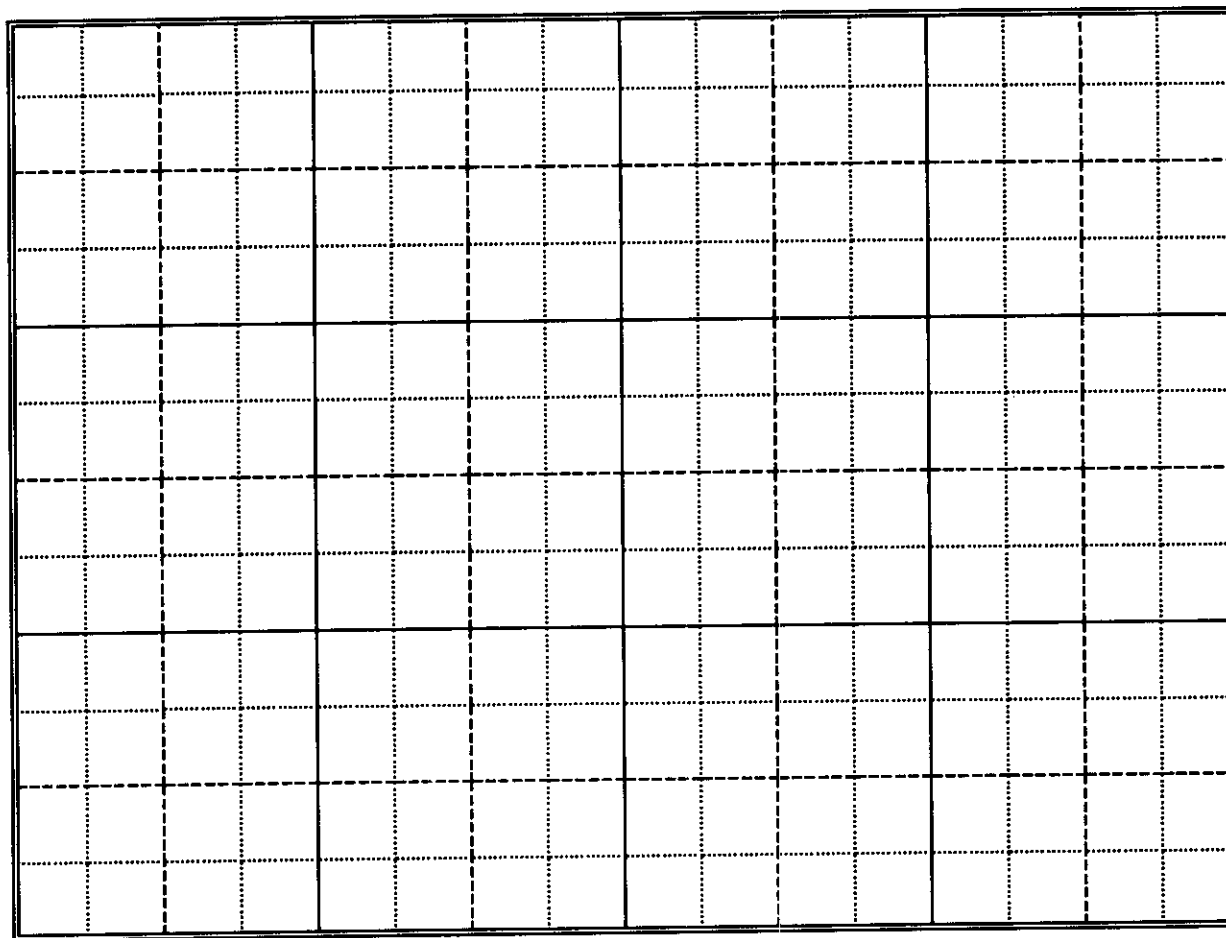


3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable.



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
D00132411		2.0	230 VOLT	GRUNDFOSS	6"

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

D. FLOW MEASUREMENTS

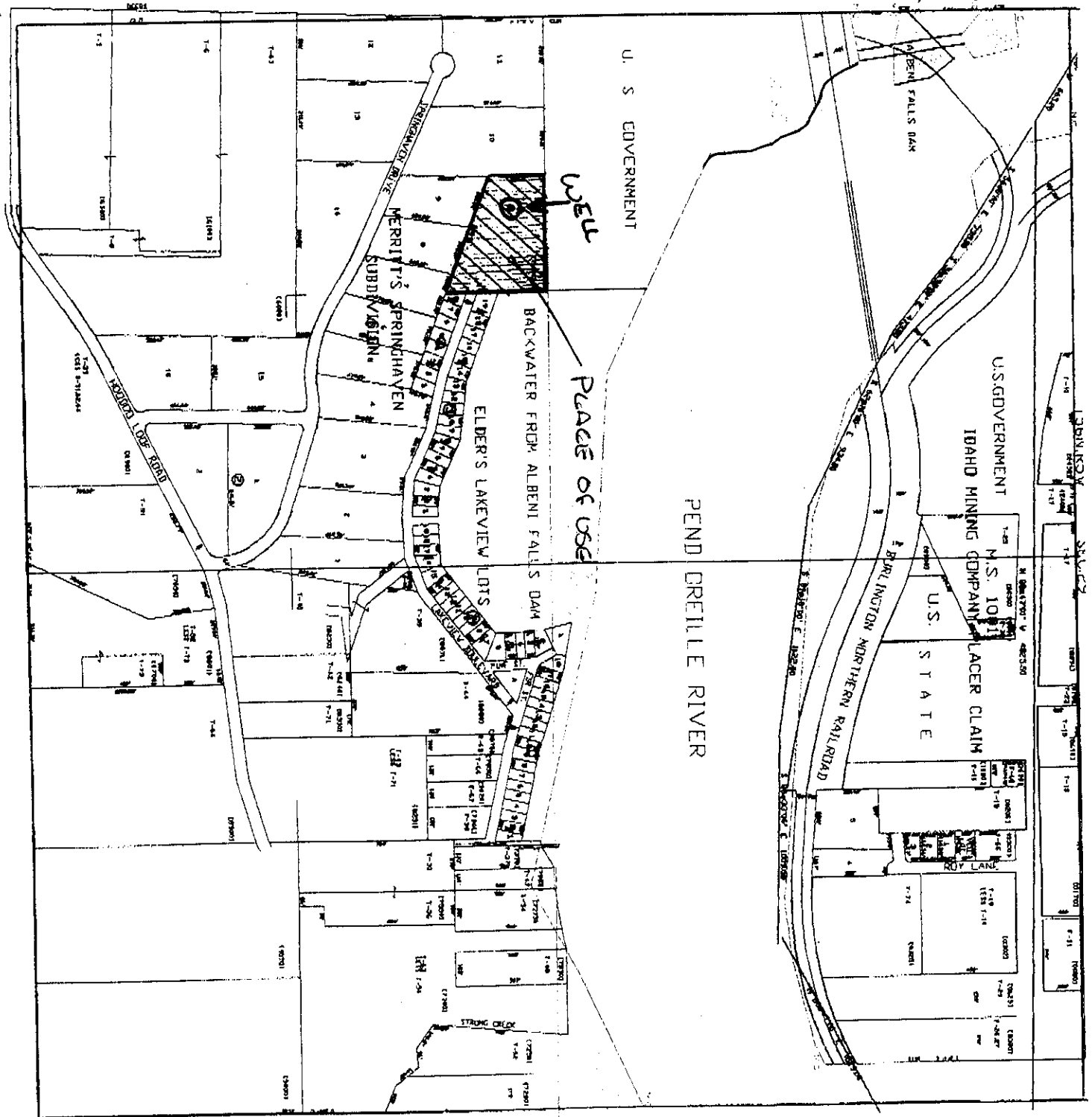
1.

READING

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
MARKER METER	1988			2751224	1"	

2. Measurements: 10 GALLONS IN 20 SECONDS - 30 GALLONS / MINUTE

Attn: Al
From: CarrieAnn



U. S. GOVERNMENT
ALBENI COVE RECREATION AREA

300' ADJACENT OWNERS LINE

PEND OREILLE RIVER

PROJECT LOCATION

BACKWATER FROM ALBENI FALLS DAM

11

10

SUBURBAN 1/3 ZONE

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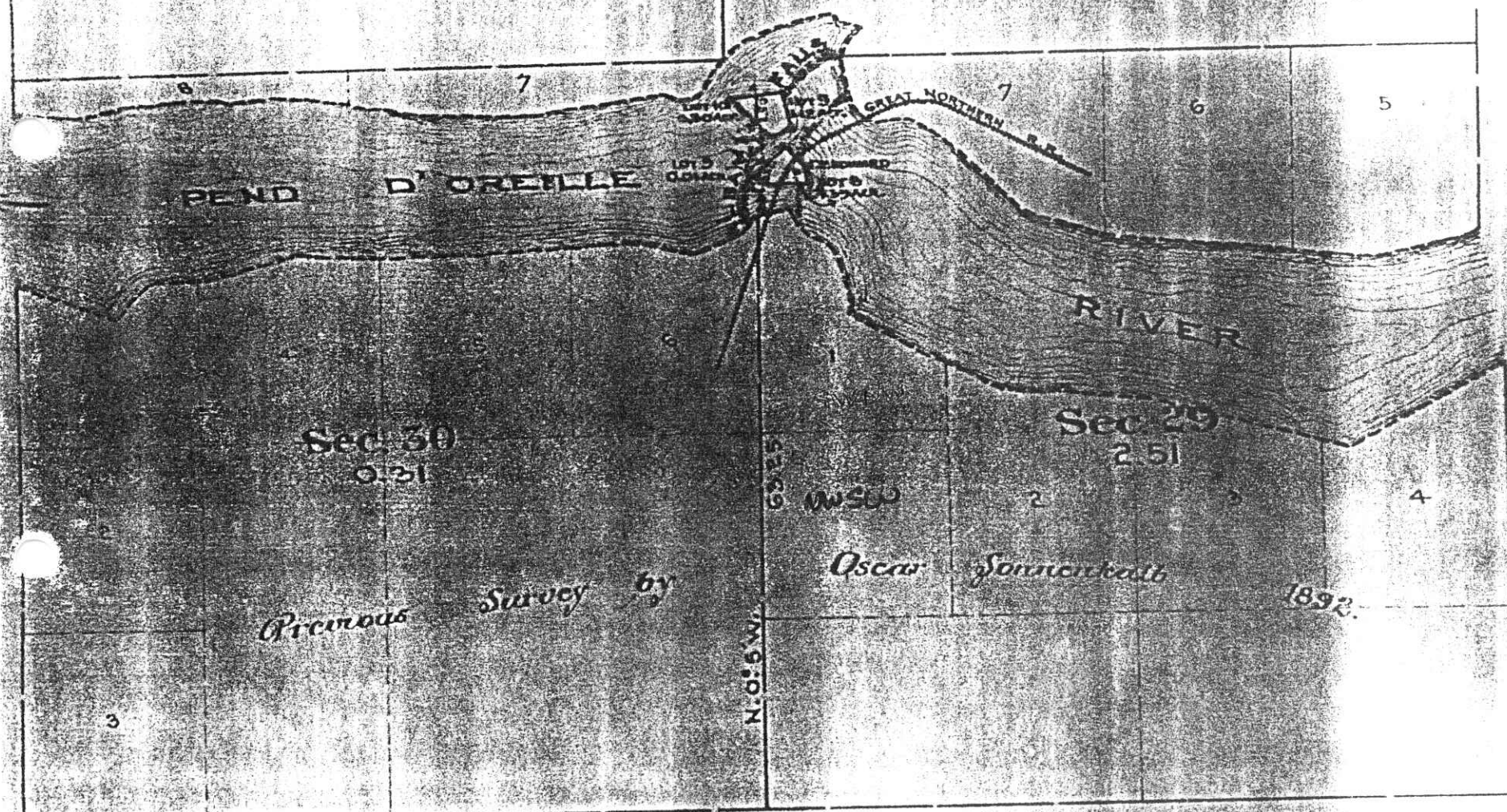
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Previous Survey by Robinson and Dike 1893.

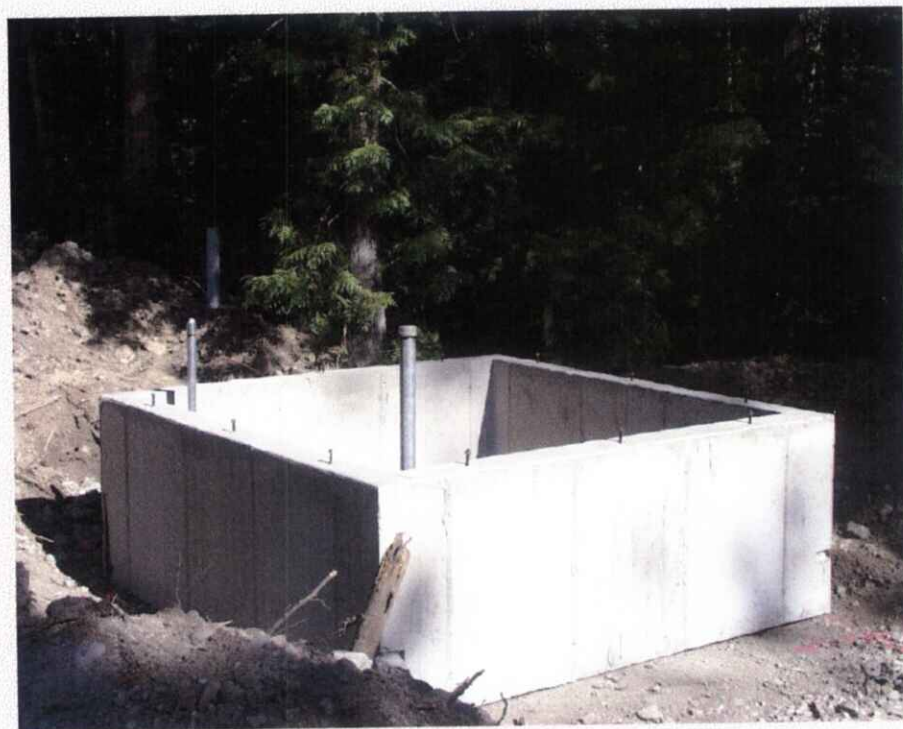




↑ well

COVE GROUP
SUBDIVISION

RECEIVED
MAY 14 2001
IDWR/North



96-09044



COVE GROUP
SUBDIVISION

↑
PUMP
HOUSE





COVE GROUP
SUBDIVISION



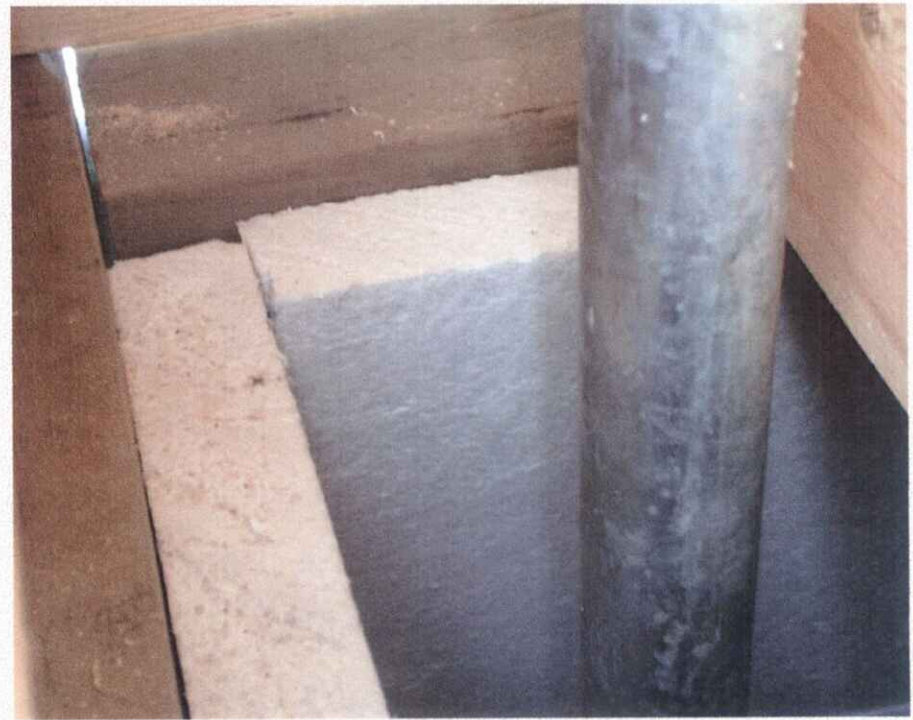


COVE GROUP
SUBDIVISION

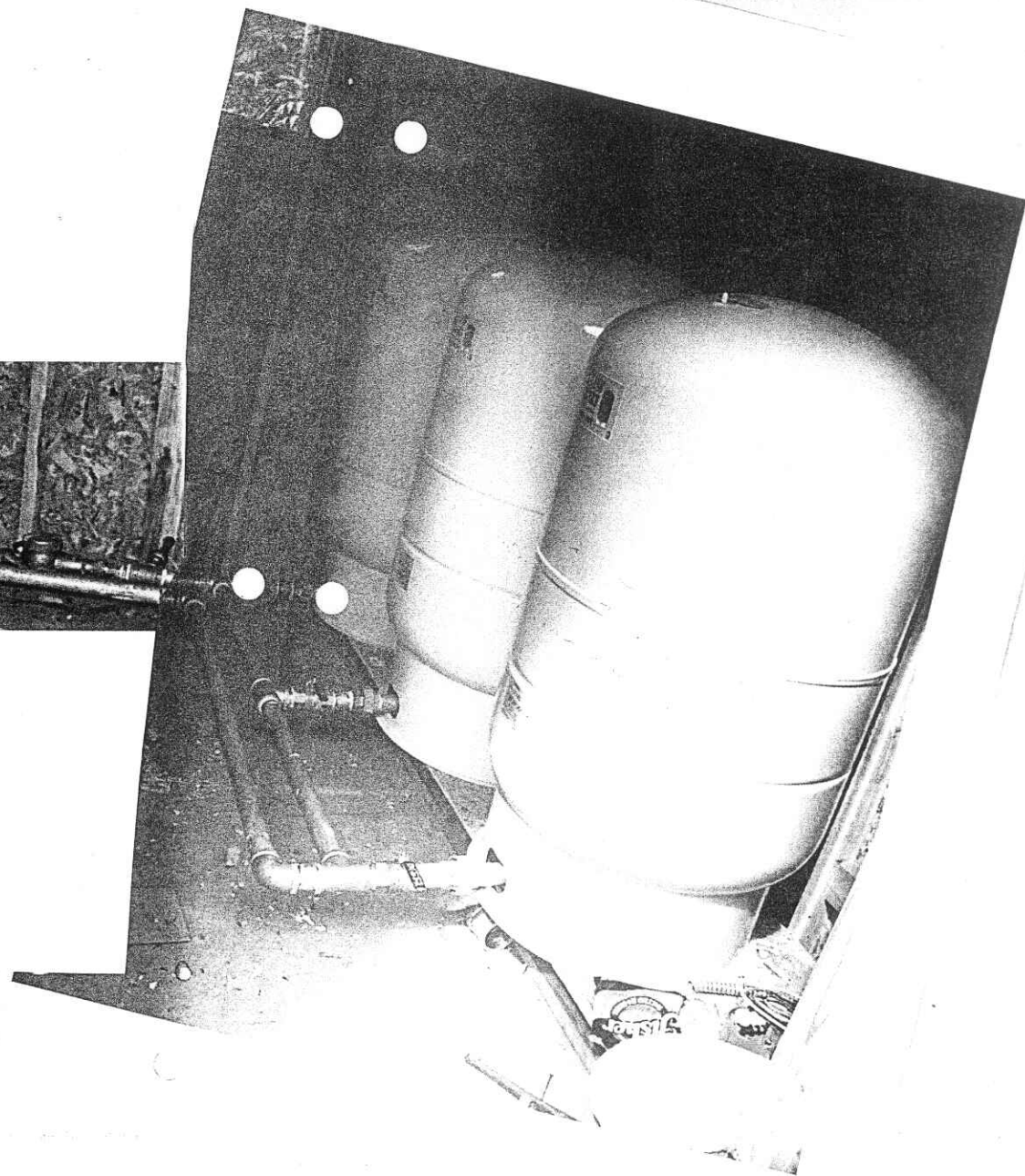
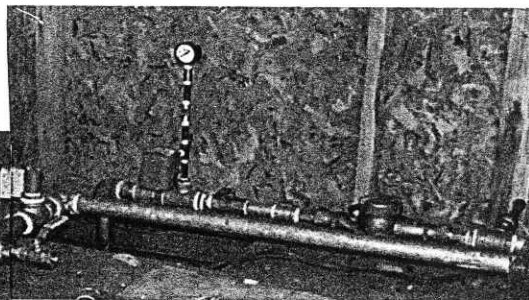




COVE GROUP
SUBDIVISION



Asbuilt
Picture



E. NARRATIVE/REMARKS/COMMENTS

WATER IS DIVERTED FROM WELL BY A 2.0 H.P. SUBMERSIBLE PUMP - TO 3 80 GALLON PRESSURE TANKS & METER - 2" MAINLINES TO 5 LOTS WITH 1" SERVICE LINES - SERVING LOTS 1-4 OF COVE GROUP SUBDIVISION AND LOT 19 OF ELDER LAKE VIEW LOTS.

LOTS 1-4 OF COVE GROUP SUBDIVISION ARE R.V. SITES WHERE HOMES COULD BE BUILT - LOT 19 OF ELDER LAKE VIEW LOTS HAS A HOME ON LOT.

THE IRRIGATION RATE EXCEEDS OUR STANDARD RATE/ACRE BASED ON 1.5 GPM SPRINKLER HEAD PER LOT FOR LAWN IRRIGATION.

Permit limits to 4 homes
There is not a govt lot for the nws/4 s.29

Have conditions of permit approval been met? ☒ yes ☐ no

F. FLOW CALCULATIONS

Measured Method:

____ Additional Computation Sheets Attached

RECEIVED

DEC 16 2005

DEPARTMENT OF
WATER RESOURCES**G. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

 $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____ $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____ $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____

2. Volume Calculations for Other Uses:

$$\begin{array}{rcl} 4 \text{ homes} \times 0.60 \text{ AF} & = & 2.4 \\ 2 \text{ Acres} \times 3.0 \text{ AF} & = & 6 \\ \hline & & 8.4 \end{array}$$

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	0.07	302.4
IRRIGATION			0.06	306
Totals:			0.07	608.4

2. Recommended Amendments

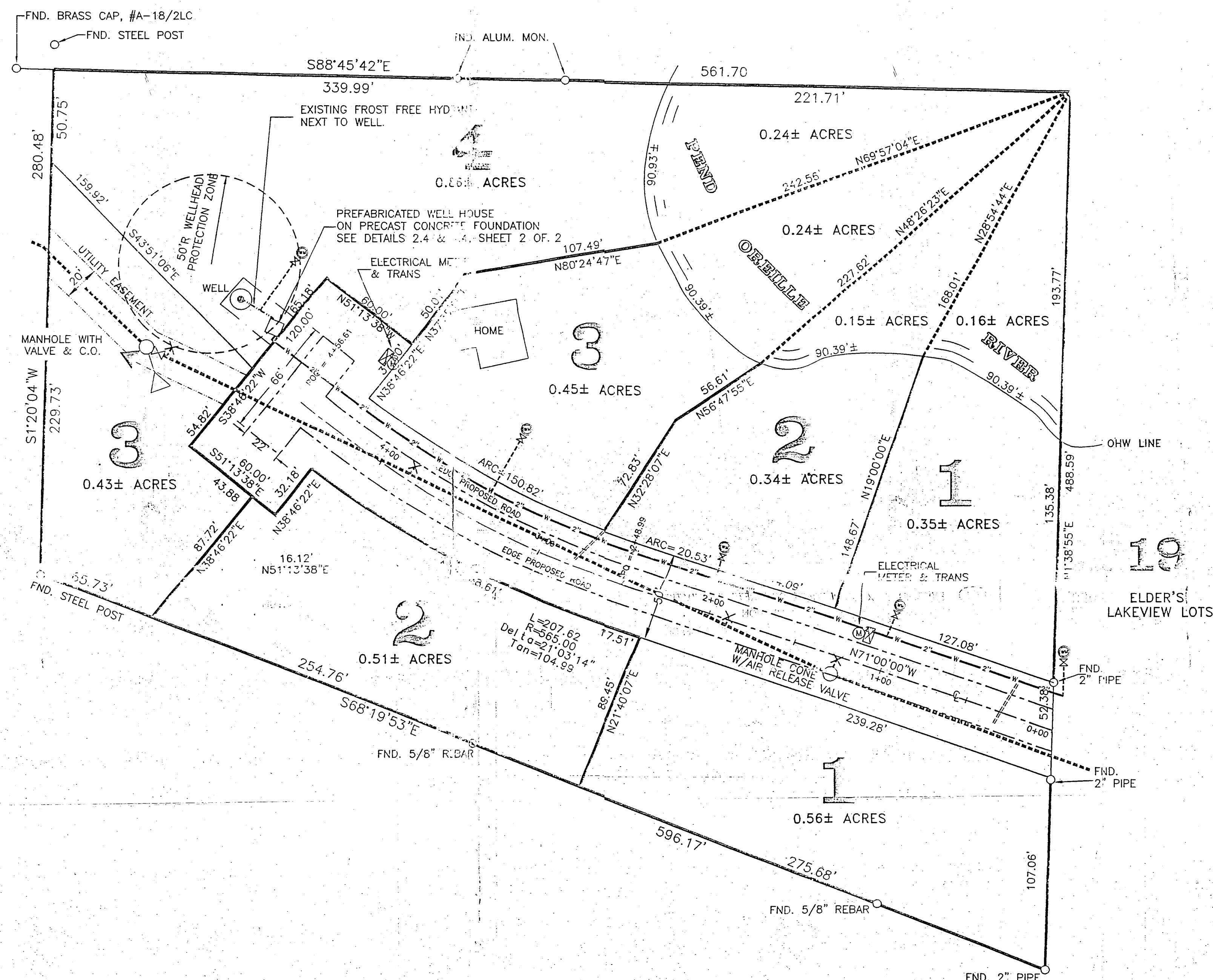
____ Change P.D. as reflected above ____ Add P.D. as reflected above ____ None
____ Change P.U. as reflected above ____ Add P.U. as reflected above ____ Other

I. AUTHENTICATIONField Examiner's Name At Bend Date 5-1-01Reviewer At Taylor Date 12-14-05

SEAL

COVE GROUP SUBDIVISION WATER SYSTEM

TWP 56N., R5W., SEC. 29., B.M.

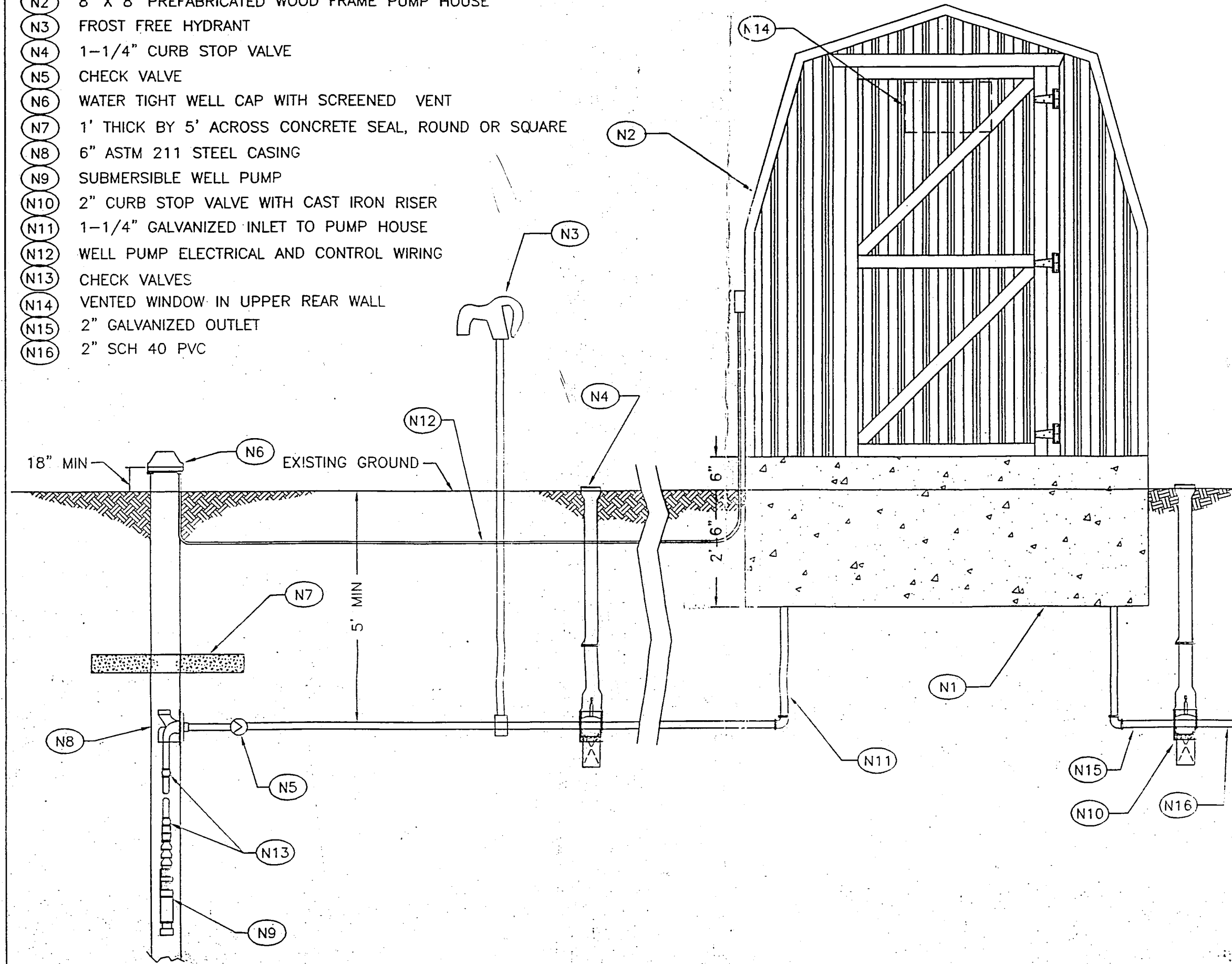


LEGEND

- FOUND CORNER AS NOTED
- EXISTING PRESSURE SEWERLINE
- ✕ EXISTING PRESSURE SEWER STUB OUT
- ===== EXISTING 10" CMP TO BE REPLACED W/18" CMP
- EXISTING UTILITY EASEMENT
- EXISTING ROAD SIDE GRA'S, DITCHLINE SWALES
- ⊙ EXISTING WATER SERVICE METER
- ⊗ EXISTING CURBSTOP WATER VALVE
- EXISTING 2" DIA MAIN WATER LINE
- EXISTING 1" WATER SERVICE LINE
- EXISTING UTILITY EASEMENT

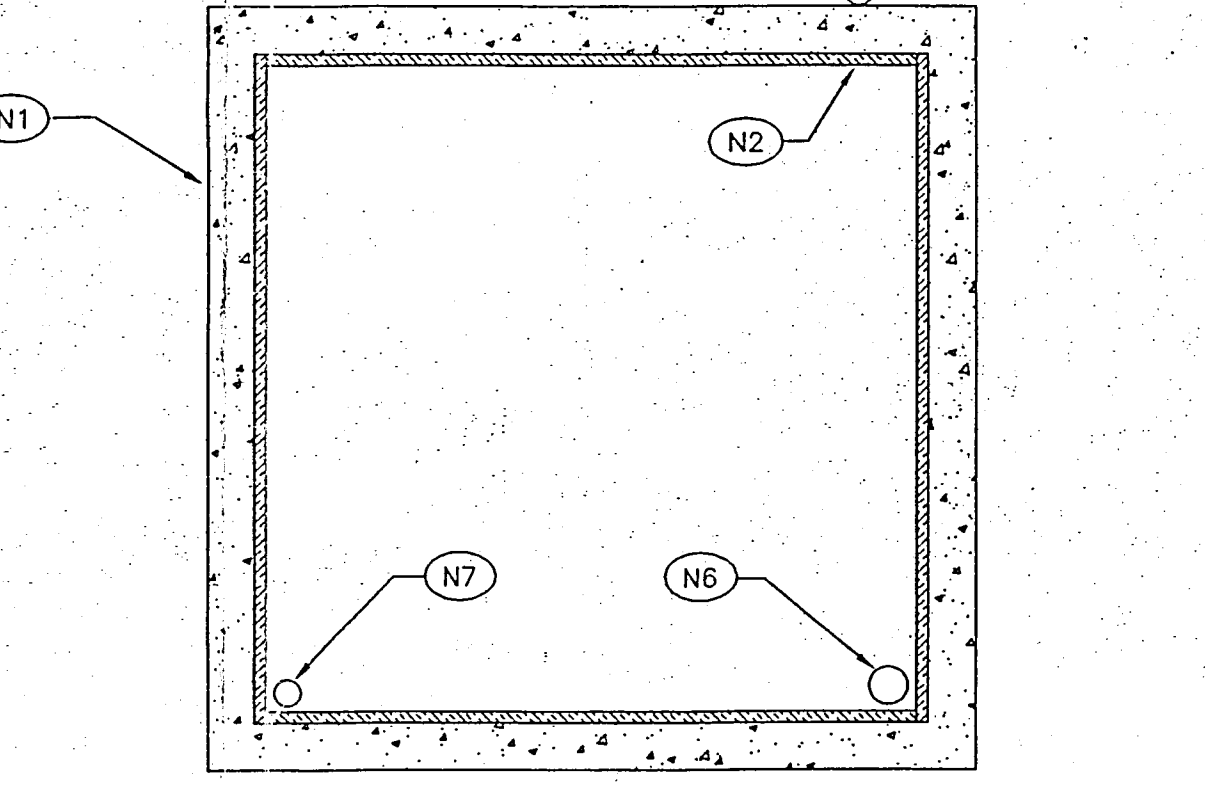
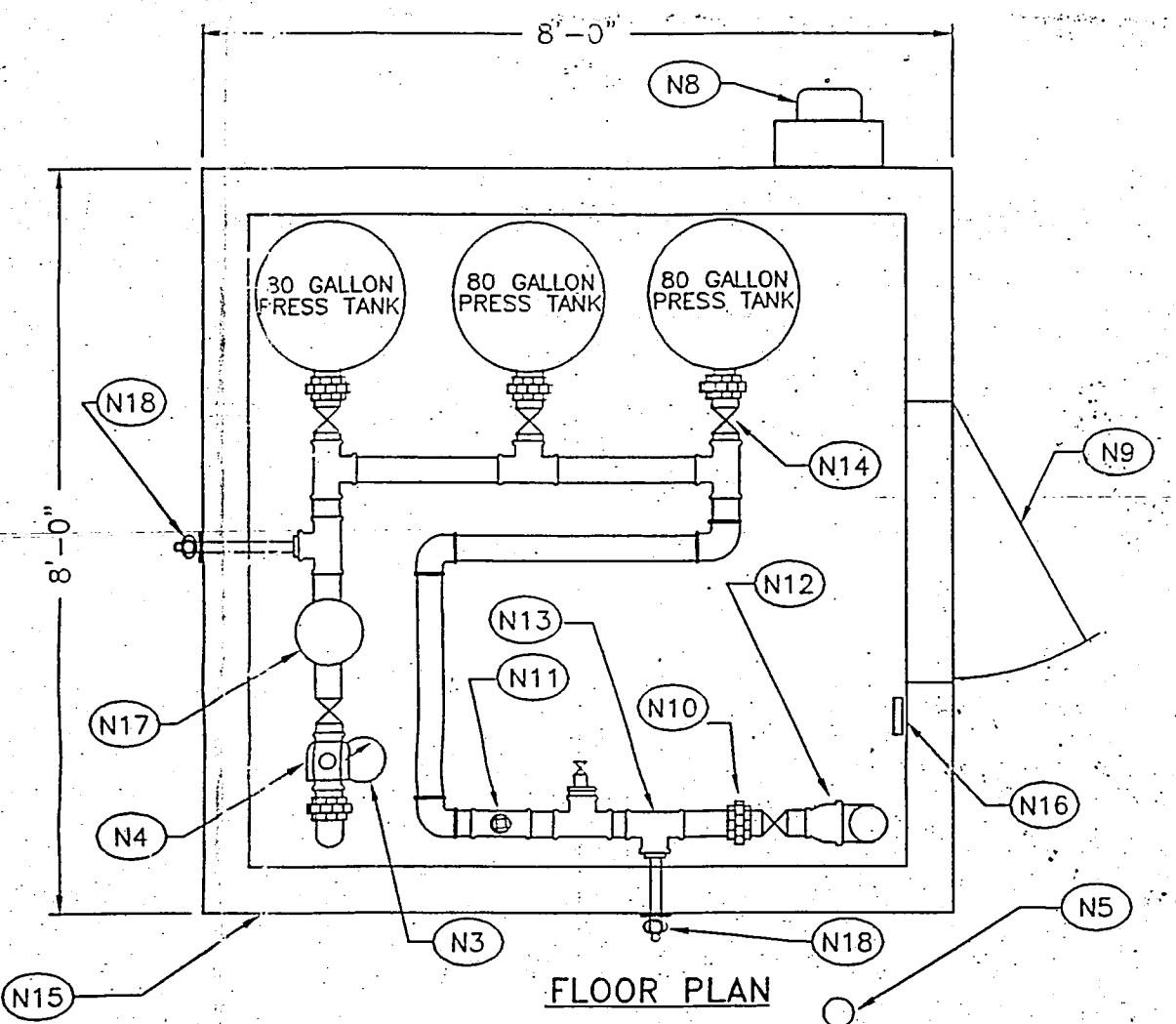
4.1 SITE PLAN
1" = 40'

- (N1) EXISTING 8' X 8' PRECAST CONCRETE FOUNDATION
- (N2) 8' X 8' PREFABRICATED WOOD FRAME PUMP HOUSE
- (N3) FROST FREE HYDRANT
- (N4) 1-1/4" CURB STOP VALVE
- (N5) CHECK VALVE
- (N6) WATER TIGHT WELL CAP WITH SCREENED VENT
- (N7) 1" THICK BY 5' ACROSS CONCRETE SEAL, ROUND OR SQUARE
- (N8) 6" ASTM 211 STEEL CASING
- (N9) SUBMERSIBLE WELL PUMP
- (N10) 2" CURB STOP VALVE WITH CAST IRON RISER
- (N11) 1-1/4" GALVANIZED INLET TO PUMP HOUSE
- (N12) WELL PUMP ELECTRICAL AND CONTROL WIRING
- (N13) CHECK VALVES
- (N14) VENTED WINDOW IN UPPER REAR WALL
- (N15) 2" GALVANIZED OUTLET
- (N16) 2" SCH 40 PVC



2.4 PUMP HOUSE ELEVATION
1" = 2'

- (N1) EXISTING 8' X 8' PRECAST CONCRETE FOUNDATION
- (N2) EXISTING 2" RIGID FOAM INSULATION
- (N3) EXISTING PRESSURE GAUGE, 0-100 PSI, 3" FACE
- (N4) EXISTING PRESSURE SWITCH
- (N5) EXISTING SCH 80 PVC CONDUIT RISER FOR ELEC.
- (N6) EXISTING 2" GALVANIZED PIPE TO SERVICE LINE
- (N7) EXISTING 1-1/4" GALV. INLET FROM WELL
- (N8) EXISTING ELEC. METER BASE & BREAKER PANEL
- (N9) EXISTING 3'-0" DOOR HINGED TO OPEN OUT
- (N10) EXISTING 1-1/4" GALVANIZED UNION (TYP. OF 6)
- (N11) EXISTING PORT FOR POSSIBLE FUTURE CHLORINATION
- (N12) EXISTING 1-1/4" X 2" GALVANIZED BELL REDUCER
- (N13) EXISTING 1-1/4"X1-1/4"X1-1/4" GALV. TEE (TYP. OF 4)
- (N14) EXISTING 1-1/4" BRASS BALL VALVE (TYP. OF 5)
- (N15) EXISTING PREFABRICATED WOODEN PUMP HOUSE
- (N16) EXISTING SWITCH FOR LIGHTING CIRCUIT
- (N17) EXISTING WATER METER
- (N18) EXISTING SMOOTH NOSED SAMPLE TAP



4.4 PUMP HOUSE DETAILS
1" = 2'

FOUNDATION PLAN
AS BUILT

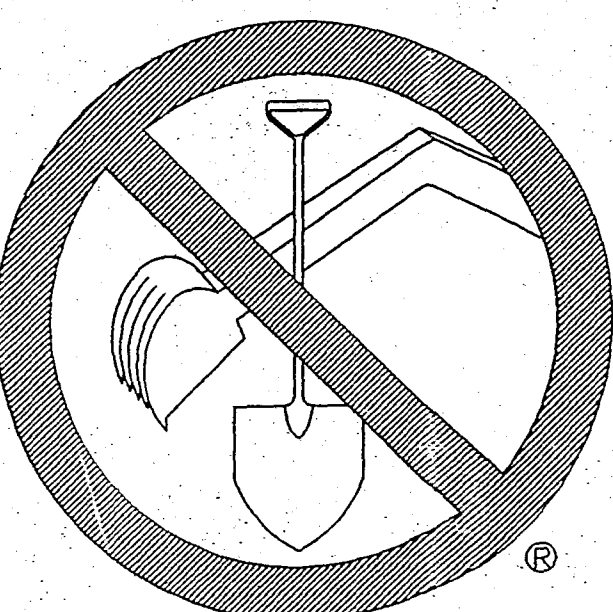


ENGINEER'S STAMP		KLV/CMW	DRW/CRD
DATE	REVISION		
12-30-00	AS BUILT REVISIONS		
1	DATE		

James A. Sewell and Associates
CONSULTING ENGINEERS
SANDPOINT, IDAHO 83864
(208) 263-4160

James A. Sewell and Associates
SHEET TITLE: **SITE PLAN AND WELL HOUSE DETAILS**
PROJECT: **COVE GROUP SUBDIVISION WATER SYSTEM**
BONNER COUNTY, IDAHO
DATE: 01-02-01
SCALE: AS SHOWN
DRAWN BY: KLV
CHECKED BY: CMW/EJE
FILE No.: NEWBERRA-AB
SHEET 1 OF 2

RECEIVED
JAN 14 2001
IDWR/Noth



CALL
2 WORKING
DAYS
BEFORE
YOU DIG!
TOLL FREE
1-800-626-4950

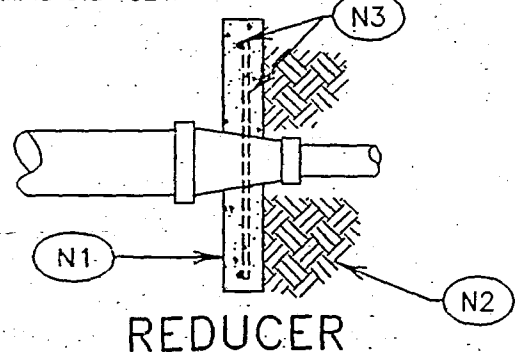
Buried Cable
Locating Service

1.1 CALL BEFORE YOU DIG

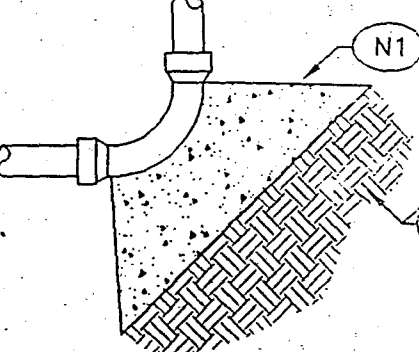
THRUST BLOCK SIZING

PIPE DIAMETER 4" AND SMALLER	MINIMUM BEARING AREA (SQ. FT.)				
	TEES, ENDS, AND REDUCERS	90° ELBOWS	45° ELBOWS	22-1/2° ELBOWS	11-1/4° ELBOWS
1/2"	1.5	2.0	1.0	0.5	0.5
3/4"	2.0	2.5	1.25	0.625	0.625
1"	2.5	3.0	1.5	0.75	0.75
1 1/4"	3.0	3.5	1.75	0.875	0.875
1 1/2"	3.5	4.0	2.0	1.0	1.0
2"	5.0	6.0	3.0	1.5	1.5
3"	10.0	12.0	6.0	3.0	3.0
4"	15.0	18.0	9.0	4.5	4.5

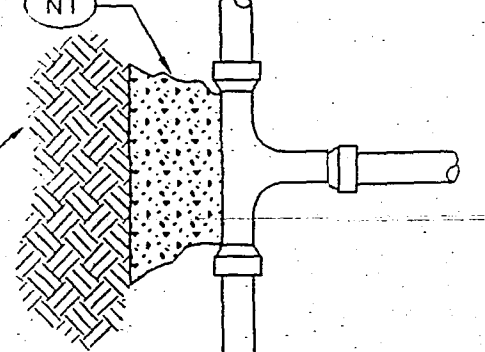
* BASED ON 200 PSI LINE PRESSURE,
FIRM SAND-CLAY SOIL



REDUCER



ELBOW



TEE

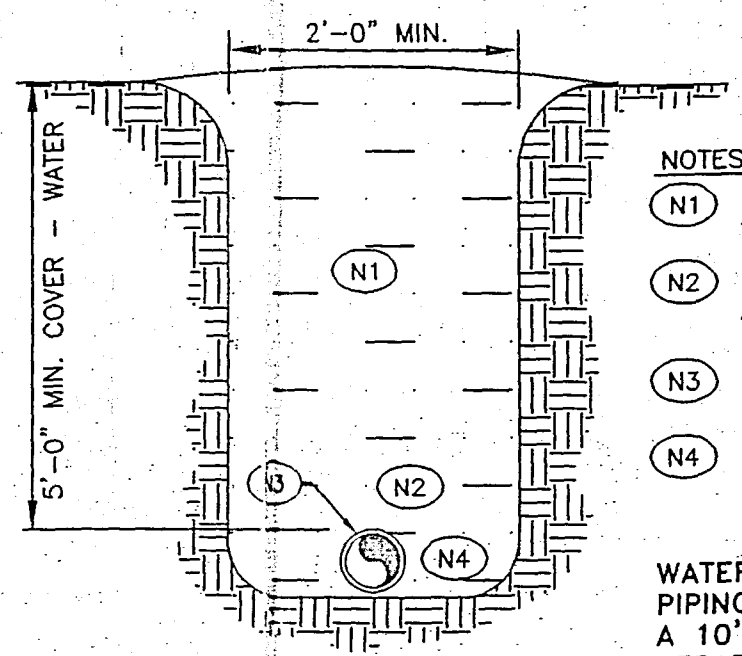
NOTE: CONCRETE SHALL BE PLACED TO ALLOW ACCESS
FASTENERS USED IN CONNECTION

THRUST BLOCK DETAIL

SCALE- N.T.S.

2.1

NOTE: TRENCH SIDE WALLS
SHALL BE SLOPED AND/OR
BRACED TO PROTECT
WORKERS, ADJACENT
PROPERTY, AND THE WORK



NOTES FOR TRENCH DETAIL

- N1 BACKFILL W/NATIVE MATERIAL TO DENSITY AS SPECIFIED
- N2 IN ROCK EXCAVATION, 12" ABOVE AND 6" BELOW PIPE SHALL BE BEDDED W/SAND.
- N3 BURIED SCH 40 PVC WATER PIPELINE
- N4 AREA WITHIN 4" OF PIPE SHALL CONTAIN NO MATERIAL LARGER THAN 3/4".

WATER PIPING AND SEWER PIPING SHALL MAINTAIN A 10' MINIMUM HORIZ. SEPARATION, EXCEPT AS NOTED.

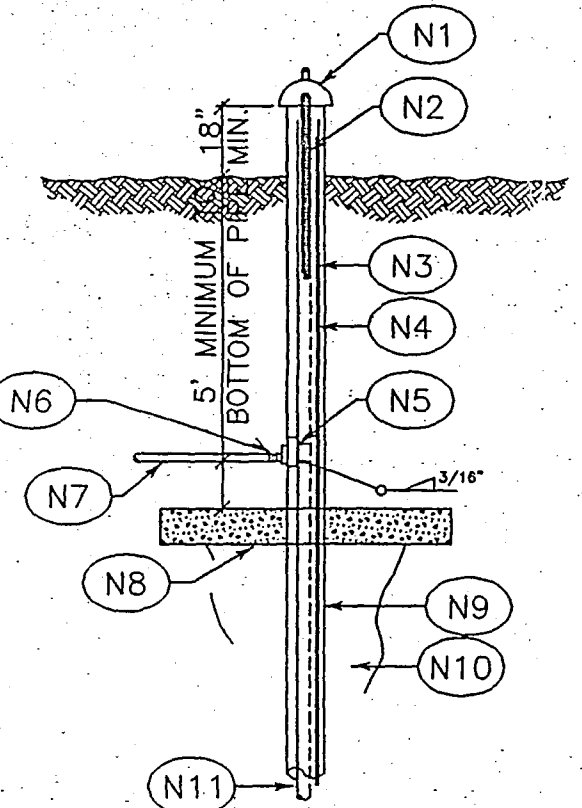
1.2 WATER LINE TRENCH DETAIL

SCALE-NO SCALE

1.2

NOTES FOR STANDARD WELL DETAIL

- N1 VENT CAP.
- N2 RIGID ELECTRICAL CONDUIT TO PUMP CONTROL PANEL.
- N3 LOW LEVEL PROTECTION PROBE - SEE NOTES.
- N4 NYLON DEPTH TEST TUBE - SEE NOTES.
- N5 WELD-ON PITLESS ADAPTER WELDED BY CERTIFIED WELDER.
- N6 (2) 90° EL. TO PROVIDE SWING JOINT.
- N7 1-1/4" GALVANIZED STEEL PIPE TO SYSTEM.
- N8 1' THICK X 5' ACROSS CONCRETE SEAL, ROUND OR SQUARE.
- N9 6" CASING, DEPTH AS REQUIRED WITHWELL SCREEN SELECTION BASED ON SOIL ANALYSIS.
- N10 CLAY SEAL, DOWN TO MINIMUM OF 18' FROM SURFACE.
- N11 2" GALVANIZED STEEL DROP PIPE, DEPTH AS REQUIRED. SUBMERSIBLE PUMP LOCATED WITH LOWER END OF PUMP MOTOR 5' ABOVE SCREEN SEAL.

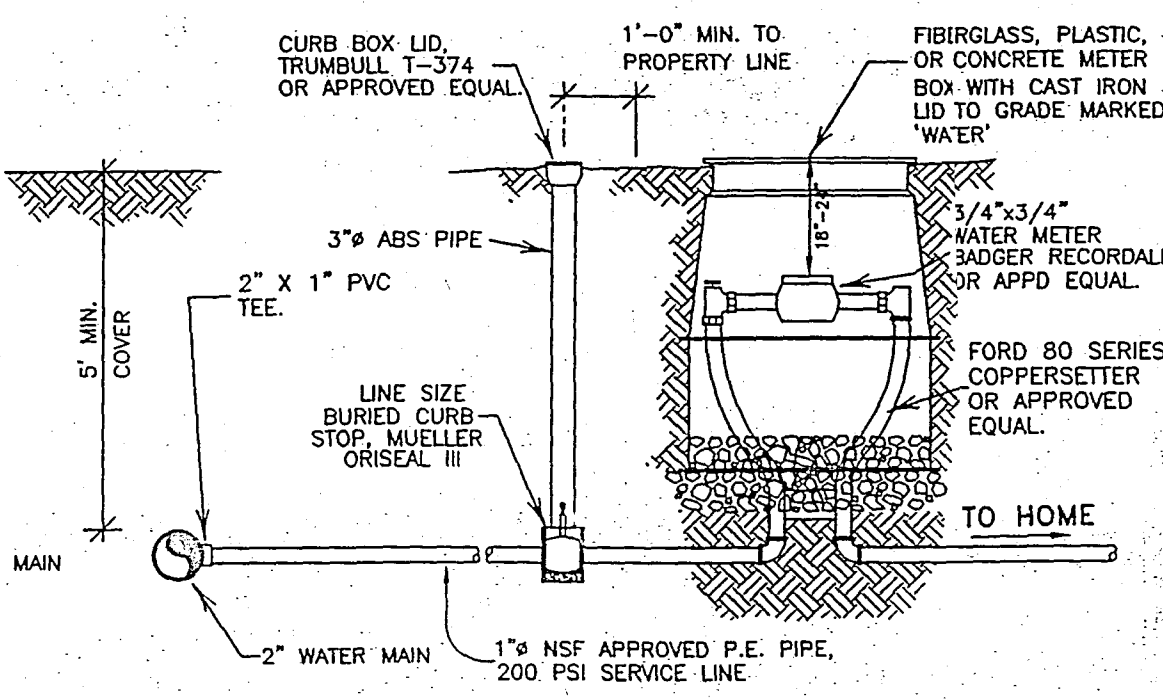


NOTE: INSTALL (2) LINE SIZE CHECK VALVES, 150 LB., ONE AT PUMP DISCHARGE, THE SECOND APPROXIMATELY 21' ABOVE FIRST.

2.3 WELL DETAIL

SCALE-NO SCALE

2.3



NOTE: SOIL UNDER SERVICE PIPELINE SHALL BE COMPACTED TO AT LEAST 90% OF MODIFIED PROCTOR MAXIMUM DENSITY.

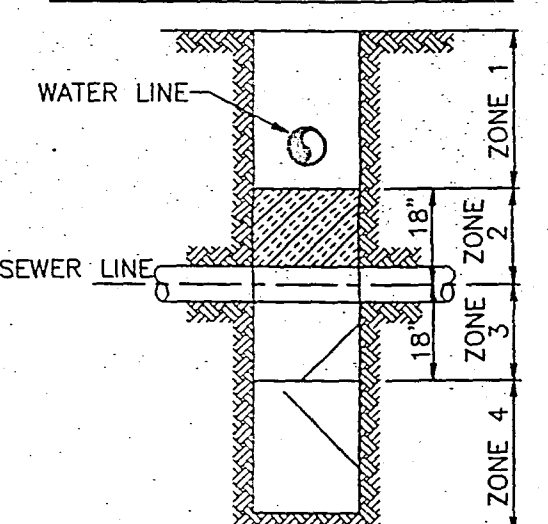
NOTE: ALLOWABLE SERVICE LINE SUBSTITUTES INCLUDE SCH 40 PVC OR GALVANIZED PIPE.

1.4 TYPICAL WATER SERVICE CONNECTION

SCALE-NO SCALE

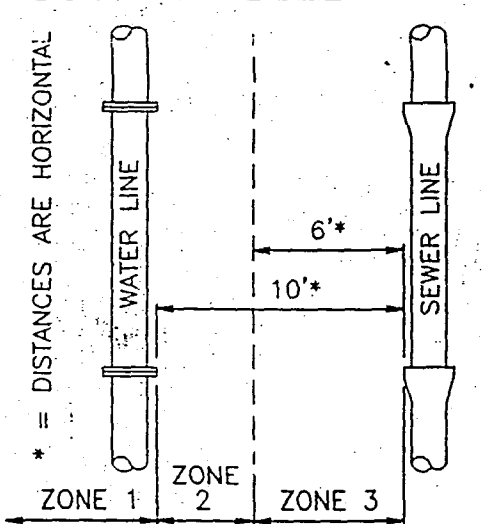
1.4

VERTICAL SEPARATION REQUIREMENTS



- ZONE 1: A) WATER and SEWER MUST BE SEPARATED BY AT LEAST 18" B) ONE FULL, UN-CUT LENGTH OF WATER PIPE MUST BE CENTERED OVER THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER.
- ZONE 2: A) ONE FULL, UN-CUT LENGTH OF WATER PIPE MUST BE CENTERED OVER THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER. and EITHER B) SEWER MAIN MUST BE CONSTRUCTED TO WATER MAIN STANDARDS AND PRESSURE TESTED FOR WATER TIGHTNESS FOR A HORIZONTAL DISTANCE OF 10' ON BOTH SIDES OF THE CROSSING. OR C) EITHER THE SEWER OR WATER MAIN OR BOTH MUST BE ENCASED IN AT LEAST 4" OF CONCRETE MEASURED AT THE BELL FOR A HORIZONTAL DISTANCE OF 10' ON BOTH SIDES OF CROSSING.
- ZONE 3: SAME REQUIREMENTS AS ZONE 2 EXCEPT THE SEWER MAIN MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.
- ZONE 4: SAME REQUIREMENTS AS ZONE 1 EXCEPT THE SEWER MAIN MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.

HORIZONTAL SEPARATION REQUIREMENTS



- ZONE 1: NO SPECIAL REQUIREMENTS.
- ZONE 2: A) WATER AND SEWER SEPARATED BY AT LEAST 6 FEET AT OUTSIDE WALLS. AND B) WATER AT LEAST 18 INCHES HIGHER IN ELEVATION THAN THE SEWER. and EITHER C) SEWER CONSTRUCTION TO WATER MAIN STANDARDS AND PRESSURE TESTED FOR WATER-TIGHTNESS. OR D) SEWER ENCASED IN AT LEAST 4 INCHES OF CONCRETE MEASURED AT THE BELL. and E) SITE SPECIFIC APPROVAL BY DEQ.
- ZONE 3: NOT ALLOWED.

WATER and SEWER LINE SEPARATION CROSSING REQUIREMENTS

SCALE-NO SCALE.

3.4

WATER SYSTEM CONSTRUCTION SPECIFICATIONS
GENERAL WATER SYSTEM CONSTRUCTION SHALL CONFORM TO THE PANHANDLE HEALTH DISTRICT AND THE STATE OF IDAHO DIVISION OF ENVIRONMENTAL QUALITY REQUIREMENTS AND IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPWO) IN THE EVENT OF CODE CONFLICT, THE MORE RESTRICTIVE CODE SHALL APPLY. ALL MATERIALS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE AMERICAN WATERWORKS ASSOCIATION (AWWA) STANDARDS, UNLESS OTHERWISE NOTED. CONSTRUCTION AND INSTALLATION SHALL COMPLY WITH THE IDAHO STANDARDS FOR PUBLIC WORKS, SECTION 400

DESIGN - WATER SYSTEM DESIGN INCLUDES THE FOLLOWING:
NUMBER OF DESIGN CONNECTIONS = 5
MAXIMUM INSTANTANEOUS DEMAND (M.I.D.) FLOWRATE = 20.84 GPM
MINIMUM LOT PRESSURE AT M.I.D. = 35 PSI
PIPE - WATER PIPE 2" IN DIAMETER AND SMALLER SHALL CONFORM TO ASTM D2241 SCHEDULE 40 PVC. WATER PIPE LARGER THAN 2" SHALL CONFORM TO ASTM CLASS 160 FOR PVC OR NSF APPROVED PE, 200 PSI.
PIPE FITTINGS - PIPE FITTINGS 3" THROUGH 48" SHALL CONFORM TO AWWA C110 GRAY IRON AND DUCTILE IRON. FITTINGS SHALL BE MECHANICAL JOINT (M.J.) CONFORMING TO AWWA C111 USING TRANSITION GASKETS FOR ASTM PVC PIPE. PIPE FITTINGS 2" AND SMALLER SHALL CONFORM TO SCHEDULE 40 PVC AND BE SOLVENT WELDED OR IPS NSF APPROVED PE COMPRESSION FITTING.

VALVES - CURB STOPS SHALL BE 175 LB. STOP AND WASTE CURB VALVES, AND SHALL BE MUELLER MARK II ORISAL CURB VALVE OR EQUAL. CURB STOPS SHALL INCLUDE A PLASTIC SKEW TYPE CURB BOX WITH ARCH PATTERN BASE. ALL OTHER VALVES SHALL BE MIN. 150 LB BRASS BODY VALVES OR BETTER.
MATERIAL SPECIFICATIONS - MATERIAL SPECIFICATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

PIPE TRENCH - TRENCHING SHALL CONFORM TO THE TYPICAL TRENCH DETAIL SHOWN AND IDAHO STANDARDS FOR PUBLIC WORKS SECTION 300 AND SECTION 400.

BACKFILL AND COMPACTION - PIPE BACKFILLING SHALL COMPLY WITH IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION SECTION 300. COMPACT ALL BACKFILL TO TOP OF TRENCH TO 90% DENSITY IN OPEN GROUND, AND 95% DENSITY IN ROADWAYS, IN ACCORDANCE WITH ASTM D1557, METHOD D, IN MAXIMUM NINE-INCH LOOSE LIFTS.
PIPE BEDDING - PIPE BEDDING SHALL COMPLY WITH IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION SECTION 303.

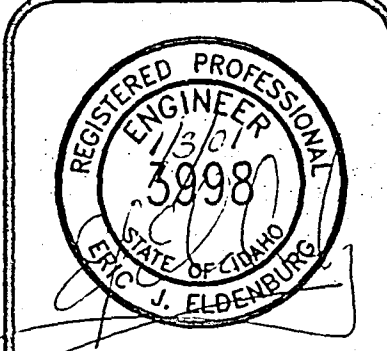
PIPE INSTALLATION - PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION SECTION 404. APPROVED PIPE LOCATING TAPE SHALL BE INSTALLED WITH ALL NON-METALLIC PIPE. ALL PIPE SHALL BE LAID ON A STRAIGHT GRADE WITH NO LOCAL HIGH POINTS. PIPE SHALL NOT BE INSTALLED UNTIL TRENCH HAS BEEN COMPLETELY CASTARD BELOW THE BASE OF THE BEDDING COURSE.

THRUST BLOCKS - THRUST BLOCKS SHALL BE PROVIDED AS SHOWN ON THE DRAWING, AND IN ACCORDANCE WITH IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION SECTION 453.

PRESSURE TEST - AFTER COMPLETE INSTALLATION, INCLUDING SERVICE CONNECTIONS, THE PIPELINE SHALL BE PRESSURE TESTED TO A PRESSURE OF 100 PSI. PRESSURE SHALL BE MAINTAINED UNTIL THE ENGINEER HAS DETERMINED THAT THE SECTION OF PIPE, VALVES AND FITTINGS ARE WATERTIGHT. IF THERE ARE NO VISIBLE LEAKS AND THE TEST PRESSURE IS MAINTAINED WITHOUT PUMPING FOR TWO HOURS, AND THE PRESSURE DROP STABILIZES AND IS LESS THAN FIVE (5) POUNDS, THE PIPELINE WILL BE ACCEPTED AS A WATERTIGHT INSTALLATION.

DISINFECTION - AFTER COMPLETE INSTALLATION, INCLUDING SERVICE CONNECTIONS, ALL WATER LINES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C601. WATER SHALL BE FED SLOWLY INTO THE LINES WITH CHLORINE APPLIED IN AMOUNTS TO PRODUCE A DOSAGE OF 50 PARTS PER MILLION. THE SOLUTION SHALL BE HELD IN THE LINES FOR A PERIOD OF 24 HOURS. AT THE BEGINNING OF THE CHLORINATION PROCESS, ALL VALVES AND ACCESSORIES SHALL BE OPERATED AND CHLORINE SOLUTION FLUSHED THROUGH ALL SERVICES. AFTER CHLORINATION THE WATER SHALL BE FLUSHED FROM THE LINES AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER TESTS ARE EQUAL BACTERIALLY TO THE PERMANENT WATER SOURCE.

CONFLICT WITH SEWER LINE - 10 FOOT HORIZONTAL SEPARATION EDGE TO EDGE OF PIPES, AND 18" VERTICAL SEPARATION BETWEEN THE CROWN OF THE SEWER LINE AND INVERT OF ANY NEW OR EXISTING PARALLEL WATER LINE (WATER LINE ABOVE) SHALL BE MAINTAINED WHEREVER POSSIBLE. IF THESE CLEARANCES CANNOT BE MAINTAINED, SEWER LINE(S) SHALL BE CONSTRUCTED OF MATERIALS AND JOINTS EQUIVALENT TO WATER LINE STANDARDS, WITH A MINIMUM OF 4" HORIZONTAL SEPARATION. GRAVITY SEWERS CROSSING UNDER WATER LINES SHALL BE LAID WITH 18" VERTICAL SEPARATION WHENEVER POSSIBLE. IF 18" VERTICAL SEPARATION CANNOT BE MAINTAINED, OR THE SEWER PASSES OVER THE WATER LINE, THE SEWER SHALL a) BE CONSTRUCTED WITH ONE MAXIMUM STANDARD LENGTH OF WATER LINE-CLASS PIPE CENTERED AT THE CROSSING (18" MIN. LENGTH); OR b) STANDARD SEWER PIPE LENGTH CENTERED AT THE CROSSING, ENCASED IN FULL LENGTH OF STEEL CASING PIPE WITH ENDS SEALED BY AN APPROVED SEALING METHOD. WATER LINES PASSING UNDER GRAVITY SEWERS SHALL BE ADDITIONALLY PROTECTED BY PROVIDING 18" MINIMUM VERTICAL SEPARATION AND PROVISION OF STRUCTURAL SUPPORT OF THE SEWER TO PREVENT SETTLEMENT. PRESSURE SEWERS SHALL ONLY BE CONSTRUCTED UNDER WATER LINES WITH DUCTILE IRON PIPE OR STANDARD PRESSURE SEWER PIPE ENCASED IN STEEL CASING EXTENDING AT LEAST 10' EACH SIDE OF THE CROSSING.



ENGINEER'S STAMP

DATE	NO.	DATE	NO.	DATE	NO.
12-30-00	1				

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SHEET TITLE: WATER SYSTEM DETAILS AND SPECIFICATIONS
PROJECT: COVE GROUP SUBDIVISION WATER SYSTEM
BONNER COUNTY, IDAHO

DATE: 01-02-01
SCALE: AS SHOWN
DRAWN BY: KLV
CHECKED BY: EJE/CMW
FILE No.: NEWBRH202AB

SHEET 2 OF 2

AS BUILT