DEPARTMENT OF HEALTH - WASTEWATER BRANCH
INDIVIDUAL WASTEWATER SYSTEM (IWS)
APPLICATION INFORMATION SHEET
Please Print or Type

Engineer: DOMINIC CROSARIOL

Owner: DARREN & KELLY VAN UNEN

Owner's Mailing Address: 1821 HAIKU RD MAIN HOUSE HAIKU HI 96708

Project Location: 2362 BALDWIN AVE UNIT A MAKAWAO HI 96779
(Street Address, Subdivision Name and General Area):

Project Tax Map Key (TMK) Number: (2) 2 - 5 - 003 : 040 - 0001

Lot Size: 5.057 Zoning: AGRICULTURE

Projected Flow or Number of Bedrooms: 5 BR X 200 GPD = 1000 GPD TOTAL

Proposed Treatment Unit (Manufacturer, Model, Design Capacity):

1250 GALLON CHEMTAINER SEPTIC TANK

Proposed Disposal System: 20' X 45' LEACH FIELD

Percolation Rate: 10 min/in

Existing IWS on lot: NO ○ YES ◉ Type: Septic Tank w/leachfield

Existing structure on lot. NO ○ YES ◉ Type: DWELLING/BARN/STORAGE

LCC upgrade? NO ◉ YES ○

Existing potable drinking water well within 1,000 ft of the proposed disposal system? NO ◉ YES ○

Would the construction and/or discharges from the proposed IWS affect any public trust or Native Hawaiian resources or the exercise of traditional cultural practices in the vicinity? NO ◉ YES ○

If yes, indicate what feasible action can be taken to protect those resources or exercise of practices. Please provide your response on a separate sheet of paper.

- -

FOR DEPARTMENT USE ONLY:

Date Received: _____ Project Engineer: _____ File No. _____

Notes: _____

INDIVIDUAL WASTEWATER SYSTEM

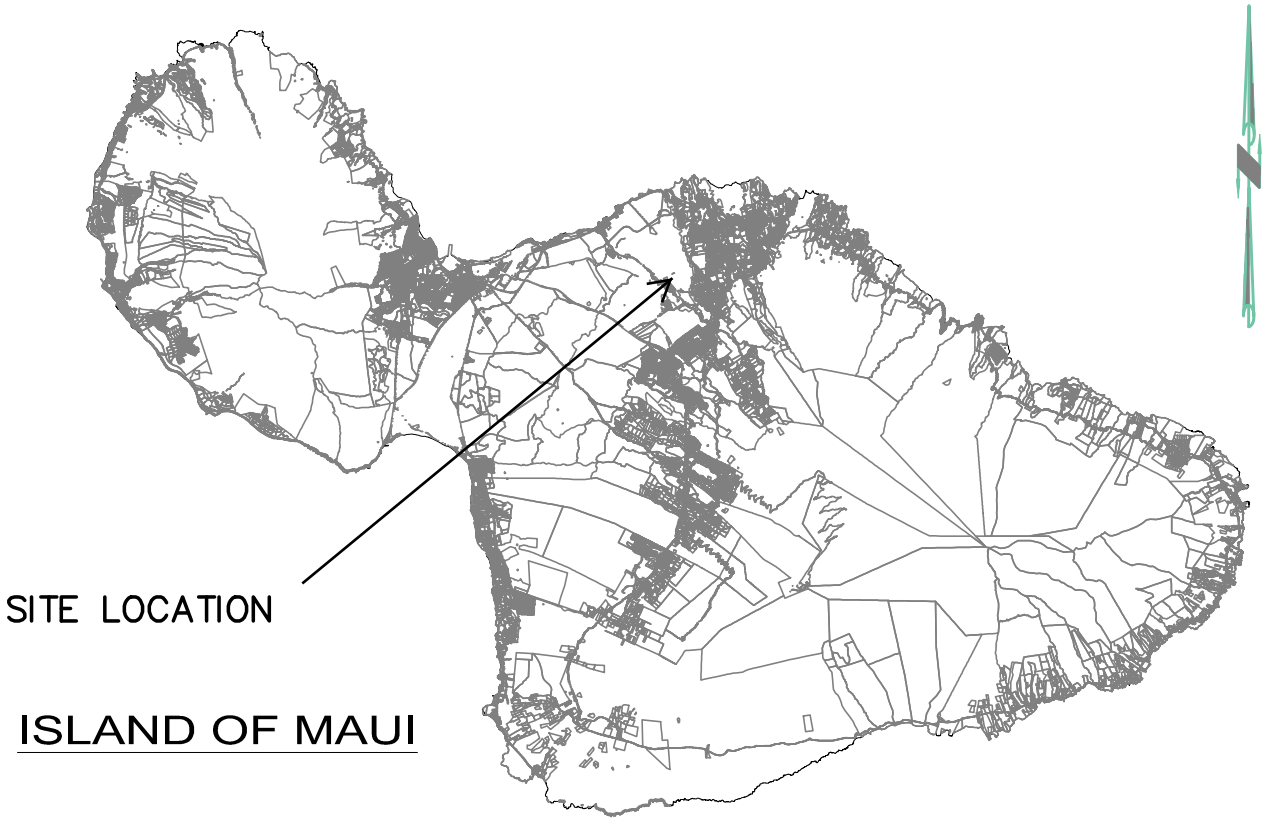
FOR
DARREN & KELLY VAN UNEN
PROJECT SITE:
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
T.M.K. (2) 2-5-003:040-0001

This work has been prepared by me or under my supervision and construction of this project will be under my supervision.

Prepared By:
DOMINIC M. CROSARIOL
ENGINEERING LLC
2138 W. VINEYARD ST.
PO BOX 2864
WAILUKU HI 9679

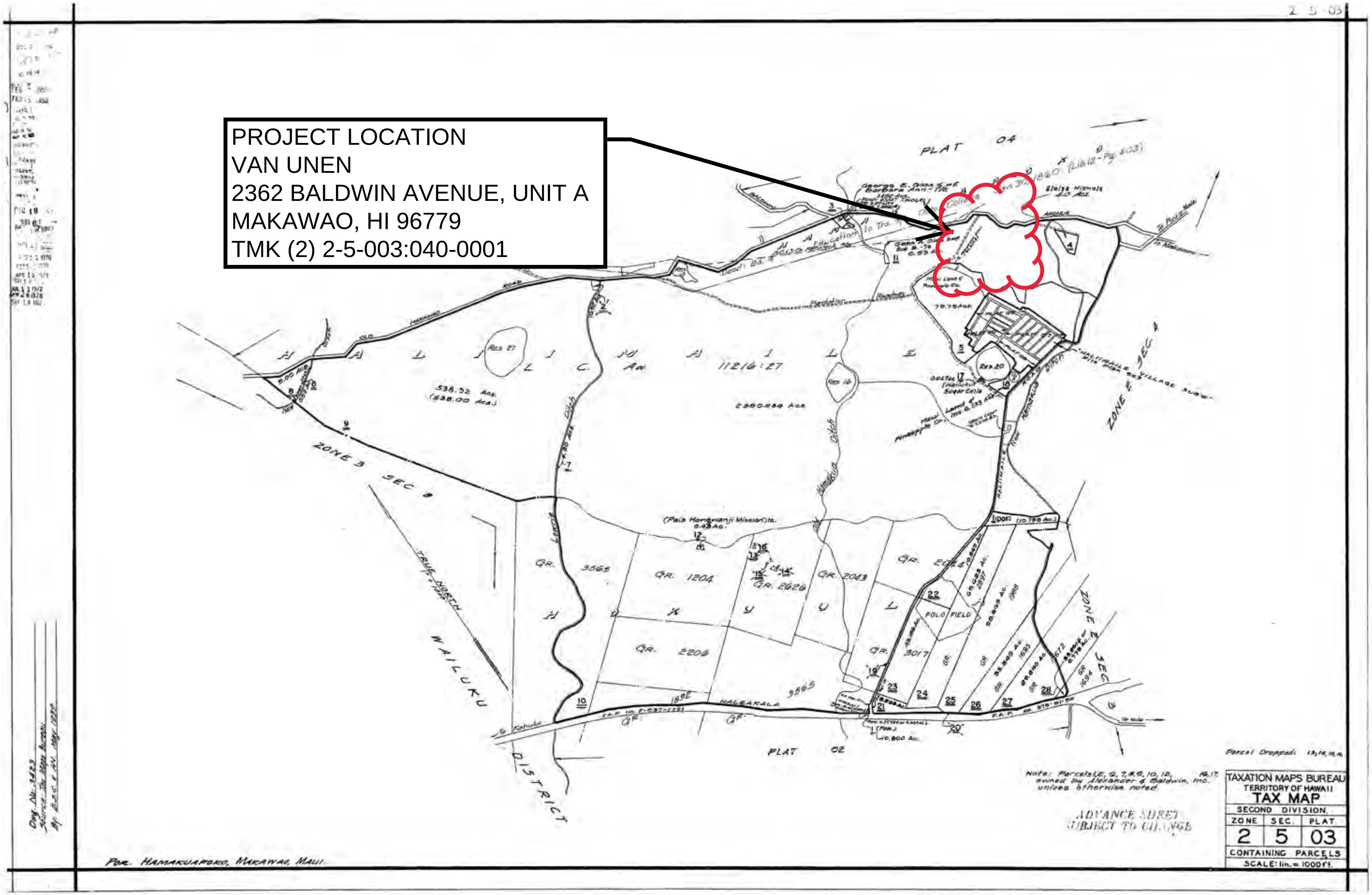
MAP OF MAUI

LOCATION MAP



OWNER: Darren & Kelly Van Unen

TMK: 2-2-5-003:040-0001



PROJECT LOCATION
VAN UNEN
2362 BALDWIN AVENUE, UNIT A
MAKAWAO, HI 96779
TMK (2) 2-5-003:040-0001
2 5 03
PLAT 04
Eloise Nichols
ZONE 3 SEC 8
ZONE 2 SEC 4
TRUE NORTH
WAILUKU DISTRICT
2980.884 Acs.
538.52 Acs. (538.00 Acs.)
11216:27
Res. 27
Res. 20
Maui Pineapple Co.
(Paia Hongwanji Mission)
GR. 3565
GR. 1204
GR. 2206
GR. 2626
GR. 2043
GR. 3017
POLO FIELD
HALEAKALA
PLAT 02
Note: Parcels 1, 2, 5, 7, 8, 9, 10, 12, 16, 17 owned by Alexander & Baldwin, Inc. unless otherwise noted
ADVANCE SHEET SUBJECT TO CHANGE
Dwg. No. 1823
Source: Tax Maps Bureau
Por. HAMAKUAPOKO, MAKAWAO, MAUI.
TAXATION MAPS BUREAU
TERRITORY OF HAWAII
TAX MAP
SECOND DIVISION
ZONE 2
SEC. 5
PLAT 03
CONTAINING PARCELS
SCALE: 1in. = 1000 ft.

DARREN & KELLY VAN UNEN
PROJECT SITE:
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
T.M.K. (2) 2-5-003:040-0001

OPERATING INSTRUCTIONS
TO OWNERS/USERS OF SEPTIC TANK SYSTEMS

ALL WASTWATER FROM YOUR HOME AND, WITH FEW EXCEPTIONS, ANYTHING NORMALLY DISPOSED BY THE HOME PLUMBING SYSTEM CAN BE HANDLED BY YOUR SEPTIC SYSTEM.

1. As much as possible use biodegradable detergents to insure efficiency and maximum time between tank pumping.
2. For proper operation keep the following items out of your septic system:
   a. Plastic products- rubber products, towels-washcloths, sanitary napkins-mop strings.
   b. Grease-pour into a container and dispose elsewhere.
   c. Lint-Dispose of elsewhere-not down the drain.
   d. Rags and scouring pads
   e. Disposable diapers
   f. Water softener backwash.
3. Your septic tank will need pumping from time to time. The frequency will depend on usage. Have a licensed pumping contractor look at your tank after six months. It will probably go a year or more with normal use.
4. A septic tank shall not be entered by anyone unless proper safety procedures are followed. There is a potential hazard of explosion or gasses and/or asphyxiation of personnel if precautions are not taken.
5. Chemicals of disinfectants do not improve the operation of septic tanks and are not recommended. Ordinary chemicals used in the household in small quantities will not adversely affect the operation of the septic tank.
6. Wastewater sludge must be disposed of only at a solid waste disposal facility which has a permit to accept such material.

GENERAL CONSTRUCTION NOTES

1. Construction of this Individual Wastewater System (IWS)shall not be started until proper construction permit is issued by Department of Health. All the work covered under this plan shall conform to all applicable local plumbing codes, UPC, and requirements of the Health Regulations, State of Hawaii.

2. As per Chapter 11-62-08(g) Hawaii Administrative Rules, installation of the IWS shall be accomplished by a licensed contractor who is thoroughly familiar with and experienced in the field.

3. All the bends in the waste line shall be provided with proper clean out to grade (COTG). Provide 3 1/2 inch clean out on 4 inch drain pipe. COTG shall be Smith figure 4280Deco Cast Iron clean out with bronze counter sink closure plug or approved equal. COTG shall be set in 12x12x12 inch concrete block level with the grade.

4. Horizontal Drainage pipe to the treatment tank shall be sloped ¼ inch per foot and shall not exceed 40 feet.

5. When the ground water is encountered in excavating tank for aerobic or other treatment tank, consult engineer for the proper anchoring of the tank.

6. All plumbing fixtures used for in the house or establishment with this project shall be new or retrofitted with water saver type and shall not exceed the following water usage criteria.

Kitchen Faucet	2.5GPM
Lavatory	1.5GPM
Showerhead	2.5GPM
WC	1.6GPM

7. All prefabricated septic tank used for this project shall be **certified by the International Association of Plumbing and Mechanical Officials (IAPMO).**

8. The IWS must be inspected by the design engineer as the system being installed. The contractor or home owner shall make arrangement with engineer for an inspection after system components are placed in place and before the system is back filled. Allow 2 to 3 days advance notice for an inspection. This inspection is required by the Health Department for the final approval for use permit. Engineer shall not be responsible for a system not having been inspected or a completely back filled system before an inspection.

9. The plan specifying materials and other requirements are prepared in strict accordance with the provisions of Title 11 Chapter 62, Hawaii Administrative Rules, Wastewater System, Health Regulations. Therefore, any changes to the approved plans shall be approved by the design engineer before the system installation.

10. The contractor shall provide, install and maintain all barricades and safety devices and take all necessary precautions for the protection of the work, convenience and safety of the public.

DARREN & KELLY VAN UNEN
PROJECT SITE:
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MAKAWAO HI 96779
T.M.K. (2) 2-5-003:040-0001

HAWAII ADMINISTRATIVE RULE CHAPTER 11-62-32
MINIMUM HORIZONTAL SPACING REQUIREMENTS

HORIZONTAL MIN DISTANCE FROM	CESSPOOL (ft)	TREATMENT UNIT (ft)	SEEPAGE PIT (ft)	SOIL ABSORP SYSTEM (ft)
WALL LINE OF ANY STRUCTURE OR BUILDING	5	5	5	5
PROPERTY LINE	9	5	9	5
STREAM, OCEAN VEGITATION LINE, POND OR LAKE	50	50	50	50
LARGE TREE	10	5	10	10
SEEPAGE PIT	13	5	12	5
CESSPOOL	18			
POTABLE DRINKING WATER	1000		1000	1000

GENERAL NOTES

1. DESIGN AND INSTALLATION OF THIS PROJECT SHALL CONFORM TO THE SETBACKS REQUIREMENT OF SECTION 11-62-32.
2. THIS DRAWING IS ESSENTIALLY DIAGRAMMATIC INDICATING GENERAL LAYOUT AND SCOPE OF THE PROJECT ONLY. EXACT LOCATION OF IWS, SETBACKS, SEWER PIPE INVERTS, AND ETC., SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
3. INSPECTION PORTS FOR SEPTIC TANK AND DISTRIBUTION BOX SHALL BE BROUGHT TO GRADE.
4. ALL PLUMBING FIXTURES USED FOR THIS PROJECT SHALL BE WATER SAVER TYPES.
5. DRAIN PIPE SHALL BE 4” DIAMETER PERFORATED PVC PIPE, CONFORMING TO ASTM D-2729 OR APPROVED EQUAL.
6. THE SUBSTITUTION OF THE SEPTIC TANK OTHER THAN SPECIFIED IN THIS PLAN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 11-62-33.1, AND APPROVED BY THE DESIGN ENGINEER.

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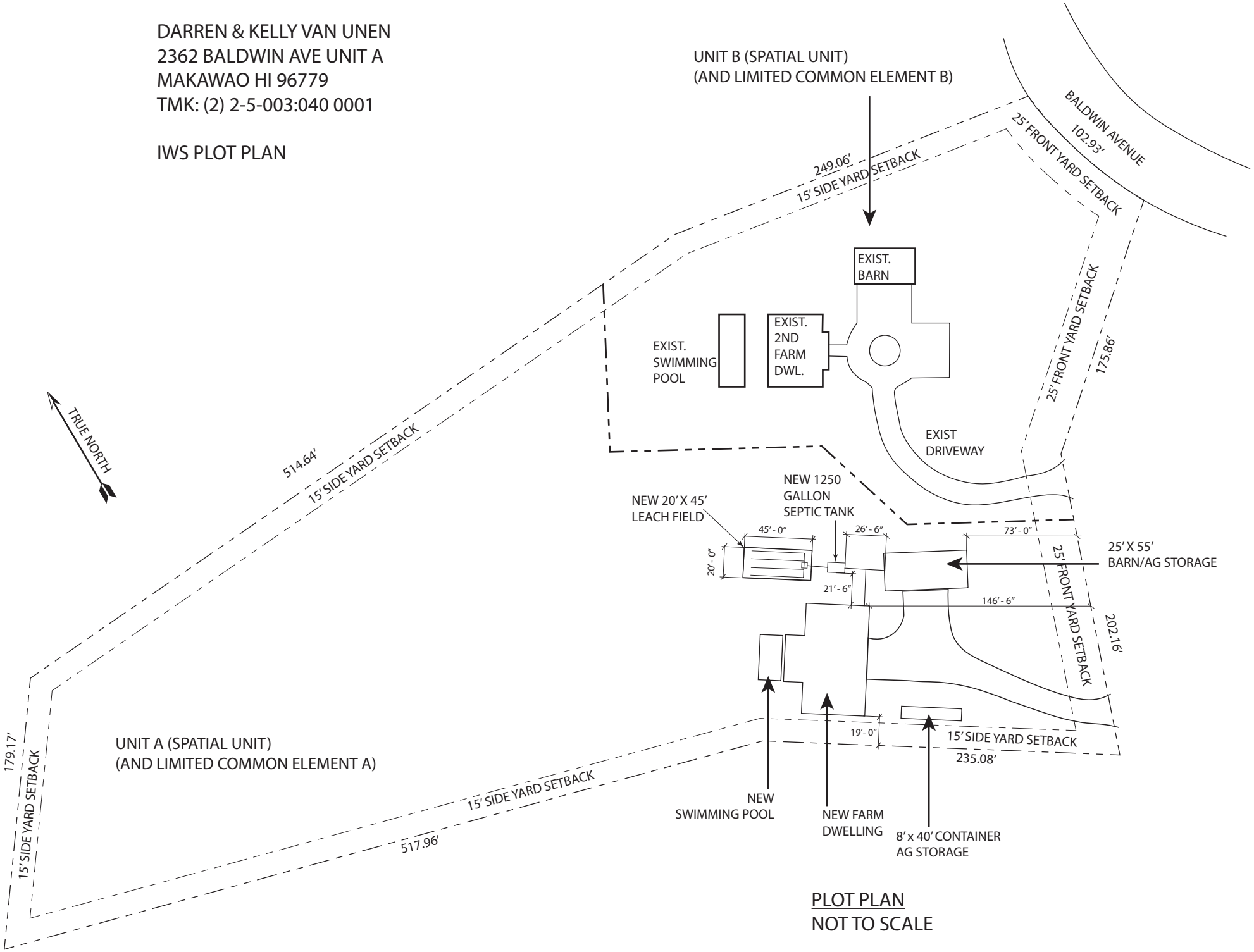
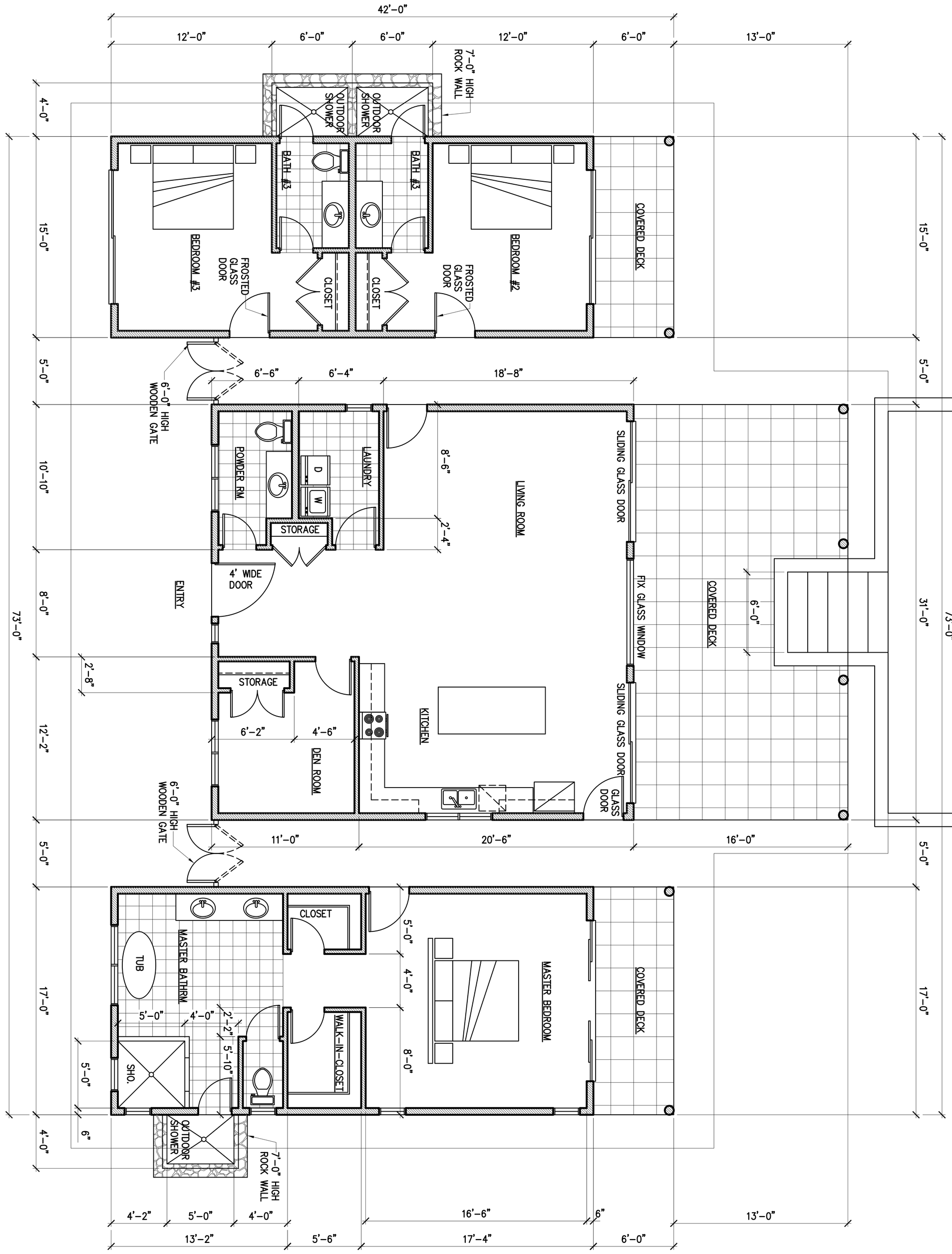
DARREN & KELLY VAN UNEN
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
TMK: (2) 2-5-003:040 0001

IWS PLOT PLAN



PLOT PLAN
NOT TO SCALE



A003
SCALE: 1/4" = 1'-0"

FLOOR PLAN

Date:	DEC.' 2022
Scale:	AS NOTED
Drawn:	CB
Check by:	LM
Job:	VAN UNEN RES
Sheet No	A003
of	Sheets

PROPOSED DWELLING FOR:
DARREN & KELLY VAN UNEN
2362 BALDWIN AVE. UNIT A,
MAKAWAO, HAWAII 96768
T.K.K.: (2) 2 - 5 - 003 : 040-001

ADS
Architectural Drafting Service
P.O. BOX 1718
Kaunakakai, Hawaii 96748
Tel. No. (808) 553-9045
Fax. No. (808) 553-3952
E-mail: luigi@luigimanera.com

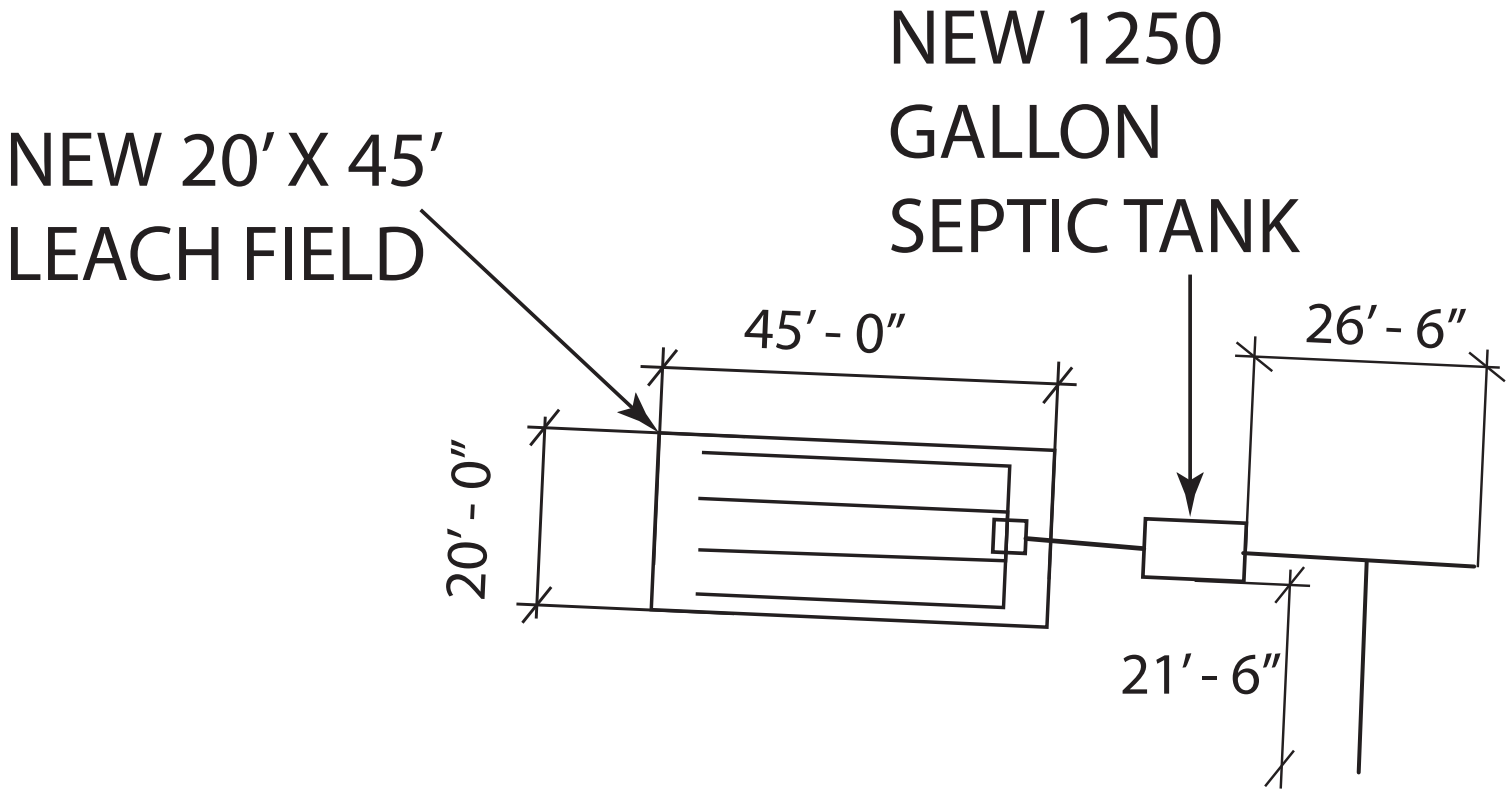
THIS WORK WAS PREPARED BY ME OR UNDER MY OBSERVATION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE EXPIRATION DATE 4-30-24

REVISION	BY

DARREN & KELLY VAN UNEN
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
TMK: (2) 2-5-003:040 0001

IWS DRAWINGS EXPANDED



DEPARTMENT OF HEALTH - WASTEWATER BRANCH
INDIVIDUAL WASTEWATER SYSTEM (IWS) - SITE EVALUATION / PERCOLATION TEST

Date / Time: 12/15/22 9 AM Test Performed by: LUIGI MANERA

Owner: Darren & Kelly Van Unen TMK: (2) 2 - 5 - 003 : 040-0001

Elevation: _____ feet
Depth to Groundwater Table: NA feet below grade
Depth to Bedrock (if observed): NA feet below grade
Diameter of Hole: 12 inches
Depth to Hole Bottom: 3 feet below grade

Depth, inches below grade	Soil Profile (color, texture, other)
12	RED DIRT SMALL ROCK
24	RED DIRT SMALL ROCK
36	RED DIRT SMALL ROCK

PERCOLATION READINGS:
Time 12 inches of water to seep away: _____ minutes
Time 12 inches of water to seep away: _____ minutes

Check one:

○ Percolation tests in sandy soils, recorded time intervals and water drops at least every 10 minutes for at least 1 hour.

◉ Percolation tests in no-sandy soils, presoaked the test hole for at least 4 hours. Recorded time intervals and water drops at least every 10 minutes for 1 hour of time for the first 6 inches to seep away in greater than 30 minutes record time intervals and water drops at lest every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

Time Interval	Drop in Inches	Time Interval	Drop in Inches
10	2"		
10	1 1/2"		
10	1"		
10	1"		
10	1"		
10	1"		

Percolation Rate (time/final water level drop): 10 minutes/inches

As the engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results were acceptable. I also attest that three feet of suitable soil exist between the bottom of the soil absorption system and the groundwater table or any other limiting layer.

_____ _____
Engineer's Signature/Stamp Date

DESIGN REQUIREMENTS

1. AREA CLASSIFICTION- AGRICULTURE
   LOT SIZE - - - - - - - - - - - - - 5.057 ACRES
   IWS PERMITTED - - - - - YES

2. FLOW
   NO. OF BEDROOM 5 X 200 GPD/BEDROOM = 1000 GPD

3. AEROBIC UNIT CAPACITY REQUIED
   NO. OF BEDROOM ([NO]) X 200 GAL/BEDROOM = N/A

4. SEPTIC TANK CAPACITY REQUIRED -- - - - - - - - 1,250 GAL MINIMUM

5. DISPOSAL SYSTEM

   A. PERCOLATION RATE - - - - - - - - - - - - - 10 MIN/IN.
   B. REQUIRED ABSORPTION AREA - - - - - 825 SQ.FT.
   C. REQUIRED LENGTH LEACH LINE FOR____FT WIDE TRENCH ___FT X____
   D. ABSORPTION BED SIZE____20___ FT ____45_____ FT
   E. SEEPAGE PIT SIZE REQUIRED: DIAMETER _____ FT,
      DEPTH_____FT
   F. EVAPO-TRANSPIRATION SYSTEM
   G. CESSPOOL

DARREN & KELLY VAN UNEN
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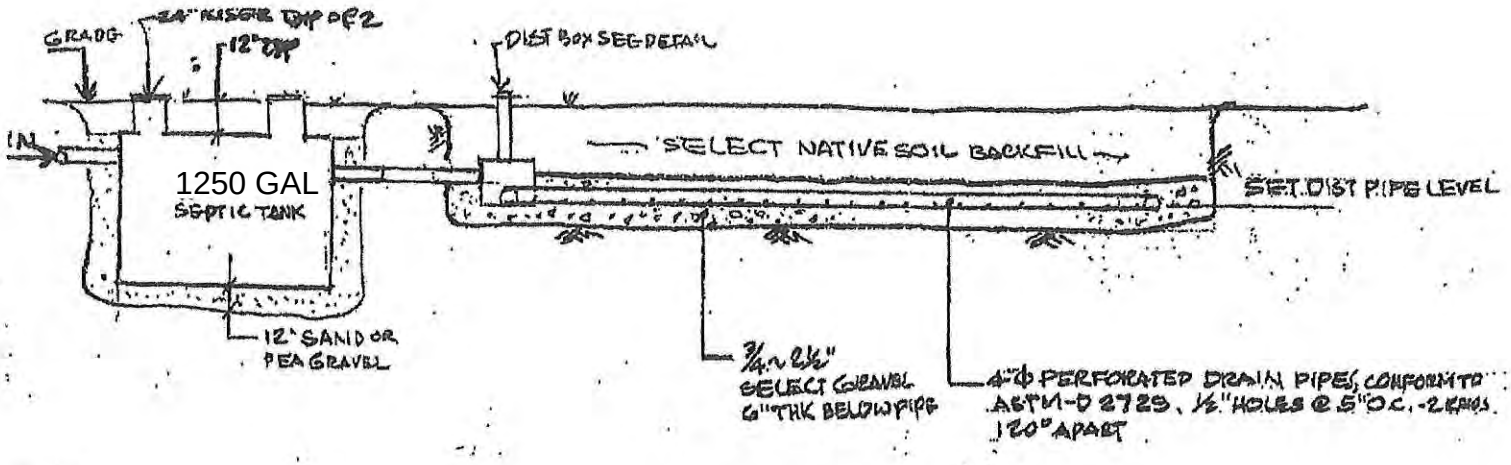
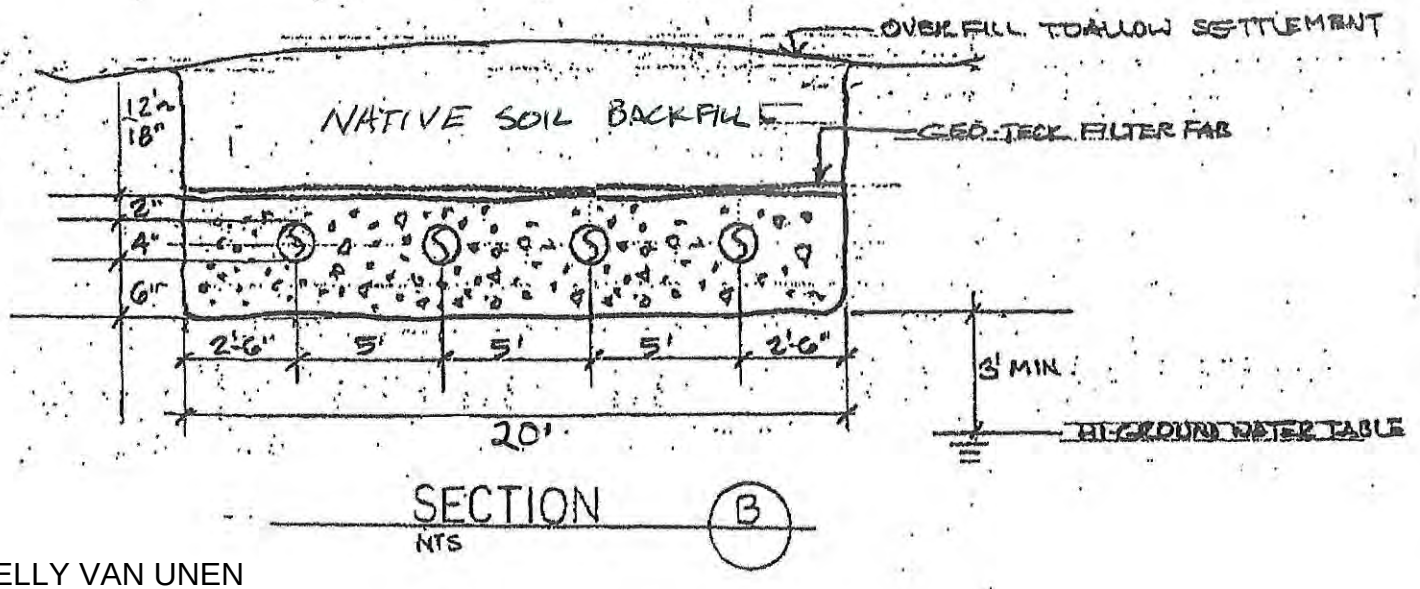


SECTION A
NTS



SECTION B
NTS

DARREN & KELLY VAN UNEN
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MAKAWAO HI 96779
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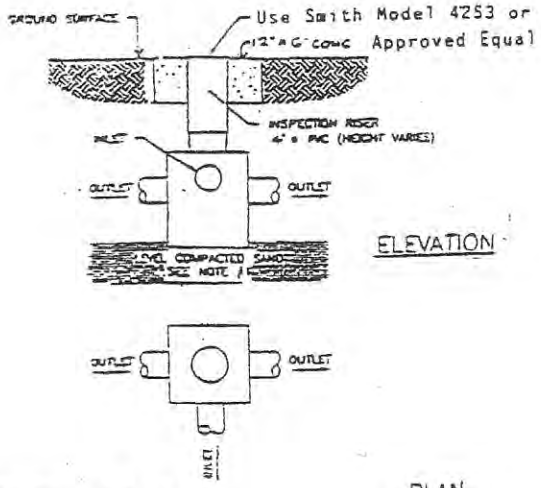
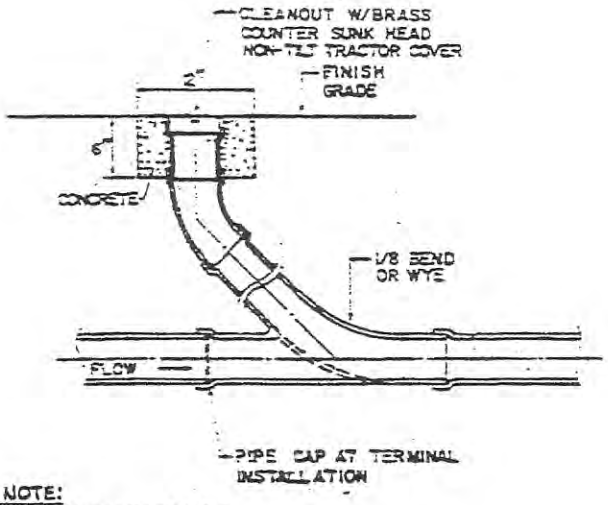


CONSTRUCTION NOTE

1. The distribution box shall be set level and arranged so that effluent is evenly distributed to each distribution line.

DISTRIBUTION BOX

N.T.S.



NOTE:
25 DAY COMPRESSIVE CONCRETE STRENGTH 3000 PSI

TYPICAL CLEANOUT

NOT TO SCALE

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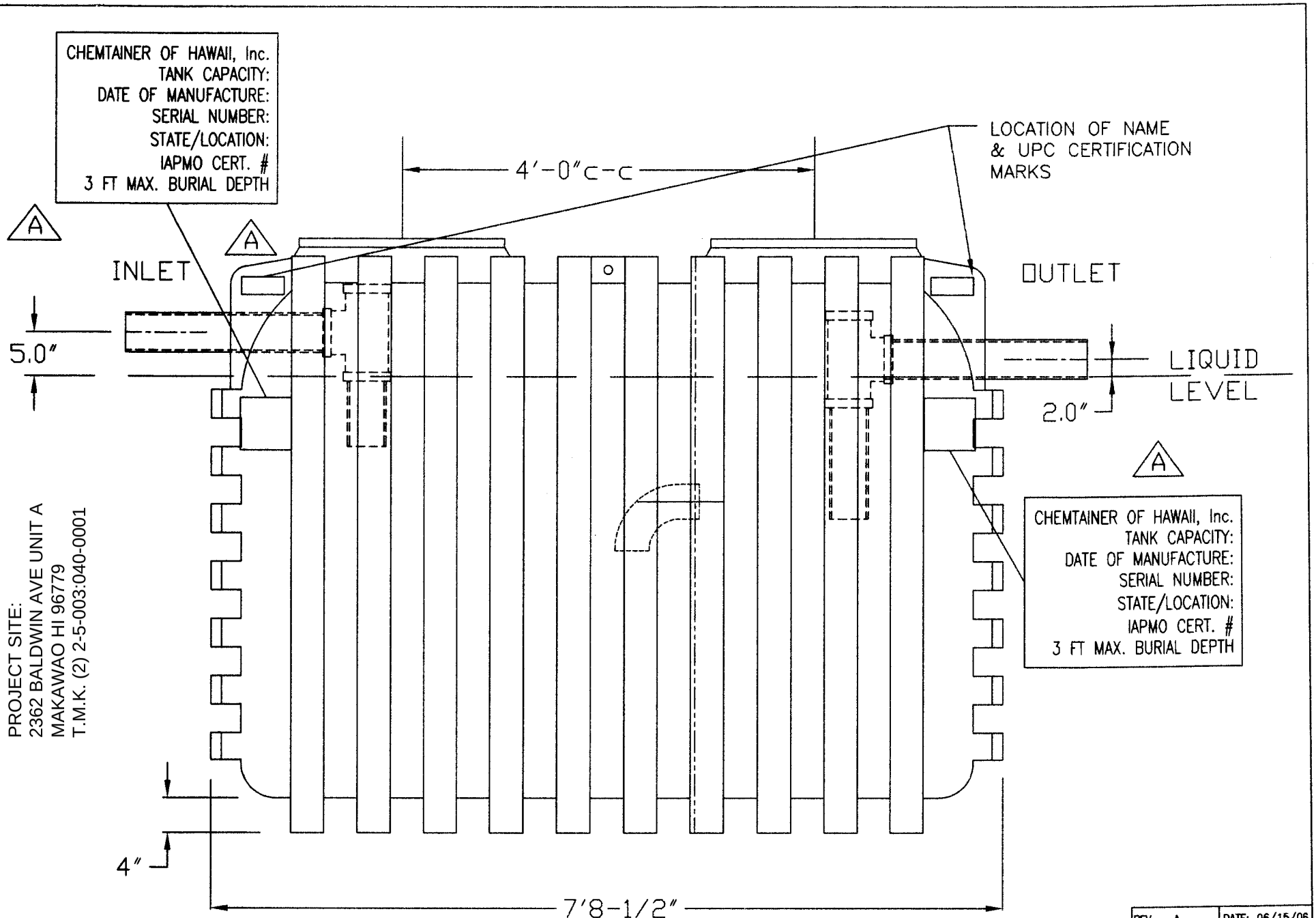


FRONT VIEW

DARREN & KELLY VAN UNEN
PROJECT SITE:
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
T.M.K. (2) 2-5-003:040-0001

ALL DIMENSIONS SHOWN ARE OUTSIDE PART DIMENSIONS IN INCHES, AND VARY BY THE STANDARD ROTATIONAL MOLDING TOLERANCE OF +2;-3%.

SCALE: N/A | SHEET: 1 OF: 8

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERENCES ON:

FRACTIONS	DECIMAL .xx	DECIMAL .xxx	ANGLES
± 1/32	± .02	± .005	± 1°

UNLESS NOTED SURFACE FINISH N/A

CHEM-TAINER OF HAWAII
16-118 Li'i Li'i STREET KEAAU HI.
(808)966-5454 FAX (808)966-5455

TITLE: 1250 GA SEPTIC TANK

REV. A	DATE: 06/15/06
REV.	DATE:
DRAWN BY: A.R.	DATE: 15/30/03
APP'D:	MOLD LOC.

PART # TC1250ST

OPERATION AND MAINTENANCE INSTRUCTIONS FOR SEPTIC TANKS

1. Septic tanks shall be inspected on a yearly basis by opening the access cover and checking if either the sludge or scum are near the outlet pipe.

2. The septic tank shall be cleaned out if either:
   a) the bottom of the floating scum mat is within three inches of the bottom of the outlet pipe
   or b) sludge comes within six inches of the bottom of the outlet pipe.

3. Cleaning the septic tank shall consist of pumping of the contents into a tank truck and hauling it to a State Health Department approved point of disposal. The septic tank shall not be washed or disinfected after pumping. A three inch depth of residual sludge shall be left in the tank for seeding purposes.

4. A septic tank shall not be entered by anyone unless proper safety procedures are followed. There is a potential hazard of explosion of gases and/or asphyxiation of personnel if precautions are not taken.

5. Chemicals or disinfectants do not improve the operation of septic tanks and are not recommended. Ordinary chemicals used in the household in small quantities will not adversely affect the operation of the septic tank.

6. Paper towels, newspaper, wrapping paper, rags and sticks should not be flushed into the septic tank. They will not decompose and will lead to clogging of the piping.

7. Improper operation and maintenance of the septic tank will lead to early failure of the disposal system (seepage pits and/or leach lines) by clogging the piping and adjacent soil. This will result in septic tank overflows and disposal system flooding. Complete replacement of the disposal system is then required.

DARREN & KELLY VAN UNEN
PROJECT SITE:
2362 BALDWIN AVE UNIT A
MAKAWAO HI 96779
T.M.K. (2) 2-5-003:040-0001

CHEM-TAINER OF HAWAII, INC.

16-118 Li'i Li'i Street, Keaau, Hawaii 96749 Tel. (808) 966-5454 Fax (808) 966-5455
Mailing Address: P.O. Box 5029, Hilo, Hawaii 96720-1029

SEPTIC TANK INSTALLATION INSTRUCTIONS

UNDERGROUND INSTALLATION

1. Inspect tank for physical damage. Lack of inspection may void warranty. See warranty details attached

2. **SITE REQUIREMENTS:**
   Locate tank away from vehicle travel areas.
   Locate tank as close to the building as possible, but not closer than allowed by local codes.
   Tank is to be accessible for maintenance and pumping.
   Place in stable soil conditions, not subject to high ground water conditions, flooding or sliding.
   Consult with professional if uncertain.

3. Connect with straight sewer line. slope sewer line downward from building toward the tank (at least 1/4" per foot or as local codes require.)

4. **EXCAVATION REQUIREMENTS:**
   Top of tank to be a 12" minimum below ground level. Maximum depth of top of tank is 36".
   Optimum is 18" to 30".
   Dig hole from side to side to prevent bridging.
   Foundation should be level, firm, and uniform.
   Hole and backfill to be free of rocks, roots or other hard objects.
   Remove any water from hole. Installation of this tank in a high ground-water area or wet clay-type material may void the warranty.
   Make hole big enough to allow good compaction of backfill.

5. **TANK PLACEMENT:**
   Straps may be attached through the manholes or around the outside of the tank. Level tank.
   DO NOT lift tank by attaching straps through the inlet or outlet openings.

6. With tank in place, place the first one (1) foot lift of backfill.

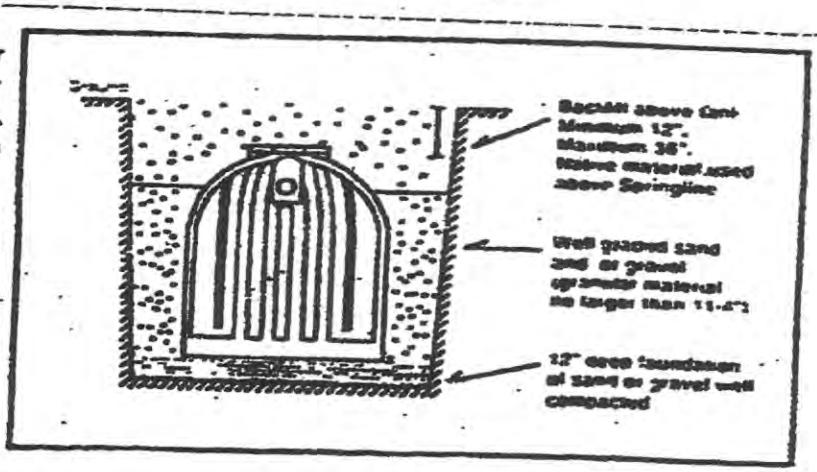
IMPORTANT: Compact the backfill especially well under the tank springline. Native soil material may be used for backfill above the spring line

7. As backfill progresses, fill tank with water. DO NOT fill tank more than 12" higher than the level of backfill.

8. **BACKFILL REQUIREMENTS:**
   Backfill must be free of large or sharp rocks, sticks, frozen clods, or other hard objects which may damage the tank.

   Heavy clay (wet cohesive soil) should be avoided, since it can leave large voids in the backfill.

   Backfill with Clean sand or gravel only. If hole is rocky or uneven, level with 6" minimum sand only.



9. When installing manhole riser, place a continuous bead of silicone seal on the contact surfaces and then secure with screws.

10. Install manhole risers (optional) before backfill reaches the tank top.

11. **FINAL BACKFILL REQUIREMENTS:**
    Backfill in lifts of less than 12 inches. Lifts shall be placed uniformly around the tank and across the top of the tank.

HAND COMPACT the backfill near the inlet and outlet.

REMEMBER: AVOID DRIVING OVER THE TANK. OPERATING HEAVY EQUIPMENT NEAR TANK. BACK FILLING WITH DEBRIS, OR OTHER HARD OBJECT. IT IS PREFERABLE TO LEAVE THE TANK FILLED TO THE SPRINGLINE AND REFILL IMMEDIATELY AFTER PUMPING.

DARREN & KELLY VAN UNEN
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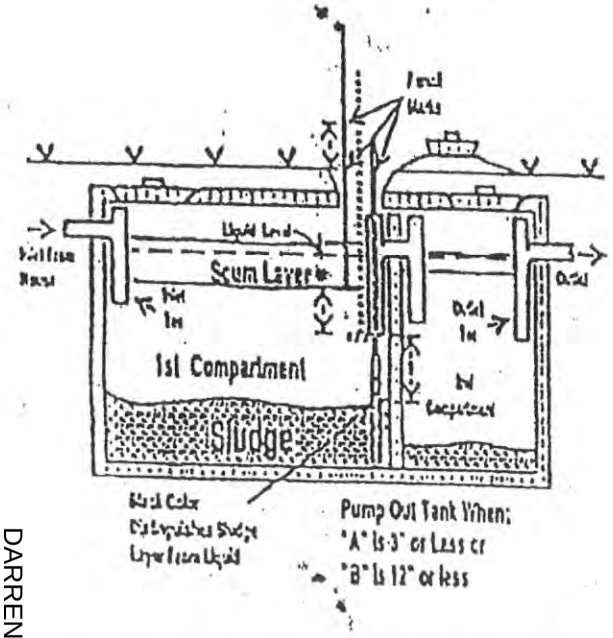
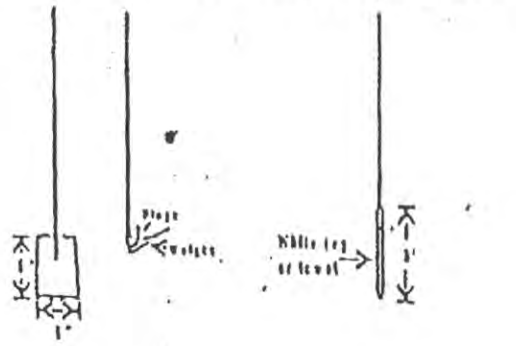
Inspecting Your Septic Tank



Scum Measuring Devices Sludge Measuring Device



Measuring the Scum Level

This procedure is for determining the distance between the bottom of the scum layer and the bottom of the outlet baffle or tee.

1. Establish a convenient reference point, such as a stick layed on the ground across the hole.
2. Attach a 6 inch square board to the bottom of a stick at least 6 feet long.
3. At the outlet end of your tank's first compartment, carefully push the stick through the scum layer to find the bottom of the baffle or tee.
4. Mark your stick at the reference point to indicate the bottom of the baffle or tee.
5. Raise the stick until you feel or see the stick contact the bottom of the scum layer.
6. Mark your stick again at the reference point to indicate the bottom of the sludge.
7. If the two pencil marks are 3 inches or less apart the tank needs to be pumped out. If the top of the scum is within 1 inch of the top of the outlet baffle the tank needs to be pumped.
8. Lay stick aside for later comparison with sludge level stick.

Measuring the Sludge Level

This procedure is for determining the distance from the bottom of the outlet baffle or tee to the top of the sludge layer.

1. Wrap 3 feet of a white rag or old toweling around the bottom of a stick at least 6 feet long and fasten it with tape or string.
2. Carefully lower the stick to the bottom of the first compartment. To avoid pushing it through the scum layer, lower the stick behind the outlet baffle or through the outlet tee.
3. Hold the stick in the tank for a few minutes to allow sludge particles to adhere to the towel. Mark the stick at the reference point to indicate the bottom of the tank.
4. Remove the stick carefully and note a distinc dark stain on the towel representing the sludge layer.
5. Lay the stick beside the scum stick. Line up the top pencil marks.
6. Measure the distance from the bottom of the scum stick to the top of the dark stain on the sludge stick.
7. If the distance is 12 inches or less, your tank needs to be pumped.

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SEPTIC TANK INSPECTION RECORD

)wner Name: _____

ıddress: _____

lake and Model of Tank: _____

laterial Tank Made of: _____ Capacity _____

eeping a good preventative maintenance record will help anticipate when the ıext cleaning of the tank may be needed and avoid major problems arising from)oorly maintained septic tanks. "A"=scum depth "B"=sludge depth

Date	Work Done & By Whom	"A"	"B"	Comments