

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 94-7426
Exam Date: 09/15/2022

1. Current Owner:
GOLF LLC 701 BUNKER AVE APT 113 KELLOGG ID 83837-2243
2. Accompanied by: Geoff Haynes
Phone No: 760-522-3573
Address: Same as above.
Relationship to permit Holder: Permit Holder's representative – Golf Course Superintendent.

3. **SOURCE:**
GOVERNMENT CREEK

Tributary
SOUTH FORK COEUR D ALENE RIVER

Method of Determination: ArcMap and DRG.

B. OVERLAP REVIEW. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
94-2094, 94-2132, 94-2166, 94-2213, 94-4007, 94-4008, 94-4263, 94-7199 – Central Shoshone County Water District	Groundwater, Milo Creek, Shields Gulch Creek, McFarren Creek, West Fork Big Creek	Municipal	Decreed Right(s)

Comments: 8ea decreed Rights owned by Central Shoshone County Water District have a municipal service area which overlaps this permit's irrigation POU. None of the water sources associated with the numerous municipal rights are the same as this right which uses the Government Creek water source. The applicant's irrigation system for the 9-hole golf course is separate from the municipal providers system negating overlap concern between water rights.

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

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

GOVERNMENT CREEK NW¼ NW¼, Sec. 11, Twp 48N, Rge 02E, B.M. SHOSHONE County

Method of Determination: GPS. POD is a duplex intake system in Government Creek located at -116° 51.047, 47° 51.972

PLACE OF USE: IRRIGATION STORAGE & AETHETIC STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
48N	02E	2												X			X		

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
48N	02E	2			16.0	13.0								0.4	4.0	11.4	13.6	4.4	62.8

Total Acres: 62.8

Method of Determination: Beneficial use field examination & 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 CATALOG No.	Pump Make	Pump Serial No. or Discharge Size
VERTICAL SHAFT PUMPS (DUPLIX 2EA INSTALLED)	U.S. MOTORS	50	H050S2RL6	U.S. MOTORS	

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
FLOWMETER		BADGER METER				

2. Measurements: Each 50 Hp pump was operated and allowed to stabilize. Pump 1 flowmeter measurement equaled 553 gpm and Pump 2 flowmeter measurement equaled 449 gpm. 553 gpm is equivalent to 1.23 cfs.

E. FLOW CALCULATIONS

Measured Method: in-line flowmeter installed. Pumps operated lead/lag with largest observed flow rate equaling 553 gpm or **1.23 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 62.8 \text{ acres} \times 3.0 \text{ afa} = 188.4 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.23 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 522.1$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{188.4}$$

2. Volume Calculations for Other Uses: See attached pond analysis worksheet. Maximum diversion volume = 9.3 af (Aesthetic Storage) + 188.4 af (Irrigation Storage/from Storage) = **197.7 af**.

G. NARRATIVE/REMARKS/COMMENTS

The beneficial use field exam was performed on 9/15/2022 with the applicant's representative, Geoff Haynes, which showed surface water diversion from Government Creek for Aesthetic Storage, Irrigation Storage, & Irrigation from Storage use at Galena Ridge Golf Course. The exam validated development of beneficial uses that require changes to the POD & storage pond POU. An Amendment to Permit (Amendment) was mailed to the applicant on 9/20/2022 and received back from the applicant on 11/8/2022 with payment of \$100.00. A second signed version of the Amendment was received by IDWR on 10/27/2023; staff identified the duplicate filing and responded to the applicant by mailed correspondence on 10/30/2023 notifying them of the duplicate submission and Department's action to refund the \$100.00 filing fee for receipt N044154.

Permit approved legal descriptions & licensing review recommendation amounts for licensing Permit 94-7426 are as follows:

- Permit approved POD in the SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 2, Twp 48N, Rge 02E. I've corrected the legal description to reflect the GPS located POD in the NW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 11, Twp 48N, Rge 02E.
- A second Permit approved POD in the NW $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 2 was not developed; I've removed this from the Permit.
- Permit approved Irrigation Storage & Aesthetic Storage Pond(s) in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ & SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 2, Twp 48N, Rge 02E. I'm recommending storage beneficial uses for a single pond developed in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ & SW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 2, Twp 48N, Rge 02E. A second pond was developed in the NW $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 2, but serves as a storm drain collection pond and has no beneficial uses of water to recommend for licensing.
- Irrigation as a direct flow was not developed by the applicant, only from storage irrigation use. I have removed the Irrigation (direct flow) beneficial use from the Permit during licensing review.

The Amendment as signed had inaccuracies identified during follow-on licensing review, and required corrections made as follows:

- The diversion rate for Diversion to Storage & Maximum Diversion rate was reduced from 2.46 cfs to 1.23 cfs based on single pump flow measurement calculations (as discussed below).
- Aesthetic Storage annual volume was corrected to state 9.3 af (did not impact the maximum diversion volume on form), based on pond analysis worksheet values.
- Irrigation from Storage season of use was Permit approved for 3/15 to 11/01 and I've clarified the season of use to reflect the Department standard for this region of 4/1 to 10/31.

At the POD, the applicant has installed a screened intake in an existing in-stream pool routed to a nearby pump station. Two 50 HP U.S. Motor vertical shaft pumps are used in a lead/lag pumping configuration. The applicant has installed a FLOWTRONEX water pump system that incorporates a flow meter and SCADA monitoring system for the diversion of creek water to a storage pond located approximately 0.4 miles up-slope to the Northeast of the pump station.

During the exam Mr. Haynes operated the pumps allowing sufficient time for stabilization prior to recording flow measurements. I documented 553 gpm and 449 gpm flow measurements at 125 PSI operating pressure from the SCADA control panel for each pump. The permit authorized development up to 2.5 cfs based on the two 500 gpm pump capacity. I questioned Mr. Haynes during the exam and the normal operation for the water system is to run the pumps lead/lag with only one pump on at a time. Normal run times take two days to fill the pond, then the pump is cycled off for 2-4 days then switched pumps for 2 days to re-fill the pond repeatedly throughout the season. Operating lead/lag, only one pump is diverting from the creek at a time. I'm recommending a diversion rate of 553 gpm or **1.23 cfs** based on Department rounding standards for licensing purposes.

The Aesthetic & Irrigation Storage POU pond was photographed and sketched out on field maps during the exam. The diversion to storage pipeline discharges into a rock channel flowing into the pond to create a natural landscape. Mr. Haynes

asserted the pond was excavated to a maximum depth of 20 feet. A pond analysis worksheet was prepared during licensing review that derived the following values: 0.9 acres surface area, 8 feet average depth, 7.2 af pond capacity, 1.0 af seepage & 1.1 af evaporation loss. The annual volume recommended for the Aesthetic Storage component equals pond capacity + seepage + evaporation factors = 7.2 af + 1.0 af + 1.1 af = **9.3 af**. The Irrigation Storage component annual volume is the same as the Irrigation from Storage volume as described below.

The Irrigation from Storage POU consists of the front 9-holes of a golf course and minor buffer zone irrigation around tee boxes and fairways for native Fescue grasses. The applicant provided example schematics of irrigation distribution line layouts, and I observed many of the greens sketching out irrigation boundaries on field maps. The annual volume for irrigation recommended for licensing is 62.8 acres x 3.0 afa = **188.4 af**. Photographs were taken to provide proof of irrigation in the buffer zones around green 3, to serve as an example for the active irrigation practices developed during the Permit's development period. The maximum diversion volume recommended for licensing Permit 94-7426 equals **197.7 af**.

The from storage irrigation system incorporates a 40 HP U.S. Motors vertical shaft pump for approximately 50% of the irrigation POU and gravity flow to other portions of the golf course for the remaining 50% of the POU. I captured photographs of the pump station & system components for reference. During licensing review, ArcMap aerial imagery was used to accurately trace out the irrigation from storage POU, which resulted in approximately half of the permit approved 130 acres, which was intended for built out of the entire 18-hole course. At the time of exam only the front 9 were established and irrigated.

Due to the back 9-holes not being developed, no irrigation occurred in Section 1, and I've removed all irrigation associated with Twp 48N, Rge 02E, Section 1 from the permit during licensing review. The Permit authorized numerous QQs in Section 2 for development; upon review and ArcMap POU shape creation I note several QQs required shifting of irrigation acreage to conform to the developed active irrigation acreage vice permit approved values by QQ. The total irrigation from Section 2 is below the 66.0 acres authorized. At time of licensing review the applicant is in process filing a new application for permit in pursuit of development for the back 9-holes.

Condition 26A was removed from the permit during licensing review. Condition 220 was added to the Amendment but removed during licensing review based on guidance from Shelley Keen – IDWR Regional Operations Bureau Chief. Condition R62 was replaced with condition R58 to accurately describe irrigation from storage volumetric limitations. Condition WB9 was replaced with condition 227, which accurately describes minimum streamflow (MSF) requirements as assigns a gage station that may be used to monitor flow in the river. The MSF for the Spokane River does not apply to this Right and that portion of WB9 was dropped from conditioning. Condition 259 was added to describe pond volume metrics and irrigation from storage annual volume values. All other conditions on the permit shall be carried forward to licensing.

There are no overlap concerns for this right; as discussed above the POU for this Right is overlapped by numerous municipal water rights owned by Central Shoshone County Water District, but the water district doesn't serve the golf course for irrigation uses which mitigates any overlap concerns.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31		188.4 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		188.4 AF
AESTHETIC STORAGE	01/01 to 12/31		9.3 AF
DIVERSION TO STORAGE	01/01 to 12/31	1.23 CFS	

Totals:

1.23 CFS

197.7 AF

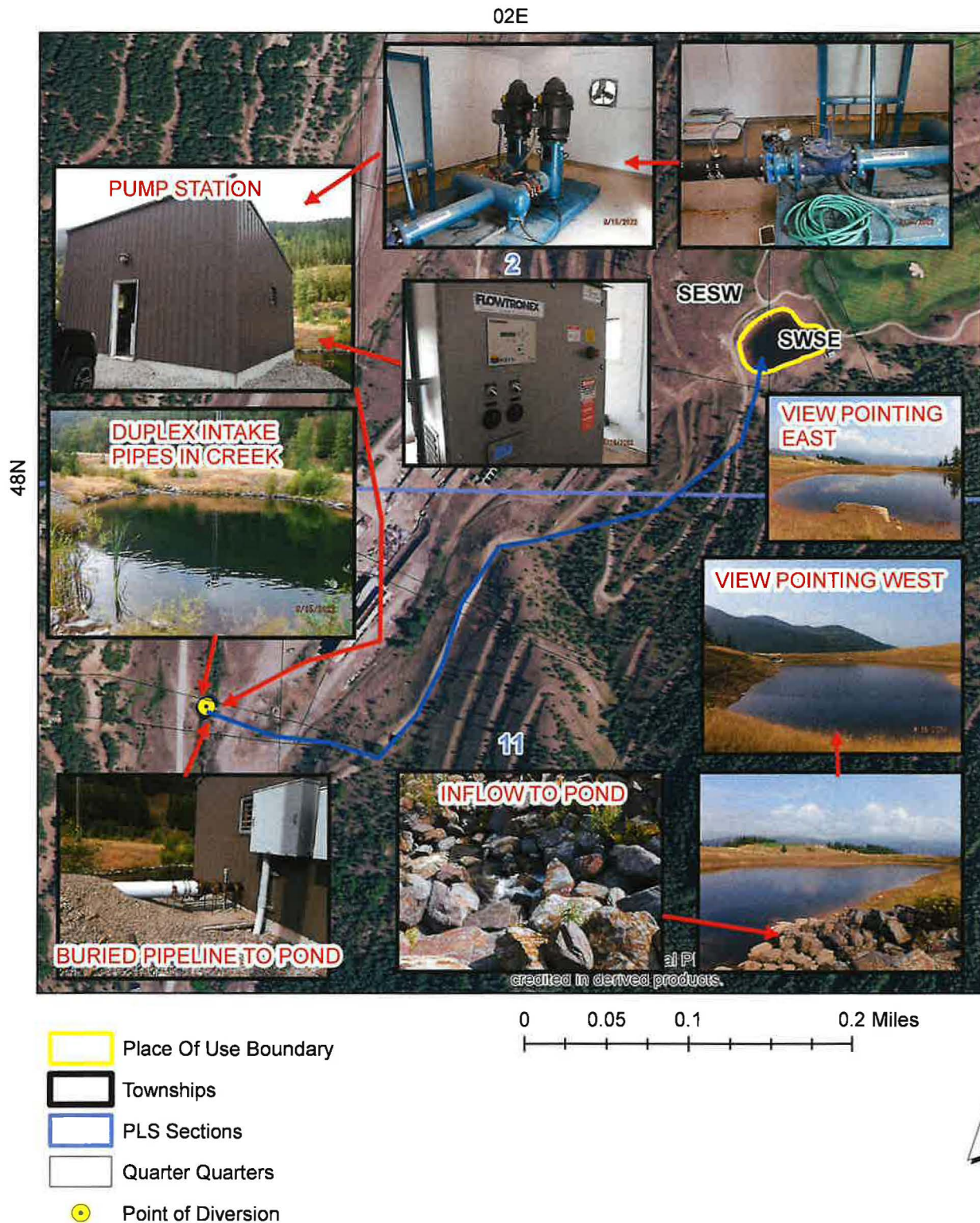
2. Recommended Amendments☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None☒ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None**I. AUTHENTICATION**

Luke Bates -

Field Examiner's Name *J.B.* Date *11/17/2023*Reviewer *Chris Boyd* Date *5/23/24*

State of Idaho
Department of Water Resources
Attachment to Field Exam
94-7426

This map depicts the IRRIGATION STORAGE & AESTHETIC STORAGE system diagram.



State of Idaho
Department of Water Resources
Attachment to Field Exam
94-7426

This map depicts the IRRIGATION FROM STORAGE system diagram.

02E



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

0 0.15 0.3 0.6 Miles



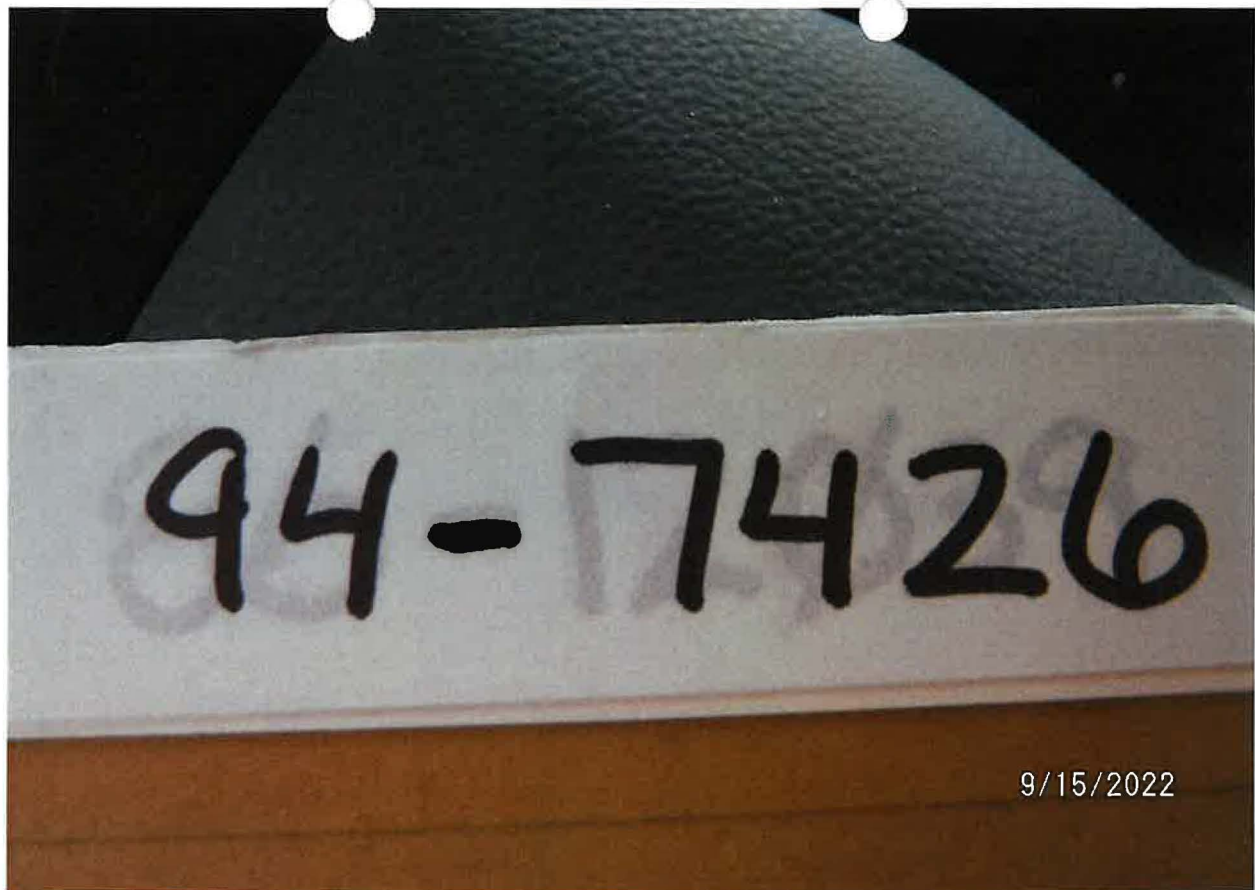
Total Storage Calculations

FILE NUMBER	94-7426
REVIEWER	LUKE BATES
DATE	9/19/2022

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.9	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	8	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	7.2	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	188.4	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	1.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	1.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	197.7	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.



BENEFICIAL USE FIELD EXAM DATE 9/15/2023



POD – DUPLEX SCREENED INTAKE PIPES FROM CREEK (ROUTE UPGRADE LEFT OF PHOTO)



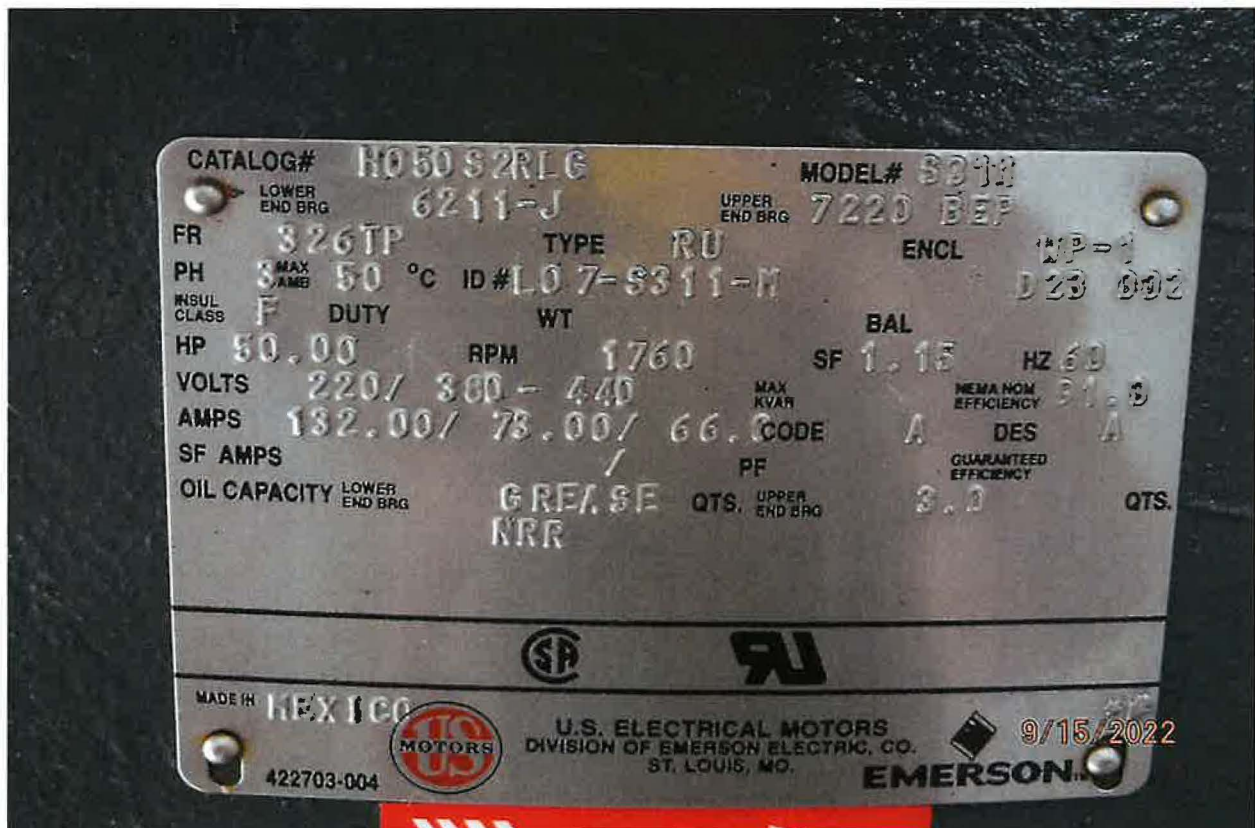
PUMP STATION LOCATED ON CREEK



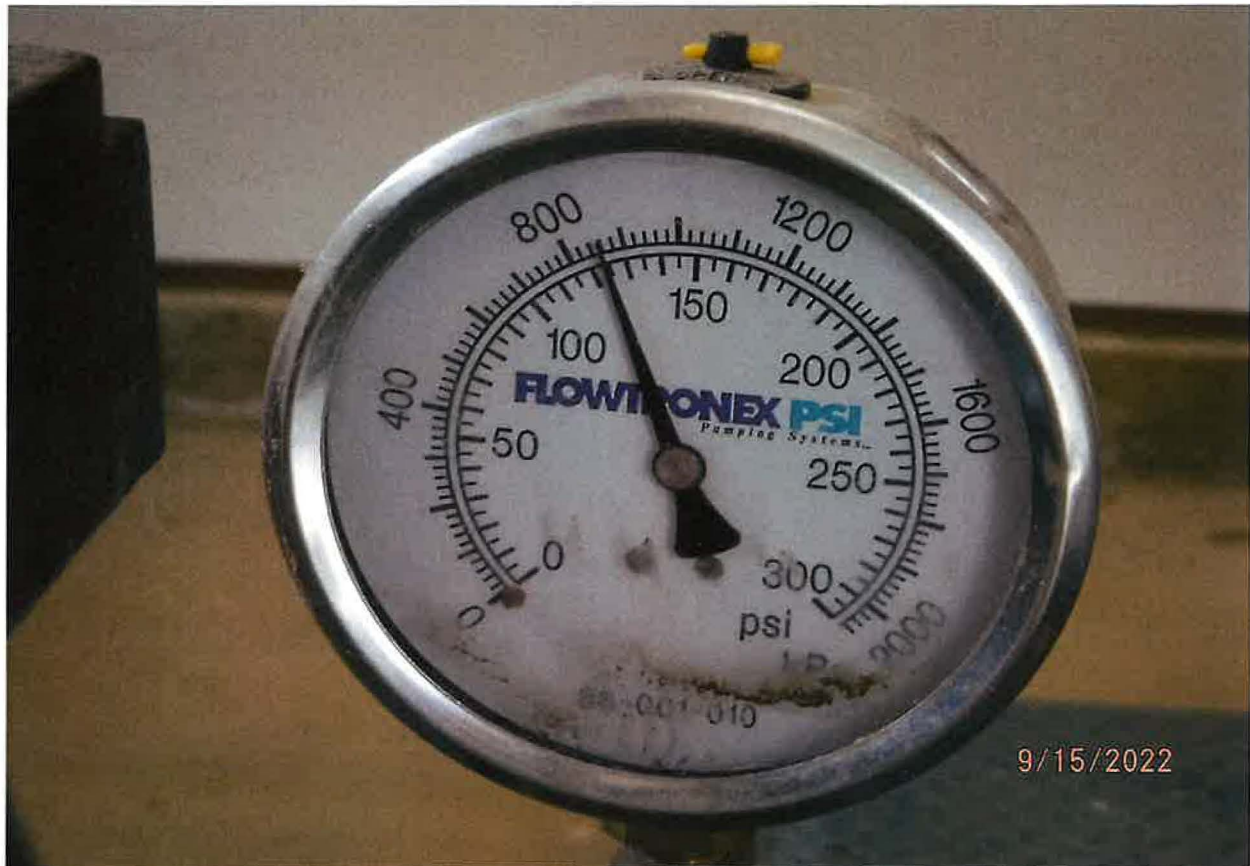
DIVERTING WORKS INCORPORATE 2EA 50 HP PUMPS



EACH PUMP IS A U.S. MOTORS BRAND PUMP



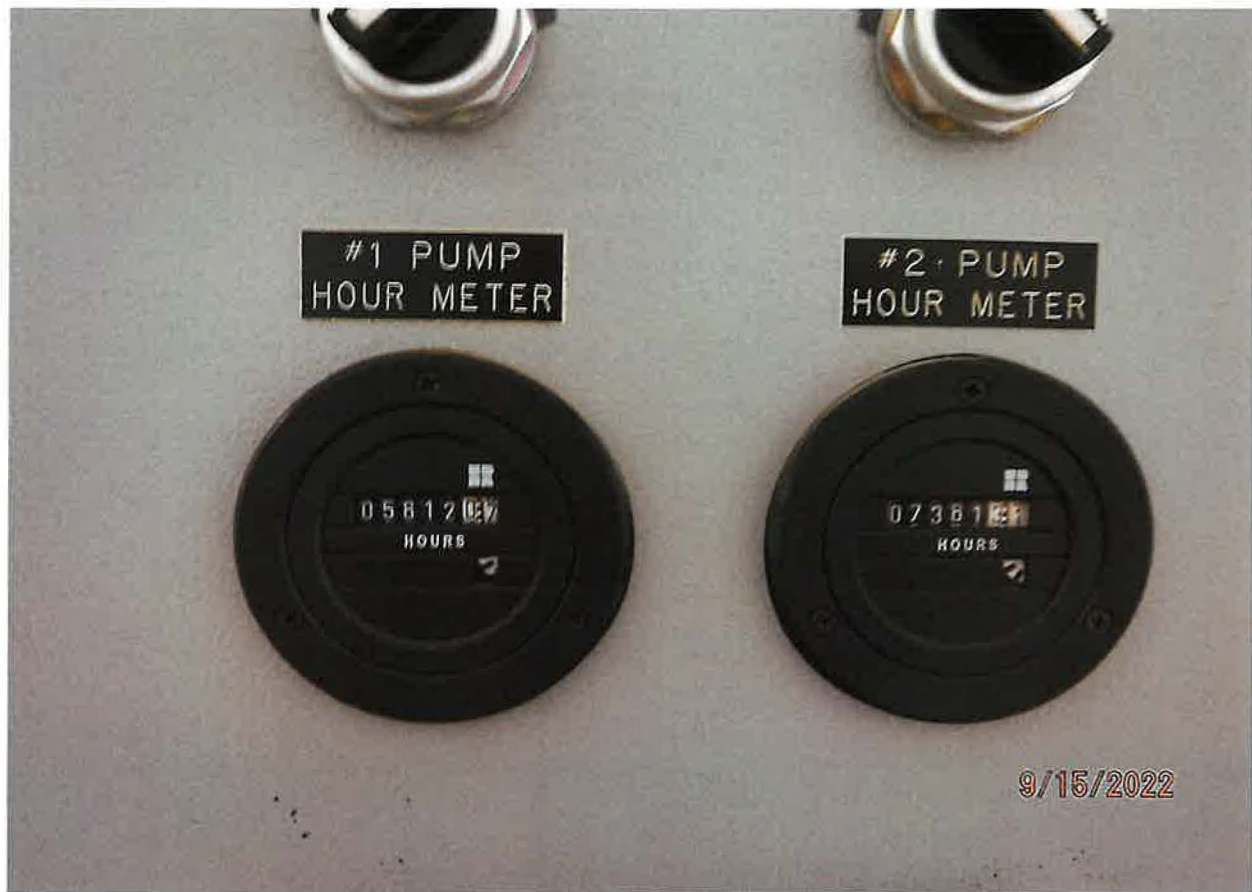
50 HP PUMPS – H050S2RLG U.S. MOTORS BRAND PUMPS



125 PSI OPERATING PRESSURE



FLOWTRONEX PUMP SYSTEM SCADA CONTROL SYSTEM



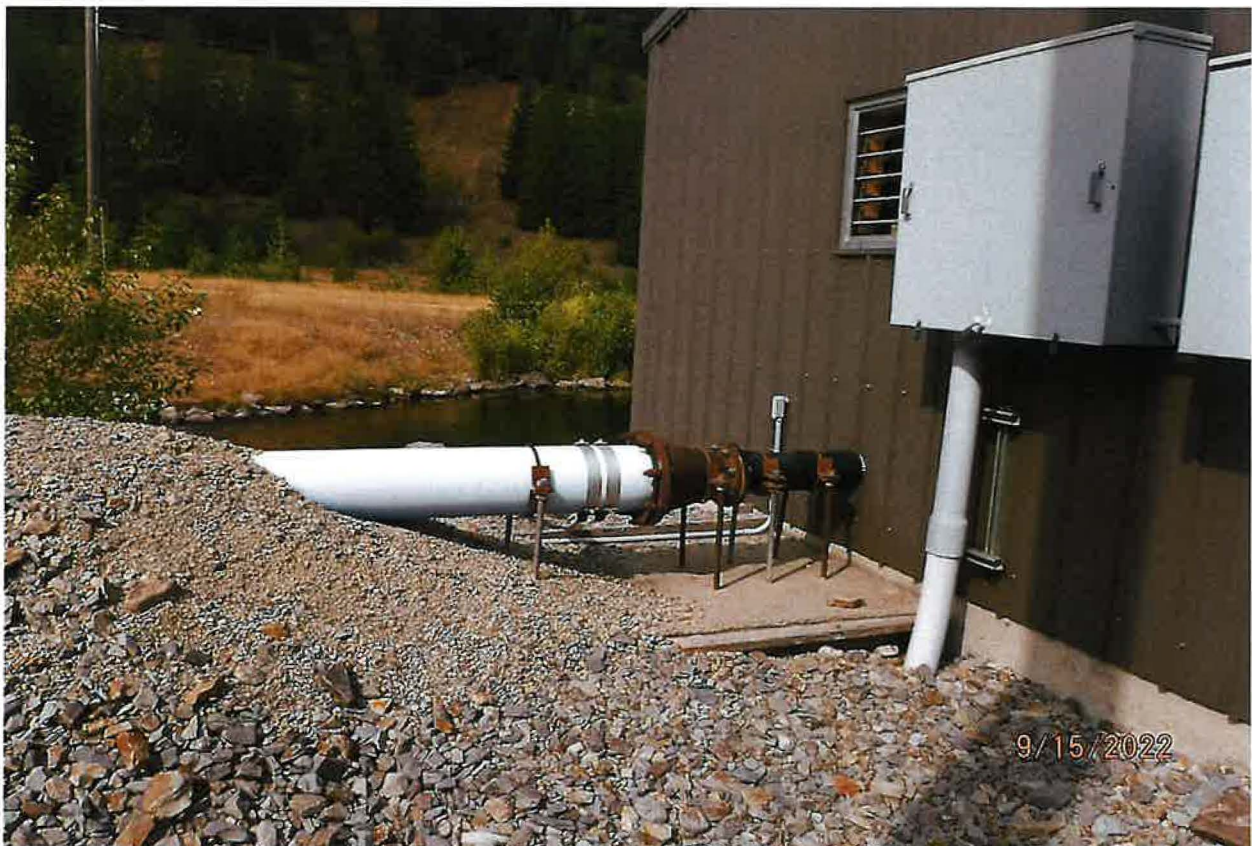
DUPLEX PUMP SYSTEM OPERATES LEAD/LAG



FLOWMETER MEASUREMENT TAKEN FROM EACH PUMP USING BADGER BRAND FLOWMETER



BADGER METER ULTRASONIC FLOWMETER INSTALLED ON SYSTEM



DIVERSION TO STORAGE – 2-4 DAYS OFF, PUMPS ON 2 DAYS RUN TIME TO FILL POND



BURIED PIPELINE ROUTING OVER CREST OF HILL TO POND



INFLOW DIVERSION TO STORAGE AT STORAGE POND POU



IRRIGATION & AESTHETIC STORAGE POND POU – FROM STORAGE PUMP HOUSE IN BACKGROUND





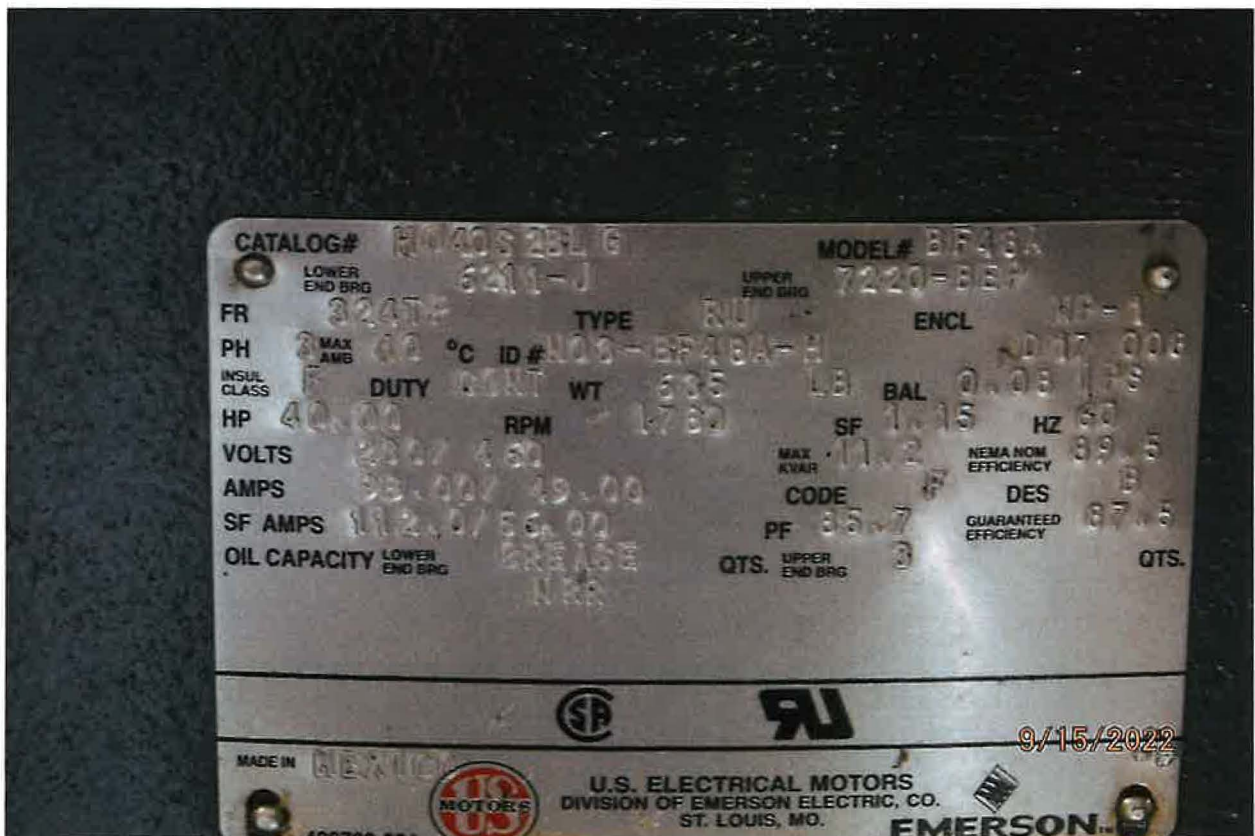
IRRIGATION FROM STORAGE PUMP STATION



40 HP PUMP USED TO DISTRIBUTE IRRIGATION FROM STORAGE WATER



IRRIGATION FROM STORAGE PUMP CONTROL SYSTEM



IRRIGATION FROM STORAGE PUMP – US MOTORS BRAND



IRRIGATION FROM STORAGE POU – FRONT 9 HOLES GALENA RIDGE GOLF COURSE





PRESSURIZED IRRIGATION FROM STORAGE USE AT POU



IRRIGATION FROM STORAGE POU – STEPPED TEE BOXES



IRRIGATION FROM STORAGE POU – INCLUDES FAIRWAYS, TEE BOXES, AND BUFFER ACREAGE FOR NATIVE FESCUE GRASSES





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU

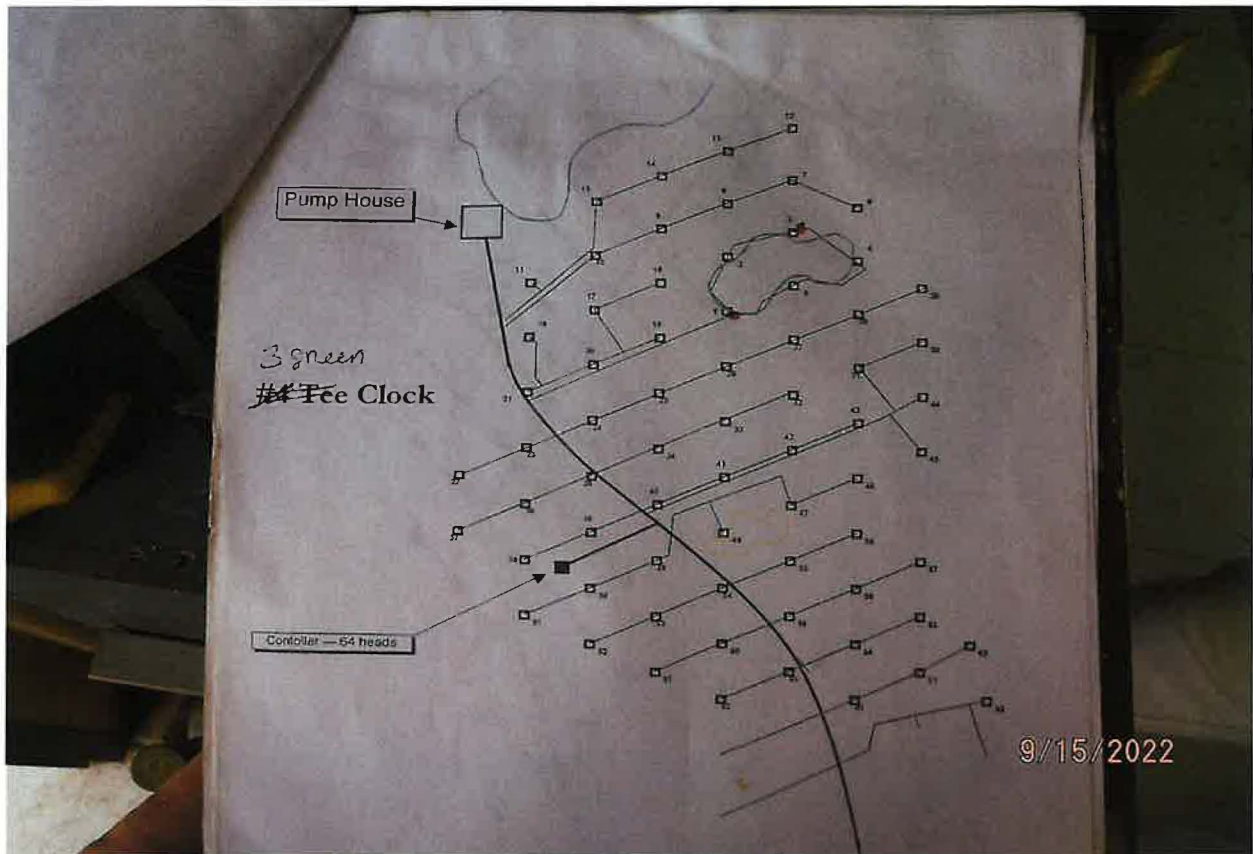


IRRIGATION FROM STORAGE POU

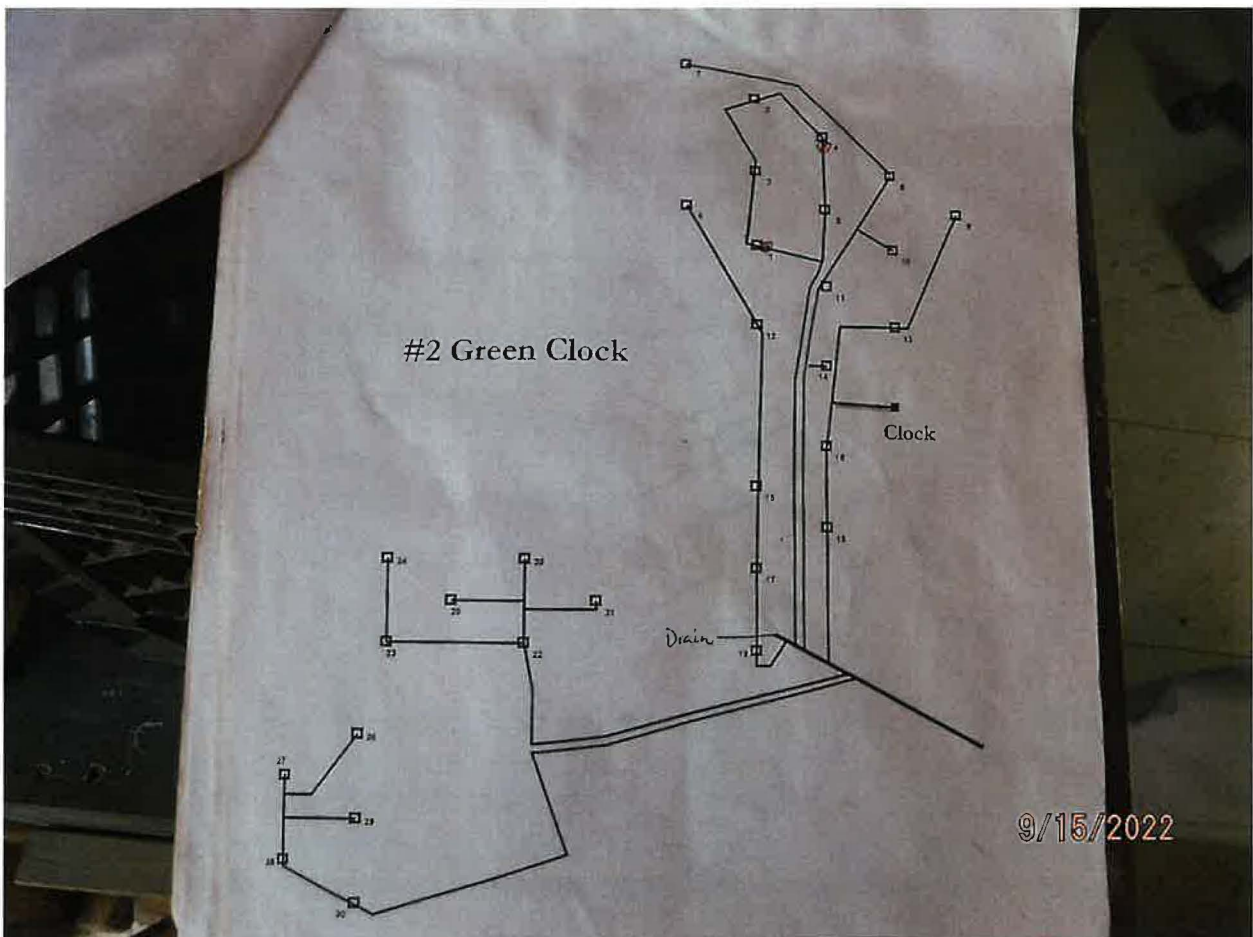


RUNOFF RETENTION POND LOCATED IN NW1/4NE1/4, SECTION 2, TWP 48N, RGE 02E. DEVELOPED TO CAPTURE SURFACE RUNOFF FROM DEVELOPMENT – NO BENEFICIAL USE OF WATER FROM POND AT TIME OF EXAM, REMOVED FROM PERMIT DURING LICENSING REVIEW.





EXAMPLES: IRRIGATION FROM STORAGE SCHEMATIC FOR GREEN(S) 2 & 3



CE[®]
Monday

Notes

Tuesday

Wednesday

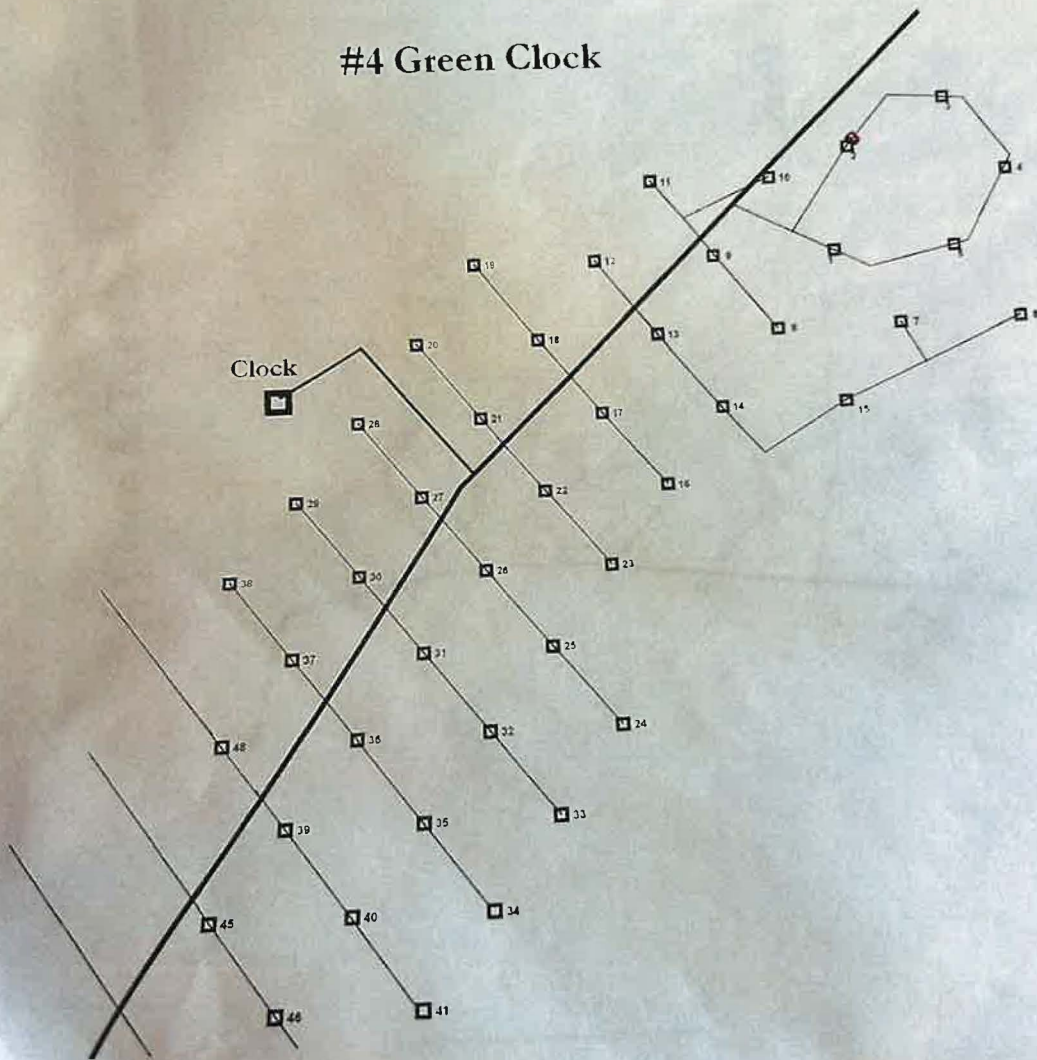
Thursday

Friday

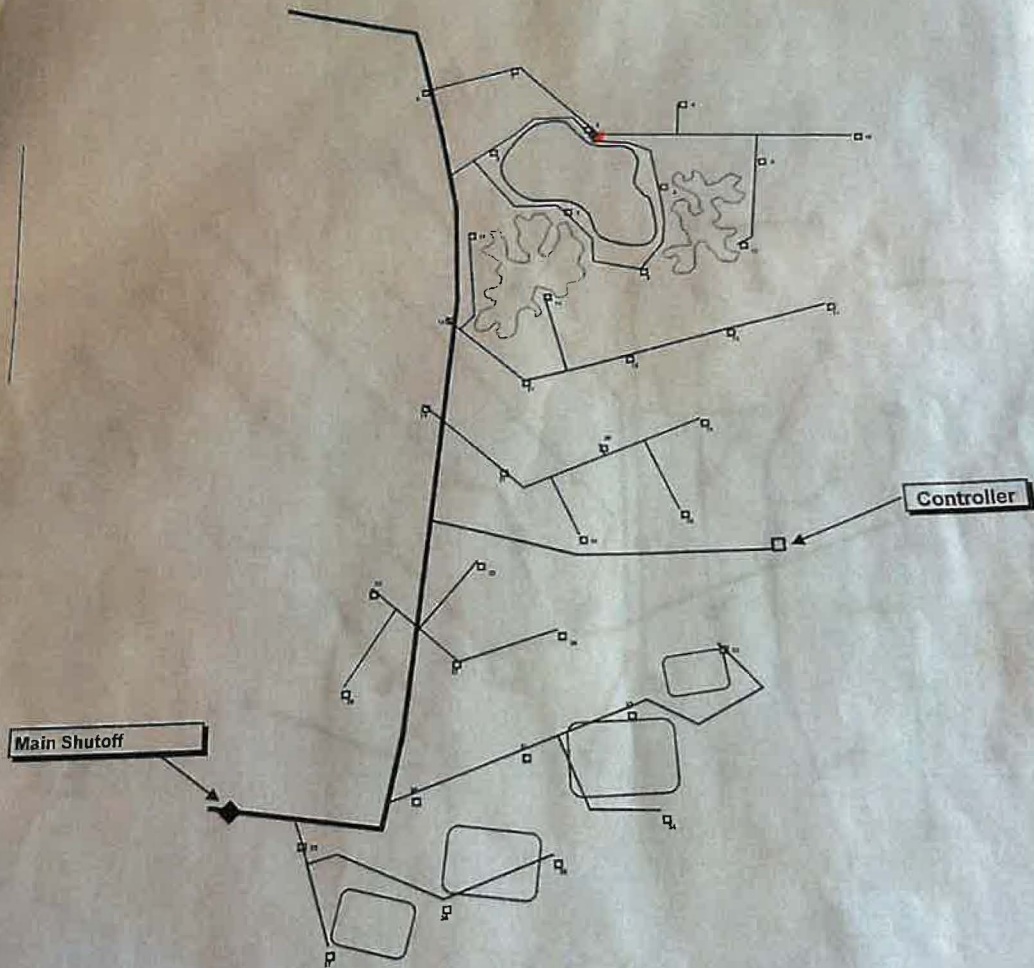
2

3

#4 Green Clock

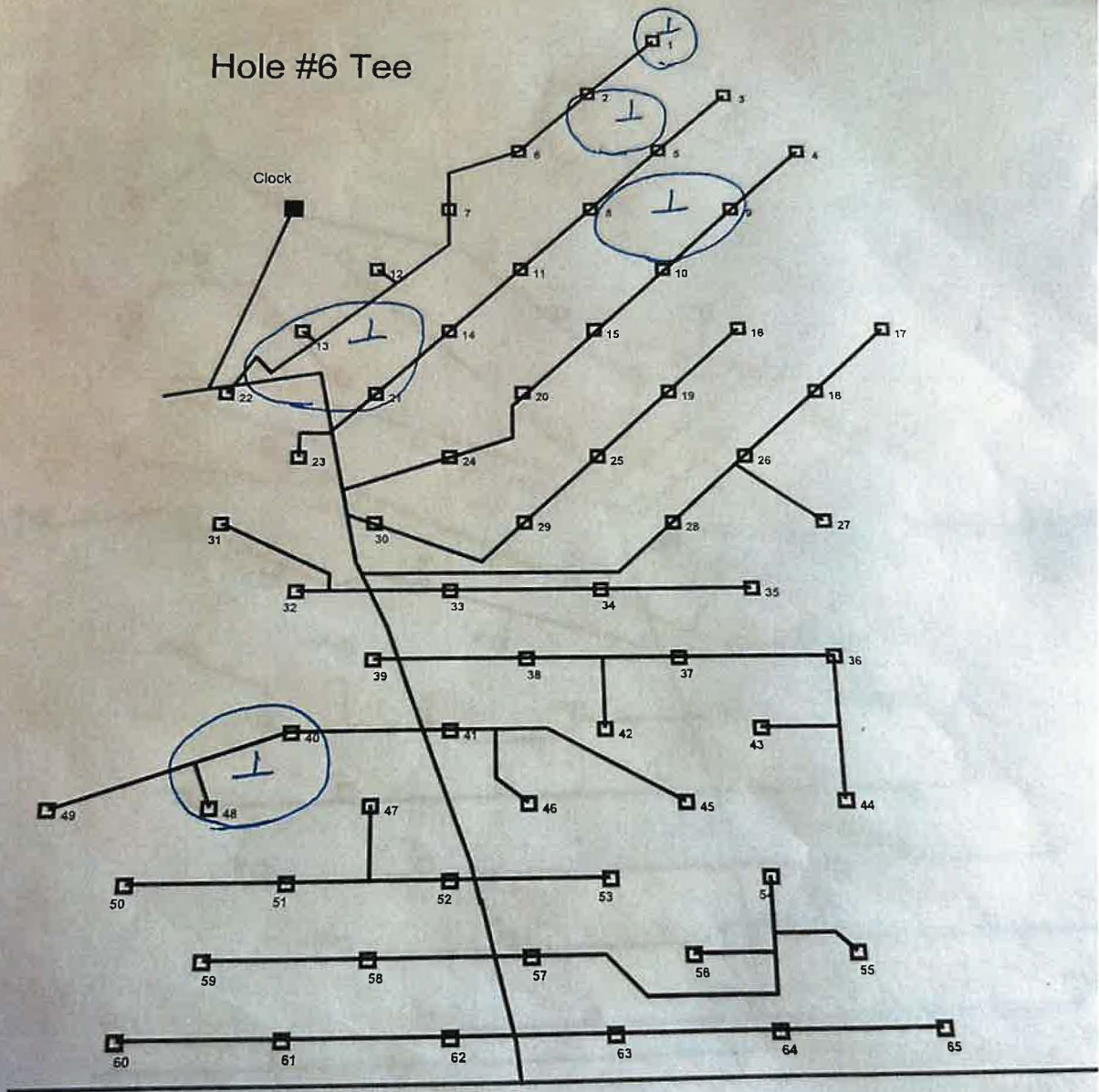


5 Green & Tee Clock

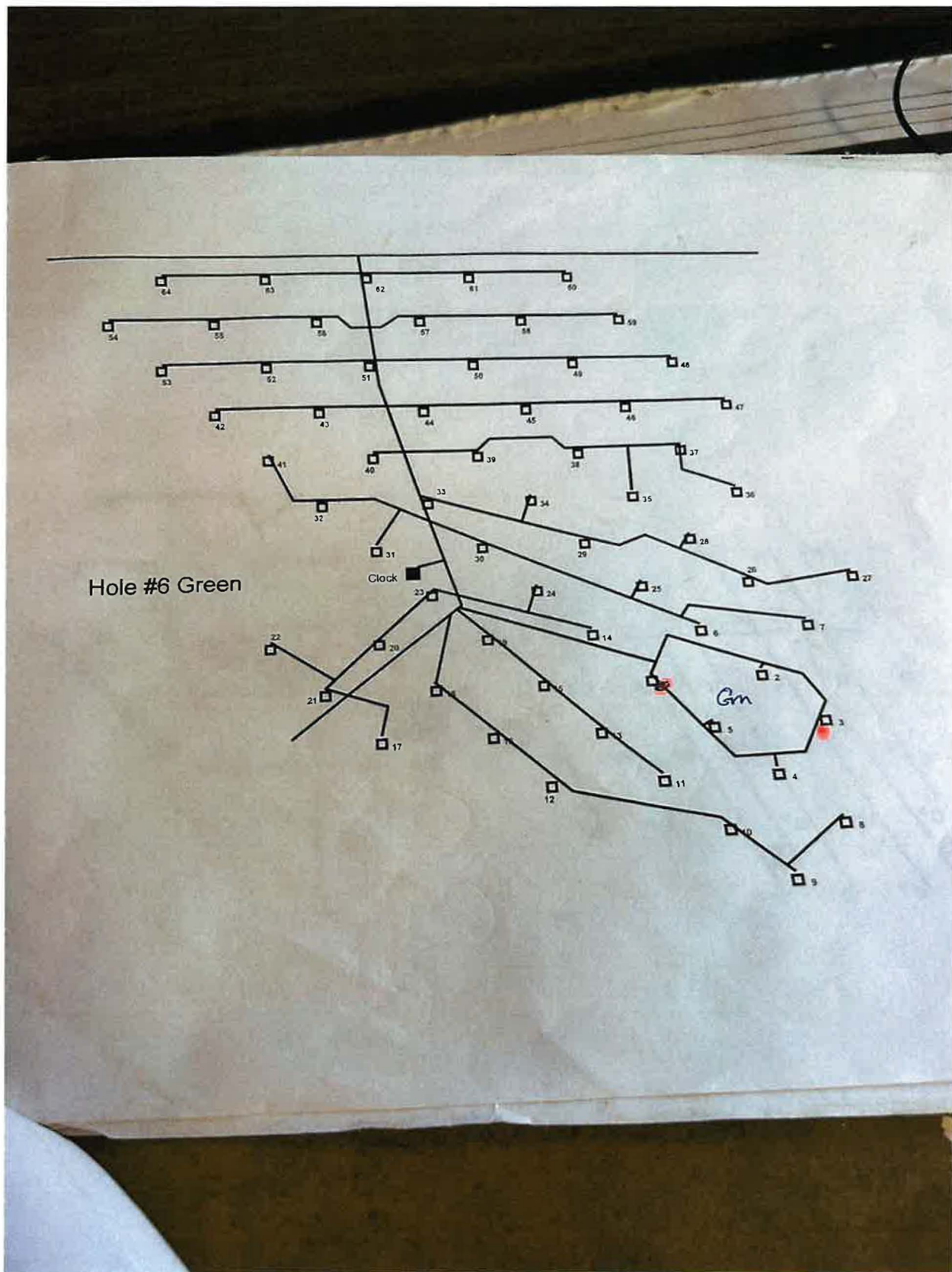


5th GREEN IRRIGATION SCHEMATIC

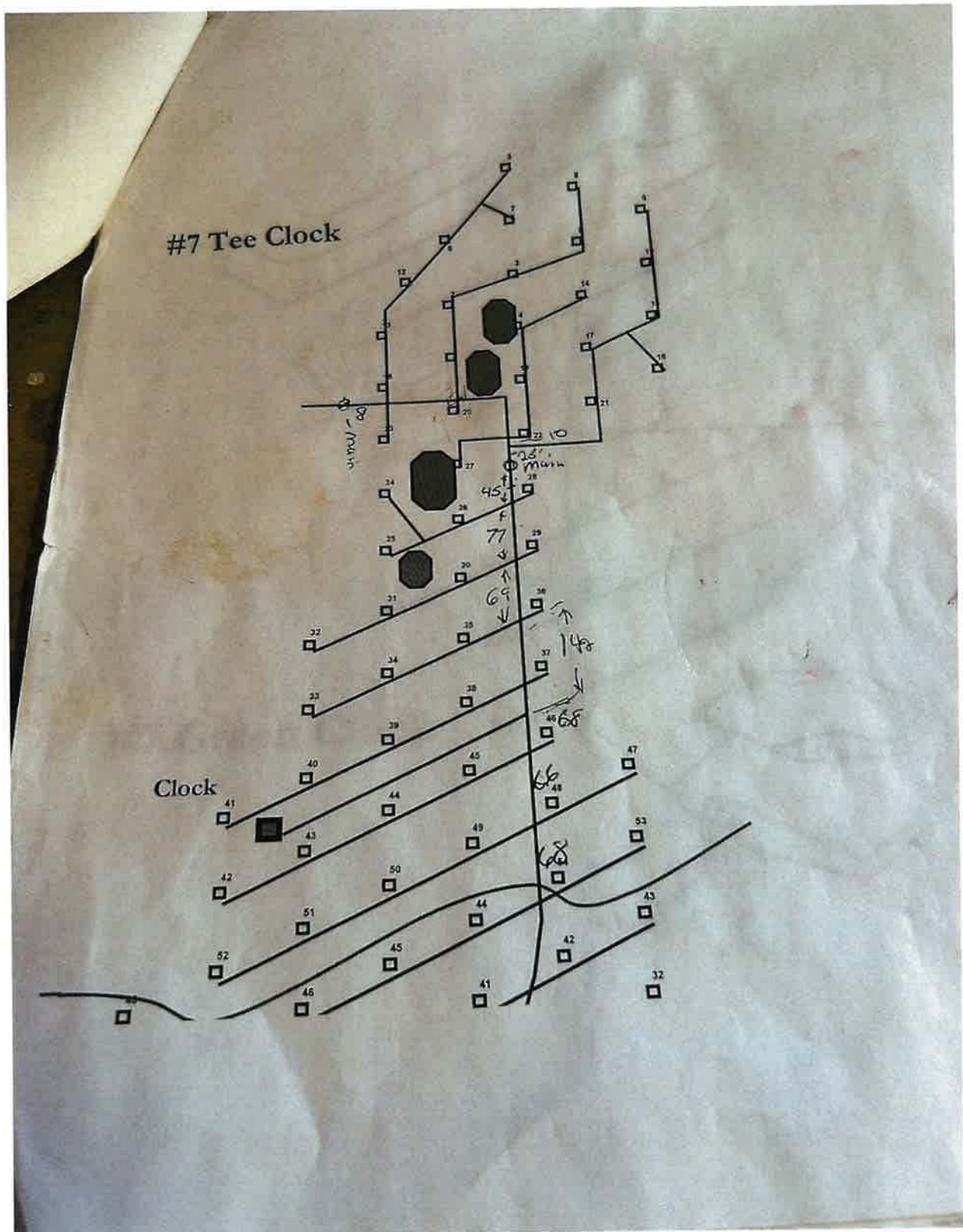
Hole #6 Tee



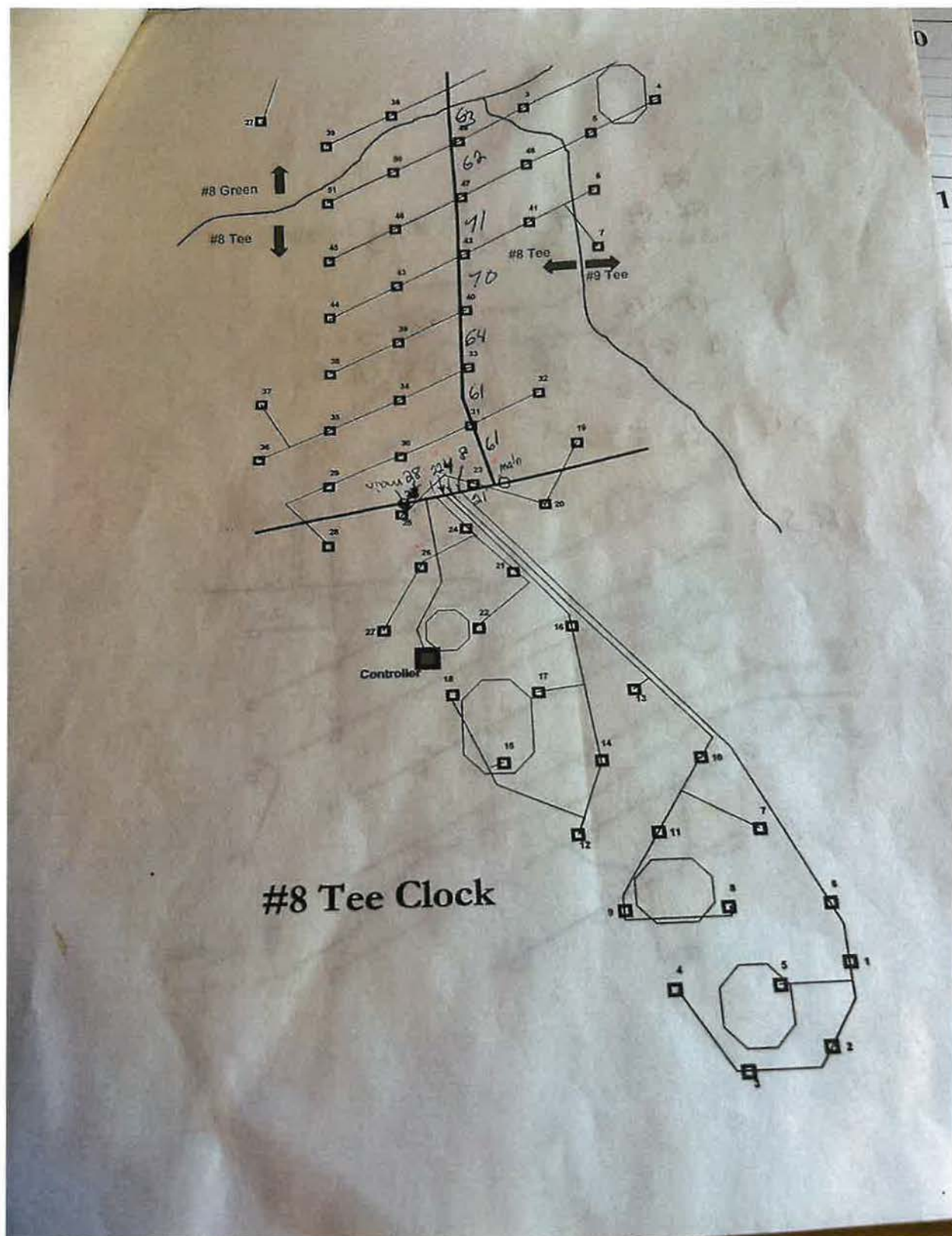
6th GREEN IRRIGATION SCHEMATIC



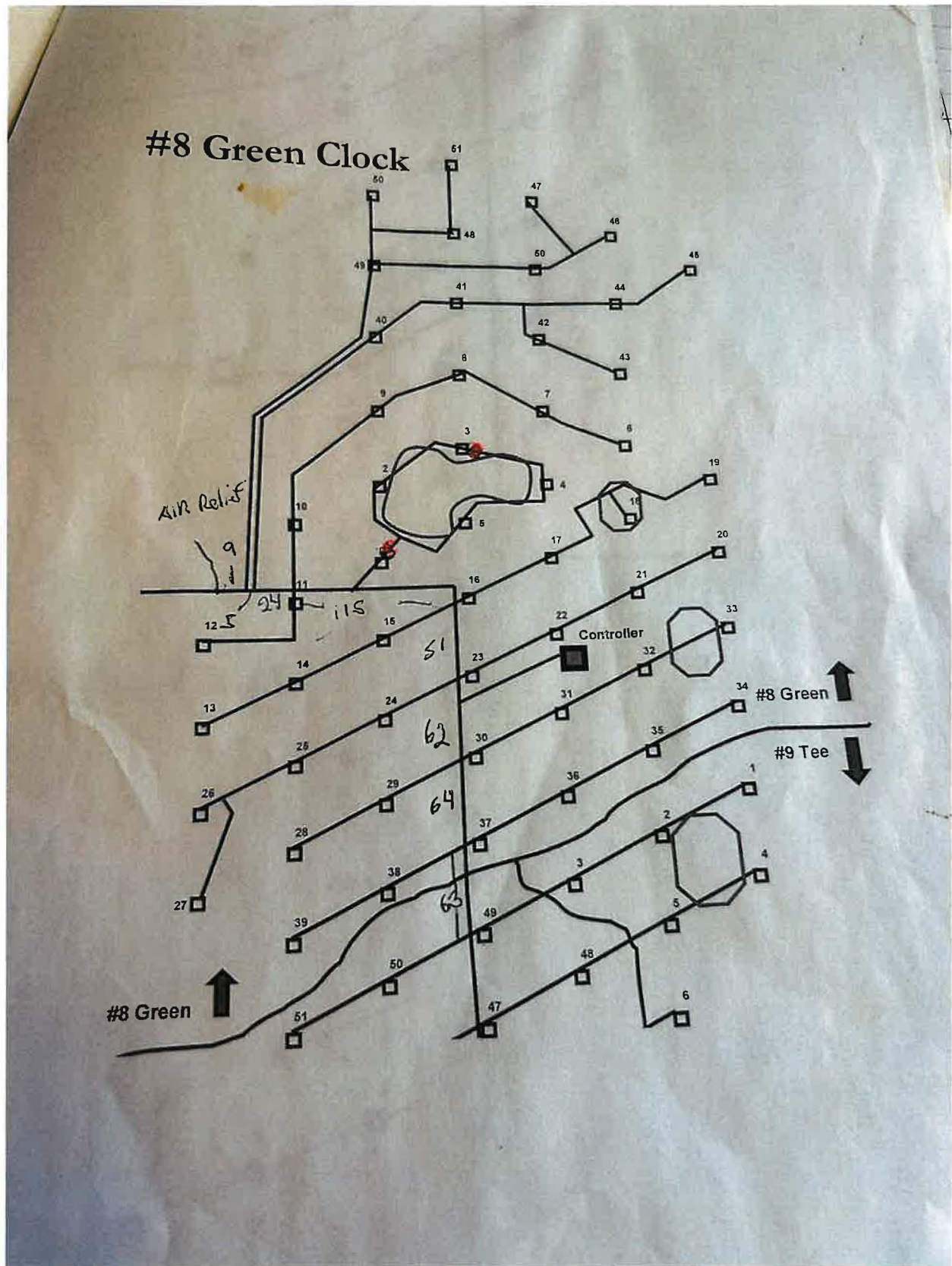
6th GREEN IRRIGATION SCHEMATIC (2ND PG)



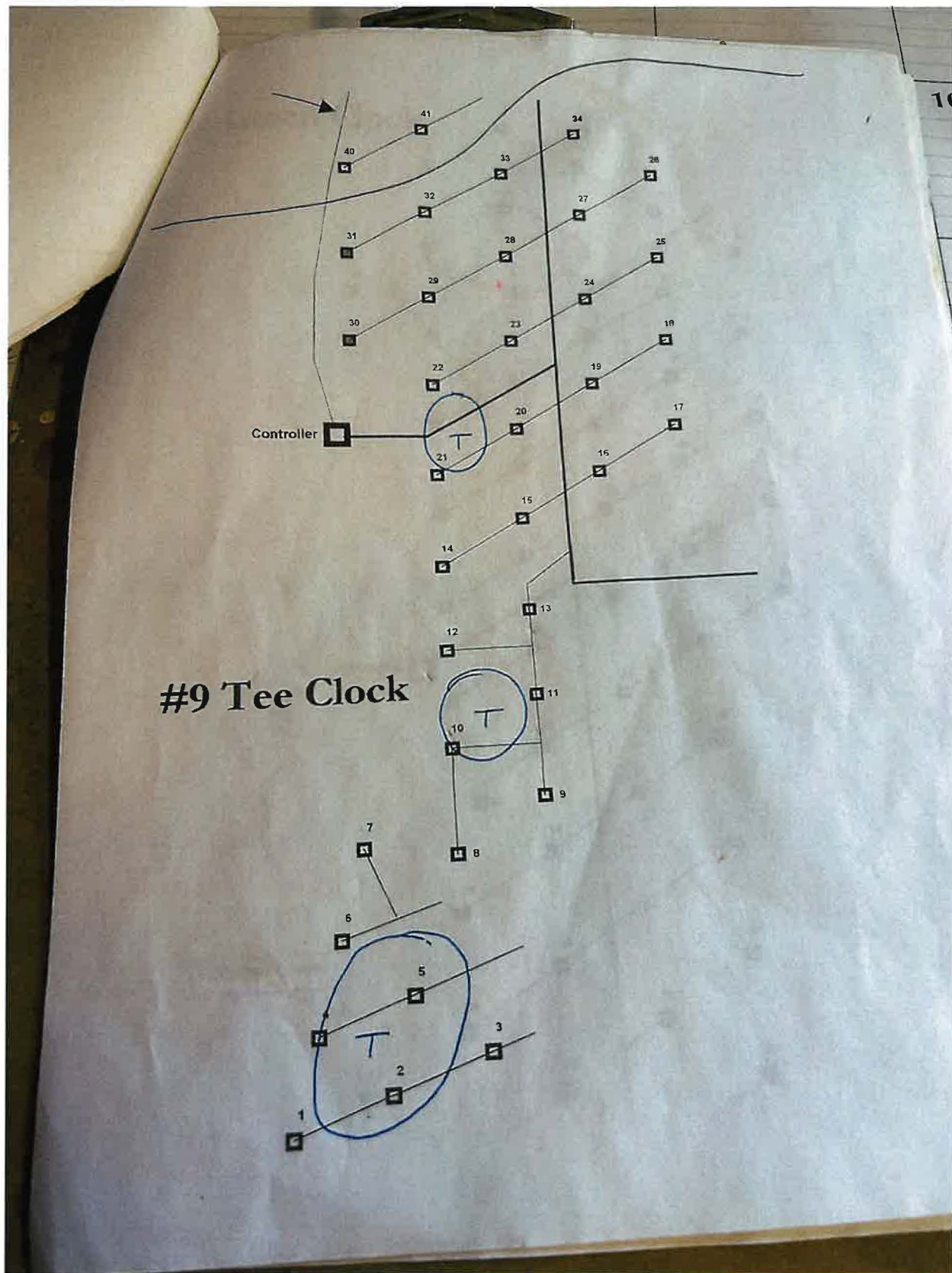
7th GREEN IRRIGATION SCHEMATIC



8th GREEN IRRIGATION SCHEMATIC

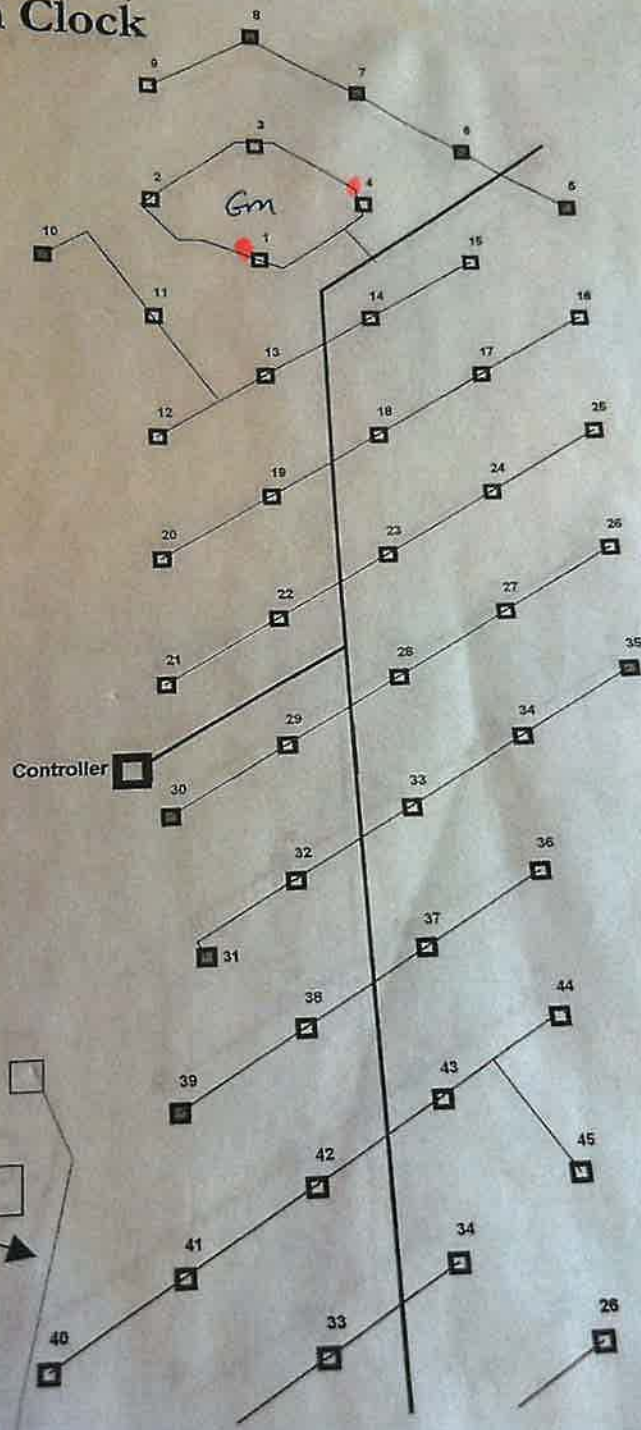


8th GREEN IRRIGATION SCHEMATIC (2ND PG)



9th GREEN IRRIGATION SCHEMATIC

#9 Green Clock



9th GREEN IRRIGATION SCHEMATIC (2ND PG)