

[illegible]

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe id as applicable. See Attachment C

Scale: 1" = _____

☒ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

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

☒ Photo of Diversion and System Attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
1	Franklin Electric	15		Goulds Submersible	Model 5RWAHC
2		75		Submersible	Model 10JLC
3		15		Submersible	Model 5CHC

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Flowmeter	Propeller	Sparling		G02638	6-inch	

2. **Measurements:** Discharge was not measured. System pressure at the time of the exam was 65 psi.

E. NARRATIVE/REMARKS/COMMENTS

An 8-inch well, aka Well #1, located just outside the pump house supplies primary domestic ground water to twenty-four (24) residential lots (Lots 1-9, Block 1 & Lots 1-15, Block 2) within Grouse Point Subdivision. The well is equipped with a 15-hp variable speed submersible pump set on 220 feet of 4-inch steel pipe. The system includes one 135-gallon hydropneumatic tank, an 8-inch distribution system and 24 one-inch service lines with individual meters for each home. The well provides domestic water for internal potable uses and supplemental irrigation water for domestic lawns and landscaping, limited to ½ acre per lot. A separate pressurized surface water system supplies primary irrigation water from New York Canal Co. A 10-inch well, aka Well #2 located approximately 200 feet east of the pump house, serves as domestic back-up and fire protection and is equipped with a 75 hp submersible pump. A 10-inch well, aka Well #3 located inside the pump house, can also serve as a domestic back-up well if necessary and is equipped with a 15-hp submersible pump.

The permit authorizes use of two wells and three have been developed. Wells #1 and #2 have been recommended for licensing. Once the permit is licensed, a transfer application can be processed that will enable the use of Well #3 as a third point of diversion. Water-right action authorizing the inclusion of a third well to the water right has been delayed for two reasons; 1) Proof of beneficial use was submitted on the permit in 1998, thereby preventing a permit amendment and 2) the department misplaced an IDWR licensing exam that was conducted on this water right in 1998, thereby preventing a transfer application.

The permit was not restricted to a specific water bearing zone to be developed.

Have conditions of permit approval been met? X yes ___ no

F. FLOW CALCULATIONS

Yes Additional Computation Sheets Attached
(Pump Curves and Well Logs; Attachment B)

Measured Method:

Well 1

Pump Curve: 120 gpm (0.28 cfs) @ 357 ft TDH

Static Water Level = 148 ft

Specific Capacity = 300 gpm/26 ft drawdown = 11.5 gpm/ft

Drawdown at 120 gpm = 10.4 ft

Pumping Water Level at 120 gpm = 148 ft + 10.4 ft = 158.4 ft

Friction Loss (220 ft of 4-inch column pipe) = 1.0 ft/100 ft or 220 ft/100 ft x 1.0 = 2.2 ft (assume 2 ft)

Discharge Pressure = 357 ft TDH - 153.4 ft PWL - 2 ft FL = 201.6 ft/2.31 = 87 psi

Well 2

Pump Curve: 1000 gpm (2.23 cfs) @ 410 ft TDH

Static Water Level = 157 ft

Specific Capacity = 1261 gpm/41 ft drawdown = 30.8 gpm/ft

Drawdown at 1000 gpm = 32.5 ft

Pumping Water Level at 1000 gpm = 157 ft + 32.5 ft = 189.5 ft

Friction Loss = assume 25 ft

Discharge Pressure = 410 ft TDH - 189.5 ft PWL - 25 ft FL = 195.5 ft/2.31 = 85 psi

System Capacity: 2.23 cfs (Well 2) + 0.28 cfs (~~Well 3~~) = 2.51 cfs
Limited to 0.47 cfs per Permit

Well 1

M. Van Bussum 12/3/2009

Well 3 (not recommended for licensing; data included for information only))

Pump Curve: 150 gpm (0.33 cfs) @ 300 ft TDH

Static Water Level = 135 ft

Specific Capacity = assume 10 gpm/ft (not available on well log)

Drawdown at 150 gpm = 5 ft

Pumping Water Level = 135 ft + 5 ft = 140 ft

Friction Loss (assume 210 ft of 4-inch column pipe) = 1 ft/100 ft or 210 ft/100 ft x 1.0 = 2.1 ft (assume 2 ft)

Discharge Pressure = 300 ft TDH - 140 ft PWL - 2 ft FL = 158 ft / 2.31 = 68 psi

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 12 \times 4.5 = 54$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.24 \times 260 \times 1.9835 = 123.8$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 54 \text{ afa}$$

2. Volume Calculations for Other Uses:

$$\text{Required: } 24 \text{ lots} \times 0.6 \text{ af/lot} = 14.4 \text{ afa}$$

$$\text{Potential: } 0.23 \text{ cfs} \times 365 \text{ days} \times 1.9835 = 166.5 \text{ afa}$$

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Domestic	1/1	12/31	0.23	14.4
Irrigation	3/1	11/15	0.24	54.0
Totals			0.47 cfs	68.4 afa

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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name Terry M. Scanlan, P.E., Certified Water Right Examiner 10-129 Date 11-22-09

Field Examiner's Signature 

Reviewer _____ Date _____



ATTACHMENT A

PERMIT RECORD AND PROOF OF BENEFICIAL USE

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Permit Report

9/30/2009

WATER RIGHT NO. 63-12203

Owner Type	Name and Address
Current Owner	GROUSE POINT WATER CO LLC MGR WALTER WANNER 3652 S MCCORMICK AVE BOISE, ID 83709
Original Owner	STATEWIDE CONSTRUCTION INC 4225 S RIVA RIDGE WAY BOISE, ID 83709 (208)362-5575

Priority Date: 04/19/1995
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
IRRIGATION	3/15	11/15	0.24 CFS	
DOMESTIC	1/01	12/31	0.23 CFS	
Total Diversion			0.47 CFS	

Location of Point(s) of Diversion:

GROUND WATER|SWNW|Sec. 15|Township 02N|Range 01E|ADA County

Place(s) of use:

Place of Use Legal Description: IRRIGATION ADA County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
02N	01E	15		SWNW	6.5									
				NWSW	5.5									

Place of Use Legal Description: DOMESTIC same as IRRIGATION

Total Acres: 12

Conditions of Approval:

1. Two points of diversion are located within SWNW, S15, T02N, R01E. Place of use is located within Lots 1-9, Blk. 1; and Lots 1-15, Blk. 2; Grouse Point Subdivision. Domestic use is for 24 homes. Domestic use does not include lawn, garden, landscape, or other types of irrigation. The irrigation use occurring under this right shall not exceed 1/2 acre within each platted subdivision lot upon which a home has been constructed. This right to divert groundwater shall not be used if the surface water right(s) appurtenant to the place of use is sold, transferred, leased or used on any other place of use without the approval of the Department.
- 2.065 The right holder shall use the full allotment of appurtenant surface water rights in conjunction with groundwater diverted under this right and shall only divert groundwater under this right when water from the appurtenant surface water rights cannot be delivered to the right holder.
- 3.26A Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
- 4.46B The right holder shall comply with Idaho well construction standards when constructing a well pursuant to this right.
- 5.01M After specific notification by the department, the right holder shall install a suitable measuring device or shall enter into an agreement with the department to determine the amount of water diverted from power records and shall annually report the information to the department.
- 6.03A The rate of diversion of water for irrigation under this right and all other water rights on the same land shall not exceed 0.02 cubic feet per second for each acre of land.
- 7.046 Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.

Dates:

Proof Due Date: 08/01/1998

Proof Made Date: 07/15/1998

Approved Date: 08/07/1995

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 04/19/1995

Protest Deadline Date:

Number of Protests: 0

Field Exam Date: 10/20/1998

Date Sent to State Off: 12/17/1998

Date Received at State Off: 12/21/1998

Field Exam Remark: Exam was supposedly received at the state office on 2/19/2002, but it is not in the file. It may have been lost by the document scanning contractors.

FOR OFFICE USE ONLY 002
Amt. of Fee \$: 100.00
Receipt No. 0010812
Receipt By: JES
Date Received: 7/15/98

RECEIVED

JUL 15 1998

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Department of Water Resources

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee, when necessary, or be accompanied by a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

1. Permit No. 63-12203 Telephone No. 362-5575

2. Name(s) of Permit Holder(s): Statewide Construction, Inc.

3. Mailing Address: 4225 Riva Ridge Way Boise, Idaho 83709

4. Source of Water: Wells If **GROUNDWATER** (well), Date Drilled: mo. 9 / yr. 95

a. Well Driller: Pete Cope Drilling Drilling Permit Number: 63 - 95 - W0254-000

b. **OPTIONAL:** #1 = 15 #1 65psi
Pump Horsepower: #2 = 100 Pressure (psi): #2 65psi Dynamic pumping level (ft): 320'

5. Use(s) (as authorized by the water right permit):

Domestic (No. of households): 24 Stockwater (No. and type of stock): 0

Irrigation (No. of acres): 12 Other: _____

6. Total rate of diversion and/or volume for which proof is submitted: 47 cfs OR _____ acre feet

7. Measuring Device Requirement: (refer to the approval conditions on your permit and respond accordingly)
(This question is not optional. Please check either yes or no. Proofs returned not checked accordingly, will be considered incomplete)

Measuring Device: Is a measuring device required? Yes X or No _____
Has the measuring device been installed? Yes X or No _____
Flow Measurement Port: Is a flow measurement port required? Yes _____ or No _____
Has the measurement port been installed? Yes _____ or No _____

8. Fee Enclosed: \$ \$100.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Walter R. Wanner Telephone Number: 362-5575

Address: 4225 Riva Ridge Way Boise, Idaho 83709

10. The information given on this form is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the State of Idaho. **MICROFILMED**
AUG 21 1998

Signature of permit holder: [Signature] Date: 7-15-98
(include your title, if on behalf of company or organization)

ATTACHMENT B

WELL LOGS AND PUMP CURVES

63
Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

848679

Office Use Only
Well ID No. 418585
Inspected by _____
Twp _____ Rge _____ Sec _____
1/4 _____ 1/4 _____ 1/4 _____
Lat: _____ : _____ : _____ Long: _____ : _____ : _____

1. WELL TAG NO. D 0048009
DRILLING PERMIT NO. 901682-848679
Water Right or Injection Well No. 63-12203

2. OWNER:
Name United Water Corp
Address 8248 W Victory Rd
City Boise State ID Zip 83709

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 2 North ☒ or South ☐
Rge. 1 East ☒ or West ☐
Sec. 15 1/4 S/W 1/4 N/W 1/4
Gov't Lot _____ County Ada
Lat: _____ : _____ : _____ Long: _____ : _____ : _____
Address of Well Site 10090 S Cloverdale Rd
City Boise
(Give at least name of road - Distance to Road or Landmark)
Lt. 16 Blk. 2 Sub. Name Grouse Point

4. USE:
☐ Domestic ☒ Municipal ☐ Monitor ☒ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other reverse

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
bentonite chips	0	200	180 sk	poured
bentonite grout	200	362	45 sk	pumped

Was drive shoe seal tested? ☐ Y ☒ N How? XX

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
8"	+2	361	.322	steel	☒	☐	☒	☐
5"	361	378	.258	steel	☒	☐	☒	☐
5"	403	408	.258	steel	☒	☐	☒	☐

Length of Headpipe 17' Length of Tailpipe 5'
Packer ☐ Y ☒ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method _____
Screen Type & Method of Installation Johnson

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
378	403	30		5	stnls	☐	☒

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method
8-12 sand	362	415	3400#	poured

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

148 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

12. WELL TESTS:

Yield gal./min.	Drawdown	Pumping Level	Time
300	26	174	6 hr

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water	Y	N
15	0	7	clay soil			X
	7	47	basalt			X
XX	47	80	dark brown cemented sand & gravel			X
12	80	122	sand, gravel, boulders			X
	122	272	sand & gravel		X	
	272	280	clay			X
	280	355	sand & gravel		X	
	355	360	brown clay			X
	360	380	blue green clay			X
	380	400	greenish sand		X	
	400	415	greenish clay			X
	415	436	greenish sand & gravel		X	
	436	440	greenish clay			X
	440	512	greenish sand		X	
	512	514	greenish clay			X
	514	535	greenish sand		X	
	535	540	greenish clay			X
	540	600	greenish sand		X	

bentonite chips 415-420 3 sk poured

RECEIVED

DEC 10 2007

WATER RESOURCES
WESTERN REGION

Completed Depth 408 (Measurable)
Date: Started 9/15/07 Completed 11/27/07

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Stevens & Sons Drilling Firm No. 153

Principal Driller _____ Date 12/2/07
and
Driller or Operator II _____ Date _____

Operator I _____ Date _____

Principal Driller and Rig Operator Required.
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES



Company: C.H. Spencer & Company

Stuart Hurley

Name: Grouse Point

Date: 02/11/08

Well 1

Pump:

Size: 5RWAHC (8 stages)

Type: Submersible
Synch speed: 3600 rpm

Curve: E6205WCPC0

Specific Speeds:

Dimensions:

Vertical Turbine:

Speed: 3450 rpm
Dia: 3.8125 in

Impeller:

Ns: 1810

Nss: ---

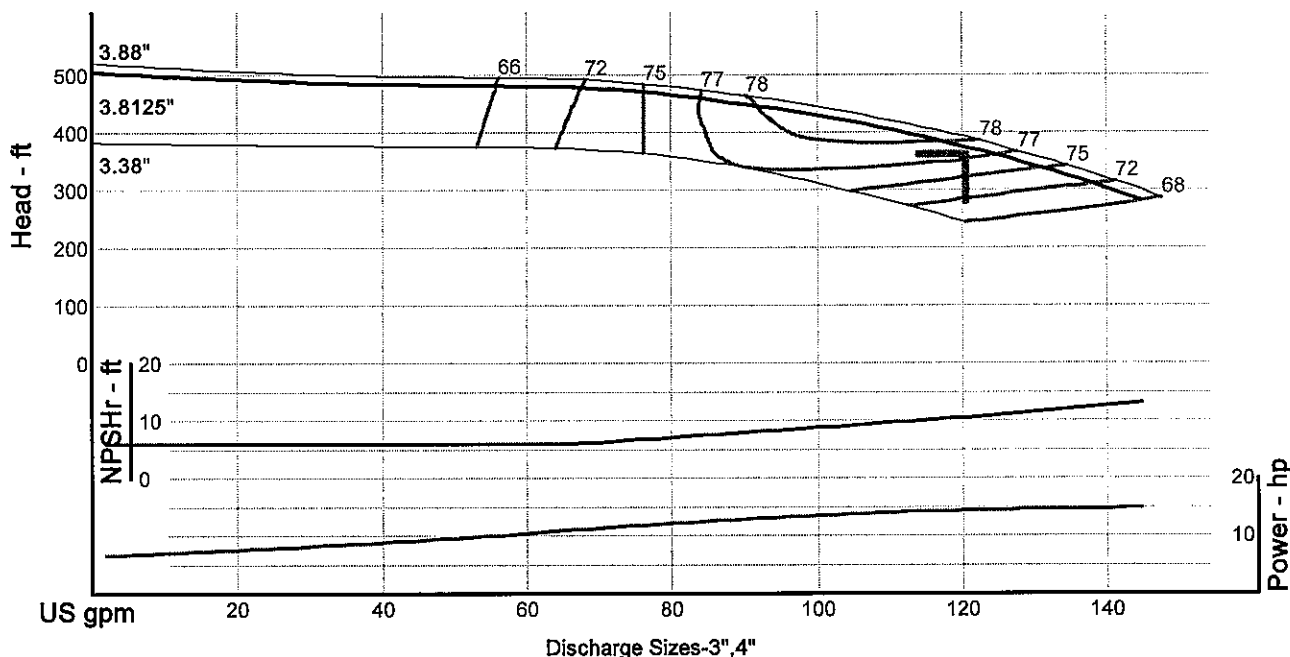
Suction: --- in
Discharge: --- inBowl size: 5.2 in
Max lateral: 0.5 in
Thrust K factor: 1.3 lb/ft**Search Criteria:**

Flow: 120 US gpm

Head: 357 ft

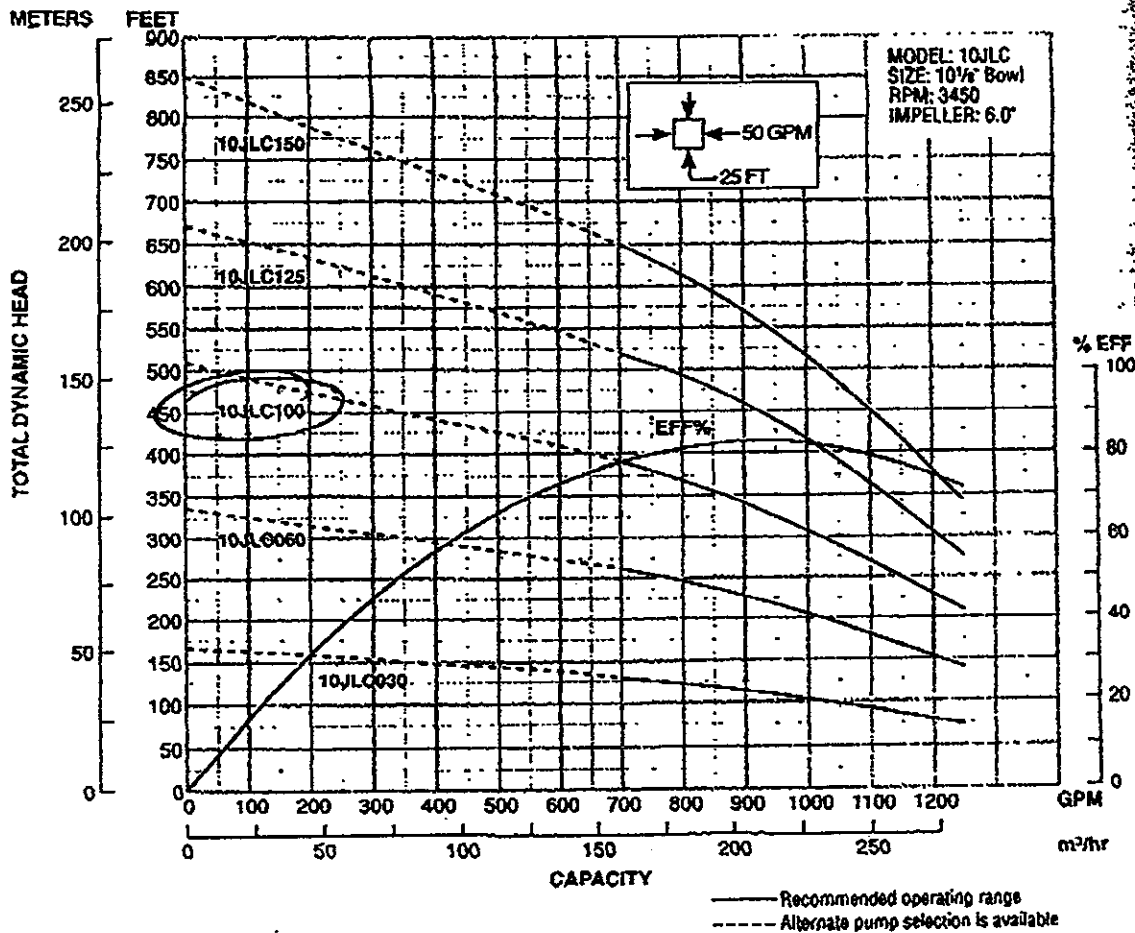
Fluid:Water
SG: 1
Viscosity: 1.105 cP
NPSHa: --- ftTemperature: 60 °F
Vapor pressure: 0.2563 psi a
Atm pressure: 14.7 psi a**Motor:**Standard: NEMA
Enclosure: SUBSize: 15 hp
Speed: 3600
Frame: 6"

Sizing criteria: Max Power on Design Curve

Pump Limits:Temperature: 120 °F
Pressure: 480 psi g
Sphere size: 0.15 inPower: --- hp
Eye area: --- in²**Data Point**Flow: 120 US gpm
Head: 368 ft
Eff: 77.6%
Power: 14.3 hp
NPSHr: 10.4 ft**Design Curve**Shutoff Head: 499 ft
Shutoff dP: 216 psi
Min Flow: --- US gpm
BEP: 79.1% eff
@ 104 US gpm
NOL Pwr: 14.8 hp
@ 144 US gpm**Max Curve**Max Pwr: 15.4 hp
@ 147 US gpm**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Pump %eff	Power hp	NPSHr ft
144	3450	278	68.1	14.8	12.9
120	3450	368	77.6	14.3	10.4
96	3450	430	78.4	13.2	8.34
72	3450	468	73.6	11.5	6.36
48	3450	476	59.5	9.53	5.87

FORWARD WHITE COPY TO WATER RESOURCES



DIMENSIONS AND WEIGHTS

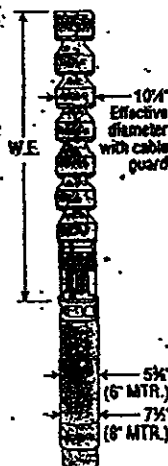
HP	Stages	W.E. Order Number	W.E. Length	W.E. Wt. (lbs.)
30	1	10JLC030668TS	26 1/4"	187
60	2	10JLC060668TS	34 1/4"	257
100	3	10JLC100668TS	43"	327
125	4	10JLC125668TS	51 1/4"	397
150	5	10JLC150668TS	59 1/4"	467

(All dimensions in inches and weights in lbs. Do not use for construction purposes.)

PLEASE NOTE:

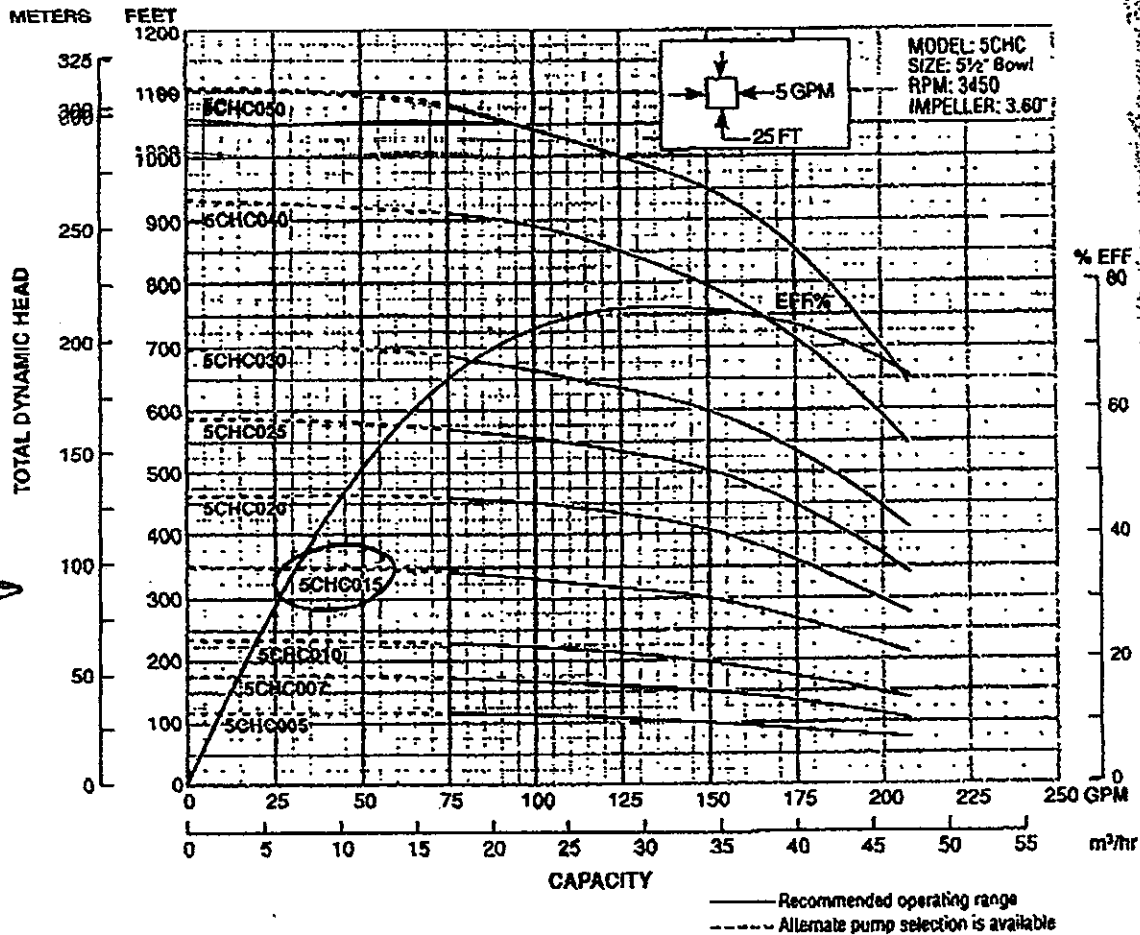
- Order motors separately.
- For intermediate horsepower pumps consult factory.
- Solid line is recommended operating range. The dotted line (---) signifies an alternate pump selection is available.
- Please specify all options changes in W.E. order number.

8" NPT DISCHARGE CONNECTION



MATERIALS OF CONSTRUCTION

Part Name	Material
Shaft	ASTM A582 TYPE 416
Coupling	ASTM A582 S41600 C0
Suction Adapter	ASTM A48 CL 40
Discharge Bowl	ASTM A48 CL 30B
Rubber Bearings	RUBBER
Optional Bronze Bearings	ASTM B584
Discharge Bowl Bearing	ASTM B584
Taperlocks	ASTM A108 GR 101B
Epoxy Lined Bowl	ASTM A48 CL 30B
Upthrust Collar	ASTM A276 S41400
Impeller	ASTM B584
Fasteners	SAE J429 GR 8
Cable Guard	ASTM A240 S 30400
Suction Strainer	ASTM A240 S 30400



DIMENSIONS AND WEIGHTS

HP	Stages	W.E. Order Number	W.E. Length	W.E. WL (lbs.)
5	2	5CHC00544CTB	21 1/4"	60
		5CHC00564CTB	25 1/4"	62
7 1/2	3	5CHC00744CTB	25 1/4"	73
		5CHC00764CTB	28 1/4"	75
10	4	5CHC01064CTB	32 1/4"	88
15	6	5CHC01564CTB	42 1/4"	114
20	8	5CHC02064CTB	52 1/4"	140
25	10	5CHC02564CTB	61 1/4"	166
30	12	5CHC03064CTB	71 1/4"	192
40	16	5CHC04064CTB	90 1/4"	244
50	19	5CHC05064CTB	104 1/4"	283

(All dimensions in inches and weights in lbs. Do not use for construction purposes.)

PLEASE NOTE:

- Order motors separately.
- For intermediate horsepower pumps consult factory.
- Solid line is recommended operating range. The dotted line (---) signifies an alternate pump selection is available.
- Please specify all options changes in W.E. order number.

4" NPT DISCHARGE CONNECTION

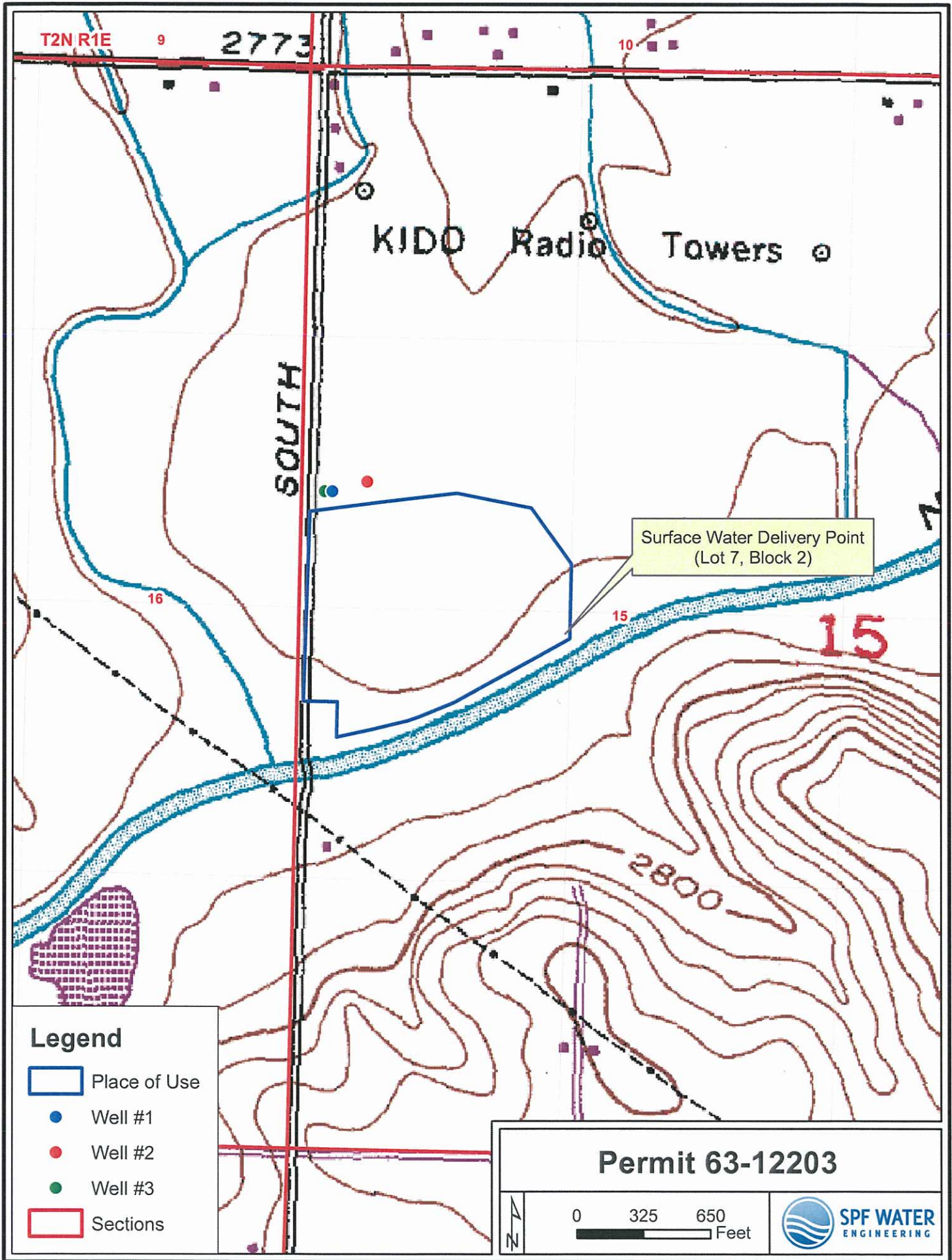


MATERIALS OF CONSTRUCTION

Part Name	Material
Shaft	ASTM A582 TYPE 416
Coupling	ASTM A582 S41600 CD
Suction Adapter	ASTM A48 CL 40
Discharge Bowl	ASTM A48 CL 308
Bronze Bearings	ASTM B584
Discharge Bowl Bearing	ASTM B584
Tapelocks	ASTM A106 GR 101B
Bowl	ASTM A48 CL 308
Upthrust Collar	ASTM A276 S41400
Impeller	ASTM B584
Fasteners	SAE J429 GR 8
Cable Guard	ASTM A240 S 30400
Suction Strainer	ASTM A240 S 30400

ATTACHMENT C

TOPO MAP, 2006 AERIAL PHOTO AND PLAT MAP



T2N R1E

9

10

2006 Photo

16

15

Surface Water Delivery Point
(Lot 7, Block 2)

Legend

 Place of Use

 Well #1

 Well #2

 Well #3

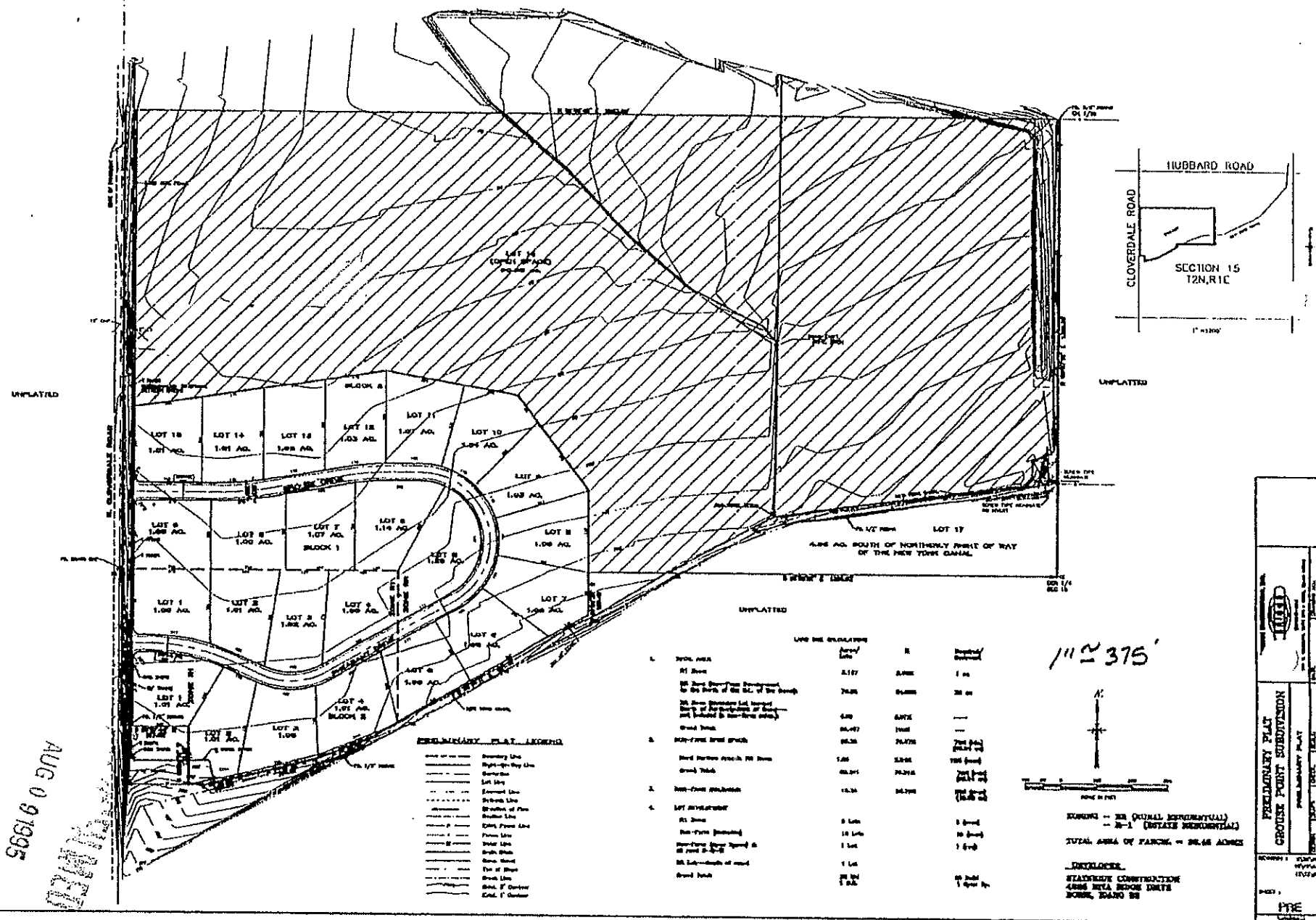
 Sections

Permit 63-12203



0 315 630
Feet



UNIVERSITY OF MICHIGAN

ATTACHMENT D
PHOTOS



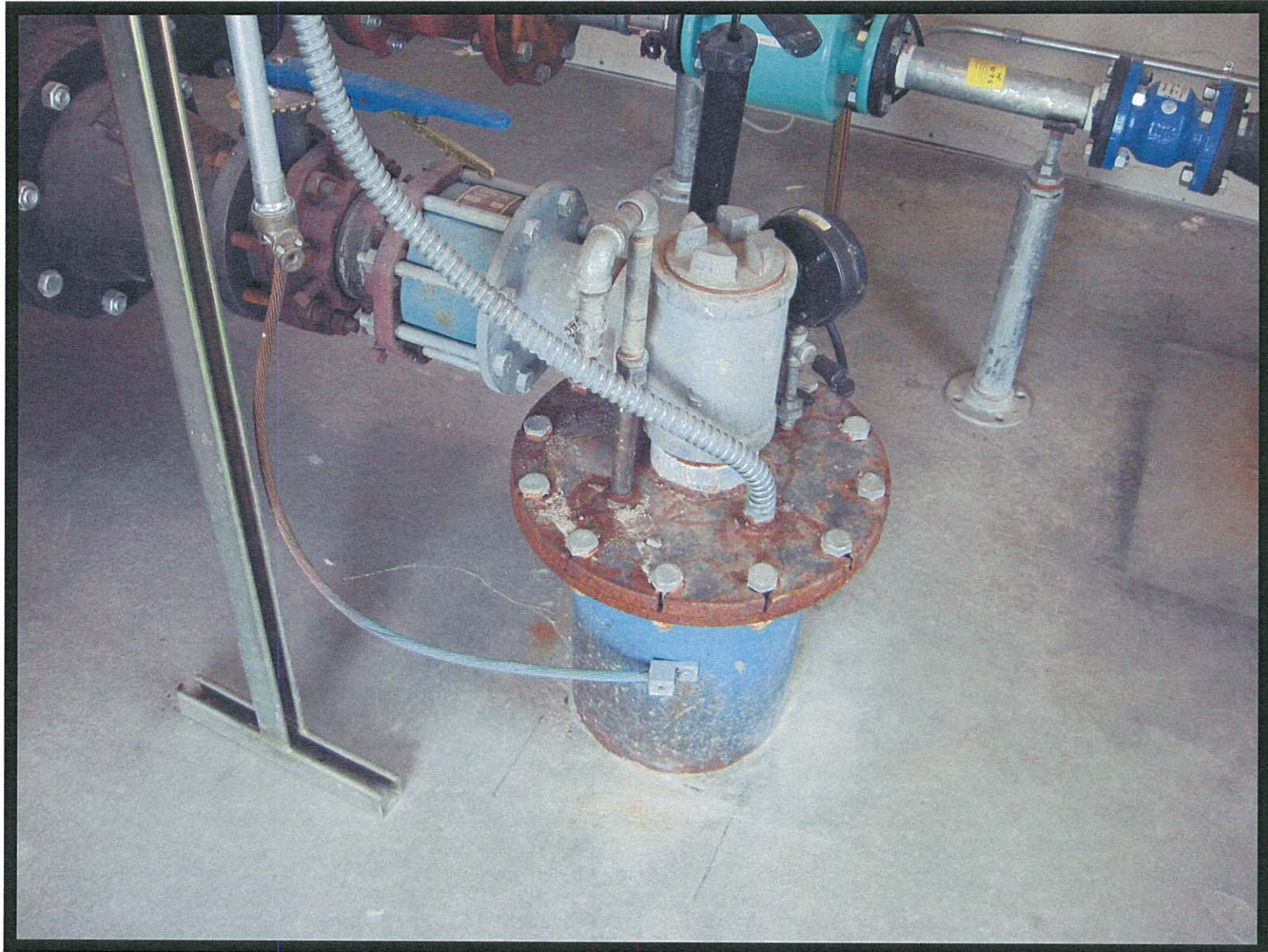
Subdivision North Entrance



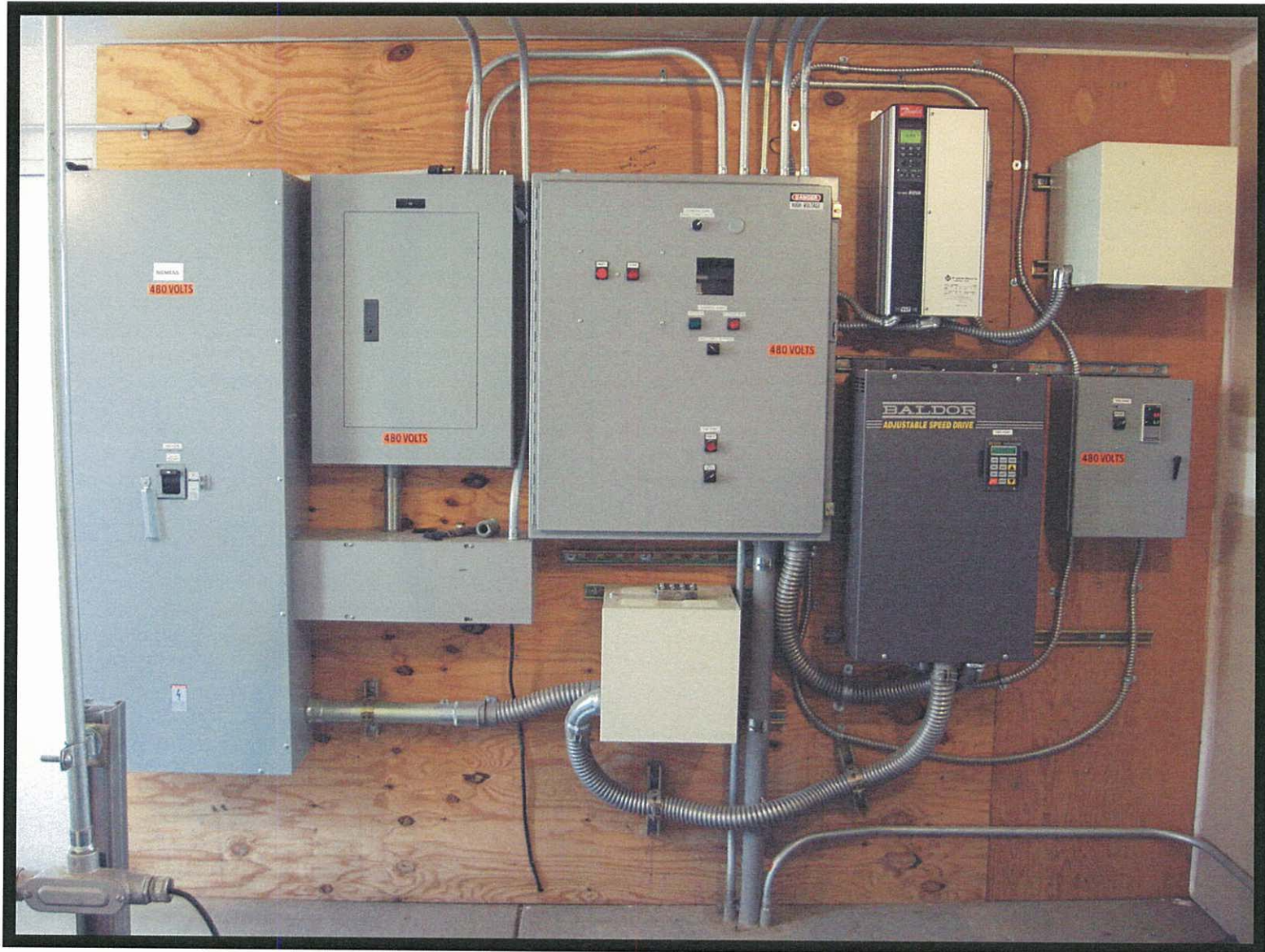
Well No. 1 (Primary Well)



Well No. 2 (Back-up, Fire Protection Well)



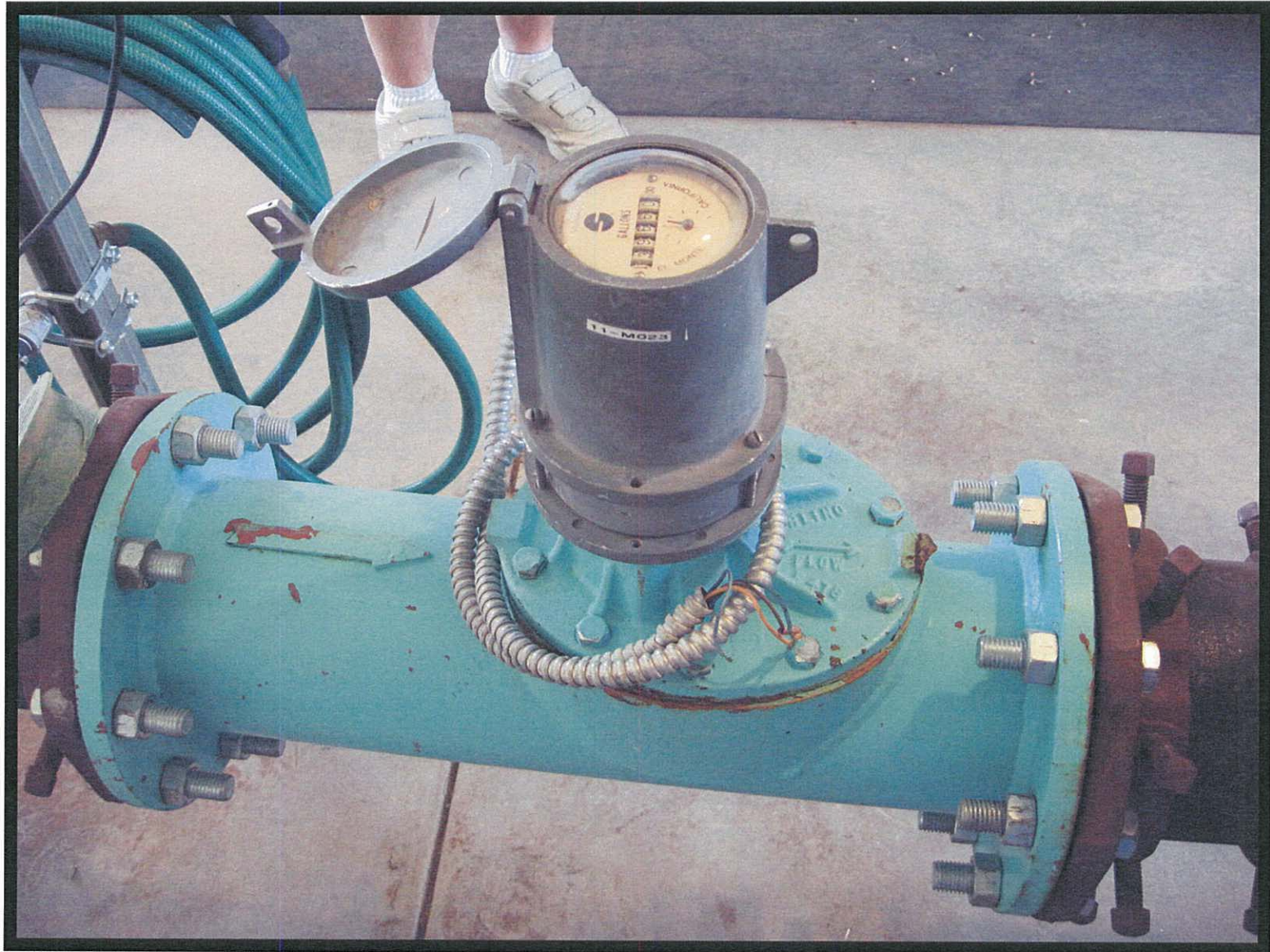
Well No. 3 (Alternative Back-up Well)



Controlling Works



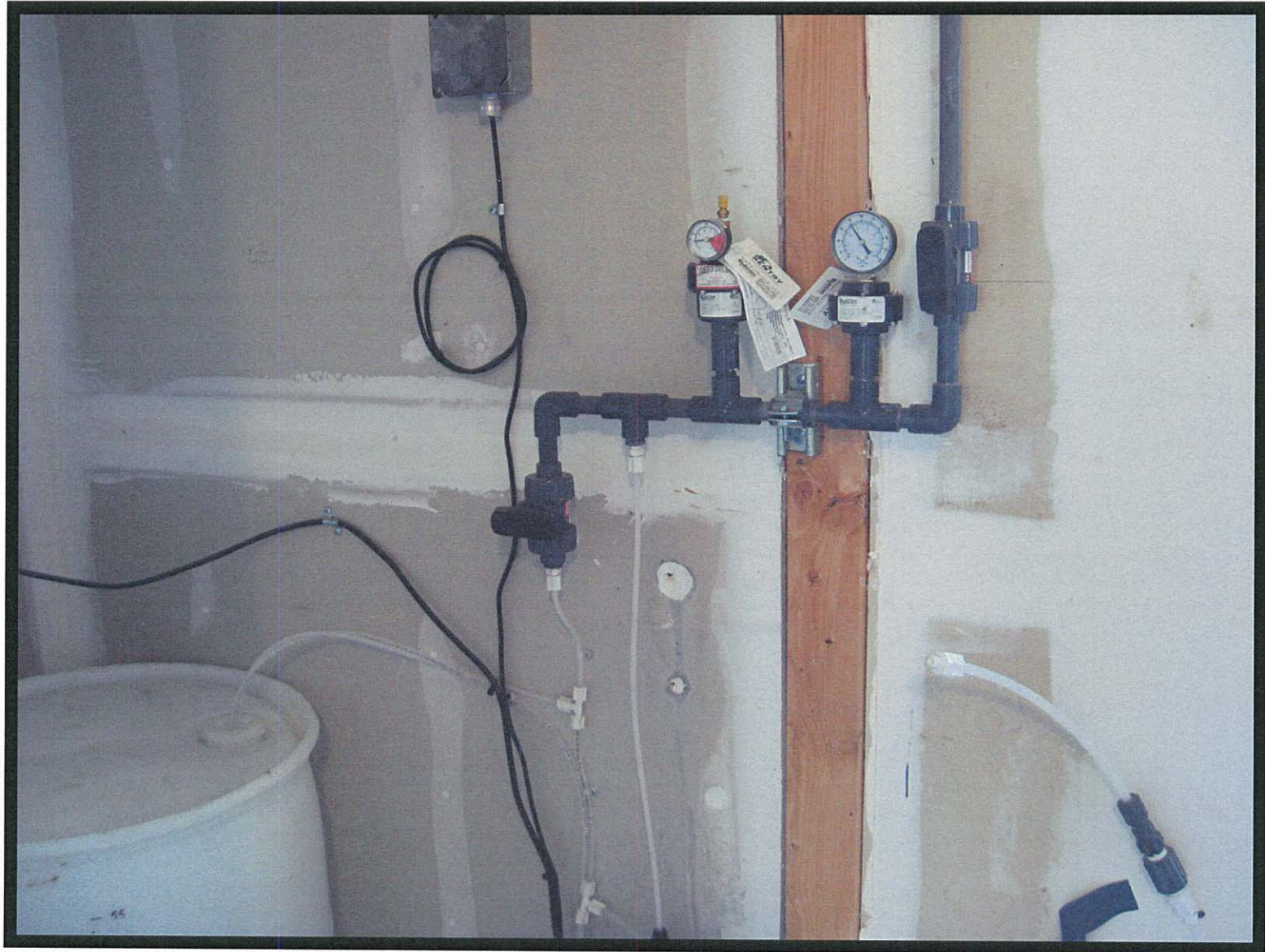
Controlling Works



Flowmeter



Hydropneumatic Tank



Water Quality Treatment System



Fire Protection Hydrant & Stub for Lot 3, Block 1



Place of Use (Lot 3, Block 1)



Place of Use (Lot 4, Block 2)



Place of Use (Lot 11, Block 2)