

Application No. 51297

Permit No. 622

Certificate No. 2400

Ch. Pt. of Div. Sp. Cr. Vol. 12, p. 167 *1163 T-1963*

Stream Index, Page No.

Application Record, Book No.

FEES PAID

Date	Amount	Receipt No.
.....		
.....		
Total		

FEES REFUNDED

Date	Amount	Check No.
.....		

Name City of Silverton

By

Address Silverton, Ore.

Date filed

Action suspended until

Returned to applicant

Date completed

Date of approval

ASSIGNMENTS

Date	To whom	Address	Volume	Page
.....				
.....				
.....				

REMARKS

Silver Creek

CONSTRUCTION

Date for beginning

Date for completion

Extended to

Date for application of water

Extended to

PROSECUTION OF WORK

Form "A" filed

Form "B" filed

Form "C" filed

FINAL PROOF

Blank mailed

Proof received

Date certificate issued

Receipt for recording fee No.

STATE OF OREGON

WATER DIVISION NO. 1

COUNTY OF MARION

CERTIFICATE OF WATER RIGHT

(For rights perfected under original, enlargement or secondary permits)

This is to Certify, That the CITY OF SILVERTON
of Silverton, State of Oregon 97381, has made proof
to the satisfaction of the STATE WATER BOARD of Oregon, of a right to the use of the
waters of Silver Creek, a tributary of East Fork of Pudding River
for the purpose of Municipal, domestic supply
under Permit No. 622 of the State Engineer, and that said right to
the use of said waters has been perfected in accordance with the laws of Oregon and
duly confirmed by order of the STATE WATER BOARD of Oregon, made and entered
of record in the Record of Proceedings of said Board, at Salem, in Volume 1,
at page 329, on the 28th day of July, 1919; that the priority of
the right hereby confirmed dates from March 16, 1911; that the amount of
water to which such right is entitled and hereby confirmed, for the purposes aforesaid,
is limited to an amount actually beneficially used for said purposes, and shall not
exceed 5.00 cubic feet per second.

A description of the lands under such right, and to which the water hereby
confirmed is appurtenant, or, if for other purposes, the place where such water is put
to beneficial use, is as follows: The City of Silverton, in Marion County, Oregon.

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Sp. Or. Vol. 12, p. 167

~~The right to the use of the water aforesaid hereby confirmed is restricted to the
lands or place of use herein described.~~

Rights to the use of water for power purposes are limited to a period of forty
years from the date of priority of the right, as herein set forth, subject to a preference
right of renewal under the laws existing at the date of the expiration of the right for
power purposes, as hereby confirmed and limited.

Witness the seal and signature of the STATE

WATER BOARD affixed this 1st day

of August, 1919.

STATE WATER BOARD

(SEAL OF STATE WATER BOARD)

By PERCY A. CUPPER
State Engineer, President

Attest: R. W. Potter
Secretary

Recorded in State Record of Water Right Certificates, Volume 3, Page 2400

Division No.....1.....

Permit No. 622

County of Marion

Application No. 1297.....

Proof of Appropriation of Water

(In accordance with the provisions of Chapter 216, Laws of Oregon for 1909, and the regulations of the State Water Board thereunder.)

From Silver Creek Tributary of _____

1. Name The city of Silverton

2. Postoffice address Silverton, Oregon

3. For what purpose is water used? *municipal domestic supply within city of Silverton*

4. Did you begin the actual construction of the Fieldhouse pipe line Ditch,
(or other distributing works described in said permit), on or before April 14 1912?

yes

5. Give the date of completion of such construction work Sept. 1, 1912

6. When was all the water completely applied to the proposed use?

7. The description of land given below corresponds to that found in your permit covering land to be irrigated, or, if for other purposes, the place of use. In the blank column on the right, headed "No. acres actually irrigated," fill in the number of acres you have irrigated in each of the tracts described.

[illegible]

8. During what months is water beneficially used? all
9. State the character of the soil and kind of crops raised
10. Does the accompanying blue print of the map filed with your permit show correctly the location of diverting works and area of land where water is used?
11. If not, state wherein such map is in error
12. If the dimensions of your ditch or dam do not correspond to those described in your permit, state what changes have been made, giving dimensions of ditch (or other distributing works)
13. If water is used for power, mining, domestic, municipal, storage, manufacturing, or any other purpose than irrigation, give the extent and method of such use
- 5.00 cu ft per second granted for municipal domestic supply

STATE OF OREGON,

County of Marion } ss.

I, P. W. Potter, Mayor of the City of Silverton, being first duly sworn, depose and say that I have read the above and foregoing proof of appropriation of water; that I know the contents thereof; and that the facts therein stated are true.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of November, 1916.

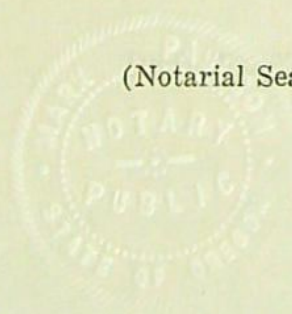
P. W. Potter

Subscribed and sworn to before me this 28th day of November, 1916.

Mark Paulson
Notary Public for Oregon.

My commission expires Oct. 21, 1919

(Notarial Seal)



AFFIDAVIT OF WITNESSES

We, Lafe Gates and G.B. Benton,
of Silverton Oregon, being first duly sworn, depose and say that
we are well acquainted with the facts and conditions set forth in the foregoing statement relative
to proof of appropriation of water under Permit No. 622; that we and each of us have
been over and upon each tract described in said proof and from such personal inspection, have
knowledge that all necessary ditches, dams and other diversion and distributing works have been
constructed, and water used as stated therein; that we have carefully read such proof of
appropriation, and that each and every statement contained therein is true to the best of our
knowledge and belief.

Lafe Gates
G.B. Benton

Subscribed and sworn to before me this 1st day of December, 1916.

(Notarial Seal)

Wm. H. Paulson
Notary Public for Oregon.

My commission expires Oct 21, 1919

PROOF OF APPROPRIATION

Permit No. 622

1.00 fee paid

OFFICE OF STATE WATER BOARD

RECEIVED

DEC 2 1918

SALEM, OREGON.

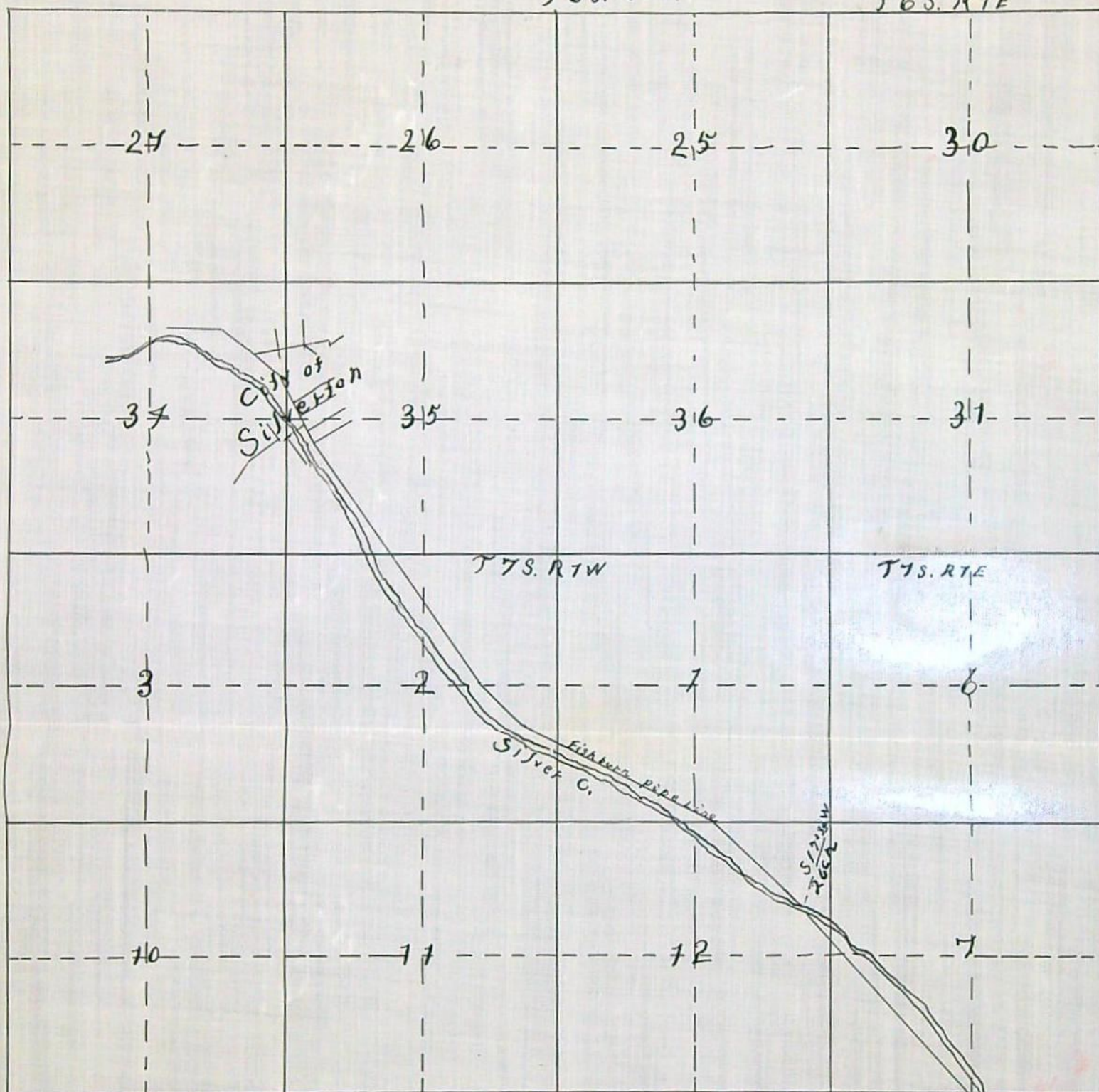
Approved: _____

March 16, 1911

Application for Silverton Water Permit

T6S. R1W.

T6S. R1E



CERTIFICATE OF SURVEYOR

I Nathan C. Hubbs, of Silverton Oregon, do hereby certify that this map was made from notes taken during an actual survey made by me on 14 day of March 1911, and that it correctly represents the work described in the accompanying application, together with the location of stream and Pipe Line

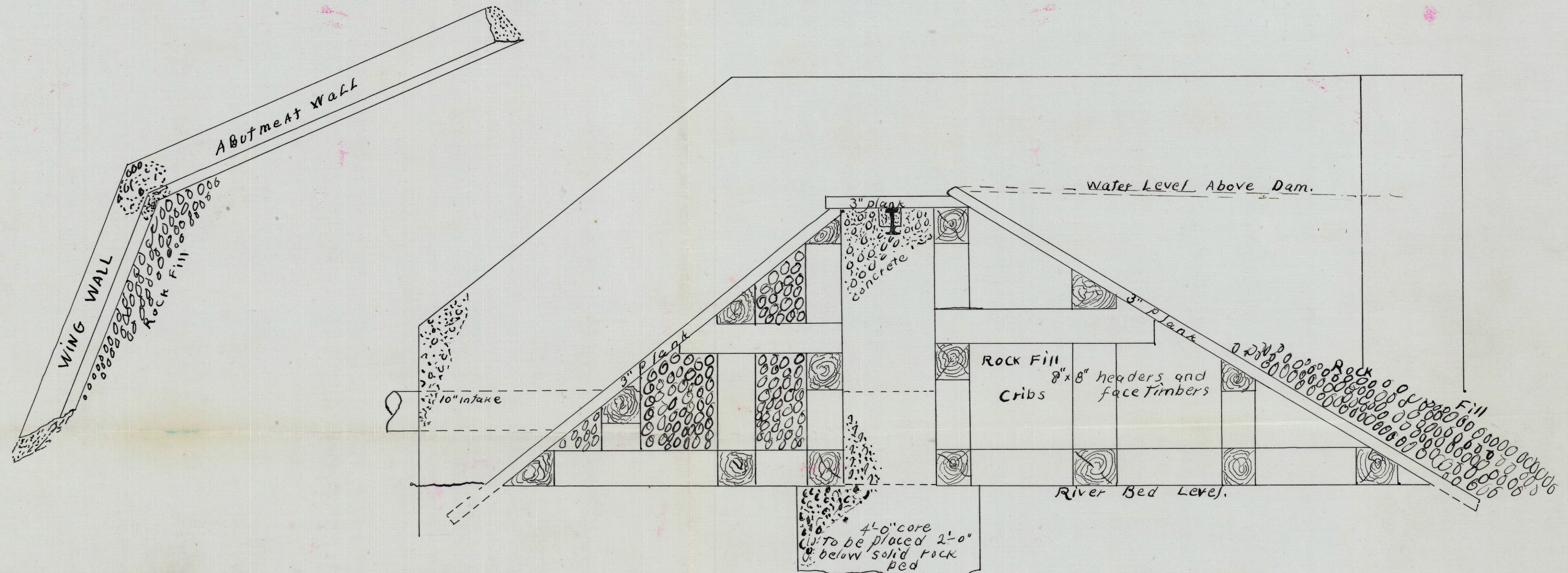
Scale 2 in = 1 mi

Nathan C. Hubbs
Surveyor

Application No. 1297
Permit No. 622

7981

OFFICE OF STATE ENGINEER
RECEIVED
MAR 16 1911
SALEM - OREGON



CROSS SECTION.

Application No 1297
Permit No. 622

DETAILS of DAM.
SILVERTON — OREGON
Scale 1" = 20' —
Wasteway to be 50' Ft

7981

RECEIVED

FEB 10 1935
STATE ENGINEER
SALEM, OREGON

Registration Statement

REGISTRATION NO. 68-367
CERTIFICATE NO. 353

OF CLAIMANT OF RIGHT TO APPROPRIATE GROUND WATER

(Under Chapter 708, Oregon Laws 1935.)

TO THE STATE ENGINEER OF OREGON:

I, the City of Silvertonof SilvertonCounty of JeffersonState of Oregon do hereby make application for a certificate of registration as evidence of a right to appropriate ground water.1. Source from which water is withdrawn is Pump No. 1

(Flowing well, pump well, infiltration trench, or tunnel)

2. Location is: 928' North and 270' West from the Northeast corner of the City of Silverton Boundary

(Approximate distance and direction from nearest city or town)

and is more particularly described as follows:

(a) 2552' N. 68° 12' E. from S.W. cor. Sec. 26, T. 6 S. R. 1 W. of Wab

(Give distance and bearing to corner of section or other legal subdivision)

being within SE 1/4 of the SW 1/4 of Sec. 26, Twp. 6 South, Rge. 1 West

(Smallest legal subdivision)

(T. or S.)

(R. or W.)

or (b) within limits of recorded platted property, town or city.

In Lot

Block

of

(Name of plat or addition)

(If within city or town, give name) County of

3. Construction Work was begun on Feb. 10, 1935 was completed on May 22, 1935

(Date)

(Date)

and the ground water claimed was first used for the purposes set out below on Installation

Upon completion of

(Date)

since which time the water has been used Intermittently

(Continuously or Intermittently)

from July 1, 1935 to Present date

(Date)

(Date)

4. Quantity of water claimed and used is 500 gallons per minute; acre feet per year.5. Purpose or Purposes for which water is used Municipal

(Domestic, irrigation, municipal, manufacturing, industrial, etc.)

6. Description of Well: Depth 183 feet Type Drilled

(Dug or drilled)

diameter 12 inches. Elevation of ground at well site 400 feet, mean sea level

(As near as known)

Depth to water table 15.5 feet.7. Capacity of Well: 165 g.p.m. with 11.5 feet drawdown.
265 g.p.m. with 14.5 feet drawdown.
365 g.p.m. with 18.5 feet drawdown.Date of test May 22, 1935

If Flowing Well: Measured discharge g.p.m. on

(Date)

Shut-in pressure at ground surface lbs. per sq. in. on

(Date)

Water is controlled by

(Cap, valve, etc.)

Log of well not available, give name and address of driller.

REGISTERED DRILLING CO.

8110 S.E. Street
Portland, Oregon.

11. Infiltration Trench: Covered or open

Dimensions: Length (1) Minimum depth (2) Maximum depth (3)
Bottom width (4) Discharge (5) Date of test

12. General description of filling

Dimensions: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)
Position of water bearing stratum with reference to point of point

Log of tunnel: (Preceding table for log of well may be used, if desired. Give footage from portal and character of material, if pertinent.)

13. Pumping Equipment:

(1) Pump: (2) Capacity: 500 gpm
(3) Motor: (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20)

14. Location of area irrigated or to be irrigated, or place of use if for purposes other than irrigation

Section	Range E. or W. of Willamette Meridian	Section	Area to be irrigated	Amount of water to be irrigated	Remarks
T65	R1W	34	NE 1/4 of NE 1/4	1000 gpm	1925
"	"	"	N 1/2 of NE 1/4	"	"
"	"	"	SE 1/4 of NE 1/4	"	"
"	"	"	S 1/2 of NE 1/4	"	"
"	"	35	N 1/2 of SE 1/4	"	"
"	"	"	NE 1/4 of SE 1/4	"	"
"	"	"	S 1/2 of SE 1/4	"	"
"	"	"	SE 1/4 of SE 1/4	"	"
T65	R1W	35	NE 1/4 of NW 1/4	"	"
"	"	"	N 1/2 of NW 1/4	"	"
"	"	"	S 1/2 of NW 1/4	"	"
"	"	"	SE 1/4 of NW 1/4	"	"
"	"	36	N 1/2 of SW 1/4	"	"
"	"	"	NE 1/4 of SW 1/4	"	"
"	"	"	S 1/2 of SW 1/4	"	"
"	"	"	SE 1/4 of SW 1/4	"	"

15. If the ground water supply is supplemental to an existing water supply, identification of any application for a permit, permit, certificate or adjudicated right to appropriate water made or held by the registrant.

Application No. 1924, Permit No. 3226

A hand-drawn map on a grid. The grid has vertical lines labeled 27 and 26 at the top, and horizontal lines labeled 34 and 35 on the left. A thick line represents a route, starting from a point labeled 'START' near the intersection of 27 and 34, going right to a point labeled 'STOP' near the intersection of 26 and 34, then going up to a point labeled 'END' near the intersection of 26 and 35. There are some handwritten notes and markings around the route, including 'WATER' and 'ROAD'.

Scale 2" = 1 Mile

County of Madison

R. P. Bland

My commission expires October 27, 1954

(SEAL)

STATE OF OREGON

County of Marion

Goods have not been completed by 12/31/2012 and the water main is not yet installed.

[illegible]

Witness my hand this 30th day of April 1961

10-51
Lure of Stanley
(with Margaret)

By



BR 353 C

April 19, 1996

Richard J. Barstad, P.E.
Public Works Director/City Engineer
306 S. Water Street
Silverton, OR 97381

GR 367
R-50184
S-4924
S-50185
S-1297

Re: Silverton Waste Water Management
Oregon gardens Project

Dear Mr. Barstad:

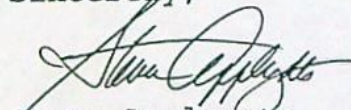
This is to respond to your letter of March 1, 1996, and to confirm our discussions of February 16, 1996.

You have described that the water to be used at the Oregon Gardens will be supplied by the City by capturing treated wastewater prior to its discharge into Silver Creek. Such water will then be transported to the gardens. The gardens will be located within the city boundaries.

We agree that such use will be within the scope of "municipal" use as allowed under the City's existing rights, and that no additional water rights or registrations are necessary.

I trust this provides the information you needed. If further questions occur to you, please contact Tom Paul (Ext.281) or me (Ext.265) at 378-8455.

Sincerely,



Steve Applegate
Acting Administrator
Water Rights & Adjudications Division

cc: Tom Paul
Gail Achterman-Stoel Rives



Commerce Building
158 12th Street NE
Salem, OR 97310-0210
(503) 378-3739
FAX (503) 378-8130



RECEIVED

MAR - 4 1996

WATER RESOURCES DEPT.
SALEM, OREGON

March 1, 1996

Steven P. Applegate
Water Resources Department
158 12th Street NE
Salem, OR 97310

RE: Silverton Wastewater Management Facilities Water Rights

Dear Mr. Applegate:

We appreciate the time you and Mr. Paul took to meet with us on February 16 to discuss water right issues associated with the Silverton Wastewater Management Facilities.

As we outlined in that meeting, the City of Silverton, under a Stipulation and Final Order from Oregon Department of Environmental Quality, has undertaken improvements to their wastewater treatment plant to meet water quality requirements in Silver Creek. During the summer season, May 1 - October 31, the wastewater treatment plant will not be permitted to discharge to Silver Creek. The City has taken this opportunity to combine this project with other City needs in an overall wastewater management plan.

During the summer season, the treatment plant effluent will be discharged to mitigation wetlands currently under design to satisfy mitigation requirements for wetlands that were filled with the recent construction of an industrial park on the north side of town and to provide a mitigation bank for future development within the City. The initial acreage of these wetlands is estimated to be 9.7 acres.

The NPDES permit for the treatment plant will be written at the point of discharge from the treatment plant to the wetlands. It is at this point that the wastewater quality will be monitored for permit compliance. Beyond this point, the water is considered to be "waters of the State" by DEQ. For this reason, use of the water beyond this point is not subject to the DEQ Reuse Rules, OAR 340.55.

After flowing through the wetlands, the wastewater will be recaptured and pumped to the Oregon Gardens for use in the creation of wetlands that will be incorporated into the Garden design, irrigation and water features. The Oregon Gardens is a non-profit operation whose purposes are display and education. The City has agreed to provide water to the Gardens for their use. The Garden site is located within the City boundaries. Figure 1 illustrates the overall wastewater management plan.

City Manager	Finance Department	Police Department	Public Works	Water/Wastewater Facilities	Maintenance Shop
306 S. Water St. Silverton, OR 97381	306 S. Water St. Silverton, OR 97381	306 S. Water St. Silverton, OR 97381	306 S. Water St. Silverton, OR 97381	1453 Pine St. Silverton, OR 97381	830 McClaine St. Silverton, OR 97381
(503) 873-6117	(503) 873-5321	(503) 873-5326	(503) 873-8679	(503) 873-5439	(503) 873-6359
Fax (503) 873-3210	Fax (503) 873-3210	Fax (503) 873-7452	Fax (503) 873-3210		

MAR - 4 1996

WATER RESOURCES DEPT.
SALEM, OREGON

Page 2

Average treatment plant effluent flows will range from 0.62 to 1.09 million gallons per day (mgd) and will be metered at the treatment plant discharge point. Preliminary estimates for recaptured flow from the wetlands are 0.45-0.82 mgd. Flow will be metered as it is recaptured from the wetlands and pumped to the Gardens.

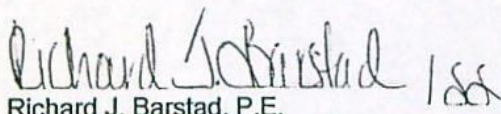
This wastewater management plan will commence when the improvements to the treatment plant are completed and the wastewater treatment plant is operational. The scheduled completion date of the wastewater treatment plant is 1998.

The City holds municipal water rights from Abiqua Creek (Permit 3226) and Silver Creek (Permits 36714, R-5948 and Certificate 2400) for use in the City's water supply system. The water delivered to the treatment plant is water appropriated under these permits and certificates. The Oregon Gardens water use will be for purposes that are usual and ordinary for a municipal system since the water will be used to irrigate a garden in a park-like setting. The Oregon Gardens are expected to become a major tourist facility and research center. By serving them with nonpotable water, the City will be able to facilitate economic development while conserving treated drinking water supplies. Water used by the City system will still be well within the rate and use allowed under the City's permits and certificate.

Because use of the water at the Oregon Gardens will simply be additional municipal water use under OAR 690-300-010(29), and under the provisions of ORS 540.510(3), the City understands that no new water right is required from the Water Resources Department to implement this project. We would appreciate it, however, if you or the Director could confirm our understanding by sending a written letter to that effect to me on behalf of the Water Resources Department.

Thank you again for your consideration.

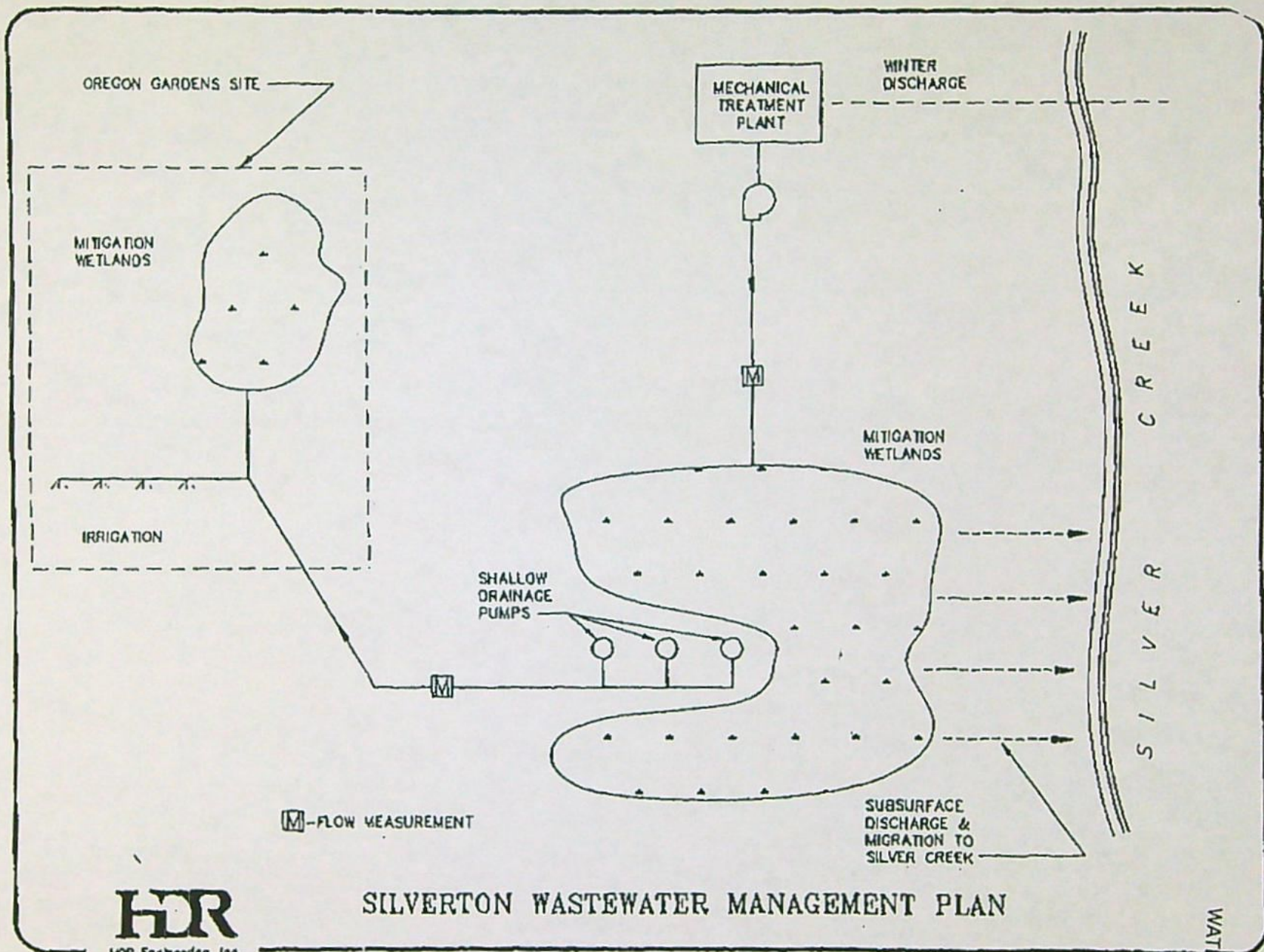
Sincerely,


Richard J. Barstad, P.E.
Public Works Director/City Engineer

cc: Gail L. Achterman - Stael Rives
Bruce R Willey- HDR Engineering
Tom Kuper - David Newton Associates

(wrdapple.ltr)

FILENAME: SILVERCR.DWG DATE: 01-30-96



HR
HOR Engineering, Inc.

SILVERTON WASTEWATER MANAGEMENT PLAN

Figure 1

WATER RESOURCES DEPT
SALEM, OREGON

MAR - 4 1996

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14-2003. Silver Creek at Silverton, Oreg.

Location.--Lat 45°00'34", long 122°47'15", in NE¼ sec.34, T.6 S., R.1 W., on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 miles upstream from Brush Creek, and at mile 3.4.

Drainage area.--47.9 sq mi.

Records available.--October 1963 to September 1965.

Gage.--Water-stage recorder (digital) and thermograph. Datum of gage is 218.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 5,900 cfs Dec. 22 (gage height, 11.15 ft); minimum, 4.5 cfs Sept. 9. 1963-65: Maximum discharge, that of Dec. 22, 1964; minimum, that of Sept. 9, 1965.

Remarks.--Records excellent except those for periods of shifting control, which are good. No regulation. Several small diversions for irrigation and municipal use above station. Records of water temperatures for the water year 1965 are published in Part 2 of this report.

Rating tables, except for periods of shifting control (gage-height, in feet, and discharge in cubic feet per second)

Oct. 1 to Dec. 21

Dec. 22 to Sept. 30

1.7	8.0	3.5	315	1.1	4.0	3.0	275
1.9	18	4.5	730	1.2	7.3	4.0	600
2.1	32	6.0	1,500	1.4	17	5.0	1,020
2.5	79	7.0	2,130	1.7	43	7.0	2,210
3.0	173			2.0	79	10.0	4,750
				2.5	165		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	24	1,380	381	748	223	104	101	55	17	7.3	6.2
2	18	67	1,470	584	572	205	99	116	52	16	8.5	6.6
3	16	52	* 865	596	462	187	90	102	49	15	9.7	6.6
4	15	48	572	452	381	175	83	110	45	15	9.3	6.6
5	13	49	432	462	330	165	77	123	42	14	8.5	6.6
6	12	38	336	476	282	155	79	127	40	13	7.7	6.6
7	12	34	282	402	242	143	* 76	120	39	13	7.3	6.2
8	14	32	326	357	275	133	73	115	39	* 13	6.6	5.5
9	15	36	340	324	243	125	75	108	40	13	6.6	5.2
10	16	59	567	460	219	116	80	102	37	14	7.3	6.2
11	15	94	630	504	199	111	73	98	36	15	9.3	6.6
12	14	115	464	414	181	106	67	92	39	15	* 16	6.6
13	13	109	374	365	245	100	66	87	34	13	17	6.9
14	14	86	454	330	272	98	65	82	47	12	12	6.6
15	13	72	516	* 321	262	93	64	79	54	11	9.3	7.7
16	34	64	402	342	250	90	66	131	40	11	8.1	11
17	28	60	326	321	230	89	66	99	35	10	6.6	8.5
18	22	55	291	309	215	86	66	87	35	9.3	6.2	6.9
19	20	52	332	203	203	83	195	98	34	9.3	8.9	6.6
20	18	50	360	306	193	79	248	* 115	30	12	13	6.2
21	16	49	2,070	339	183	76	221	96	27	12	11	6.6
22	16	56	* 4,490	342	201	76	177	93	26	19	9.3	7.3
23	15	111	* 3,590	502	177	75	153	92	25	14	9.7	5.9
24	15	804	2,790	692	* 157	70	153	87	23	11	8.9	5.9
25	14	910	1,600	615	155	70	131	82	22	9.3	10	5.5
26	14	740	1,590	576	149	167	117	76	23	8.9	11	4.8
27	15	520	1,220	1,950	226	125	107	70	22	9.3	12	5.9
28	16	500	851	4,230	252	105	104	66	21	8.9	9.7	6.2
29	17	558	664	7,440	-----	94	96	62	12	8.1	8.5	6.6
30	28	795	546	1,560	-----	92	56	59	19	7.7	8.1	* 6.2
31	22	-----	434	1,080	-----	70	-----	26	-----	7.3	7.3	-----
TOTAL	559	6,232	30,708	22,337	7,521	3,507	3,169	2,933	1,051	383.1	290.7	196.0
MEAN	18.0	208	968	721	269	116	106	94.6	35.0	12.4	9.38	6.56
CFSM	376	4,34	20.2	15.1	5.62	2.47	2.21	1.97	731	259	196	137
IN	4.3	4.84	23.30	17.34	5.64	2.80	2.46	2.28	9.92	3.30	2.3	1.5
AC-FT	1,110	12,360	59,520	44,300	14,920	7,160	6,290	5,820	2,030	760	577	390
CALENDAR YEAR 1964	MAX	4,490	MIN	11	MEAN	248	CFSM	5.18	INCHES	70.46	AC-FT	179,959
WATER YEAR 1964-65	MAX	4,490	MIN	4.8	MEAN	214	CFSM	4.47	INCHES	60.78	AC-FT	155,287

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-24	2200	6.55	1,840	12-26	1100	6.46	1,860
12-2	0130	6.45	1,770	1-28	1200	9.96	4,710
12-22	1200	11.15	5,900				

* Discharge measurement made on this day.

Note.--Shifting-control method used Dec. 2-21, Mar. 27 to Apr. 19.

WILLAMETTE RIVER BASIN

247

14-2003. Silver Creek at Silverton, Oreg.

Location.--Lat 45°00'34", long 122°47'15", in NE 1/4 sec. 34, T.6 S., R.1 W., on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 miles upstream from Brush Creek, and at mile 3.4.

Drainage area.--47.9 sq mi.

Records available.--October 1963 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 218.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Prior to Apr. 7, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 2,570 cfs Jan. 6 (gage height, 7.43 ft); minimum, 3.8 cfs Aug. 22.

1963-66: Maximum discharge, 5,900 cfs Dec. 22, 1964 (gage height, 11.15 ft); minimum, 3.8 cfs Aug. 22, 1966.

Remarks.--Records excellent. No regulation. Several small diversions for irrigation and municipal use above station. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	12	101	417	238	230	258	87	31	25	8.4	7.4
2	7.5	11	166	725	218	202	261	87	33	42	7.9	7.2
3	6.4	21	130	1,010	202	190	240	89	33	105	7.6	7.0
4	8.6	95	202	1,480	200	180	229	94	31	63	7.3	6.9
5	29	46	169	1,350	210	229	228	100	28	46	7.2	7.0
6	22	30	148	1,810	202	253	223	121	26	39	6.8	5.0
7	13	25	160	1,230	208	304	218	100	26	37	6.9	5.3
8	10	25	142	1,050	198	361	211	87	23	32	6.6	5.1
9	9.4	36	126	781	258	1,030	208	79	22	28	6.4	5.1
10	9.2	44	117	638	270	942	282	71	29	30	6.6	5.1
11	9.2	100	106	582	252	636	330	65	41	28	6.3	7.6
12	8.9	171	98	562	258	513	344	61	36	24	5.9	14
13	9.3	213	92	594	232	526	264	57	30	23	5.8	12
14	14	145	87	794	238	542	229	56	25	24	5.9	9.9
15	45	96	81	858	220	513	213	61	22	23	6.3	11
16	33	76	74	670	200	465	204	79	21	21	6.0	10
17	22	65	68	536	188	402	189	63	19	19	5.9	11
18	24	66	70	448	179	414	169	55	18	17	5.5	31
19	19	56	64	369	177	503	152	50	18	16	4.9	23
20	16	91	63	315	240	482	144	46	18	16	4.6	13
21	14	161	78	278	212	464	146	45	18	14	4.2	10
22	12	247	70	255	215	392	133	50	18	14	4.1	8.9
23	11	201	68	245	230	352	124	44	29	12	4.5	8.3
24	11	156	202	318	215	322	123	40	45	14	5.0	8.0
25	11	123	152	315	210	304	119	37	27	14	4.8	8.6
26	10	135	140	275	200	297	113	36	22	13	5.2	12
27	11	168	373	252	195	293	106	36	21	12	7.9	19
28	14	132	1,520	238	250	283	101	34	30	11	13	12
29	17	116	1,010	235	-----	274	92	32	30	10	11	10
30	13	105	669	260	-----	265	87	30	23	8.8	9.1	8.9
31	12	-----	510	262	-----	257	-----	31	-----	8.5	8.4	-----
TOTAL	458.2	2,968	7,056	19,152	6,115	12,420	5,740	1,923	793	789.3	206.0	309.3
MEAN	14.8	98.9	228	618	218	401	191	62.0	26.4	25.5	6.65	10.3
CFSM	309	2,06	4,76	12.9	4.55	8.37	3.99	1.29	551	532	139	215
IN	36	2.30	5.48	14.87	4.75	9.64	4.46	1.49	62	61	16	24
AC-FT	909	5,890	14,000	37,990	12,130	24,630	11,390	3,810	1,570	1,570	409	613
CALENDAR YEAR 1965	MAX	4,230	MIN	4.8	MEAN	142	CFSM	2.96	INCHES	40.35	AC-FT	103,100
WATER YEAR 1965-66	MAX	1,810	MIN	4.1	MEAN	159	CFSM	3.32	INCHES	44.98	AC-FT	114,900

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	1100	6.35	1,790				
1-4	0030	6.57	1,980				
1-6	0030	7.43	2,570				
3-9	1800	5.84	1,540				

14-2003. Silver Creek at Silverton, Oreg.

Location.--Lat 45°00'34", long 122°47'15", in NE 1/4 sec. 34, T. 6 S., R. 1 W., on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 miles upstream from Brush Creek, and at mile 3.4.

Drainage area.--47.9 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 218.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Prior to Apr. 7, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 1,440 cfs Jan. 28 (gage height, 5.67 ft); minimum, 2.0 cfs Aug. 20, 21.

1963-67: Maximum discharge, 5,900 cfs Dec. 22, 1964 (gage height, 11.15 ft); minimum, 2.0 cfs Aug. 20, 21, 1967.

Remarks.--Records excellent. No regulation. Several small diversions for irrigation and municipal use above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

CAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.2	33	183	226	560	229	229	149	75	16	6.3	3.7
2	7.8	29	215	210	473	228	210	143	74	14	6.3	3.0
3	8.9	26	211	365	354	206	196	138	60	13	5.7	3.7
4	8.8	25	429	427	346	191	190	134	53	13	5.3	3.7
5	7.5	26	609	402	303	178	208	132	48	12	5.2	3.7
6	7.2	64	581	368	269	168	182	133	44	12	5.1	3.5
7	7.9	46	558	336	242	156	170	132	43	12	5.9	3.1
8	10	40	471	300	218	152	165	132	42	12	5.6	3.6
9	13	37	416	273	195	183	169	157	41	12	5.4	4.2
10	11	84	560	259	179	150	164	145	40	12	4.8	4.8
11	9.1	249	547	333	170	169	156	132	40	11	4.4	7.5
12	12	448	631	348	158	160	146	118	39	11	4.4	14
13	20	417	748	939	197	164	285	107	36	11	4.1	10
14	16	1,020	650	757	184	159	302	100	32	11	3.6	6.4
15	12	862	545	640	225	176	284	95	30	10	3.6	4.7
16	11	739	444	555	239	216	297	94	28	9.3	3.6	4.0
17	10	534	366	456	530	272	280	93	26	8.7	3.2	4.8
18	9.4	395	314	386	669	356	261	87	24	9.2	2.9	6.1
19	5.8	371	275	410	483	319	238	79	23	9.3	2.8	6.3
20	44	315	311	596	383	299	217	75	22	9.2	2.4	6.1
21	70	261	256	560	320	267	200	68	28	9.2	2.7	5.8
22	92	217	227	471	278	257	187	63	38	8.8	2.9	5.2
23	78	185	220	403	249	320	179	58	37	8.4	3.2	5.0
24	55	165	231	352	225	335	172	54	28	7.9	3.2	5.0
25	35	193	261	343	220	256	189	52	24	7.6	3.3	4.6
26	37	211	249	436	190	280	205	48	21	7.8	2.8	4.2
27	60	174	225	881	173	251	193	46	21	8.2	3.0	3.4
28	40	159	206	1,230	180	245	181	52	19	7.5	2.8	3.7
29	34	145	211	1,040	-----	246	168	70	18	7.2	3.2	5.4
30	48	147	202	847	-----	253	158	106	17	7.0	3.6	11
31	40	-----	187	637	-----	248	-----	102	-----	6.4	3.0	-----
TOTAL	836.6	7,637	11,601	15,786	8,272	7,172	6,181	3,094	1,071	314.8	125.3	160.8
MEAN	27.0	255	374	509	295	231	206	99.8	35.7	10.2	4.04	5.36
MAX	92	1,020	748	1,230	689	356	302	157	75	16	6.3	14
MIN	7.2	25	183	210	158	152	146	46	17	6.4	2.4	3.1
AC-FT	1,660	15,150	23,010	31,310	16,410	14,230	12,260	6,140	2,120	624	249	319
CFSM	.564	5.32	7.81	10.6	6.16	4.82	4.30	2.08	.745	.213	.084	.112
IN	.65	5.93	9.01	12.26	6.42	5.57	4.80	2.40	.83	.24	.10	.12
CAL YR 1966: TOTAL	67,522.2	PEAK 185	MAX 1,810	MIN 4.1	AC-FT 133,900	CFSM 3.86	INCHES 52.42					
WAT YR 1967: TOTAL	62,251.5	PEAK 171	MAX 1,230	MIN 2.4	AC-FT 123,500	CFSM 3.57	INCHES 48.33					

Peak discharge (base, 1,200 cfs).--Jan. 28 (0300 hrs) 1,440 cfs (5.67 ft).

WILLAMETTE RIVER BASIN

14-2003. Silver Creek at Silverton, Oreg.

LOCATION.--Lat 45°00'34", long 122°47'15", in NE 1/4 sec. 34, T.6 S., R.1 W., on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 miles upstream from Brush Creek, and at mile 3.4.

DRAINAGE AREA.--47.9 sq mi.

RECORDS AVAILABLE.--October 1963 to September 1968 (discontinued).

GAGE.--Digital water-stage recorder. Datum of gage is 218.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 7, 1965, graphic water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--5 years, 185 cfs (133,900 acre-ft per year).

EXTREMES.--Maximum discharge during year, 1,710 cfs Feb. 19 (gage height, 6.11 ft); minimum, 6.1 cfs Aug. 13.

1963-68: Maximum discharge, 5,900 cfs Dec. 22, 1964 (gage height, 11.15 ft); minimum, 2.0 cfs Aug. 20, 21, 1967.

REMARKS.--Records good. No regulation. Several small diversions for irrigation and municipal use above station. Records of water temperatures for the water year 1968 are published in Part 2 of this report.

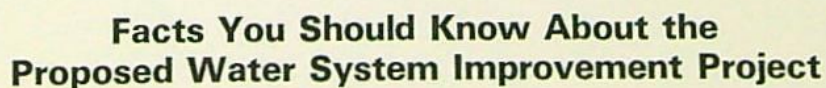
DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	186	230	297	265	242	195	89	170	46	11	77
2	32	156	324	260	522	212	197	80	343	39	11	69
3	76	135	477	228	875	186	170	75	308	37	11	60
4	52	117	646	205	965	170	158	72	251	36	12	53
5	29	102	610	193	730	172	222	77	217	37	12	50
6	24	91	494	173	558	157	199	87	187	34	12	42
7	19	83	498	171	456	153	196	79	168	30	11	40
8	15	168	400	208	375	140	181	72	151	28	9.7	37
9	13	123	393	410	321	124	169	67	137	26	8.5	36
10	12	248	452	459	280	112	157	63	122	26	7.8	36
11	32	253	526	354	248	106	151	66	113	24	7.4	34
12	116	195	435	312	220	109	139	64	106	27	7.3	35
13	72	163	354	321	195	132	129	96	100	28	7.3	36
14	125	165	300	386	175	145	123	73	94	27	16	77
15	74	143	265	634	161	164	186	70	83	32	34	159
16	50	125	238	554	149	176	162	64	75	26	27	135
17	38	113	220	473	190	217	150	58	69	23	24	94
18	32	105	205	407	278	215	141	55	64	21	43	187
19	49	96	177	360	1,210	186	139	69	62	21	62	171
20	36	87	161	348	1,140	169	132	130	63	26	56	161
21	81	81	165	369	1,070	155	127	136	56	22	35	142
22	202	76	407	318	992	143	118	120	77	20	27	122
23	391	71	642	283	1,160	139	118	118	73	19	58	108
24	210	79	487	263	794	179	112	141	58	18	171	97
25	221	85	452	245	586	247	109	262	50	17	195	85
26	163	76	574	235	463	268	120	296	44	16	166	77
27	292	70	526	205	379	240	106	266	45	15	213	70
28	740	68	456	185	318	255	99	234	49	14	204	65
29	437	208	386	181	274	255	93	196	60	12	150	59
30	306	255	330	195	-----	232	90	167	56	12	115	54
31	232	-----	288	205	-----	209	-----	150	-----	11	92	-----
TOTAL	4,199	3,923	12,118	9,437	15,349	5,609	4,388	3,592	3,451	770	1,816.0	2,468
MEAN	135	131	391	304	529	181	146	116	115	24.8	58.6	82.3
MAX	740	255	646	634	1,210	268	222	296	343	46	213	187
MIN	12	68	161	171	149	106	90	55	44	11	7.3	34
CFSM	2.83	2.73	8.16	6.36	11.0	3.78	3.05	2.42	2.40	.52	1.22	1.72
IN.	3.26	3.05	9.41	7.33	11.9	4.35	3.41	2.79	2.68	.60	1.41	1.92
AC-FT	8,330	7,780	24,040	18,720	30,440	11,130	8,700	7,120	6,840	1,530	3,600	4,900

CAL YR 1967 TOTAL 62,416.9 MEAN 171 MAX 1,230 MIN 2.4 CFSM 3.57 IN 48.46 AC-FT 123,800
 WTR YR 1968 TOTAL 67,120.0 MEAN 183 MAX 1,210 MIN 7.3 CFSM 3.83 IN 52.11 AC-FT 133,100

Peak discharge (base 1,200 cfs).--Feb. 19 (1800 hrs) 1,710 cfs (6.11 ft).

NOVEMBER 2, 1971



FACT SHEET

FACT SHEET
CITY OF SILVERTON, OREGON
WATER SYSTEM IMPROVEMENTS PROJECT

GENERAL STATEMENT

This pamphlet has been prepared for the purpose of presenting facts to the citizens of the City of Silverton about the proposed water system improvements and the bond issue election to be held on November 2, 1971.

The estimated total construction cost, including engineering, inspection, surveys, land, administrative and all other anticipated costs, for the proposed water system improvements is \$1,207,100.

The City of Silverton Council has ordered a \$707,000 bond issue election based upon an anticipated federal grant of \$500,000 from the Department of Housing and Urban Development (HUD) to finance the construction.

ANSWERS TO YOUR QUESTIONS

Q. WHAT ARE THE PROPOSED WATER SYSTEM IMPROVEMENTS?

- A. The proposed water system improvements include the construction of a water storage dam on Silver Creek, added pumping capacity at the Silver Creek intake, replacing the old wood stave pipeline from the Abiqua Creek supply source, a new one-million-gallon distribution storage reservoir and high level pump station in the West Hills area, additional distribution system pipelines, and essential improvements at the treatment plant.

Q. WHAT WILL THE PROPOSED WATER SYSTEM IMPROVEMENTS PROJECT COST?

- A. The estimate of the total cost of the improvements is \$1,207,100. Of this amount, \$630,800 is for supply and transmission facilities, including \$209,800 for the Abiqua transmission pipeline and \$421,000 for the Silver Creek Dam and intake improvements. The balance of \$577,300 is for the distribution storage reservoir (\$120,400), treatment plant improvements (\$15,200), West Hills pumping station and pipeline (\$52,200), distribution pipelines (\$62,000), and a budget for land acquisition at \$150,000. In addition an allowance of \$176,200 has been included for indirect costs for administration, contingencies and engineering.

Q. HOW ARE THE PROPOSED WATER SYSTEM IMPROVEMENTS TO BE FINANCED?

- A. It is proposed that the project be funded by the sale of municipal general obligation bonds in the amount of \$707,000 and from the receipt of a federal grant of \$500,000.

Q. HOW WILL THE FEDERAL MONIES BE REPAID?

- A. The Federal Government contribution to the project is a grant and does not require repayment.

Q. HOW ARE THE PROPOSED \$707,000 IN MUNICIPAL BONDS TO BE PAID OFF?

- A. Based upon the anticipated interest rate and the life of the bonds, an annual payment of less than \$59,000 will be needed by the City of Silverton to repay the bonds.

Q. HOW DOES THE CITY OF SILVERTON PLAN ON OBTAINING THE MONIES TO MAKE THE ANNUAL BOND PAYMENTS?

- A. It is planned that the monies for the repayment of the bonds will be obtained principally from water sale revenues; however, it is expected that during the first few years, tax revenues will also be required.

Q. WILL THE BOND REPAYMENT SCHEDULE INCREASE THE PROPERTY TAXES?

- A. A proposed property tax of \$1.25 per \$1,000 of true cash value is estimated for the first year. Thus, if you owned a home with a true cash value of \$20,000, your tax for the bond issue that first year would be approximately \$25.

The bond issue would be for 20 years. It is expected that as water revenues increase and other past water bonds are paid off, the reliance on taxes will decrease. Therefore, the estimate of \$1.25 per \$1,000 true cash value for the first year is the upper limit anticipated for the life of the bond issue.

Q. WHAT EFFECT WILL THIS PROGRAM HAVE ON THE WATER RATES?

- A. Water rates were adjusted upward about one year ago. There is no further adjustment in water rates anticipated specifically for this program.

Q. IF APPROVED, WHEN WILL THE IMPROVEMENTS BE IN OPERATION?

- A. The engineers have estimated, with the approval and sale of the municipal bonds by January 1972, the design and construction of the proposed improvements, except for the Silver Creek Dam, can be completed and in operation by late fall of 1972. The Silver Creek Dam would be completed and ready to store water by the fall of 1973.

Q. WHAT IS THE CONDITION OF THE EXISTING WATER SYSTEM?

- A. Substantial improvements have been made over the past years to keep pace with growth and increased water demands; to improve water quality of the available sources; and to improve service pressures, system reliability, and fire protection. The value of these improvements are not to be discounted; however, much remains to be done to insure satisfactory supply and an acceptable level of service.

The Abiqua Creek intake and transmission line provides the City with approximately 1.7 million gallons per day. Approximately 45 percent of the Abiqua transmission line is wood stave pipe 20 to 25 years old. Although the wooden staves are in good condition, the annual cost to maintain the line has been high and increasing each year. In addition to the Abiqua Creek supply, the City well system is capable of yielding approximately 700 gpm. The well water is hard and has a high iron content. In recent years, the City constructed the Silver Creek supply system to supplement the Abiqua and well supply. The Silver Creek supply capacity is 1.4 million gallons per day. Of the three supply sources, Silver Creek is the best solution in expansion of the water supply system.

The water treatment plant is capable of producing approximately 4.0 million gallons per day; however, with the completion of plans that were envisioned during the conversion in 1962, the plant capacity can be increased to 6.0 million gallons per day.

The present distribution and storage system is generally in good condition. Improvements were completed in 1965 to update the distribution pipelines. Additional storage is now needed in the system. The low level system consists of 1.3 million gallons of storage in two concrete reservoirs and the clearwell at the water treatment plant. To meet the fire protection need of the City, an additional 1.0 million gallons is needed.

Q. HOW WILL THE PROPOSED PROJECT IMPROVE THE EXISTING WATER SYSTEM?

- A. The proposed water system improvements project includes the expansion of the water supply, strengthening of the distribution system, and the addition of system storage. A part of the proposed improvement to the water supply facilities consists of the construction of approximately 16,000 feet of transmission pipeline from Abiqua Creek. This improvement will provide a firm capacity of 2.0 million gallons a day from this source. In addition to this supply facility improvement, it is planned that the Silver Creek supply be developed for the future additional water needs. It is proposed that a 1,300 acre-foot (425 million gallons) impounding storage dam be constructed on Silver Creek, and that the Silver Creek intake be expanded to 2.4 million gallons per day. Besides the improvements to the water supply, it is proposed that the water treatment plant be expanded to increase its capacity to 6.0 million gallons per day. This expansion was anticipated in the 1962 construction and the work consists mainly of piping changes and lowering the basin weirs to increase the hydraulic capacity.

The proposed improvements also include a 1,000,000 gallon reservoir to be constructed in the West Hills area. This storage reservoir and the additional pumping capacity to be added at the site for supplying the high level system will provide adequate pressure and reserve for the emergency and peaking requirements of the system.

CH₂M REPORTS

October, 1963

Vol. 1 — No. 4

Silverton Shows Off Modern Water Plant

Proud of achieving a solution to a growing water shortage problem, the City of Silverton staged an open house to show off its modernized water filtration plant, feature item in a \$70,000 water improvement project which has doubled the Marion county, Oregon, city's water supply.

Converted to the advanced MicroFloc process, the filtration plant now has a capacity of 4 million gallons per day, and with a small amount of additional work can be further increased to 6 million — triple the former capacity.

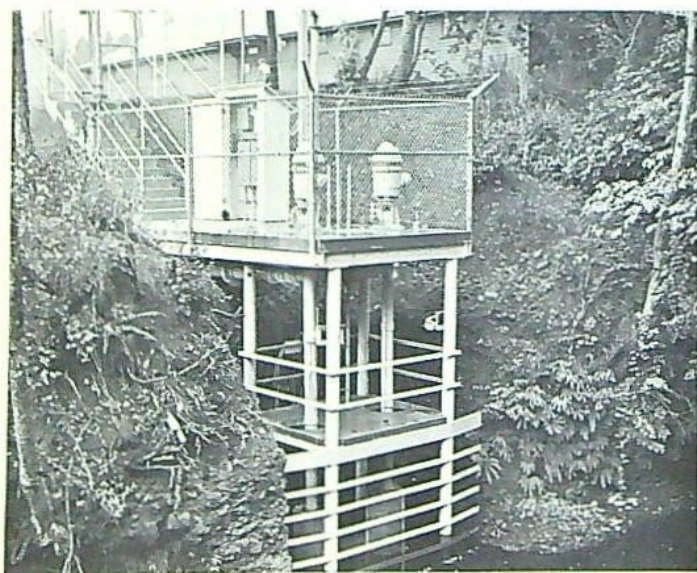
Other work included improvements to the existing dam and diversion works on Abiqua Creek, and development of a supplemental supply with a new 1.4 million gallon intake and pump station on Silver Creek.

In its story on the open house, the Silverton Appeal-Tribune reported:

"Both the City and the engineers are justly proud of the results obtained from the re-worked plant. Not only was the capacity increased to handle our additional supply, but the clarity of the water is greatly improved over previous years. This is best illustrated by the Municipal Swimming Pool, where the water is crystal clear and the iron stains on the pool walls have been virtually eliminated."



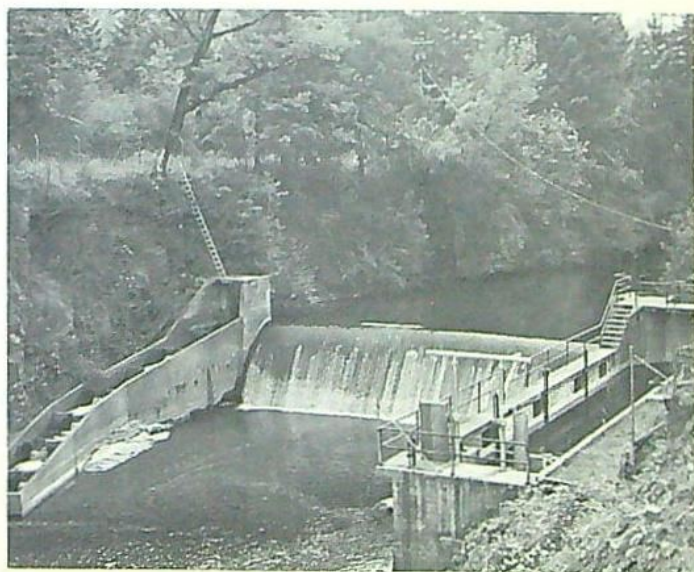
Control system of MicroFloc process, which doubled capacity of City of Silverton's water filtration plant, was center of interest during open house. City officials and employees and project engineers explained workings of new plant to townspeople.



Supply of raw water was supplemented by this new 1.4 million gallons per day intake and pump station on Silver Creek. Pumps are enclosed in wire mesh screen which can be raised easily for cleaning.

C# 2400 5 cfs from Silver Cr. - pri March 16, 1911 (Chg. pt of div. Sp Or Vol 12, p 167)

P# 3226 10 cfs from Abiqua G.



Improvements to the existing dam, diversion works and settling basin on Abiqua Creek included addition of power-driven screening facilities, basin by-pass line and pump to facilitate cleaning.

C-9975-
E-2400
N-4921

CH₂M REPORTS

PUBLISHED QUARTERLY BY

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HAYES & MERRYFIELD**

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UNIQUE 'LAB' READY FOR FISHERY RESEARCH

A unique research laboratory is going into operation on the Grande Ronde River, near Troy in the remote northeastern corner of Oregon.

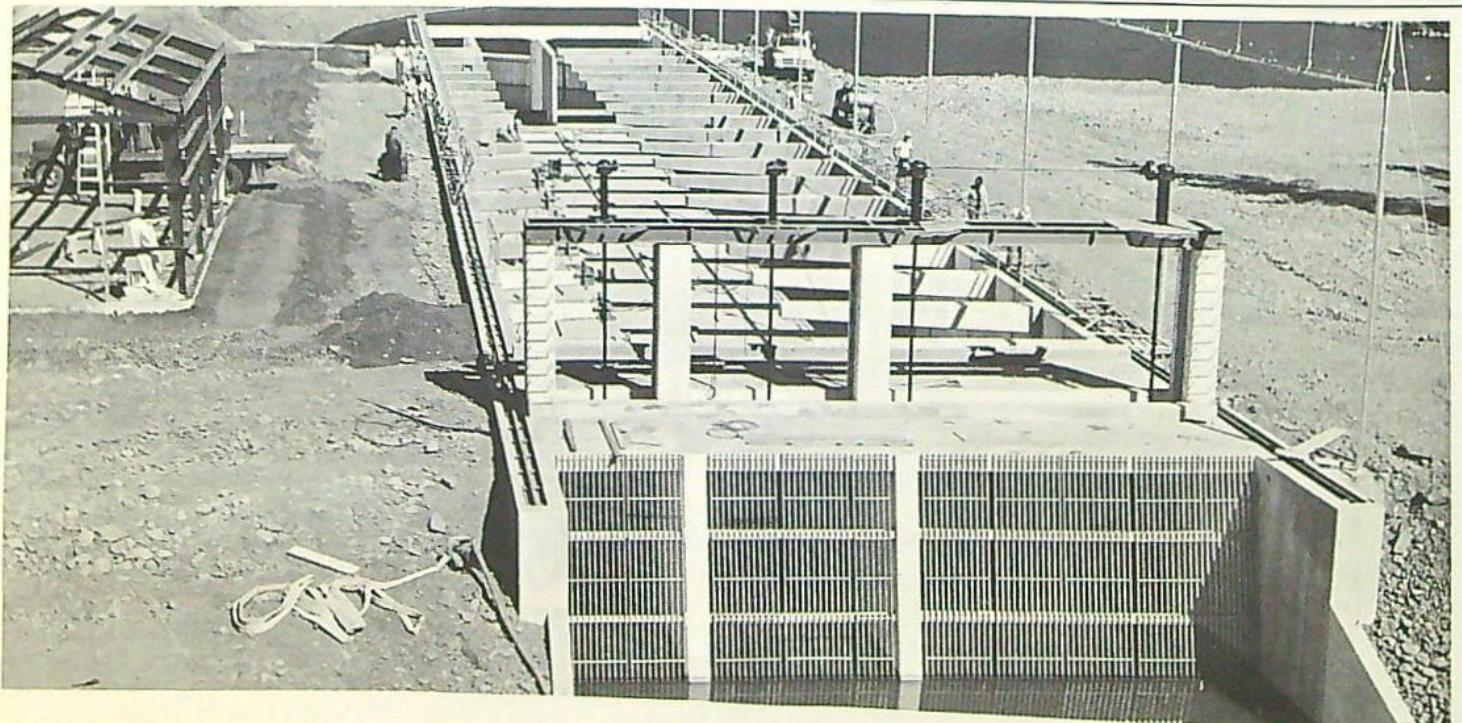
It is a 300-foot long reinforced concrete flume, designed with screens, louvers and other devices to vary the direction, depth and velocity of flow.

A gantry crane, holding tanks and other facilities are being added.

Fishery scientists of the Bureau of Commercial Fisheries will use it for fish passage research, seeking ways of improving fish facilities at dams and in streams.

Shown below in final construction stage, the \$369,500 research structure was designed by CH₂M and constructed by Teeple & Thatcher.

SALMON HARBOR MARINE RECREATION CE



TER RESULT OF MASTER DEVELOPMENT PLAN BY COUNTY, PORT



Breakwater at right center was first project in the development of Salmon Harbor at Winchester Bay. Tidal flats were dredged, carrying out master plan, to provide both boat basins and land for parking, roads, recreation and commercial areas.

Former mucky tidelands at Winchester Bay on the southern Oregon coast have become a mecca for salmon fishermen and boating enthusiasts, thanks to a 12-year development program carried out by Douglas County and the Port of Umpqua.

Salmon Harbor, million-dollar marine recreational area and major tourist attraction, owes its beginnings to heavy storms in the winter of 1951-52 which did extensive damage to beach areas and a small boat basin at Winchester Bay. Douglas County and the Port of Umpqua retained CH₂M to develop plans for a project to protect the waterfront from ripping tides, provide a commercial fishing base and a small craft harbor.

The resultant master plan, to be carried out in steps as funds were available, called for a breakwater and dredging of a series of boat basins, with the spoil to be utilized as fill to create parking, recreation and commercial areas.

Execution of the plan was completed this year, with the addition of a third boat basin, a commercial boat area, and a dozen or so acres of "new" land for a camping and picnic area, more roads and parking. All told the County and Port have invested \$543,000 over the 12 years, with other public and private investments making it a \$1 million development.

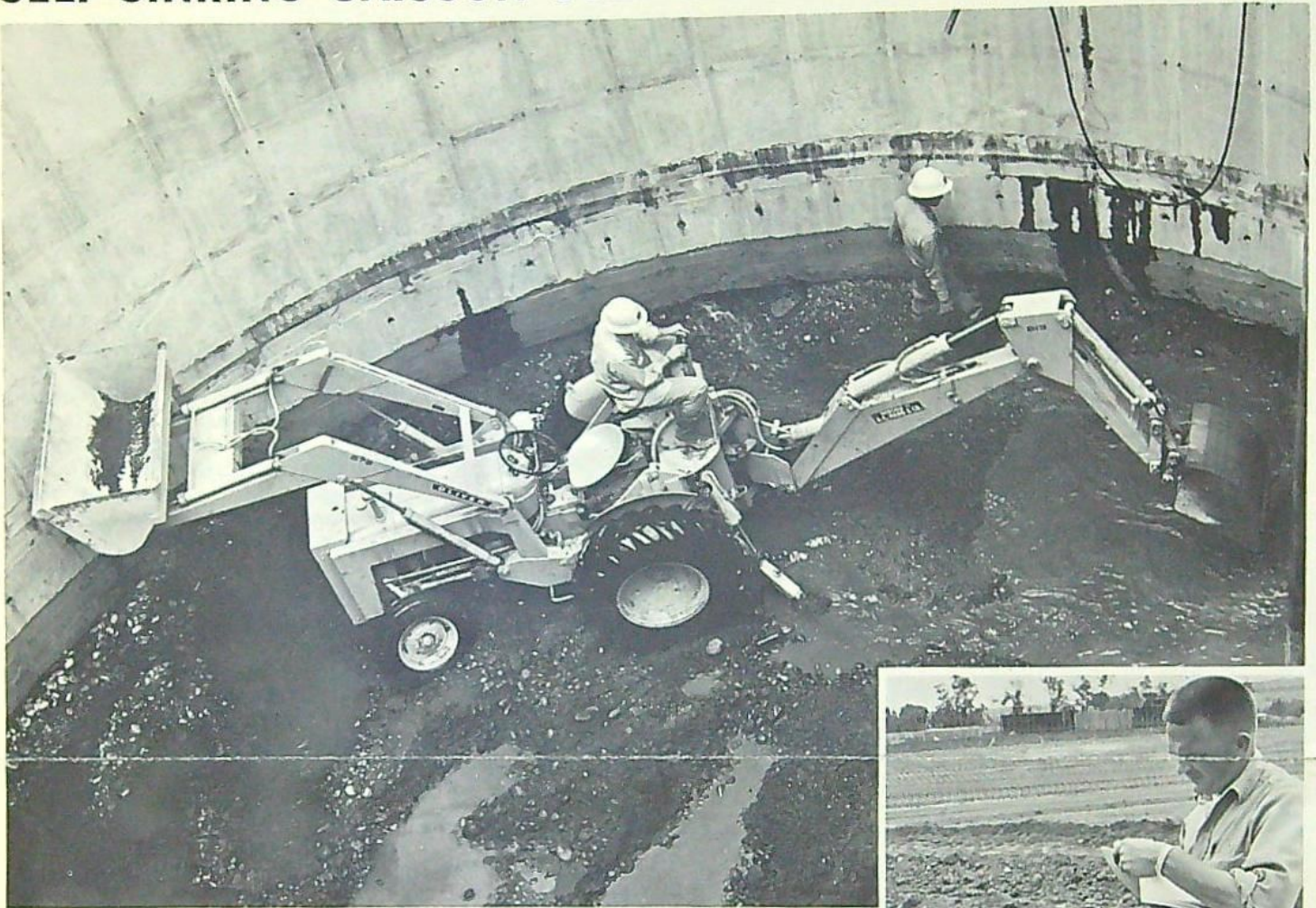


Good facilities and good fishing have made Salmon Harbor a mecca for marine recreation enthusiasts of all ages.



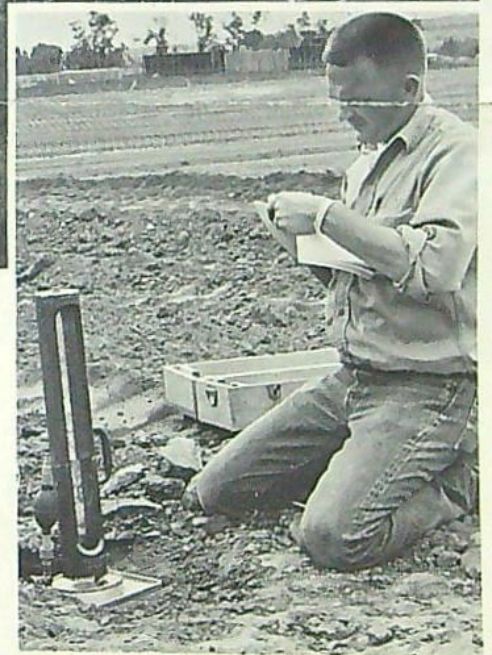
Mooring spaces for still more boats were added by third boat basin, added this year in final phase of program.

SELF-SINKING CAISSON USED IN SALEM SEWER PROJECT



Shoring during excavation and a permanent outer wall for a raw sewage pump station at the end of new 75-inch Salem, Oregon, interceptor sewer provided by self-sinking concrete caisson. Forty feet in diameter, the caisson was poured in 8-foot sections, one on top of the other, as the 40-foot deep excavation was dug, sinking into place as the earth was removed. Pump station will house two 17,000 gpm variable speed pumps and one 13,000 gpm constant speed pump, with provision for additional pumps to double capacity. Butler Construction Company, Salt Lake City, is general contractor for the big \$5 million sewer project, to include new primary and secondary treatment plant.

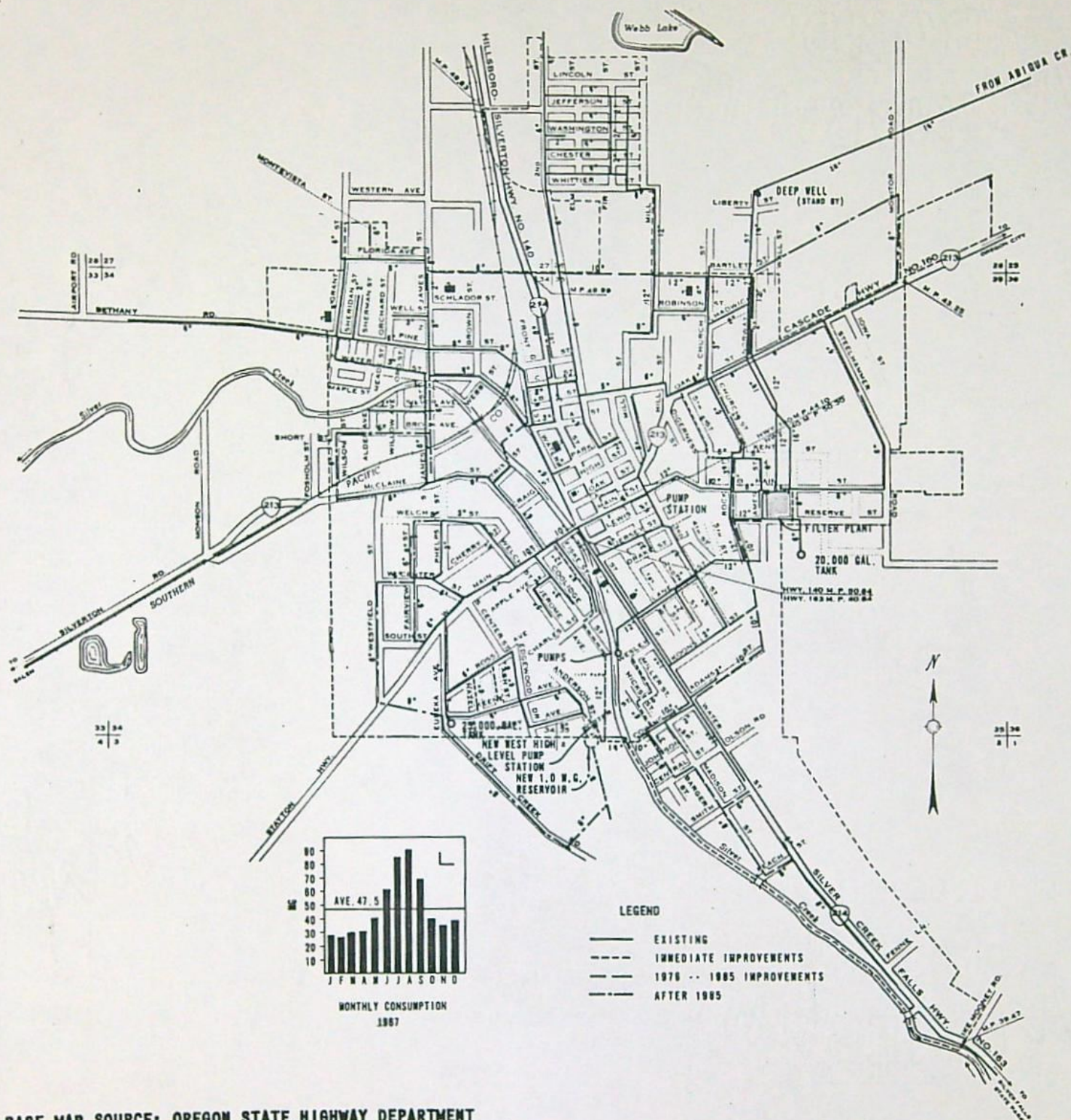
Inspection during construction is an important part of sewerage projects. In photo at right, CH₂M inspector is making compaction test of fill on the Salem project.



Engineer

JAMES W CARVER JR
OFFICE STATE ENGR
SALEM ORE

BULK RATE
U. S. Postage
PAID
PERMIT NO. 11
PORTLAND, ORE.



BASE MAP SOURCE: OREGON STATE HIGHWAY DEPARTMENT

PLATE III - 16

SILVERTON

WATER DISTRIBUTION SYSTEM

III-35



CITY OF SILVERTON
WATER SYSTEMS
(A-16, 17 & 18, C-4 and D-17, 18, 22, & 25)

SOURCE

Silverton obtains water from Abiqua Creek and uses Silver Creek during low-stream-flow periods. There is a concrete dam across Abiqua Creek with a diversion flume and rotating screen at the intake. The Abiqua system has a capacity of 2.0 MGD. Silver Creek water is supplied to the treatment plant through two pumps that have a total capacity of 400 gpm.

A 120-foot well of 750-gpm capacity can be used for auxiliary supply purposes.

TREATMENT

The water from Abiqua Creek is screened, pre-chlorinated and ammoniated then piped by gravity to the filter plant where all the water is alum-flocculated, settled and filtered, then chlorinated and ammoniated. The plant was put in operation in 1958 with a capacity of 2.25 MGD and was modified to a high-rate system in 1962 to provide a capacity of 4.0 MGD.

TRANSMISSION

Water is transmitted from the Abiqua Creek inlet to the treatment plant through a 14-inch line. This line consists of 1/4 mile of concrete cylinder, 3 1/2 miles of steel, 4 miles of wood and 1/4 mile of asbestos-cement pipe. Transmission from the present Silver Creek inlet to the treatment plant is through a 12-inch steel pipe.

STORAGE

Two uncovered reservoirs of 1,250,000-gallon total capacity are located at the filter plant. One storage tank on the west hill has a capacity of 25,000 gallons, and a tank on the hill above the filter plant has 20,000-gallon capacity.

DISTRIBUTION SYSTEM

The existing distribution system contains about 13,000 feet of 6-to 14-inch pipe of cast-iron, steel and wood construction. About 29,000 lineal feet of pipe is from 2-to 6-inch in size and of the same materials. A map of the existing system is shown on Plate III-16.

WATER USAGE

The water use for 1967 is presented graphically on Plate III-16. Water use was predicted in 1961 to reach a maximum daily demand of 3.4 MGD by 1980 with a ratio of about 1.25 to 1.5 for maximum day to maximum month. This was revised upward in 1963 to 4.5 MGD maximum-day water demand by 1980. Consumption reported for August of 1967 was 89,498,000 gallons or 3-MGD average for the month. Using the ratio of 1.5, the maximum-day flows would have been 4.5 MGD. Thus, water usage has increased faster than visualized in 1960 or 1963.

SANITARY HAZARDS

Both Abiqua Creek and Silver Creek are subject to human and animal contamination. The storage reservoirs at the treatment plant are both uncovered. Unsewered suburban areas are rapidly developing around Silverton. Rocky subsurface soils provide a low retention time for septic tank effluents. Many of the suburban homes are served by individual wells.

CONNECTION POLICY

There are approximately 40 out-of-town customers but service is no longer being extended beyond the city limits until annexation takes place. All residents are required to connect at a cost of \$50 plus cost of setting the meters. A \$15 deposit is required for water service. Water service is shut off after water service bills are four months in arrears and a \$5 charge is made to reconnect.

WATER RATES AND METERING

The city's 1,800 customers are about 90-percent metered. Rates are based upon meter size and usage beginning with a 5/8-inch meter at \$3.50 for 750 cubic feet plus \$0.46 per additional 1,000 cubic feet; 3/4-inch meter at \$3.75; and a 1-inch meter at \$4.05. There are special rates worked out for industrial users. Out-of-town customers are charged one and one-half times the in-town rate. Rates are summarized at the end of this chapter.

PLANNED IMPROVEMENTS

Studies and reports have been completed for Silverton's future water needs. It is recommended in the reports that a low-level dam be built on Silver Creek, above the city, by 1970. Expansion of treatment facilities is proposed to increase capacity to 6.0 MGD. A program is under way to increase the distribution system capacity. This is being accomplished as finances become available. Proposed improvements also include additional storage facilities within the distribution system.

1:30 PM - Fri.

Silverton - Fed Aid Cond. Unit. - 2nd stage. Mr. Kiamar - ^{State} ~~Clearing~~ House Agency.

Introduction:

approval of Projects by all left Dept. of Geology - added comments

① Dept. Geol. - landslides & GW investigation by Off. of St. Eng. at very low cost?

② Fish & Game - 2 pages

Geology - less than ideal site.

Doc Wilkinson - site is unfavorable statement.

We need further geologic study - CH2M agrees drilled Shales (more than planned)

May hire outside consultant? not needed due to present staff at CH2M.

Is Bureau project feasible geologically? - Time - 1980+

Grange Site - 73 Draft Plans - 1983 or 84 - for construction.

CH2M - & Geology Dept. to interchange information open communication

Wells - 4 alternatives ^{proposals} ~~proposals~~

No Comment

Dam - abandon

" - Silverton CK

GW - Supply - Quality problems.

used for Suppl. water supply.

Fish ladder design - communication lines to begin.

- cost \$1,500/ft. rise \$80,000 ??

CITY OF SILVERTON RECORD OF ATTENDANCE

12 NOV 71

In order to complete the official record of this

meeting; please provide the following information:

NAME _____

ADDRESS

JACK BROWN

CITY MANAGER SILVERTON

WILLIS DUNAGAN

MAYOR, SILVERTON

William S. Bartholomew

Hydrogeologist - Off. of Pub. State Engineer

James W. Carver

Deputy State Engineer Salem

Samuel A. Pahl

Bureau of Reclamation, Salt Lake

ROBERT L. NELSON

CH₂ M / HILL

EG WORTH

Clare M. Hill

Vaughan E. Stirling

CH₂OH/Hill

Robert Borkland

City Engineer

Sept. New Pen A

Bealight Oregon Game Comm.

Henry Atkins

Mid-Willamette Valley COG

James H. Thacker

Phil Williams LBC

LINCOLN PEARSON

FISH COMMISSION

Harlan Anderson

Councilman

К. Н. Носов

10

Goodman Hermitage

2

DENNIS BETH

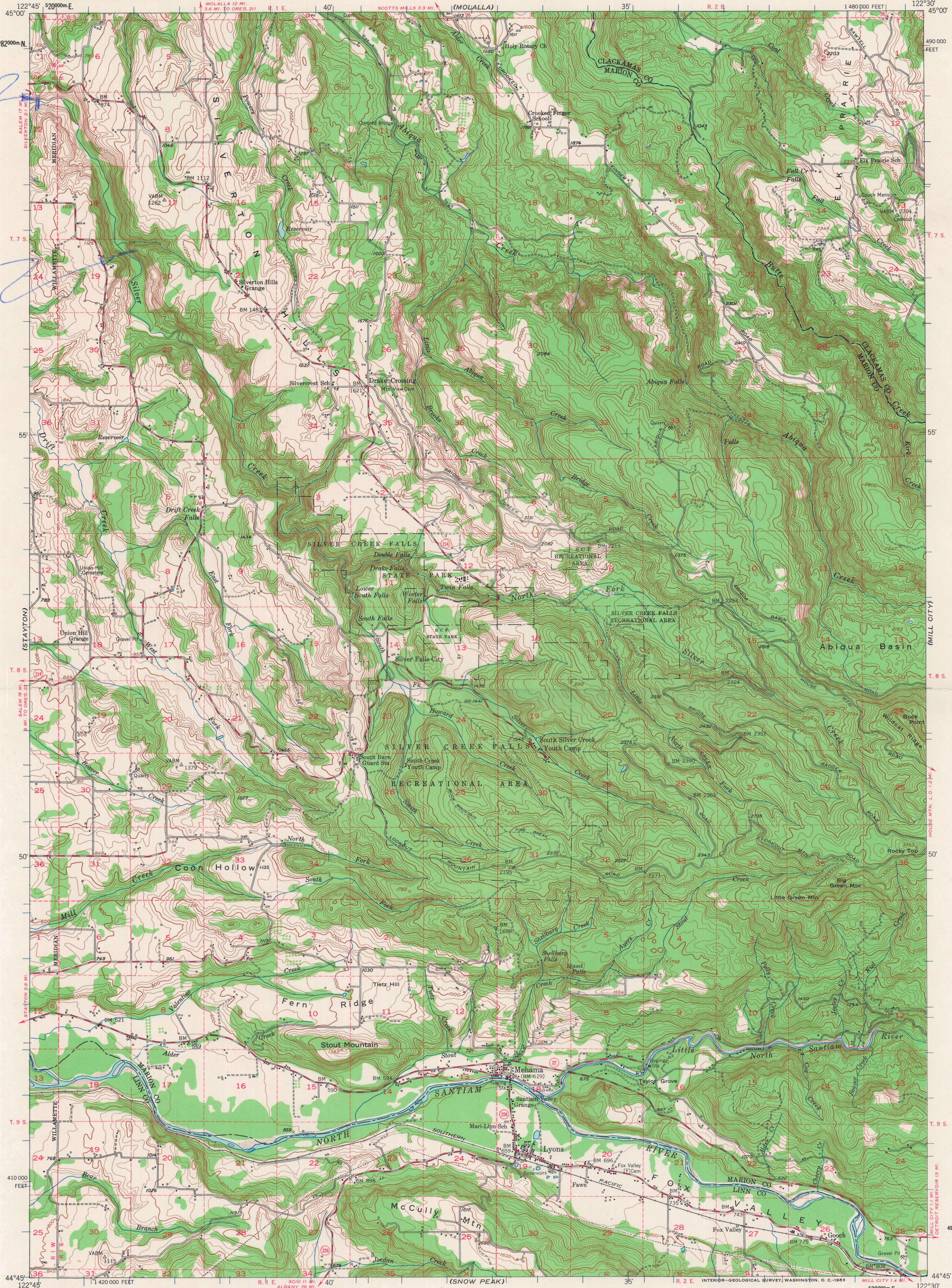
CITY ATTORNEY SILVERDA

R. E. Carcoran

Oreg. Dept. Geol. & Min. Ind.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LYONS QUADRANGLE
OREGON
15 MINUTE SERIES (TOPOGRAPHIC)



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS

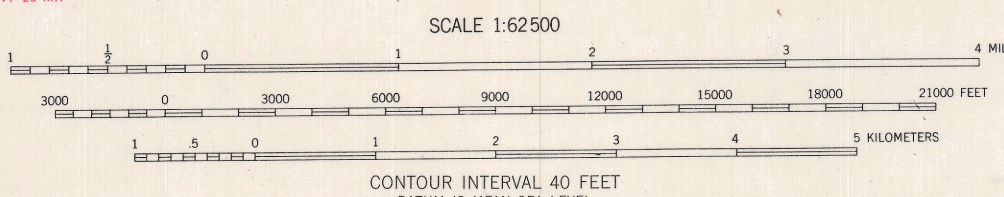
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1949. Advance field check 1951

Polycyclic projection. 1927 North American datum
10,000-foot grid based on Oregon coordinate system, north zone

Dashed land lines indicate approximate locations
Unchecked elevations are shown in brown

1000-meter Universal Transverse Mercator grid ticks,
zone 10, shown in blue

TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN
DECLINATION, 1951



ROAD CLASSIFICATION
1949
Medium-duty ——— Light-duty ———
Unimproved dirt ———
State Route ———

LYONS, OREG.
N4445-W12230/15
1951

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Application No. 1297.

130a .
April 24, 1911.

Mr. S. E. Richardson,
Silverton, Oregon.

Dear Sir,-

Enclosed herewith find application No.
1297, by the City of Silverton, approved, being
Permit No. 622.

Very respectfully,

State Engineer.

MM

Application No. 1297.

130a
March 24, 1911.

Mr. S. E. Richardson,
Silverton, Oregon.

Dear Sir,-

I beg to acknowledge receipt of \$5.00 to be
applied as fees on application No. 1297, by the City of
Silverton.

This application will be approved, and permit
forwarded you within a few days.

Very respectfully,

State Engineer.

PAC/MM

SUBJECT: Application No. 1297.

STATE OF OREGON

OFFICE OF THE
STATE ENGINEER

JOHN H. LEWIS, STATE ENGINEER
PRESIDENT OF THE BOARD OF CONTROL
SECRETARY OF THE DESERT LAND BOARD

1297
~~SALEM, OREGON.~~ March 21, 1911.

Silverton, O. 3/23/11

1200

OFFICE OF STATE ENGINEER
RECEIVED
MAR 24 1911
SALEM, - OREGON.

Mr. S. E. Richardson,

Silverton, Oregon.

Dear Sir,-

Upon taking up application No. 1297,
by the City of Silverton, I find the same is sub-
ject to approval except for a filing and recording
fee amounting to \$5.00, which amount is in addition
to the \$3.00 examination fee already transmitted.

Very respectfully,

John H. Lewis

State Engineer.

PAC/MM

\$5. transmitted by
check.

Application No. 1297.

1300
March 21, 1911.

Mr. S. E. Richardson,

Silverton, Oregon.

Dear Sir,-

Upon taking up application No. 1297,
by the City of Silverton, I find the same is sub-
ject to approval except for a filing and recording
fee amounting to \$5.00, which amount is in addition
to the \$3.00 examination fee already transmitted.

Very respectfully,

State Engineer.

PAC/MM

1300a
March 16, 1911.

Mr. S. E. Richardson,
Silverton, Oregon.

Dear Sir,-

I beg to acknowledge receipt of \$3.00,
together with application for permit to appropriate
the waters of Silver Creek by the City of Silverton,
and two tracings.

This application will be taken up for
approval as soon as the same can be reached.

Very respectfully,

State Engineer.

PAC/MM

4924
1297
Gen.

July 30, 1945

Mr. Rex Albright, Lawyer
Silverton, Oregon

Dear Mr. Albright:

Pursuant to your request of July 27, I am enclosing herewith a tabulation of rights of record in this office to divert water from Pudding River between the mouth of Silvercreek and the mouth of the Abiqua.

Yours very truly,

CHAS. E. STRICKLIN
State Engineer

EKH:I
Enc.

By
Ed K. Humphrey, Assistant

1297
4924

June 1, 1945

Mr. Rex Albright, Lawyer
Silverton, Oregon

Dear Mr. Albright:

Pursuant to your letter of May 29, I am enclosing herewith a form C for use in reporting complete application of water under Permit No. 3226 in the name of the City of Silverton, which covers the use of 10 cubic feet per second from Abiqua Creek.

If all of the water which your city intends to use under the permit in question has been completely applied to the intended use, Form C should be filled out and returned to this office.

With reference to the third paragraph in your letter, I do not know of any statute or Supreme Court decision to the effect that Section 116-437 O. C. L. A. relative to abandonment of a completed water right does not apply to a city.

The statement in my letter was made concerning an incomplete right by a city where construction had not been commenced.

Yours very truly,

CHAS. E. STRICKLIN
State Engineer

By
Ed K. Humphrey, Assistant

EKH:CI
Enc.

May 14, 1945

4924
1297
Gen.

Mr. Rex Albright
City Attorney of Silverton
Silverton, Oregon

Dear Mr. Albright:

This will acknowledge receipt of your letter of May 12 in which you inquire concerning rights in the name of the City of Silverton to the use of water.

Section 116-437 O. C. L. A. is to the effect that in the matter of a completed water right such as that one confirmed by a certificate in the name of the City of Silverton, recorded on page 2400 State Record of Water Right Certificates, failure to use the water involved for a period of five successive years shall be conclusively presumed to be an abandonment of such right.

Permit No. 3226 in the name of the City of Silverton, evidences an incomplete right, which according to the terms of the permit as extended should be completed by actual use of the water involved on or before October 1, 1945.

If the permit right has not been completed by October 1, 1945 an application for an extension of time should be submitted and at this time I can see no reason why such an application for an extension should not be granted by the State Engineer.

If your city has in view the appropriation of additional water, kindly so advise and a form for submitting such an application will be forwarded to you.

In general State Engineer's permits are issued requiring beginning of construction within one year from the date of issuance and permits are subject to cancellation unless construction is commenced within one year as

May 14, 1945

Provided by law, but the statutes make an exception in the case of a municipality and the time for beginning of construction where a municipality is involved can be extended by the State Engineer.

Pursuant to your request I am mailing under separate cover 3 copies of the Oregon Water Laws and a copy of the Rules and Regulations.

Yours very truly,

CHAS. E. STRICKLIN
State Engineer

EMH:CI

By
Ed H. Humphrey, Assistant

4924
1297

REX ALBRIGHT

LAWYER

SILVERTON, OREGON

May 12, 1945

RECEIVED
MAY 14 1945
STATE ENGINEER
SALEM, OREGON

Mr. Chas. E. Stricklin,
State Engineer
Salem, Oregon

Dear Sir:

Mr. Robert E. Borland, City Manager of
Silverton, has referred to me your letter of
April 28, directed to him relative to the water
rights in the name of the city.

We would like to know if the city would
lose these rights or either of them, if they
were abandoned for a period of one year or more,
and if they were so lost, the steps which the
city would have to take in order to reestablish
the same.

I am not too familiar with water right
law, and thought perhaps that municipalities
might have some priority over private users
and that perhaps a right could be filed for future
use.

We will appreciate any information that
you can give us on this and if you have the
Oregon water right laws printed up in pamphlet
form, ask that you send us two or three copies of
the same.

Very truly yours,



City Attorney of Silverton

RA: mmm

4924
1297

April 26, 1945

Mr. Robert E. Borland
City Manager of the City of Silverton
Silverton, Oregon

Dear Mr. Borland:

This will acknowledge receipt of your letter of April 25 in which you inquire concerning water rights in the name of your City.

A certificate recorded in the name of the City of Silverton on page 2400, State Record of Water Right Certificates, confirms a right to the use of 5.00 cubic feet per second of water for municipal, domestic supply in the City of Silverton with a priority of March 16, 1911.

State Engineer's permit No. 3226 grants a right to the use of 10 cubic feet per second of water from Abiqua Creek for municipal supply in the City of Silverton.

One second foot of water is equivalent to 646,317 gallons per day.

Very truly yours,

CHAS. E. STRICKLIN
State Engineer

by

Ed K. Humphrey, Assistant

EXH:ajo

CITY OF *Silverton*

GATEWAY TO SILVER FALLS STATE PARK
SILVERTON • OREGON

25 April, 1945

RECEIVED
APR 26 1945
STATE ENGINEER
SALEM, OREGON

Mr. Charles E. Stricklin
State Engineer
State Office Building
Salem, Oregon

Re: Silver Creek Water Rights

Dear Mr. Stricklin;

I have been instructed by the City Planning Board and City Council to investigate the matter of water rights for municipal use by the City of Silverton of the stream which flows through our city known as Silver Creek.

It is my understanding that the City of Silverton had at one time certain rights to the use of water from this stream.

No doubt there are records on file in your office in regard to water rights of the City of Silverton on Silver Creek.

At the present time the city is using water from Silver Creek for a period of three months each year for the operation of its swimming pool.

Please advise me as to what present rights, if any, the city has on Silver Creek and the Silver Creek watershed. If the city does not have any water rights on this stream or watershed please advise under what conditions it may be possible to secure such rights appropriating the entire stream from Silverton to the headwaters as a municipal supply.

Thanking you, I remain

Yours very truly,

Robert E. Borland
Robert E. Borland
City Manager

REB:bh

May 25, 1937.

Silverton Water Commission,
Silverton, Oregon.

Attention: Mr. E. L. McCleary, Supt.

Gentlemen:

This acknowledges receipt of your letter of
May 24, relinquishing your water right on Silver Creek,
Marion County, Oregon.

Your letter is being filed in the records in
connection with your water right Certificate No. 2400.

Yours very truly,

CHAS. E. STRICKLIN,
State Engineer.

By
V. S. Bovelie, Assistant.

VSB:LN

SOURCE OF SILVERTON'S
WATER SUPPLY

SILVERTON WATER COMMISSION

E. L. McCLEARY, SUPERINTENDENT

SILVERTON, OREGON

May 24, 1937

Oregon State Engineer
Salem, Oregon

Dear Sir:

RECEIVED
MAY 25 1937STATE ENGINEER
SALEM, OREGON

The Silverton Water Commission has discontinued the use of the Silver Creek gravity system pipeline; therefore we relinquish our water right on Silver Creek, Marion County, Oregon.

Respectfully yours,

Silverton Water Commission

BY E. L. McCleary
SUPT.

ELM:AM

December 5, 1930.

Mr. Custer E. Ross,
Attorney,
First National Bank Bldg.,
Salem, Oregon.

Dear Sir:

In reply to your letter dated December 1st, please be advised that Certificate No. 2400 was issued to the City of Silverton confirming the right under Permit No. 622 to use of 5 second feet of water from Silver Creek with a priority of March 16, 1911. This certificate was issued on August 1, 1919.

Yours very truly,

CHAS. E. STRICKLIN,
State Engineer

By
Office Assistant.

L

*Advise him
of right confirmed
by cert.*

CUSTER E. ROSS
ATTORNEY AT LAW
FIRST NATIONAL BANK BLDG.
SALEM, OREGON

December
1st.
1930

STATE ENGINEER
RECEIVED

DEC 2 1930

SALEM, OREGON

Mr. C. E. Stricklin,
State Engineer,
State Office Bldg.,
Salem, Oregon.

Dear Sir:

The City of Silverton has directed my attention to the fact that in addition to the water filings it has on Abiqua Creek that there is also an old filing, dating I believe from about 1911, on the waters, or a portion thereof, of Silver Creek. If you will advise me of the status of this Silver Creek filing, I shall appreciate it very much. I have the impression that a deed has issued in this case. However, in that regard I am not entirely certain and I would like confirmation in that respect.

Very truly yours,

C. E. Ross

CER:MA.

December 6, 1916.

Mr. Mark Paulson.

Silverton, Oregon.

Dear Sir:-

Corrected proof of appropriation of water under permit No. 622 of the City of Silverton, has been received and filed in this office.

Very respectfully,

Secretary.

GB.

Mark Paulson
ATTORNEY-AT-LAW
COOLIDGE & McCLAIN BANK BLDG.
SILVERTON, OREGON

OFFICE
F. 11
DEC 4 1916
DEC. 2, 1916
DALEM.
OREGON

State Water Board,
Salem, Oregon

Gentlemen:

Yesterday I sent you Proof of Appropriation of Water and failed to inclose the required \$1.00 for recording same. Therefore, I herewith enclose \$1.00 personal check to cover same.

Hoping this is satisfactory, I am

Yours very truly,

Mark Paulson
City Recorder

December 4, 1916.

Mr. Mark Paulson.
City Recorder.
Silverton, Oregon.

Dear Sir:-

Proof of appropriation of water under permit No. 622
of the City of Silverton, together with \$1.00 recording fee, has
been received in this office.

I am returning the proof for the reason the Notary
Public has failed to sign and affix his seal to the affidavit
of the Mayor and also the names of the witnesses and their post
office address should be inserted in the affidavit of witnesses.

Upon receipt of the corrected proof, the matter will
be presented to the State Water Board at its next meeting for
approval and issuance of certificate.

Very respectfully,

Secretary.

GB.

September 12, 1916.

The City of Silverton

Oregon.

Gentlemen:-

I am enclosing blank for proof of appropriation of water under permit No. 622 which you will please have filled out and returned to this office, together with \$1.00 to cover recording fee and the matter will be presented to the State Water Board at its next meeting for approval and issuance of certificate.

Very respectfully,

Secretary.

GB.

NOTICE OF COMPLETION OF CONSTRUCTION

I, City of Silverton, holder of Application No. 1797, being
 Permit No. 672, issued by the State Engineer of the State of
 Oregon for the appropriation of second feet of the waters of Silver Creek
 in accordance with the tenor of such permit and the limitations endorsed thereon by the State Engi-
 neer, have completed the construction of the works described therein for the application of water to
 a beneficial use on the 15th day of September, 1911, being within the time limitation as
 fixed in said permit for the completion of construction work.

Remarks:

If the works have a less capacity than as described in the permit, or you have definitely abandoned your
 plan of irrigating any of the lands described in your permit, you should so state in order that our records may not be
 unnecessarily encumbered.

IN WITNESS WHEREOF, I have hereunto set my hand this 15 day of February, 1912.

Silverton Oregon
 (Present Address)

City of Silverton, P. H. Brown
 (Signature of Applicant.) Mayor

Fill out, detach, and mail to the Secretary, Board of Control, Salem, Oregon. Form D should be used in reporting
 progress of work if more than one year has been allowed for completion.

Permit No. 672

Application No. 1797

Apr 14-12
 14
 16

NOTICE OF COMPLETE APPLICATION OF WATER TO A BENEFICIAL USE

Permit No.

Application No.

I, City of Silverton, the holder of Application No. 1297, being
 Permit No. 672, issued by the State Engineer of the State of
 Oregon for the appropriation of second feet of the waters of Silver Creek
 in accordance with the tenor of such permit and the limitations endorsed thereon by the State Engi-
 neer, have completely applied the water to a beneficial use, on the 15th day of Sept, 1911,
 being the time limitation as fixed in said permit for the complete application of water to a beneficial
 use.

Remarks:

If of the water granted in the permit had not been fully applied to beneficial use, you should so state,
 so that subsequent appropriators may have notice.

IN WITNESS WHEREOF, I have hereunto set my hand this 15 day of February, 1912.

Silverton Oregon
 (Present Address)

City of Silverton R. Brown
 (Signature of Applicant.)
Mayor

Fill out, detach, and mail to the Secretary, Board of Control, Salem, Oregon.

OFFICE OF BOARD OF CONTROL

RECEIVED

FEB 17 1912

OREGON

SALEM,