIED TO A DEPTH OF SIX INCHES AND COMPACTED TO A TIGHT NON–YIELDING SURFACE WITH NO VISIBLE DISPLACEMENT TO AT LEAST 95% OF RELATIVE COMPACTION AND SHALL BE FREE OF LOOSE OR EXTRANEOUS MATERIAL.

THE CLASS II AGGREGATE BASE SHALL HAVE A RELATIVE COMPACTION OF AT LEAST 95%, SHALL BE FREE OF LOOSE OR EXTRANEOUS MATERIAL AND BE A TIGHT NON–YIELDING SURFACE WITH NO VISIBLE DISPLACEMENT.

THE ASPHALT CONCRETE SHALL HAVE A RELATIVE COMPACTION OF AT LEAST 95%.

A SOILS ENGINEER SHALL TEST, AND APPROVE THE CONSTRUCTION OF ROADS, AND, IF REQUIRED, PARKING AREAS. THE SOILS ENGINEER SHALL PROVIDE COPIES OF THE TEST RESULTS AND WRITTEN APPROVALS TO THE COUNTYS INSPECTOR WITHIN THREE WORKING DAYS OF TESTING OR APPROVAL. THE APPROVAL SHALL INCLUDE THE STABILITY AND RELATIVE DENSITY OF SUBGRADES AND BASE COURSES PRIOR TO THE PLACEMENT OF ASPHALT CONCRETE. A FINAL SOILS REPORT SHALL BE SUBMITTED BY THE PROJECT SOILS ENGINEER TO THE CONSTRUCTION INSPECTION SUPERVISOR OF THE PERMIT AND RESOURCE MANAGEMENT DEPARTMENT WHICH CONTAINS AN ANALYSIS OF THE SOILS ENCOUNTERED AND COMPILATION OF COMPACTION TESTS PERFORMED.

STORM DRAIN NOTES

TRENCH AND BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CALTRANS' STANDARD PLAN A62–D FOR CONCRETE CULVERTS AND A62–F FOR METAL AND PLASTIC CULVERTS, EXCEPT THAT THE TRENCH WIDTH NEED ONLY BE ONE FOOT ON EACH SIDE OF THE PIPE.

ALL DRAINAGE PIPE IN DRIVEWAY SHALL HDPE TYPE N AASHTO RATED OR SDR35. GRATES IN DRIVEWAY AREA SHALL BE TRAFFIC RATED. DRAINAGE INLETS SHALL BE OF THE SIZE OR TYPE CALLED OUT AND CAN BE PRECAST OR POURED IN PLANCE. CLEANOUTS REQUIRED EVERY 100 FEET AND AT ANY PIPE DIRECTION CHANGE 45 DEGREES OR GREATER.

ALL ROOF DRAINS SHALL BE TIED INTO STORM DRAINAGE SYSTEM AND SEPERATED FROM FOUNDATION DRAINS.. RAINWATER LEADERS SHALL HAVE AND FOUNDATION DRAINS SHALL HAVE CLEANOUTS AT ALL CHANGES IN DIRECTION GREATER THAN 44DEGREES..
FOUNDATION SUBDRAINS SHALL BE SEPERATE PIPING SYSTEMS TO OUTFALL FROM SURFACE DRAINS/ROOF DRAINS

MISCELLANEOUS NOTES

TESTING FOR RELATIVE DENSITIES SHALL BE IN ACCORDANCE WITH CALTRANS' TEST METHOD NO. 216 PART II OR ASTM 1557. THE USE OF SAND CONE METHODS – SUCH AS ASTM 1556 OR CALTRANS 216 PART I – SHALL NOT BE ALLOWED.

PLACEMENT OF MAIL BOXES IS TO BE COORDINATED WITH AND APPROVED BY THE LOCAL BRANCH OF THE UNITED STATES POST OFFICE.

DESIGN ENGINEER SHALL CERTIFY TO THE COUNTY IN WRITING THAT ALL GRADING, DRAINAGE, AND RETAINING WALL CONSTRUCTION WAS DONE IN ACCORDANCE WITH THE PLANS AND FIELD DIRECTIONS. ALSO NOTE THAT DRIVEWAY, PARKING AND OTHER SITE IMPROVEMENTS SHALL BE INSPECTED BY A DEPARTMENT OF PUBLIC WORKS ENGINEER.

ADDITIONAL GENERAL NOTES

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PUBLIC WORKS DEPARTMENTNT DEPARTMENT AND THE PREPARER OF THESE PLANS.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

THE LOCATIONS OF UNDERGROUND OBSTRUCTIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND SHOULD NOT BE TAKEN AS FINAL OR ALL INCLUSIVE. THE CONTRACTOR IS CAUTIONED THAT THE PLANS MAY NOT INCLUDE ALL EXISTING UTILITIES AND THAT THE OWNER AND ENGINEER ASSUME NO RESPONSIBILITY FOR OBSTRUCTIONS WHICH MAY BE ENCOUNTERED.

THE CONTRACTOR MUST EXPOSE ALL EXISTING UTILITIES AS A FIRST ORDER OF WORK, INCLUDING SEWER AND STORM DRAINS, TO VERIFY DESIGN ASSUMPTIONS AND EXACT FIELD LOCATION.

EXISTING UTILITIES MAY REQUIRE RELOCATION AND/OR PROPOSED IMPROVEMENTS MAY REQUIRE GRADE OR ALIGNMENT REVISION DUE TO FIELD CONDITIONS.

THE CONTRACTOR IS CAUTIONED NOT TO ORDER PRECAST ITEMS OR INSTALL ANY IMPROVEMENTS UNTIL ALL CONFLICTS ARE RESOLVED. ALL IMPROVEMENTS INSTALLED OR ORDERED PRIOR TO CONFLICT RESOLUTION SHALL BE DONE SOLELY AT THE CONTRACTOR'S RISK AND AT NO EXPENSE TO THE OWNER.

THE CONTRACTOR SHALL RECOGNIZE THAT UNDERGROUND FACILITIES NOT SHOWN AS CIVIL IMPROVEMENTS (PG&E, TELEPHONE, TELEVISION, IRRIGATION, ETC.) SHALL BE COORDINATED AND CONSTRUCTED PRIOR TO PLACEMENT OF BASE ROCK AND PAVING.

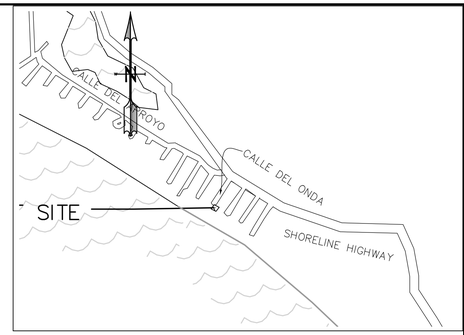
ALL EARTHWORK AND SITE GRADING SHALL COMPLY WITH CHAPTER 33 AND APPENDIX CHAPTER 33 OF THE CALIFORNIA BUILDING CODE.

PRIOR TO BEGINING CONSTRUCTION, THE OWNER SHALL OBTAIN ALL NECESSARY AGREMENTS & EASEMENTS AS REQUIRED TO COMPLETE THE WORK.

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
BC	BEGIN HORIZONTAL CURVE
BOW	BASE OF WALL
BVC	BEGIN VERTICAL CURVE
CL	CENTERLINE
C,G;C&G	CURB AND GUTTER
CB	CATCH BASIN
CO	CLEANOUT
CONC	CONCRETE
DI	DRAINAGE INLET
EC	END HORIZONTAL CURVE
EG	EXISTING GROUND
EVC	END VERTICAL CURVE
EX	EXISTING
EXIST	EXISTING
FL	FLOWLINE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
GB	GRADE BREAK
HP	HIGH POINT
Ht.	EXPOSED FACE HEIGHT OF WALL
INV	INVERT
JT	JOINT TRENCH
MAX	MAXIMUM
MH	MAN HOLE
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
O/H	OVERHEAD
PCC	PORTLAND CEMENT CONCRETE
POC	POINT ON CURVE
PRC	POINT OF REVERSE CURVATURE
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINAL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
S	SEWER
S/W	SIDEWALK
SD	STORM DRAIN
SOG	SLAB ON GRADE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MAN HOLE
STA	STATION
STD	STANDARD
TC	TOP OF CURB
TEMP	TEMPORARY
TOE	TOE OF WALL/SLOPE
TOW	TOP OF WALL
TW	TOP OF WALL
TYP	TYPICAL
W	WATER
WM	WATER METER

SHEET INDEX



VICINITY MAP
NO SCALE

LEGEND

LINES:	EXISTING	PROPOSED
CONTOUR–MJR		
CONTOUR–MNR		
APPROXIMATE BOUNDARY		
RETAINING WALL		
DAYLIGHT		
STORM DRAIN/RAIN WATER COLLECTION		
FOUNDATION/RET WALL DRAIN		
RWL COLLECTION SYSTEM		
WATER		
SWALE		
CLEANOUT		C.O.
RAINWATER LEADER		DS
BACKFLOW PREVENTER		BWP
SEWER		SS
CABLE		X
ELECTRIC SERVICE		E
GAS SERVICE		GAS
TELECOM SERVICE		JT

EARTHWORK QUANTITIES

EARTHWORK QUANTITIES ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. VOLUMES ARE APPROXIMATED FROM EXISTING AND FINISHED GRADE AND DO NOT INCLUDE TRENCH SPOILS, SITE STRIPPING, FOUNDATIONS, KEYWAY EXCAVATIONS OR EXPANSION/CONTRACTION OF SOIL. ACTUAL VOLUMES WILL VARY DEPENDING ON CONTRACTORS METHODS.

ESTIMATED QUANTITIES:

CUT 52 CY ⚠1

FILL 118 CY

NET 66 CY FILL (IMPORT)

REGISTERED CIVIL ENGINEER
TROY K PEARCE
No. C55988
12/31/22
STATE OF CALIFORNIA
⚠1

TITLE SHEET

Revisions:

Rev rem garage hse layout and all grading and drainage improvements recalculated and impev surface not clouded as most of sheet has changed	⚠1 5-18-22

PREPARED FOR:
Brian Johnson
PO Box 1139.
Homewood , CA 96141

IMPROVEMENT PLAN
21 CALLE DEL ONDA
Stinson Beach, CA
APN 195-162-49

AYS Engineering Group, Inc
PO Box 5693, Petaluma, CA 94955
Voice (707) 763-6620

Job. No.
2018-038
Date
10-1-20
Drawn By:
TKP
Checked By:
TKP
Scale
as shown

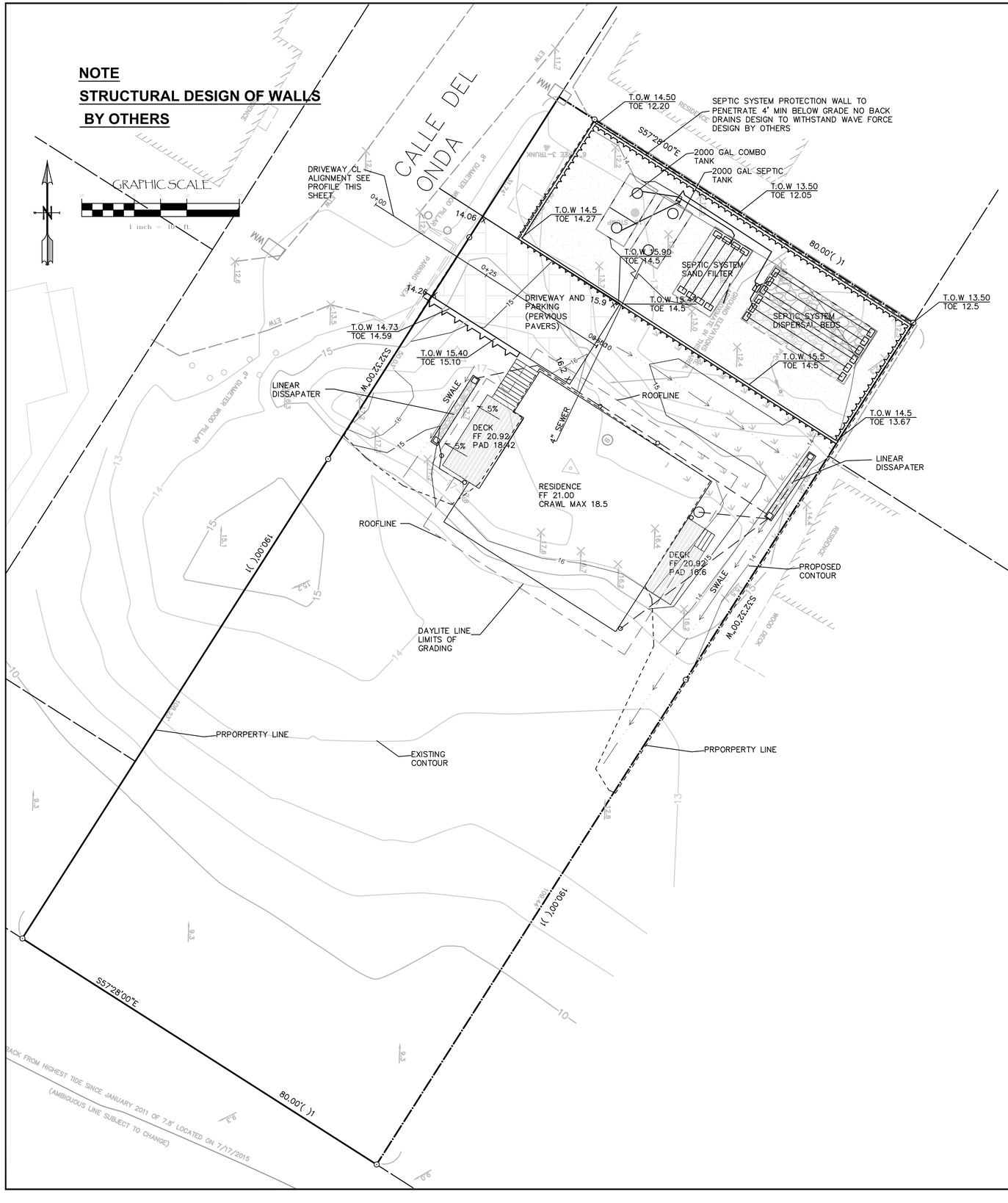
Sheet 1 of 6

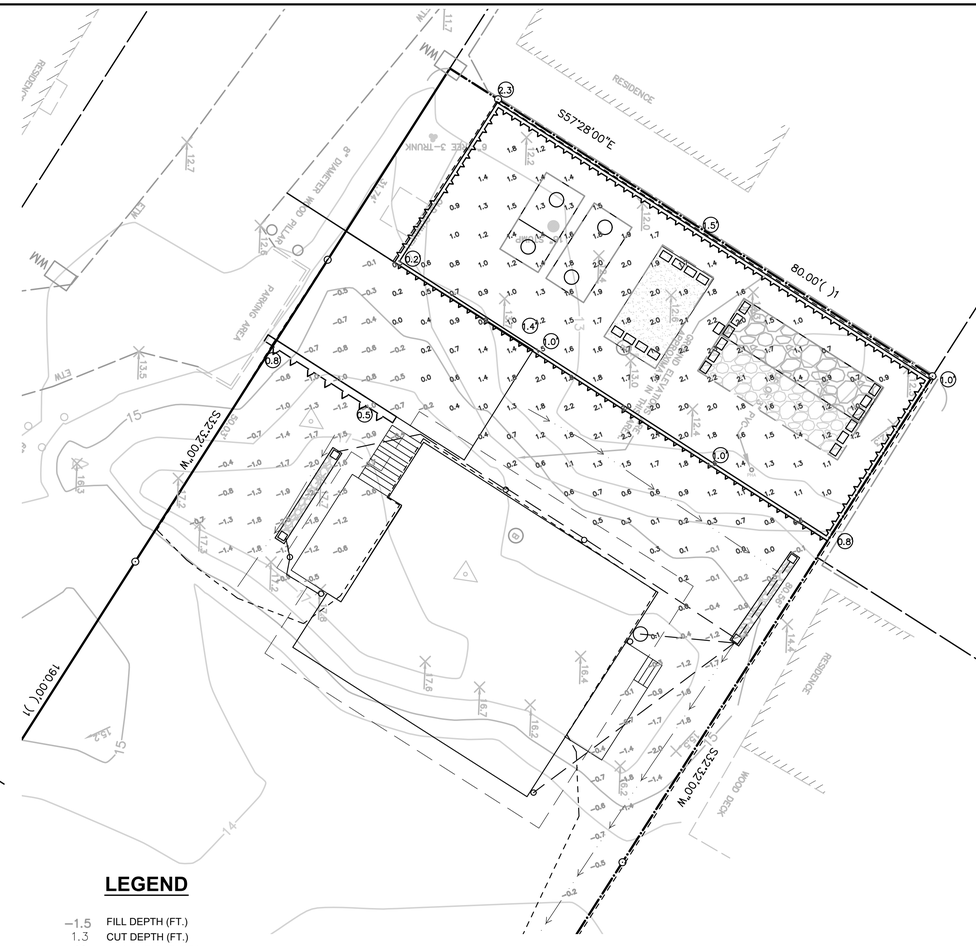
C1

-038A-21Onda G&D- Johnson\dwg\5-4-22-grading and drainage.dwg, C1-TITLE, 5/26/2022 12:31:57 PM,

NOTE
STRUCTURAL DESIGN OF WALLS BY OTHERS

GRAPHIC SCALE
1 inch = 10 ft.





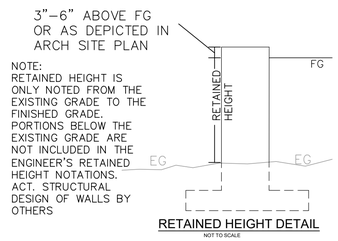
LEGEND

–1.5	FILL DEPTH (FT.)
1.3	CUT DEPTH (FT.)
(1.0)	WALL HEIGHT (FT.)

EARTHWORK/WALL HTS DIAGRAM

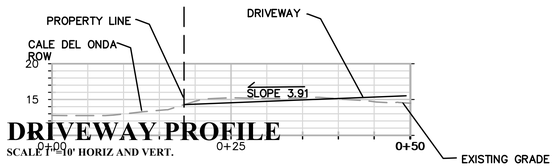
EARTHWORK QUANTITIES

CUT 52.0 CY
FILL 118.0 CY
NET 66.0 CY IMPORT(FILL)



RETAINED HEIGHT DETAIL
NOT TO SCALE

RET. WALL HTS DETAIL



DRIVEWAY PROFILE

SCALE 1"=10' HORIZ AND VERT.

REGISTERED CIVIL ENGINEER
TROY K PEARCE
No. C55988
12/31/22
STATE OF CALIFORNIA

GRADING PLAN

Revisions:

Rev rem garage hse layout and all grading and drainage features recalculated and impervious surface not clouded as most of sheet has changed	1 5-18-22

PREPARED FOR:
Brian Johnson
PO Box 1139.
Homewood , CA 96141

IMPROVEMENT PLAN
21 CALLE DEL ONDA
Stinson Beach, CA
APN 195-162-49

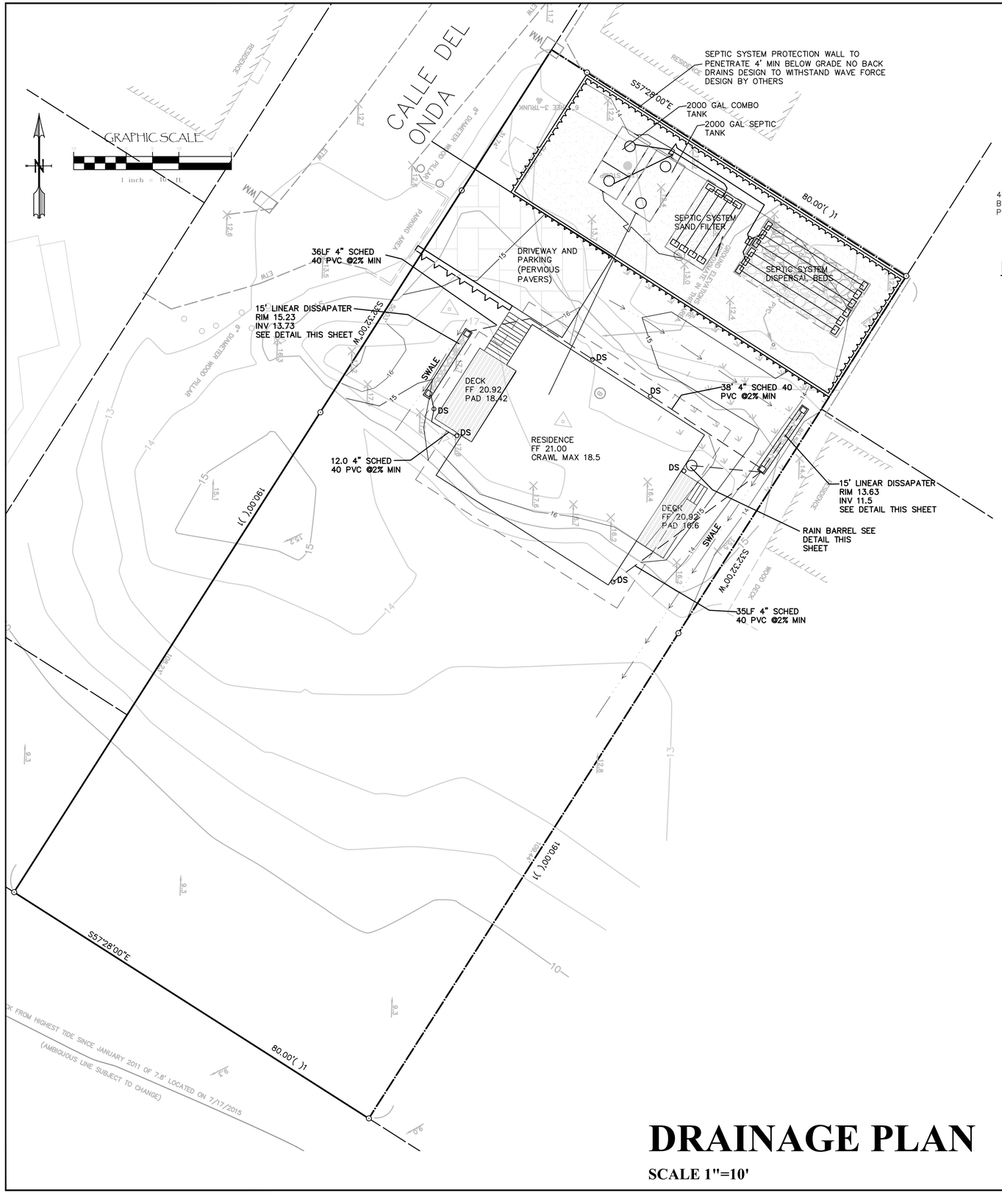
AYS Engineering Group, Inc
PO Box 5693, Petaluma, CA 94955
Voice (707) 763-6620

Job. No.
2018-038
Date
10-1-20
Drawn By:
TKP
Checked By:
TKP
Scale
as shown

Sheet 2 of 6

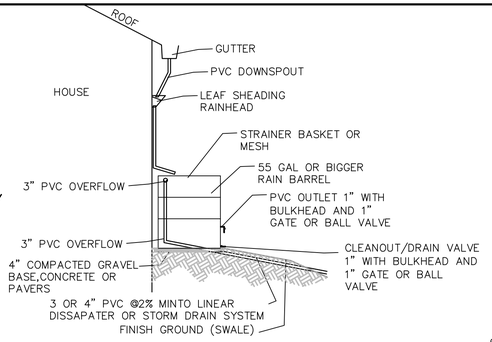
C2

-038A-21Onda G&D- Johnson\dwg\5-4-22-grading and drainage.dwg, C2-GRADING, 5/26/2022 12:31:19 PM,

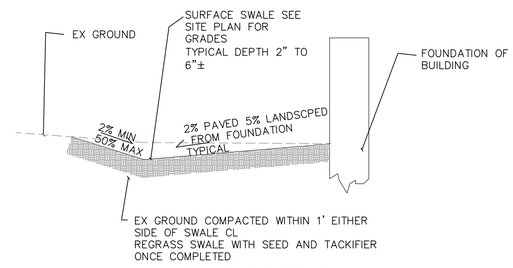


DRAINAGE PLAN

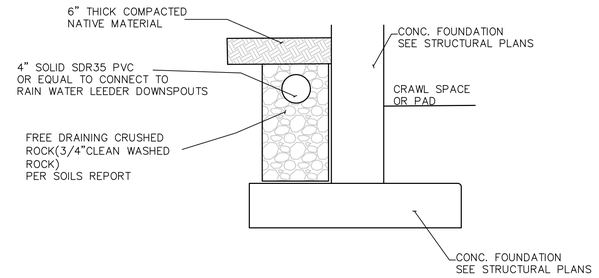
SCALE 1"=10'



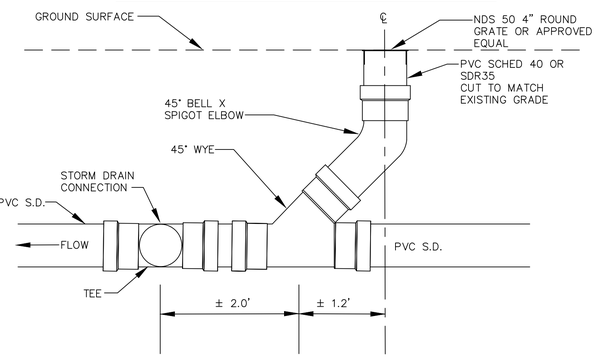
RAINBARREL DETAIL



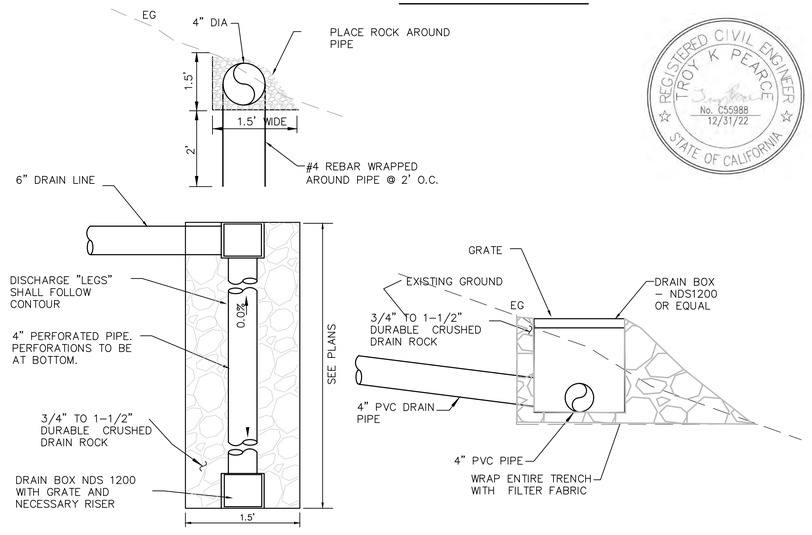
SWALE DETAIL



FOUNDATION AND RWL DRAIN DETAIL



CLEANOUT DETAIL



LINEAR DISSAPATER DETAIL

REGISTERED CIVIL ENGINEER
TROY K PEARCE
No. C55988
12/31/22
STATE OF CALIFORNIA

Revisions:

Rev rem garage has layout and all grading and drainage has been recalculated and impervious surface not clouded as most of sheet has changed — 5-18-22

PREPARED FOR:
Brian Johnson
PO Box 1139.
Homewood , CA 96141

IMPROVEMENT PLAN
21 CALLE DEL ONDA
Stinson Beach, CA
APN 195-162-49

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Drawn By: TKP
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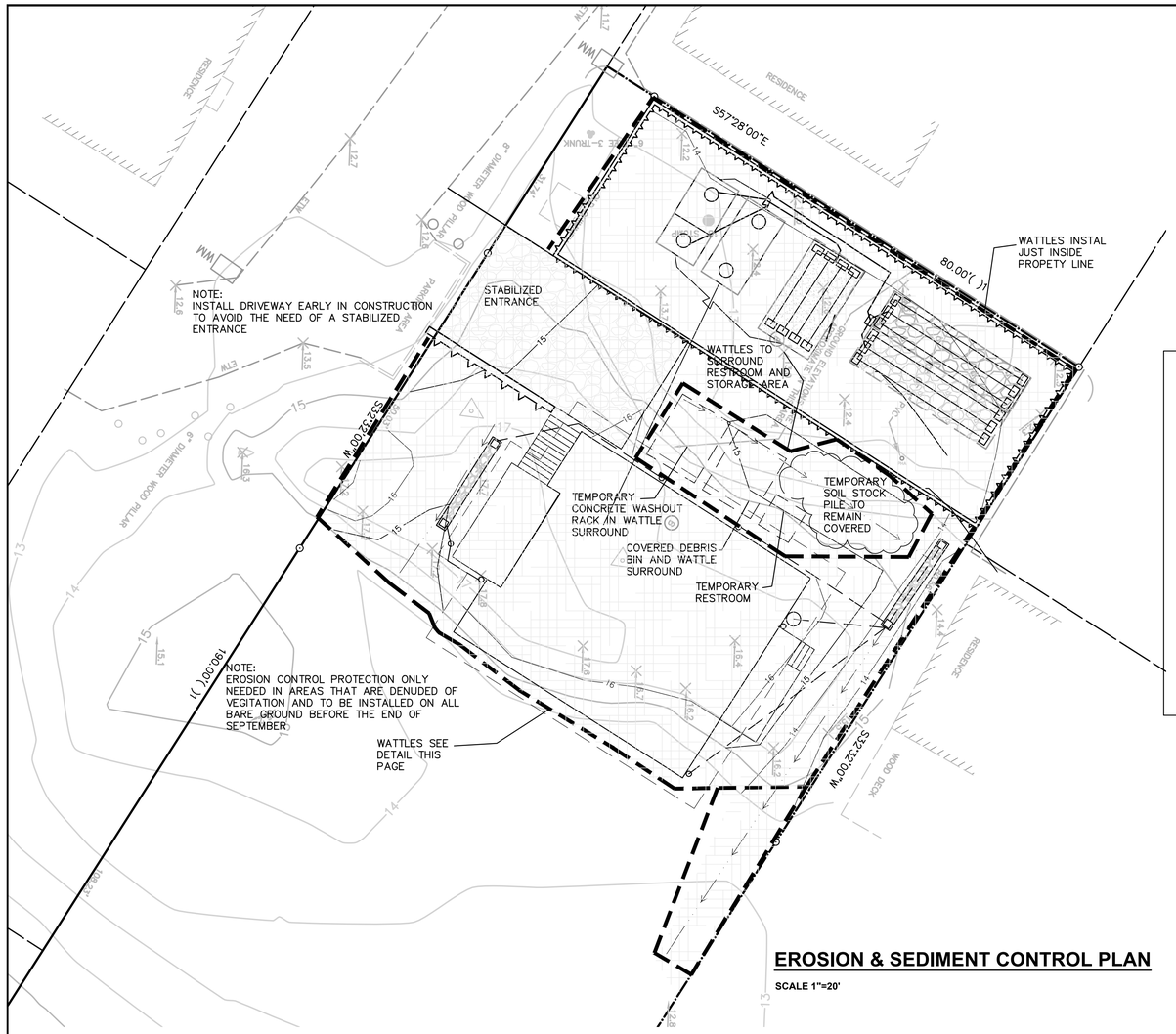
Scale as shown

Sheet 3 of 6

C3

-038A-21Onda G&D- Johnson\dwg\5-4-22-grading and drainage.dwg, C3-DRAINAGE, 5/26/2022 12:30:45 PM,



EROSION & SEDIMENT CONTROL PLAN

SCALE 1"=20'

LEGEND

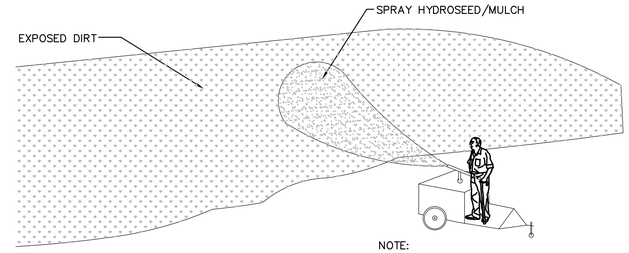
HYDROSEED/MULCH WOOD CHIPS OR EROSION CONTROL BLANKET ALL DISTURBED AREAS BEFORE RAIN

WATTLES

AREA OF DISTURBANCE= 6700 SQ FT
0.15 ACRES

EROSION CONTROL BLANKET FOR CHANNEL FLOW

LEGEND



NOTE:
MULCH TO BE BLOWN ONTO EXPOSED EARTH. ANCHOR MULCH USING A TACKIFIER OR BY MECHANICAL MEANS. APPLY AT A RATE OF 4000LBS/ACRE OR USING MANUFACTURER'S RECOMMENDATIONS. MAY ALSO BE HAND MULCHED WITH STRAW TO A DEPTH OF 1" MIN OVER ALL BARE GROUND.

EROSION CONTROL NOTES

1) BOUNDARY FOR REFERENCE PURPOSES ONLY NOT TO BE USED AS BOUNDARY SURVEY.

2) ALL MODIFICATIONS TO THIS PLAN AND ALL EROSION CONTROL REPAIRS SHALL BE NOTED ON THIS PLAN AND KEPT UPDATED BY THE CONTRACTOR IN THE FIELD DURING CONSTRUCTION.

3) ALL EROSION CONTROL MEASURES SHALL BE REGULARLY MONITORED AND REPLACED IF NECESSARY.

4) ALL EROSION CONTROL MEASURES SHALL BE CHECKED AND THEIR OPERATION VERIFIED AFTER STORM EVENTS.

5) NO SILT LADEN WATER SHALL LEAVE SITE.

6) ANY MATERIAL OR DEBRIS STOCKPILED ON SITE SHALL BE CONTAINED BY WATTLES AND COVERED.

7) A GRAVEL ACCESSWAY AT LEAST 40' LONG SHALL BE MAINTAINED AT DRIVEWAY ENTRANCE. 6" OF GRAVEL MUST BE MAINTAINED IN THIS AREA AND WILL REQUIRE REPLENISHMENT OVER THE COURSE OF CONSTRUCTION.

8) AS PART OF THE MONITORING, ANY SILT THAT BUILDS UP BEHIND THE WATTLES SHALL BE REMOVED.

9) MINIMIZE THE AMOUNT OF MATERIAL STOCKPILED ON SITE.

10) ANY EXCAVATED MATERIAL STOCKPILED ON SITE SHALL BE COVERED WITH 15 MIL PLASTIC AND THE ENDS HELD DOWN WITH SAND BAGS.

11) ADDITIONAL SAND BAGS, WATTLES AND OTHER EROSION CONTROL MATERIAL SHALL BE STORED ON SITE TO ALLOW FOR IMMEDIATE REPAIR OF PROPOSED FACILITIES.

12) A WATTLE DIKE SHALL BE INSTALLED ON THE PROPOSED DRIVEWAY ROUGH GRADE EVERY 10' OF VERTICAL SEPARATION OR MORE OFTEN AS NEEDED TO PREVENT EROSION OF THE PROPOSED DRIVEWAY.

13) REMOVE SEDIMENT WHEN ACCUMULATION REACHES 1/2 OF THE BARRIER HEIGHT.

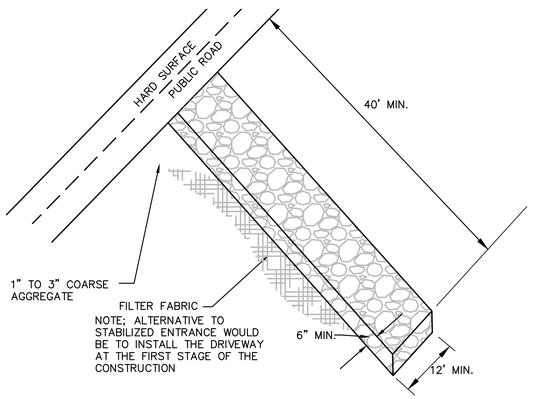
14) MINIMIZE THE AMOUNT OF EARTHWORK EXPOSED AT ANY ONE TIME.

15) INSTALL DRIVEWAY GRAVEL BASE COURSE AS SOON AFTER ROUGH GRADING AS POSSIBLE.

16) PRIOR TO PLACING AC ON ROADWAY OR DRIVEWAY, DRIVEWAYS TO BE USED FOR CONCRETE WASHDOWN. ONCE THE DRIVEWAY IS COMPLETE, USE A DESIGNATED CONCRETE WASH DOWN AREA.

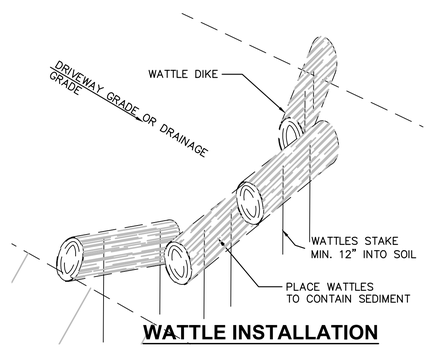
17) HYDROSEED ALL EXPOSED AREAS OF EARTH PRIOR TO START OF RAINY SEASON. IF RAIN IS IMMINENT OR GRASS IS NOT MATURE PRIOR TO OCTOBER 15 COVER EXPOSED EARTH WITH STRAW & TACKIFIER.

18) THE ACTUAL AMOUNT AND TYPES OF EROSION CONTROL DEVICES WILL VARY BASED ON CONSTRUCTION METHODOLOGIES AND STAGING. THIS PLAN SHOWS A MINIMUM REQUIREMENT AND SHOULD BE SUPPLEMENTED AS NEEDED.



STABILIZED ENTRANCE

SCALE 1"=10'



WATTLE INSTALLATION

SCALE 1"=10'

REGISTERED CIVIL ENGINEER
TROY K PEARCE
No. C55988
12/31/22
STATE OF CALIFORNIA

Revisions:

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PREPARED FOR:
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PO Box 1139.
Homewood , CA 96141

IMPROVEMENT PLAN
21 CALLE DEL ONDA
Stinson Beach, CA
APN 195-162-49

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Job. No.
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Drawn By:
TKP

Checked By:
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as shown

Sheet 4 of 6

C4

EROSION & SEDIMENT CONTROL PLAN

-038A-21Onda G&D- Johnson\dwg\5-4-22-grading and drainage.dwg, C4-EROSION CONTROL, 5/26/2022 12:30:08 PM,

NOTE:
REROUTE ANY WATERLINE WITHIN TEN FEET OF SEPTIC SYSTEM IF CROSSING OF WATER AND SEWER LINES MUST BE MADE THEN SLEEVE BOTH WATER AND SEWER WITHIN TEN FEET EACH OF EACH OTHER WITH SCH 80 PVC

CONCRETE RETAINING WALL BELOW GRADE TO PROTECT SEPTIC AND SUMP TANKS STRUCTURAL ENGINEER TO DESIGN TO WITHSTAND WAVE RUNUP FORCES

2000 GALLON COMBO TANK

S57°28'00"E

22LF 2" SCHED 40 PVC

15' x 8.5' SAND FILTER

45LF 2" SCHED 40 PVC

DIVERSION VALVE

HIGH GROUDWATER SHUT-OFF SEE DETAIL C2

80.00'(

DEBRIS LINE FROM STORM RUNUP NOTICED 1-25-16

55'

25LF 4" SCHED 40 PVC MIN SLOPE 2% TO TANK INLET

69'

82'

TRAFFIC RATED 2000 GALLON SEPTIC TANK

DRIVEWAY AND PARKING

40LF 4" SCHED 40 PVC MIN SLOPE 2% TO TANK INLET

23' x 6' DISPERSAL BED A

23' x 6' DISPERSAL BED B

NATIVE FILL (SAND)

CONCRETE RETAINING WALL 12" HIGH (EL 13.4) TO PENETRATE TO ELEVATION 11.4 DESIGNED BY STRUCTURAL ENGINEER TO WITHSTAND WAVE RUNUP FORCES

GARAGE

S32°32'00"W

GRAPHIC SCALE
10 0 5 10 20
1 inch = 10 ft.

PROPOSED HOUSE TOTAL CONDITIONED SPACE LESS THAN 1400 SQ FT.

102'

222' TO MHHW
187 ' TO KING TIDE '16

KING TIDE 100' S/B

DECK

SCARP FROM STORM RUNUP NOTICED 1-25-16

NOTE:
LOCATION OF EXISTING UTILITIES IS UNKNOWN AND MUST BE DETERMINED BY CONTRACTOR PRIOR TO CONSTRUCTION. ENGINEER ASSUMES NO RESPONSIBILITY IN LOCATING EXISTING UTILITIES.

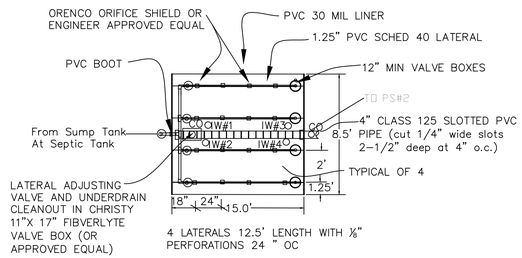
SEPTIC SYSTEM LAYOUT
SCALE 1"=10'

NOTE:
PROVIDE 115 VOLT SINGLE PHASE POWER SOURCE. ELECTRICIAN TO PROVIDE A MINIMUM OF 20 AMPS TO THE CONTROL PANEL.

NOTE:
DRAIN ALL SURFACES AND ROOF DRAINS AWAY FROM THE DRAINFIELD.

NOTE:
PROVIDE CONCRETE THRUST BLOCKS AT PIPE DIRECTION CHANGES OF GREATER THAN 15 DEGREES. SEE DETAIL FOR THRUST BLOCKS.

NOTE:
SANDFILTER MONITORING WELLS #1 AND #3 TO BE INSTALLED TO THE UPPER GRAVEL/SAND INTERFACE AND #2 AND #4 TO THE BOTTOM OF THE LINER



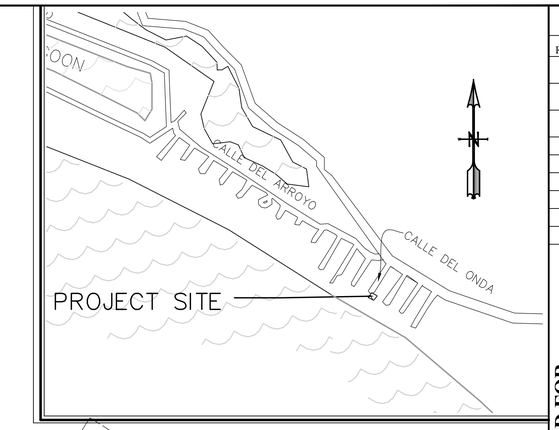
4 LATERALS 12.5' LENGTH WITH ⅛" PERFORATIONS 24 " OC

SAND FILTER
SCALE 1"=10'

SAND FILTER MEDIA SIEVE ANALYSIS

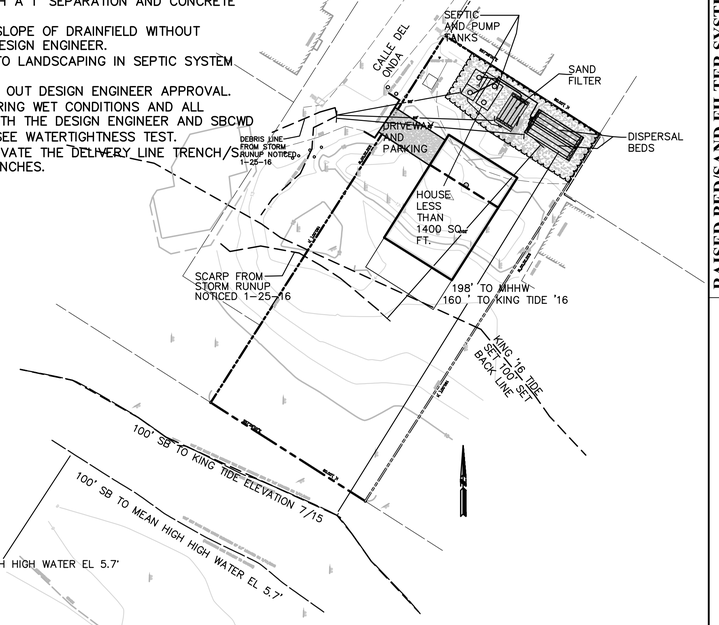
SIZE	% PASSING
#4	100
#8	70-90
#16	40-60
#30	25-35
#50	2-5
#60	0

D10>0.400mm
D60>1.4mm
Uc 3.0 - 4.0

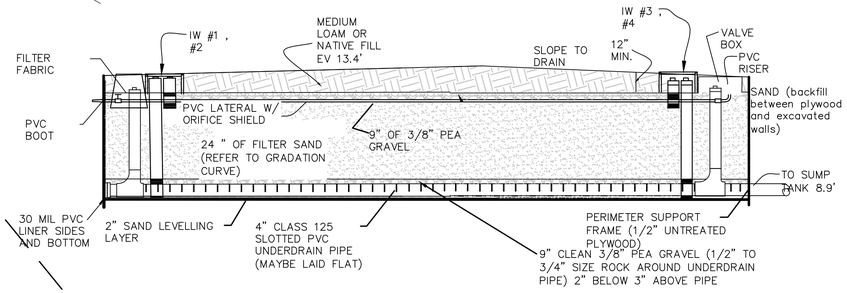


VICINITY MAP
NO SCALE

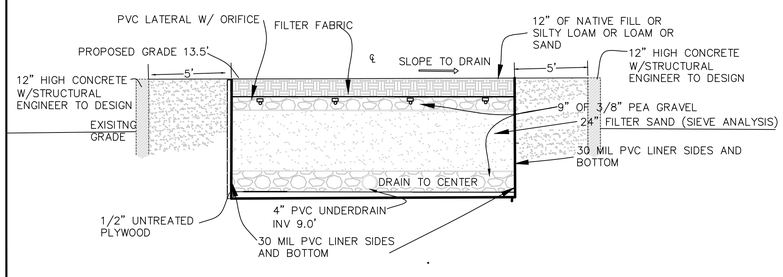
GENERAL NOTES
1) CONTRACTOR TO NOTIFY STINSON BEACH COUNTY WATER DISTRICT (SBCWD) PERSONEL AND DESIGN ENGINEER 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
2) TOPOGRAPHIC SURVEY PROVIDED BY L.A STEVENS AND ASSOC. 415-382-7713
3) NOT TO BE USED AS A BOUNDARY SURVEY- SURVEYOR TO STAKE ALL PROPERTY LINES AND EASEMENTS.
4) MAINTAIN 10' SEPARATION FOM ANY SEWAGE LINE TO WATERLINE IF NOT POSSIBLE REROUTE TO MAINTAIN SEPARATION. CROSSING SHALL BE MADE WITH WATER ABOVE SEWER LINE WITH A 1' SEPARATION AND CONCRETE BETWEEN LINES.
5) NO CUTS SHALL BE MADE DOWNSLOPE OF DRAINFIELD WITHOUT PERMISSION OF BOTH SBCWD AND DESIGN ENGINEER.
6) CONSULT ENGINEER PERTAINING TO LANDSCAPING IN SEPTIC SYSTEM AREA.
7) NO MATERIAL SUBSTITUTION WITH OUT DESIGN ENGINEER APPROVAL.
8) NO WORK TO BE PERFORMED DURING WET CONDITIONS AND ALL EXCAVATION TO BE COORDINATED WITH THE DESIGN ENGINEER AND SBCWD
9) ALL TANKS TO BE WATERTIGHT-SEE WATERTIGHTNESS TEST.
10) CONTRACTOR NOT TO OVEREXCAVATE THE DELIVERY LINE TRENCH/S MAXIMUM DEPTH OF TRENCH IS 24 INCHES.



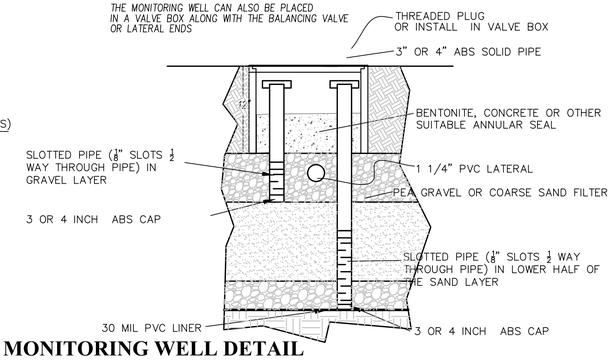
OVERALL PROPERTY
SCALE 1"=30'



SAND FILTER SECTION D-D ALONG 15.0 FOOT DIMENSION
SCALE 1"=10'



SAND FILTER SECTION C-C ALONG 8.5 FOOT DIMENSION
SCALE 1"=10'



MONITORING WELL DETAIL
NTS

11) EROSION PROTECTION SHALL BE PLACED IN ALL DISTURBED AREAS. STRAW AND SEED SHALL BE PLACED AT A MINIMUM PROIR TO FINAL INSPECTION.
12) ALL PLUMBING FIXTURES TO BE LOW FLOW 1.6 GAL FLUSH TOILETS AND 2 GAL/MIN SHOWER HEADS.
13) ALL SEWER LINES FROM BUILDINGS SHALL BE 4 INCH SCH 40 PVC OR APPROVED EQUIVALENT WITH A MINIMUM SLOPE OF 2 PERCENT. INSTALL CLEANOUTS AT CHANGES IN DIRECTION AND 5 FEET FROM THE OUTSIDE OF THE BUILDING.
14) ALL WORK SHALL BE IN CONFORMANCE WITH THESE PLANS AND THE MOST RECENT REGULATIONS FOR WASTEWATER SYSTEMS SBCWD.
15) CONTRACTOR TO KEEP A COUNTY STAMPED SET OF PLANS AT THE JOBSITE AND A SET WITH ALL AS BUILT CHANGES MARKED UP AT THE JOB SITE AT ALL TIMES. THE CONTRACTOR TO PROVIDE ONE COPY OF THESE CHANGES ON A PLAN FOR PREPARATION OF AS-BUILT DRAWINGS TO GAIN SBCWD FINAL APPROVAL.

REGISTERED CIVIL ENGINEER TROY K PEARCE No. 69098 12/31/18 STATE OF CALIFORNIA

Revisions:

PREPARED FOR:
Brian Johnson
PO Box 1139.
Homewood , CA 96141

RAISED BED/SAND FILTER SYSTEM
21 CALLE DEL ONDA
Stinson Beach, CA
APN 195-162-49

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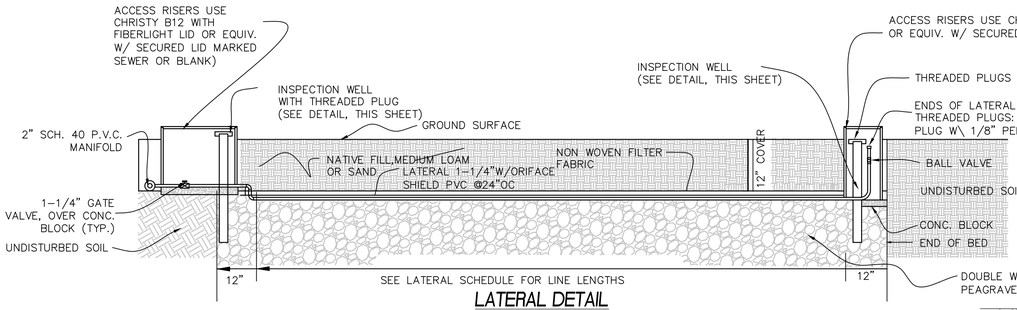
Job. No. 2018-038
Date 11-19-18
Drawn By: tkp
Checked By: tkp
Scale as shown

Sheet 1 of 2

1



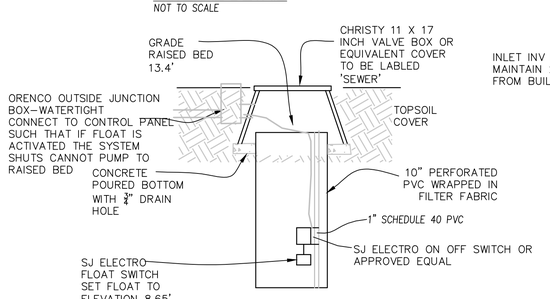
LATERAL DETAIL

NOT TO SCALE

No.	DIAMETER	PERF SIZE	LENGTH	# OF PERF'S"
A1	1 ¼"	⅛"	21'	10
A2	1 ¼"	⅛"	21'	10
A3	1 ¼"	⅛"	21'	10
B1	1 ¼"	⅛"	21'	10
B2	1 ¼"	⅛"	21'	10
B3	1 ¼"	⅛"	21'	10

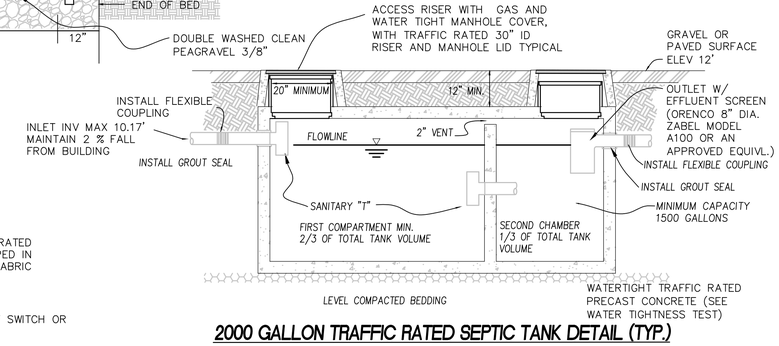
LATERAL SCHEDULE

NOT TO SCALE



DIVERSION VALVE BOX DETAIL

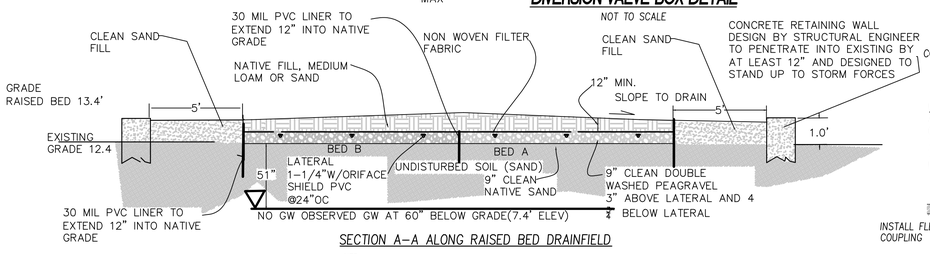
NOT TO SCALE



2000 GALLON TRAFFIC RATED SEPTIC TANK DETAIL (TYP.)

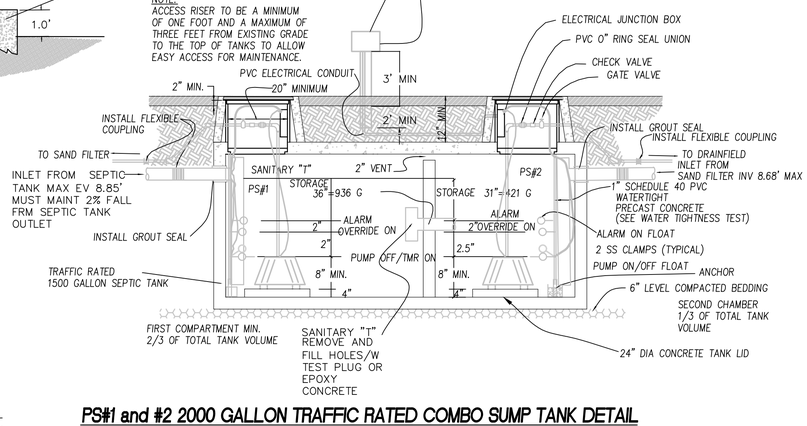
NOT TO SCALE

NOTE:
ACCESS RISER TO BE A MINIMUM OF ONE FOOT AND A MAXIMUM OF THREE FEET FROM EXISTING GRADE TO THE TOP OF TANKS TO ALLOW EASY ACCESS FOR MAINTENANCE.



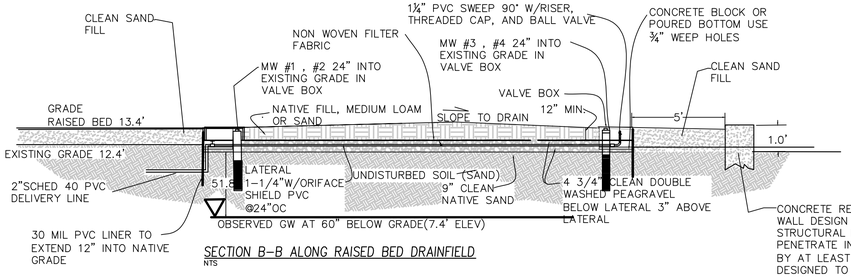
SECTION A-A ALONG RAISED BED DRAINFIELD

NTS



PS#1 and #2 2000 GALLON TRAFFIC RATED COMBO SUMP TANK DETAIL

NOT TO SCALE



SECTION B-B ALONG RAISED BED DRAINFIELD

NTS

PS#1 FROM 2/3 SIDE OF 1500 GALLON PUMP TANK TO TO SANDFILTER

TOTAL DYNAMIC HEAD = 20.5 FT
GALLONS PER MINUTE (GPM) = 10 GPM
DOSE = 30 GALLONS
OPERATION RANGE = 3.0"
RECOMMENDED PUMP TYPE: GOULDS MODEL 3885 WE0512HH (.5 HP, 230 VOLTS, SINGLE PHASE, 7.3 AMPS).
RECOMMENDED CONTROL PANEL: SEE CONTROL PANEL REQUIREMENTS THIS PAGE.

PS#1 TIMER SETTINGS

TIME ON 1MIN 30 SEC
TIME OFF 2 HOURS
OVERRIDE ON 1 MIN 30 SEC
OVERRIDE OFF 30 MIN

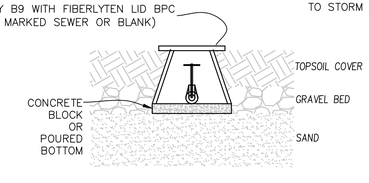
PS#2 FROM 1/3 SIDE OF 1500 GALLON PUMP TANK TO RAISED BEDS

TOTAL DYNAMIC HEAD = 24 FT
GALLONS PER MINUTE (GPM) = 13 GPM
DOSE = 30 GALLONS
OPERATION RANGE = 2.5"
RECOMMENDED PUMP TYPE: GOULDS MODEL 3885 WE0512HH (.5 HP, 230 VOLTS, SINGLE PHASE, 7.3 AMPS).
RECOMMENDED CONTROL PANEL: SEE CONTROL PANEL REQUIREMENTS THIS PAGE.

PS#2 ON DEMAND

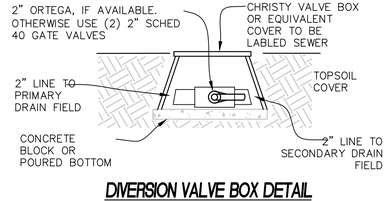
TANK WATERTIGHTNESS TEST

1. *CAP OR TEST PLUG ALL INLETS AND OUTLETS TO TANK.*
2. *FILL TANK WITH WATER TWO INCHES INTO THE RISER AND MARK WATER LEVEL. SCHEDULE WITH ENGINEER AND NECM 24 HOURS BEFORE FILLING TANK.*
3. *IF AFTER 24 HOURS WATER LEVEL DROPS, TANK MUST BE MADE WATERTIGHT BY APPLYING WATERPROOF SEALER (NOT BITMEOUS PRODUCT) THOROPLUG, THOROSEAL OR OTHER PORTLAND CONCRETE CEMENT PRODUCT.*



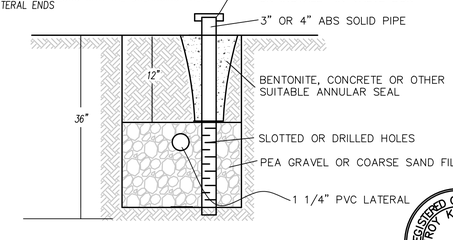
VALVE BOX DETAIL

NOT TO SCALE



DIVERSION VALVE BOX DETAIL

NOT TO SCALE



TYP. LEACHLINE INSPECTION WELL

NOT TO SCALE

GENERAL NOTES

1) CONTRACTOR TO NOTIFY STINSON BEACH COUNTY WATER DISTRICT (SBCWD) PERSONEL AND DESIGN ENGINEER 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
2) NOT TO BE USED AS A BOUNDARY SURVEY- SURVEYOR TO STAKE ALL PROPERTY LINES AND EASEMENTS. SURVEY PROVIDED BY LAWRENCE P DOYLE 415-388-9585
3) MAINTAIN 10' SEPARATION FROM ANY SEWAGE LINE TO WATERLINE IF NOT POSSIBLE REROUTE TO MAINTAIN SEPARATION. CROSSING SHALL BE MADE WITH WATER ABOVE SEWER LINE WITH BOTH LINES SLEEVED WITHIN 10' OF EACH OTHER.
4) NO CUTS SHALL BE MADE DOWNSLOPE OF DRAINFIELD WITHOUT PERMISSION OF BOTH SBCWD AND DESIGN ENGINEER.
5) CONSULT ENGINEER PERTAINING TO LANDSCAPE SEPTIC SYSTEM.
6) NO MATERIAL SUBSTITUTION WITH OUT DESIGN ENGINEER APPROVAL.
7) ALL TANKS TO BE WATERTIGHT-SEE WATERTIGHTNESS TEST.
8) CONTRACTOR NOT TO OVEREXCAVATE THE DELIVERY LINE TRENCH/S. MAXIMUM DEPTH OF TRENCH IS 24 INCHES.
9) THIS SYSTEM CALLS FOR A DIVERSION VALVE/S WHICH ARE TO BE HOUSED IN A SUBSTANTIAL VALVE BOX. THE BOX IS TO BE EXTENDED TO 3 INCHES ABOVE GRADE. THE VALVE SHOULD BE ALTERNATED EVERY SIX MONTHS.
10) EROSION PROTECTION SHALL BE PLACED IN ALL DISTURBED AREAS. STRAW AND SEED SHALL BE PLACED AT A MINIMUM PROIR TO FINAL INSPECTION.
11) ALL SEWER LINES FROM BUILDINGS SHALL BE 3 INCH SDR 35 OR APPROVED EQUIVALENT WITH A MINIMUM SLOPE OF 2 PERCENT. INSTALL CLEANOUTS AT CHANGES IN DIRECTION AND 5 FEET FROM THE OUTSIDE OF THE BUILDING.
12) ALL WORK SHALL BE IN CONFORMANCE WITH THESE PLANS AND THE MOST RECENT SBCWD REGULATIONS FOR WASTEWATER SYSTEMS.
13) CONTRACTOR TO CONDUCT SQUIRT TEST CONSISTING OF PRESURIZING THE LEACHFIELD WITH THE PUMP AND ADJUSTING THE LEACHFIELD GATE VALVES TO PROVIDE A 5' HIGH STREAM OF WATER THROUGH ORIFICES. THIS IS TO BE REPEATED FOR CONSTRUCTION INSPECTION PHASE 2.
14) CONTRACTOR TO KEEP A PLAN SET WITH ALL CHANGES MARKED UP AT THE JOB SITE AT ALL TIMES. THE CONTRACTOR TO PROVIDE ONE COPY OF THESE CHANGES ON A PLAN FOR PREPARATION OF AS- BUILT DRAWINGS TO GAIN COUNTY FINAL APPROVAL.

CONSTRUCTION INSPECTION NOTES

CONTRACTOR TO NOTIFY DESIGN ENGINEER AND SBCWD A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION AND INSPECTION OF THE SYSTEM. ADDITIONAL FEES WILL BE REQUIRED BY SBCWD AFTER THREE SITE INSPECTIONS. ENGINEER AND SBCWD SHALL INSPECT THE SYSTEM AT CRITICAL CONSTRUCTION PHASES AS FOLLOWS:

PHASE ONE:
1) INSPECT STAKE OUT LOCATION OF LATERALS ALONG CONTOURS,THE SEPTIC AND SUMP TANKS, AND THE SANDFILTER.
2) INSPECT THE LEACHLINE GRAVEL AND SANDFILTER MEDIA, AND PROVIDE A CERTIFIED COPY OF WET SIEVE ANALYSIS USING ASTM C-117 OR EQUIVALENT.

PHASE TWO:
1) INSPECT LEACHLINE INSTALLATION AND LEVEL VIA OPEN TRENCHES AND INSTALLED INSPECTION WELLS.
2) INSPECT PERFORATION SIZE AND SPACING.
3) INSPECT WATERTIGHTNESS OF ALL TANKS.
4) INSPECT SQUIRT TEST OF LEACHFIELD.
5) INSPECT CONTROL PANEL, FLOATS AND CIRCUIT BREAKER FOR ENTIRE SEPTIC SYSTEM.

PHASE THREE:
1) INSPECT ANY ITEMS LISTED ABOVE WHICH HAVE NOT BEEN OBSERVED YET.
2) INSPECT FINISHED SEPTIC SYSTEM INCLUSIVE OF ANY NECESSARY EROSION CONTROL MEASURES.
3) INSPECT FLOOR PLAN OF STRUCTURE BEING SERVED BY THE SEPTIC SYSTEM. INSPECT, IF APPLICABLE, WHETHER LOW FLOW FIXTURES WERE INSTALLED OR NOT.
4) PROVIDE SBCWD WITH BUILDING DEPARTMENT APPROVAL OF PUMP INSTALLATION.

OPERATION AND MAINTENANCE OF A SEPTIC SYSTEM

1) INSPECT SEPTIC TANKS AND DRAINFIELD EVERY SIX MONTHS.
2) IF SLUDGE OR SCUM BUILDUP IS GREATER THAN 6 TO 8 INCHES HAVE TANK PUMPED. (USUAL FREQUENCY FOR PUMPING IS 3 TO 5 YEARS).
3) MINIMIZE THE USE OF GARBAGE DISPOSAL.
4) MINIMIZE THE USE OF HARSH CHEMICALS IN LARGE QUANTITIES.
5) MINIMIZE THE AMOUNT OF GREASE DISPOSED OF IN SINKS. PACKAGE ALL FOOD WASTES AND DISPOSE OF IN GARBAGE FOR SANITARY LANDFILL.
6) MINIMIZE DISPOSAL OF NON-SEWAGE ITEMS SUCH AS SANITARY NAPKINS, CIGARETTES AND OTHERS.
7) MAINTAIN ALL PLUMPING. LEAKS SHOULD BE FIXED AS QUICK AS THEY OCCUR.
8) MINIMIZE LIQUID LOAD ON THE SYSTEM BY WASHING DISHES AND LAUNDRY IN LARGE LOADS. SPREAD LOADS OVER THE WEEK RATHER THAN DOING ALL LAUNDRY ON A SINGLE DAY.
9) PROHIBIT VEHICULAR TRAFFIC AND HOOFED ANIMALS FROM THE SEPTIC SYSTEM AREA.

PUMP:
THE PUMP SHALL BE OF THE SIZE AND TYPE INDICATED ON THE PLANS AND SHALL INCLUDE THE FOLLOWING:
1) A HANDS OFF AUTO (HOA) SWITCH.
2) AN AUDIO AND VISIBLE ALARM AND NECESSARY EFFLUENT SENSING DEVICE TO INDICATE A HIGH WATER CONDITION.
3) USE EITHER PILL OR MERCURY TYPE FLOAT SWITCH.
4) SET PUMPING VOLUME AS STATED IN THE PUMP REQUIREMENTS.
5) PUMP TO BE SET A MINIMUM OF 8 INCHES FROM THE BOTTOM OF THE SUMP.

SUMP:
1) THE SUMP SHALL HAVE A WORKING CAPACITY OF 1.0 TIMES THE DESIGN FLOW DESIGNATED. THE CAPACITY SHALL INCLUDE THE DOSE VOLUME AND 24-HOUR STORAGE VOLUME.
2) ACCESS TO BE PROVIDE BY A MINIMUM 24-INCH DIAMETER WATERPROOF AIRTIGHT RISER AND LID SYSTEM.
3) ALL PIPE AND OR ELECTRICAL CONNECTIONS MADE THROUGH THE RISER EITHER TO BE PRECAST INTO THE RISER OR SEALED WITH GASTIGHT COMPRESSION CONNECTORS.

ELECTRICAL FEATURES
THE FOLLOWING ELCTRICAL FEATURES TO BE PROVIDED
1) AN OUTDOOR TYPE CONTROL BOX CONTAINING A FUSED DICONNECT AND MOTOR PROTECTION SWITCH. SEE THE PUMP REQUIREMENT SECTION OF THE PLANS FOR THE MODEL NUMBER AND REQUIREMENTS.
2) THE CONTROL BOX TO BE MOUNTED ON THE BUILDING BEING SERVED IF WITHIN 20 FEET OF THE SUMP OTHERWISE INSTALL ON A 4"X4" POST THAT IS INSTALLED SECURELY. CONTROL PANEL TO BE VISIBLE FROM THE ROADWAY IF AT ALL POSSIBLE.
3) ALARM AND PUMP TO BE INSTALLED ON SEPARATE CIRCUITS THAT ARE OF SIZE LARGE ENOUGH FOR THE RESPECTIVE USES.
4) ELECTRICAL CONDUIT SHALL BE PVC AND SEPARATE CONDUITS SHALL BE PROVIDED TO POWER PUMP AND FLOATS.

PRESSURE PIPING
1) THE PIPE FROM THE SUMP TO THE DRAINFIELD SHALL BE PVC IN THE SIZE AND SCHEDULE SPECIFIED ON THE PLANS.
2) A UNION SWING CHECKVALVE AND DOUBLE WEDGE GATE VALVE SHALL BE INSTALLED IN THE SUMP CHAMBER IN THIS ORDER AWAY FROM THE PUMP. ALTERNATIVELY THESE ITEMS CAN BE INSTALLED IN A VALVE BOX NEXT TO THE SUMP CHAMBER.
3) CONCRETE THRUST BLOCKS SHALL BE INSTALLED WHEN CHANGE IN PIPE DIRECTION IS 45 DEGREES OR GREATER.

PERMITS
ASIDE FROM THE INDIVIDUAL SEWAGE DISPOSAL SYSTEM PERMIT ADDITIONAL PERMIT (S) WILL BE REQUIRED BY THE BUILDING INSPECTION DEPARTMENT FOR PUMP INSTALLATION.

Revisions:

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RAISED BED/SAND FILTER SYSTEM
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Job. No. 2018-038
Date 11-19-18
Drawn By: tkp
Checked By: tkp
Scale as shown

REGISTERED CIVIL ENGINEER TROY K PEARCE No. C59998 12/31/18 STATE OF CALIFORNIA

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DETAILS

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