

APPENDICES

APPENDIX A
EVIDENCE OF APPLICANT OWNERSHIP



15 OREGON AVE PO BOX 875
BEND, OR 97709
(541) 389-7711 * Fax (541) 389-0506

HDR ENGINEERING, INC.
805 SW INDUSTRIAL WAY, SUITE 4
BEND, OR 97701

September 15, 2011
Report #1

Attn: JEFF FUCHS

Title Number : 135018
Title Officer : RICK BAIRD

PRELIMINARY TITLE REPORT

Property Address:
18600 Skyliners Rd, Bend, OR 97701

Policy or Policies to be issued:
REPORT

<u>Liability</u>	<u>Premium</u>
	\$200.00

We are prepared to issue ALTA (06/17/2006) title insurance policy(ies) of CHICAGO TITLE INSURANCE COMPANY, in the usual form insuring the title to the land described as follows:

See Attached Exhibit "A"

and dated as of September 6, 2011 at 7:00 a.m., title is vested in:

Vestee:

**CITY OF BEND,
AN OREGON MUNICIPAL CORPORATION**

The estate or interest in the land described or referred to in this Commitment and covered herein is:

Fee Simple

Schedule B of the policy(ies) to be issued will contain the following general and special exceptions unless removed prior to issuance:

GENERAL EXCEPTIONS:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment (of existing improvements located on the subject Land onto adjoining Land or of existing improvements located on adjoining Land onto the subject Land) encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the subject Land.
5. Any lien, or right to a lien, for services, labor, material, equipment rental or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the Public Records.
6. Unpatented mining claims whether or not shown by the Public Records.

EXCEPTIONS 1 THROUGH 6 ABOVE APPLY TO STANDARD COVERAGE POLICIES AND MAY BE MODIFIED OR ELIMINATED ON AN EXTENDED COVERAGE POLICY.

SPECIAL EXCEPTIONS:

Tax Information

Taxes assessed under Code No. 2-006 Map and Tax Lot Number 17 11 00 00 06202A1
Account No. 257780

NOTE: The 2010-2011 Taxes: \$688.77, paid in full.

Taxes assessed under Code No. 2-006 Map and Tax Lot Number 17 11 00 00 06202
Account No. 180789

NOTE: The 2010-2011 Taxes: No Tax Roll Record.

7. The 2011-2012 Taxes: A lien not yet due or payable.
8. Easement, including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein
As granted to: City of Bend
Recorded: October 5, 1926
Instrument No.: 42-476, Deed Records
9. Easement, including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein
As granted to: City of Bend
Recorded: March 9, 1956
Instrument No.: 112-557, Deed Records

10. Easement, including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein
As granted to: Pacific Power & Light Company, a corporation
Recorded: December 22, 1964
Instrument No.: 141-603, Deed Records
11. Covenants, Conditions and Restrictions, Including the terms and provisions thereof, recorded September 26, 1991, Instrument No. 245-2780, Deschutes County Records.
12. Development Agreement, including the terms and provisions thereof, between Deschutes County and the City of Bend, recorded January 8, 1992, Instrument No. 254-0073, Deschutes County Records.
13. Easement, including the terms and provisions thereof, affecting the portion of said premises and for the purposes stated therein
As granted to: PacifiCorp, an Oregon corporation, its successors and assigns
Recorded: October 8, 2001
Instrument No.: 2001-49178, Deschutes County Records

NOTE: Any map or sketch enclosed as an attachment herewith is furnished for information purposes only to assist in property location with reference to streets and other parcels. No representation is made as to accuracy and the company assumes no liability for any loss occurring by reason of reliance thereon.

NOTE: The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than the amount, if any, set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.

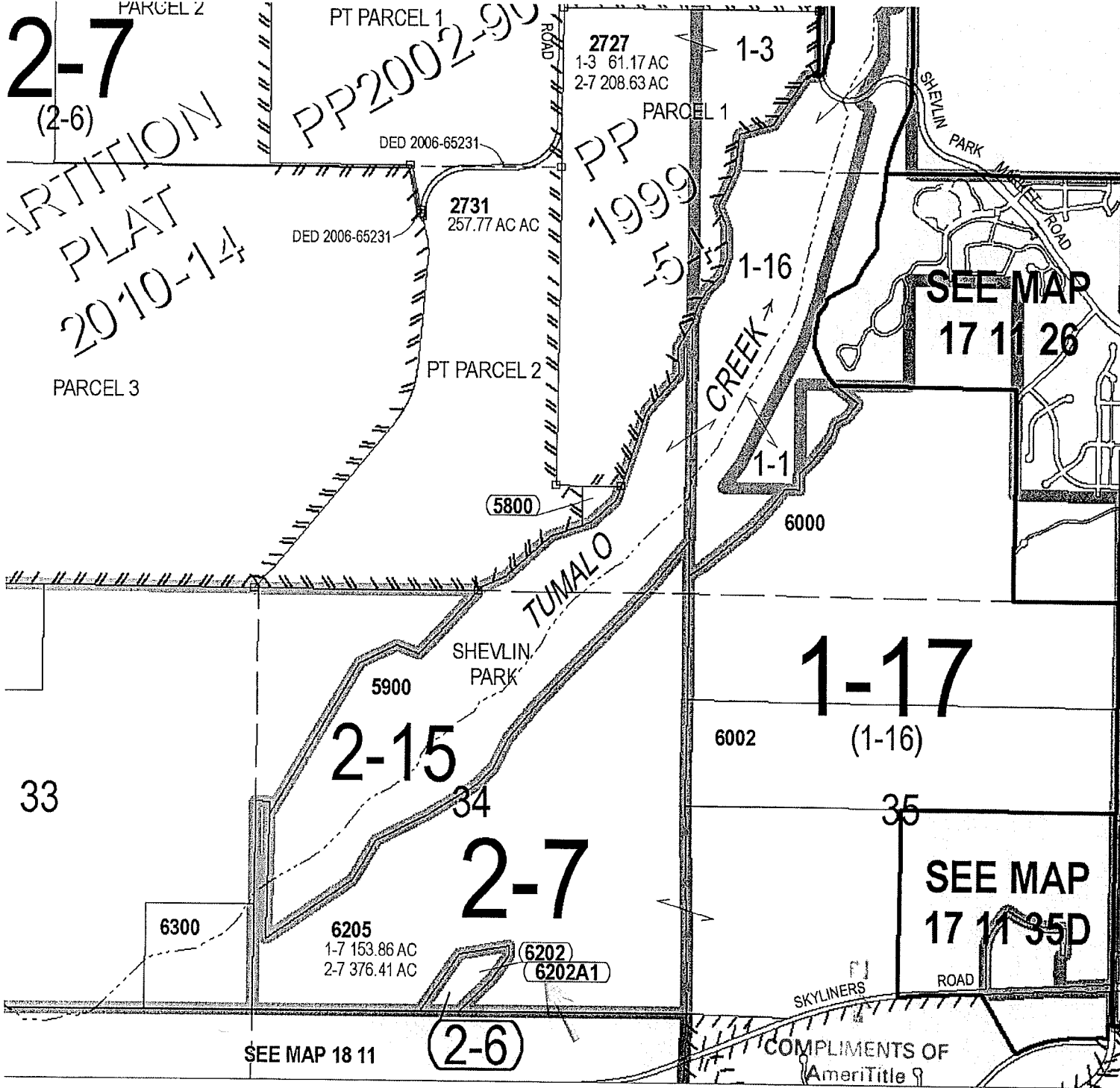
This report is preliminary to the issuance of a policy of title insurance and shall become null and void unless a policy is issued and the full premium paid.

RB:cl

EXHIBIT "A"
LEGAL DESCRIPTION

A parcel of land situated in the South one-half (S1/2) of Section Thirty-four (34), Township Seventeen (17) South, Range Eleven (11), East of the Willamette Meridian, Deschutes County, Oregon, being further described as follows:

Beginning at a point on the South line of said Section 34, Township 17 South, Range 11, East of the Willamette Meridian, said point bears South 89°57'23" West, 163.61 feet from a 3 inch by 30 inch iron pipe with 3 inch brass cap marking the South one-quarter corner of said Section 34; thence North 42°58'14" East, 615.78 feet; thence North 34°49'03" East, 357.11 feet; thence North 10°43'50" East, 113.59 feet; thence South 81°08'56" West, 622.64 feet; thence South 34°26'56" West, 921.52 feet to a point on the South line of said Section 34; thence along said South line North 89°57'23" East, 491.73 feet to the point of beginning.



This sketch is furnished for information purposes only to assist in property location with reference to streets and other parcels. No representation is made as to accuracy and the Company assumes no liability for any loss occurring by reason of reliance thereon.

1956
GRANT OF RIGHT OF WAY

VOL 112 p. 55

THIS INDENTURE, made this 23rd day of February 1956, by and between William E. and Constance Miller, husband and wife, parties of the first part, and the CITY OF BEND (a municipal Corporation of the State of Oregon) party of the second part,

W I T N E S S E T H:

That the parties of the first part, for and in consideration of the covenants and agreements herein after contained to be kept and performed by the party of the second part, does hereby grant, and convey unto said party of the second part, the right to construct, lay, operate, maintain a line of pipe with all necessary appurtenances thereto for the conveyance of water and for all purposes connected therewith of the party of the second part, its successors and assigns, over, under, across and upon the lands owned by the parties of the first part in Deschutes County, Oregon described as follows, to wit:

A strip of land twenty (20.0) ft. wide, being ten (10.0) ft. on each side of the center line, said strip of land being located in the S. half of the S E $\frac{1}{4}$ of Section 34 and in the S $\frac{1}{2}$ of the S $\frac{1}{2}$ of Sections 35 & 36 of T. 17 S. of Range 11 E.W.M. and said center line being described as follows:

Beginning at a point on the south boundary of Section 34, T. 17, S.R.11, E.W.M. said point being 90.0 ft., more or less, east of the southwest corner of said Section 34; thence N 71° 38' E a distance of 1276.9 ft more or less; thence N 77° 38' E a distance of 1213.30 ft more or less; thence N 73° 59' E a distance of 528.15 ft., more or less; thence, N 88° 39' E a distance of 807.93 ft., more or less; thence N 88° 47' E a distance 435.75 ft., more or less; thence S 89° 18' E a distance of 2260.05 ft., more or less; thence due east a distance of 1300.25 ft., more or less thence N 88° 24' E a distance of 5400.21 ft., more or less; thence N 82° 34' E a distance of 942.08 ft., more or less; thence on an 8° curve to the left whose intersection angle is 18° 10' a distance of 227.08 ft., thence N 64° 24' E a distance of 377.85 ft.; thence, on a 10° curve to the right whose intersection angle is 41° 30' a distance of 445.00 ft.; thence S 74° 06' E a distance of 533.90 ft.; thence on a 5° curve to the right whose intersection angle is 21° 00' a distance of 383.83 ft. to a point on the east line of the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ Section 36 T. 17 S.R.11, E.W.M., said point being 247.93 ft. south of the NE corner of said SE $\frac{1}{4}$, SE $\frac{1}{4}$, Section 36 T. 17, S.R.11, E.W.M.,

said new pipe line shall approximately parallel fifteen feet (15') center to center to the south an existing pipeline of second party except in south half of SE $\frac{1}{4}$ of Section 36, T. 17 S.R.11, E.W.M.

In consideration for the granting of this easement the party of the second part covenants and agrees, upon written request of the party of the first part, their successors or assigns, to install one connection in said pipe not to exceed 2 inches in diameter at any point along the line designated by the party of the first part and perpetually to furnish water for domestic or industrial purposes or both on twelve month of the year basis to the party of the first part or to their assigns

or successors at the same rate as the said party of the second part charges or requires for the sale and delivery of water for like purposes to patrons or users outside the city limits of Bend, which rate shall be reasonably based upon the rate charged within the city limits.

As further consideration for the granting of the aforesaid easement, the party of the second part covenants and agrees to submit to the party of the first part, their assigns or successors, within a reasonable time after the completion of the ditching on the party of the first part's premises a complete log of all earth, rock and volcanic material formations encountered while excavating on the aforesaid property.

Upon receipt of any request by the party of the first part for the aforesaid connection, the party of the second part will within a reasonable time connect its pipe line with the water line of the party of the first part at a point upon the premises as the party of the first part requests, but said connection shall be made at the cost and expense of the party of the first part, which charges shall be the same as the charge for like service within the City of Bend.

As further consideration for the granting of the aforesaid easement, the party of the second part covenants and agrees that it will be responsible for and pay to the party of the first part any damages occasioned to it by the party of the second part or its agents, in laying, repairing, renewing, or removing said line of pipe or by reason of said pipe line leaking, breaking, or bursting, or that may result, for any reason or cause, to said party of the first part, or to said premises.

The party of the second part, through its agents, shall have the rights to enter upon said land for the purpose of constructing, building, laying, patrolling and maintaining thereon a pipe line for the conveyance of water, including such renewals, repairs, replacement, or removals as may from time to time be required, doing no unnecessary damage to said premises and restoring the surface thereof whenever opened up as soon as possible; nor interfering with the operations of the party of the first part, his successors or assigns.

Said right shall be perpetual so long as the party of the second part shall operate a pipe for carrying water across said lands, but should the party of the second part, its successor or assigns, cease to use said pipeline, then all rights and privileges conveyed by such easement shall lapse and all rights and title thereto shall revert to the parties of the first part, its successors or assigns.

Said pipe line shall be laid so that the top thereof shall be buried at least eighteen (18) inches below the natural surface of the ground, except at low spots

where ravines or sloughs not in cultivation are crossed, at which points the top of the pipe shall be at such elevations as the party of the second part shall decide, provided it shall not interfere with the continued use of the land of the parties of the first part.

The party of the second part shall have the right to build at the surface of the ground such entrances to the pipe line as may be required, provided that such opening will not be larger than Four (4) feet square, and will be so covered as to be safe for the crossing of stock, vehicles, or for any other purposes.

The party of the second part shall have the additional right and privilege during construction, replacement or repairs to occupy with excavated material, construction material or equipment, an additional strip of land adjacent to and on each side of the above described strip of right-of-way, a distance of twenty-five (25) feet, provided such occupancy will not injure or destroy improvements, nor interfere in any way with any operations the party of the first part, his assigns or successors.

Upon completion of construction of said pipe line, or any subsequent reconstruction or repair of the same, the party of the second part shall cause the ground to be filled over any excavation made, and shall remove the spoil or waste materials such as gravel, clay or rock from the land occupied temporarily by it, and place the same upon the twenty (20) foot strip above described in as smooth and workmanlike a manner as possible, and that thereafter the parties of the first part, its successors or assigns, shall have full use of the land to which said easement applies only to the rights of the party of the second part relative to inspection, repairs and replacements.

And that the possession and use of the aforesaid premises are to be and remain in the said party of the first part, its successors and assigns, subject to the grant herein made, as fully as if this conveyance had not been executed, and nothing herein contained shall prevent the party of the first part from exercising full control of the surface of the hereinabove described easement.

The party of the second part further covenants and agrees to erect and maintain its electric light, power, and telephone lines at an elevation above the ground sufficient to comply with all Federal or State laws, or regulations, and so as to not interfere with the use and operation of the premises adjacent to said easement or right-of-way and to lay its aforesaid water mains underground so as not to interfere with the surface use of said premises.

This easement shall in no way effect the certain easement now in existence, dated October 5, 1926, between the Oregon & Western Colonization Company, a corporation of St Paul, Minnesota, and et al designated the grantors and the City of Bend, a

municipal corporation of Deschutes County, Oregon designated the grantees, recorded in book of Deeds 42, page 476, Deschutes County, Oregon.

TO HAVE AND TO HOLD the said premises with their appurtenances unto the City of Bend, its successors and assigns, for the uses and purposes herein mentioned, and William E and Constance Miller, husband and wife, do hereby covenant to and with the City of Bend, its successors and assigns, that they are the owners in fee simple of said premises, and that the same are free from all incumbrances.

IN TESTIMONY WHEREOF, William E and Constance Miller, husband and wife, the grantors above named, have caused these presents to be executed on the day and year first above written.

William E Miller

CITY OF BEND

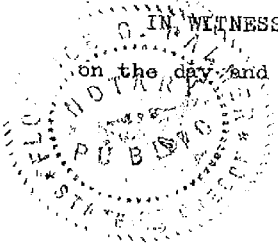
By H. Thompson
City Manager
Party of the second part.

Constance Miller

STATE OF OREGON)
COUNTY OF DESCHUTES) SS

On the 23rd day of February 1956, before me the undersigned, a notary public in and for said County and State, personally appeared William E. and Constance Miller, known to me to be the persons who executed the foregoing instrument and they acknowledged to me that they executed the same freely and voluntarily without duress and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto affixed my signature and official seal on the day and year last above written.



Harold H. Williams
Notary Public for the State of Oregon
My Commission Expires May 2 1957

STATE OF OREGON)
COUNTY OF DESCHUTES) SS

On the 23rd day of February 1956, before me the undersigned, a notary public in and for said County and State, personally appeared W. T. Thompson known to me to be the City Manager of the City of Bend, Oregon, who acknowledged to me that his signature hereon was authorized by the City Commission of the City of Bend and that he executed the same freely and voluntarily for the purposes therein contained.

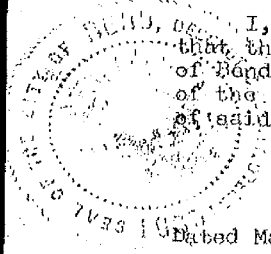
IN WITNESS WHEREOF, I have hereunto affixed my signature and official seal on the day and year last above written.



Arnell English
Notary Public for the State of Oregon
My Commission Expires July 2 1957

STATE OF OREGON)
COUNTY OF DESCHUTES) SS

I, Julia S. Johnson, Recorder of the City of Bend, Oregon, hereby certify that the foregoing document was approved by the City Commission of the City of Bend, and the signature of the City Manager was ratified at a regular meeting of the City Commission on March 7, 1956, which facts are confirmed in minutes of said meeting now on file in my office.



Julia S. Johnson
Julia S. Johnson,
Recorder of the City of Bend, Oregon.

Dated March 8, 1956.

QUIT - CLAIM DEED

This indenture made this 27th day of December, 1956, by and between the School District Number One, Deschutes County, Oregon, hereinafter called the Grantor, and the City of Bend, a municipal corporation of Deschutes County, State of Oregon, hereinafter called the Grantee.

WITNESSETH, that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, receipt of which is hereby acknowledged, the said Grantor does hereby remise, release, and forever quitclaim unto said grantee, its successors and assigns, all of the said Grantor's right, title and interest in and to the following described parcel of real property situated in the City of Bend, County of Deschutes, State of Oregon, more particularly described as follows:

Lot Twelve, Block Eleven, Northwest Townsite Company's First Addition to Bend, and Lot Eight, Block Eleven, Northwest Townsite Company's First Addition To Bend, except the east Fifty (50') Feet of Lot Eight, Block Eleven, Northwest Townsite Company's First Addition to Bend, Oregon, as shown on the official plat thereof on file in the office of the Clerk of Deschutes County, Oregon.

Together with all and singular the tenements, hereditaments, appurtenances, etc., thereunto belonging or in any wise appertaining thereof, and also all the estate, right, title and interest of the Grantor in and to said real property.

TO HAVE AND TO HOLD the same, together with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining to the said Grantee and its successors and assigns forever in fee simple absolute.

IN WITNESS WHEREOF, the said Grantor herein, through its Board of Directors, has caused these presents to be executed this 27th day of December, 1956.

SCHOOL DISTRICT NUMBER ONE, DESCHUTES COUNTY, OREGON.

Gordon W. Young

Charles C. Gabriel

Allen Young

Chairman

ATTEST:

James C. Threlkeld
Clerk

STATE OF OREGON)
) ss.
COUNTY OF DESCHUTES)

On this 22th day of February, 1956, before me,
Alvin J. Gray, the undersigned, a Notary Public
in and for said County and State, personally appeared the within named Board
of Directors of School District Number One, Deschutes County, Oregon, to-wit:
W. Gordon/McKay, W. Bert/Hagen, C. Charles/Corkett and Allen Young, and they acknowledged
to me that they executed the foregoing instrument in behalf of the School District
Number One, Deschutes County, Oregon, for the uses and purposes therein set forth.
That said Board of Directors are personally known to me to be the individuals
whose signatures are subscribed above.

IN WITNESS WHEREOF I have hereunto set my hand and notarial seal the
day and year last above written.

Alvin J. Gray
Notary Public for Oregon
My Commission Expires: 10-1-56

No. _____
STATE OF OREGON
County of Deschutes
I hereby certify that this instrument
of _____ was duly recorded
on the 9th day of March
A. D. 1956 - 3:17 P. M.
Notary Public
362
Helen M. Gray Notary
B. Paul Springer County Clerk
1954

RIGHT OF WAY EASEMENT

FOR VALUE RECEIVED the undersigned Grantors, WILLIAM E. MILLER and CONSTANCE C. MILLER, husband and wife, do hereby grant to PACIFIC POWER & LIGHT COMPANY, a corporation, its successors and assigns, the Grantee, an easement or right of way for a single pole electrical distribution line of one or more wires and all necessary or desirable appurtenances including poles, props, guys and other supports at or near the location and along the general course now located and staked out by the Grantee over, across and upon the following described real property in Deschutes County, State of Oregon, to wit:

Land in Sections 34, 35 and 36, Township 17 South, Range 11 E., W.M. Line to be located approximately 10 ft. southerly of the southern City of Bend water line.

Grantee, at its own expense, will remove or relocate said line within 90 days after written request by the Grantors. In the event of such a request by the Grantors, Grantors will grant to the Grantee a similar right of way over the above-described lands or over such other lands as the Grantors may select.

Grantee agrees to quitclaim and release to the Grantors any unused or abandoned rights of way over the above described property and other lands owned by the Grantors.

Grantee shall furnish to the Grantors at any point or points along the above-described distribution line, either single or three phase service without requiring Grantors to pay any charges except the then effective tariff rates for electricity furnished, as established by appropriate regulatory body for customers similarly situated. In the event that Grantors shall desire electrical service at any point or points off of the electrical distribution line herein provided for, no part of the costs of this distribution line shall be charged to the Grantors, nor shall any part of such construction costs be considered in the cost calculations for such additional construction, and Grantors shall be entitled to either single or three phase

service at the then effective tariff rates for electricity furnished, as established by appropriate regulatory body for customers similarly situated.

Grantee shall have the right of ingress and egress over the adjacent lands of the Grantors for the purpose of constructing, reconstructing, stringing new wires on, maintaining and removing such line and appurtenances, and exercising other rights hereby granted.

The Grantee shall pay to the Grantors reasonable compensation for any damage caused by Grantee, or its agents, to any property or crops (growing or to be grown) on the above described real property, arising out of the construction, reconstruction, operation or maintenance of said transmission and distribution line.

All such rights hereunder shall cease if and when such line shall have been abandoned.

Dated the 8th day of December, 1964.

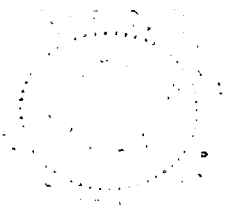
William E. Miller
William E. Miller

Constance C. Miller
Constance C. Miller

STATE OF OREGON)
) ss
COUNTY OF DESCHUTES)

On this 8th day of December, 1964, personally appeared before me, a Notary Public in and for said State, the within named WILLIAM E. MILLER and CONSTANCE C. MILLER, husband and wife, to me known to be the identical persons described therein and who executed the foregoing instrument, and acknowledged to me that they executed the same freely and voluntarily for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year above written.



Francis A. [Signature]
Notary Public for Oregon
My commission expires: 9/11/22, 1965

101101

68-
73-

91-28510

BARGAIN AND SALE DEED

245 - 2780

WILLIAM E. MILLER, Grantor, conveys to the CITY OF BEND, an Oregon municipal corporation, Grantee, the following real property:

A parcel of land situated in the South one-half of Section 34, Township 17 South, Range 11 East, Willamette Meridian being further described as follows:

Beginning at a point on the south line of said Section 34, Township 17 South, Range 11 East, Willamette Meridian, said point bears South 89°57'23" West, 163.61 feet from a 3 inch by 30 inch iron pipe with 3 inch brass cap marking the South one-quarter corner of said Section 34; thence North 42°58'14" East, 615.78 feet; thence North 34°49'03" East, 357.11 feet; thence North 10°43'50" East, 113.59 feet; thence South 81°08'56" West, 622.64 feet; thence South 34°26'56" West, 921.52 feet to a point on the south line of said Section 34; thence along said south line North 89°57'23" East, 491.73 feet to the point of beginning. Said parcel containing 10.59 acres more or less.

Said parcel being subject to all prior easements of record.

Grantor also conveys a temporary access easement as outlined by attached letter and map marked Exhibit "A." For the term of the temporary easement, Grantee agrees to hold Grantor harmless from any liability arising out of use of said temporary easement by Grantee, its employees and contractors and to indemnify Grantor for any loss incurred by Grantor as a result of Grantee's use of said temporary easement.

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses.

The true consideration for this conveyance is the execution of the attached agreement, marked Exhibit "B."

This property shall revert to Grantor if the property is not used, within 10 years of the date of this deed for the intended purpose specified in Section 3 of Exhibit "B" or in the event that use of the property for its intended purpose is permanently abandoned by Grantee. Grantee shall be given an opportunity and a reasonable

Bend Title Company

time to remove any of the facilities it has constructed on the deeded property.

DATED this 23rd day of September, 1991.

GRANTOR

William E. Miller
WILLIAM E. MILLER

STATE OF OREGON)
)ss
County of Deschutes)

Personally appeared the above named William E. Miller
and acknowledged the foregoing instrument to be his
voluntary act before me this 23rd day of September 1991.

K Dianne Bachand
NOTARY PUBLIC FOR OREGON
My Commission Expires: 6/5/92

q:\devser\agreements.91\miller.wd



EXHIBIT "B"

A G R E E M E N T

THIS AGREEMENT, made and entered into by and between WILLIAM E. MILLER, hereinafter referred to as FIRST PARTY, and CITY OF BEND, a municipal corporation, hereinafter referred to as SECOND PARTY.

WITNESSETH:

FIRST PARTY is deeding approximately twelve (12) acres of real property located in Section 34, T17S, R11E, Deschutes County, Oregon, together with required access and underground utility easements, as referred to in paragraphs 5 and 6, below. The intent of said donation is to provide a site for the initial phases of a major upgrade and installation of EPA required water facilities of SECOND PARTY.

The parties herein further agree to the following provisions:

1. FIRST PARTY will retain the right to merchantable timber on said property for a period of twenty (20) years. The intent of this provision is to allow FIRST PARTY to conduct an ongoing commercial thinning and fire protection program, as long as said program does not interfere with SECOND PARTY's operation of its water system facilities.

2. SECOND PARTY agrees to provide and complete a development plan which includes reasonable vegetation screening of all proposed facilities. The color of facilities constructed must blend in with the natural vegetation and surroundings. SECOND PARTY agrees to provide complete plans for proposed construction to FIRST PARTY and FIRST PARTY will have the right of plan approval of the following items:

(a) Any structure with a top elevation in excess of 4025'; and

(b) Any structure with a top elevation less than 4025' that exceeds 40' above natural ground level and that is located at the rim of the property or that otherwise significantly impacts sight lines from other areas of SECOND PARTY'S property; and

(c) Removal of any tree within 50 feet of SECOND PARTY'S property line; and

(d) Cyclone fence specifications and fence location; and

- (e) Noise levels, if any proposed facilities generate noise levels that may impact adjacent FIRST PARTY'S development, excepting required emergency or safety devices; and
- (f) The reasonable method of buffering or screening for constructed facilities; and
- (g) Any permanent outside storage of supplies or equipment.

FIRST PARTY'S plan review of said items must take place within a reasonable time after receipt of SECOND PARTY'S plans. FIRST PARTY agrees to cooperate with SECOND PARTY and agrees not to withhold approval for reasonable site components.

3. The intended purpose of acquisition of said real property by SECOND PARTY is to construct all or some of the following water facilities:

Chlorine contact chambers; chlorine injection facilities, including storage, wells, reservoirs, water lines, security fencing and any other facilities directly related to the operations these stated facilities.

4. SECOND PARTY agrees to assist FIRST PARTY within the framework of CITY policies and requirements, and prior agreements between FIRST and SECOND PARTY, to the greatest extent possible, in providing domestic water supplies for lands owned by FIRST PARTY. Such assistance shall include, but not be limited to, over-sizing of reservoirs and proposed water lines to accommodate proposed development on property of FIRST PARTY, with appropriate compensation from FIRST PARTY for over-sizing.

5. Both FIRST and SECOND PARTIES may require access or utility easements which cannot be identified at this time, it is agreed both parties will negotiate in good faith all easement needs, locations, and conditions. If agreement between the parties cannot be reached, an impartial third party arbitrator, such as a civil engineering consultant, will be retained by both parties to review easement needs and issue a decision. The arbitrator's decision will prevail.

6. All access and utility easements shall be located to be compatible with future developments plans by both FIRST and SECOND PARTY. Upon the request of FIRST PARTY, the SECOND PARTY will restrict its access to SECOND PARTY facilities to SECOND PARTY right-of-way easements or public streets, provided access is available by such ways.

7. SECOND PARTY will pursue additional land acquisitions from others, if necessary, to accommodate future reservoirs serving Pressure Level 3, additional wells, and other necessary major facilities. SECOND PARTY anticipates a storage reservoir

will be constructed on the 12-acre tract of FIRST PARTY to serve pressure Level 3.

DATED this 23rd day of September, 1991.


FIRST PARTY:


William E. Miller

DATED this 24th day of Sept., 1991.

SECOND PARTY:

CITY OF BEND:

By: 
Lawrence Patterson, City Manager

q:\legal\agree\miller.agr
revised 9/18/91

August 20, 1991

Mr. William Miller
Miller Lumber
1. N.E. Greenwood
Bend, OR 97701

Re: City of Bend
Chlorination Facility Site
567-0303

Dear Bill:

Because of the steep grades along the existing waterline and access easement, the City of Bend respectfully requests a temporary construction access easement to provide contractors with an alternative access to the chlorination facility.

The proposed alternate construction access follows the existing cinder, pumice, and dirt haul roads. (See attached figure.) The alternate construction access would be in use through February of 1992, when construction is anticipated to be completed. Unless this temporary easement is extended by mutual agreement, it shall automatically terminate on March 1, 1992.

Specifications within the City of Bend contract documents, require the contractor to maintain existing roads, and apply water to control dust. The specifications also require the contractor to restore the construction access to its original condition.

With your approval, the City of Bend will utilize the construction access to provide contractors with an alternate access to insure competitive bids. If these conditions are acceptable, please designate your approval by signing on the line provided below.

Thank you again for your assistance with the completion of this City of Bend project.

Sincerely yours,

W & H Pacific

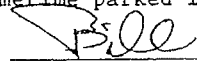


Ben F Williams
Project Designer

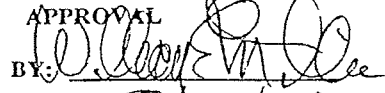
Added by Bill Miller:

Please caution city vehicles and equipment along with contractor vehicles and equipment to proceed with utmost caution. We frequently have slow moving vehicles, trucks, and equipment moving on these roads and sometime parked in roadway. We are alerting our personnel.

P. S. Please keep working on securing access from USFS.

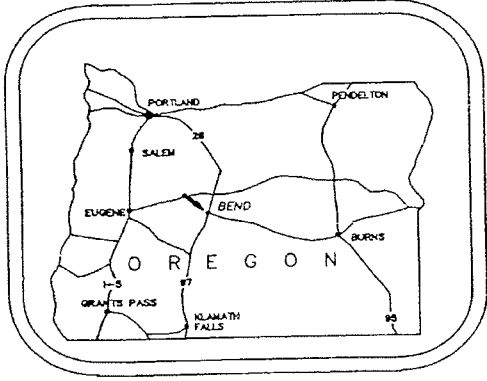


William E. Miller

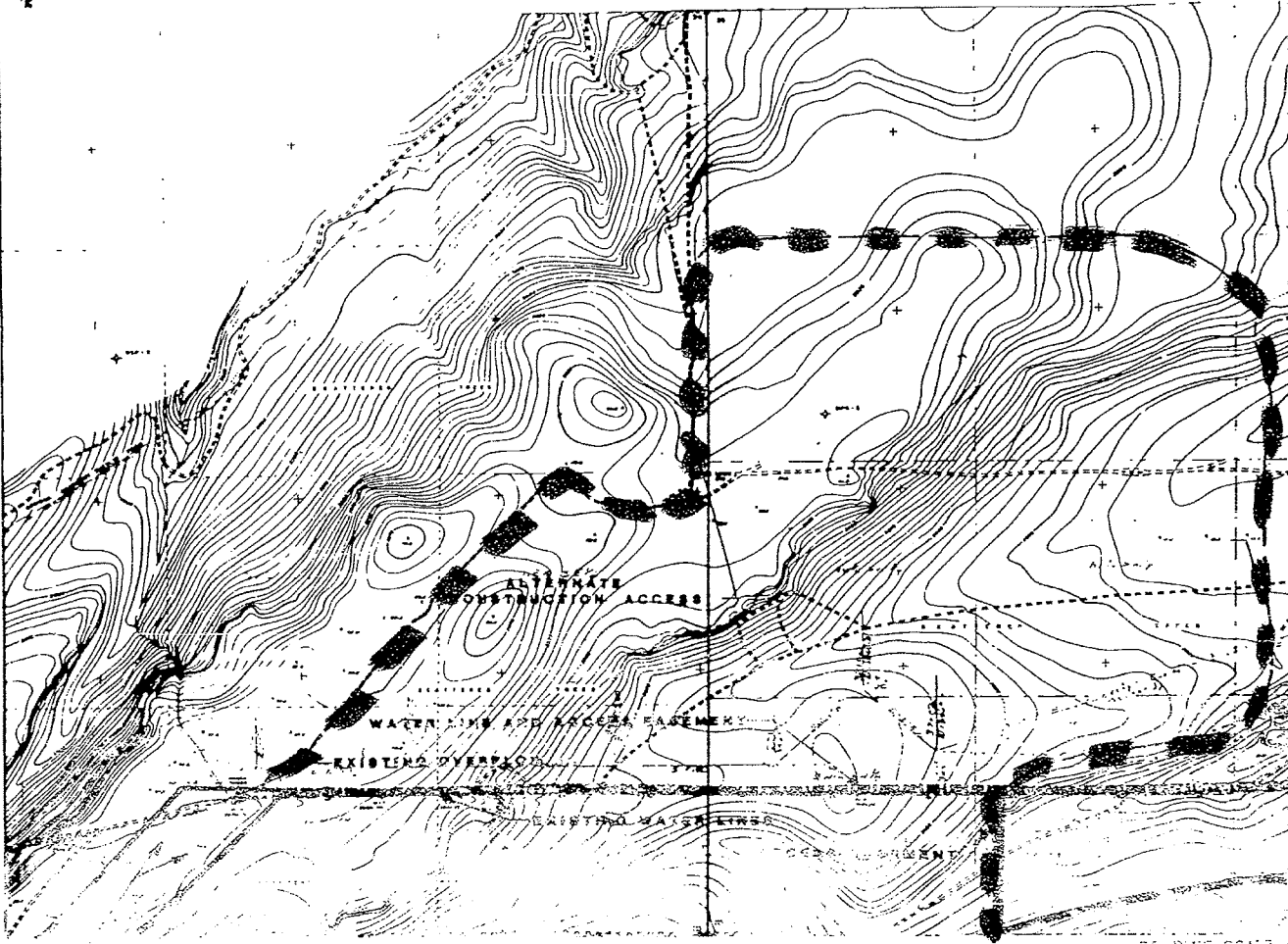
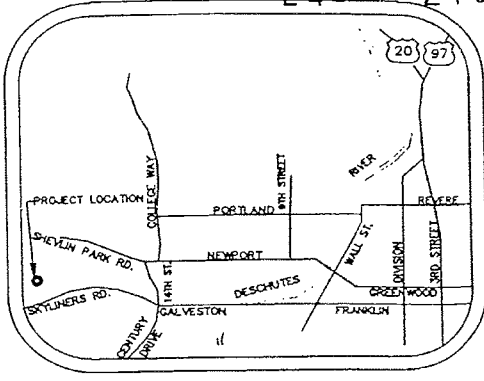
APPROVAL
BY: 
8/21/91



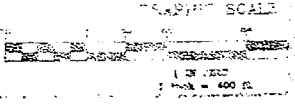
LOCATION MAP



VICINITY MAP



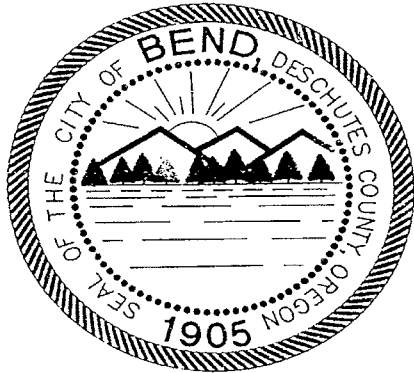
PROPOSED CITY OF BEND UTILIZATION OF



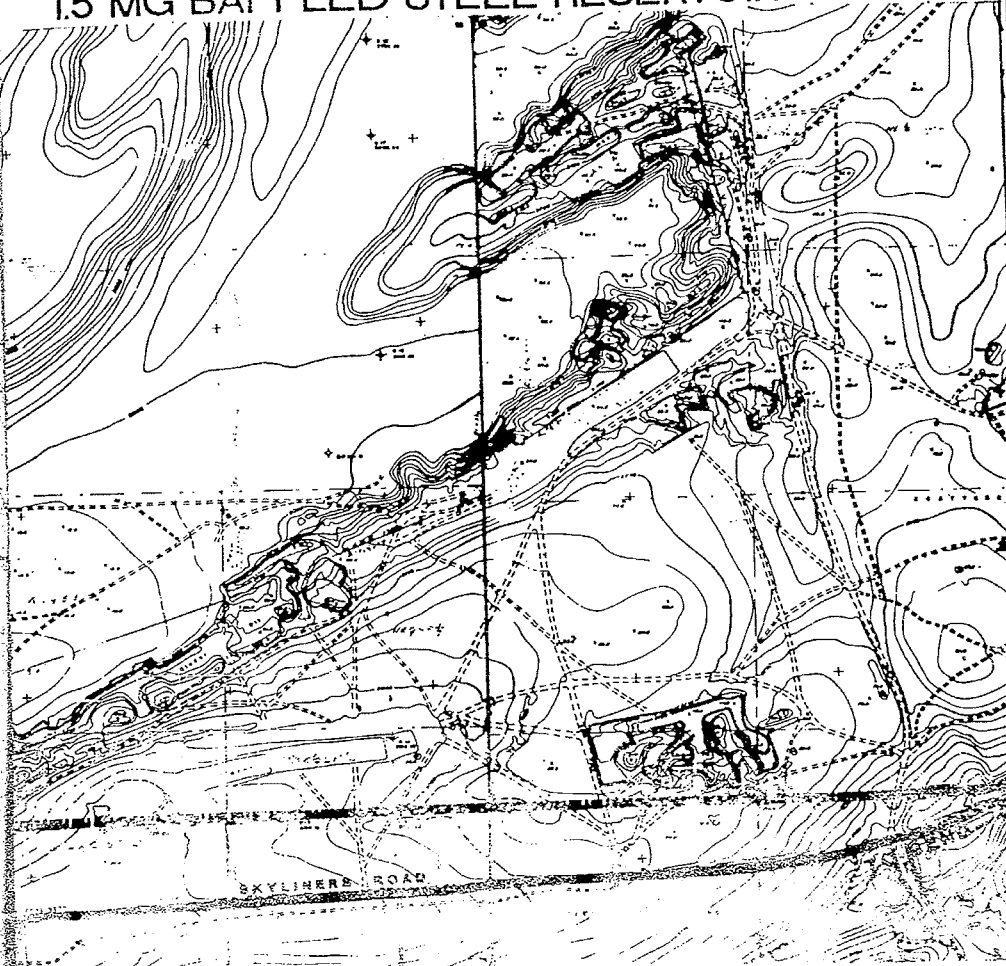
CITY OF BEND

245 - 2787

EXHIBIT A



1.5 MG BAFFLED STEEL RESERVOIR



APPROVED BY _____
DATE _____

W&H PACIFIC
 156 N.E. REVERE
 BEND, OREGON 97701
 (503) 385-4255
 ENGINEERING • PLANNING • SURVEYING • LANDSCAPE ARCHITECTURE

CITY OF BEND
 1.5 MG BAFFLED STEEL RESERVOIR
 CONSTRUCTION PLANS
 TITLE PAGE
 DESCHUTES COUNTY
 BEND, OREGON

Date: 8-26-1991
 Design: B.F.W.
 Drawn: B.F.W.
 Checked: T.A.W.

Revisions:

Sheet Number: **C-10**
 Job No: 567-21-15


245 - 2788

STATE OF OREGON)
COUNTY OF DESCHUTES) SS.

I, MARY SUE PENHOLLOW, COUNTY CLERK AND
RECORDER OF CONVEYANCES, IN AND FOR SAID
COUNTY, DO HEREBY CERTIFY THAT THE WITHIN
INSTRUMENT WAS RECORDED THIS DAY:

91 SEP 26 AM 11:46

MARY SUE PENHOLLOW,
COUNTY CLERK

BY.  DEPUTY
NO. 91-28510 FEE 73
DESCHUTES COUNTY OFFICIAL RECORDS

RECEIVED

DEC 24 1991 RECEIVED

DEC 19 1991 LEGAL COUNSEL

REVIEWED

254 - 0073

92-00535

DEVELOPMENT AGREEMENT

THIS AGREEMENT, made and entered into by and between Deschutes County, a political subdivision of the State of Oregon (hereinafter referred to as "County"), and THE CITY OF BEND, (hereinafter referred to as "Developer").

W I T N E S S E T H

WHEREAS Developer is Owner of certain real property as evidenced by the Bargain and Sale Deed dated September 23, 1991, and recorded in Volume 245, Page 2780, Deschutes County Book of Records, described in Exhibit "A", attached hereto and incorporated herein.

(hereinafter the Real Property).

WHEREAS County has granted approval of land use permit SP-91-142 for the above-described real property (hereinafter the land use permits) upon the condition that Developer construct and maintain certain requirements as specified therein; now therefore,

IT IS HEREBY AGREED by and between the parties, for and in consideration of the mutual covenants and agreements herein as a condition precedent to the granting of final approval or occupancy, as follows:

Scope of Agreement. This Agreement shall cover those improvements required to be constructed as a condition of approval of the above-referenced land use permits. Nothing in this Agreement shall require Developer to construct any improvements under the land use permits, but if Developer undertakes the construction of buildings, structures, or the division of real property under the land use permits, Developer shall be required to complete and maintain all improvements, as defined herein, in accordance with applicable County Ordinances and land use application approvals.

Definition of Improvement. As used herein, "improvement" means any private or public facility or service such as roadways, bike paths, accessways, pedestrian walkways, landscape areas, sewage collection and disposal systems, water systems, lighting systems, parking lots, cable utilities, circulation areas, outdoor storage areas, service and delivery areas, outdoor recreation areas,

retaining walls, signs and graphics, cut-and-fill areas, buffering and screening measures, street furniture, drainage facilities, or other similar improvements as approved and required in the land use permit.

Definition of Permanent Maintenance. As used herein, "permanent maintenance" generally means maintenance of the structures, improvements, and landscaping that are the subject of this Agreement in a manner that will keep such structures, improvements, and landscaping in good repair or good condition and in a condition that is not a hazard to public safety. With respect to landscaping, Developer's obligations shall include, without limitation, continued irrigation of landscaping and, where applicable, pruning of landscaping to guarantee required sight distances and to otherwise protect against hazardous conditions. With respect to drainage facilities, Developer's obligations shall include, without limitation, periodic cleaning of drainage ponds, drywells, or other drainage facilities or obstructions or silt that would limit the performance or effectiveness of drainage facilities. With respect to improvements, such as pavement and sidewalks, Developer's obligations shall include, without limitation, maintenance of the impervious nature of impervious surfaces, maintenance of evenness of surfaces so that such surfaces are not hazardous to the operation of vehicles or use by pedestrians.

Construction and Permanent Maintenance. If Developer is required under the land use permits to construct improvements of any kind or to install landscaping or plantings and Developer elects to proceed with development under the permit, Developer agrees: (1) to undertake the construction and landscaping required under the land use permits, as more specifically set forth in the conditions set out herein and in the land use permits; and, (2) in the event that this Agreement and the land use permits do not expire as set forth herein, to the permanent maintenance of required landscaping and improvements.

Enforcement. This Agreement shall be enforceable against any person bound by this Agreement in possession of or having fee title to the property. If any party bound by this Agreement defaults on the obligations set forth herein, the County shall be entitled to enforce this Agreement in equity. The prevailing party at trial or on appeal in any enforcement action shall be entitled to reasonable attorney fees and costs. This provision shall not limit County's rights to use other means provided by law, including but not limited to issuing a civil citation, to enforce the conditions of the land use permit.

Authority of Signatories. By their signatures, all signatories to this Agreement signing in a representative capacity certify that they are authorized to sign on behalf of and bind their respective principals.

Expiration. This Agreement and the above-referenced land use permits shall expire upon expiration of the land use permits or by the revocation of the land use permits or by the explicit

release by the County from this Agreement granted as part of an approval for a change of use of the Real Property.

No Partnership. County is not, by virtue of this Agreement, a partner or joint venturer of Developer in connection with activities carried on under this Agreement, and shall have no obligation with respect to Developer's debts or any other liabilities of each and every nature, and is not a guarantor of the Developer, the project, or the work to be performed.

Limitations. Should this Agreement violate any constitutional or statutory provision, it shall be void.

Persons Bound by Agreement. The original of this Agreement shall be recorded with the Deschutes County Clerk and shall run with the land. It is the intent of the parties that the provisions of this Agreement shall be binding upon the parties, their successors, heirs, executors, administrators, and assigns, or any other party deriving any right, title or interest or use in or to the Real Property, including any person who holds such interests as security for the payment on any obligation, including the Mortgagee or other secured party in actual possession of the Real Property by foreclosure or otherwise or any person taking title from such security holder.

Conditions of Final Approval. The following are the required conditions of final approval for SP-91-142:

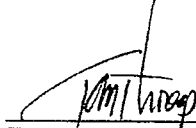
1. The Developer shall submit written verification of the exterior materials and colors for all structures on the treatment site prior to issuance of any building permit.
2. The Developer shall preserve the existing natural vegetation located on the 50-foot strip shown as the landscape and tree preservation area on the Site Plan.
3. The Developer shall work with the Oregon Department of Fish and Wildlife for the protection of wildlife, specifically as it relates to the proposed fence. If other alternatives to fencing are allowed, the City shall use these alternatives before fencing.
4. The Developer shall use the existing roads in the area for access to the site. No new roads leading to the site shall be established.
5. The use of the site after construction shall be limited to maintenance of the water treatment facility.
6. The Developer shall meet all requirements of the Deschutes County Environmental Health and Building Safety Divisions.
7. All utilities for the new buildings shall be placed underground.

8. The Developer shall sign and enter into a Development Agreement with Deschutes County to ensure that all elements of the Site Plan shall be installed and maintained as approved. This Development Agreement shall be approved and recorded with the Deschutes County Clerk prior to issuance of any building permit.
9. The Site Plan approval shall be granted for a 3-year time period and will include all aspects of the site, including water reservoirs. If the water reservoirs are not constructed within this time frame, the Developer shall be required to submit a new Site Plan application.

DATED this 23rd day of December, 1991.

254 - 0077

BOARD OF COUNTY COMMISSIONERS OF
DESCHUTES COUNTY, OREGON

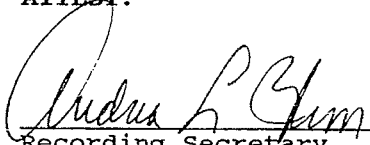


TOM THROOP, Commissioner

Excused

NANCY POPE SCHLANGEN, Commissioner

ATTEST:



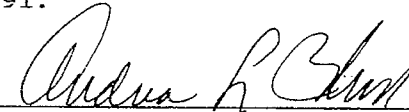
Recording Secretary



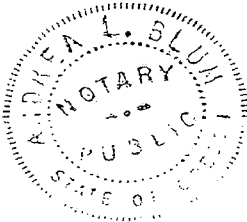
DICK MAUDLIN, Chairman

STATE OF OREGON, County of Deschutes: ss.

Before me, a Notary Public personally appeared TOM THROOP, NANCY POPE SCHLANGEN, and DICK MAUDLIN, the above named Board of County Commissioners of Deschutes County, Oregon, and acknowledged the foregoing instrument on behalf of Deschutes County, Oregon, this 23rd day of December, 1991.



Notary Public for Oregon
My Commission Expires: 10-9-92



DATED this 17th day of Dec, 1991.

254 - 0078

THE CITY OF BEND

BY: *Larry Patterson*
LARRY PATTERSON, City Manager

STATE OF OREGON, County of Deschutes: ss.

On this 17th day of December, 1991, before me, the undersigned, a Notary Public in and for said County and State, personally appeared the within named **LARRY PATTERSON**, City Manager, The City of Bend, who is known to me to be the identical individual described in and who executed the within instrument and acknowledged to me that he executed the same freely and voluntarily.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

Betty A. Huff
Notary Public for Oregon
My Commission Expires: Nov 20, 1994



DISCLAIMER AND LIMITATION OF LIABILITY

Information on the Deschutes County Computer is not guaranteed to be accurate and may contain errors and omissions. Deschutes County provides NO WARRANTY AS TO THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE FOR ANY INFORMATION. Original records may differ from computer entries. If reliance upon computer record is intended, verification of information on source documents is required. User expressly acknowledges and agrees that the use of any information appearing on the Deschutes County Computer is at User's sole risk. Deschutes County shall not be liable for any direct, indirect, incidental, or consequential damages caused by mistakes, omissions, deletions, errors, defects, in any information, or any failure or delays in receiving information. The following property tax assessment data is updated nightly.

Account: 257780 Map/TL: R 2-006 171100 00 06202 A1

See also: 180789

CITY OF BEND
 C/O PUBLIC WORKS (A)
 PO BOX 1458
 BEND OR 97709-1458

Spec. Int.: A1

Prop Cls:205 MA:6 VA:22 NH 000
 Asmt Zone:RR10

*** Land Values ***
 Asmt type Acres
 COMMERCIAL LOT 1.00

***** Values shown below are as of the Assessment Date, January 1 of each year *****

***	-----2010-----		-----2009-----		-----2008-----	
	Total RMV	Taxable A.V.	Total RMV	Taxable A.V.	Total RMV	Taxable A.V.
LND:	74,680	52,440	109,820	50,920	124,800	49,440

* * * T A X P A Y M E N T S * * *

For a copy of the **2010** property tax statement select the following button:

Get 2010 property tax statement for this property

This web site uses the FREE Adobe® Acrobat® Reader™ plug-in.
If you do not have this plug-in, click the icon to get it.



For a copy of the **2009** property tax statement select the following button:

Get 2009 property tax statement for this property

This web site uses the FREE Adobe® Acrobat® Reader™ plug-in.
If you do not have this plug-in, click the icon to get it.



For current balance due information on this account select the following button (**Please note that this link will provide current balance information, including interest & fees, EXCEPT FOR ACCOUNTS IN FORECLOSURE, please call the tax office @ 388-6540 for payoff information on foreclosure accounts**)

Get real-time tax summary for this property

This web site uses the FREE Adobe® Acrobat® Reader™ plug-in.
If you do not have this plug-in, click the icon to get it.



For balance due information on this account for a future date, specify a future date and select the following button (**Please note that this link will provide current balance information, including interest & fees, EXCEPT FOR ACCOUNTS IN FORECLOSURE, please call the tax office @ 388-6540 for payoff information on foreclosure accounts**)

Enter a value future Date (mm/dd/yyyy): 09/19/2011

Get real-time tax summary for a future date for this property

This web site uses the FREE Adobe® Acrobat® Reader™ plug-in.
If you do not have this plug-in, click the icon to get it.



2010 Balance Due	Adval Tax				
0.00	688.77				
Trn Date Btch	Received	Int/Disc	Jrnl	Rcpt#	Description
11-22-10 2010	-668.11	-20.66		109748	
2009 Balance Due	Adval Tax				
0.00	680.82				
Trn Date Btch	Received	Int/Disc	Jrnl	Rcpt#	Description
11-23-09 2309	-660.40	-20.42		947602	
2008 Balance Due	Adval Tax				
0.00	587.27				
Trn Date Btch	Received	Int/Disc	Jrnl	Rcpt#	Description
11-18-08 1808	-569.65	-17.62		782095	

2007 Balance Due	Adval Tax			
0.00	557.75			
Trn Date Btch	Received	Int/Disc Jrnl	Rcpt#	Description
06-11-08 1108	-587.50	29.75	693276	

individuals described in and who executed the within instrument, and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

J. M. Lawrence,
Notary Public for Oregon,
My Commission Expires April 10, 1928

(Notarial Seal)

D 1511

Oregon & Western Colonization Co., et al,

Filed October 5th., A. D. 1926.

To

4:20 o'clock P. M.

CITY OF BEND,

J. H. Haner, County Clerk,

Gwen Irwin, Deputy.

KNOW ALL MEN BY THESE PRESENTS; That Oregon & Western Colonization Company, a corporation of St. Paul, Minnesota, and L. L. Noonchester and Aura Noonchester, his wife, of Deschutes County, Oregon, hereinafter called the grantors in consideration of the payment to them of \$1.00 by City of Bend, a municipal corporation of Deschutes County, Oregon, receipt of which is hereby acknowledged and the performance by said City of Bend of the conditions and covenants hereinafter set forth, hereby GRANT AND CONVEY unto said City of Bend, hereinafter called the grantee, its successors or assigns an easement for the construction and repair and perpetual maintenance of a pipe or conduit for the conveyance of water over and upon a strip of land 16 feet wide, 8 feet on each side of the center line, said strip of land being located in the S. half of the SE $\frac{1}{4}$ of Section 34 and in the S $\frac{1}{2}$ of the S $\frac{1}{2}$ of Sections 35 and 36, of T. 17 S of Range 11 East W. M. and said center line being described as follows;

Beginning at a point on the north and south center line of Section 34 T. 17 S. R. 11 E at a distance of 720^{feet} north of $\frac{1}{2}$ section corner between said section 34 and Section 3 T. 18 S R 11 E.

- thence north 73° 59' east a distance of 360 feet
- thence North 88° 47' east a distance of 1235.8 feet
- thence south 89° 18' east a distance of 2260 feet
- thence due east a distance of 1300 feet
- thence north 88° 24' east a distance of 5400 feet
- thence north 82° 34' east a distance of 1850 feet
- thence south 82° 43' east a distance of 850 feet
- thence south 57° 11' east a distance of 105 feet

to a point on the east boundary line of Section 36 T. 17 S R. 11 E which point bears north a distance of 1050 feet from the southeast corner of said Section 36 which is also the south east corner of said T. 17 S of R 11 East of Willamette Meridian, also a perpetual easement for the conveyance of overflow of waste water from said pipe line or conduit to Tumalo Creek thru a existing draw or depression, located in the SW $\frac{1}{4}$ of the SE $\frac{1}{4}$ Section 34 T. 17 S R. 11 E. W. M. together with the right to reasonable lateral access to said strip of land for the purpose of maintenance, repair, and operation of said pipe line; PROVIDED, the grant hereby made is subject to any rights of way heretofore granted by Oregon & Western Colonization Company or its predecessors in interest and existing.

As a further consideration for the grant hereby made, the grantee upon the written request of the grantors, their successors or assigns, agrees to install connections in said pipe not to exceed 2 inches in diameter at points designated by them and perpetually to furnish water for domestic purposes to the grantors or to their assigns or successors in interest at the same rates as are charged for the same service within the city limits of Bend and subject to the same rules as to distribution; provided, that the number of such connections shall not exceed four for each quarter of a mile of said pipe.

It is further agreed by and between the parties that the grantee shall have the right to build at the surface of the ground such entrances to said pipe line as may be necessary provided that such openings be not larger than 4 ft. square and shall be so covered as to be safe for the crossing of stock or vehicles.

It is further agreed that said pipe line shall be so laid that the top thereof will be



D-EAS Cnt=1 Stn=2 SHIRLEY
\$10.00 \$11.00 \$10.00 \$5.00

10/08/2001 09:17:49 AM

Return to: Pacific Power
Attn. Linda Peacock
328 NE Webster
Bend OR 97701

CC: 11216 WO: 01889878 NAME: City of Bend, Oregon

RIGHT OF WAY EASEMENT

For value received, City of Bend Oregon, ("Grantor"), hereby grants to PacifiCorp, an Oregon corporation, its successors and assigns, ("Grantee"), an easement for a right of way 20 feet in width and 395 feet in length, more or less, for the construction, reconstruction, operation, maintenance, repair, replacement, enlargement, and removal of electric power distribution and communication lines and all necessary or desirable accessories and appurtenances thereto, including without limitation: supporting towers, poles, props, guys and anchor, including guys and anchors outside of the right of way; wires, fibers, cables and other conductors and conduits therefor; and pads, transformers, switches, vaults and cabinets, along the general course now located by Grantee on, over or under the surface of the real property of Grantor in Deschutes County, State of Oregon, as more particularly described and/or shown on Exhibit(s) "A" attached hereto and by this reference made a part hereof:

Located in the S ¼ of the S ½ of Section 34, T. 17 S., R 11 E., WM

Assessor's Map No. 17-11 Tax Parcel No. 6202

Together with the right of access to the right of way from adjacent lands of Grantor for all activities in connection with the purposes for which this easement has been granted; and together with the present and (without payment therefor) the future right to keep the right of way and adjacent lands clear of all brush, trees, timber, structures, buildings and other hazards which might endanger Grantee's facilities or impede Grantee's activities.

At no time shall Grantor place, use or permit any equipment or material of any kind that exceeds twelve (12) feet in height, light any fires, place or store any flammable materials (other than agricultural crops), on or within the boundaries of the right of way. Subject to the foregoing limitations, the surface of the right of way may be used for agricultural crops and other purposes not inconsistent, as determined by Grantee, with the purposes for which this easement has been granted.

The rights and obligations of the parties hereto shall be binding upon and shall benefit their respective heirs, successors and assigns.

DATED this 14th day of Sept., 2001.

[Signature] Interim City Manager
City of Bend, Oregon BY: Officer Name, Title

REPRESENTATIVE ACKNOWLEDGMENT

STATE OF Oregon)
County of Deschutes)^{ss.}

This instrument was acknowledged before me on this 14th day of Sept., 2001, by

Darcy C Justice, as Notary Public of
City of Bend.

[Signature]
Notary Public

My commission expires: 11-9-01

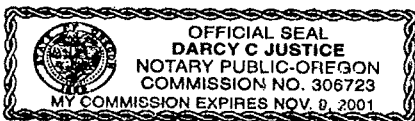
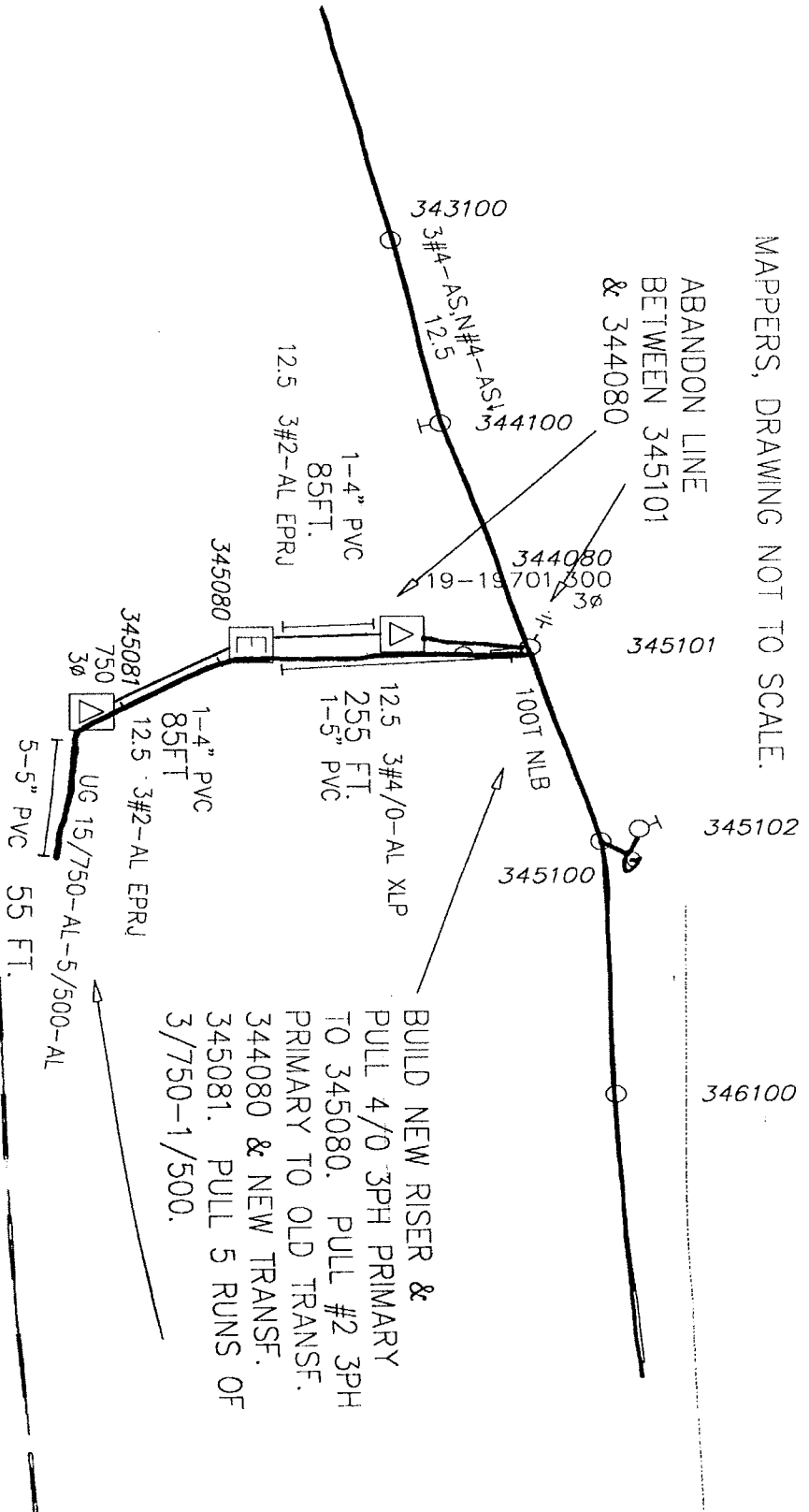


EXHIBIT "A"

MAPPERS, DRAWING NOT TO SCALE.

ABANDON LINE
BETWEEN 345101
& 344080



BUILD NEW RISER &
PULL 4/0 3PH PRIMARY
TO 345080. PULL #2 3PH
PRIMARY TO OLD TRANSF.
344080 & NEW TRANSF.
345081. PULL 5 RUNS OF
3/750-1/500.

LEGEND :

EXISTING FACILITIES (8-6-2001)

NEW UNDERGROUND ELECTRIC FACILITIES
COVERED BY ATTACHED R/W EASEMENT

Emp 62485 Scale 1=200'
Customer - City of Bend Map String 01417011.0 Circuit 50110

Foreman 11216	Emp # WO 001889878	Job Start Date	PACIFIC
Map String	Job Complete Date		

APPENDIX B
CONSULTATION

APPENDIX B-1
USFWS STATEMENT OF FEES

From: Peter.Lickwar@fws.gov
To: Siemens.Sandra
Subject: Re: Email
Date: Thursday, November 17, 2011 11:11:25 AM

Hi Sandra;

Please see below for the USFWS reply, slightly modified from your suggested language. Please let me know if you have any questions.

At this time, USFWS will waive fees associated with the establishment of mandatory terms and conditions for the City of Bend's proposed hydropower project at the Outback Reservoir Site pursuant to §18 CFR 4.301(2)(b). Our agency does, however, request that the City of Bend continues to consult with us throughout the FERC conduit exemption process. We also request that USFWS is provided the opportunity to review and comment on the draft application for the Conduit Exemption when it is submitted to the FERC.

Thanks,

Peter

Peter Lickwar/USFWS
(541) 312-6422 phone
(541) 383-7638 fax
Peter.Lickwar@fws.gov

"Siemens, Sandra"
<Sandra.Siemens@hdrinc.com>

11/17/2011 10:12 AM

To " (peter_lickwar@fws.gov)" <peter_lickwar@fws.gov>
cc
Subject Email

Peter,

This is suggested verbiage from Susan. If it meets your approval, can you copy it, paste it to a new e-mail and send it to me at Sandra.siemens@hdrinc.com, please?

At this time, USFWS does not require fees associated with the establishment of mandatory terms and conditions for the City of Bend's proposed hydropower project at the Outback Reservoir Site pursuant to §18 CFR 4.301(2)(b). Our agency does, however, request that the City of Bend continues to consult with us throughout the FERC conduit exemption process. We also request that USFWS is provided the opportunity to review and comment on the draft application for the Conduit Exemption when it is submitted to the FERC.

Thanks in advance.

SANDRA SIEMENS	HDR Engineering Project Assistant
	805 S.W. Industrial Way, Suite 4 Bend, OR 97702 541.323.2331, Ext. 4000 c: 541.410.5699 sandra.siemens@hdrinc.com hdrinc.com
	Follow Us - Facebook Twitter YouTube

APPENDIX B-2
INITIAL CONSULTATION DOCUMENT AND STAKEHOLDER
COMMENTS

INITIAL CONSULTATION DOCUMENT

In Support of

FERC Exemption of Small Conduit Hydroelectric Facilities

For the

Bend Conduit Project

Submitted By:

The City of Bend

July 2011



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1.0 Introduction

This Initial Consultation Document (ICD) provides information to and requests information from interested Federal and State of Oregon agencies, tribal entities, non-governmental organizations, and members of the public (stakeholders or interested parties) regarding the City of Bend's (the City) intent to prepare and file an application for exemption of small conduit hydroelectric facilities. The exemption application will be filed with the Federal Energy Regulatory Commission (FERC or Commission) in accordance with the application procedures detailed at 18 CFR § 4.92.

1.1 Background

Bend relies on two water supply sources: 1) surface water from Bridge/Tumalo Creeks, and 2) groundwater from the Deschutes Regional Aquifer. The City's surface water supply system was developed in the 1920s as an unfiltered, gravity-operated system and provides approximately half of the City of Bend's annual municipal water supply. The existing system includes a diversion structure, an intake facility and two 11-mile water supply conduits that carry water from the intake facility on Bridge Creek to a water storage and disinfection facility at the Outback Reservoir site. The intake facility on Bridge Creek conveys water from Bridge Creek and Tumalo Creek.

The existing water supply conduits are at the end of their useful life, have several areas of known degradation and are at risk of failure. Access to the existing water supply conduits is difficult, since most of the alignment lies within heavily forested areas on U.S. Forest Service (USFS) land. The conduits also cross several private properties on City easements. In several easements, structures have been built directly over the existing water supply conduits alignments. Tree roots and structure loading have contributed to the poor condition of the conduits.

The primary objective of the proposed installation of a new water supply conduit is to replace the structurally failing conduits that leak and lack flow control. In addition, the design of the existing water supply conduits limits the speed at which the conduits can be shut off. Therefore, a break in the existing conduits could result in significant damage to nearby property and infrastructure.

The United States Environmental Protection Agency (USEPA) recently issued new regulations (Long Term 2 Enhanced Surface Water Treatment Rule) that require additional treatment for microbial pathogens, such as cryptosporidium, in surface water supplies by October 2012. The City of Bend has applied for and received a 2-year extension for this requirement from Oregon

Health Authority. In addition to the regulatory requirements, the aging surface water supply system is at increasing risk of failure and water quality degradation from a forest fire, and is in need of significant repair, replacements and upgrades.

Bend completed an alternatives study comparing the refurbishment of the existing surface water supply system, replacement of the Tumalo/Bridge Creek supply with groundwater, or building a Deschutes River diversion. After carefully considering key issues, including environmental protection, water supply reliability and flexibility, water quality, water rights, limitations on existing groundwater delivery infrastructure, long-term energy use and costs, and construction and operation costs, the City determined the refurbishment option was preferred.

The City proposes the following actions to support compliance with the USEPA regulations:

- Install a new 30-inch steel water supply conduit to replace the existing two water supply conduits from the water intake facility to the Outback Reservoir site (the lower portion of the conduit will be steel, but other portions may be constructed using other materials).
- Build a 13.6 MGD (21 cfs) membrane filtration water treatment plant at the Outback Reservoir site.
- Upgrade the Bridge Creek water intake facility to meet current standards as required.
- Build a hydropower plant to utilize the energy potential of the gravity water system and to help offset costs.

The information provided below, and the portion of the project that is subject to comments from the public and interested agencies, and requests to FERC for information, is limited to the proposed hydroelectric facilities (the powerhouse) described in this ICD. As mentioned previously, the City is proposing a hydropower generation facility at the Outback Reservoir site to take advantage of the water pressure created by the 1,100-foot elevation drop between the intake facility and the Outback Reservoir site. The proposed hydropower facility would generate renewable power only from the water used for beneficial municipal use under the City's existing water rights, in the City's water system, and the revenue generated from the proposed project would provide an economic, environmental and energy benefit to the City.

1.2 Regulatory Process

Conduit Exemption

The City's proposed hydroelectric facility qualifies for a Conduit Exemption because it meets the following requirements of 18 C.F.R. §4.30 (b)(28) :

- i). Utilizes the hydroelectric potential of a conduit for electric power generation.
- ii). Is located entirely on non-Federal lands.
- iii). Is a municipal water supply and has an installed generating capacity of less than 40 MW.
- iv). Is *not* an integral part of a dam.
- v). Discharges the water it uses for power generation into a conduit and directly to a point of municipal consumption.
- vi). Does not rely upon construction of a dam.

Definition of Conduit

Pursuant to 18 CFR 4.30, FERC defines a conduit as any tunnel, canal, pipeline, aqueduct, flume, ditch, or similar manmade water conveyance that is operated for the distribution of water for agricultural, municipal or industrial consumption, and not primarily for the generation of electricity. The term not primarily for the generation of electricity includes but is not limited to a conduit built for the distribution of water for agricultural, municipal or industrial consumption, and is operated for such a purpose and to which a hydroelectric facility has been or is proposed to be added.

Definition of Small Conduit Hydroelectric Facility

A small conduit hydroelectric facility is an existing or proposed hydroelectric facility that is constructed, operated or maintained for generation of electric power, and has an installed generating capacity of less than 40 MW in the case of a municipal water supply. The hydroelectric facility excludes the conduit on which it is located and associated transmission lines.

Three-Stage Consultation Process

The FERC regulations governing the conduit exemption process require the City to pursue the three-stage consultation process. This ICD initiates the first of the required stages. Using FERC's

regulations and guidance, the City will pursue the following three stages of the exemption process to facilitate the filing of the conduit exemption application with the FERC in the second quarter of 2012.

First stage - This stage commences with the distribution of this ICD to interested parties (see distribution list in Appendix A). The City will then meet with various agencies (as required) to foster stakeholder involvement, assist in determining the appropriate scope of any necessary studies, and assist in determining any analysis required to support the exemption application.

Second stage – The City will gather information needed for the development of any necessary study plans and will prepare the draft and final exemption applications. There is a FERC required 90-day review period of the draft exemption application. This stage ends when the City files the final application.

Third stage – The third stage of consultation commences with the filing of the exemption application with the FERC and ends when the FERC issues the exemption order.

Obtaining an Exemption

The procedures for obtaining an exemption for constructed or unconstructed small conduit hydroelectric facilities as defined above commences with the distribution of this ICD. Subsequent to the City receiving comments on the ICD, the City will prepare the draft exemption application and distribute it to the relevant agencies and stakeholders for comment. This allows the City to address any relevant concerns and to resolve any relevant identified issues in the final application. As required by 18 CFR 4.92, the application must include:

- An Introductory Statement – a formal notice of intent to file the application.
- Exhibit A – A description of the small conduit hydroelectric facility and proposed mode of operation as well as anticipated date to commence with construction.
- Exhibit E – A description of the environmental setting and anticipated impacts within the vicinity of the facility, which includes terrestrial resources, aquatic and wildlife resources, water quality resources, recreation and land use, socio-economics and cultural resources. Special attention must be given to endangered or threatened plant and animal species, critical habitat and sites eligible for or included in the National Register of Historic Places.

- Exhibit F – A set of drawings, which depict the structures and equipment of the small conduit hydroelectric facility.
- Exhibit G – General location map that shows the physical structures of the small conduit hydroelectric facility in relation to the conduit and any dam to which any of these structures are attached. The map must also show a proposed Project Boundary enclosing all project works to be exempted from licensing and the ownership of the parcels of land within the proposed boundary. Both Exhibits F and G must conform to the Commissions specifications at 18 CFR 4.41.

The FERC does not require Exhibits B, C, and D to be filed as part of a Conduit Exemption Application.

The application will also contain appendices containing evidence that the City of Bend has the real property interests, identification of all Indian tribes potentially affected by the project, and agency consultation in the form of draft application comments or correspondences.

The City will submit the final application to the FERC and the relevant stakeholders and legal notices will be published. FERC then reviews the application and the agencies file any additional comments with the FERC.

FERC will issue an order granting or denying the exemption. The order granting the exemption is subject to FERC standard terms and conditions as well as any terms and conditions set by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and State fish and wildlife agencies. The project must commence with actual construction within two years and be completed within four years from the effective date of the exemption order.

Table 1 - Small Conduit Exemption Schedule

18 CFR §	Lead	Activity	Time Frame	Deadline Dates
	Bend	Distribute ICD	1 Day	7/8/11
§4.38 (b)(2)	Bend	Publish Meeting Notice	15 days prior to joint meeting	7/26/2011
§4.38(b)(3)(ii)	Bend	Joint Meeting	30 – 60 days after distribution of ICD	8/10/2011
§4.38(b)(5)	Stakeholders	Stakeholder Comments Due	60 days after joint meeting	10/9/2011
§4.38(c)(1)	Bend	If necessary, conduct studies		
NA	Bend	Site Visit		Tentatively scheduled for 10/11/2011
§4.38(c)(4)	Bend	Distribute Draft Application		11/7/2011
§4.38(c)(5)	Stakeholders	Stakeholder Comments on Draft Application	90 days	11/7/2011-02/5/2012
§4.38(d)	Bend	Prepare, File and Distribute Final Application	14 days	2/17/2012
NA	FERC	Review final application and Issue Exemption	6 months	2/20/2012 - 8/7/2012

2.0 Application for Exemption of Small Conduit Hydroelectric Facilities

Pursuant to the requirements of 18 CFR §4.38(b)(2), the City is providing the information below to initiate the formal three-stage consultation process required to support the proposed filing of its application for exemption of a small conduit hydroelectric facility.

2.1 Project Maps

The only facility included in the conduit exemption application is the proposed powerhouse. The current design for the powerhouse proposes a 50-foot by 35-foot building that would be 15 to 20 feet tall.

Figure 1 – Primary components and configuration of existing water supply system that originates at the City of Bend intake facility on Bridge Creek and terminates at the existing aboveground reservoir storage facility two miles west of the City of Bend at the city owned Outback facility.

Figure 2 – Consistent with FERC regulations and policy, only the actual hydroelectric generation equipment is proposed for inclusion in the FERC Project Boundary for the conduit exemption. The water conduit facilities are not included in the proposed project features that will be under FERC jurisdiction under the conduit exemption.

The City of Bend owns all the land within the proposed FERC Project Boundary, which represents the footprint of the Bend Powerhouse and associated substation as well as a 25-foot buffer surrounding the powerhouse and the substation.

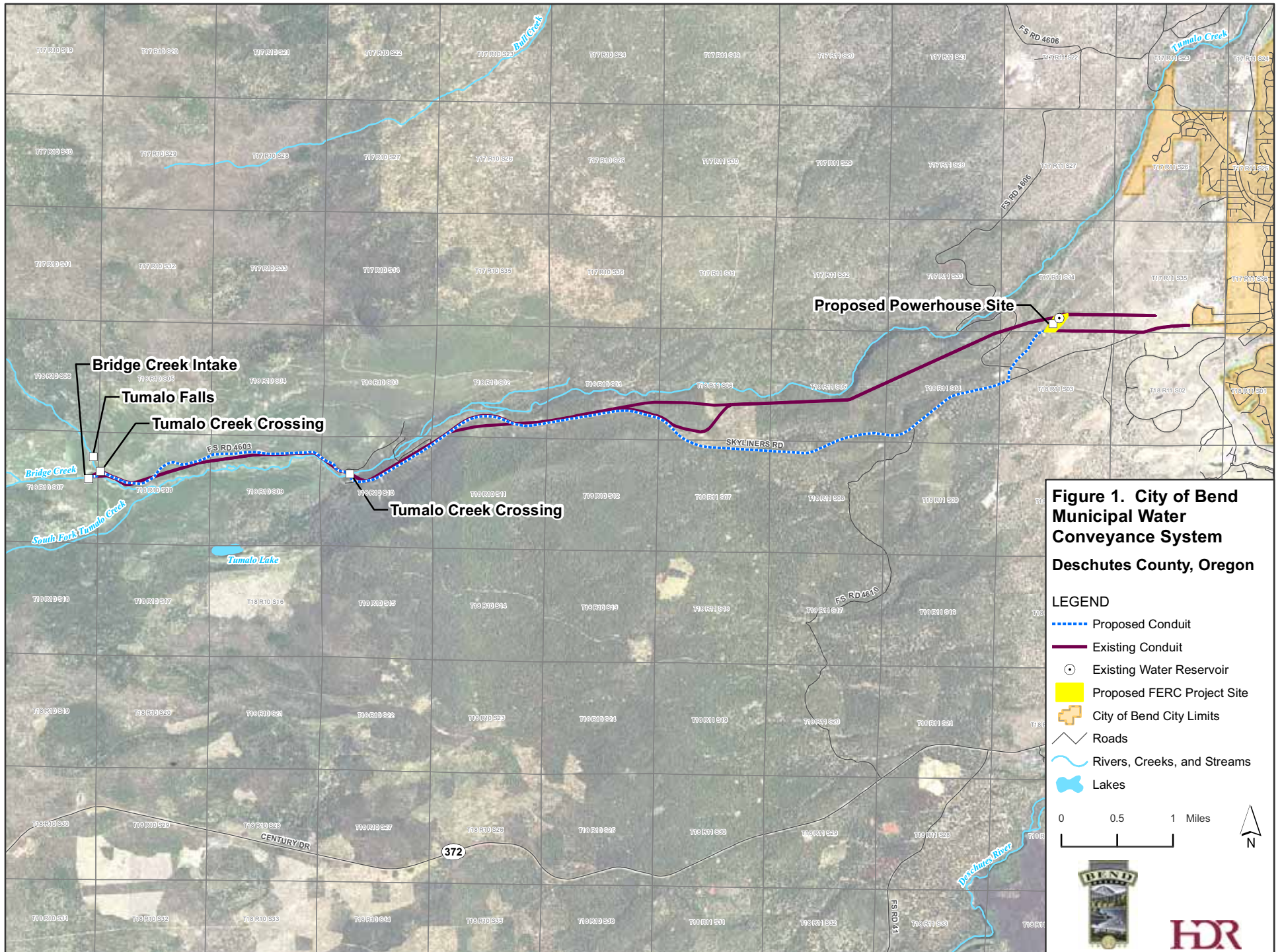


Figure 1. City of Bend Municipal Water Conveyance System Deschutes County, Oregon

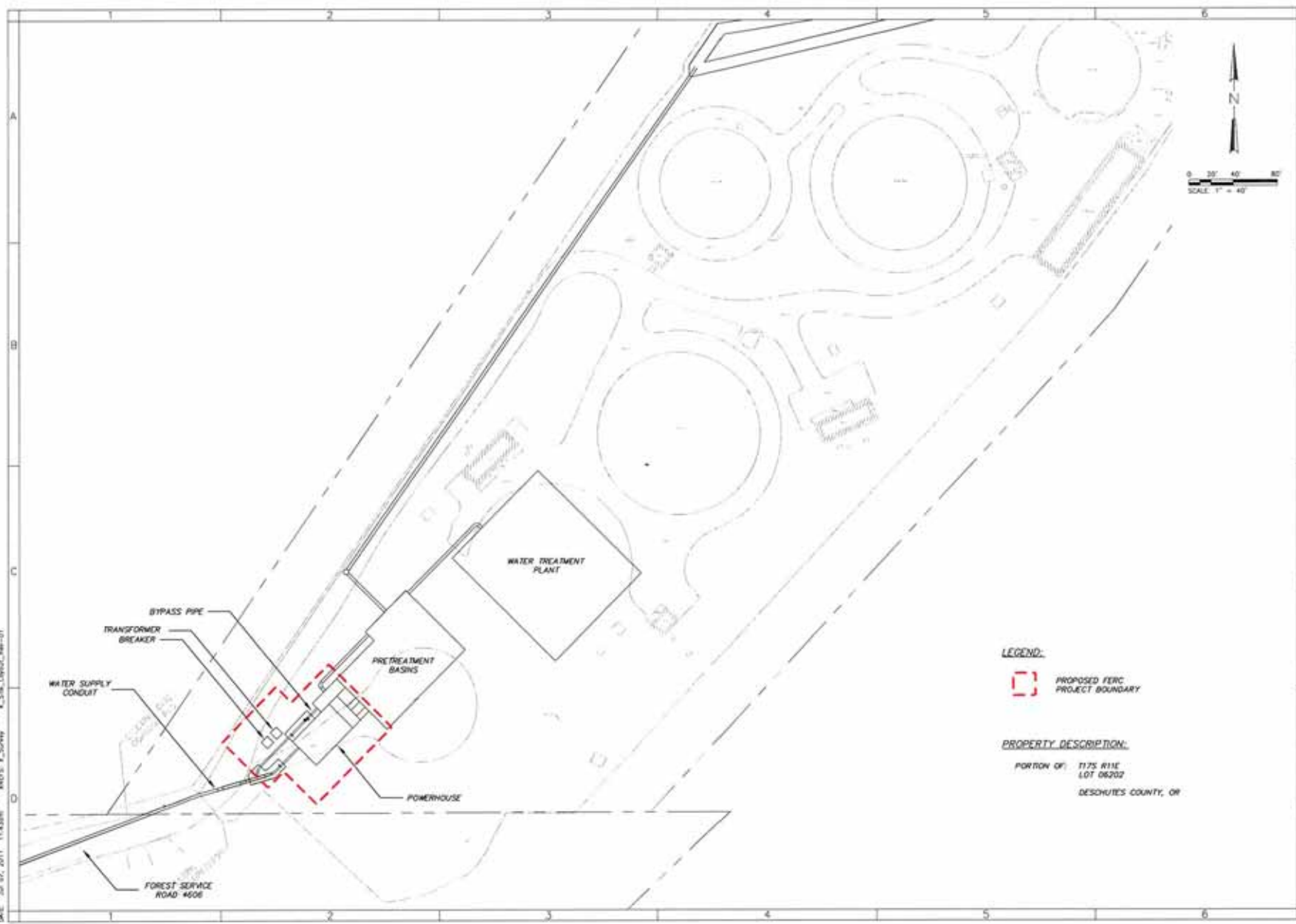
LEGEND

- - - Proposed Conduit
- Existing Conduit
- Existing Water Reservoir
- Proposed FERC Project Site
- City of Bend City Limits
- Roads
- ~ Rivers, Creeks, and Streams
- ⊕ Lakes

0 0.5 1 Miles



C:\Users\j\OneDrive\Documents\Figures 02.dwg USER: jh4016
 DATE: Jul 27, 2011 11:43am PLOT: K_516_Layout_Rev=01



LEGEND:

PROPOSED FERC PROJECT BOUNDARY

PROPERTY DESCRIPTION:

PORTION OF: T17S R11E
 LOT 06202
 DESCHUTES COUNTY, OR

**- DRAFT -
 NOT FOR
 CONSTRUCTION
 OR
 RECORDING**

**SURFACE WATER IMPROVEMENT PROJECT
 SITE MAP FOR
 PROPOSED FERC PROJECT BOUNDARY**

 DESCHUTES COUNTY, OREGON



REVISIONS	



DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SCALE:	1" = 40'
FILE:	
DATE:	MAY 2011

VERIFY SCALES
 0 1" = 40'

FIGURE
02

COB #
 WA0902

2.2 General Engineering Design

The proposed Bend Powerhouse building would enclose the generating equipment as well as all associated control and auxiliary equipment to maintain a suitable weather protected dry environment. The building would be simple concrete masonry or steel construction with minor architectural features. The arrangement will allow access to the equipment for maintenance and repairs, and include either an overhead crane or access by forklift for equipment disassembly.

Water used for generation at the Bend Powerhouse will discharge to the City of Bend Water Treatment Plant for treatment and distribution to the City's customers for beneficial municipal use, authorized under the City's existing water rights. A bypass valve will be installed in parallel to the turbine-generator to provide for uninterrupted water supply to the water treatment plant in case the turbine is out of service or flows exceed the turbine capacity or the State of Oregon water rights authorization to generate hydropower.

The City will prepare Exhibit F drawings for the FERC Draft Exemption Application depicting the generating facilities proposed to file with the small conduit exemption application.

2.3 Proposed Project Operation

The replacement water supply conduit would terminate in a hydroelectric powerhouse, which would regulate the flow to the water filtration facility. The powerhouse would be equipped with a single impulse turbine, rated approximately 1600 kW. The City plans a sustainable turbine operation not to exceed 21 cfs. The discharge of the turbine will be limited by the demands of the water system and subsequent beneficial use of water for municipal use. Discharge of the turbine will also be limited by the amount of surface water available at the intake and other constraints identified in this document. The turbine would discharge into a small afterbay that is integral with the water treatment plant pretreatment area.

A bypass valve will be located adjacent to the powerhouse, which would provide for continuation of the flow whenever the turbine is out of service or has reached its authorized capacity. The bypass valve will also be capable of a wide range of discharge to meet the flow requirements of the filtration plant and would discharge into the same or parallel afterbay. The turbine will be equipped with a synchronous generator and a speed controller. The afterbay and associated preliminary treatment facilities will be equipped with multiple electrically driven variable speed pumps, which would deliver the flow to the filtration plant with constant regulated pressure.

Automatic controls would adjust both the turbine and the pumps in a coordinated manner to smoothly adjust the flow rate to meet the demand of the water system.

The hydroelectric equipment will be enclosed within a concrete block or metal building, so noise level outside of the building would be quite low. Any water leakage within the building will be routed to a sump equipped with an oil-water separator to prevent any oil leakage from being discharged from the building. All critical water and power control functions would be operated by power from the station battery for high reliability.

2.4 Environmental Conditions

The proposed FERC Project Boundary for the Bend Powerhouse Project (Figure 2) covers approximately 0.04 acres of land, all of which is completely contained within Deschutes County Tax lot 1711000006202, entirely owned and managed by the City of Bend. As seen in Figures 3 through 5, the proposed powerhouse site consists of an existing graded and graveled area with a sporadic covering of herbaceous vegetation in association with disturbed and fallow areas (e.g. grasses and forbs). Due to this disturbance, the site does not contain any environmental or recreational resources. At this time, the City does not propose any hydropower house-specific protection, mitigation or enhancement measures to be included in the Conduit Exemption.



Figure 3 - View of Entrance to Existing Site Facing South



Figure 4 - North View of Existing Water Storage Tanks (proposed site in foreground)



Figure 5 - View of Proposed Site Facing West

2.5 Streamflow and Water Regime Information

Streamflow and water regime information used to evaluate hydropower flows is included in Appendix B (Technical Memorandum “Hydropower Flows” dated July 7, 2011). Appendix B includes drainage area, natural flow periodicity, monthly flow rates and durations, mean flow figures illustrating the mean daily streamflow curve for each month of the year at the point of diversion, location of the stream gauging station, and the method used to generate the streamflow data provided.

2.6 PURPA Statement

FERC certification of a Qualifying Facility (QF) gives the Applicant the right to sell energy and electrical capacity under the Section 201 of the Public Utility Regulatory Policies Act of 1978 (PURPA). The FERC regulations and policies governing certification of a QF are found at 18 CFR 292.202-292.209. The three types of facilities eligible to receive certification are Small Power Production Facilities (SPPs), Cogeneration Facilities, and Hydroelectric SSPs not located at a new dam or diversion. The proposed project qualifies as a QF based upon the projected power production capabilities being less than 80 MW. Its primary energy source is a renewable resource and the project is not owned by a company primarily engaged in sale or generation of power.

The City of Bend is going to seek benefits under Section 210 of PURPA.

2.7 Proposed Studies

The City is not currently proposing any environmental studies for the conduit exemption application based on the small project footprint and the lack of environmental resources within the proposed Project Boundary.

2.8 Notice to Fish and Wildlife Agencies

Pursuant to 18 CFR §4.301, the City of Bend herein notifies the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife that it will be seeking an exemption from FERC licensing. The City of Bend is requesting from the mandatory conditioning agencies an estimate of the total costs the agencies anticipate they would incur to set the mandatory terms and conditions for the project.

2.9 Invitation to Comment

As required by Federal Energy Regulatory Commission (FERC) regulation 18 CFR, Part 4, Section 4.38(a) and (b), the City of Bend is requesting your review and comment on this ICD for exemption of proposed small conduit hydroelectric facilities.

Comments may be submitted electronically to Sandra Siemens at:

sandra.siemens@hdrinc.com

Comments must be submitted as part of the actual e-mail message, or as an attachment in Microsoft Word or portable document format (pdf) only. Emails submitted to e-mail addresses other than the one listed above, in other formats than those listed, or containing viruses will be rejected. Please put "Bend FERC Conduit Exemption" in the subject line of your email.

Comments may also be submitted in writing by mail. Written comments should be sent to: HDR/Bend Surface Water Improvement Project Office, 805 SW Industrial Way, Suite 4, Bend, OR 97701.

To help us reach as many interested parties as possible, please share this ICD with others who may be interested.

2.10 Joint Meeting

Also, as required by FERC regulation 18 CFR, Part 4, Subpart D, Section 4.38(b)(2), the City of Bend has scheduled a joint meeting to discuss the proposed project. The meeting is currently scheduled for August 10, 2011, from 2:00 to 4:00 p.m. at the Deschutes County Administration Building, Barnes Meeting Room (1300 N.W. Wall Street Bend, OR).

**Appendix A
ICD Distribution List**

APPENDIX A

Agency Type	Agency	Agency Con't	Title	Region	Address
FED	Bureau of Indian Affairs	U.S. Department of the Interior	Regional Director	Northwest Region	911 NE 11th Avenue Portland OR 97132
FED	United States Geological Survey		Regional Director	Western Region	345 Middlefield Road Menlo Park CA 94025
FED	Office of Senator Merkley		U.S. Senator		107 Russell Senate Office Building Washington DC 20510
FED	Office of Senator Wyden		U.S. Senator		230 Dirksen Senate Office Building Washington DC 20510
FED	U.S. Army Corps of Engineers		Division Commander	Northwestern Division	P.O. Box 2870 Portland OR 97208-2870
FED	U.S. Army Corps of Engineers		District Engineer	Portland District Office	P.O. Box 2946 Portland OR 97208-2946
FED	U.S. Army Corps of Engineers		Division Commander	South Pacific Division	1455 Market St San Francisco CA 94103-1398
FED	U.S. Bureau of Land Management	U.S. Department of the Interior	State Director	Oregon State Office	P.O. Box 2965 Portland OR 97208-3420
FED	National Oceanic and Atmospheric Administration	Regional Fisheries Office	Regional Administrator	Northwest Region	7600 Sand Point Way NE Seattle WA 98115-0070
FED	U.S. Bureau of Reclamation	U.S. Department of the Interior	Regional Director	Mid-Pacific Region	2800 Cottage Way Sacramento CA 95825-1886
FED	National Oceanic and Atmospheric Administration	Northwest Fisheries Science Center	Director	Northwest Region	2725 Montlake Boulevard East Seattle WA 98112-2097
FED	U.S. Bureau of Reclamation	U.S. Department of the Interior	Regional Director	Pacific Northwest Region	1150 Curtis Road Suite 100 Boise ID 83706-1234
FED	U.S. Department of Agriculture - Forest Service		Regional Forester	Pacific Northwest Region - 6	P.O. Box 3623 Portland OR 97208-3623
FED	U.S. Environmental Protection Agency		Regional Administrator	Region 10: Pacific Northwest	1200 Sixth Avenue Seattle WA 98101
FED	U.S. Fish and Wildlife Service	Klamath Falls Field Office	Field Supervisor	Region 8 - California and Nevada	1936 California Avenue Klamath Falls OR 97601
FED	U.S. Fish and Wildlife Service	Oregon Field Office	Field Supervisor	Region 1 - Pacific	2600 Southeast 98th Avenue Suite 100 Portland OR 97266-1398
FED	U.S. Fish and Wildlife Service		Regional Director	Region 1 - Pacific	911 NE 11th Avenue Portland OR 97232-4181
FED	U.S. Fish and Wildlife Service		Regional Director	Region 8 - California and Nevada	2800 Cottage Way Suite W 2606 Sacramento CA 95825-1846
FED	U.S. Department of Commerce	Office of the Secretary	Secretary		1401 Constitution Avenue NW Washington DC 20230

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FED	U.S. Army Corps of Engineers		Commander	Headquarters	441 G Street NW Washington DC 20314
FED	United States Geological Survey	U.S. Department of the Interior	Director	Headquarters	12201 Sunrise Valley Dr Reston VA 20192
FED	U.S. Department of Agriculture - Forest Service		Chief	Headquarters	1400 Independence Ave SW Washington DC 20250-0003
FED	Naval Seafloor Cable Protection Office	Naval Facilities Engineering Command, NAVFAC-OPF/C		Ocean/Tidal Hydrokinetics	1322 Patterson Ave SE Suite 1000 Washington DC 20374-5065
FED	U.S. Forest Service			Headquarters	1400 Independence Avenue SW Washington DC 20250-0003
FED	U.S. Bureau of Reclamation	U.S. Department of the Interior	Commissioner	Headquarters	1849 C Street NW Washington DC 20240
FED	National Park Service	One Jackson Center	Regional Director	Pacific West Region	1111 Jackson Street Suite 700 Oakland CA 94607
FED	National Oceanic and Atmospheric Administration		Administrator	Headquarters	1401 Constitution Ave NW Room 6217 Washington DC 20230
FED	Federal Energy Regulatory Commission	Division of Dam Safety and Inspections	Regional Engineer	Portland Regional Office	805 SW Broadway Fox Tower - Suite 550 Portland OR 97205
FED	Federal Emergency Management Agency		Director	Headquarters	500 C Street SW Washington DC 20472
FED	National Park Service	U.S. Department of the Interior	Director	Headquarters	1849 C Street NW Washington DC 20240
FED	U.S. Environmental Protection Agency	Ariel Rios Building	Administrator	Headquarters	1200 Pennsylvania Ave NW Washington DC 20460
FED	U.S. Coast Guard	Navigation Standards Branch (Hydrokinetics)	Commandant (CG-5413)		2100 2nd St. SW Stop 7581 Washington DC 20593-7581
FED	U.S. Fish and Wildlife Service	U.S. Department of the Interior	Director	Headquarters	1849 C Street NW Room 3238 Washington DC 20240-0001
	U.S. Fish and Wildlife Service				20310 Empire Avenue Suite A100 Bend OR 97701
FED	Bureau of Indian Affairs	U.S. Department of the Interior	Director	Headquarters	1849 C Street NW MS 2624 MIB Washington DC 20240
FED	Advisory Council on Historic Preservation	Old Post Office Building	Executive Director	Headquarters	1100 Pennsylvania Ave NW Suite 803 Washington DC 20004
FED	U.S. Bureau of Land Management	U.S. Department of the Interior	Director	Headquarters	1849 C Street NW MIB 5655 Washington DC 20240
FED	Oregon Department of Fish & Wildlife		Alan Dale	High Desert Region	61374 Parrell Road Bend OR 97702
FED	Oregon Department of Fish & Wildlife			Fish Division	3406 Cherry Avenue N.E. Salem, OR 97303-4924

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FED	Oregon Department of State Lands		Bethany Harrington	Eastern Region	1645 N.E. Forbes Road, Suite 112 Bend, OR 97701
FED	Oregon Department of State Lands				775 Summer Street N.E. Suite 100 Salem OR 97301 1279
FED	U.S. Army Corps of Engineers		Brian Wilson		1600 Executive Parkway Suite 210 Eugene OR 97401-2156
NGO	Pacific Coast Federation of Fishermen's Associations		Northwest Regional Director		P.O. Box 11170 Eugene OR 97440-3370
NGO	American Canoe Association		Executive Director		1340 Central Blvd. Suite 210 Fredericksburg VA 22401
NGO	American Whitewater		Executive Director		P.O. Box 1540 Cullowhee NC 28723
NGO	Hydropower Reform Coalition		National Coordinator		1101 14th St. NW Suite 1400 Washington DC 20005
NGO	Columbia River Gorge Commission		Executive Director		NE Wauna Ave P.O. Box 730 White Salmon WA 98672-0730
S	Oregon Parks & Recreation Department		SHPO		725 Summer Street NE Suite C Salem OR 97301
S	Oregon Department of Environmental Quality	Water Quality Division	Director		725 Summer Street NE Suite A Salem OR 97301
S	Oregon Department of Fish and Wildlife	Director's Office	Director		3406 Cherry Avenue NE Salem OR 97303
S	Oregon State Parks and Recreation Department	Officer of the Director	Director		725 Summer Street NE Suite C Salem OR 97301
S	Oregon Natural Resources Council		Administrator		5825 N. Greely Avenue Portland OR 97217
S	Oregon Department of Forestry		State Forester		2600 State Street Salem OR 97310
S	Office of the Attorney General	Justice Building	Attorney General		1162 Court Street NE Salem OR 97301
S	Oregon Department of Agriculture		Director		635 Capitol Street NE Salem OR 97301-2532
S	Office of the Governor		Governor		900 Court Street NE Room 254 Salem OR 97301-4047
S	Oregon Dept of Land Conservation and Development		Director		635 Capitol Street NE Suite 150 Salem OR 97310-2540
T	Confederated Tribes of the Warm Springs Reservation - Tribal Council		Chairman		P.O. Box C Warm Springs OR 97761-3001

APPENDIX A

T	Confederated Tribes of the Umatilla Indian Reservation				P.O. Box 638 Pendleton OR 97801
T	Confederated Tribes of the Umatilla Indian	Reservation			P.O. Box 638 Pendleton OR 97801
T	Confederated Tribes of the Umatilla Indian Reservation		Chairman		P.O. Box 638 Pendleton OR 97801-0638
T	Confederated Tribes of Coos Lower Umpqua and Siuslaw Indians		Chairman		1245 Fulton Avenue Coos Bay OR 97420
T	Hells Canyon Preservation Council		Conservation Director		PO Box 2768 La Grande OR 97850
T	Siletz Tribal Council		Chairman		P.O. Box 549 Siletz OR 97380-0549
T	Burns Paiute Tribe General Council		Chairman		H.C. 71 100 Pasigo Street Burns OR 97720
T	Klamath General Council		Chairman		P.O. Box 436 Chiloquin OR 97624-0436
T	Umpqua Watersheds		Executive Director		PO Box 101 Roseburg OR 97470
T	Coquille Indian Tribe		Chairman		P.O. Box 783 North Bend OR 97549
T	The Institute for Fisheries Resources		Program Director		PO Box 11170 Eugene OR 974403370
T	Cow Creek Government Offices		Chairperson		2371 N.E. Stevens Suite 100 Roseburg OR 97470-1338
T	Confederated Tribes of the Grand Ronde Community of Oregon		Chairperson		9615 Grand Ronde Road Grand Ronde OR 97347-0038
L	City of Bend		City Council		710 NW Wall Street Bend Oregon 97701
	Deschutes County Planning	Nick Lealack			117 NW Lafayette Avenue Bend OR 97701
L	Deschutes County Clerk		County Clerk		1300 NW Wall Street, Ste 200 Bend, OR 97701
L	Eileen Stein		City Manager		520 E. Cascade Ave P.O. Box 39 Sister, OR 97759
L	City of Redmond				716 SW Evergreen Ave Redmond, OR 97756
NGO	Upper Deschutes Watershed Council				700 NW Hill Street Bend OR 97701-2923
NGO	Tumalo Irrigation District	Elmer McDaniels	Manager		64697 Cook Avenue Bend OR 97701
NGO	Deschutes River Conservancy DRC				700 NW Hill Street Bend OR 97701-2923
NGO	Friends of Bend		Liz Rewick		16 NW Kansas Ave Bend, OR 97701
NGO	Bend Parks and Recreation		Executive Director		799 SW Columbia St Bend, OR 97709

Appendix B
Draft Technical Memorandum, Hydropower Flows, 7/5/2011

DRAFT Technical Memorandum

To: Heidi Lansdowne, PE, City of Bend
From: Bryan Black, PE
Project: Surface Water Improvement Project
Date: 07-07-2011
RE: Hydropower Flows, DRAFT

1 Background and Purpose

The City of Bend Oregon (City) is considering construction of a hydropower generation facility on its surface water supply system. The City has asked HDR to evaluate the economics of the hydropower facility. This memorandum describes the flows potentially available for hydropower generation as a first step in assessing the potential power generation revenue. Information and assumptions described in this memorandum should not be construed as operational commitments or restrictions.

2 Objectives and Approach

The objective of this analysis and memorandum is to evaluate the streamflows available for hydropower generation. Since operation of the powerhouse will be coincident with operation of the surface water supply system, the flows available for hydropower generation will not exceed the flows available for municipal water supply. Flows for hydropower generation are further constrained as noted below.

2.1 Water Supply Operations

The City operates two primary water sources: 1) Bridge / Tumalo Creek surface water and 2) groundwater. Surface water is used on a year-round basis. Groundwater is used primarily in summer to help meet peak water demands.

The City is in the process of installing filtration of the Bridge / Tumalo Creek water supply to meet new federal drinking water requirements by 2014. Filtration of the supply will provide the City access to water typically not available to them during snow-melt conditions when turbidity is increased. This typically occurs during the months of May through July, during periods when the City experiences significant peaking of water demands.

Flow through the turbine-generator system has four primary constraints:

- ◆ **Water demand.** The flow through the turbine would not exceed the municipal water demand;
- ◆ **Water availability.** The flow through the turbine could not exceed the amount of water available at the City's point of diversion into the Bridge Creek Intake;
- ◆ **Water rights.** The flow through the turbine would not exceed the



City's right to divert water; and

- ◆ **Operating procedures.** For the purpose of understanding hydropower revenue generation, the City is planning on a sustainable turbine operation of 21 cfs (13.6 mgd) or less.

Each of the four primary constraints are described further below. For the purpose of estimating power and revenue generated from the hydroelectric powerhouse, water demand and availability must be estimated on a monthly basis over a 50 year analysis period or until the controlling parameter reaches a steady state. The calculation approach in this memorandum is deterministic. The City may choose to evaluate alternate flow or demand scenarios to understand potential impacts on revenue generation.

3 Water Demands

The City's water demand forecast is contained in its Water Management and Conservation Plan (WMCP) dated June 2011¹ and its Optimization Final Report (Appendix C - Design Data Summary Report) dated February 2011². **Table 1** summarizes the water demand forecast.

The water demand forecast summary referenced above was interpolated by year to estimate the Average Day Demand by year. Results are presented in **Appendix A, Table A-1**.

Historical water use from years 2007 through 2009 was analyzed to determine the percent of water used each month. **Figure 1** illustrates the historical monthly water demand pattern.

The monthly water demand pattern was applied to the average day demand forecast to estimate the monthly demand for water in million gallons per day (mgd) (**Table A-2**) through build-out.

¹ GSI Water Solutions, Inc., Murray, Smith and Associates, Inc., and HDR Engineering, Inc., [Water Management and Conservation Plan](http://www.ci.bend.or.us/depts/public_works/water/master_plans/water_mgmt_and_conservation_master_plan.html) (City of Bend, Oregon, June 2011), http://www.ci.bend.or.us/depts/public_works/water/master_plans/water_mgmt_and_conservation_master_plan.html

² Optimatics, Murray Smith and Associates, Inc., [Water System Master Plan Update Optimization Study Final Report](http://www.ci.bend.or.us/depts/public_works/water/master_plans/2011_master_plan_update_appendices.html) (City of Bend, February 2011), http://www.ci.bend.or.us/depts/public_works/water/master_plans/2011_master_plan_update_appendices.html



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Table 1. Water Demand Forecast Summary

Year	ADD (mgd)	MDD (mgd)	Notes
2010	14.3	32.2	
2020	21.7	48.8	
2030	29.1	65.5	
2041	37.1	83.5	Build-Out

Notes:

- 2010, 2020, 2030 projections are from Water Management and Conservation Plan dated June 2011
- Build-out projection are from the Optimization Report
- Build-out year estimated by linear extrapolation from years 2010 - 2030
- ADD = Average Day Demand
- MDD = Maximum Day Demand

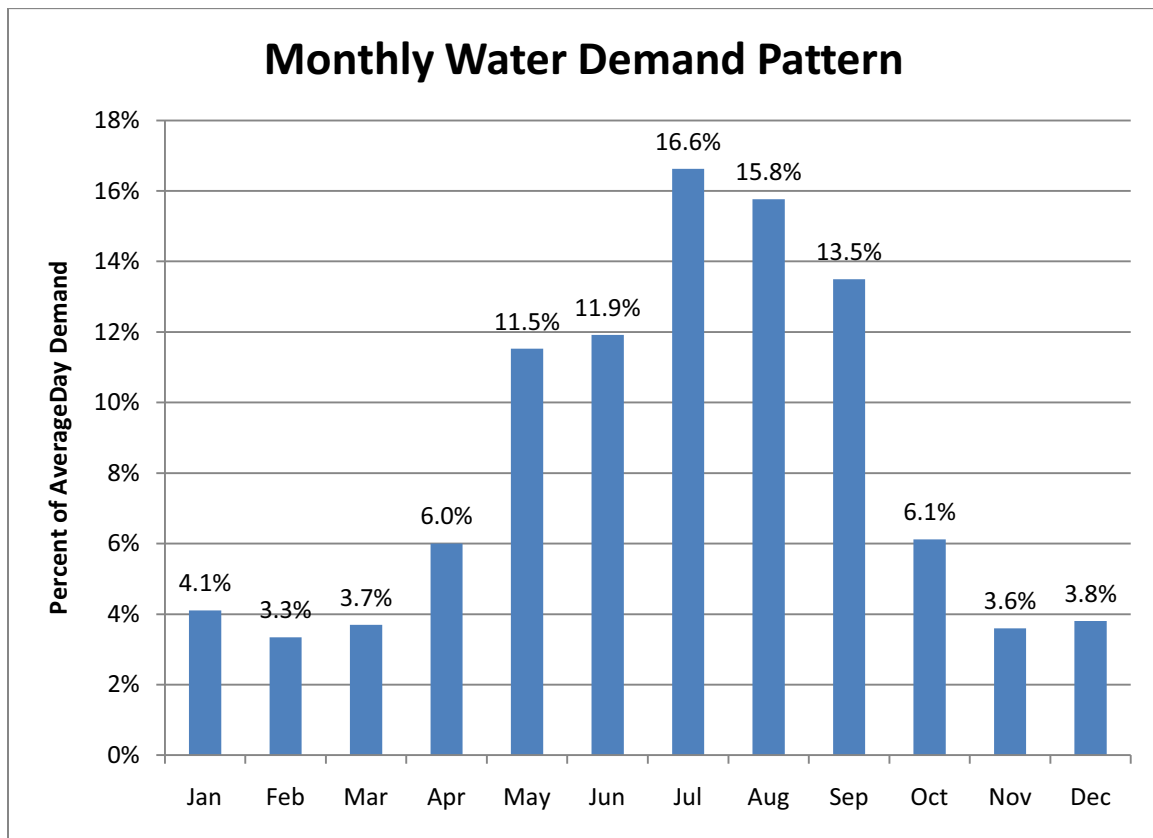


Figure 1 – Monthly Water Demand Pattern



4 Bridge Creek Hydrology and Water Availability

A streamflow gage was operated on Bridge Creek from August 1980 through September 1985, just upstream from the City's intake where it diverts water from Bridge Creek and water from Tumalo Creek that has been conveyed into Bridge Creek. Information on the gage location, drainage area, and link to the data are provided in **Table 2**.

Table 2 presents the monthly mean of discharge (flow) in cubic feet per second at the point of the City's intake for this period of record. The table illustrates the natural flow periodicity, monthly flow rates and durations. The method used to generate the streamflow data is described by the USGS in its website.

Typical water flow in Bridge Creek at the City's intake is the median (50th percentile) value based on the monthly discharge record. The City may decide to install fish passage facilities at the Intake if hydropower is installed. For the purposes of evaluating the flow available for diversion at the Intake, an assumed release of 2.1 cfs (1.36 mgd) for fish passage is subtracted from the median discharge. The resulting estimate of water typically available at the City's Intake is provided in **Table 3**. However, as described below, there are additional constraints on the City's use of surface water.

Table 3. Typical Water Available at City Intake (million gallons per day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Typical Water Available at City's Intake (mgd)	15.1	15.4	12.9	12.3	27.2	39.7	23.5	13.8	11.8	12.3	11.8	14.1

Note: Water rights provide additional constraints on the City's use of surface water

5 Water Rights

The City's water rights inventory includes permits, certificates and transfers. Chapter 11 of the City's Water Supply Alternatives Study³ (WSAS) describes the City's water rights. Under Oregon law the Oregon Water Resources Department (OWRD) can authorize the use of existing water right certificates for generating

³ Bob Willis and Jim Doane, Brown and Caldwell, Water Supply Alternatives Study (City of Bend, November 2009), http://www.ci.bend.or.us/depts/public_works/surface_water_improvement_project/surface_water_improvement_alternatives_final_report.html



Table 2. Bridge Creek Monthly Discharge (cubic feet per second)

USGS Surface-Water Monthly Statistics for the Nation

The statistics generated from this site are based on approved daily-mean data and may not match those published by the USGS in official publications. The user is responsible for assessment and use of statistics from this site. For more details on why the statistics may not match, [click here](#).

USGS 14070700 BRIDGE CREEK NEAR BEND, OR.

Available data for this site: Time-series: Monthly statistics

Deschutes County, Oregon
 Hydrologic Unit Code 17070301
 Latitude 44°01'52", Longitude 121°34'16" NAD27
 Drainage area 6.58 square miles
 Gage datum 1,580.00 feet above NGVD29

Output formats
[HTML table of all data](#)
[Tab-separated data](#)
[Reselect output format](#)

YEAR	00060, Discharge, cubic feet per second, Monthly mean in cfs (Calculation Period: 1980-09-01 -> 1985-09-30)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1980									16.6	13.1	19.8	39.5
1981	27.1	32.9	22.3	21.2	28.0	26.9	17.0	17.4	15.8	16.2	17.1	23.9
1982	17.0	35.1	21.9	18.4	44.2	77.8	40.5	23.4	21.1	21.2	21.1	24.7
1983	25.4	21.5	22.0	20.6	68.3	74.9	39.5	24.3	22.5	21.5	22.3	22.4
1984	29.1	26.0	23.4	23.5	45.6	63.5	38.4	24.1	21.8	21.1	20.3	18.3
1985	17.0	16.0	16.0	24.7	43.7	57.9	23.3	19.1	19.5			
Mean of monthly Discharge	23	26	21	22	46	60	32	22	20	19	20	26

** No Incomplete data have been used for statistical calculation

http://waterdata.usgs.gov/nwis/monthly?referred_module=sw&site_no=14070700&por_14070700_1=546117,00060,1,1980-08,1985-09&format=html_table&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list



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hydropower. The City's initial OWRD application will likely be for 18.2 cfs. Additional certificates for generating hydropower may be sought at a later date.

Chapter 11 of the WSAS evaluates the expected availability of water under the City's rights, given mean historical gaged streamflow on Tumalo Creek and priorities of other water rights holders. The water rights scenario used in this analysis assumes that water users are in "distribution" (water right holders take only their proportionate share of the streamflow) by the Watermaster starting July 1 and ending September 22. The water right holders include the City, Tumalo Irrigation District, and instream water rights. The basis for estimating total flow in the Tumalo Creek system has been updated to use gage flow + city use, rather than just gage flow. Under this scenario, the water rights available under mean conditions and limited by sustainable turbine operation, are estimated to be as presented in **Table 4**.

Table 4. Typical Water Rights Available up to Sustainable Turbine Operation (million gallons per day)

	Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Available for hydropower generation now													
85713	Certificate	7.9	7.9	7.9	7.9	7.9	7.9	0	0	2.1	7.9	7.9	7.9
85526	Certificate	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
31411	Certificate	0	0	0	0	0	0	2.3	3.3	3.1	0	0	0
31665	Certificate	0	0	0	0	0		1.5	1.3	0.4	0.3	0	0
Subtotal		11.8	11.8	11.8	11.8	11.8	11.8	7.7	8.5	9.5	12.1	11.8	11.8
Potentially available for hydropower generation later													
Subtotal		1.8	1.8	1.8	1.8	1.8	1.8	2.3	1.2	2.3	1.5	1.8	1.8
Total		13.6	13.6	13.6	13.6	13.6	13.6	10.0	9.7	11.8	13.6	13.6	13.6

Notes:

- Sustainable turbine operation is anticipated to be 13.6 mgd or less as discussed in Section 2.1
- "Available for hydropower generation now" still requires FERC and OWRD approvals
- For water rights that start or terminate within the month, or that have an allocated rate that changes during the month, the total volume of water produced during the month was averaged across the month (i.e., total volume divided by the number of days in the month)
- Assumes distribution of water rights begins July 1 and ends September 22
- Assumes flow in Tumalo Creek system is mean of historical native flow; native flow is gaged flow plus City use



6 Hydropower Flows

The flow available for water supply is the minimum of the water demand, water available at the Intake, water diversion allowed under the City's water rights, and anticipated sustainable turbine operation. **Appendix A, Table A-3** presents the anticipated water supply available for hydropower generation.

7 Conclusions

- ◆ The flows available for hydropower generation would not exceed the flows through the surface water supply system to serve municipal drinking water needs.
- ◆ The flows through the surface water supply system are the minimum of the water demand, water availability, the diversion allowed under the City's water rights, and the City's anticipated sustainable turbine operation.
- ◆ The flows available for hydropower generation will be further constrained by the phasing schedule of OWRD water rights for hydropower generation.
- ◆ The City's surface water rights are limited in summer months.
- ◆ City demand for water in winter limits the flow available for hydropower generation in winter months, until approximately year 2033.

8 Recommendations

- ◆ Revised results from this memorandum should be used to create an economic analysis of hydropower.
- ◆ The City should review the economic analysis to assist the City with deciding whether to construct the hydro powerhouse either: 1) now with initial water supply system construction or 2) later in the future.
- ◆ Upon its review of this memorandum and the forthcoming hydropower economic analysis, the City should consider whether extending this analysis to consider alternate flow and demand scenarios would be useful to guide its decision-making.



**Appendix A
Tables**



Table A-1. Interpolated Average Day Demand (mgd)

Year	Summary ADD (mgd)	Interpolated ADD (mgd)
2010	14.3	14.3
2011		15.0
2012		15.8
2013		16.5
2014		17.3
2015		18.0
2016		18.7
2017		19.5
2018		20.2
2019		21.0
2020	21.7	21.7
2021		22.4
2022		23.2
2023		23.9
2024		24.7
2025		25.4
2026		26.1
2027		26.9
2028		27.6
2029		28.4
2030	29.1	29.1
2031		29.8
2032		30.6
2033		31.3
2034		32.1
2035		32.8
2036		33.5
2037		34.3
2038		35.0
2039		35.8
2040		36.5
2041		37.1

Notes:
Build-out Average Annual demand of 37.1 mgd is forecasted to occur in 2041



Table A-2. Water Demand Forecast, Average Day Demand and Estimated Monthly Demands (in million gallons per day)

	days/mo % demand	31	28	31	30	31	30	31	31	30	31	30	31	365
		4.1%	3.3%	3.7%	6.0%	11.5%	11.9%	16.6%	15.8%	13.5%	6.1%	3.6%	3.8%	100.0%
Year	Interpolated ADD (mgd)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (MG)
2010	14.3	6.9	6.2	6.2	10.4	19.4	20.7	28.0	26.5	23.5	10.3	6.3	6.4	5,220
2011	15.0	7.3	6.5	6.5	11.0	20.4	21.8	29.5	27.9	24.7	10.8	6.6	6.7	5,490
2012	15.8	7.6	6.9	6.9	11.5	21.4	22.9	30.9	29.3	25.9	11.4	6.9	7.1	5,760
2013	16.5	8.0	7.2	7.2	12.1	22.4	24.0	32.3	30.7	27.1	11.9	7.2	7.4	6,030
2014	17.3	8.3	7.5	7.5	12.6	23.4	25.0	33.8	32.0	28.3	12.4	7.5	7.7	6,300
2015	18.0	8.7	7.8	7.8	13.1	24.4	26.1	35.2	33.4	29.6	13.0	7.9	8.1	6,570
2016	18.7	9.1	8.2	8.2	13.7	25.4	27.2	36.7	34.8	30.8	13.5	8.2	8.4	6,840
2017	19.5	9.4	8.5	8.5	14.2	26.4	28.2	38.1	36.2	32.0	14.0	8.5	8.7	7,110
2018	20.2	9.8	8.8	8.8	14.8	27.4	29.3	39.6	37.5	33.2	14.6	8.8	9.1	7,380
2019	21.0	10.1	9.1	9.1	15.3	28.4	30.4	41.0	38.9	34.4	15.1	9.2	9.4	7,650
2020	21.7	10.5	9.4	9.4	15.8	29.5	31.5	42.5	40.3	35.6	15.6	9.5	9.7	7,921
2021	22.4	10.8	9.8	9.8	16.4	30.5	32.5	43.9	41.7	36.9	16.2	9.8	10.1	8,191
2022	23.2	11.2	10.1	10.1	16.9	31.5	33.6	45.4	43.0	38.1	16.7	10.1	10.4	8,461
2023	23.9	11.6	10.4	10.4	17.5	32.5	34.7	46.8	44.4	39.3	17.2	10.5	10.7	8,731
2024	24.7	11.9	10.7	10.7	18.0	33.5	35.8	48.3	45.8	40.5	17.8	10.8	11.1	9,001
2025	25.4	12.3	11.1	11.1	18.6	34.5	36.8	49.7	47.1	41.7	18.3	11.1	11.4	9,271
2026	26.1	12.6	11.4	11.4	19.1	35.5	37.9	51.2	48.5	42.9	18.8	11.4	11.7	9,541
2027	26.9	13.0	11.7	11.7	19.6	36.5	39.0	52.6	49.9	44.1	19.4	11.8	12.0	9,811
2028	27.6	13.4	12.0	12.0	20.2	37.5	40.0	54.1	51.3	45.4	19.9	12.1	12.4	10,081
2029	28.4	13.7	12.3	12.3	20.7	38.5	41.1	55.5	52.6	46.6	20.4	12.4	12.7	10,351
2030	29.1	14.1	12.7	12.7	21.3	39.5	42.2	57.0	54.0	47.8	21.0	12.7	13.0	10,622
2031	29.8	14.4	13.0	13.0	21.8	40.5	43.3	58.4	55.4	49.0	21.5	13.1	13.4	10,892



Table A-2. Water Demand Forecast, Average Day Demand and Estimated Monthly Demands (in million gallons per day)

		days/mo												365
		% demand												100.0%
Year	Interpolated ADD (mgd)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (MG)
2032	30.6	14.8	13.3	13.3	22.3	41.5	44.3	59.9	56.8	50.2	22.0	13.4	13.7	11,162
2033	31.3	15.1	13.6	13.6	22.9	42.5	45.4	61.3	58.1	51.4	22.6	13.7	14.0	11,432
2034	32.1	15.5	14.0	13.9	23.4	43.5	46.5	62.8	59.5	52.7	23.1	14.0	14.4	11,702
2035	32.8	15.9	14.3	14.3	24.0	44.5	47.6	64.2	60.9	53.9	23.6	14.3	14.7	11,972
2036	33.5	16.2	14.6	14.6	24.5	45.5	48.6	65.7	62.3	55.1	24.2	14.7	15.0	12,242
2037	34.3	16.6	14.9	14.9	25.0	46.5	49.7	67.1	63.6	56.3	24.7	15.0	15.4	12,512
2038	35.0	16.9	15.2	15.2	25.6	47.5	50.8	68.6	65.0	57.5	25.2	15.3	15.7	12,782
2039	35.8	17.3	15.6	15.6	26.1	48.5	51.8	70.0	66.4	58.7	25.8	15.6	16.0	13,052
2040	36.5	17.6	15.9	15.9	26.7	49.5	52.9	71.5	67.7	59.9	26.3	16.0	16.4	13,323
2041	37.1	17.9	16.1	16.1	27.1	50.4	53.8	72.6	68.9	60.9	26.7	16.2	16.6	13,542

Notes:
Build-out Average Day Demand of 37.1 mgd is forecasted to occur in 2041



Table A-3. Anticipated Surface Water Supply Available for Hydropower Generation (in million gallons per day)

days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
Typical Water Right Available for Hydro generation through 2017	11.8	11.8	11.8	11.8	11.8	11.8	7.7	8.5	9.5	11.8	11.8	11.8	
Typical Water Right Available for Hydro generation after 2017	13.6	13.6	13.6	13.6	13.6	13.6	10.0	9.7	11.8	13.6	13.6	13.6	
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Annual Production (MG)
2013											7.2	7.4	446
2014	8.3	7.5	7.5	11.8	11.8	11.8	7.7	8.5	9.5	11.8	7.5	7.7	3,390
2015	8.7	7.8	7.8	11.8	11.8	11.8	7.7	8.5	9.5	11.8	7.9	8.1	3,441
2016	9.1	8.2	8.2	11.8	11.8	11.8	7.7	8.5	9.5	11.8	8.2	8.4	3,491
2017	9.4	8.5	8.5	12.3	13.6	13.6	10.0	9.7	11.8	12.3	8.5	8.7	3,861
2018	9.8	8.8	8.8	12.3	13.6	13.6	10.0	9.7	11.8	12.3	8.8	9.1	3,911
2019	10.1	9.1	9.1	12.3	13.6	13.6	10.0	9.7	11.8	12.3	9.2	9.4	3,961
2020	10.5	9.4	9.4	12.3	13.6	13.6	10.0	9.7	11.8	12.3	9.5	9.7	4,011
2021	10.8	9.8	9.8	12.3	13.6	13.6	10.0	9.7	11.8	12.3	9.8	10.1	4,061
2022	11.2	10.1	10.1	12.3	13.6	13.6	10.0	9.7	11.8	12.3	10.1	10.4	4,111
2023	11.6	10.4	10.4	12.3	13.6	13.6	10.0	9.7	11.8	12.3	10.5	10.7	4,161
2024	11.9	10.7	10.7	12.3	13.6	13.6	10.0	9.7	11.8	12.3	10.8	11.1	4,211
2025	12.3	11.1	11.1	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.1	11.4	4,261
2026	12.6	11.4	11.4	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.4	11.7	4,311
2027	13.0	11.7	11.7	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	12.0	4,361
2028	13.4	12.0	12.0	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	12.4	4,402
2029	13.6	12.3	12.3	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	12.7	4,438
2030	13.6	12.7	12.7	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	13.0	4,467



Table A-3. Anticipated Surface Water Supply Available for Hydropower Generation (in million gallons per day)

days/mo	31	28	31	30	31	30	31	31	30	31	30	31	365
Typical Water Right Available for Hydro generation through 2017	11.8	11.8	11.8	11.8	11.8	11.8	7.7	8.5	9.5	11.8	11.8	11.8	
Typical Water Right Available for Hydro generation after 2017	13.6	13.6	13.6	13.6	13.6	13.6	10.0	9.7	11.8	13.6	13.6	13.6	
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Annual Production (MG)
2031	13.6	13.0	12.9	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	13.4	4,493
2032	13.6	13.3	12.9	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	13.6	4,508
2033 and later	13.6	13.6	12.9	12.3	13.6	13.6	10.0	9.7	11.8	12.3	11.8	13.6	4,516

Notes:

- "Typical Water Right Available for Hydro generation through 2017" is minimum of "Typical Water Available Under City Water Rights Available for hydropower generation now Subtotal" and "Anticipated Initial OWRD Certificate to Use Water for Hydroelectric Purposes"
- "Typical Water Right Available for Hydro generation after 2017" is "Typical Water Available Under City Water Rights Potentially available for hydropower generation later Subtotal"
- "Anticipated Water Supply Available for Hydropower Generation" is Minimum of "Water Demand Forecast" and "Typical Water Available for Hydro Generation"



From: [Bill F. Buchanan](#)
To: [Siemens, Sandra](#)
Subject: FERC Power House Comments for City of Bend Surface Water Project
Date: Sunday, October 02, 2011 8:04:02 PM

I am concerned that the City project does not meet the criteria for a FERC conduit exemption. It would appear that the pipe, which runs parallel with the creek for 10-12 miles, has no purpose other than to generate head for electricity. If the primary purpose of the pipe were simply to provide water to the City of Bend, the City would logically save itself approximately \$20 million in piping cost and change its point of diversion to approximately 1 mile upstream of the Outback facility. The 30-inch pipe diameter also far exceeds the diameter needed for supplying the City's existing water rights for consumption. City reports claim that the expansive size of the pipe is primarily for reducing friction loss so as to allow for more efficient energy production. Finally, the City master utility plans and water conservation plans all acknowledge that the City has, and will continue to have, a sufficient inventory of wells to entirely handle the City's peak day demand without use of the surface water system. For these reasons, and for the reasons set forth in the City Council minutes, City Council discussions, presentations by staff and engineers, and various engineering reports, it is evident that the primary purpose of the City's pipeline, as proposed, is for generation of power. Under such circumstances, a conduit exemption is inapplicable because the pipeline does not qualify as a "conduit" under FERC's rules.

I also disagree with the comments made at the public meeting on August 10, 2011, in which comments were stated to be limited to the powerhouse only. Comments should be received for all aspects of the project including whether or not the project is entitled to a conduit exemption. As such, I believe the notice and comment process is procedurally defective.

Please provide me with all future notices relating to this matter. Thank you.

Bill Buchanan
1201 NW Wall St, Suite 300 | Bend, OR 97701
v: 541-318-9801 | f: 541-383-3073
e: wfb@karnopp.com

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From: [Kimberley Priestley](#)
To: [Siemens, Sandra](#)
Subject: Re: Bend FERC Conduit Exemption
Date: Sunday, October 09, 2011 11:41:04 AM
Attachments: [city of bend water use reports pdf..pdf](#)
[city of bend HYDRO comment oct 2011 final pdf.pdf](#)

Hi Sandra,

Attached is a pdf version of WW's comments.

Thanks, Kimberley

----- Original Message -----

From: "Kimberley Priestley" <kjp@waterwatch.org>
To: "Sandra Siemens" <Sandra.Siemens@hdrinc.com>
Cc: "kjp" <kjp@waterwatch.org>
Sent: Sunday, October 9, 2011 9:36:13 AM
Subject: Bend FERC Conduit Exemption

Hi Sandra,

Attached please find WaterWatch's comments on the City of Bends ICD for the FERC Conduit Exemption. If you have any problems opening the documents, please let me know.

The comment document is in WORD. I can forward you a pdf tomorrow from the office, but wanted to get the comments in by today's deadline.

Thank you, Kimberley

--

Kimberley Priestley
WaterWatch of Oregon
213 SW Ash, Suite 208
Portland, OR 97204
ph: 503-295-4039, x 3
www.waterwatch.org

--

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October 9, 2011

Ms. Sandra Siemens
HDR/Bend Surface Water Improvement Project Office
804 SW Industrial Way, Suite 4
Bend, OR 97701

Re: Bend FERC Conduit Exemption, Initial Consultation Document

Dear Ms. Siemens,

Thank you for this opportunity to comment on the City of Bend's Initial Consultation Document that the City has developed in preparation for applying for a FERC Conduit Exemption. WaterWatch is a non-profit river conservation group dedicated to the protection and restoration of natural flows in Oregon's rivers. We have worked to protect river flows in the Deschutes basin for nearly two decades. Outlined below are WaterWatch's initial comments regarding the City of Bend's Conduit Project as described in its Initial Consultation Document (ICD) released in July 2011.

1.2. Regulatory Process

Conduit Exemption: The City asserts that it qualifies for a conduit exemption for the reasons outlined on page 3 of the ICD. Integral to its case for exemption is the assertion that the conduit is not primarily for the generation of electricity. WaterWatch disagrees with this assertion. As noted in Brown and Caldwell's Final Report for the City of Bend's Water Supply Alternatives (11/2009) the City had a number of options to meet the City's future water needs including the alternative of moving the diversion point eleven miles downstream to the Outback site. This option would abandon the Bridge Creek Site and would install an intake and pump station on Tumalo Creek near the Outback Site. Brown and Caldwell, Chapter Two, Alternatives Options Selection, at 2-6. This option passed the fatal flaw analysis. *Id.* at 2-8. In fact, the Alternatives Analysis found that this option had less risk than replacing the existing eleven miles of pipe as proposed. *Id.* at 2-11. It was only when one factored in the revenue/costs with the risks that the replacement of piping looked rosier, though FERC should be made aware that this included a reliance of \$25 million in green subsidies that we understand is no longer available. Thus, it appears that the primary reason the City has chosen to keep the diversion point eleven miles upstream of the Outback facility was to build a conduit that would allow for the generation of hydropower. The City could have opted to move the diversion point downstream to meet its municipal needs, but this would have precluded hydropower development.

Additionally, Brown and Caldwell make clear that the only reason to use larger pipes of 36 inch diameter (instead of continue on with already existing replacement of 20 inches) was to accommodate hydropower. See e.g. Brown and Caldwell, Technical Memo 12, September 28, 2009, Water Supply Alternatives Project. Moreover, it appears that Brown and Caldwell, in its calculation of "Federal

Business Energy Investment Tax Credit (ITC)”, considered the pipeline to be primarily for hydroelectric purposes. See Brown and Caldwell, Final Alternatives Analysis, 9.2.1 Capital Costs and Financing (page 9-5) and Appendix 9-A.

It is clear from the City’s own materials that the both the placement and the size of the conduit are to allow the City to generate hydropower. Because the conduit is primarily for hydroelectric generation rather than municipal supply delivery, this project does not qualify as a “conduit” under 18 CFR 4.30 as it would in fact be “primarily for the generation of electricity”.

Three-Stage Consultation Process:

First Stage: The City of Bend is required to distribute the ICD to interested parties. Appendix A submitted by the City of Bend is inadequate as it fails to include a number of conservation groups and individuals whom have registered concerns, both verbally and in writing, to the City of Bend regarding this project. Omitted from this list are: WaterWatch of Oregon, Central Oregon Landwatch, Native Fish Society, Trout Unlimited and a number of individuals that have written and/or testified in front of the City Council on this matter.

2.2. General Engineering Design

The City of Bend can only divert water under its water right certificates and permits that it will put to the beneficial use of “municipal use”. This municipal use must be “without waste” and does not allow for storage. This section appears to contemplate a scenario where the City would be diverting more water than is either needed to serve municipal needs or is allowed under its water rights. Specifically, this section contains a description of a bypass valve that will be installed to provide for uninterrupted water supply to the water treatment plant in case flows “exceed” the turbine capacity or the State of Oregon water rights to generate hydropower. The scenarios described are not allowed by Oregon law. Diversion in excess of amount put to beneficial use has been an issue for the City for years. There needs to be a much more detailed description of the bypass valve and the scenarios in which it would be used and the measures in place to ensure that the project complies with Oregon law.

2.3 Proposed Project Operation

Similar to the concerns raised in 2.2 above, Section 2.3 raises questions as to whether the project will comply with Oregon water law. The City has represented in various forums, including as we understand it to the Oregon Water Resources Department, that with the new system in place the amount of water diverted by the City at the Bridge Creek intake would be limited by actual municipal demand (as required by state law), in addition to the obvious constraints of water rights and water availability. To ensure that the City’s current practice of diverting more water than needed to meet municipal demand and to address any questions/uncertainties regarding the actual plans for the “bypass valve”, the application to FERC should clearly spell out how the City will ensure that its diversion from Bridge Creek will be limited by municipal demand (in addition to other constraints).

2.5 Streamflow and Water Regime Information

This section refers to Appendix B, thus our comments are directed at Appendix B—Technical Memorandum “Hydropower Flows” dated July 7, 2011.

Appendix B:

- Section 3--Water Demands: Given that this project is limited to the surface water diversion, the City should make clear to FERC what historical demand for surface water has been as opposed to overall demand for surface/groundwater combined. We have attached WRD water use reports to show that historic demand for surface water has been far less than is anticipated for use under the City's hydroelectric project plans.
- Section 4--Bridge Creek Hydrology and Water Availability: This section discusses "typical water flow available at City Intake". The numbers put forward in this section are highly misleading. Gauged flows have little to do with the actual water available for use by the City. The majority of the City's water rights are junior to Tumalo Irrigation Districts and thus this water would not be available. Available water for diversion is much less than the water flowing past the intake. FERC should not be led to believe that this is water that is "available" to the City for hydropower generation. Hydrology and availability are two entirely different concepts.

Moreover, the gauged flows reported in this section on are Bridge Creek at the intake point, which capture flows that come from both Bridge Creek and Tumalo Creek. Currently the City does not measure the amount of water it is diverting from Tumalo Creek under its Tumalo water rights. Given that the City, as a public entity, is required to report water use under each of its water rights, the City should in fact be measuring water diverted at both the Tumalo Creek diversion and the Bridge Creek diversion, at the diversion points. Moreover, to ensure the City is not taking more Bridge Creek water than is actually available (unsupplemented by Tumalo) the City should be required to install a streamflow gauge above the point it diverts Tumalo flow into Bridge Creek.

The City is representing to FERC, the Oregon Water Resources Department and other state and federal agencies and stake holders that with the "upgrades" the diversion of flows at the Bridge Creek intake will highly controlled and that the City will only divert water that they will put to beneficial use without waste (unlike their current practice). The only way to ensure this is to require the measurement devices as described.

- Section 5 Water Rights:
 - a. State Hydro Permitting Requirements: The document states that the Oregon Water Resources Department can authorize use of existing water right certificates for generating power, however it does not state that this is subject to state permitting and regulatory process and subject to certain sideboards (i.e. fish passage and screening, limited to historic use, etc). In other areas of this document, the City does not firmly commit to fish passage/screening. The City should be clear in its application to FERC what in fact is required by state law and what the City's plans are to meet these laws.

2.7 Proposed Studies: Given that the proposed conduit hydroelectric facility is dependent on diverting more surface water flow than the City has used historically, the City should study the effects of the proposed increased diversions over time on the fishery resources of Bridge and Tumalo Creeks (including effects on water quality). While the City has spent substantial sums building its case for the replacement/enlargement of pipes over other options (switching to groundwater, moving the diversion

point downstream) it has yet to undertake a study outlining the impacts on the fish and wildlife dependent upon Tumalo and Bridge Creeks.

Conclusion: For the reasons outlined in our comments, WaterWatch does not believe that the City of Bend's proposed hydroelectric project qualifies for a FERC Conduit Exemption. Moreover, the City has not set forward enough information to ensure that the project will be in full compliance with Oregon law with regards to statutory requirements to limit diversions to beneficial use without waste, obtain appropriate state water rights for its impoundment at the Bridge Creek intake and measure and report water use from both Tumalo and Bridge Creek, independently.

Sincerely,

Kimberley Priestley
Senior Policy Analyst

Water Use Report

Choose an agency: CITY OF BEND: PUBLIC WORKS DEPARTMENT
 CITY OF BEND: PUBLIC WORKS DEPARTMENT
 PATRICK GRIFFITHS
 62975 BOYD ACRES RD
 BEND, OR 97701

Records per Page: 5

Report ID	Facility	Associated water
Select 11185	UNN TRIB > M FK TUMALO CR (S-49823, 31411, 31665, DECREE, B-112)	Cert:31411 CE * TUMALO CREEK (0.00-0.00-0-) Cert:31665 CE * TUMALO CREEK (18.00S-10.00E-7-SE NE) Cert:85713 OR * UNNAMED STREAM (18.00S-9.00E-3-SW SE) 36 FEET N Permit:S-49823 * UNNAMED STREAM (18.00S-9.00E-3-SW SE) 36 FEET N
Select 11186	BRIDGE CREEK (S-49823)	Cert:85713 OR * BRIDGE CREEK (18.00S-10.00E-7-SE NE) 465 FEET N Permit:S-49823 * BRIDGE CREEK (18.00S-10.00E-7-SE NE) 465 FEET N
Select 11188	LAVA ISLAND WELL 4 (G-4435, T-10351, T-8783)	Permit:G-4435 * LAVA ISLAND WELL 4 (18.00S-11.00E-27-NW NW) SOUT
Select 11189	LAVA ISLAND WELL 6 (G-4435, T-10351, T-8783)	Permit:G-4435 * LAVA ISLAND WELL 6 (18.00S-11.00E-27-NW NW) SOUT
Select 11190	LAVA ISLAND WELL 1 (G-4435, T-10351, T-8783)	Permit:G-4435 * LAVA ISLAND WELL 1 (18.00S-11.00E-27-SW NW) SOUT

1 2 3 4 5 6 7

Wur Report ID: 11186

Water Year	Unit	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2006													
2005	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	30.06	40.61	38.38	34.5
2004													
2003	M	210.23	85.22	126.66	115.88	106.12	137.29	199.51	228.42	257.62	278.57	265.73	245.49
2002	M	193.03	119.74	105.72	121.63	107.12	116.91	117.68	222.32	219.44	256.94	273.47	239.88
2001	M	127.85	129.41	134.38	133.41	127.82	144.85	176.07	264.11	285.66	297.1	263.07	232.3
1998	M	164.96	46.7	111.33	107.98	109.26	107.15	133.96	173.25	252.17	295.58	315.72	287.06

Water Use Report

Choose an agency: CITY OF BEND: PUBLIC WORKS DEPARTMENT
 CITY OF BEND: PUBLIC WORKS DEPARTMENT
 PATRICK GRIFFITHS
 62975 BOYD ACRES RD
 BEND, OR 97701

Records per Page: 5

Report ID	Facility	Associated with
Select 11185	UNN TRIB > M FK TUMALO CR (S-49823, 31411, 31665, DECREE. B-112)	Cert:31411 CE * TUMALO CREEK (0.00-0.00-0-) Cert:31665 CE * TUMALO CREEK (18.00S-10.00E-7-SE NE) Cert:88713 OR * UNNAMED STREAM (18.00S-9.00E-3-SW SE) 36 FEET Permit:S 49823 * UNNAMED STREAM (18.00S-9.00E-3-SW SE) 36 FEET
Select 11186	BRIDGE CREEK (S-49823)	Cert:85713 OR * BRIDGE CREEK (18.00S-10.00E-7-SE NE) 465 FEET NC Permit:S 49823 * BRIDGE CREEK (18.00S-10.00E-7-SE NE) 465 FEET NC
Select 11188	LAVA ISLAND WELL 4 (G-4435, T-10351, T-8783)	Permit:G 4435 * LAVA ISLAND WELL 4 (18.00S-11.00E-27-NW NW) SOL
Select 11189	LAVA ISLAND WELL 6 (G-4435, T-10351, T-8783)	Permit:G 4435 * LAVA ISLAND WELL 6 (18.00S-11.00E-27-NW NW) SOL
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1 2 3 4 5 6 7

Wur Report ID: 11185

Water Year	Unit	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2009	M	226.56	101.78	87.76	114.85	119.88	149.54	196.06	27.86	134.82	283.24	303.9	256.9
2008	M	187.69	87.04	136.69	181.62	169.92	172.17	212.16	113.12	154.08	206.28	255.16	233.3
2006	G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.05	0.0	0.0
2005	M	0.0	0.0	0.0	0.0	0.0	13.16	0.0	12.86	0.17	6.77	29.99	0.3
2000	M	201.55	106.61	123.51	107.31	94.95	122.35	195.97	230.53	300.74	297.92	298.02	305.8
1999	M	223.57	85.68	80.86	95.34	75.51	145.03	174.43	272.28	301.21	321.93	303.94	310.6
1998	M	164.96	46.7	111.33	107.98	109.26	107.15	133.96	173.25	252.17	295.58	315.72	287.0
1995	M	177.53	18.01	63.25	82.52	29.73	93.51	157.58	237.71	236.24	254.56	306.28	239.2
1994	G	177525000.0	63590000.0	74313000.0	24391000.0	706384000.0	98330000.0	157700000.0	227404000.0	258620000.0	294730000.0	234860000.0	260173000.0
1992	G	199791000.0	85497000.0	95183000.0	36697000.0	18179000.0	27977000.0	93599000.0	181303000.0	219968000.0	286778000.0	284795000.0	230300000.0
1991	G	163130500.0	94757000.0	83579000.0	78310000.0	92597000.0	95949000.0	119328000.0	185625000.0	155504000.0	205508000.0	231833000.0	246886000.0
1990	G	142409000.0	88642000.0	84517500.0	66857000.0	87073400.0	99462000.0	152989500.0	144715000.0	274811000.0	297210000.0	243297000.0	261129000.0
1989	M	166.34	84.91	86.08	82.38	83.43	88.35	125.37	172.03	261.09	291.19	289.33	240.3

City of Bend Water Use:

Average daily cubic feet per second (cfs)¹ from all surface water rights (Tumalo and Bridge Creeks)².

Avg. daily	Oct cfs	Nov cfs	Dec cfs	Jan cfs	Feb cfs	Mar cfs	Apr cfs	May cfs	June cfs	July cfs	Aug cfs	Sept cfs
2009	11.31	5.26	4.38	5.73	6.62	7.46	10.11	1.39	6.95	14.13	15.17	13.25
2008	9.37	4.49	6.82	9.06	9.39	8.59	10.97	5.65	7.95	10.3	12.74	12.04
2007*												
2006	0	0	0	0	0	0	0	0	0	**	0	0
2005***	0	0	0	0	0	.68	0	.65	1.59	2.36	3.41	1.8
2004*												
2003	10.49	4.39	6.32	5.78	5.86	6.85	10.29	11.40	13.28	13.9	13.26	12.66
2002	9.63	6.18	5.28	6.07	5.91	5.83	6.07	11.09	11.32	12.52	13.65	12.37
2001	6.38	6.67	6.71	6.66	7.06	7.23	9.08	14.18	14.73	14.83	13.13	11.98
2000	10.1	5.5	6.16	5.36	5.25	6.11	10.11	11.51	15.51	14.87	14.87	15.77
1999	11.63	4.42	4.17	4.76	4.17	7.24	8.97	13.59	15.54	16.07	15.17	16.02
1998	8.23	2.4	5.56	5.39	6.04	5.35	6.91	8.65	13.0	14.75	15.76	14.81
1997	0	0	0	0	.89	7.08	9.13	10.07	12.36	15.7	15.2	11.22

*No reporting submitted to WRD. According to WRD staff, some municipalities do not report to the WRD when they use zero water (though municipalities are legally obligated to report even when the number is zero).

**Amount reported for July 2006, 10.05 gallons total, too small to convert for this table.

***2005 appears to be the only year that the City of Bend reported water rights for Bridge Creek and Tumalo Creek separately. The amount shown is the sum total of the Bridge Creek and Tumalo Creek Rights. WaterWatch confirmed with WRD that all other totals represent a total of the Tumalo and Bridge Creek Water Rights (in other words, the City does not submit separate reports for the different surface water rights, but instead submits a sum total of use under all surface water rights).

¹ The cfs conversion was calculated by converting the monthly totals reported to the Water Resources Department into average daily amounts in MGD (million gallons per day), and then converting this to CFS. The monthly totals are the only amount reported to the WRD.

² Tumalo Creek/Bridge Creek rights—certificates 31441, 31665, 85713, 85713, permit S 59823

From: [Michael R. Tripp](#)
To: [Siemens, Sandra](#)
Subject: FERC stakeholder comment
Date: Sunday, October 09, 2011 8:04:59 AM

RE: *City of Bend*

Bend Conduit Project

Initial Consultation Document

Application for Conduit Exemption

July 8 , 2011

<!--[if !supportEmptyParas]--> <!--[endif]-->

The following comments are respectfully submitted for public record re: the City of Bend's application for FERC exemption of small conduit hydroelectric facilities

for the Bend Conduit Project

<!--[if !supportEmptyParas]--> <!--[endif]-->

I request that I be added to the notification mailing and emailing lists for meetings, report releases and other germane information.

<!--[if !supportEmptyParas]--> <!--[endif]-->

This project should be considered a primary hydropower project. As a resident of Bend I have been involved in discussions of City's proposed surface water improvement project. In this effort I have realized that the current project proposal has been constrained to be a hydropower project since the city made a "final project" selection in 2009. The current proposed conduit was selected over other less expensive options for the city water utility so as to enable hydropower. This is evident in the Brown and Caldwell consultations that formed the basis of the 2009 "final project" selection, and the same constraint was applied to the Value Engineering report completed for the City of Bend in March of 2011.

<!--[if !supportEmptyParas]--> <!--[endif]-->

Furthermore, the city temporarily dropped hydro from the water utility plans when economic analysis in the fall of 2010 based on the Brown and Caldwell work showed the hydro project would result in large economic losses. This inconvenience was circumvented by reallocating the costs of the conduit to water users so as to reduce the capital improvement costs of the hydro project (City Council, June, 2011) and then using inflated projected flows to predict economic benefit from the project. City Council on this basis approved formally proceeding with the hydro project and FERC exemption application (City Council, August, 2011). This re-labeling exercise does not change the fact that this is the same 2009 "final project" selected over other less expensive options for city water users. The conduit is not yet permitted much less built. The project, because of the hydro aspect, will require per ODFW effectively a new diversion dam at the intake. It is in fact a primary hydropower facility. It is a stretch to label this an exempted addition to a municipal water conduit when alternatives to the proposed new conduit have been dismissed because they do not enable hydropower.

<!--[if !supportEmptyParas]--> <!--[endif]-->

Michael Tripp, M.D.

FERC ID F228484

<!--[if !supportEmptyParas]--> <!--[endif]-->

1020 NW Foxwood Pl

Bend OR 97701

<!--[if !supportEmptyParas]--> <!--[endif]-->

541-312-2193

From: [Bill F. Buchanan](#)
To: "kjp@waterwatch.org"; [Siemens, Sandra](#)
Subject: Re: Bend FERC Conduit Exemption
Date: Sunday, October 09, 2011 10:56:38 AM

For the record, I join in and echo WWs comments.
Bill Buchanan
Partner
Karnopp Petersen LLP
1201 NW Wall St., Suite 300
Bend, OR 97701
v: 541.382.3011
f: 541.383.3073
e: wfb@karnopp.com

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----- Original Message -----

From: Kimberley Priestley <kjp@waterwatch.org>
To: Sandra Siemens <Sandra.Siemens@hdrinc.com>
Cc: kjp@waterwatch.org
Sent: Sun Oct 09 09:36:13 2011
Subject: Bend FERC Conduit Exemption

Hi Sandra,

Attached please find WaterWatch's comments on the City of Bends ICD for the FERC Conduit Exemption. If you have any problems opening the documents, please let me know.

The comment document is in WORD. I can forward you a pdf tomorrow from the office, but wanted to get the comments in by today's deadline.

Thank you, Kimberley

--
Kimberley Priestley
WaterWatch of Oregon
213 SW Ash, Suite 208
Portland, OR 97204
ph: 503-295-4039, x 3
www.waterwatch.org

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Oregon

John Kitzhaber, Governor

Department of Fish and Wildlife

High Desert Region

61374 Parrell Road

Bend, OR 97702

(541) 388-6363

FAX (541) 388-6281

October 14, 2011

Ms. Sandra Siemens
HDR/Bend Surface Water Improvement Project Office
804 SW Industrial Way, Suite 4
Bend, OR 97701

Re: City of Bend FERC Conduit Exemption

Dear Ms. Siemens,

Thank you for the opportunity to comment on the July 2011 Initial Consultation Document in Support of FERC Exemption of Small Conduit Hydroelectric Facilities for the Bend Conduit Project. The Oregon Department of Fish and Wildlife (ODFW) is authorized to implement the fish and wildlife policies of the State of Oregon and is uniquely qualified to further administer those policies through its recommendations to protect, conserve, and improve fish and wildlife resources in the proposed project area including the Tumalo Creek drainage. Those authorities include, but are not limited to:

- Section 10(j) of the Federal Power Act and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) to provide recommended terms and conditions to FERC regarding protection, mitigation and enhancement of hydropower projects; and
- Oregon Revised Statute (ORS) 543.015 which establishes policy of the State of Oregon to protect natural resources of this state from possible adverse impacts caused by the use of water of this state for the development of hydropower.

While the City of Bend is soliciting comments regarding only the powerhouse, our comments pertain to the conduit as well since it has potential impacts to fish and wildlife resources as a result of moving forward with this project overall.

1.2 Regulatory Process

The City's proposed hydroelectric facility is being pursued through the Federal Energy Regulatory Commission (FERC) conduit exemption process. Our review of the Initial Consultation Document (ICD) has raised several questions and concerns with regards to whether this project fully qualifies as a conduit exemption or should be pursued by way of the hydropower licensing process.

A primary concern is the size of the existing pipeline, which currently consists of: 21,000 feet of 12-inch diameter pipe on the lower section and 28,000 feet of 14-inch pipe on the upper section. Of the 28,000 feet of 14-inch pipe, approximately 1680 feet have been replaced with 20-inch pipe. The proposal for this project will replace all of this piping with 30-inch piping (page 2 of the ICD), an overall increase in

volume capacity throughout the system. ODFW's concern is how increased flow through the conduit will be regulated so that the City is only taking what they need to meet demand over time without diverting too much water from Bridge and Tumalo Creeks, thereby impacting the fishery resource. Since water is not allowed to be stored as part of the conduit exemption, there is cause for concern that excess water may be wasted and dumped.

Pursuant to 18 CFR 4.30, a conduit cannot be used primarily for the purposes of producing hydroelectric power. In reading Brown and Caldwell's Technical Memorandum 12, it appears that the main reason for increasing the size of the piping is to accommodate the hydroelectric project. Brown and Caldwell also mentions, on page 13, that "Some system capacity can be gained by increasing the size of the replacement pipe and we recommend that this be done. This should be done either at the 20-inch size already started, or preferably at the 36-inch diameter size that will be later desired to implement a hydropower facility to the maximum benefit of the City." This implies that the larger diameter pipe, whether 20-inch or greater, is being placed for the primary purpose of producing hydropower. This also implies that the primary purpose of the pipe will be for hydropower production. Additionally, under Oregon Water Right Law ORS 543.765 "Use of Existing Water Right for Hydroelectric Purposes, (5) (b) states "that use of water be limited to periods when the applicant's existing water right is put to beneficial use without waste and that the amount used is not greater than the quantity of water diverted to satisfy the authorized specific use under the existing water right described in subsection (2) (a) of this section." Therefore, if the City of Bend uses more water beyond its needs, the primary purpose of this project becomes a hydroelectric project and not a conduit exemption project.

If it is determined by FERC that the City of Bend hydroelectric project does not meet the criteria for a conduit exemption and a license is sought, other mitigation measures may be required if the project falls under requirements in ORS 543.017. Additionally, Oregon Department of Environmental Quality (ODEQ) Section 401 permits will be required to assure maintenance of water quality.

Another concern is the City's adherence to the three-stage consultation process. It has come to our attention that several interested parties have been left out of the consultation process. While we realize it is a time consuming and tedious process to try and notify all interested parties, it appears that some of the potential stakeholders who provided verbal and/or written comments previously, were omitted from the list included in Appendix A of the ICD.

2.2 General Engineering Design

As stated in the ICD, water used at the powerhouse will discharge to the City of Bend water treatment plant. A bypass valve will be installed to provide uninterrupted water to the water treatment plant in case the turbine is out of service or flows exceed the turbine capacity or the State of Oregon water rights authorization to generate hydropower. Our concern goes back to excessive flows through the conduit and the potential to waste water since the capacity of the conduit will be increased with larger diameter pipe. Oregon law specifically states that municipal use must be "without waste" and does not allow for storage. It appears that more water may be diverted than what is needed by the City under its underlying water right permit. We would like to see more information on how flows will be regulated through the conduit to demonstrate that water will not be wasted as a result of developing this project.

2.7 Proposed Studies

Currently, several studies are underway in the Tumalo Creek drainage. These studies are being done in cooperation with the United States Forest Service (USFS), ODFW, City of Bend, as well as with the contractors hired to complete some of the data collection and analysis. As such, ODFW requests more information on the potential biological impacts of the proposed increased water diversion through the

conduit, from both Bridge and Tumalo Creeks. There is a history of issues in the Tumalo and Deschutes basins that affect water quality and flows and the potential for additional negative impacts to the fishery are of specific concern to us.

General Comments

Implementation of this hydroelectric project triggers ORS 543.765, which in turn is implemented through several other Oregon statutes and administrative rules as they pertain to fish passage and screening. ORS 543.765 (5) requires, at minimum, a condition in the water right that states (5) (a) “Fish screening, by-pass devices and fish passages as required by the state Department of Fish and Wildlife.” ODFW implements this requirement through our Fish Passage and Screening statutes and rules. ORS 509.585 (2) “Except as otherwise provided by this section or ORS 509.645 states that a person owning or operating an artificial obstruction may not construct or maintain any artificial obstruction across any waters of this state that are inhabited, or historically inhabited, by native migratory fish without providing passage for native migratory fish.” Furthermore, ORS 635-412-0020 states that “no person shall construct or maintain any artificial obstruction across any waters of this state that are inhabited, or were historically inhabited, by native migratory fish without providing passage for native migratory fish.” Compliance with these statutes and administrative rules requires the City of Bend to either provide passage to move forward with hydroelectric project development or seek a waiver or exception to fish passage as required under ORS 509.585 (4) and (7).

In addition to providing passage, fish screening may be required through ORS 498.306 which states “any person who diverts water from any body of water in this state in which any fish, subject to the State Fish and Wildlife Commission’s regulatory jurisdiction, exist may be required to install, operate and maintain screening or by-pass devices to provide adequate protection for fish populations present at the water diversion in accordance with the provisions of ORS 498.306.”

Thank you again for the opportunity to comment on this project. We look forward to working with the City of Bend to an end that will meet the needs of all those involved.

Please feel free to contact me should you have any questions or need any additional information from ODFW. I can be reached at (541) 633-1112 or by email at nancy.e.doran@state.or.us

Sincerely,

Nancy Doran

Nancy Doran
Assistant Hydropower Coordinator

CC: Ken Homolka
Amy Stuart
Brett Hodgson
Ted Wise
Alan Dale
Rick Kepler

APPENDIX B-3
PUBLIC MEETING AND SITE VISIT

Siemens, Sandra

From: Shawn Antoni [santoni@bendbulletin.com]
Sent: Friday, July 15, 2011 12:35 PM
To: Siemens, Sandra
Subject: Re: Public Notice Publication

Follow Up Flag: Follow up
Flag Status: Flagged

I will get this scheduled

Shawn Antoni
Bulletin Legal and Obituary Coordinator
1777 SW Chandler Ave.
PO Box 6020
Bend, OR 97701

On 7/15/2011 12:26 PM, Siemens, Sandra wrote:
Please find attached a public notice to be published in the Legals section of the classifieds in The Bulletin on the following dates:

Sunday - July 24, 2011
Monday - July 25, 2011
Tuesday - July 26, 2011

We also request an Affidavit of Publication for the three days of the public notice.

Please invoice our account number 346733:
HDR Engineering, Inc.
805 S.W. Industrial Way, Suite 4
Bend, OR 97702

If you have any questions, please contact me.

Thank you.

Sandy Siemens
Project Assistant
HDR ONE COMPANY | *Many Solutions*
805 S.W. Industrial Way | Suite 4
Bend, Oregon 97702
Office: 541-323-2331 | FAX: 541-323-2561
Cell: 541-410-5699
email: sandra.siemens@hdrinc.com

From: Siemens, Sandra
Bcc: "bam@friends.org"; "aaron.braun@mortenson.com"; "maueralan@hotmail.com"; "aasummer@hotmail.com"; "anneq@bendcable.com"; "ajdist@bendbroadband.com"; "peaceout80@gmail.com"; "tim@bendchamber.org"; "courtney@bendchamber.org"; "warriner@bendcable.com"; "wfb@karnopp.com"; "bpadgham@aol.com"; "wrsphx@aol.com"; "bcseney@gmail.com"; "bcaldwell@bendbroadband.com"; "andy@coba.org"; "gretchenp@coba.org"; "president@coflyfishers.org"; "steve@coid.org"; "eric@centraloregonlandwatch.org"; "conordicclub@gmail.com"; "chairman@cotamb.com"; "chad@gorge.net"; "cdougherty@parametrix.com"; "lacycraig@gmail.com"; "dmanriding@sbcglobal.net"; "notredamerules@yahoo.com"; "dmac3@bendbroadband.com"; "drpitts@juno.com"; "bendbike@gmail.com"; "Patrickpowerlight@gmail.com"; "peterr@deschutes.org"; "jeff@co.deschutes.or.us"; "bsc@deschuteslandtrust.org"; "tod@deschutesriver.org"; "springalaska@hotmail.com"; "pfeiffer@bendbroadband.com"; "chuck@downtownbend.org"; "steve_dougill@hotmail.com"; "roger@edcoinfo.com"; "insfq@hotmail.com"; "edgar_benitez@ameron.com"; "info@energytrust.org"; "andys@fsee.org"; "smedicine@earthlink.net"; "waldo1ft@msn.com"; "kolleen@thefreshwatertrust.org"; "gek3@bendbroadband.com"; "gina@FreshAirSports.com"; "hstephens@nwpipe.com"; "sarah@hubbardray.com"; "james@wanderlusttours.com"; "kotiartz@apolosm.com"; "ilamkin@bendcable.com"; "jcurl@nwpipe.com"; "qatvey@bendbroadband.com"; "mazz@propertiesinbend.com"; "joehoward@bendbroadband.com"; "djmorrill@bendbroadband.com"; "mundy_i@msn.com"; "john.riggs@us.schneider-electric.com"; "johnshort@usa.com"; "sorlie@bjlawyers.com"; "josh@jal-gmi.com"; "Kathy@securityoneor.com"; "kjp@waterwatch.org"; "kitblackwelder@gmail.com"; "pearl@kpov.org"; "lnimbus@bendcable.com"; "leehicks@leehicks.com"; "hoodawbrey@yahoo.com"; "nicolemarkcaldwell@msn.com"; "swna@earthlink.net"; "matt@wspi.net"; "matthew.b.olsen@hotmail.com"; "max@merrill-osullivan.com"; "mmagee@mackaysposito.com"; "michelbayard@clearwire.net"; "enchantedforest@coinet.com"; "luckypat242@yahoo.com"; "admin@nativefishsociety.org"; "mail@naturalarea.org"; "allisonh@oeconline.org"; "bfenty@onda.org"; "SL00015@bendbroadband.com"; "tl@oregonwild.org"; "PaulSmithPE@aol.com"; "paperretty@gmail.com"; "peters@bendcable.com"; "auerbach@bendbroadband.com"; "rebeccachandler47@yahoo.com"; "renewables@RNP.org"; "npsaor@yahoo.com"; "waldo1ft@msn.com"; "sklaus@coccc.edu"; "drawfleas@bendcable.com"; "roboone@cascadehealthcare.org"; "gardener@coinet.com"; "storjoman@msn.com"; "bearwallowinn@msn.com"; "wmidan@earthlink.net"; "RIDENOURR@msn.com"; "dbtreadw@msn.com"; "ericamy_anderson@msn.com"; "jenny@thegigginggardener.com"; "johnshort@usa.com"; "kesterbrookk@aol.com"; "marcylmonte@gmail.com"; "maryb@omsi.edu"; "schubwa@yahoo.com"; "mrthomas222@yahoo.com"; "sean@pointblankinc.com"; "stritz@omsi.edu"; "steveinwoods@msn.com"; "slmondry@msn.com"; "tad@mastersofdentistry.net"; "thp8885@msn.com"; "vickiestori@hotmail.com"; "info@smiththrockrace.org"; "swna@earthlink.net"; "scunningham@vivil-agrimis.com"; "slmondry@msn.com"; "suzanne@swalley.com"; "tad@mastersofdentistry.net"; "mike@envirocenter.org"; "junipergrp@yahoo.com"; "info@tsweekly.com"; "tomlin2@bendcable.com"; "cptkirk777@aol.com"; "tship812@yahoo.com"; "tedbrownrig@bendbroadband.com"; "tid@tumalo.org"; "rhouston@restoredeschutes.org"; "vanessathomas@shanska.com"; "Doug@visitbend.com"; "info@waterwatch.org"; "bjohnson@whpacific.com"; "frost@whpacific.com"; Eric King/Bend; Haupt, Susan

Subject: City of Bend Surface Water Improvement Project
Date: Monday, July 11, 2011 8:07:36 AM
Attachments: image001.png



Scoping Meeting for the City of Bend's Proposed Small Conduit Hydroelectric Facility

The City of Bend is preparing an Application for Exemption to the Federal Energy Regulatory Commission (FERC) for a small conduit hydroelectric facility.

As part of this process, the City has prepared an Initial Consultation Document (ICD), which includes a project site map, general engineering design, and proposed project operation to provide the public with information about the facility.

The City of Bend will hold one joint meeting to solicit oral and written comments on the proposed hydroelectric facility. This meeting is open to the public.

The City's FERC ICD is available for review on the City of Bend's website at www.ci.bend.or.us/depts/public_works/surface_water_improvement_project/index.html. If you would like a copy mailed or e-mailed to you, please provide your mailing address or e-mail to sandra.siemens@hdrinc.com.



***Meeting Date:**
 August 10, 2011
Time:
 2:00 to 4:00 pm

*Joint Meeting time and location is subject to change. Please check the City of Bend website to confirm Joint Meeting schedule.

Affidavit of Publication

STATE OF OREGON, COUNTY OF DESCHUTES

I, **Debby Winikka**, a citizen of the United States and a resident of the county aforesaid; I am over the age of eighteen years, and not party to or interested in the above-entitled matter. I am the principal clerk of the printer of

The Bulletin

a daily newspaper of general circulation, published in the aforesaid county and state as defined by ORS 193.010 and ORS 193.020, that

Acct Name: HDR ENGINEERING, INC.
Legal Description: PUBLIC NOTICE, ,

As required by Federal Energy Regulatory Commission regulation 18 CFR, Part 4, Section 4.38(a) and (b), the City of Bend is requesting y...

a printed copy of which is hereto affixed was published in each regular and entire issue of the said newspaper and not in any supplement thereof on the following dates, to wit:

7/24/11	Page E5
7/25/11	Page E4
7/26/11	Page G4

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Bend, Oregon, this 26 day of July, 2011.

Debby Winikka
Signature

AdName: 16425129A



PUBLIC NOTICE

As required by Federal Energy Regulatory Commission regulation 18 CFR, Part 4, Section 4.38(a) and (b), the City of Bend is requesting your review and comment on the Initial Consultation Document (ICD) for exemption of proposed small conduit hydroelectric facilities.

The City of Bend has scheduled a public meeting to discuss the exemption from licensing of the proposed small conduit hydroelectric facility proposed as part of the Bridge Creek Surface Water Improvement Project.

Date:
Wednesday, August 10, 2011
Time: 2:00 to 4:00 p.m.
Location: Deschutes County Administration Building, Barnes Meeting Room, 1300 N.W. Wall Street, Bend, Oregon 97701.

The purpose of this meeting is to provide project information, and to solicit oral and written comments on the ICD. The meeting agenda includes a presentation by the City of Bend followed by a question and answer period.

Comments and questions may be submitted in writing by mail to HDR/Bend Surface Water Improvement Project, 805 SW Industrial Way, Suite 4, Bend, OR 97701. Comments and questions may also be submitted electronically to Sandra.Siemens@hdrinc.com.

Agenda

Introduction
Project Overview
Regulatory Process
Questions/Comments

No. _____ In the _____ Court of the STATE OF OREGON for the COUNTY OF DESCHUTES	
AFFIDAVIT OF PUBLICATION Filed _____ By _____ From the Office of _____ Attorney for _____	

August 1, 2011

Via Electronic Filing

The Honorable Kimberly D Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Re: Notice of Public Meeting for the Bridge Creek Surface Water Improvement Project

Dear Secretary Bose:

The City of Bend (Bend) has scheduled a public meeting for pertinent agencies, Indian tribes, and interested members of the public to present the components of the proposed Bridge Creek Hydroelectric Project and solicit comments. The City of Bend is transmitting the agenda for the meeting, a copy of the letter and initial consultation document made available to the stakeholders via the City's website. A public notice for the meeting was published in The Bulletin from July 24, 2011, through July 26, 2011. The Affidavit of Publication is also provided.

If you have questions regarding the upcoming meeting, please contact Sandra Siemens at 541-323-2331 or by email sandra.siemens@hdrinc.com.

Sincerely,



Susan Haupt
Senior NEPA Project Manager



City of Bend Joint Meeting to Discuss Initial Consultation Document for Federal Energy Regulatory Commission Conduit Exemption

Name (please print)	Agenda / Group	Address	Phone Number	E-Mail Address
Nancy Doran	ODFW	61374 Parrell Rd, Bend 97702	541-633-1112	nancy.e.doran@state.or.us
MARY GRAINEY	OWRD	725 SUMMER ST NE SALEM 97301	503-986-0833	MARY.S.GRAINEY@wd.state.or.us
Jonathan Unger	OWRD	725 Summer St NE Salem 97301	(503) 986-0896	ungerjj@wd.state.or.us
MIKE HOVELY	CITIZEN OF BEND	60886 GRANITE DR. BEND 97702	541-382-6713	enchantedforest@Comet.com
Bryan Black	HDR	2376 NW High Lakes Loop	503.490.2041	bryan.black@hdrinc.com
PETE LICKWAR	USFWS	20310 EMPIRE BEND	503 383 7146	PETER.LICKWAR@FWS.GOV
TINA Woodward	HDR	400 S. Tryon, Charlotte NC	803-546-4626	TINA.WOODWARD@hdrinc.com
Heidi Lamsdowne	COB		541-388-4208	hlansdowne@ci.bend.or.us
Blaine Graff	HDR	1001 SW 5th Ave, Portland 97201	503 423 3866	blaine-graff@hdrinc.com
Kyle Gorman	OWRD	1128 NW Harrison ST	541-388-6669	Kyle.G.Gorman@wd.state.or.us
Tom Hickman	City of Bend	575 NE 15 St	541 317 3029	thickman@ci.bend.or.us
Sarah Hubbard-Gray	Hubbard Gray Consulting	19942 Cliffrose Dr, 97702	541-306-3156	sarah@hubbardgray.com
Cheri Reynolds	City of Bend			creynolds@ci.bend.or.us
Mary Winters	City of Bend		541 693 2100	Maryalice8@hotmail.com
Sarah Siemens	HDR Engineering	805 SW Industrial Way Ste 4	541 410 5699	sarah.siemens@hdrinc.com
Rod Bonacker	US Forest Service	PO Box 249 Sisters 97759	541-480-3915	rbonacker@fs.fed.us

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CITY OF BEND
SURFACE WATER IMPROVEMENT PROJECT
PROPOSED HYDROELECTRIC FACILITY
PUBLIC MEETING

AUGUST 10, 2011
2:00 P.M.
Bend, Oregon

1 MS. WOODWARD: I would like to welcome you
2 today. This is a portion of the surface water improvement
3 project that will be regulated by the Federal Energy
4 Regulatory Commission. Today Heidi Lansdowne, city of Bend
5 project manager, will provide an overview of the city's
6 water supply system. Blaine Graff who is HDR's senior
7 civil engineer and hydropower design lead will provide an
8 overview of the proposed hydropower project. I am from
9 HDR. I am a licensing regulatory specialist, and I will be
10 providing an overview of the FERC conduit process.

11 At the end of the presentation we are going to
12 provide an opportunity for you to come up and give
13 questions or comments on the proposed hydropower facility.
14 Please, when you come up state your name and spell your
15 name and say the organization you are from. We have a
16 court reporter today, and we will be submitting this as
17 part of the FERC record. And with that I would like to
18 bring Heidi up.

19 MS. LANSDOWNE: Thank you all for coming today.
20 As Tina said, I'm Heidi Lansdowne. I am the City of Bend
21 project manager for the surface water improvement project.
22 And today I'm just going to give a short overview of the
23 city's surface water supply system.

24 So the city has two water supplies. One is
25 from ground water, deep water wells, and the other is our

1 surface water system. Our surface water comes from Ridge
2 Creek which is shown here. It's a tributary to Tumalo
3 Creek. Our intake facility is located on Bridge Creek.
4 And from there we have about 10 miles of pipes that takes
5 the raw surface water to our outback facility. The outback
6 facility is -- I don't really have a pointer. It's located
7 at this other end. Thank you.

8 So here is the outback facility. It's just a
9 little south -- I'm sorry. That's the intake facility.
10 It's just a little bit south and west of the Tumalo Falls
11 parking lot. Then our pipelines run down -- currently they
12 run through the forest down to our outback facility which
13 is down here. That facility is where our raw water comes
14 and is chlorinated and goes through a series of tanks to
15 get chlorine contact time before it gets sent into our
16 distribution system.

17 Our current project, the overall surface water
18 project, will be -- will include intake facility
19 modifications, a new raw water conduit, the water treatment
20 facility that will be located at the outback site, and what
21 we are here to talk about today the hydropower facility,
22 and that will also be located at the outback site. The
23 outback site is about two miles west of the city limits up
24 Skyliners Road.

25 And just briefly I was going to cover some

1 points about hydropower. As you all know probably the city
2 council voted last Wednesday to proceed with the
3 construction of the hydropower facility now rather than
4 postpone it. Why hydro for the city of Bend? It's largely
5 because we have about a thousand feet of elevation head
6 between our intake facility and our outback facility which
7 gives us a thousand feet of energy head on the water that
8 comes down. And we're going to be -- though we are going
9 to be changing the operation of our system, there is a lot
10 of water to generate power from.

11 We're going to generate revenue to help offset
12 rate increases. The economic value, we just recently
13 completed a study with HDR our consultant to reevaluate
14 costs and revenues based on current FERC -- I'm sorry --
15 current economic -- the economic climate, better ideas of
16 construction costs and better ideas of revenues. And the
17 analysis still showed that we would generate revenue the
18 first year exceeding the debt service and operating
19 expenses. The economic value over the 50 year life period
20 is expected to be in the 9 to \$12 million range at present
21 value dollars.

22 Hydropower is a clean renewable energy source.
23 It offsets greenhouse gas emissions and will be producing
24 roughly electricity to power about a thousand households.
25 And the other point that it's important for everybody to

1 understand is that we will only be generating power from
2 the water that's already being used by the city rate payers
3 and by the demand generated by the city water users. So
4 with that I will turn it over to Blaine Graff.

5 MR. GRAFF: Like Heidi said, the project is at
6 the outback site which is a couple miles west of town.
7 There is a PacifiCorp distribution line that runs right
8 through the city's property. We have started the
9 interjection process with them and see no problems with
10 connecting directly to that line.

11 This is a little detail of the project area.
12 The conduit comes in from the south and the pretreatment
13 basins are located here. Between the conduit and
14 pretreatment basins of course we have got to have a way to
15 regulate the water flow. Where the power house will be
16 located is adjacent to a bypass valve between the two. The
17 city will have a dependable way to control the water flow
18 into the pretreatment basins.

19 The power house will be about 20 or 35 foot by
20 50 foot in footprint, and its sole function will be to
21 house the turbine generator. This is a photo of a typical
22 turbine generator of the style we plan to have at outback.
23 The water comes through those two bifurcated lines and
24 turns a -- it's called a Pelton style turbine. It turns
25 those wheels inside that blue case there.

1 And here is a conceptual arrangement for our
2 particular application. The conduit comes in to the site
3 underground at the power house. The pipe will come up
4 above grade and enter the turbine. The generator will be
5 connected directly to the turbine. That's the cylindrical
6 thing on the right there to convert the mechanical energy
7 into electrical energy. The water would then flow at
8 atmospheric pressure out that channel to the right to the
9 pretreatment basin. Again the purpose is to control the
10 flow and break the head from the conduit and at the same
11 time produce electrical energy.

12 The forecast amount of energy production out of
13 the project is about 10 million kilowatt hours per year.
14 Peak capacity of the generator is about 1.6 megawatts which
15 is a little over 2000 horsepower. Actual output varies by
16 season and over the years according to water availability
17 and the users demand the 10 million kilowatt hours a long
18 term average.

19 Operationally like I said the purpose of the
20 power plant is mainly to, you know, get water from the
21 conduit to the pretreatment basins. As such it will be
22 operated by the water treatment plant operators. The
23 equipment isn't anything special. It's been -- it's one
24 hundred year old technology mechanically, and it won't
25 require any special or much special training by the water

1 treatment plant operators. Daily check-in and a couple
2 days a year of minor maintenance plus overhauls generally
3 20- to 40-year intervals. That's basically a description
4 of the power house and equipment. And so I will turn it
5 over to Tina.

6 MS. WOODWARD: This is moving a little quickly.
7 I will try to talk in a southern draw and make it slow down
8 a little bit for everybody here. FERC defines the conduit
9 exemption as a project that utilizes hydroelectric
10 potential of a conduit. It's located entirely on
11 nonfederal lands as an installed generating capacity of
12 15 megawatts or less unless it's a municipality, and then
13 they are 40 megawatts or less. And it's not in a central
14 part of a dam.

15 Additionally the project must discharge the
16 water it uses for power generation either into a conduit or
17 directly into a point of agricultural, municipal or
18 industrial consumption, also into a natural body of water
19 as long as the in flow equals the outflow.

20 When FERC reviews the project, what they will
21 be looking at is the existing or proposed hydropower
22 facility, all of the structures, fixtures, equipment and
23 land used for the operations and maintenance of the
24 project, but this will exclude the conduit and the
25 transmission line. It's important to remember with the

1 FERC they are just worried about the power house footprint
2 and the equipment used to generate.

3 Back to this photo or drawing, I wanted to
4 point out to you that this red line is the only line that
5 FERC is going to be worried about. They don't care about
6 any of the other stuff. So for the proposed hydropower
7 facility that we are discussing here today, this is the
8 area that we need to be concentrating on. In order to
9 obtain a conduit exemption, you must go through a three
10 stage consultation process which is part of the reason we
11 are holding this meeting today.

12 First we will provide the ICD which contains
13 the project information. We delivered the ICD via post
14 cards that came out. They are available on the Bend city's
15 website. And we do have some hard copies here today. If
16 you still need a copy and there isn't any here, the city
17 will continue to have this up on their web page.

18 We then need to hold a joint meeting with the
19 agencies and the public. So again welcome to help us with
20 this cause. We will be accepting comments and study
21 requests on the proposed power house facility, and you will
22 have 60 days to comment on the power house facility or
23 request any studies. And this will make a due date of
24 October 9, 2011.

25 For the power house comment contact information

1 because this project does not yet have a FERC project
2 number or docket number, we are requesting that you submit
3 your comments to sandrasiemens@hdrinc.com. We have a
4 handout here that provides links if anybody needs one.
5 Please put in the subject line FERC power house comments,
6 or you can send hard copies.

7 We're not anticipating the need to do
8 environmental studies because the site is already
9 disturbed, it's already been graded, and it's currently on
10 city land. So we don't expect to have any additional
11 environmental impacts.

12 Once the comment period is over for stage one,
13 that begins the stage two process. We will be putting
14 together a draft license application, and we will provide a
15 copy of that draft license application. This will also be
16 available on the city's web page. If studies are deemed
17 needed, we will have the results of any studies, all of the
18 consultation documents, and we will provide a written
19 request for review and comment of the document. From this
20 period you will 90 days to review and comment on the draft
21 application. At that point FERC will assign a project
22 number. The draft license application will provide you the
23 information on how to file with FERC.

24 The third stage is preparing the final
25 application and showing that we have followed through with

1 the three stage consultation process. Where we are today
2 and the next steps. We have distributed the ICD. We
3 provided the public notification on July 24, 25, 26 of this
4 year. We are having the joint meeting today. Comments
5 will be due October 9. We will distribute the draft
6 application on November 7. You will have through
7 February 5 to give comments, and then we will be filing the
8 final on February 19.

9 And I guess my southern draw didn't go very
10 long because we have reached the question and comment
11 period. What we would like for you to do is when you come
12 up, please state your name and spell your name. Please try
13 to limit your comments and questions to the proposed
14 hydropower facility, and one of us will respond to your
15 comments. Does anybody have a comment or a question?

16 MS. DORN: I am Nancy Dorn with Oregon
17 Department of Fish and Wildlife. And I didn't know I guess
18 who to address this to, but I didn't know if somebody
19 could -- in looking at the consultation document in the
20 proposed hydropower development, I guess there is plans to
21 include multiple stream crossings for the conduit. Is this
22 being -- this isn't one of the things being discussed at
23 this meeting?

24 MS. WOODWARD: No.

25 MS. DORN: The conduit is not part of the power

1 house?

2 MS. WOODWARD: Correct.

3 MS. DORN: Okay.

4 THE PUBLIC: I just wondered if Kyle had
5 anything he was going to say. He was on the agenda.

6 MS. WOODWARD: Kyle, would you like to come up
7 and say something?

8 MR. GORMAN: I can.

9 MS. WOODWARD: Sure.

10 MR. GORMAN: So I'm Kyle Gorman. I'm with the
11 Oregon Water Resources, department region manager here in
12 Bend. Is there anything else, details about myself? Okay.
13 I was asked to come to the meeting. I was not aware that I
14 would be on the agenda. And then there is some other
15 experts from the agency here in the room that probably have
16 10 times the knowledge I do about hydroelectric
17 authorizations. So if I fumble, they are here to back me
18 up.

19 But I guess the main thing that I wanted to
20 address is that in the 2007 legislative session, the
21 legislature passed a bill that said that if a water right
22 holder, certificate holder, would like to install
23 hydroelectric generation on their facility, there is a new
24 process, a modified, quicker, easier process to go through
25 to obtain a water right certificate to do so. And so the

1 city of Bend is seeking that opportunity as I'm aware.

2 And a couple other things involved in that is
3 that the generation of hydroelectricity, it has to be
4 within the existing beneficial uses that they have
5 currently under their authorizing certificates for that
6 water diversion. So no additional water could be diverted
7 just specifically for the hydroelectric generation. It has
8 to be put to the beneficial use under existing
9 certificates. And the applicant has to have a FERC
10 exemption to apply for this process. So those are a couple
11 key issues that the department looks at and reviews under
12 the expedited hydroelectric authorization process.

13 So I guess that's all I wanted say, a couple
14 key points, a little bit of information, and I was mainly
15 here to answer questions related to water rights if there
16 are any. So keeping in tune with the other presentations.

17 MS. WOODWARD: It's a beautiful day outside
18 today anyhow. So does anybody else have any comments or
19 questions?

20 MR. LOVELY: As a matter of fact, Mike Lovely,
21 a long time resident of Bend. Do you need my address?

22 MS. WOODWARD: We should have it on the sign-in
23 sheet.

24 MR. LOVELY: You got it on there. Okay. I
25 have been very much in favor of this whole surface water

1 project and hydroproject. And being the suspicious
2 conspiracy theorist that I tend to be, I'm concerned if
3 there is still going to be some movement in the background
4 about Tumalo Irrigation District wanting to derail this
5 whole process under the guise of fish.

6 Fish have never come up as a subject of
7 discussion in Tumalo Creek since I have been here for 33
8 years that I can remember. Now all of a sudden fish
9 habitat and crossing the creek and various things that
10 so-call threaten the purity of Tumalo Creek and any
11 tributaries has me concerned that I don't want any
12 background activities that would derail this project.

13 And this is a golden opportunity, and wherever
14 we have flowing water, we need to be generating electricity
15 because it doesn't pollute. So I'm hoping somebody will
16 keep an eye out for this or at least let me know because
17 I'm retired. I don't owe my soul to anybody. So I'm not
18 worried about getting fired. Thank you. I might be fired
19 at but not fired.

20 MR. HICKMAN: Mike, to the extent I can address
21 your comments --

22 MS. WOODWARD: Please introduce yourself.

23 MR. HICKMAN: I'm sorry. Tom Hickman, city
24 engineer. So we actually have been working with Tumalo
25 Irrigation District in terms of cooperating with them and

1 trying to understand how we can work together on their
2 projects that they are trying to do to restore stream flows
3 although that whole discussion as I understand is outside
4 the purpose of this -- the FERC meeting.

5 But I do want to let you know we have really
6 been working very well with Tumalo Irrigation District
7 through this process, and we are trying our best to work
8 with any other agencies that have concerns related to
9 fisheries, and we are looking at other opportunities that's
10 outside this whole project to address stream flows.

11 MS. WOODWARD: Does anybody else have any
12 questions or comments?

13 MR. LICKWAR: Hello, Peter Lickwar, U.S. Fish
14 and Wildlife Service. Last name is L-i-c-k-w-a-r. I just
15 had two questions. I understand that you are going to be
16 using the U.S. -- or the Forest Service is doing NEPA
17 process, and is it going to include the hydropower
18 facility? So you are going to do your own NEPA for the
19 hydropower facility?

20 MS. WOODWARD: It's categorically excluded for
21 a conduit exemption.

22 MR. LICKWAR: Pardon?

23 MS. WOODWARD: It's categorically excluded for
24 conduit exemption.

25 MR. LICKWAR: Okay. But it's -- I'm trying to

1 tease these things apart a little bit. When the Forest
2 Service put out their request or response about their NEPA
3 document, they were not -- they said that they were not
4 aware of whether or not the city was going to do hydro.
5 And they said one thing about screens which was they would
6 be required, and the city's documents said that they may be
7 required. So I'm just trying to figure out how this all
8 fits.

9 So I understand you are going to go category
10 exclusion. That's fine. But then I was just trying to
11 figure out what to do about that apparent difference in
12 understanding about screens.

13 MS. LANSDOWNE: Again Heidi Lansdowne. Just
14 to respond to that question, when the ICD was developed and
15 written and came out, the council, the city council, had
16 not yet decided if we were going to build hydro now. So
17 that was a may build hydro. That's why the document says
18 we may build hydro.

19 The screen requirement was only part of our
20 project or a bigger project if we did build hydro. If we
21 don't -- if we didn't decide to build hydro, we wouldn't
22 need to update the fish screens at the intake facilities.
23 So it was kind of a we didn't know which way we were going
24 at the time some of these documents were written.

25 Now with clear direction from council to build

1 the hydro generation facility now, we will be required to
2 do the fish screen improvements and fish passage
3 improvements at the intake site. Does that make it more
4 clear?

5 THE PUBLIC: You are going to screen?

6 MS. LANSLOWNE: We are going to screen.

7 MS. WOODWARD: That made him smile which is a
8 good thing. Does anybody else have a question on the
9 process or the hydropower facility?

10 MS. GRAINEY: So can I just ask so where will
11 the information be about the fish screening and passage?
12 Is that going to come out as part of the draft application?

13 MS. WOODWARD: No. That will not. The draft
14 application does not include anything about the conduit
15 itself. It's only the small hydropower footprint. That
16 would be in the --

17 MS. GRAINEY: So that's a separate application
18 to ODF&W?

19 MS. SIEMENS: Excuse me. For the court
20 reporter I need you to identify yourself.

21 MS. GRAINEY: I am Mary Grainey with Oregon
22 Water Resources.

23 MS. SIEMENS: Okay. Thank you.

24 MS. LANSLOWNE: We are working through -- with
25 and through HDR with all the agencies and getting

1 appropriate -- I'm Heidi Lansdowne -- appropriate responses
2 and reviews of our plans as they are being developed. So I
3 don't know -- Susan Howe from HDR is handling a lot of the
4 permitting and interagency coordination. But we are
5 setting up review meetings as we get 60 and 90 percent
6 drawings. So we did just meet with the Forest Service to
7 review our 60 percent intake drawings, and we are meeting
8 next week with ODF&W to clarify some more information about
9 the fish screens and fish passage.

10 So does that answer your question? It's kind
11 of an ongoing process through HDR is our permitting lead.
12 They know all the permitting requirements we have. And so
13 through that person Susan Howe we are setting up meetings
14 as the design process proceeds.

15 MR. LOVELY: Just a logistical question. Is
16 the power point presentation on the city website or will it
17 be?

18 MS. WOODWARD: Yes, it will be on the city
19 website. Anybody else? I know it's hard to think about
20 how separated the conduit exemption project is from
21 everything else. FERC regulation defines what the project
22 boundary is for a conduit exemption. It's a pretty -- they
23 consider it very environmentally friendly and there's not a
24 lot of impact. So they don't have a lot of tough
25 regulations like they do with a full blown hydropower

1 licensing.

2 Okay. If we have nothing else, it's a
3 beautiful day outside. You guys go and enjoy the day, and
4 thank you very much for coming and providing your comments.

5 (At 2:30 p.m. the meeting was concluded.)

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STATE OF OREGON)
) ss
COUNTY OF DESCHUTES)

I, DEBORAH FLEISCHER, Court Reporter and
Notary Public, do hereby certify;

That the proceedings were recorded
stenographically by me;

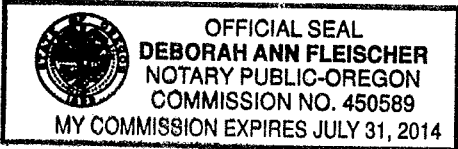
That the foregoing transcript is a true
record of the proceedings.

I hereby certify that I am not interested
in the event of the action.

IN WITNESS WHEREOF, I have subscribed my
name this 18th day of August, 2011.

Deborah Fleischer

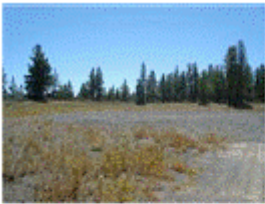
DEBORAH FLEISCHER
Court Reporter & Notary Public



From: [Tad Hodgert, DMD](#)
To: [Siemens, Sandra](#)
Subject: RE: City of Bend Outback Site Visit
Date: Tuesday, August 23, 2011 3:29:30 PM

Please also stage for a bioFuels plant. Please....

From: Siemens, Sandra [mailto:Sandra.Siemens@hdrinc.com]
Sent: Tuesday, August 23, 2011 2:12 PM
Subject: City of Bend Outback Site Visit



*Site Visit
for the
City of Bend's
Proposed
Small
Conduit
Hydroelectric
Facility*



The City of Bend is preparing an Application to the FERC for a small conduit hydroelectric facility proposed by the City.

As part of this process, the City has prepared an Initial Consultation Document (ICD). On August 10, 2011, there was a joint public meeting held. As part of the FERC process, the City will hold a visit to the Outback site, which would be the location of the small conduit hydroelectric facility.

Directions to the Outback site are: Head west on Skyliners Road for approximately two miles. Turn right at the traffic cone. The gates will be open for the site visit until 9:10 am.

Site Visit Date: Friday, September 9, 2011

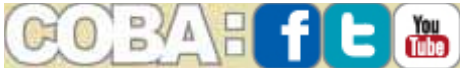
Time: 9:00 to 10:00 a.m.

Due to traffic and parking limitations, reservations for the site visit are necessary. Please respond by September 5 to Sandra Siemens at 541-323-2331 or sandra.siemens@hdrinc.com.

From: [Andy High](#)
To: [Siemens, Sandra](#)
Subject: RE: City of Bend Surface Water Improvement Project
Date: Friday, September 02, 2011 11:01:03 AM

That would be great

Andy High
Central Oregon Builders Association
541-389-1058 Office
541-771-3187 Cell



From: Siemens, Sandra [mailto:Sandra.Siemens@hdrinc.com]
Sent: Thursday, September 01, 2011 4:20 PM
To: Andy High
Subject: RE: City of Bend Surface Water Improvement Project

Thanks for your help in distributing information. Should I send things to you?

Attached is the postcard that was distributed.

Sandy

From: Andy High [mailto:andyh@coba.org]
Sent: Thursday, September 01, 2011 3:51 PM
To: Siemens, Sandra
Subject: RE: City of Bend Surface Water Improvement Project

Sandra

We would be happy to distribute anything you have

Andy High
Central Oregon Builders Association
541-389-1058 Office
541-771-3187 Cell



From: Siemens, Sandra [mailto:Sandra.Siemens@hdrinc.com]
Sent: Thursday, September 01, 2011 2:58 PM
To: Andy High
Subject: City of Bend Surface Water Improvement Project

Coming up is a visit to the Outback site. We have distributed the postcard to Federal, State, County, City, tribal, etc. agencies as required by the Federal Energy Regulatory Commission. We have also distributed to the public contacts who have signed up on the public outreach sign-up

through the City's website.

In an effort to reach as many people, would COBA be willing to forward emails and e-notices (*from the City on the Surface Water Project*) on to the contracting community (assuming COBA has a distribution list)?

If COBA prefers that we communicate directly with individual contractors, then it would be great if they would be willing to get a list to us.

SANDRA SIEMENS

HDR Engineering
Project Assistant

805 S.W. Industrial Way, Suite 4 | Bend, OR 97702
541.323.2331, Ext. 4000 | c: 541.410.5699
sandra.siemens@hdrinc.com | hdrinc.com

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City of Bend's
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Small
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Facility*



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Due to traffic and parking limitations, reservations for the site visit are necessary. **Please respond by September 5** to Sandra Siemens at 541-323-2331 or sandra.siemens@hdrinc.com.



City of Bend Outback Site Visit, September 9, 2011 -

Initial Consultation Document

Federal Energy Regulatory Commission Conduit Exemption

Name (please print)	Agenda / Group	Address	Phone Number	E-Mail Address
HEIDI LAUSDOWIE	COB		541-388 5538	
TAD HADYART	skyliners	1655 Skyliners Rd 620 NW York Dr #101 220 NE DAVIS	410 0285 480-3521	TAD@MisteadOrDesign.Nets SEVERSON.PLOG@BEND.BEAMER.NA.COM
DAVE SEVERSON	SEVERSON PLSB			
Moely Newbold	neighbor	19615 Tumalo Rim Ct Bend, OR 97701	845-409-2017	moeyoldbld@gmail.com
Sacquelina Newbold	Citizen	19615 Tumalo Rim Ct Bend, OR	541-388-3108	newbold.0505@bobb
CECILIA LACY	NATIVE FISIT SOCIETY	57 NW Pinecrest Ct Bend, OR	389-2434	lacycraig@gmail.com
FREYA TRIPP	CITIZEN	1020 NW Forward Bend, OR	312-2193	freya@bendcable.com
MIKE TRIPP	"	"	"	mtripp@bendcable.com
MARK MAFSKA	SKANSKA	Redmond	419 7204	MARK.MAFSKA@SKANSKA.COM
Andy Lassen	Skanska	Redmond	541-604-0543	andrew.larsen@skanska.com

APPENDIX B-4
SHPO CONCURRENCE LETTER



November 22, 2011

Dennis Griffin, Ph.D.
State Historic Preservation Office
Parks and Recreation Department
725 Summer St NE, Suite C
Salem, OR 97301-1266

PUBLIC
WORKS

575 NE 15TH STREET
PO BOX 431
BEND, OR 97701
[541] 317-3000 TEL
[541] 389-2245 FAX
WWW.CI.BEND.OR.US

Dear Dr. Griffin:

JEFF EAGER
Mayor

JODIE BARRAM
Mayor Pro Tem

TOM GREENE
City Councilor

KATHIE ECKMAN
City Councilor

JIM CLINTON
City Councilor

MARK CAPELL
City Councilor

SCOTT RAMSAY
City Councilor

ERIC KING
City Manager

PAUL RHEAULT
Public Works Director

The City of Bend is proposing to add a hydroelectric power generating facility at our existing Outback water storage and treatment site. The City is seeking approval from the Federal Energy Regulatory Commission (FERC) for this facility through a FERC Conduit Exemption. The Conduit Exemption process is a federal undertaking that requires compliance with Section 106 of the National Historic Preservation Act.

The City has commissioned an archaeological survey of the Area of Potential Effect, consisting of the construction and operational footprint of the generating station. That survey was completed by Basin and Range Heritage Consultants. The report of that survey is enclosed with this letter. The survey documents negative findings.

The City of Bend is seeking the concurrence of the State Historic Preservation Officer in the consultant's recommended finding of No Historic Properties Affected.

Please direct all questions concerning this undertaking or the archaeological survey to me. Thank you.

Sincerely,

Heidi Lansdowne, Project Manager
City of Bend Engineering and Infrastructure Division
(541)388-5535



Oregon

John A. Kitzhaber, MD, Governor

Parks and Recreation Department

State Historic Preservation Office

725 Summer St NE, Ste C

Salem, OR 97301-1266

(503) 986-0671

Fax (503) 986-0793

www.oregonheritage.org

November 29, 2011

Ms. Heidi Lansdowne
City of Bend Eng & Infrastructure Div
PO Box 431
Bend, OR 97701



RE: SHPO Case No. 11-2037

City of Bend Hydro Facility (Surface Water Improve) Proj

CRS

City of Bend/FERC/Basin & Reange Heritage Consult

17S 11E 34, Bend, Deschutes County

Dear Ms. Lansdowne:

Our office recently received your report about the project referenced above. I have reviewed your report (SHPO# 24763) and agree that the project will have no effect on any known cultural resources. No further archaeological research is needed with this project. In reading through your report I noted that the project was on public lands within the state of Oregon and that your consultant failed to apply for an archaeological permit. As such he violated state law (ORS 390.235 (1)(a)). It is regrettable that archaeologists working in our state are unaware of our state laws.

Please be aware, however, that if during development activities you or your staff encounters any cultural material (i.e., historic or prehistoric), all activities should cease immediately and an archaeologist should be contacted to evaluate the discovery. Under state law (ORS 358.905-955) it is a Class B misdemeanor to impact an archaeological site on public or private land in Oregon. Impacts to Native American graves and cultural items are considered a Class C felony (ORS 97.740-760). If you have any questions regarding any future discovery or my letter, feel free to contact our office at your convenience.

Sincerely,

Dennis Griffin, Ph.D., RPA

State Archaeologist

(503) 986-0674

dennis.griffin@state.or.us



APPENDIX B-5
ODFW MEETING AND CORRESPONDENCE



Oregon

John Kitzhaber, Governor

Department of Fish and Wildlife

High Desert Region

61374 Parrell Road

Bend, OR 97702

(541) 388-6363

FAX (541) 388-6281

December 14, 2011

Ms. Sandra Siemens
HDR/Bend Surface Water Improvement Project Office
804 SW Industrial Way, Suite 4
Bend, OR 97701

Re: City of Bend FERC Conduit Exemption

Dear Ms. Siemens,

On Wednesday, November 2, 2011, Oregon Department of Fish and Wildlife (ODFW) staff met with City of Bend and HDR project staff with regards to the small conduit hydroelectric facilities proposed as part of the City of Bend Surface Water Project. ODFW staff who met at the HDR office included me, Amy Stuart, Ted Wise and Brett Hodgson. Other ODFW staff who participated in the meeting, via conference call, included Rick Kepler from our Salem headquarters office. Pete Baki, from our Salem headquarters office, was also able to join the conference call for a short period just prior to its conclusion. In addition, Peter Lickwar, from U.S. Fish and Wildlife Service also attended.

This meeting/conference call was scheduled to address comments, submitted to HDR, by ODFW, in a letter dated October 14, 2011. The main objectives of the meeting were to:

- clarify the primary purpose of the small conduit hydroelectric project;
- review the proposed project design;
- discuss ODFW fish passage and screening triggers, as well as passage and screening requirements; and
- provide ODFW an opportunity to ask questions regarding flow management and water rights issues surrounding development of this project and its impacts to Tumalo Creek, Bridge Creek and the Deschutes River.

At the conclusion of the meeting, all ODFW staff involved agreed that the project purpose had been sufficiently clarified and that it does, in fact, meet the requirements for a small conduit exemption, per FERC guidelines. ODFW staff also agreed that the proposed design of the project, with regards to the placement of the conduit, and what the purpose of the bypass pipe would be, was sufficiently clarified.

We look forward to working cooperatively with the City of Bend and HDR as this project moves forward and we thank you for the opportunity to meet and discuss those issues that were of particular concern to us.

Please feel free to contact me should you have any questions or need any additional information from ODFW. I can be reached at (541) 633-1112 or by email at nancy.e.doran@state.or.us

Sincerely,

Nancy Doran

Nancy Doran
Assistant Hydropower Coordinator

CC: Ken Homolka
Amy Stuart
Brett Hodgson
Ted Wise
Alan Dale
Rick Kepler

City of Bend Surface Water Project

Meeting Summary

Discussion of ODFW comments on FERC Conduit Exemption

DATE/TIME: November 2, 2011 10 a.m. - 11:30 a.m.

ATTENDEES: Bryan Black, Heidi Lansdowne, Patrick Griffiths, Tina Woodward, Nancy Doran, Ted Wise, Brett Hodgson, Amy Stuart, Rick Keplar, Pete Baki, Peter Lickwar

LOCATION: HDR Bend Office (805 SW Industrial Way Suite 4)

SUMMARY

1. Primary purpose of the new pipeline and other system upgrades

- a. The October 14 letter from ODFW indicated several times that they questioned the City's qualification for a FERC conduit exemption. ODFW was concerned that the primary purpose of the proposed new pipeline was actually to serve the new hydroelectric power plant. Further, ODFW was concerned that the City might be planning to divert more water than needed for municipal supplies, generate power off of that water, and then "waste" it, or return it to the creek.

Bryan Black explained that:

- 1) The primary purpose of the proposed pipeline is to carry raw water from the City' Bridge Creek Intake Facility to the City's storage and disinfection facility at the Outback site. The City needs to build a new pipeline because the existing pipelines are aging and vulnerable to catastrophic failure. The need for the pipeline is independent of the hydropower facility, and the pipeline alignment and size would be the same with or without the proposed hydropower plant.
- 2) The pipeline size (30-inch diameter) is based on cost-effectiveness, access to allow internal welding, inspections and maintenance. Water velocities and pressure were also primary design drivers. Earlier in the design process the City considered a 36-inch pipe but given projected demands and available water, this pipe size was not warranted. The City will build a 30-inch diameter pipeline even if hydropower is not carried forward. This pipe size was evaluated and confirmed during a formal Value Engineering Study attended by a group of independent engineers.
- 3) The new hydropower plant and water treatment plant would be built at the City's Outback Site. This will be designed as a "closed system" and no water diverted and sent to the Outback site will be "wasted" or returned to Tumalo Creek. The existing return flow infrastructure will be decommissioned and abandoned after the new project is completed. The new system will have downstream flow control, and only water needed for municipal use will be diverted from Bridge Creek.

- b. ODFW expressed concern that the City was building a new pipeline to replace a one of two existing pipelines, and ODFW was not clear on what the City would be doing with the “second” existing pipeline after project completion.
 - Bryan Black explained that there are two existing pipelines in use today. Both of these pipelines would be decommissioned in an appropriate manner after the new pipeline is brought on line.
- b. ODFW asked if the City’s existing surface water operations were compliant with the City’s water rights.
 - Patrick Griffiths and Heidi Lansdowne explained that OWRD is aware of City’s operation of the existing system, and is aware of improvements that the City is proposing - including flow control on the pipe and abandoning the return flow at the Outback Site. OWRD issued water right certificates based on the existing system. Patrick and Ted Wise agreed to talk about this further at a later time if required, as it is not directly related to the FERC conduit exemption being sought for the new hydropower plant, or to comments made in ODFW’s October 14 letter.
- c. ODFW expressed concern about the increased capacity of the new pipeline. Would the larger pipe lead to increased diversions, and would the hydropower facility create incentives for increased diversions?
 - Several members of the project team explained that, in the future, the volume of water to be diverted by the City will be limited by municipal demand (this is generally the limiting factor in the winter) and water rights and water availability (these are generally the limiting factors in the summer). These limiting factors are not related to pipe size and will not change as a result of the new project. The City’s use in the summer will continue to be regulated based on water rights and water availability. Under future demand conditions (about 20 years into the future) winter municipal water needs are anticipated to approach or begin exceeding the current pipe capacity of 18.2. At that point, the City will be able to divert more water than it would under the continued use of the existing pipeline. Although water availability is not typically a limiting factor in the winter, the City has only 21 cfs water rights, of which 2.8 cfs is in the extension process, so only 18.2 of the winter rights are currently certificated for use during non-irrigation season(winter). *(see also #3 below)*

2. Operational restrictions placed on City by OWRD and the FERC

- a. The City is pursuing a Conduit Exemption from the FERC and certificates from OWRD to produce hydroelectric power using water that is diverted for municipal use. Under these approvals, the City will not be allowed to divert water for the sole purpose of generating hydropower. Nor will the City be allowed to divert water to generate power and return it to the creek.

3. Surface water a primary supply; groundwater a supplementary supply
 - a. The City explained that the hydropower plant would not drive preferential use of the surface water system. The City has always used the surface water supply as a primary source and groundwater as a supplemental source because surface water is much less expensive to deliver (gravity vs. pumping). The City will continue to use surface water as a primary supply with or without hydropower.
4. Notification of FERC ICD and FERC Joint Meeting
 - a. ODFW indicated the local staff did not receive a copy of the FERC Initial Consultation Document.
 - The City said their records indicated that a copy of the ICD was sent to Chip Dale at the ODFW Bend office (and that Nancy Doran attended the ICD Joint Meeting held by the City on August 10, 2011).
 - ODFW requested that Brett Hodgson, Nancy Doran, and Ted Wise were added to the distribution list that requested that the City consult directly with these staff members throughout the remaining FERC process.
 - ACTION ITEM: Project team to add ODFW staff to FERC distribution list.
5. Update on flow modeling
 - a. The City is working with the Forest Service and Tim Hardin at ODFW on a flow and temperature modeling effort. The results of this study will support the Forest Service NEPA process, and will also guide City operation of the proposed new surface water system. Tim Hardin (ODFW) did review the Study plan, and his comments on the plan were considered and the study approach was revised per Tim's comments. ODFW will have an opportunity to review the study results.
6. Update on fish passage and screening
 - a. The City is designing the Intake upgrades to include ODFW-compliant fish screens. Patrick Griffiths is working closely with ODFW on the issue of fish passage and the potential for a waiver that would involve a net-benefit package that the City would help fund and implement.
7. In closing, Susan Haupt asked the group if: 1) there was anyone at the meeting not in concurrence with the City's position that the primary purpose of the proposed pipe is water supply, and 2) anyone present believed, for any reason, the City did not qualify for the FERC conduit exemption.
 - a. Rick Kepler, ODFW, said that ODFW is much clearer on the pipe and system design and intended operation now, and that based on these assumptions, ODFW concurs that the primary purpose of the proposed new pipeline is water supply. Further, ODFW understands that the new system will be closed, and there will be no unused water to be "wasted" or returned to the creek.

8. Susan asked if ODFW would be willing to submit a letter to the City indicating their current understanding of the project and indicating concurrence with the City that the primary purpose of the proposed pipeline was water supply and not hydropower.
 - a. Rick Kepler and Amy Stuart indicated that ODFW would submit a follow-up letter to the City. Nancy Doran will be preparing that letter.