# OREGON WATER RESOURCE DEPARTMENT
# WATER CONSERVATON, REUSE AND STORAGE
# FEASIBILTY STUDY GRANT PROGRAM

## I. Grant Information

Study Name: Bandon Off-Channel Raw Water Storage Reservoir

Type of Feasibility Study: ☐ Water Conservation ☐ Reuse ☑ Above-Ground Storage
☐ Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Program Funding Dollars Requested: $ 39,418.00 Total Cost of Feasibility Study: $ 78,836.00
*Note: Request may not exceed $500,000*

## II. Applicant Information

| **Applicant Name:** City of Bandon | **Co-Applicant Name:** |
|---|---|
| Address: P.O. Box 67 | Address: |
| Bandon, Oregon 97411 | |
| Phone: 541-347-2437 | Phone: |
| Fax: 541-347-1415 | Fax: |
| Email: citymanager@ci.bandon.or.us | Email: |

| **Principle Contact:** The Dyer Partnership Engineers & Planners |
|---|
| Address: 1330 Teakwood Ave. |
| Coos Bay, Oregon 97420 |
| Phone: 541-269-0732 |
| Fax: 541-269-2044 |
| Email: bnegherbon@dyerpart.com |

**Certification**:

I certify that this application is a true and accurate representation of the proposed work for a project feasibility study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department grant, have read and agree to all conditions within the sample grant agreement and are prepared to conduct the feasibility study if awarded.

Applicant Signature: Chris Good Date: 7/31/15

Print Name: Chris Good Title: City Manager

## III. Feasibility Study Summary

Please give a brief summary of the feasibility study using no more than 150 words.

The City of Bandon is seeking funding to conduct a feasibility study to develop an off-channel raw water storage reservoir as a means to store 50 acre-feet of water to be used as municipal drinking water during the dry summer months. The objectives of this study will be to determine: whether the proposed site is geological and seismic stable; whether the proposed source is adequate to provide the necessary volume of water to supply the reservoir; whether diverting this water would have detrimental effects to other users. The feasibility study would include the following tasks: geotechnical exploration; hydrology investigation; land ownership and right-of-way investigations; wetlands delineation; assess environmental impacts; detailed engineering feasibility study; cost estimate; comparison to other alternatives to provide raw water storage for the municipal use; water rights administration.

# 2015-2017 Grant Solicitation

# WATER CONSERVATION, REUSE AND STORAGE FEASIBILITY STUDY GRANT PROGRAM

## *GRANT APPLICATION*

### APPLICATION INSTRUCTIONS

1. Complete Sections I through VII in the spaces provided.
2. An application must be submitted on a form provided by the Department. An explanation must accompany the application if any of the information required cannot be provided [OAR 690-600-0020(6)].
3. If in hard copy - use 8 ½" x 11" single sided, unstapled pages. Provide any attachments to application also on 8 ½" x 11" single-sided, unstapled pages. Avoid color and detail that will not photocopy clearly.
4. Please Contact the Department's Grant Specialist Jon Unger at **503.986.0869** or Jon.J.Unger@wrd.state.or.us if you have any questions.

**Application Deadline: July 31, 2015 5:00 PM,**
(Application must be received by this date and time)

Mail application to:

**OREGON WATER RESOURCES DEPARTMENT**
**Attention: Grant Specialist**
**725 Summer Street NE, Suite A**
**Salem, OR 97301**

# KEY GRANT INFORMATION

**Introduction.** The Water Conservation, Reuse and Storage Grant Program, established by Senate Bill 1069 (2008), is designed to fund the qualifying costs of feasibility studies that evaluate the feasibility of developing water conservation, reuse or storage projects. Oregon is facing increasing water demand and increasingly scarce water supplies. To adequately meet Oregon's diverse water demands now and into the future, Oregonians must use their water wisely and efficiently. That means looking more closely at innovative water conservation and reuse programs and environmentally sound storage projects that capture available water so it can be put to good use when needed.

**What is a feasibility study?** A feasibility study is an assessment of a proposed plan or method. Typically there should be a previously identified water project that appears to have merit but is lacking important details necessary to determine whether or not to proceed. The feasibility study focuses on helping answer the essential question of "should we proceed with the proposed project idea?" All activities of the study are directed toward helping answer this question. Ideally the project identified will have community support and will have been identified through a collaborative process.

**Match Funding.** To be eligible for funding applicants must clearly demonstrate funding from a source other than the Program of not less than a dollar-for-dollar match from cash or in-kind services. For example, if $25,000 is requested in Program Funds, then there must be a match of at least $25,000 from another source. The matching funds must be secured or in the process of being secured. The maximum grant award is $500,000.

**Eligibility Requirements for Storage Studies.** To be eligible for funding for a project feasibility study associated with a proposed storage project that would: Impound surface water on a perennial stream; Divert water from a stream that supports sensitive, threatened or endangered fish; **or** Divert more than 500 acre-feet of surface water annually, the proposed project feasibility study must contain the following elements:

- Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows;
- Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives;
- Analyses of environmental harm or impacts from the proposed storage project;
- Evaluation of the need for and feasibility of using stored water to augment in-stream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values; and
- For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

***See <u>Application Criteria and Evaluation Guidance</u> for assistance in filling out this application.***

# OREGON WATER RESOURCE DEPARTMENT
# WATER CONSERVATON, REUSE AND STORAGE
# FEASIBILTY STUDY GRANT PROGRAM

## I. Grant Information

Study Name: Bandon Off-Channel Raw Water Storage Reservoir

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Applicant Signature: _____ Date: _____

Print Name: Chris Good Title: City Manager

## III. Feasibility Study Summary

Please give a brief summary of the feasibility study using no more than 150 words.

The City of Bandon is seeking funding to conduct a feasibility study to develop an off-channel raw water storage reservoir as a means to store 50 acre-feet of water to be used as municipal drinking water during the dry summer months. The objectives of this study will be to determine: whether the proposed site is geological and seismic stable; whether the proposed source is adequate to provide the necessary volume of water to supply the reservoir; whether diverting this water would have detrimental effects to other users. The feasibility study would include the following tasks: geotechnical exploration; hydrology investigation; land ownership and right-of-way investigations; wetlands delineation; assess environmental impacts; detailed engineering feasibility study; cost estimate; comparison to other alternatives to provide raw water storage for the municipal use; water rights administration.

# IV. Grant Specifics

## Section A. Common Criteria

***Instructions:*** Please answer all questions contained in this section. It is anticipated that completed applications will result in additional pages.

1. Describe your goal and how this study helps to achieve the goal.

   See Attached.

2. Describe the water supply need(s) that the proposed project addresses. Identify any critical local, regional, or statewide water supply needs that implementation of the project associated with the feasibility study will address. **Responses should rely upon solid water availability and needs data/analysis.** For examples of water supply needs see "Criteria and Evaluation Guidance Document."

   See Attached.

3. Explain how the proposed project will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50 percent of your need will be met).

   See Attached.

4. Describe the technical aspects of the feasibility study and why your approach is appropriate for accomplishing the specific study goals and objectives.

   See Attached.

5. Describe how the feasibility study will be performed. Include:
   a. General summary statement that describes the study progression.
   b. When the feasibility study will begin.
   c. Listing of key tasks to be accomplished with each task having:
      i. Title
      ii. Timeline for completion
      iii. Description of the activities to be performed in this key task
      iv. Description of the resources necessary for accomplishing the key task

   **Example:**

   (i) Streamflow measurement;
   (ii) September-April;
   (iii) Weekly streamflow measurements will be performed to gather hydrographic data for the hydrologic analysis to take place in May;
   (iv) A technician will be hired to perform the streamflow measurements.

   (Key tasks listed here are to be placed in Section VI. Project Feasibility Study Schedule for a quick reference "graphical" representation of the schedule.)

   See Attached.

6. Please provide the following data and information for the proposed project and the project's sources of water supply:

   a. The location of the proposed project. Include the basin, county, township, range and section. Attach a **map** that identifies the project's implementation area to this application.

      The proposed off-channel reservoir is located in Oregon Drainage Basin 17 South Coast in township 28S, range 14W, section 4. A map showing the project's location is attached.

   b. The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.

      The source water raw water intake pump station is located below the Fish Hatchery, on Ferry Creek, a tributary of the Coquille River.

   c. Whether the project will be off-channel or on-channel (for above-ground storage only).

      This project will be off-channel raw water storage.

   d. Water availability to meet project storage. For above-ground storage the Department typically evaluates availability using a 50 percent exceedance water availability analysis.

      See Attached.

   e. Proposed purposes and/or uses of conserved or stored water.

      See Attached.

   f. Environmental flow needs and water quality requirements of supply source water bodies.

      See Attached.

7. What local, state or federal project permitting requirements/issues/approvals do you anticipate in order for the feasibility study to be conducted? If approvals are required, indicate whether you have obtained them. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them. If no permits are needed, please provide explanation.

   See Attached.

8. Describe the level of involvement, interest and/or commitment of local entities associated with the feasibility study. Describe how the feasibility study and/or proposed project will benefit/impact these entities. Attach letters of support if available.

   See Attached.

9. Identify when matching funds will be secured, from whom, and the dates of matching funds availability.

   See Attached.

10. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the feasibility study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the feasibility study.

    See Attached.

## Section B. Unique Criteria

***Instructions:*** Address the set of items below that applies to the type of feasibility study that this grant will fund.

### ☐ Water Conservation or ☑ Reuse

1. Water Conservation or Reuse projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department's Grant Specialist to include your project on the inventory.

2. Explain how the associated project will either: (a) mitigate the need to develop new water supplies and/or (b) use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.

   N/A

3. Provide a description of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area. If permitting or other approvals are not needed please indicate and provide an explanation.

   N/A

## ☑ Above-Ground Storage

Please answer the following three questions **BEFORE** proceeding:

| | | |
|---|---|---|
| Will the project divert more than 500 acre-feet of surface water annually? | ☐ Yes | ☑ No |
| Will the project impound surface water on a perennial stream? | ☐ Yes | ☑ No |
| Will the project divert water from a stream that supports sensitive, threatened or endangered species? | ☑ Yes | ☐ No |

*If you answered "Yes" to any of these questions, by signature on this application, you are committing to include the following required elements in your feasibility study.*

Describe how you intend to address the required elements in your feasibility study:

a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.

See Attached

b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.

See Attached

c) Analyses of environmental harm or impacts from the proposed storage project.

See Attached

d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

See Attached

Is the proposed storage project for municipal use?

☐ Yes ☑ No

If "Yes," then please describe how you intend to address the following required element in your feasibility study:

e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

See Attached.

**Proceed in addressing the following items:**

1. Describe to what extent the project associated with the feasibility study includes provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. Projects that include the above provisions receive preference in the scoring process.

   See Attached.

2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

   See Attached.

## ☐ Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Please answer the following three questions **BEFORE** proceeding:

| | | |
|---|---|---|
| Will the project divert more than 500 acre-feet of surface water annually? | ☐ Yes | ☐ No |
| Will the project impound surface water on a perennial stream? | ☐ Yes | ☐ No |
| Will the project divert water from a stream that supports sensitive, threatened or endangered species? | ☐ Yes | ☐ No |

*If you answered "Yes" to any of these questions, by signature on this application, you are committing to include the following required elements in your* feasibility *study.*

Describe how you intend to address the required elements in your feasibility study:

a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.

b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.

c) Analyses of environmental harm or impacts from the proposed storage project.

d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.

Is the proposed storage project for municipal use?

☐ Yes ☐ No

If "Yes," then please describe how you intend to address the following required element in your feasibility study:

e) For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.

**Proceed in addressing the following items:**

1. Underground storage projects that are identified by the Department in a statewide water assessment and inventory receive a preference in the scoring process. Contact the Department's Grant Specialist to include your project on the inventory.

2. Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the **implementation** of the project associated with the feasibility study and (b) property ownership status within the project implementation area.

## V. Match Funding Information

Applicants must demonstrate a minimum dollar-for-dollar match based on the total funding request. The match may include a) secured funding commitment from other sources, b) pending funding commitment from other sources, and/or c) the value of in-kind labor, equipment rental, and materials essential to the feasibility study. For secured funding, you must attach a letter of support from the match funding source that specifically mentions the dollar amount shown in the "Amount/Dollar Value" column. For pending resources, documentation showing a request for the matching funds must accompany the application.

| **In the "type" column below matching funds may include:** | **In the "status" column below matching funds may have the following status:** |
|---|---|
| • **Cash** - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*. | • **Secured** - Secured funding commitments from other sources. |
| • **In-Kind** - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner. | • **Pending** - Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award. |

*"Partner" means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed project planning study. OAR 690-600-0010.

| **Match Funding Source** (if in-kind, briefly describe the nature of the contribution) | **Type** ( ✓ **One)** | **Status** ( ✓ **One)** | **Amount/ Dollar Value** | **Date Match Funds Available** *(Month/Year)* |
|---|---|---|---|---|
| General Budget | ☑ cash<br>☐ in-kind | ☑ secured<br>☐ pending | $39,418 | 8/15 |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |
| | ☐ cash<br>☐ in-kind | ☐ secured<br>☐ pending | | |

## VI. Feasibility Study Schedule

**Estimated Study Duration:** 8/15 **to** 12/16

Place an "X" in the appropriate column to indicate when each Key Task of the project will take place.

| | 2015 | | | 2016 | | | | 2017 & Beyond |
|---|---|---|---|---|---|---|---|---|
| **Feasibility Study Key Tasks** | **2nd Qtr** | **3rd Qtr** | **4th Qtr** | **1st Qtr** | **2nd Qtr** | **3rd Qtr** | **4th Qtr** | |
| Plan, Develop, Secure Water Right Permit Amendment | | X | X | X | X | | | |
| Impacts to Upstream Water Users and Environment | | X | X | X | X | | | |
| Hydrologcial Investigation | | X | | | | | | |
| Geotechnical Investigation | | X | | | | | | |
| Final Cost Estimate Preparation | | | X | | | | | |
| Financial Planning | | X | X | X | X | X | X | |
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- **Please Note**: Successful grantees must include all invoices and identify which key tasks are associated with each invoice when requesting financial reimbursement.

## VII. Feasibility Study Budget

**Section A**

Please provide an estimated line item budget for the proposed feasibility study. Examples would include: labor, materials, equipment, contractual services and administrative costs.

| Line Items | Number of Units* *(e.g. # of Hours)* | Unit Cost *(e.g. hourly rate)* | In-Kind Match | Cash Match Funds | OWRD Grant Funds | Total Cost |
|---|---|---|---|---|---|---|
| Staff Salary/Benefits | See Attached | See Attac | | | | $20,836 |
| Contractual/Consulting | See Attached | | | | | $58,000 |
| Equipment (must be approved) | N/A | | | | | $0.00 |
| Supplies | N/A | | | | | $0.00 |
| *Other:* | | | | | | $0.00 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Administrative Costs** | | | | | | |
| **Total for Section A** | | | | | | $78,836.00 |
| **Percentage for Section A** | | | | | | ***100%*** |

** Note: The "Unit" should be per "hour" or "day" – not per "project" or "contract."* *Units x Unit Costs = Total Cost*
*** Administrative Costs may not exceed 10 percent of the total funding requested from the Department*

**Section B**

**If grant amount requested is $50,000 or greater, you MUST complete Section B. Key Tasks in Section B should be the same as the Key Tasks in Section VI (Feasibility Study Schedule).**

| Feasibility Study Key Tasks | In-Kind Match | Cash Match Funds | OWRD Grant Funds | Total Cost |
|---|---|---|---|---|
| Plan, Develop and Secure Water Right Permit Amendment | | | | $6,834.00 |
| Impacts to Upstream Water Users and Environment | | | | $20,448.00 |
| Hydrological Investigation | | | | $4,874.00 |
| Geotechnical Investigation | | | | $40,100.00 |
| Final Cost Estimate Preparation | | | | $3,600.00 |
| Financial Planning | | | | $2,980.00 |
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| **Total for Section B** | | | | $78,836.00 |

*Totals in Section B must match the totals in Section A*

# APPLICATION CHECKLIST

**Instructions:** Use this checklist to ensure that your application is complete. An incomplete application will jeopardize your application's review. **This form does not need to be included in your application packet.**

**General**

If submitting electronically, the preferred format is either a Microsoft word or Adobe pdf

- ☐ Only one application is included with the packet (other applications must be sent separately).

**Paper submissions only**

- ☐ The application and attachments are on 8 ½" x 11" paper.
- ☐ The application and attachments are single-sided.
- ☐ The application and attachments are not stapled or bound.

**Section I – Grant Information**

- ☐ All questions in this section have been answered.
- ☐ The Grant Dollars Requested and the Total Project Cost mirror the totals shown in Section VII.

**Section II – Applicant Information**

- ☐ All contact information for the applicant(s) and fiscal officer is complete and current.
- ☐ The certification is signed by an authorized signer.

**Section III – Feasibility Study Summary**

- ☐ A brief summary, of no more than 150 words, is complete.

**Section IV – Grant Specifics**

- ☐ All questions in Section A have been answered.
- ☐ If the type of feasibility study is water conservation, reuse or storage other than above-ground, you have contacted the Department and requested project be added to the Oregon Water Resources Department's statewide water assessment and inventory.
- ☐ All applicable questions for the type of grant requested have been answered.

**Section V – Match Funding Information**

- ☐ Applicant has identified that at least 50 percent match has been sought, secured or expended.
- ☐ Letters of support are included for "secured" match funding sources.
- ☐ Documentation is included for "expended" match funds.
- ☐ Documentation is included for "pending" match funds.

**Section VI – Feasibility Study Schedule**

- ☐ Estimated project duration dates have been supplied.
- ☐ All Key Tasks of the project are listed.

**Section VII – Feasibility Study Budget**

- ☐ Section A is complete.
- ☐ Administration costs do not exceed 10 percent of the requested OWRD Grant Funds.
- ☐ If grant amount requested is $50,000 or greater, Section B has been completed.
- ☐ All Key Tasks listed in Section B mirror the Key Tasks listed in Section VI.

# ATTACHMENT for:

## 2015-2017 Grant Solicitation

## WATER CONSERVATION, REUSE AND STORAGE FEASIBILITY STUDY GRANT PROGRAM

## City of Bandon APPLICATION

***V. Grant Specifics***

*Section A. Common Criteria*

*1. Describe your goal and how this study helps to achieve the goal*

The goal is to develop raw water storage for municipal use.

This feasibility study will more clearly define the challenges, costs, and benefits of implementing the project so that stakeholders can make informed decisions on how to move forward with the project. The feasibility study is also intended to identify and evaluate "fatal flaws" or barriers that could prevent implementation of the project.

The study will consider the following:

- The means of changing and transferring of water rights from existing reservoirs to this proposed reservoir;
- Environmental impacts, analyses of environmental harm to reservoir area and streams from the proposed project;
- How will this reservoir affect other water right holders and water users of this water source;
- How the stored water can be used to augment instream flows for riparian and aquatic life enhancement;
- How will this affect water quality;
- Archaeological impacts;
- Hydrological investigation into 50 percent exceedance water availability for water storage;
- Geotechnical investigation to confirm surface and subsurface characteristics;
- Design analysis and final cost preparation;
- Identification and pursuance of funding options.

2. *Describe the water supply need(s) that the proposed project addresses. Identify any critical local, regional, or statewide water supply needs that implementation of the project associated with the feasibility study will address.* ***Responses should rely upon solid water availability and needs data/analysis.*** *For examples of water supply needs see "Criteria and Evaluation Guidance Document."*

The City has insufficient capacity to store raw water in their existing in-channel reservoirs. Ferry Creek Reservoir can only store approximately 1.61 acre-feet of it 20-5/8 acre-feet certificated water right and Geiger Creek Reservoir can only store approximately 1.78 acre-feet of its 90 acre-feet permitted water right.
Expanding storage to the full amount of the listed water right for these two instream reservoirs would provide adequate storage for the City, but it would be very expensive, problematic due to permitting issues, difficult to get through the dam safety approval process, and challenging because both dams are not owned by the City.

The City's water rights are listed in the following table:

| Application No. | Permit No. | Certificate No. | Transfer No. | Stream/Reservoir | Magnitude |
|---|---|---|---|---|---|
| R-501 | R-28 | 9755 | N/A | Ferry Creek Res. | 20-5/8 ac-ft |
| E-481 | E-27 | 9754 | N/A | Ferry Creek | 2.0 cfs |
| S-34673 | S-27233 | N/A | T-8195 | Ferry Creek | 3.0 cfs |
| S-4982 | S-3011 | N/A | T-8195 | Geiger Creek | 5.0 cfs |
| S-34672 | S-27232 | N/A | T-8195 | Geiger Creek | 3.0 cfs |
| R-5017 | R-368 | N/A | N/A | Geiger Creek Res. | 90.0 ac-ft |

The dams that impound the water for both of these reservoirs are owned by Oregon Department of Fish and Wildlife, which owns and operates the Bandon Hatchery. Bandon Hatchery is a non-consumptive water user and has water intakes and rights on both Ferry and Geiger Creeks. Water diverted by the fish hatchery flows through the fish tanks and then returns to Ferry Creek. The City has two raw water intakes, one below Ferry Creek Reservoir and the other below the fish hatchery.

Currently the City has an approximate total of 3.39 acre-feet of raw water storage, however, both reservoirs need dredging and the current capacities of the reservoirs, based on surveys conducted in 2014 are:

| Reservoir | Acre-Feet | Gallons |
|---|---|---|
| Ferry Creek | 1.61 | 541,000 |
| Geiger Creek | 1.78 | 580,015 |
| Total | 3.39 | 1,121,015 |

According to the City's Water Management and Conservation Plan (WCMP), October 2013, the maximum daily demand (MDD) is 1.70 cfs or 1.02 million gallons per day (MGD). That's approximately 98% of the current capacity of the two reservoirs. Additionally, the City has treated water storage amounting to a total of 3 MG. The City currently has approximately 3 days of storage, assuming unrestricted maximum usage and the lowest 1/100 chance stream flows.

The 3 MG of storage does not include emergency storage for extreme firefighting events. The City of Bandon is working to remove gorse from within the City, however, this very flammable shrub is quite invasive and difficult to eradicate. Additionally, portions of the city are located in forested areas.

Raw water demands, as referenced from the Water Master Plan Addendum, 2003, are as follows:

| Year | EDUs | ADD | MDD | |
|---|---|---|---|---|
| 2003 | 2655 | 0.71 cfs | 1.70 cfs | (actual recorded use) |
| 2023 | 3764* | 1.01 cfs* | 2.41 cfs* | *Projected use |

During a maximum chance low flow period only 1.70 cfs is available to the City of Bandon. Current maximum theoretical diversion is 1.60 cfs.

This project is intended to provide enough storage to allow the City to store approximately one month's (30 MG) worth of raw water which also provides adequate water for extreme fire events.

Upstream use of water can cause stream flows in Ferry and Geiger Creeks to drop considerably during the dry summer months. This impacts water availability to both the Fish Hatchery and the City's raw water intake. This project would allow water to be available during times when the creeks are being heavily used upstream.

In addition to providing water to the City, this study will examine the possibility of releasing water into Geiger Creek, at a location above the Geiger Creek Reservoir, for use by the Fish Hatchery and into Ferry Creek at the raw water intake to augment stream flow in Ferry Creek below the Fish Hatchery.

3. *Explain how the proposed project will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50 percent of your need will be met).*

Higher summertime demand can most likely be attributed to a combination of increased outdoor water use and an increase in population due to tourism and vacationers. According to the Water Master Plan Addendum, 2003, the average MDD for the months of August and September is 1,062,100 gallons per day. That is roughly one-third of treated water storage and almost all of the raw water storage.

The City needs additional storage for growth, long-term shortages such as drought, and for extreme events such as wild fires. Current raw water storage capacity is limited to 3.39 ac-ft. The City considered alternatives, such as enlarging and/or dredging the reservoirs, constructing additional treated water storage, additional conservation measures, and purchasing water from other sources. The possibility of enlarging the two dams is complicated because the dams are not owned by the City. The probability of getting approval to enlarge reservoirs with in-stream dams was considered impossible. The City considered conservation options but their leakage rate is quite low and their per capita use is low, too. The alternative of purchasing water from a large reservoir in the area, was considered a poor option because of the terms of sale the City would have to agree to. Dredging both Geiger and Ferry Creek would not increase storage by much and the cost is quite high.

Constructing a 100 acre-feet off-channel reservoir would provide over four weeks of water in the dry months. This is an increase of approximately 750 percent of raw water storage for municipal use.

4. *Describe the technical aspects of the feasibility study and why your approach is appropriate for accomplishing the specific study goals and objectives.*

The technical aspects for the planning and construction of an off-channel reservoir of the feasibility study include the hydrological analysis, geotechnical analysis, and the permitting process.

The hydrological analysis will include performing two different standard hydrologic and hydraulic analysis methods. General analysis inputs include, but are not limited to watershed information and delineation; identifying surface characteristics; identifying the main channel and its tributaries; determining channel characteristics such as slope; side slope; curve numbers; and geometrics; identifying any obstructions to flow such as bridge abutments and culverts; determining the design storm intensity, duration, and frequency.

Analysis of the impacts of diverting 25 percent from the streams and the locations of returning this water to the streams will be considered.

Geotechnical analysis will include a surface and subsurface characterization study. The geotechnical engineer will visit the site to analyze the topography and excavate pits. Soil samples will be evaluated to determine reservoir design and construction methods.

The permitting process will include water rights changes and amendments of the existing storage rights for Ferry and Geiger Creek Reservoirs to this proposed reservoir. An archaeological assessment will be made of the site. Permits will be determined and prepared. Affected agencies will be coordinated with throughout the process. The impacts to the Fish Hatchery will be included in this process. No wetlands were identified in preliminary process, but will be verified in this study.

5. *Describe the technical aspects of the feasibility study and why your approach is appropriate for accomplishing the specific study goals and objectives. Describe how the feasibility study will be performed. Include:*

   a. *General summary statement that describes the study progression.*

Past history:

1. February 2014: The City consulted The Dyer Partnership Engineers and Planners, Inc. regarding concerns with the Ferry Creek Dam. The City of Bandon stores water and has storage rights for the Ferry Creek Reservoir. The dam and land that the reservoir is located on are owned by the Oregon Department of Fish and Wildlife Fish Hatchery. The dam is in poor condition and the estimated cost to repair it is approximately $1.9 million dollars. ODFW Fish Hatchery has indicated they do not have the funding to make these repairs.
2. March 2014: Water Right Extension Applications and Progress Reports work began.
3. April 2014: Investigation into dredging both Ferry and Geiger Reservoirs began. Dredging was determined to not be cost effective by June 2014. The reservoir currently only has approximately 1.61 acre-feet of storage in Ferry Creek Reservoir due to extensive sedimentation. The estimated cost to dredge the reservoir is approximately $1.4 million dollars. The post-dredge capacity of the reservoir is approximately 4.00 acre-feet. The post-dredging capacity is limited to the elevation permitted by the dam's current poor condition. The total cost to renovate storage in this reservoir is approximately $3.3 million dollars or approximately $1.95 per gallon of storage.
4. July 2014: Investigation of the idea of constructing an off-channel reservoir began.
5. August 2014: City purchased property that off-channel will be located on.
6. September 2014: The City met with residents of the reservoir site area to explain the project and seek their endorsement of the project.
7. September 2014: Prepared Coos County Planning Department Land Use Application. This permit was granted January 2015.
8. September 2014: Applied for NPDES Permit and prepared to clear the proposed reservoir site so preliminary archaeological and geotechnical investigations could be conducted. The permit was granted but no work has been conducted to date.

Proposed Study

A. Prepare Water Right Permit Amendment to change the location of the 85 ac-ft of water storage rights from Geiger Reservoir to the proposed. Prepare Water Right Transfer to transfer 15 ac-ft of water storage from Ferry Creek to the proposed reservoir.
B. Prepare necessary Water Right permits to "Leave behind" remaining 15 ac-ft and 5-5/8 ac-ft of water storage from Geiger and Ferry Creek Reservoirs for Fish Hatchery use.
C. Prepare site and conduct studies for geotechnical and archaeological investigations.
D. Conduct hydrological study of impacts to surface and groundwater in the watershed.
E. Study impact to Fish Hatchery and other water users in the area.
F. Study environmental impacts to both the area where reservoir is to be constructed and to the watershed ecology and prepare Biological Assessment;

G. Analyze best methods to minimize impacts to groundwater and minimize water loss and to reduce water stratification and impacts to reintroducing the stored water into Geiger and Ferry Creeks.
H. Prepare final cost estimate for reservoir construction and operation and maintenance.
I. Investigate funding sources and assist the City of Bandon with rate analysis.

*b. When the feasibility study will begin.*

The study will commence as soon as funding is awarded.

*c. Listing of key tasks to be accomplished with each task having:*

*i. Title*

*ii. Timeline for completion*

*iii. Description of the activities to be performed in this key task*

*iv. Description of the resources necessary for accomplishing the key task*

1.

| | | | |
|---|---|---|---|
| i. | Task title: | | Water Rights |
| ii. | Timeline for completion: | | July 2016 |
| iii. | Activities description: | a) | Water Right Permit Amendment - changes place of storage for 85 ac-ft of 90 ac-ft from Geiger Creek Reservoir to off-channel reservoir. |
| | | a) | Water Right Transfer – transfers 15 ac-ft of 20-5/8 ac-ft of storage from Ferry Creek Reservoir to off-channel reservoir |
| iv. | Resources necessary: | | Water rights attorney will handle legal portion of Permit Amendment and the Dyer Partnership will prepare maps and supporting documents. The Dyer Partnership will prepare the Water Right Transfer themselves. |

2.

| | | | |
|---|---|---|---|
| i. | Task title: | | Impacts to other water users, environment and Permitting issues |
| ii. | Timeline for completion: | | January 2016 |
| iii. | Activities description: | a) | Study environmental impacts and prepare Biological Assessment, impacts to other water users in watershed, impacts to Fish Hatchery, and archaeological impacts. |
| | | b) | Determine what permits are necessary and obtain them. Includes DEQ Water Quality Certification. Determine necessary permitting requirements of OWRD's Dam Safety department. |
| iv. | Resources necessary: | | The Dyer Partnership staff will study impacts and prepare permits. Land and Water Environmental Services will prepare the Biological Assessment. |

3.

| | | | |
|---|---|---|---|
| i. | Task title: | | Hydrological investigation |
| ii. | Timeline for completion: | | October 2015 |
| iii. | Activities description: | a) | Utilize HEC-RAS program to determine 50 percent exceedance water availability analysis, including return of stored water to creeks and waste reduction. |
| iv. | Resources necessary: | | The Dyer Partnership staff will conduct this work. |

4.

| | | | |
|---|---|---|---|
| v. | Task title: | | Geotechnical investigation |
| vi. | Timeline for completion: | | October 2015 |
| vii. | Activities description: | a) | Brush site to confirm surface characteristics and to provide access to excavate test pits. |
| | | b) | Geotechnical site visit and report. This includes a one-day site visit to study site and dig test pits. Materials will be tested at lab to verify whether materials can be used for reservoir construction. Determine how will terrain have to be modified for seismic requirements. |
| viii. | Resources necessary: | | Geotechnical consultant will conduct most of this work. The Dyer Partnership will provide preparation of drawings and coordination of activities, including site brushing and test pit excavation and permitting. |

5.

| | | | |
|---|---|---|---|
| ix. | Task title: | | Final cost estimate preparation |
| x. | Timeline for completion: | | January 2016 |
| xi. | Activities description: | a) | Design analysis to verify proposed preliminary proposal. |
| | | b) | Prepare final cost estimates for construction and operating and maintenance expenses. |
| xii. | Resources necessary: | | The Dyer Partnership will prepare final cost estimates. |

6.

| | | | |
|---|---|---|---|
| xiii. | Task title: | | Financing |
| xiv. | Timeline for completion: | | January 2017 |
| xv. | Activities description: | a) | Assist City with analysis of impact of rates. |
| | | b) | Identify and pursue funding options. |
| xvi. | Resources necessary: | | The Dyer Partnership will conduct the above listed activities in coordination with the Utility Commission. |

*6. Please provide the following data and information for the proposed project and the project's sources of water supply:*

*a. The location of the proposed project. Include the basin, county, township, range and section. Attach a* ***map*** *that identifies the project's implementation area to this application.*

See attached maps.

*b. The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.*

The source of the water for this proposed water is Ferry Creek and its tributary, Geiger Creek. Ferry Creek flows into the Coquille River at River Mile 1.1.

*c. Whether the project will be off-channel or on-channel (for above-ground storage only).*

This project will be off-channel raw water storage.

*d. Water availability to meet project storage. For above-ground storage the Department typically evaluates availability using a 50 percent exceedance water availability analysis.*

Ferry Creek is an ungaged water source that is not in close proximity to a similar sized gaged stream, therefore the ability of Ferry Creek to supply adequate water to meet the 50 percent exceedance water availability is based on current diversion rates. Raw water will be diverted daily from Ferry Creek to the proposed reservoir from November to April. The approximate required pumping rate is 0.83 cfs to supply 50 acre-ft of raw water. The 50% volumetric exceedance pump rate is approximately 1.24 cfs. The current maximum diversion rate available is 1.6 cfs which is adequate to meet the 50% volumetric exceedance. A maintenance fill rate of 1/10 cfs per ac-ft may be used to supplement water levels during the months of May through October.

*e. Proposed purposes and/or uses of conserved or stored water.*

The proposed purpose for this stored water is to adequately supply the City of Bandon with water for municipal use during drought conditions, emergencies, wildfires, and water system failures. Currently the City has approximately 3 days-worth of stored raw water.
This project will also be used to augment streamflow during the dry summer months by releasing a minimum of 25 percent of the diverted water back to the creeks for riparian and aquatic wildlife habitat enhancement.

*f. Environmental flow needs and water quality requirements of supply source water bodies.*

Ferry and Geiger Creeks are subject to upstream demands by agricultural users during the dry summer months. There have reports that stream flows in Ferry and Geiger Creeks drop considerably during the dry summer months. This impacts water availability to both the Fish Hatchery and the City's raw water intake, which has resulted in periods when the available flow to the City has dropped to 1.7 cfs (0.1 cfs over their maximum theoretical diversion).

# ATTACHMENT for:

## 2015-2017 Grant Solicitation

## WATER CONSERVATION, REUSE AND STORAGE FEASIBILITY STUDY GRANT PROGRAM

## City of Bandon APPLICATION

This project would allow water to be available during times when the creeks are being heavily used upstream. The study would check into the possibility of releasing water into Geiger Creek at a location above the reservoir that would provide additional flow for the Fish Hatchery, as well as the City. Water would also be released at the raw water intake, to augment downstream stream flow in Ferry Creek below the Fish Hatchery. Augmenting stream flows will benefit fish, maintain and enhance aquatic life, lower stream temperature, and protect stream habitat.

The study would consider the effects of the availability of water and the timing of diverting the water, to be stored in the reservoir on the watershed, to develop strategy and schedule for filling and maintaining reservoir levels, while minimizing impacts to other water users and improving environmental conditions.

The study would analyze how the water quality of the creeks would be impacted by removing water during the winter and returning water to each of them during summer months. This study would aid to determine the best method of maintaining water quality (e.g. mixers, aerators) in the proposed reservoir.

7. *What local, state or federal project permitting requirements/issues/approvals do you anticipate in order for the feasibility study to be conducted? If approvals are required, indicate whether you have obtained them. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them. If no permits are needed, please provide explanation.*

a. Water Right Permit Amendment for Ferry Creek Reservoir and Transfer of Water Rights for Geiger Creek Reservoir to this proposed reservoir.
b. Coos County Conditional Use Permit – obtained approval March 17, 2015 Final Decision and Order for AP-15-05 City of Bandon
c. National Pollutant Discharge Elimination System Stormwater Discharge Permit - obtained approval 10/27/14 File No. 123948 Permit No. 30432
d. Consulting with the following:
   - Oregon State Historic Preservation Office – no permits because of no potential issues
   - Coquille Tribe – no permits but Tribal Archaeologist made site visit will visit again once site is cleared of vegetation
   - Confederated Tribes of Siletz Indians – no permits but Tribe contacted and there was no response
   - US Fish & Wildlife Service – no permits, contacted regarding bird concerns and will coordinate with them through process
   - National Marine and Fisheries Service – no permits needed.
   - Oregon Department of Fish & Wildlife – contacted, responded to concerns about water quality issues and will continue to coordinate with them through process.
   - Oregon Department of Fish & Wildlife Fish Hatchery - contacted and coordinating with them throughout process and afterwards regarding stream flow concerns.
   - Oregon Department of Resources – Permit Amendment for water rights issues
   - Oregon Department of Environmental Quality - Section 401 Water Quality Certification process will begin when project is funded.

8. *Describe the level of involvement, interest and/or commitment of local entities associated with the feasibility study. Describe how the feasibility study and/or proposed project will benefit/impact these entities. Attach letters of support if available.*

The City of Bandon is committed to a long term solution to a problem that has limited growth and been a concern for some time. The water from upper reaches of watershed is highly used for agricultural application, which both economically benefits the City and Coos County, but also impacts availability of water available for withdrawal by the City for municipal use. The proposed off-channel reservoir intends to withdraw water during the wet winter months, when there is little or no agricultural use, for storage and use and release during the dry summer months, when agricultural use is high.
In addition to the City, the Port of Bandon, Oregon Department of Fish and Wildlife, and the Coos County Board of Commissions have extended their interest and support. Attached are letters of support from Coos County Board of Commissioners, Port of Bandon, Oregon Department of Fish and Wildlife, the City of Bandon Utility Commission, the City of Bandon City Manager, and the City of Bandon Mayor.

9. *Identify when matching funds will be secured, from whom, and the dates of matching funds availability.*

Matching funds have been identified and reserved for this use in the current budget.

10. *Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the feasibility study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the feasibility study.*

- Barbara Negherbon, PE, CWRE will be the primary person conducting the study. Barbara has more than 17 years of experience in civil engineering and is a certified water rights examiner.
- Brian Allen, EIT will be conducting the hydrology portion of the study. Brian has a MS Engineering in hydrology and water resource science. Brian has three years of experience in this field.
- Jim Maitland, PE, GE, Principal at Foundation Engineering will be conducting the geotechnical investigation. Jim has a PhD in Geotechnical Engineering from OSU and has over forty years of experience in this field.
- Loran Waldron, Biologist, Land And Water Environmental Services, Inc., will be preparing the Biological Assessment. Loran has BS Wildlife Biologist over twenty years' experience in wetland and environmental work and over fifteen in fisheries work.
- The Dyer Partnership Engineers and Planners, Inc. has extensive experience with the development of Water Master Plans, Water Management and Conservation Plans, water rights issues, water system improvement projects including treatment, distribution and storage. The Dyer Partnership has provided engineering services to over twenty small municipal clients for a time period ranging from 3 to 33 years.

*Section B. Unique Criteria*

*Above-Ground Storage*

*a) Analyses of by-pass, optimum peak, flushing and other ecological flows of the affected stream and the impact of the storage project on those flows.*

The intent of the feasibility study is to address the ecological impacts of storing and releasing raw water to augment stream flows. The study will identify periods for optimum ecological raw water diversion and optimum ecological raw water release.

*b) Comparative analyses of alternative means of supplying water, including but not limited to the costs and benefits of water conservation and efficiency alternatives and the extent to which long-term water supply needs may be met using those alternatives.*

The feasibility study will include a comparative analysis considering alternative means of increasing the City's water supply. This comparative analysis will address the costs and benefits of water conservation and efficiency alternatives and address long-term water supply alternatives. The City has done a preliminary assessment of the following alternatives: enlarging and/or dredging the Geiger Creek Reservoir and Ferry Creek Reservoir, constructing additional treated water storage facilities, additional conservation measures, and purchasing water from other sources. The feasibility study will formally address the preliminary comparative analysis.

*c) Analyses of environmental harm or impacts from the proposed storage project.*

The feasibility study will address the environmental impacts of the proposed reservoir. The study will identify any sensitive or threatened species and provide recommendations on mitigating impact.

*d) Evaluation of the need for and feasibility of using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life and any other ecological values.*

The feasibility study will evaluate the need for augmenting stream flows to enhance aquatic life, fish life, and any other ecological values. The study will identify the current flow conditions and the anticipated post reservoir augmented flow conditions. Both current and augmented flow conditions will be evaluated for their ecological quality and the ideal flow ranges for the enhancement of aquatic life will be quantified.

e. *For a proposed storage project that is for municipal use, analysis of local and regional water demand and the proposed storage project's relationship to existing and planned water supply projects.*

A copy of the City of Bandon Water Management and Curtailment Plan (October 2003) includes current and projected water demand rates for the City and is available upon request.

1. *Describe to what extent the project associated with the feasibility study includes provisions for using stored water to augment instream flows to conserve, maintain and enhance aquatic life, fish life or other ecological values. Projects that include the above provisions receive preference in the scoring process.*

The intention of the project is to divert water to a new reservoir during high winter flows and augment the stream flows, with 25 percent of the diverted water, of Geiger and Ferry Creeks during low summer flows. The two existing reservoirs are not large enough to supply adequate water flows to the City's water treatment plant. This causes the flows downstream of the existing pump station on Ferry Creek (below the Fish Hatchery) to go below suggested levels. Creating additional water storage will allow for increased flows downstream of the existing pump station. During the summer this will conserve, maintain and enhance fish and other aquatic life.

The study will include finding the effects of pumping water from the new reservoir, upstream to the existing Geiger Creek reservoir in the summer months to increase flows to the fish hatchery. The study will cover the impacts on wild and raised fish, and if diseases carried by wild fish could be transferred to hatchery raised fish by pumping water upstream. The study will include determining the impacts that augmenting stream flow will have on water temperatures during the summer.

2. *Provide a review of: (a) Local, state and/or federal permitting requirements and issues posed by the implementation of the project associated with the feasibility study and (b) property ownership status within the project implementation area.*

a. Water Right Permit Amendment and Transfer of Water Rights.
b. City owns property parcels that proposed reservoir is located.
c. Coos County Conditional Use Permit – obtained approval March 17, 2015 Final Decision and Order for AP-15-05 City of Bandon
d. National Pollutant Discharge Elimination System Stormwater Discharge Permit - obtained approval 10/27/14 File No. 123948 Permit No. 30432
e. Consulting with the following:
   - Oregon State Historic Preservation Office – no permits because of no potential issues
   - Coquille Tribe – no permits but Tribal Archaeologist made site visit will visit again once site is cleared of vegetation
   - Confederated Tribes of Siletz Indians – no permits but Tribe contacted and there was no response
   - US Fish & Wildlife Service – no permits, contacted regarding bird concerns
   - National Marine and Fisheries Service – no permits required
   - Oregon Department of Fish & Wildlife – contacted, responded to concerns about water quality issues
   - Oregon Department of Water Resources – Water Right Permit Amendment and Water Right Transfer for water rights issues

SUMMARY

BREAKDOWN OF PROPOSED FEE

PROJECT: City of Bandon

| LABOR RATE $/HR. | HOURS | | Feasibility Task Costs 1 WR PA | 2, 3, 4 | 5 Geotech | 6, 7 Cost, Fund | | Total Costs |
|---|---|---|---|---|---|---|---|---|
| $110 | 22 | $2,420 | $440 | $660 | $0 | $1,320 | | $2,420 |
| $105 | 106 | $11,130 | $1,260 | $3,150 | $2,100 | $4,620 | | $11,130 |
| $98 | 0 | $0 | $0 | $0 | $0 | $0 | | $0 |
| $80 | 62 | $4,960 | $0 | $4,320 | $0 | $640 | | $4,960 |
| $70 | 0 | $0 | $0 | $0 | $0 | $0 | | $0 |
| $65 | 30 | $1,950 | $1,040 | $910 | $0 | $0 | | $1,950 |
| $70 | 0 | $0 | $0 | $0 | $0 | $0 | | $0 |
| $47 | 8 | $376 | $94 | $282 | $0 | $0 | | $376 |
| *see attached detail* | | $58,000 | $4,000 | $16,000 | $38,000 | $0 | | $58,000 |
| | | $78,836 | $6,834 | $25,322 | $40,100 | $6,580 | $0 | $78,836 |

City of Bandon
Project No.: 101.84
Total **Engineering** Costs for all cost related to off-channel storage

OFF-CHANNEL BREAKDOWN OF CHARGE

| Year 2015 Month: | Water Right Permit Amendment | Impacts to Neighboring Users, Fish Hatchery, Environmental & Permitting | Hydrological Investigation | Geotechnical Investigation | Final Cost Estimate | Financing | Total 2015 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| August | $854.25 | $0.00 | $0.00 | $0.00 | $0.00 | $372.50 | $1,226.75 |
| September | $854.25 | $497.00 | $4,874.00 | $40,100.00 | $0.00 | $372.50 | $46,697.75 |
| October | $854.25 | $497.00 | $0.00 | $0.00 | $0.00 | $372.50 | $1,723.75 |
| November | $854.25 | $497.00 | $0.00 | $0.00 | $1,800.00 | $372.50 | $3,523.75 |
| December | $854.25 | $497.00 | $0.00 | $0.00 | $1,800.00 | $372.50 | $3,523.75 |
| | | | | | | | |
| Totals | $4,271.25 | $1,988.00 | $4,874.00 | $40,100.00 | $3,600.00 | $1,862.50 | $56,695.75 |

| Year 2016 Month: | Water Right Permit Amendment | Impacts to Neighboring Users, Fish Hatchery, Environmental & Permitting | Hydrological Investigation | Geotechnical Investigation | Final Cost Estimate | Financing | Total 2016 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| January | $854.25 | $497.00 | $0.00 | $0.00 | $0.00 | $372.50 | $1,723.75 |
| February | $854.25 | $497.00 | $0.00 | $0.00 | $0.00 | $372.50 | $1,723.75 |
| March | $854.25 | $497.00 | $0.00 | $0.00 | $0.00 | $372.50 | $1,723.75 |
| April | $0.00 | $8,484.50 | $0.00 | $0.00 | $0.00 | $0.00 | $8,484.50 |
| May | $0.00 | $8,484.50 | $0.00 | $0.00 | $0.00 | $0.00 | $8,484.50 |
| June | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| July | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| | | | | | | | |
| Totals | $2,562.75 | $18,460.00 | $0.00 | $0.00 | $0.00 | $1,117.50 | $22,140.25 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Totals** | **$6,834.00** | **$20,448.00** | **$4,874.00** | **$40,100.00** | **$3,600.00** | **$2,980.00** | **$78,836.00** |

**TOTAL:** $78,836.00

$39,418.00

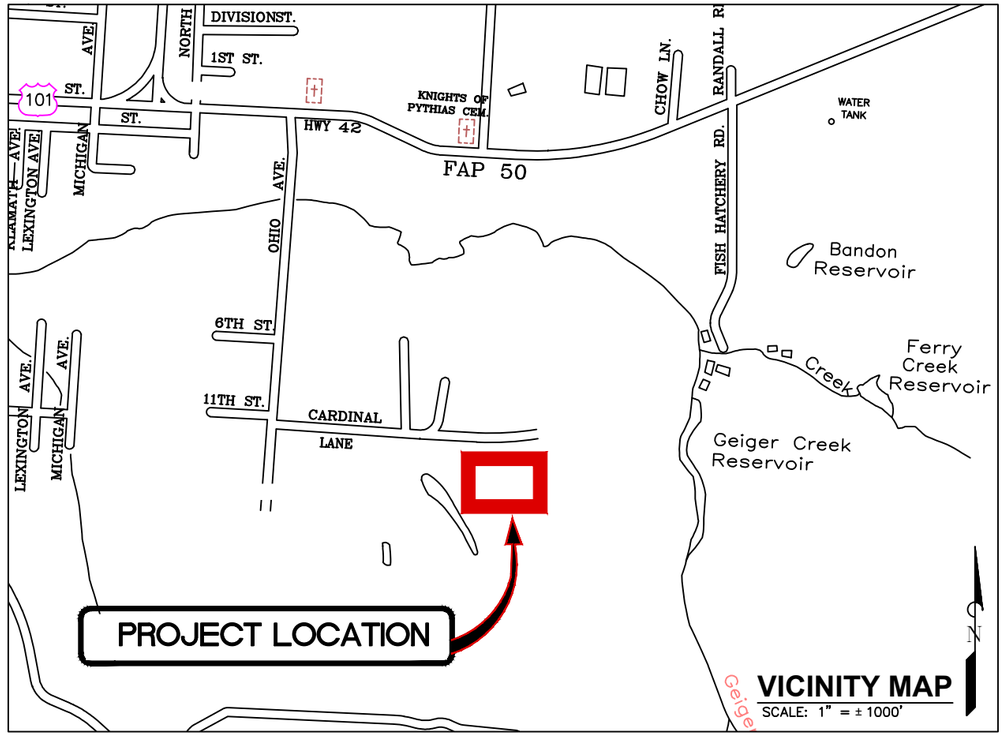
City of Bandon
Project No.: 101.84
All feasibility related study activities

OFF-CHANNEL SCHEDULE OF TASKS

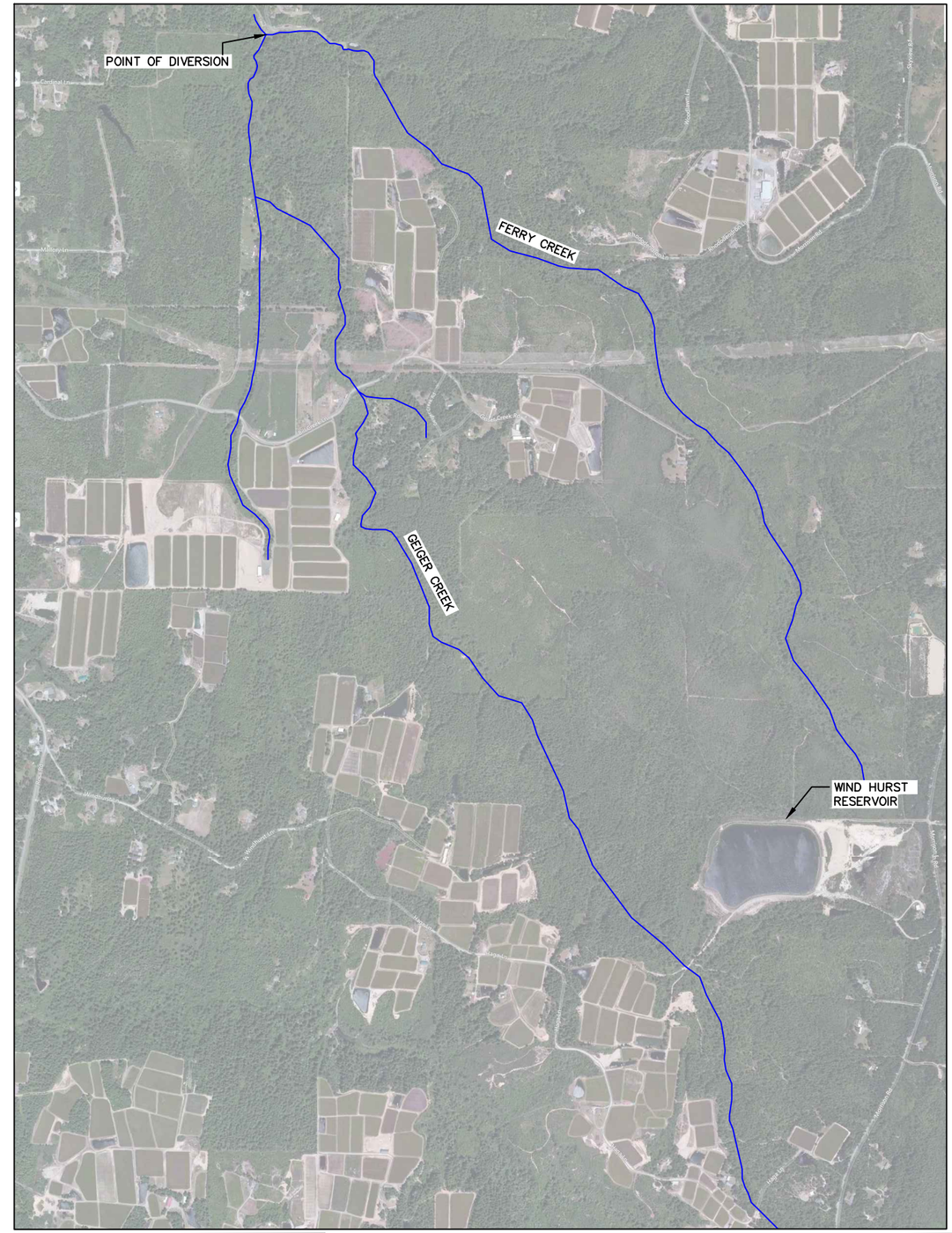
| Month: | Water Right Permit Amendment | Impacts to Neighboring Users, Fish Hatchery, Environmental & Permitting | Hydrological Investigation | Geotechnical Investigation | Final Cost Estimate | Financing |
|---|---|---|---|---|---|---|
| 2015 | | | | | | |
| August | | | | | | |
| September | | | | | | |
| October | | | | | | |
| November | | | | | | |
| December | | | | | | |
| 2016 | | | | | | |
| January | | | | | | |
| February | | | | | | |
| March | | | | | | |
| April | | | | | | |
| May | | | | | | |
| June | | | | | | |
| July | | | | | | |

City of Bandon
Project No.: 101.84
All consultant related fees

| Task | Consultant | Number of hours | Unit Cost | Total Cost |
|---|---|---|---|---|
| Water Right Permit Amendment | Water Rights Attorney | 16.00 | $250.00 | $4,000.00 |
| Brush reservoir site for geotechnical assessment | Excavator with brushing attachment and operator | 24.00 | $958.33 | $23,000.00 |
| Excavate test pits for geotechnical assessment | Excavator with operator | 4.00 | $250.00 | $1,000.00 |
| Geotechnical surface and subsurface assessment | Geotechnical engineer | 17.50 | $160.00 | $2,800.00 |
| Geotechnical soil analysis | Geotechnical engineer | 40.00 | $120.00 | $4,800.00 |
| Preparation of geotechnical report | Geotechnical engineer | 40.00 | $160.00 | $6,400.00 |
| Environmental Study (Biological Assessment) | Wildlife biologist | 160.00 | $100.00 | $16,000.00 |




VICINITY MAP
SCALE: 1" = ± 1000'




NOTE:

SHOWN IS THE BASIN THAT FEEDS INTO THE POINT OF DIVERSION (NOTED ON THE MAP). THE CRANBERRY BOGS SHOWN USE WATER IN THE BASIN UPSTREAM OF THE POINT OF DIVERSION.

PLAN SCALE
700 0 700 1400

N

PRELIMINARY - NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

| REVISIONS | | | | |
|---|---|---|---|---|
| REVISED | DESCRIPTION | SUBMIT. | APPR'D. | DATE |
| | | | | |

DESIGNED: -
DRAWN: -
CHECKED: -
APPROVED: -

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

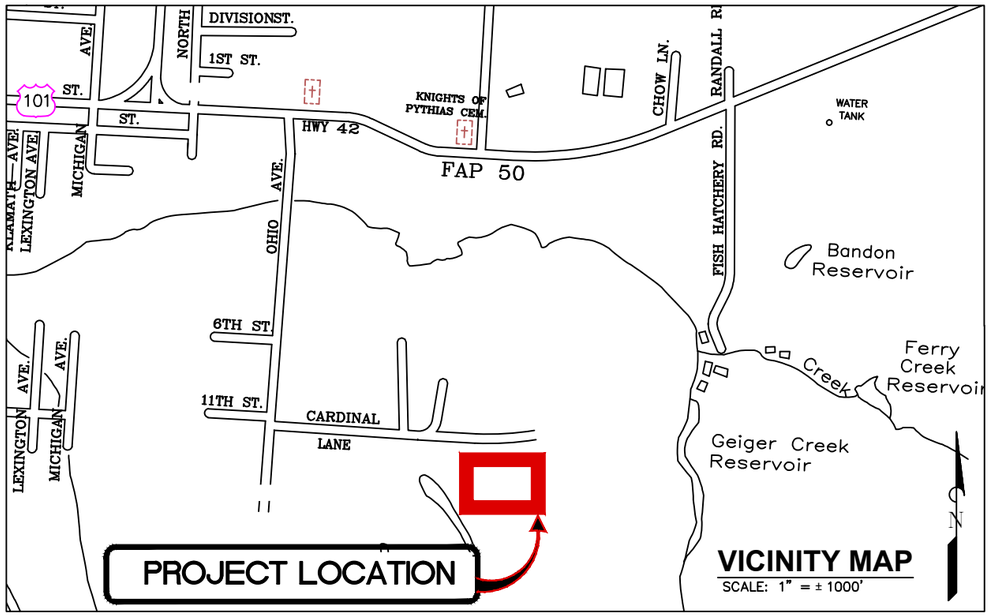
LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

# PROPOSED OFF-CHANNEL RAW WATER RESERVOIR
# CITY OF BANDON

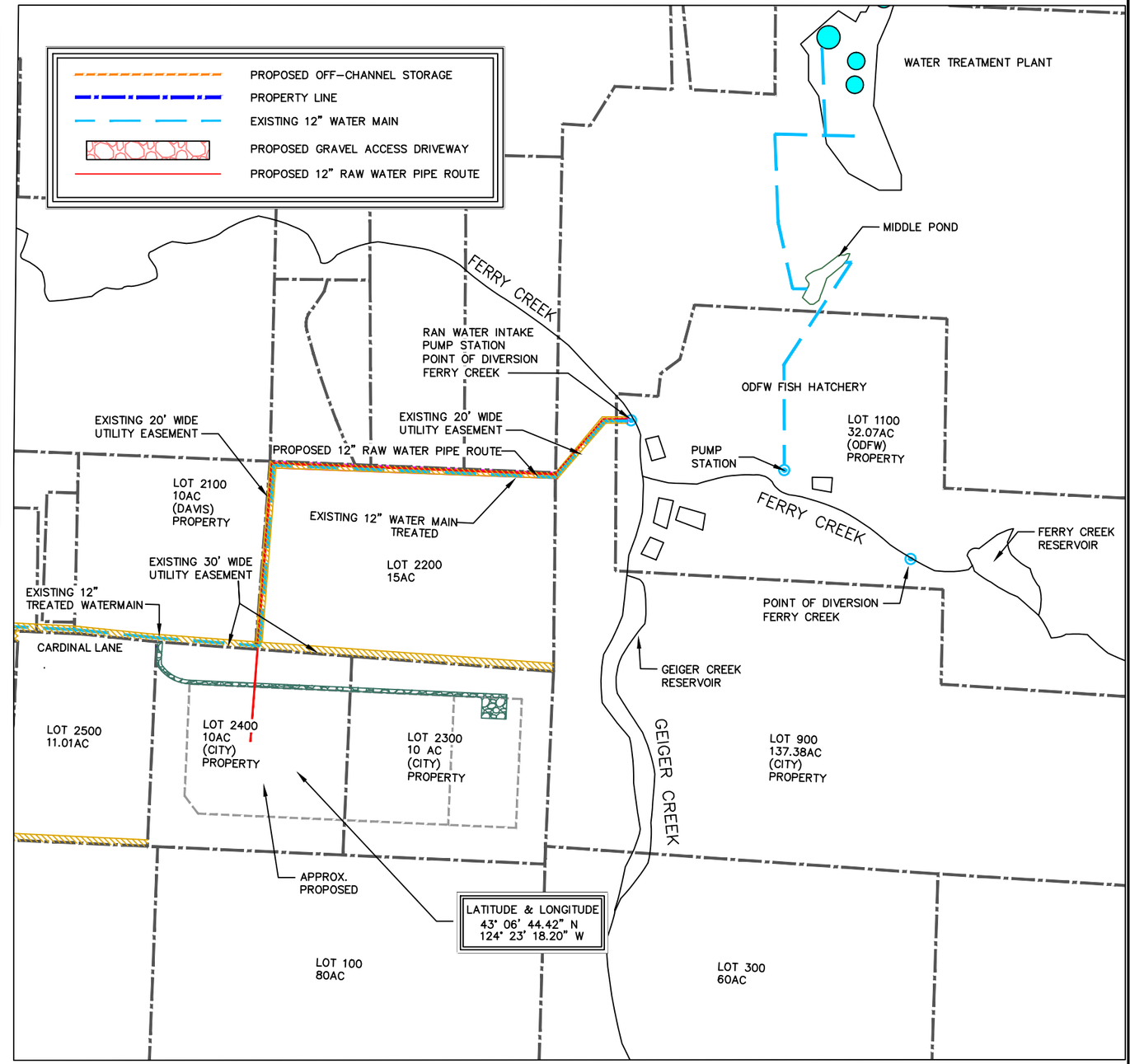
## WATER CONSERVATION, REUSE AND STORAGE FEASABILITY STUDY GRANT APPLICATION

| PROJECT NO. | DRAWING NO. |
|---|---|
| 101.84 | -- |
| DATE | SHEET NO. |
| JULY, 2015 | 2 OF 2 |

\\Dyer\projects\01Active\101.78A\dwg\101.84-Off-Channel Storage.dwg 7/21/2014 9:35:46 AM PST




| | |
|---|---|
| MAP | #6.A |
| BASIN | 17 |
| COUNTY | COOS |
| TNSHP | 28S |
| RANGE | 14W |
| SECTION | 4 |
| LAT | 43°06'44.42"N |
| LONG | 124°23'18.20"W |




NOTE:
LOT LINES ARE APPROXIMATE

PRELIMINARY - NOT FOR CONSTRUCTION

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

REVISIONS

| REVISED | DESCRIPTION | SUBMIT. | APPR'D. | DATE |
|---|---|---|---|---|
| | | | | |

DESIGNED: -
DRAWN: -
CHECKED: -
APPROVED: -

THE DYER PARTNERSHIP
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1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
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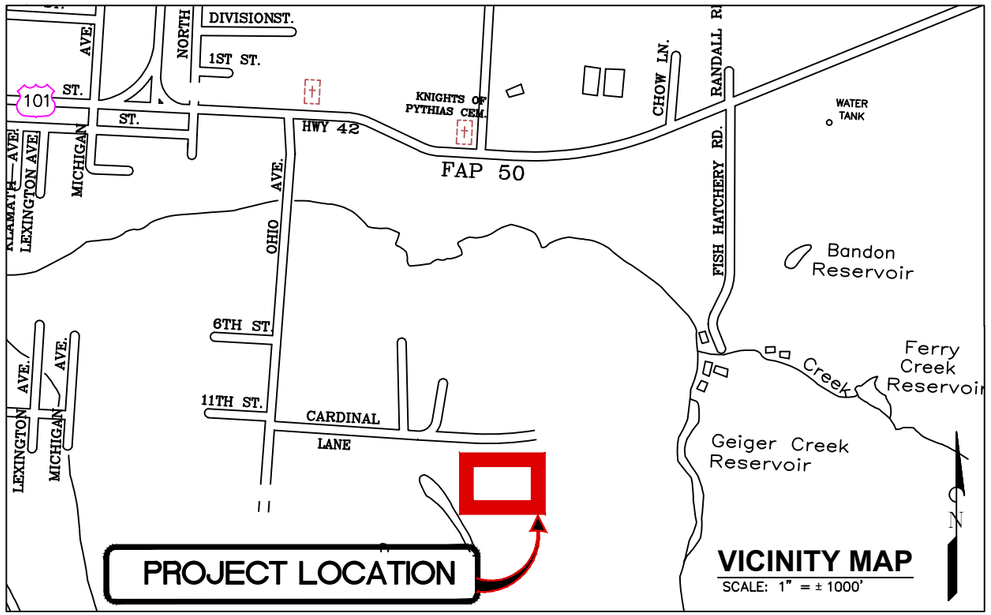
LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

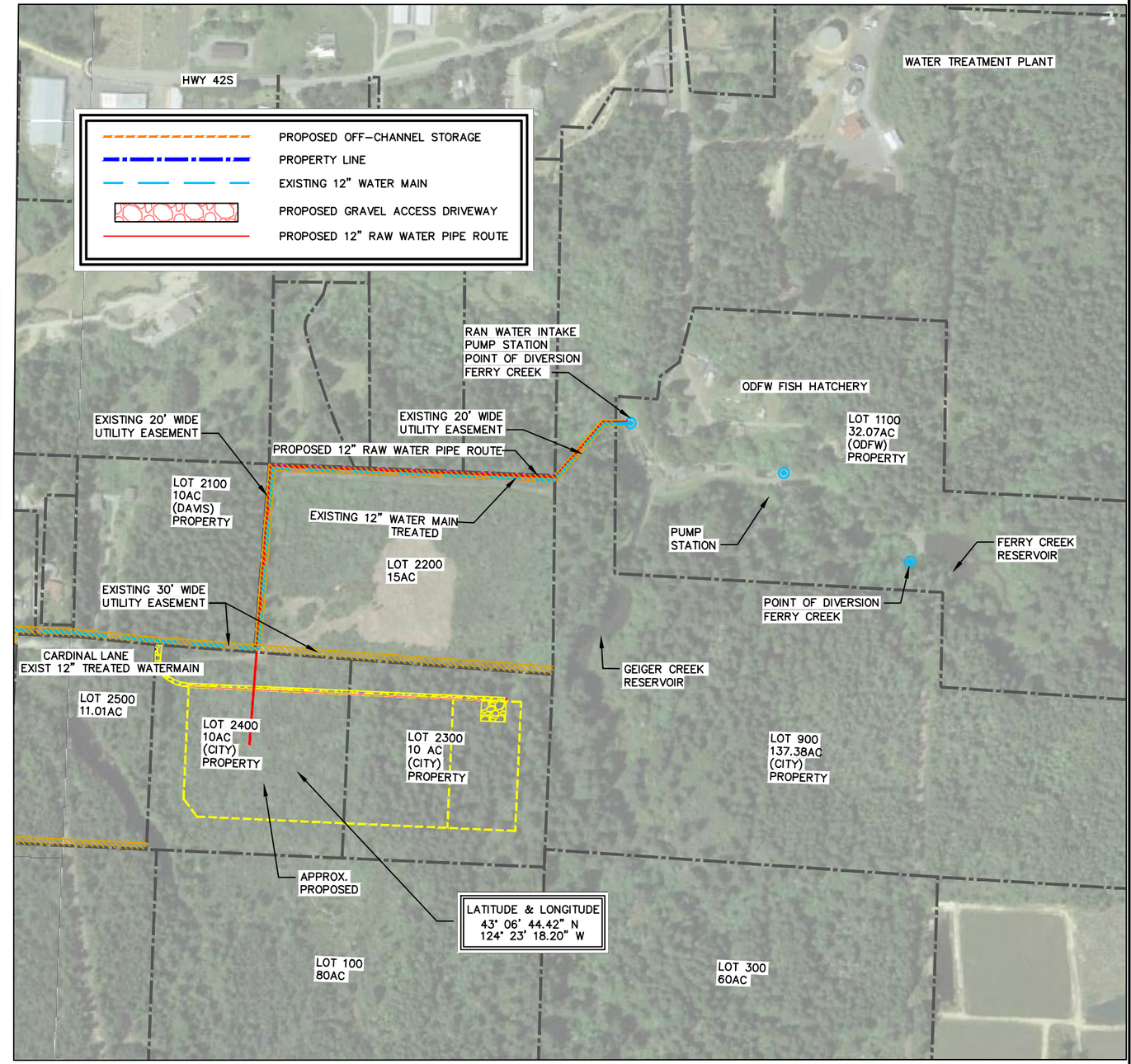
# PROPOSED OFF-CHANNEL RAW WATER RESERVOIR
# CITY OF BANDON

## WATER CONSERVATION, REUSE AND STORAGE FEASABILITY STUDY GRANT APPLICATION

| PROJECT NO. | DRAWING NO. |
|---|---|
| 101.84 | -- |
| DATE | SHEET NO. |
| JULY, 2015 | 1 OF 2 |

\\Dyer\projects\01Active\101.78A\dwg\101.84-Off-Channel Storage.dwg 7/21/2014 9:35:46 AM PST




| | |
|---|---|
| MAP | #6.A |
| BASIN | 17 |
| COUNTY | COOS |
| TNSHP | 28S |
| RANGE | 14W |
| SECTION | 4 |
| LAT | 43°06'44.42"N |
| LONG | 124°23'18.20"W |

PRELIMINARY - NOT FOR CONSTRUCTION

NOTE:
LOT LINES ARE
APPROXIMATE

PLAN SCALE
200 0 200 400

SUBMITTED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

| REVISIONS | | | | |
|---|---|---|---|---|
| REVISED | DESCRIPTION | SUBMIT. | APPR'D. | DATE |
| | | | | |

DESIGNED: -
DRAWN: -
CHECKED: -
APPROVED: -

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 TEAKWOOD AVENUE
COOS BAY, OREGON 97420
TELEPHONE: (541) 269-0732
www.dyerpart.com

LINE IS 1 INCH AT FULL SCALE
IF NOT 1-INCH - SCALE ACCORDINGLY

# PROPOSED OFF-CHANNEL RAW WATER RESERVOIR
# CITY OF BANDON

## WATER CONSERVATION, REUSE AND STORAGE FEASABILITY STUDY GRANT APPLICATION

| PROJECT NO. | DRAWING NO. |
|---|---|
| 101.84 | -- |
| DATE | SHEET NO. |
| JAN, 2015 | - OF - |

\\Dyer\projects\01Active\101.78A\dwg\101.84-Off-Channel Storage.dwg 7/21/2014 9:35:46 AM PST

# CITY OF BANDON

P.O. BOX 67
BANDON, OREGON 97411
PHONE (541) 347-2437
FAX (541) 347-1415
www.ci.bandon.or.us


July 17, 2015

Jon Unger
Water Supply Development Coordinator
Oregon Water Resources Department
Attention: Grant Specialist
725 Summer Street NE, Suite A
Salem, Oregon 97301

Dear Mr. Unger:

I am writing on behalf of the City of Bandon in support of the Off-Channel Reservoir project for the Water Conservation, Reuse and Storage Feasibility Study Grant Application. We strongly support this grant application and the focus on finding a solution to the City's lack of raw water storage.

Currently the City of Bandon lacks adequate raw water storage to supply the City for emergencies or in times of drought. The City has two in-stream reservoirs that lack capacity and would be expensive and difficult to expand, because the dams that impound the reservoirs are not owned by the City. The owner of both dams, the Oregon Department of Fish and Wildlife Fish Hatchery, has not been able to maintain the dams. Additionally, the City's source of surface water is subject to high demand from agriculture water users upstream from the City's point of diversion. This puts pressure on the stream during the dry summer months.

Current drought conditions have required implementation of the City's Water Curtailment Plan. This may impact tourism, which is vital to the economic health of the community. Lack of water storage is expected to worsen as the city grows in the future. Options for coping with the predicted lack of water may have to include restrictions on future development within the City's water service area.

As the City Manager, I am responsible for the supervision of day-to-day operations of all City departments and the preparation and execution of the City budget. I am very aware of how the lack of raw water storage impacts the community, and I feel strongly that the City needs this off-channel reservoir.

I will work with the City's Utility Commission to seek funding to conduct a feasibility study that would determine that the best method to assure the City has a sufficient supply of drinking water.

Sincerely,

Christopher Good
City Manager
City of Bandon

*Bandon is an equal opportunity employer including individuals with disabilities.*

Oregon
Kate Brown., Governor

**Department of Fish and Wildlife**
Charleston Field Office
63538 Boat Basin Dr.
P.O. Box 5003
Charleston, OR 97420
(541) 888-5515
FAX (541) 888-6860

July 24, 2015

Jon Unger
Water Supply Development Coordinator
Oregon Water Resources Department
Attention: Grant Specialist
725 Summer Street NE, Suite A
Salem, Oregon 97301

Dear Mr. Unger:

I am writing in support of the City of Bandon's Water Conservation, Reuse, and Storage Feasibility Study (Off-Channel Reservoir project) grant application. We support this grant application to investigate possible solutions to the City's lack of raw water storage, as well as other supply issues faced by other water users.

Currently, the City of Bandon lacks adequate raw water storage to supply the City for emergencies or in times of drought. The City utilizes two in-stream reservoirs that lack capacity and would be expensive and difficult to expand, in part because the dams that impound the reservoirs are not owned by the City. The Oregon Department of Fish and Wildlife (ODFW) is the owner of both dams, which are used to obtain water for our Bandon Fish Hatchery. Additionally, the City's source of surface water is subject to high demand from agriculture water users upstream from the City's point of diversion. The current situation puts pressure on the stream during the dry summer months.

Summer water quantity limits the hatchery fish production potential at Bandon Hatchery, and is not projected to meet future demand for the municipal water supply. ODFW supports a feasibility study that could find solutions mutually beneficial to the municipal, agricultural, and fish production interests in the Bandon area.

We encourage approval of this grant for the City of Bandon.

Sincerely,

Michael E. Gray
District Fish Biologist

Cc: Barbara Negherbon, The Dyer Partnership

# CITY OF BANDON

P.O. BOX 67
BANDON, OREGON 97411
PHONE (541) 347-2437
FAX (541) 347-1415
www.ci.bandon.or.us


July 17, 2015

Jon Unger
Water Supply Development Coordinator
Oregon Water Resources Department
Attention: Grant Specialist
725 Summer Street NE, Suite A
Salem, Oregon 97301

Dear Mr. Unger:

I am writing in support of the Off-Channel Reservoir project for the Water Conservation, Reuse and Storage Feasibility Study Grant Application. I strongly support this grant application and the focus on finding a solution to the City's lack of raw water storage.

Currently the City of Bandon lacks adequate raw water storage to supply the City for emergencies or in times of drought. The City has two in-stream reservoirs that lack capacity and would be expensive and difficult to expand, because the dams that impound the reservoirs are not owned by the City. The owner of both dams, the Oregon Department of Fish and Wildlife Fish Hatchery, has not been able to maintain the dams. Additionally, the City's source of surface water is subject to high demand from agriculture water users upstream from the City's point of diversion. Currently this puts pressure on the stream during the dry summer months.

Current drought conditions have required implementation of the City's Water Curtailment Plan. This may impact tourism, which is vital to the economic health of the community. Lack of water storage is expected to worsen as the City grows in the future. Options for coping with the predicted lack of water may have to include restrictions on future development within the City's water service area.

As Mayor, I can see that this off-channel reservoir is essential for the sound management of the City's water resources. The feasibility study is necessary for the City to pursue this project. Therefore I fully support the City's application for this grant.

Sincerely,

Mary Schamehorn

Mary Schamehorn
Mayor

*Bandon is an equal opportunity employer including individuals with disabilities.*

# CITY OF BANDON

P.O. BOX 67
BANDON, OREGON 97411
PHONE (541) 347-2437
FAX (541) 347-1415
www.ci.bandon.or.us


July 17, 2015

Jon Unger
Water Supply Development Coordinator
Oregon Water Resources Department
Attention: Grant Specialist
725 Summer Street NE, Suite A
Salem, Oregon 97301

Dear Mr. Unger:

I am writing on behalf of the City of Bandon Utilities Commission in support of the Off-Channel Reservoir project for the Water Conservation, Reuse and Storage Feasibility Study Grant Application. We strongly support this grant application and the focus on finding a solution to the City's lack of raw water storage.

Currently the City of Bandon lacks adequate raw water storage to supply the City for emergencies or in times of drought. The City has two in-stream reservoirs that lack capacity and would be expensive and difficult to expand, because the dams that impound the reservoirs are not owned by the City. The owner of both dams, the Oregon Department of Fish and Wildlife Fish Hatchery, has not been able to maintain the dams. Additionally, the City's source of surface water is subject to high demand from agriculture water users upstream from the City's point of diversion. Currently this puts pressure on the stream during the dry summer months.

Current drought conditions have required implementation of the City's Water Curtailment Plan. This may impact tourism, which is vital to the economic health of the community. Lack of water storage is expected to worsen as the City grows in the future. Options for coping with the predicted lack of water may have to include restrictions on future development within the City's water service area.

As the City's Utilities Commission, our mission is to educate the public on current utility issues and act as a liaison between the public and the City Council. The need for an off-channel reservoir is high on our list of priorities.

In conclusion, the Utilities Commission fully supports the efforts of the City as they seek funding to conduct a feasibility study that would determine the best method to assure the City has a sufficient supply of drinking water.

Sincerely,

Matt Winkel
Chair, City of Bandon Utilities Commission

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PORT OF BANDON
P.O. BOX 206 • BANDON, OR 97411 • (541) 347-3206 • FAX (541) 347-4645

July 27, 2015

Barbara Negherbon, PE, CWRE
The Dyer Partnership Engineers & Planners, Inc.
1330 Teakwood Ave.
Coos Bay, Oregon 97420

Dear Ms. Negherbon:

I am writing on behalf of the Port of Bandon in support of finding a solution to the City's lack of raw water storage through a grant application focusing on an Off-Channel Reservoir project for the Water Conservation, Reuse and Storage Feasibility Study Grant Application. We most certainly support this application.

Lack of adequate raw water storage to supply the City in emergencies and times of drought are real issues impacting areas all along the west coast. I commend the City for having the foresight to address this critical problem.

As the Port of Bandon, our mission is to promote in cooperation with local businesses and particularly local government and other organizations, the economic development potential of the Port District. Economic development and the quality and quantity of reliable water go hand in hand.

The Port of Bandon does not see this proposed project as impacting the quality of port operations or impeding any future uses. In closing, the port fully supports the efforts of the City as they seek funding to conduct a feasibility study to determine the best method to secure a sufficient supply of drinking water.

Best,

Gina Dearth, general manager
PORT OF BANDON

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 Teakwood Avenue
Coos Bay, Oregon 97420
(541) 269-0732 Fax: (541) 269-2044
www.dyerpart.com

# Invoice

City of Bandon
Matt Winkel
P.O. Box 67
Bandon, OR 97411

Invoice number 22546
Date 01/31/2015

Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey
Project Manager STEVE B. MAJOR

Professional Services for the Period: 12/27/2014 to 1/26/2015

## Professional Services

| | Hours | Rate | Billed Amount |
|---|---|---|---|
| Principal / Manager | 1.00 | 110.00 | 110.00 |
| Project Manager | 24.50 | 105.00 | 2,572.50 |
| Engineer Tech 1 | 13.00 | 70.00 | 910.00 |
| Total Professional Services | 38.50 | | 3,592.50 |

**INVOICE TOTAL 3,592.50**

# Invoice Supporting Detail

## 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

### Preliminary Design & Cost Estimates

Phase Status: Active

Billing Cutoff: 01/26/2015

| | Date | Units | Rate | Amount |
|---|---|---|---|---|
| **Labor** WIP Status: Billable | | | | |
| Principal / Manager | | | | |
| STEVE B. MAJOR | | | | |
| Labor | 01/12/2015 | 1.00 | 110.00 | 110.00 |
| *Water Right Useage Questions* | | | | |
| | Subtotal | **1.00** | | **110.00** |
| | Labor total | **1.00** | | **110.00** |

### Permitting

Phase Status: Active

Billing Cutoff: 01/26/2015

| | Date | Units | Rate | Amount |
|---|---|---|---|---|
| **Labor** WIP Status: Billable | | | | |
| Project Manager | | | | |
| BARBARA L. NEGHERBON | | | | |
| Labor | 01/13/2015 | 7.00 | 105.00 | 735.00 |
| *Prepare easements for meeting with Michelle Hampton, City Planner and Shala McKenzie, Asst. City Council for Coos County Planning Appeal*<br>*Travel to and from Bandon for meeting and meeting in Bandon*<br>*Preparation of notes and map items for Shala for appeal presentation*<br>*Andrew Sprague working on mapping easements and right-of-ways for Ohio and Cardinal and PUCs in area* | | | | |
| Labor | 01/14/2015 | 7.00 | 105.00 | 735.00 |
| *Preparation of notes and map items for Shala for Coos County Planning Appeal presentation* | | | | |
| Labor | 01/15/2015 | 9.00 | 105.00 | 945.00 |
| *Preparation of quantities and truck numbers for Shala for Coos County Planning Appeal presentation* | | | | |
| Labor | 01/21/2015 | 1.50 | 105.00 | 157.50 |
| *Met with new city manager, Chris Good and with former city manager, Matt Winkel, and Richard Anderson, public works to explain the off-channel reservoir project and the permitting process, including the appeal of the Coos County Planning Board's conditions to the Conditional Use permit that is needed for the water right for storage, permit amendment application.*<br>*Also, with Steve Major and Mike Dees.* | | | | |
| | Subtotal | **24.50** | | **2,572.50** |
| Engineer Tech 1 | | | | |
| ANDREW T. SPRAGUE | | | | |
| Labor | 01/13/2015 | 5.00 | 70.00 | 350.00 |
| *Water use and point of diversion map* | | | | |
| Labor | 01/15/2015 | 8.00 | 70.00 | 560.00 |
| *Water use and point of diversion map* | | | | |
| | Subtotal | **13.00** | | **910.00** |
| | Labor total | **37.50** | | **3,482.50** |

City of Bandon
Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

Invoice number 22546
Date 01/31/2015

## Invoice Supporting Detail

**Invoice Summary**

| | Contract | Billed | % | Remaining | % |
|---|---|---|---|---|---|
| **Labor** | 90,797.00 | 51,982.00 | 57 | 38,815.00 | 43 |
| **Expense** | | 152.88 | | -152.88 | |
| **Consultant** | | | | | |
| **Total** | 90,797.00 | 52,134.88 | 57 | 38,662.12 | 43 |

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 Teakwood Avenue
Coos Bay, Oregon 97420
(541) 269-0732 Fax: (541) 269-2044
www.dyerpart.com

# Invoice

City of Bandon
Chris Good
P.O. Box 67
Bandon, OR 97411

Invoice number * Draft *
Date 07/24/2015
Maximum Exceeded
Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey
Project Manager STEVE B. MAJOR

Professional Services for the Period: 6/25/2015 9:03:00 AM to 7/24/2015 9:03:00 AM

## Professional Services

| | Hours | Rate | Billed Amount |
|---|---|---|---|
| Project Manager | 21.00 | 105.00 | 2,205.00 |
| Engineer Tech 1 | 6.50 | 70.00 | 455.00 |
| Total Professional Services | 27.50 | | 2,660.00 |

**INVOICE TOTAL 2,660.00**

Maximum Exceeded

**Contract Summary**

| | |
|---|---|
| Contract Maximum: | $90,797.00 |
| Previous Billings Against Maximum: | $57,559.88 |
| Current Billings Against Maximum: | $2,660.00 |
| Balance After This Invoice: | $30,577.12 |

| | |
|---|---|
| **Total Unpaid Previous Invoices** | $0.00 |
| **Total Balance Due** | 2,905.00 |

**Aging Summary**

| Invoice Number | Invoice Date | Outstanding | Current | Over 30 | Over 60 | Over 90 | Over 120 |
|---|---|---|---|---|---|---|---|
| 22795 | 06/30/2015 | 2,905.00 | 2,905.00 | | | | |
| | Total | 2,905.00 | 2,905.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Pre-Billing Worksheet

## 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

### Preliminary Design & Cost Estimates

Phase Status: Active

**WIP - Bill As Time & Expense**

**Billing Type: Time & Expense**

**Billing Cutoff:**

**Labor** WIP Status: Billable

| | Date | Units | Rate | Amount | To Bill Units | To Bill Amount |
|---|---|---|---|---|---|---|
| Project Manager | | | | | | |
| BARBARA L. NEGHERBON | | | | | | |
| Labor | 07/13/2015 | 0.50 | 105.00 | 52.50 | 0.50 | 52.50 |
| *Responded to Chris Good's email and questions. And to Shannon Rheinhardt's request for meeting with Utility Committee. Invited Greg Wacker, Watermaster to meeting. Coordinated with Tammy Smith about City staff - to notify Richard Anderson and Bill Nielsen of this meeting* | | | | | | |
| Labor | 07/15/2015 | 4.50 | 105.00 | 472.50 | 4.50 | 472.50 |
| *Prepared materials for meeting with Utility Committee*<br>*Travel to Bandon for meeting with Utility Committee - meeting from 1600-1800* | | | | | | |
| Labor | 07/16/2015 | 2.00 | 105.00 | 210.00 | 2.00 | 210.00 |
| *Site visit to both reservoirs to check and photograph current reservoir levels and stream flows. Spoke with Sam, ODFW Fish Hatchery worker about reservoir levels and the cutting down of the trees that were on the Gieger Creek dam. Also discussed streamflows and the new watermasters visit.*<br>*Prepared letters of support templates for Chris Good and the Utility Committee. Had Alessandra Hosselly review.*<br>*Update water right summary table to show status of the three extensions of time final orders* | | | | | | |
| Labor | 07/22/2015 | 1.50 | 105.00 | 157.50 | 1.50 | 157.50 |
| *Grant application and emails reminding individuals to send support letters.* | | | | | | |
| Labor | 07/23/2015 | 4.00 | 105.00 | 420.00 | 4.00 | 420.00 |
| *Prepared grant application*<br>*Contacted support letter writers - particularly ODFW*<br>*Prepared fee estimate and schedule* | | | | | | |
| | Subtotal | **12.50** | | **1,312.50** | **12.50** | **1,312.50** |
| Engineer Tech 1 | | | | | | |
| ALESSANDRA M. HOSSLEY | | | | | | |
| Labor | 07/09/2015 | 0.50 | 70.00 | 35.00 | 0.50 | 35.00 |
| *Feasability study review* | | | | | | |
| Labor | 07/14/2015 | 1.00 | 70.00 | 70.00 | 1.00 | 70.00 |
| *Off channel reservoir project summary for utilty committee meeting* | | | | | | |
| Labor | 07/16/2015 | 2.00 | 70.00 | 140.00 | 2.00 | 140.00 |
| *Filling out feasablilty study grant application* | | | | | | |
| | Subtotal | **3.50** | | **245.00** | **3.50** | **245.00** |
| BRIAN L. ALLEN | | | | | | |
| Labor | 07/08/2015 | 3.00 | 70.00 | 210.00 | 3.00 | 210.00 |
| *Feasibility Study; probalistic analysis of the current creek diversion to meet the raw water storage requirements* | | | | | | |
| | Subtotal | **3.00** | | **210.00** | **3.00** | **210.00** |
| | Labor total | **19.00** | | **1,767.50** | **19.00** | **1,767.50** |

### Permitting

Phase Status: Active

**WIP - Bill As Time & Expense**

**Billing Type: Time & Expense**

**Billing Cutoff:**

**Labor** WIP Status: Billable

| | Date | Units | Rate | Amount | To Bill Units | To Bill Amount |
|---|---|---|---|---|---|---|
| Project Manager | | | | | | |
| BARBARA L. NEGHERBON | | | | | | |
| Labor | 07/08/2015 | 2.50 | 105.00 | 262.50 | 2.50 | 262.50 |

# Pre-Billing Worksheet

## 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

### Permitting

Phase Status: Active

**WIP - Bill As Time & Expense**

**Billing Type: Time & Expense**

**Billing Cutoff:**

**Labor** WIP Status: Billable

| | Date | Units | Rate | Amount | To Bill Units | To Bill Amount |
|---|---|---|---|---|---|---|
| Project Manager | | | | | | |
| BARBARA L. NEGHERBON | | | | | | |
| *Feasibility Study Application*<br>*Assistance from Brian Allen for 50% exceedence item* | | | | | | |
| Labor | 07/09/2015 | 6.00 | 105.00 | 630.00 | 6.00 | 630.00 |
| *Feasibility Study Application* | | | | | | |
| | Subtotal | **8.50** | | **892.50** | **8.50** | **892.50** |
| | Labor total | **8.50** | | **892.50** | **8.50** | **892.50** |

**Invoice Summary** Reported % Complete Date Entered:

| | Contract | Spent | % | Billed | % | Remaining | % | WIP | To Bill |
|---|---|---|---|---|---|---|---|---|---|
| **Labor** | 90,797.00 | 61,047.00 | 67 | 57,407.00 | 63 | 33,390.00 | 37 | 2,660.00 | 2,660.00 |
| **Expense** | | 603.24 | | 152.88 | | -152.88 | | | |
| **Consultant** | | | | | | | | | |
| **Total** | 90,797.00 | 61,650.24 | 68 | 57,559.88 | 63 | 33,237.12 | 37 | 2,660.00 | 2,660.00 |

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 Teakwood Avenue
Coos Bay, Oregon 97420
(541) 269-0732 Fax: (541) 269-2044
www.dyerpart.com

# Invoice

City of Bandon
Chris Good
P.O. Box 67
Bandon, OR 97411

Invoice number 22795
Date 06/30/2015

Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey
Project Manager STEVE B. MAJOR

Professional Services for the Period: 5/27/2015 to 6/26/2015

## Professional Services

| | Hours | Rate | Billed Amount |
|---|---|---|---|
| Project Manager | 19.00 | 105.00 | 1,995.00 |
| Engineer Tech 1 | 13.00 | 70.00 | 910.00 |
| Total Professional Services | 32.00 | | 2,905.00 |

**INVOICE TOTAL 2,905.00**

City of Bandon
Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

Invoice number 22795
Date 06/30/2015

**Contract Summary**

| | |
|---|---|
| Contract Maximum: | $90,797.00 |
| Previous Billings Against Maximum: | $54,654.88 |
| Current Billings Against Maximum: | $2,905.00 |
| Balance After This Invoice: | $33,237.12 |

| | |
|---|---|
| **Total Unpaid Previous Invoices** | $0.00 |
| **Total Balance Due** | 2,905.00 |

**Aging Summary**

| Invoice Number | Invoice Date | Outstanding | Current | Over 30 | Over 60 | Over 90 | Over 120 |
|---|---|---|---|---|---|---|---|
| 22795 | 06/30/2015 | 2,905.00 | 2,905.00 | | | | |
| | Total | 2,905.00 | 2,905.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# Invoice Supporting Detail

## 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

### Preliminary Design & Cost Estimates

Phase Status: Active

Billing Cutoff: 06/26/2015

| | Date | Units | Rate | Amount |
|---|---|---|---|---|
| **Labor** WIP Status: Billable | | | | |
| Project Manager | | | | |
| BARBARA L. NEGHERBON | | | | |
| Labor | 06/15/2015 | 0.50 | 105.00 | 52.50 |
| *Review qualifications for Feasibility Study Grant Program application and speak with Jon Unger, OWRD, about possibility for this project's eligibility. Speak with Chris Good to see if the City wants to apply for these funds. Chris said to proceed. I told Chris that I estimated the fee to be approximately $3,000.* | | | | |
| Labor | 06/19/2015 | 5.00 | 105.00 | 525.00 |
| *Water Conservation, Reuse and Storage Feasibility Study Grant Program application* | | | | |
| Labor | 06/22/2015 | 7.50 | 105.00 | 787.50 |
| *Water Conservation, Reuse and Storage Feasibility Study Grant Application with Alessandra Hossley working on maps* | | | | |
| Labor | 06/23/2015 | 6.00 | 105.00 | 630.00 |
| *Water Conservation, Reuse and Storage Feasibility Study Grant Application with Alessandra Hossley working on maps* | | | | |
| | Subtotal | **19.00** | | **1,995.00** |
| Engineer Tech 1 | | | | |
| ALESSANDRA M. HOSSLEY | | | | |
| Labor | 06/22/2015 | 5.00 | 70.00 | 350.00 |
| *Map drafting* | | | | |
| Labor | 06/23/2015 | 7.00 | 70.00 | 490.00 |
| *Map drafting* | | | | |
| Labor | 06/24/2015 | 1.00 | 70.00 | 70.00 |
| *Application review* | | | | |
| | Subtotal | **13.00** | | **910.00** |
| | Labor total | **32.00** | | **2,905.00** |

**Invoice Summary**

| | Contract | Billed | % | Remaining | % |
|---|---|---|---|---|---|
| **Labor** | 90,797.00 | 57,407.00 | 63 | 33,390.00 | 37 |
| **Expense** | | 152.88 | | -152.88 | |
| **Consultant** | | | | | |
| **Total** | 90,797.00 | 57,559.88 | 63 | 33,237.12 | 37 |

THE DYER PARTNERSHIP
ENGINEERS & PLANNERS, INC.
1330 Teakwood Avenue
Coos Bay, Oregon 97420
(541) 269-0732 Fax: (541) 269-2044
www.dyerpart.com

# Invoice

City of Bandon
Matt Winkel
P.O. Box 67
Bandon, OR 97411

Invoice number 22647
Date 03/30/2015

Project 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey
Project Manager STEVE B. MAJOR

Professional Services for the Period: 2/26/2015 11:00:00 PM to 3/25/2015 11:00:00 PM

## Professional Services

| | Hours | Rate | Billed Amount |
|---|---|---|---|
| Project Manager | 22.00 | 105.00 | 2,310.00 |
| Engineer Tech 1 | 3.00 | 70.00 | 210.00 |
| Total Professional Services | 25.00 | | 2,520.00 |

**INVOICE TOTAL 2,520.00**

# Invoice Supporting Detail

## 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

### Preliminary Design & Cost Estimates

Phase Status: Active

Billing Cutoff: 03/25/2015

| | Date | Units | Rate | Amount |
|---|---|---|---|---|
| **Labor** WIP Status: Billable | | | | |
| Engineer Tech 1 | | | | |
| ANDREW T. SPRAGUE | | | | |
| Labor | 02/11/2015 | 1.50 | 70.00 | 105.00 |
| *Off channel storage markups/print* | | | | |
| Labor | 02/12/2015 | 0.50 | 70.00 | 35.00 |
| *Large printout for presentation* | | | | |
| | Subtotal | **2.00** | | **140.00** |
| | Labor total | **2.00** | | **140.00** |

### Permitting

Phase Status: Active

Billing Cutoff: 03/25/2015

| | Date | Units | Rate | Amount |
|---|---|---|---|---|
| **Labor** WIP Status: Billable | | | | |
| Project Manager | | | | |
| BARBARA L. NEGHERBON | | | | |
| Labor | 01/29/2015 | 0.50 | 105.00 | 52.50 |
| *Permit Amendment - Conditional Use Appeal questions from Michelle Hampton from Rupert Davis, resident of Cardinal Lane* | | | | |
| Labor | 02/03/2015 | 1.00 | 105.00 | 105.00 |
| *Information needed for appeal and coordination of pre-appeal meeting* | | | | |
| Labor | 02/05/2015 | 1.50 | 105.00 | 157.50 |
| *Recieved Coos County Planners Appeal Staff Report and reviewed it. Found an incorrect item and contacted Richard Anderson and provided further information for this item* | | | | |
| Labor | 02/11/2015 | 8.00 | 105.00 | 840.00 |
| *Preparation for Coos County Board of Commisioners Appeal to Conditions of Approval for Conditional Use Permit* | | | | |
| Labor | 02/12/2015 | 6.00 | 105.00 | 630.00 |
| *Preparation for Coos County Board of Commisioners Appeal to Conditions of Approval for Conditional Use Permit*<br>*Travel to and from Coquille for Appeal, and Appeal*<br>*Followup to Appeal*<br>*Calls to OWRD and Interim WaterMaster regarding Permit Amendment*<br>*Meeting agenda* | | | | |
| Labor | 02/13/2015 | 1.00 | 105.00 | 105.00 |
| *Meeting Agenda regarding next phase and further communication with OWRD about permitting* | | | | |
| Labor | 02/13/2015 | 2.00 | 105.00 | 210.00 |
| *Meeting Agenda regarding next phase and further communication with OWRD about permitting* | | | | |
| Labor | 02/18/2015 | 2.00 | 105.00 | 210.00 |
| *Coordination with Martha Pagel, Water Rights Attorney, Schwabe, Williamson & Wyatt, who is consulting for City regarding ensuring the water rights for the off-channel reservoir is correctly addressed.* | | | | |
| | Subtotal | **22.00** | | **2,310.00** |
| Engineer Tech 1 | | | | |
| ANDREW T. SPRAGUE | | | | |
| Labor | 02/04/2015 | 1.00 | 70.00 | 70.00 |
| *Fix map/PDF/Send out in email* | | | | |
| | Subtotal | **1.00** | | **70.00** |

## Invoice Supporting Detail

### 101.84 City of Bandon - Ferry & Geiger Creek Reservoir Survey

**Permitting**

Phase Status: Active

**Billing Cutoff: 03/25/2015**

| Date | Units | Rate | Amount |
|---|---|---|---|
| Labor total | **23.00** | | **2,380.00** |

**Invoice Summary**

| | Contract | Billed | % | Remaining | % |
|---|---|---|---|---|---|
| **Labor** | 90,797.00 | 54,502.00 | 60 | 36,295.00 | 40 |
| **Expense** | | 152.88 | | -152.88 | |
| **Consultant** | | | | | |
| **Total** | 90,797.00 | 54,654.88 | 60 | 36,142.12 | 40 |