

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9310
Exam Date: 07/20/2021

1. Current Owner:
BEVERLY PATERSON 1809 E ROCKWOOD BLVD SPOKANE WA 99203
2. Accompanied by: Beverly Paterson
Phone No: 509-290-2130
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
PEND OREILLE RIVER

Tributary
COLUMBIA RIVER

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
96-2165	SPRING	FISH PROPAGATION	LICENSE
96-4004	SPRINGS	DOMESTIC	STATUTORY CLAIM
96-4052	SPRING	IRRIGATION	STATUTORY CLAIM
96-7113	SPRING	DOMESTIC	LICENSE
96-8812	GROUNDWATER	MUNICIPAL	LICENSE

Comments: Right(s) 96-2165, 96-4004, 96-4052, 96-7113, and 96-8812 all use water sources not associated with this water right, and the POU(s) associated with each respective right does are not associated with this permit with the exception of 96-8812, which is a municipal service provider that serves the home for in home use only.

2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

PEND OREILLE RIVER L4 (SW¼ NW¼), Sec. 3, Twp 56N, Rge 02W, B.M. BONNER County

Method of Determination: GPS. POD is located at -116°33.9672, 48°13.8377.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	02W	3							0.2 L4			0.4							0.6

Total Acres: 0.6

Method of Determination: Field exam and Arcmap aerial imagery.

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.
☒ Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be
☒ 1:24,000 or greater.

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
SUBMERSIBLE PUMP	UNKOWN	UNKOWN			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET MEASUREMENT						

2. Measurements: Three 5 gallon bucket tests were completed from frost free hydrant piped direct from POD, with average of three resulting in a diversion rate of 5 gal / 20.66 sec x 60 sec/min = 14.52 gpm = 0.03 cfs, considering department rounding standards. Permit approved diversion rate limits recommended diversion rate for licensing purposes equal to **0.02 cfs**.

E. FLOW CALCULATIONS

Measured Method: = (5 gal / 20.03 sec) x 60 sec/min = 14.98 gpm
 = (5 gal / 21.43 sec) x 60 sec/min = 13.99 gpm
 = (5 gal / 20.53 sec) x 60 sec/min = 14.61 gpm

Average of 3ea 5 GAL Bucket Tests = (14.98 gpm + 13.99 gpm + 14.61 gpm) / 3 = 14.53 gpm = 0.03 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.6 \text{ ac} \times 3.0 \text{ afa} = 1.8 \text{ af}$

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214 \times 1.9835 = 12.7 \text{ af}$

$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{1.8 \text{ af}}$

2. Volume Calculations for Other Uses:

This right uses a surface water source, and does not receive an annual volume nor maximum diversion volume.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 7/20/2021 with the applicant, Beverly Paterson, showed water being diverted from the Pend Oreille River for irrigation purposes. At the POD, a screened submersible pump was mounted to a dock piling, with 1.5 inch poly pipe routing to a frost free hydrant located beside the applicant's home. A single control valve irrigation box was situated next to the frost free hydrant, with manual shut off vales for the system. The applicant did not have any data pertaining to the submersible pump install, and asserts the installer had passed away and that she was unable to collect any data. Three 5 gallon bucket tests were completed from frost free hydrant piped direct from POD, with average of three resulting in a diversion rate of $5 \text{ gal} / 20.66 \text{ sec} \times 60 \text{ sec/min} = 14.52 \text{ gpm} = 0.03 \text{ cfs}$, considering department rounding standards. The applicant is limited by the permit approved maximum diversion rate of **0.02 cfs**, which aligns with the department standard for the irrigation acreage validated during the field exam. The applicant states they irrigate with the frost free half opened, as the fully opened valve energizes the full capacity of the pump and over waters with sprinklers they use. Once a hose and sprinkler is connected to the hydrant, it is reasonable that restriction of flow will mitigate any overage in diversion, and permit enlargement by excess diversion is not a concern for this irrigation system.

During the field exam, field maps were used to trace out the irrigation POU, which consists of river front lawn, landscaping plants, trees, potted plants, and elevated plant plywood board sets. The applicant watered a treed-in area between the home and main road using 100 ft hoses and portable sprinklers in order to keep the area green and reduce dry ground cover along the roadway. Portable sprinklers and hoses were used throughout the property, and the slightly oversized pump was presumed to be installed to provide adequate direct flow to reach the furthest extent of the irrigation POU. During licensing review, Arcmap aerial imagery was used to trace out the irrigation POU, which equals 0.6 acres. The annual volume associated with irrigating 0.6 acres = 1.8 af, but as this right uses a surface source no volume metrics were applied to the annual volume nor maximum diversion volume. Condition X31 was used to designate the **1.8 af** associated with irrigation the 0.6 acres on the property.

Condition 26A and WB9 were removed from the permit during licensing review. Condition R62 was replaced with condition X31 to better designate irrigation occurring for less than 1 acre. Condition 004 was added to the permit during licensing review. Overlap concerns - Right(s) 96-2165, 96-4004, 96-4052, 96-7113, and 96-8812 all use water sources not associated with this water right but have overlapping POU(s), and the POU(s) for each respective right does are different parcels than covered under this permit with the exception of 96-8812, which is a municipal service provider that serves the home for in home use only. The applicant states the cost of using municipal water to irrigate is very expensive, which prompted the applicant to develop the river sourced irrigation system. There are no further concerns for overlap related to this water right.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	04/01 to 10/31	0.02 CFS

Totals: 0.02 CFS

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above X None

____ Change P.U. as reflected above ____ Add P.U. as reflected above X None

I. AUTHENTICATION Luke Bates - Water Resource Agent

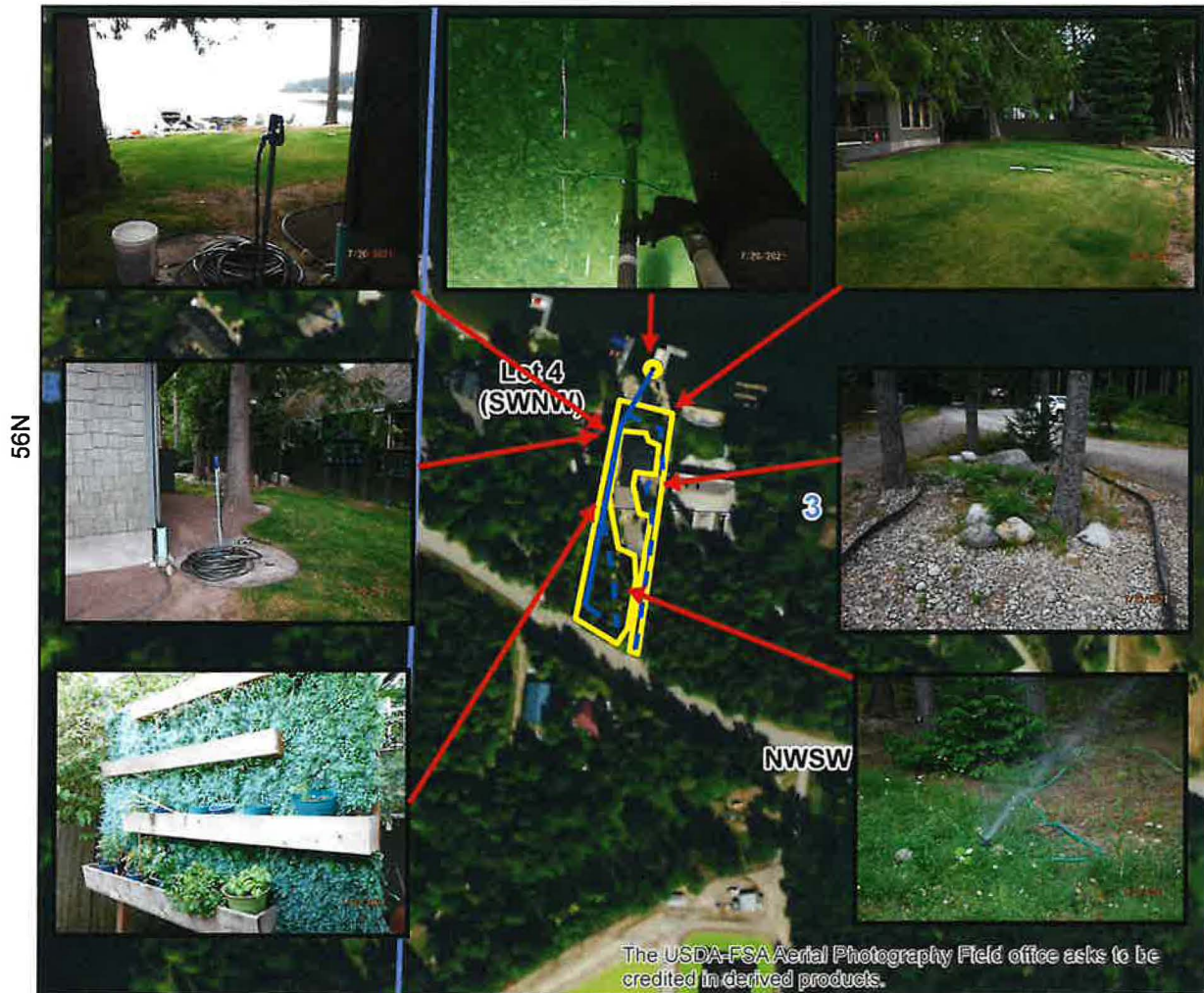
Field Examiner's Name  Date 8/3/2021

Reviewer  Date 8/12/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9310

IRRIGATION system diagram.

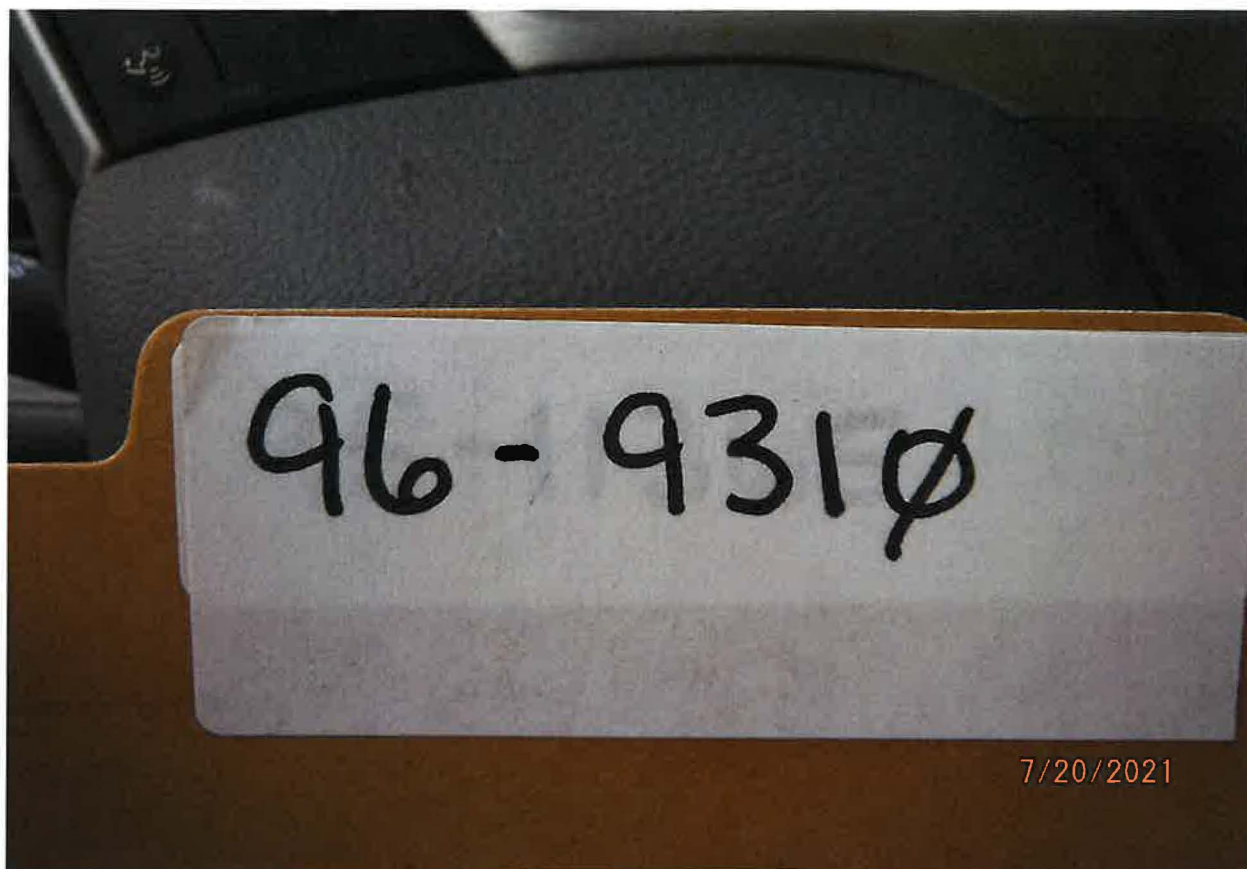
02W



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles





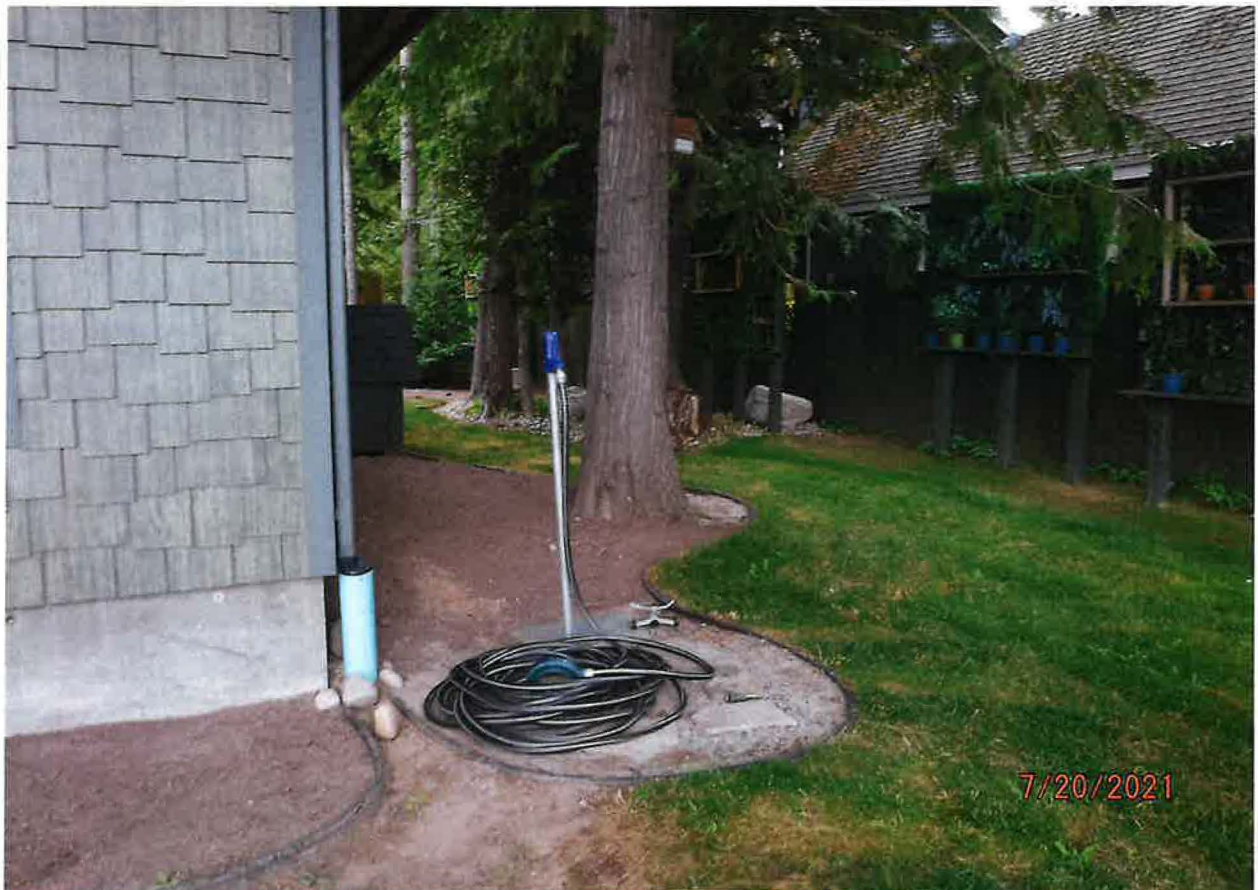
FIELD EXAM DATE 7/20/2021



POD – SUBMERSIBLE PUMP MOUNTED TO DOCK PILING



IRRIGATION SYSTEM CONTROL BOX – LOCATED NEXT TO FROST FREE HYDRANT



FROST FREE HYDRANT ASSOCIATED WITH SURFACE SOURCE SYSTEM



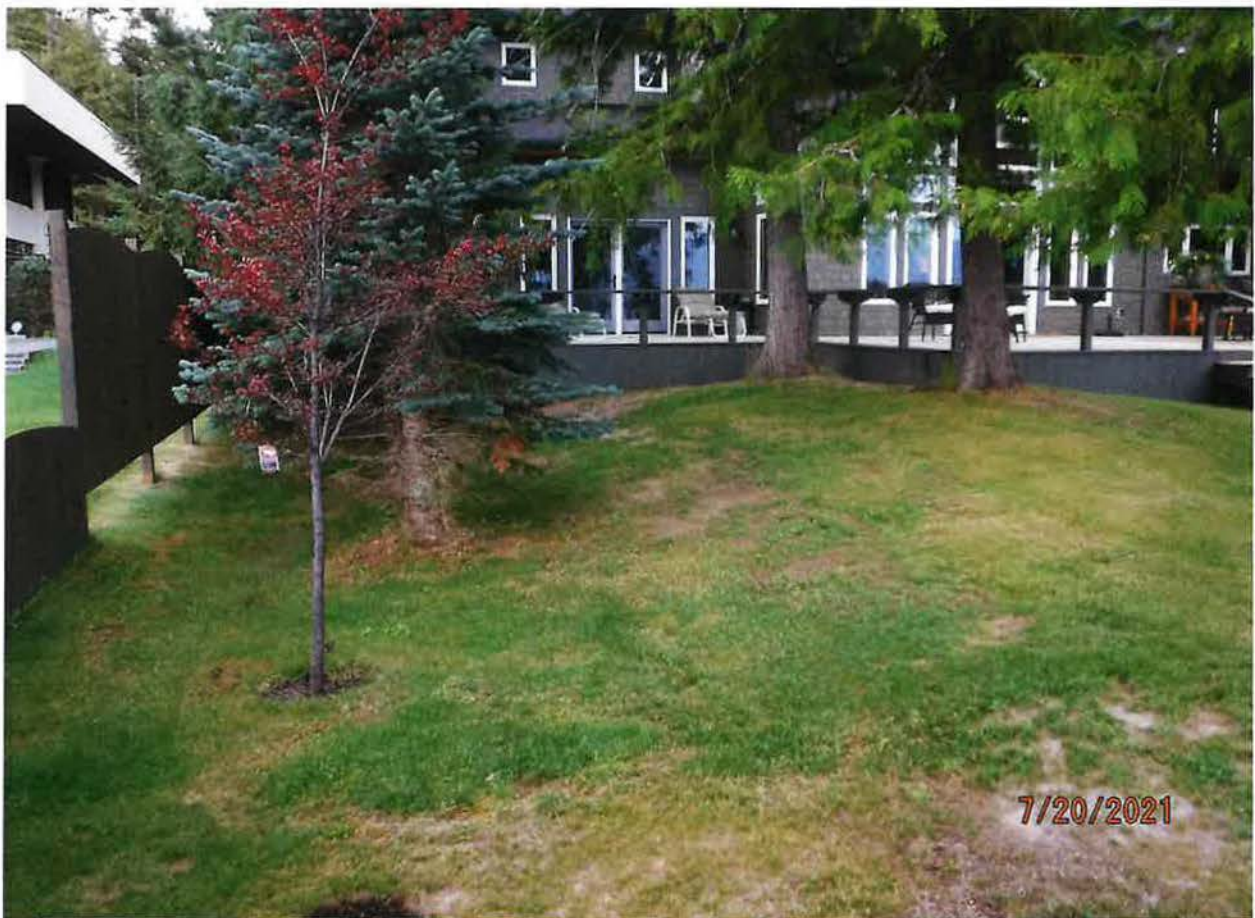
5 GAL BUCKET MEASUREMENTS TAKEN FROM FROST FREE HYDRANT



IRRIGATION POU

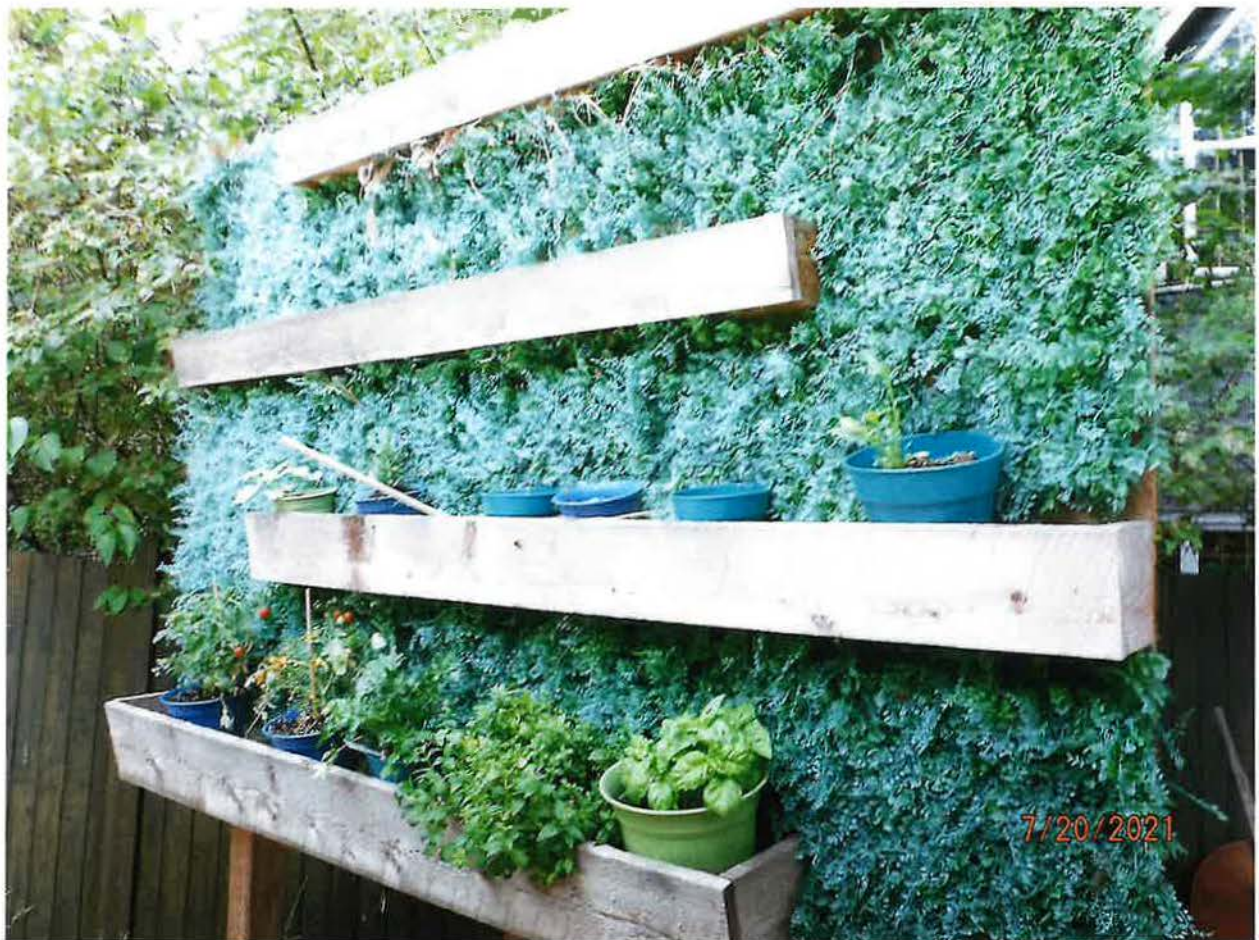


IRRIGATION POU





IRRIGATION POU





IRRIGATION POU

