Ecology Publication Number: 09-12-019

STATE ENVIRONMENTAL POLICY ACT (SEPA)
MITIGATED DETERMINATION OF NONSIGNIFICANCE (MDNS)
PHASE I POTHOLES SUPPLEMENTAL FEED ROUTE PROJECT

Description of proposal:

The Bureau of Reclamation (Reclamation), in cooperation with the Washington Department of Ecology (Ecology), proposes to develop supplemental feed routes to convey water from Banks Lake to Potholes Reservoir. Banks Lake and Potholes Reservoir are part of the Columbia Basin Project, Reclamation's irrigation project supplied by Grand Coulee Dam. The Columbia Basin Project is designed so that return flows from irrigation in the northern half of the project, generally the area north of Potholes Reservoir, would flow to Potholes Reservoir and supply the southern portion of the project, generally the area south of Potholes Reservoir. Because the Columbia Basin Project has not been completely developed, there are not adequate return flows in the northern portion of the project to provide a reliable supply of irrigation water to the southern portion of the project. To meet that need, water is diverted from Banks Lake to Potholes Reservoir. This diverted water is called feed water. At present, the Potholes Canal serves approximately 231,000 acres, requiring up to 990,000 acre-feet of water annually from Potholes Reservoir. Of that amount, about 350,000 acre-feet is feed water from Banks Lake. There are currently three feed routes that use canals and existing waterways. The primary route is through the East Low Canal to Rocky Coulee Wasteway then into Upper Crab Creek, Moses Lake and finally into Potholes Reservoir. The two secondary routes are through Lind Coulee Wasteway and through Frenchman Hills Wasteway.

The purpose of the Supplemental Feed Route Project is to improve the reliability of the supply of feed water to Potholes Reservoir. Reclamation and Ecology originally considered three possible routes—Crab Creek, W20 Lateral, and Frenchman Hills Wasteway. Based on evaluations of potential routes documented in the SEPA *Final Programmatic Environmental Impact Statement for the Columbia River Water Management Program* (Ecology, 2007) and the National Environmental Policy Act (NEPA) Finding of No Significant Impact and Environmental Assessment for the project (Reclamation, 2007), Reclamation has identified a preferred alternative that involves use of both the Crab Creek and Frenchman Hills Wasteway Feed Routes. Using both routes will allow Reclamation more flexibility in routing water to Potholes Reservoir and to respond to the Washington Department of Fish and Wildlife (WDFW) request to occasionally operate Crab Creek with only spring flow, rather than on a year-round basis.

Reclamation will develop the Supplemental Feed Route in two phases. Phase I involves expanding the capacity of the Frenchman Hills Wasteway Feed Route. Phase II of the project will involve modifications to Pinto Dam at Billy Clapp Lake as well as

development of the Crab Creek Feed Route. This Mitigated Determination of Significance is limited to consideration of Phase I, the Frenchman Hills Wasteway Feed Route. Phase II will require additional SEPA analysis and a subsequent threshold determination at such time that the Crab Creek Feed Route is advanced by Reclamation.

Currently, up to 21,000 acre-feet of feed water is conveyed from Billy Clapp Reservoir via the Main Canal and West Canal to the Frenchman Hills Wasteway and into Potholes Reservoir. Through Phase I of the project, the capacity of Frenchman Hills Wasteway would be expanded to provide a total of 46,000 acre-feet of feed. This would result in a maximum flow of 700 cubic feet per second (cfs) between the fourth week of March and the third week of May when feed water would be conveyed to Potholes Reservoir. This represents an increase of 200 cfs over current maximum flows. This increase in flow will require replacement of culverts at the Road C SE (Grant County) crossing of the Frenchman Hills Wasteway. Cofferdams will be used to temporarily re-route water during construction. Road C SE will be closed during the two-month construction period and there will be no access to the recreation area to the north. No additional construction is required.

Proponent: Washington State Department of Ecology (Ecology) and U.S. Department of Interior, Bureau of Reclamation (Reclamation)

Location of proposal, including street address, if any: The project site is located in Grant County in eastern Washington State. The Frenchman Hills Wasteway begins near the City of Quincy and flows south then east to the Potholes Reservoir. The lower portion of the wasteway is roughly parallel to Frenchman Hills Road (County Road 7 SW). The wasteway is approximately 68 miles long.

Road C SE is a county road that crosses Frenchman Hills Wasteway approximately four miles west of Potholes Reservoir. The road crossing is located on the boundary of Sections 9 and 10, Township 17 North, Range 27 East.

SEPA Lead agency: Washington State Department of Ecology

Responsible official: Derek I. Sandison

Position/title: Central Regional Director, Department of Ecology

Address:

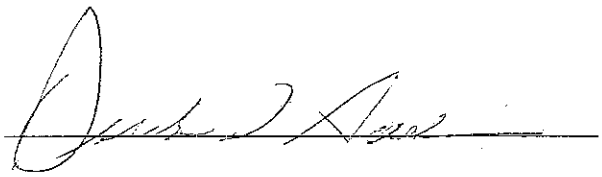
15 West Yakima Avenue, Suite 200
Yakima, WA 98902-3452

Email: dsan461@ecy.wa.gov

Threshold determination: The lead agency has determined that this proposal, with mitigation described in the attached Environmental Checklist, will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c).

This MDNS is issued under provisions of WAC 197-11-340 and WAC 197-11-350; the lead agency will not act on this proposal for 14 days from January 17, 2008. Comments must be submitted by January 31, 2008.

Date: January 17, 2008

Signature of Responsible Official: 

Potholes Reservoir Supplemental Feed Route—Frenchman Hills Route

SEPA Checklist

January 2008

PREPARED FOR:

WASHINGTON STATE DEPARTMENT OF ECOLOGY
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APPENDIX A – CULTURAL RESOURCE REPORT

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of the proposed project:

Potholes Reservoir Supplemental Feed Route—Frenchman Hills Route

2. Name of Proponent:

Washington State Department of Ecology and U.S. Bureau of Reclamation

3. Address and telephone number of applicant and contact person:

Derek Sandison
Central Regional Director
Department of Ecology
15 W. Yakima Ave., Suite 200
Yakima, WA 98902-3452
509-575-2490

4. Date checklist prepared:

January 2008

5. Agency requesting checklist:

Washington State Department of Ecology

6. Proposed timing or schedule (including phasing, if applicable):

The Frenchman Hills Route is the first phase of Reclamation's plans to improve the delivery of feed water to Potholes Reservoir. Construction to replace road culverts at Road C SE will start in late January 2008 and be completed in March 2008. Reclamation may be able to route some additional water in the Frenchman Hills Wasteway in spring 2008, but will not be able to route the full amount until funding is obtained for property and easement acquisition associated with land inundation.

The second phase of the project is the Crab Creek Route. Depending on funding, Reclamation intends to begin the construction associated with use of that route in 2010.

7. Plans for future additions, expansion, or further activity related to or connected with this proposal:

No further construction activity is planned for the Frenchman Hills Route. Additional flows will not be routed through Frenchman Hills Wasteway until Reclamation receives funding to acquire property or easements to mitigate for

inundation of private property along the Wasteway. That funding is not expected until 2010. As noted in A. 6 above, the second phase of the project on the Crab Creek Route may start in 2010. No additional activity is proposed for the Supplemental Feed Route, although Reclamation does have additional plans for improvements to the Columbia Basin Project as described in the *Potholes Reservoir Supplemental Feed Route Environmental Assessment and Finding of No Significant Impact.*

8. Environmental information that has been prepared, or will be prepared, directly related to this project:

- *Potholes Reservoir Supplemental Feed Route Environmental Assessment and Finding of No Significant Impact*, Bureau of Reclamation, Pacific Northwest Region, August 2007 (adopted as an addendum to the *Final Programmatic Environmental Impact Statement for the Columbia River Water Management Program*)

- *Technical Memorandum Alternative B—Frenchman Hills Wasteway. Potholes Reservoir Supplemental Feed Route Draft Environmental Assessment*, Bureau of Reclamation, Pacific Northwest Region, April 2007

- *Final Programmatic Environmental Impact Statement for the Columbia River Water Management Program*, Washington State Department of Ecology, February 15, 2007

- A Wetland and Stream Report will be prepared for the Road C SE Culvert Replacement prior to construction

9. Applications that are pending for governmental approvals or other proposals directly affecting the property covered by the proposal:

No other applications or proposals are pending.

10. List of governmental approvals or permits that will be needed for the proposal:

- Hydraulic Project Approval, WDFW

- Construction Stormwater Permits

- County Right-of- Way Permit

11. Brief, complete description of the proposal, including the proposed uses and the size of the project and site:

The Bureau of Reclamation (Reclamation), in cooperation with the Washington Department of Ecology, proposes to develop a Supplemental Feed Route to convey water from Banks Lake to Potholes Reservoir. Potholes Reservoir is part of the Columbia Basin Project, Reclamation's irrigation project supplied by

Grand Coulee Dam. Water for the Columbia Basin Project is pumped from Lake Roosevelt behind Grand Coulee Dam to Banks Lake (Figure 1). Irrigation water is distributed from Banks Lake through the Main Canal, which flows south to Billy Clapp Lake. The Main Canal continues south from Pinto Dam at the south end of Billy Clapp Lake. The Main Canal divides into the West and East Low Canals at a point southwest of Pinto Dam. The West Canal flows around the northwest edge of the Columbia Basin Project boundary and flows south toward Frenchman Hills Wasteway. The East Low Canal flows south, passing near the cities of Moses Lake and Warden, and ending east of the Scooteney Reservoir south of Othello.

The Columbia Basin Project is designed so that return flows from irrigation in the northern half of the project, generally the area north of Potholes Reservoir, would flow to Potholes Reservoir and supply the southern portion of the project, which is generally the area south of Potholes Reservoir. Potholes Reservoir receives and stores runoff water from the Upper Crab Creek Basin and return flows from irrigated land served by the West and East Low Canals. Water is released from Potholes Reservoir through the Potholes Canal to supply the South Columbia Basin Irrigation District. Because the Columbia Basin Project has not been completely developed, there is not adequate return flow in the northern portion of the project to provide a reliable supply of irrigation water to the South Columbia Basin Irrigation and East Columbia Irrigation Districts. To help meet that need, water is diverted from Banks Lake to Potholes Reservoir. This diverted water is called feed water. At present, the Potholes Canal serves approximately 231,000 acres, requiring up to 990,000 acre-feet of water annually from Potholes Reservoir. Of that amount, about 350,000 acre-feet is feed water from Banks Lake.

There are currently three feed routes that use canals and existing waterways (Figure 1). The primary route is through the East Low Canal to Rocky Coulee Wasteway then into Upper Crab Creek, Moses Lake and finally into Potholes Reservoir. The two secondary routes are through Lind Coulee Wasteway and through Frenchman Hills Wasteway. Water is spilled from the East Low Canal to Lind Coulee Wasteway, which flows directly to Potholes Reservoir. The other secondary route spills water from the West Canal to the Frenchman Hills Wasteway, which also flows directly to Potholes Reservoir.

The purpose of the Supplemental Feed Route Project is to improve the reliability and safety in the ability to supply feed water to Potholes Reservoir. Reclamation and Ecology originally considered three possible routes—Crab Creek, W20 Canal, and Frenchman Hills Waterway (Figure 2). Based on technical studies of the three routes, the SEPA EIS on the Columbia River Water Management Program (Ecology, 2007), and the NEPA EA (Reclamation, 2007a), Reclamation has selected a Supplemental Feed Route that will utilize both Crab Creek and Frenchman Hills Wasteway. Utilizing both routes will allow Reclamation more flexibility in routing water to Potholes Reservoir and to respond to the Washington Department of Fish and Wildlife (WDFW) request to maintain Crab Creek with only spring flow every few years.

Reclamation will develop the Supplemental Feed Route in two phases. Phase I involves expanding the capacity of the Frenchman Hills Wasteway Feed Route. Phase II of the project will involve modifications to Pinto Dam at Billy Clapp Lake as well as development of the Crab Creek Feed Route. The Frenchman Hills Route will be developed first with the Crab Creek Route to follow when funding is obtained. This SEPA Checklist evaluates the impacts associated with the Frenchman Hills Route. Additional SEPA analysis will be conducted on the Crab Creek Route when that route is put advanced by Reclamation and a subsequent threshold determination will be made at that time.

For the Frenchman Hills Wasteway Route, water would be conveyed from Billy Clapp Reservoir via the Main Canal and West Canal to the Frenchman Hills Wasteway to flow to Potholes Reservoir (Figure 2). The Wasteway is part of the route currently used to supply water to Potholes Reservoir. Because of the limited capacity at the Road C SE crossing of the Wasteway, feed flows are currently limited to 100 to 150 cubic feet per second (cfs). Under the proposed project, 700 cfs would flow through Frenchman Hills Wasteway to Potholes Reservoir between the end of March and the third week of May; this includes an additional 200 cfs above current use. In addition to the flows to supply Potholes Reservoir, Frenchman Hills Wasteway needs to have adequate capacity to handle flows from a potential canal failure on the West Canal or Royal Branch Canal. To accommodate both normal and emergency flows, the Wasteway needs to pass 1,500 cfs. This requires enlargement of the culverts at the Road C SE crossing (Figure 3). No additional construction is required.

Reclamation proposes to use a "test feed" prior to operating the Wasteway with the increased flows. Water will be released into the Wasteway in increments of 25 to 50 cfs added to base flows. The purpose of the test feed is to observe the inundation along the Wasteway corridor which will allow more accurate predictions of potential impact from the increased flow. The test feed will allow Reclamation to adaptively manage flows in the Wasteway and allow for mitigation of potential impacts identified during the test.

The Frenchman Hills Wasteway Route can supply approximately 21,000 acre-feet in the spring, but does not have additional capacity to deliver water to Potholes Reservoir during the summer. Reclamation will develop the Crab Creek Route in the future to supply additional water and to supply water during the summer. The Crab Creek Route would release water from Billy Clapp Reservoir into Brook Lake, a natural water body within the Crab Creek Channel. The water would be conveyed down Crab Creek, through Moses Lake to Potholes Reservoir. Reclamation intends to begin construction to develop the Crab Creek Route no earlier than 2010, depending on funding. As noted above, Ecology will conduct additional environmental review of the Crab Creek Route in the future.

The culvert widening at Road C SE involves removal of the existing eight culverts and replacing them with five new 8'-2" span x 5'-9" rise corrugated metal pipe (CMP) arches. During the two month construction period, Road C SE will be closed and there will be no access to the recreation area to the north. To

allow for rerouting the water in the Wasteway, construction will occur in two phases. During the first phase, water will be routed through a cofferdam to the south while work occurs on the north side of the roadway. During the second phase, the water will be rerouted to the north to allow construction on the south side of the roadway.

12. Location of the proposal, including street address, if any, and section, township, and range; legal description; site plan; vicinity map; and topographical map, if reasonably available:

The Frenchman Hills Wasteway is located in Grant County in Eastern Washington. The Wasteway begins at Reclamation's West Canal near Quincy and flows south and east to Potholes Reservoir (Figure 2). The lower portion of the Wasteway flows roughly parallel to Frenchman Hills Road (County Road 7 SW). The Wasteway is approximately 68 miles long.

Road C SE is a county road that crosses Frenchman Hills Wasteway west of Potholes Reservoir. The road provides access to the Desert Wildlife Area north of the Wasteway and continues into the Potholes Sand Dune area near the reservoir. The culvert is located at:

SE quarter Section 9, Township 17 North, Range 27 East
SW quarter Section 10, Township 17 North, Range 27 East

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (underline):

Flat, rolling, hilly, steep slopes, mountainous,

b. What is the steepest slope on the site (approximate percent slope)?

The Columbia Basin Project, including the Frenchman Hills Wasteway and Potholes Reservoir, is located in a flat area between the Beezley Hills to the north and the Saddle Mountains to the south. The Frenchman Hills Wasteway flows through a very flat area with very little gradient change along the 68 miles of the route. According to the Natural Resource Conservation Service (NRCS), the soils in the area are generally located on slopes of 2 to 15 percent (NRCS, 2005).

The beginning of the Wasteway is at about elevation 1,300 feet and the mouth at Potholes Reservoir is at elevation 1,060 feet. The site of the Road C SE crossing is at an elevation of 1,100 feet with no slope on the roadway. The roadway is approximately 3.5 feet above the top of the existing culverts.

c. What general types of soils are found on the site (for example clay, sand, gravel, peat, muck)? Specify the classification of agricultural soils and note any prime farmland.

The general soil type along the route of Frenchman Hills Wasteway is Quincy fine sand, a deep and excessively well drained soil (NRCS, 2005). Quincy fine sand is generally used for rangeland and irrigated crops. Most of the Columbia Basin Project is located on Quincy fine sand. The soil type is not designated as prime farmland.

d. Are there any surface indications or a history of unstable soils in the immediate vicinity? If so, describe.

There are no indications of unstable soils in the immediate vicinity. The Quincy fine sand soil type has only a slight hazard for water erosion because of the high permeability and limited runoff (NRCS, 2005).

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate the source of the fill.

The Wasteway will not be altered to accommodate additional flows and will require no filling or grading. The culverts at Road C SE will be replaced with larger culverts. This will require limited grading and fill to accommodate the larger culverts. The excavated materials will be replaced on site to the extent possible. Placement of the larger culverts may require less fill material than is currently in place. Any leftover fill will be disposed of at an approved disposal site.

f. Could erosion occur as a result of clearing, construction, or use?

Limited erosion could occur as a result of installing larger culverts at the Road C SE crossing. Construction activities could expose additional areas to potential erosion. Erosion and deposition may increase with the increased flows in the Wasteway, but the effects are expected to be minor. According to WDFW (2007a), bank erosion may increase downstream of the Road C SE crossing and higher flows may increase erosion of stream banks in Frenchman Hills Wasteway.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example buildings or asphalt)?

The roadway crossing will be widened by approximately 480 square feet as part of the project. This additional area will be a gravel roadway over the Wasteway. The culverts at the Road C SE crossing of the Wasteway will be enlarged and the crossing widened, but Road C SE will not be expanded.

h. Describe the proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Best management practices (BMPs) and Temporary Erosion and Sediment Control (TESC) measures would be implemented during construction. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared in accordance with Department of Ecology guidelines, to further reduce potential for erosion. Measures will be taken to control erosion of stream banks, including downstream of the Road C SE crossing during and after construction. Measures to control erosion during construction may include:

- bioengineered bank stabilization downstream of Road C SE,
- the use of silt fences or straw bales,
- covering stockpiled material,
- replanting with native vegetation following construction, and
- maintaining erosion control measures until bare soils have been successfully vegetated,
- placement of aggregate or other measures to address soft soils during spring thaw conditions.

Measures to control erosion as a result of increased flows include:

- bioengineered bank stabilization, and
- slowly ramping up and ramping down the increased seasonal feed.

2. Air

a. What types of emissions to the air would result from the proposal (e.g. dust, automobile, odors, industrial, wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

The only emissions to the air that would result from the project would be minor increases in dust and vehicular emissions during replacement of the culverts at the Road C SE crossing.

b. Are there any off-site sources of emissions or odors that may affect your proposal? If so, generally describe.

No off-site emissions or odors would affect the project.

c. Describe proposed measures to reduce or control emissions or other impacts to air, if any.

Impacts of dust and emissions are expected to be minor and temporary. The construction site is in a rural area and emissions are expected to disperse quickly. Any fill material or gravel needed for the road crossing will be brought to the site as needed, to minimize the amount of material that will be stockpiled.

3. Water

a. Surface:

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The project involves the Frenchman Hills Wasteway, a drainage channel for irrigation water used for the Columbia Basin Project. The Wasteway consists of a meandering channel within a wide area of marshy wetland along much of the route. The Wasteway is an artificial channel. The area was dry before construction of the Columbia Basin Project. Frenchman Hills Wasteway drains to Potholes Reservoir, which is used to irrigate the South Columbia Basin Irrigation District.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

When the project is complete, normal flows in Frenchman Hills Wasteway will be the same as current conditions, but feed water will increase the flow by approximately 200 cfs. During an emergency situation, approximately 1,500 cfs will flow through the Wasteway. The only construction that will take place in the Wasteway or any other waterbody is the replacement of the culverts at Road C SE.

The project includes the removal of the existing eight culverts and the replacement with five new 8’-2” span x 5’-9” rise corrugated metal pipe (CMP) arches. During construction, water in the Wasteway will be rerouted through a coffer dam extending upstream and downstream of the roadway. Construction will begin on the south side of the roadway with the water routed through the two northern existing culverts. Two new CMP arches will be installed on the south and construction will shift to the north side of the roadway. During that phase of construction, water will be

routed through the two new CMP arches while the remaining four or five existing culverts on the north are removed and replaced with three new CMP arches.

3. Estimate the amount of fill and dredge material that could be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill materials.

The maximum amount of fill that would be required is approximately 600 cubic yards. As much of the existing fill material will be reused as possible, which may reduce the actual amount of fill brought in. The source of the fill material will be a Bureau of Reclamation pit located in Frenchman Hills to the south.

4. Will the proposal require surface water withdrawals or diversion? Give general description, purpose, and approximate quantities, if known.

The project will not require new surface water withdrawals. The Supplemental Feed Route project is intended to improve the reliability of flows delivered to Potholes Reservoir, but will not supply additional water. Frenchman Hills Wasteway will carry more water than it currently does, but that water is being rerouted from current routes.

5. Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

The project is not located within a 100-year floodplain.

6. Does the proposal involve discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The project does not involve the discharge of waste materials to surface waters.

b. Ground

1. Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No ground water will be withdrawn and no water will be discharged to ground water. The additional water in the Wasteway may change the surface water to ground water interaction. Additional surface water in the Wasteway may decrease the rate of ground water discharge into the Wasteway.

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) is expected to serve.

The project will not generate waste material that will be discharged into the ground.

c. Water Runoff (including storm water)

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The project is intended to increase flows in Frenchman Hills Wasteway to provide a more reliable supply for Potholes Reservoir. The water will flow to Potholes Reservoir, but will not increase the actual water supplied to the reservoir.

Increased flows in Frenchman Hills Wasteway may cause inundation of approximately 2,776 acres of land adjacent to the Wasteway along the last 16.5 miles of the route. Some of this inundation occurs with the current flows in the Wasteway. The majority of inundated land (approximately 2,100 acres) is publicly owned.

The majority of the land that would be inundated is undeveloped. Some of the private land that would be inundated is currently used for irrigated agriculture and a portion of some irrigated fields would be inundated during the high flow period (between the end of March and the third week of May). There are few permanent structures adjacent to the Wasteway. There are no residences in the area that would be inundated, but some auxiliary buildings may be within the area of inundation.

2. Could waste materials enter ground or surface waters? If so, generally describe.

No waste material is expected to enter ground or surface waters. Water quality in Frenchman Hills Wasteway will not change as a result of increased flows. The same water source will be used as for current flows.

The Main Canal is chemically treated to prevent aquatic weeds beginning the second week of May. Because of the nature of the chemical that is used for treatment, water from the Main Canal

cannot be released to a feed route during treatment to prevent contamination of natural water bodies. Supplemental feed flows will stop before the Main Canal is treated for aquatic weeds. The weed treatment chemical will not enter the Wasteway.

d. Describe proposed measures to reduce or control surface, ground, and runoff water impacts, if any.

The small increase in impervious surface created by widening the Road C SE crossing is not expected to increase runoff water impacts. The wider roadway will be gravel, which will allow infiltration of some of the precipitation.

As noted above in Section 1.h, a SWPPP will be prepared for the project, in accordance with Department of Ecology guidelines. Although not required for the project, development of a SWPPP will help to minimize the potential for impacts from the project during and following construction.

Reclamation will work with property owners to identify potential impacts from increased inundation on private property. Reclamation will develop appropriate mitigation measures such as purchase of flowage easements or property.

4. Plants

a. Types of vegetation found on-site:

Historically, the native vegetation of the Frenchman Hills Wasteway area was shrub-steppe and was dominated by perennial grasses with a discontinuous overstory of shrubs such as sagebrush, rabbitbrush, bitterbrush, grease wood, and spiny hopsage with a layer of perennial grasses. Most of the land adjacent to Frenchman Hills Wasteway has been developed and is actively used for irrigated agriculture, although small areas of shrub-steppe vegetation remain in some areas, especially in the Desert Wildlife Area north of the Wasteway and near the mouth of the Wasteway at Potholes Reservoir. The Wasteway is bordered by riparian vegetation, which is a mix of native and invasive species. Invasive species include purple loosestrife, common reed, and Russian olive.

b. What kind and amount of vegetation will be removed or altered?

No vegetation will be removed along the Wasteway. The specific amount and kind of vegetation that will be removed at the Road C SE site during construction is unknown at this time. The weedy vegetation that is located on the culvert portion of the roadway will be removed. Reclamation will use an existing approximately 7,000 square foot cleared area on the northwest side of the road crossing the Wasteway as a staging area (Figure

3), as well as an additional approximately 20,000 square foot area to the south of the site. Both areas are largely unvegetated, however, a site-specific field investigation to determine potential presence of wetlands and to characterize site vegetation was conducted on January 14, 2008, which may be repeated as weather conditions change. The northern area is currently used as a parking area for access to public lands to the north of the Wasteway; the southern area is largely unused, disturbed land. No vegetation removal will be required for the staging areas.

The additional flows in the Wasteway may have both positive and negative effects on riparian vegetation along the Wasteway. WDFW (2007a and b) has identified the following potential impacts to vegetation communities:

- Increased flows may interfere with WDFW's TD-1 Project, a wetland restoration project located approximately 4 miles east of the Dodson Road crossing of the Wasteway. The project is a partnership with Ducks Unlimited, Reclamation, Quincy Irrigation District, Natural Resources Conservation Service, and the Intermountain West Joint Venture. Potential impacts to the project include:
    - The high flows may cause water to enter the TD-1 project area during the period when WDFW dewaters the wetland area to allow the establishment and growth of moist-soil vegetation.
    - Wet soils could prevent equipment access during the time when the area is planted.
    - The inlet structure could be overtopped and damaged.
    - Fish could gain access to the currently isolated area.
- Vegetation communities may change in both plant species composition and coverage as a result of increased inundation.
- Increased inundation may result in losses of shrub-steppe habitat.
- Existing wetland communities could be dewatered due to the increased capacity of the culverts at Road C SE.
- Invasive species such as common reed, Canada thistle, knapweed, and Russian olive may increase.

c. List threatened or endangered species or critical habitat known to be on or near the site.

The project area provides marginal habitat for the federally listed, threatened species Ute Ladies' Tresses (*Spiranthes diluvialis*). More suitable habitat for the plant is located outside the project area and at higher elevations. No Ute Ladies' Tresses have been identified along the Wasteway or at the Road C SE crossing. No impacts to Ute Ladies Tresses are anticipated from the project.

Information regarding priority habitats and species occurrences in the project area was requested from the WDFW Priority Habitats and Species (PHS) Program. PHS data was received on November 15, 2007. The PHS data for the project area does not include any occurrences or records of threatened or endangered plant species.

d. Describe proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on-site.

Any areas cleared during the enlargement of the culverts at Road C SE will be replanted with native vegetation.

As part of the overall Supplemental Feed Route project, Reclamation is working with WDFW to develop a management plan for lands along both Crab Creek and the Frenchman Hills Wasteway. The plan will include ways to mitigate for potential impacts caused by increased flows in the waterways and opportunities for improving habitat. Because the extent of impacts is unknown and may remain unknown for several years in some cases, Reclamation and WDFW will use adaptive management to identify impacts and develop appropriate mitigation strategies. WDFW (2007a and b) has submitted a list of potential habitat improvements measures to Reclamation. Specific measures to reduce impacts include:

- Protecting isolated ponds and the TD 1 project with dikes,
- Repair any potential damage to the TD 1 inlet structure and possibly redesign the structure to prevent future damage.
- Develop weed control measures.

5. Animals

a. Underline any birds and animals which have been observed on or near the site or are known to be on or near the site:

The source of the following information is the Washington Department of Fish and Wildlife information on the Desert Wildlife Area (WDFW, 2007c) and BirdWeb, the website of the Seattle Audubon Society (Seattle Audubon, 2007).

Fish:

Yellow perch, crappie, sunfish, largemouth bass, smallmouth bass, rainbow trout (stocked), and carp (invasive)

Birds:

Raptors include resident Red-tailed Hawk, Ferruginous Hawk, American Kestrel, Prairie Falcons, Golden Eagles, Great-horned, Short-eared and Long-eared Owls; wintering Bald Eagles; Sharp-shinned and Cooper's Hawks and Merlin in late fall; winter colonies of Burrowing Owls; and occasional Snowy Owl and Gyrfalcon in winter.

Year-round residents include Red-tailed Hawk, American Kestrel, Great Horned, Short-eared and Long-eared Owls.

Waterfowl include Canada Goose, Mallard, Redhead, Canvasback, Ring-necked Duck, Ruddy Duck, Gadwall, Blue and Green-winged Teal, Northern Shoveler, Northern Pintail, Common and Barrow’s Goldeneye, and Wood Duck.

Game birds include Ring-necked Pheasant, Chukar, Hungarian partridge, and California Quail. Sage and Sharp-tailed Grouse were historically present, but have severely declined in numbers.

Breeding residents that migrate to and from this area include Black-necked Stilt, American Avocet, Swainson's Hawk, Burrowing Owl, American Bittern, Black Tern.

Migrants utilizing the area include Greater and Lesser Yellowlegs, American White Pelican, and Tundra Swan. Passerines include Swamp, White-throated, and Harris's Sparrows, warblers, vireos, and thrushes.

Other species regularly observed include Great Blue and Black-crowned Night-Heron; Sandhill Crane; Caspian Tern; Ring-billed Gull; Brewer's, Red-winged, and Yellow-headed Blackbirds; Killdeer; Western Meadowlark; Horned Lark; Song Sparrow; and Marsh Wren.

Mammals:

Coyote, mule deer, jackrabbits, marmots, ground squirrels, muskrats, mice, shrews

b. List any threatened or endangered species or critical habitat near the site.

Information regarding priority habitats and species occurrences in the project area was requested from the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) Program. PHS data was received on November 15, 2007.

The PHS data includes several records of priority habitats in the project area, including wetlands, riparian, shrub-steppe, waterfowl concentration areas, shorebird concentrations, and specific species breeding or resident territories.

The majority of the project area is mapped as **waterfowl concentration areas**, which support large numbers of migrating or wintering ducks and geese. A PHS 1992 record notes that the area is hunted heavily, with highest numbers of duck and geese occurring during part of winter when the area is closed to hunting. In addition, these areas are also mapped as **wetland** priority habitats. The PHS data characterizes the mapped area as the "Frenchman Hills/Winchester Wetlands" as major wetlands associated with the two wasteways. They are dominated by cattail, bulrush, and rush, with large areas invaded by purple loosestrife, common reed (*Phragmites*), and Russian olive. The data notes that the wetlands provide extremely valuable habitat for waterfowl.

The data includes a 1992 record of **long-billed curlew** (*Numenius armenicanus*) nesting and foraging area in disturbed grasslands south side of wasteway, and a 2001 record of annual herd composition counts of **mule deer** (*Odocoileus hemionus hemionus*). The data notes a large resident population generally north of Frenchman Hills to I-90, west Potholes, Desert Wildlife Area, and on adjacent private properties.

An area on the north side of the wasteway is mapped as **shrub-steppe** priority habitat. A PHS 1996 record notes the area as Potholes/Desert Wildlife Area shrub-steppe, which provides valuable buffer from agricultural lands, and is dominated by bitterbrush, cheatgrass and various forbs. The Potholes Reservoir shoreline is mapped as **riparian** habitat and supports willow shrubs with small trees, and grasses.

The islands in the Potholes Reservoir area mapped as priority habitats for **waterfowl concentrations** (spring and summer nesting), **shorebird concentrations** (late summer and fall), **American white pelican** (*Pelecanus erythrorhynchos*) (summering area used for foraging and loafing), and **Western grebe** (*Aechmophorus occidentalis*) (breeding area). The PHS data notes numerous islands and peninsulas that provide critical habitat for nesting and wintering waterfowl and migrating shorebirds.

The PHS data includes multiple records of several priority species occurring in the project area. The following table lists PHS records, beginning with records from the Potholes Reservoir shoreline and proceeding to the east along the Frenchman Hills Wasteway.

Table 1. PHS Records for the Frenchman Hills Wasteway Area

Species	Observation year	Observation type	State Status	Priority?
Black-tailed jackrabbit	1989	Individual occurrence	Candidate	Yes
Swainson's hawk	Multiple records 1986, 1994	Breeding	Monitor	No
Loggerhead shrike	1992	Breeding	Candidate	Yes
Black tern	1978, 1991	Breeding	Monitor	Yes
Forester's tern	1991	Breeding	Monitor	Yes
American white pelican	1991	Regular small concentration	Endangered	Yes
Grasshopper sparrow	1978	Breeding	Monitor	No
Sage sparrow	1978	Breeding	Candidate	Yes
Burrowing owl	Multiple records (~20) 1980-1999	Breeding burrows south of Frenchman Hills Lake near Dodson Rd and Frenchman Hills Rd	Candidate	Yes
Tiger salamander	1993, 1994	Individual occurrence	Monitor	No

In addition to PHS data records, the Washington Department of Fish and Wildlife information on the Desert Wildlife Area (WDFW, 2007c) also notes that the area provides potential habitat for a number of federal and state listed species including Mardon skipper (*Polites mardon*), Washington ground squirrel (*Spermophilus washingtoni*), Townsend's ground squirrel (*Spermophilus townsendii*), Burrowing Owl (*Athene cunicularia*), Greater Sage Grouse (*Centrocercus urophasianus*), Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*), Ferruginous Hawk (*Buteo regalis*), and *Myotis* species. Burrowing Owls are known to be in the vicinity of Frenchman Hills Wasteway (as noted in above table) and WDFW has indicated that Burrowing Owl nests are among those that could be flooded by increased flows.

WDFW has identified several potential positive and negative impacts to wildlife from increased water levels during April and May (WDFW, 2007a). A positive impact of the project would be increases in the number of temporary ponds which provide high-quality habitat for several species of wildlife. Potential negative impacts include:

- Surface water connection of fish-free wetlands to water bodies that contain fish. Approximately 11 currently isolated (fish free) ponds could be affected. This could reduce food resources for wildlife and reduce or eliminate reproduction of amphibians as a result of predation.

- Flooding of nests of ground-nesting birds (ducks, Canada Goose, Ring-necked Pheasant, California Quail, Northern Harrier, Short-eared Owl, Black-necked Stilt, Avocet, Burrowing Owl, Black Tern, several species of passerines).

- Flooding of natal dens of mammals (beaver, muskrat, mink, weasel, coyote, several species of mice).

- Attraction of more walleye into the Wasteway and increased walleye spawning. This could hamper attempts to control walleye populations in Potholes Reservoir.

c. Is the site part of a migratory route? If so, explain.

The ponds and wetlands created by development of the Columbia Basin Project provide an important stopover for birds during migration on the Pacific Flyway. Ponds along the Frenchman Hills Wasteway are used as stopover points for waterfowl and shorebirds.

d. Proposed measures to preserve or enhance wildlife, if any.

As described in Section 4.d above, Reclamation is continuing to work with WDFW to develop a management plan to mitigate potential impacts and improve habitat along Frenchman Hills Wasteway and Crab Creek. The plan will incorporate adaptive management to identify impacts and develop mitigation strategies.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The project will not require any energy.

b. Would the project affect the potential use of solar energy by adjacent properties? If so, explain.

The project would not affect use of solar energy.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

The Frenchman Hills Wasteway and Supplemental Feed Route are gravity systems and do not utilize any energy.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spills, or hazardous waste that could occur as a result of this proposal? If so, describe.

The only potential environmental hazards associated with this project would be possible spills of chemicals from vehicles used in construction of the culvert enlargement.

The project is not expected to create new areas of stagnant water that could be breeding areas for mosquitoes. Water currently flows in Frenchman Hills Wasteway year-round. Increased flows would occur in April and early May before the start of the main mosquito breeding season.

1. Describe special emergency services that might be required.

The project will not require special emergency services. One purpose of the enlargement of the culverts at Road C SE is to improve safety. The expansion will allow the Frenchman Hills Wasteway to continue to handle flows from a potential canal emergency on the West Canal or Royal Branch Canal in addition to the increased flows to Potholes Reservoir. No additional services are anticipated.

2. Describe proposed measures to reduce or control environmental health hazards.

Spill Prevention and Control Plans will be developed to minimize the potential for spills and to contain any spills on site during construction at the Road C SE crossing.

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)?

There are no noise sources in the area that would affect the project. The project is located in a rural, agricultural area.

2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)?

The only noise generated by the project would be short-term construction noises associated with construction equipment at the replacement of the Road C SE culverts. Several agricultural buildings, including residences, are located to the south and west of the road crossing.

3. Describe proposed measures to reduce or control noise impacts, if any.

No measures are required to reduce or control noise impacts because impacts would be minor and temporary.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

The land adjacent to Frenchman Hills Wasteway is primarily used for irrigated agriculture. The West Canal flows around the town of Quincy, Washington. Some lands to the south of Frenchman Hills Wasteway are undeveloped shrub-steppe as is the area along the Wasteway west of Potholes Reservoir. Frenchman Hills Wasteway is part of the Desert Wildlife Area managed by Washington Department of Fish and Wildlife for recreation purposes. There are three residential properties adjacent to the Wasteway. The construction site is an existing roadway.

b. Has the site been used for agriculture? If so, describe.

Lands adjacent to Frenchman Hills Wasteway are part of the Columbia Basin Project and are used for irrigated agriculture. The project is intended to improve the reliability of water supply to Potholes Reservoir and the South Columbia Basin Irrigation District.

c. Describe any structures on the site.

The only structures on the Frenchman Hills Wasteway itself are road crossings of the Wasteway. A few residential and agricultural buildings are located within a half mile of the Wasteway, but for the most part the area is undeveloped. At the Road C SE crossing, a residence is located on the south bank of the Wasteway to the west of the road.

d. Will any structures be demolished? If so, what?

The only structures that would be demolished are the existing culverts at Road C SE. Those culverts would be replaced with larger, similar structures.

It is unlikely that any structures will be affected by the increased inundation from flows in the Wasteway.

e. What is the current zoning classification of the site?

A variety of zoning classifications are located along Frenchman Hills Wasteway. The majority of the lands are zoned Agriculture with a minimum lot size of 40 acres. The site of the Road C SE crossing is zoned Agriculture.

f. What is the current comprehensive plan designation of the site?

The area along Frenchman Hills Wasteway is designated Agricultural Resources Lands. There are also rural and urban uses near the town of

Quincy. The area at the Road C SE crossing is designated Agricultural Resource Lands.

g. If applicable, what is the current shoreline master program designation of the site?

The Frenchman Hills Wasteway is an artificial waterway that is part of the Columbia Basin Project irrigation system and is not a designated shoreline.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

A series of wetlands are located along Frenchman Hills Wasteway. No wetlands appear to be located adjacent to the Road C SE crossing. The project is exempt from Critical Area Ordinance review because it is part of the operation, maintenance, and repair by Reclamation of facilities for the Columbia Basin Project.

i. Approximately how many people would reside or work in the completed project?

The project will not affect the number of people who reside or work in the area. People who reside adjacent to the Wasteway would continue to live there. No additional staff would be required to maintain the Wasteway.

j. Approximately how many people would the completed project displace?

The project will not displace any people.

k. Describe proposed measures to avoid or reduce displacement impacts, if any.

There would be no displacements; therefore, no measures are required to reduce impacts.

l. Describe proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

The proposal is compatible with existing and proposed land uses and plans. The increased flows may inundate land that is currently used for irrigated agriculture. The inundation will occur in April and early May and may result in portions of irrigate fields being unusable or may require changes in cropping.

Reclamation will work with all landowners affected by increased inundation to determine appropriate mitigation. Mitigation measures may

include purchasing land easements or other compensatory measures. Reclamation will not route the full amount of supplemental water in the Wasteway until funding has been received for acquisition of property or easements and those acquisitions are complete.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units would be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated.

c. Describe proposed measures to reduce or control housing impacts, if any.

No impacts to housing would occur; therefore, no mitigation is required.

10. Aesthetics

a. What is the tallest height of any of the proposed structure(s), not including antennas? What is the principal exterior building material(s) proposed?

The only structures proposed are culverts that would be located under roadways. The culverts will be metal and will replace existing culverts. The culverts will generally not be visible.

b. What views in the immediate vicinity would be altered or obstructed?

No views would be altered or obstructed.

c. Describe proposed measures to reduce aesthetic impacts, if any.

There would be no impacts to aesthetics; therefore, no mitigation is required.

11. Light and Glare

a. What type of light and glare will the proposal produce? What time of day would it mainly occur?

The proposal will not produce any light or glare.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Since no light or glare will be produced, there will be no impacts on safety or views.

c. What existing off-site sources of light or glare may affect your proposal?

No sources or light or glare would affect the project.

d. Describe the proposed measures to reduce or control light and glare impacts, if any.

There would be no impacts associated with light and glare; therefore, no mitigations measures are required.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Frenchman Hills Wasteway is part of WDFW's Desert Wildlife Area. The Wildlife Area provides opportunities for hunting, wildlife viewing, birding, fishing, and boating. WDFW provides access points to the area from county roads. The major access point is north of the intersection of Dodson Road and Frenchman Hills Road. A number of primitive access points with gravel roads and parking areas are located east of Dodson Road. Road C SE provides the only access to recreation and hunting areas to that portion of the Desert Wildlife Area north of the Wasteway. There is a small parking area to the west immediately north of the Road C SE crossing.

Peak recreational use of the area occurs in summer and during the fall/winter hunting season. The waterfowl hunting season ends in late January.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Higher flows in the Wasteway may inundate some of the primitive access points and parking areas east of Dodson Road. This inundation would occur from the end of March to the third week of May when flows are increased in Frenchman Hills Wasteway. Inundation of the access points during this time could affect fishing, boating, and birding opportunities. The higher water levels may improve recreation opportunities such as boating.

Road C SE will be closed for approximately two months during construction to install larger culverts. There is no other access to the area, so construction will block access to public recreation lands to the north of the Wasteway. Construction is being timed to minimize impacts to recreation with construction starting at the end of waterfowl hunting season, a peak recreation period. Recreational use of the area is relatively low during the construction period.

c. Describe proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant.

Impacts to recreation access points will be further evaluated and mitigation measures developed as part of the management plan that Reclamation will develop with WDFW.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on or eligible for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No listed or eligible places were located during a field visit conducted on October 31, 2007 by Paragon Research Associates. The Cultural Resources Report is included in Appendix A.

b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

There are no such places on or next to the site.

c. Describe proposed measures to reduce or control impacts, if any.

The following standard inadvertent discovery language will be added to the permit conditions:

Should archaeological materials (e.g., bones, shell, stone tools, beads, ceramics, old bottles, hearths, etc.) or human remains be observed during project activities, all work in the immediate vicinity should stop. The State Department of Archaeology and Historic Preservation (360-586-3065), the County/City planning office, the affected Tribe(s) and the county coroner (if applicable) should be contacted immediately in order to help assess the situation and determine how to preserve the resource(s). Compliance with all applicable laws pertaining to archaeological resources (RCW 27.53, 27.44 and WAC 25-48) is required. Failure to comply with this requirement could constitute a Class C Felony.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on-site plans, if any.

The Frenchman Hills Wasteway is accessed by local and county roads. The project area is located south of Interstate 90 and north of State Route 26 (Figure 1). State Route 262 connects State Route 62 to the Potholes Reservoir area. The Wasteway is crossed by Dodson Road and Road C SE.

Road C SE is a two-lane gravel, county road that extends north from Frenchman Hills Road (Road 7 SW) to public lands in the Desert Wildlife area and the Potholes Sand Dune area.

b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

There are no public transit facilities in or near the project area.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The project will not have any parking spaces and will not permanently eliminate any parking spaces. Higher water levels in the canal may inundate primitive recreation access points and reduce parking during the high water period of April and May, as discussed in Section B.12 above. The inundation will not coincide with the peak recreation periods for summer recreation or hunting.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe.

The project will not require any new roads, but does require expansion of the culverts at Road C SE. To accommodate the larger culverts, the roadway may be raised approximately 6 inches on the south side, but is not expected to be raised on the north side. The roadway crossing will also be widened to meet current county standards. The existing road surface on the crossing is approximately 16 feet wide. The new roadway surface will total approximately 28 feet wide with a 20-foot roadway and 4-foot shoulders on each side. The shoulders will be separated from the roadway by jersey barriers. The existing roadway will not be widened, but the width will be tapered to match the wider crossing.

Installation of the culverts will require temporary closure of the road. Construction is expected to last approximately two months. The road

closure will block access to a recreation area, but will not block access to any residences or agricultural areas.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project will not use or occur in the immediate vicinity of water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The project will not generate any additional vehicular trips. The current trips for occasional maintenance will continue. There would be temporary increases in traffic during construction of the enlarged culverts at Road C SE.

g. Describe proposed measures to reduce or control transportation impacts, if any.

The roadway to the south of the Wasteway crossing will remain open during construction allowing access to the residence south and west of the road crossing. Construction is being timed to minimize impacts to recreation by closure of the roadway.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally explain.

The project would not result in an increased need for public services.

b. Describe proposed measures to reduce or control direct impacts on public services.

No impacts to public services are anticipated; therefore, no measures to reduce impacts are required.

16. Utilities

a. Underline utilities currently available at the site:

Electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic systems, other

A variety of utilities are located in the general project area. Electrical and telephone lines are located adjacent to roadways, including Road C SE. These utilities would not be affected or disturbed by the project.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities are proposed for the project.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name (print): _____

Title: _____

Date Submitted: _____

REFERENCES

Seattle Audubon Society. 2007. BirdWeb. Desert Wildlife Area. Accessed at http://birdweb.org/birdweb/birding_site_details.aspx?id=47&ecoregion=10. Viewed November 1, 2007.

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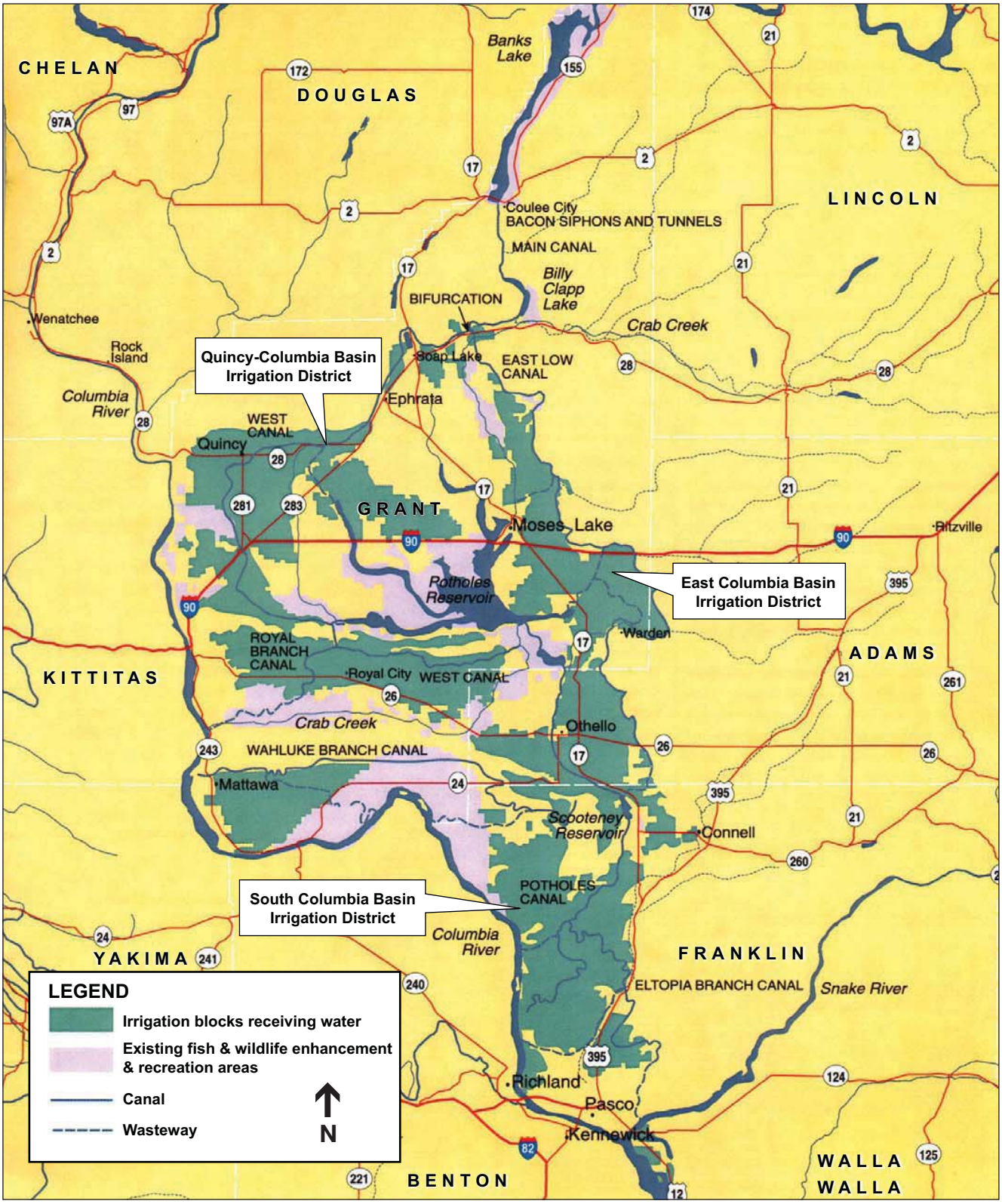
U.S. Bureau of Reclamation (Reclamation), Pacific Northwest Region. 2007b. Technical Memorandum Alternative B—Frenchman Hills Wasteway. Potholes Reservoir Supplemental Feed Route Draft Environmental Assessment. April 2007.

U.S. Natural Resources Conservation Service (NRCS). 2005. Soil Survey of Grant County, Washington.

FIGURES

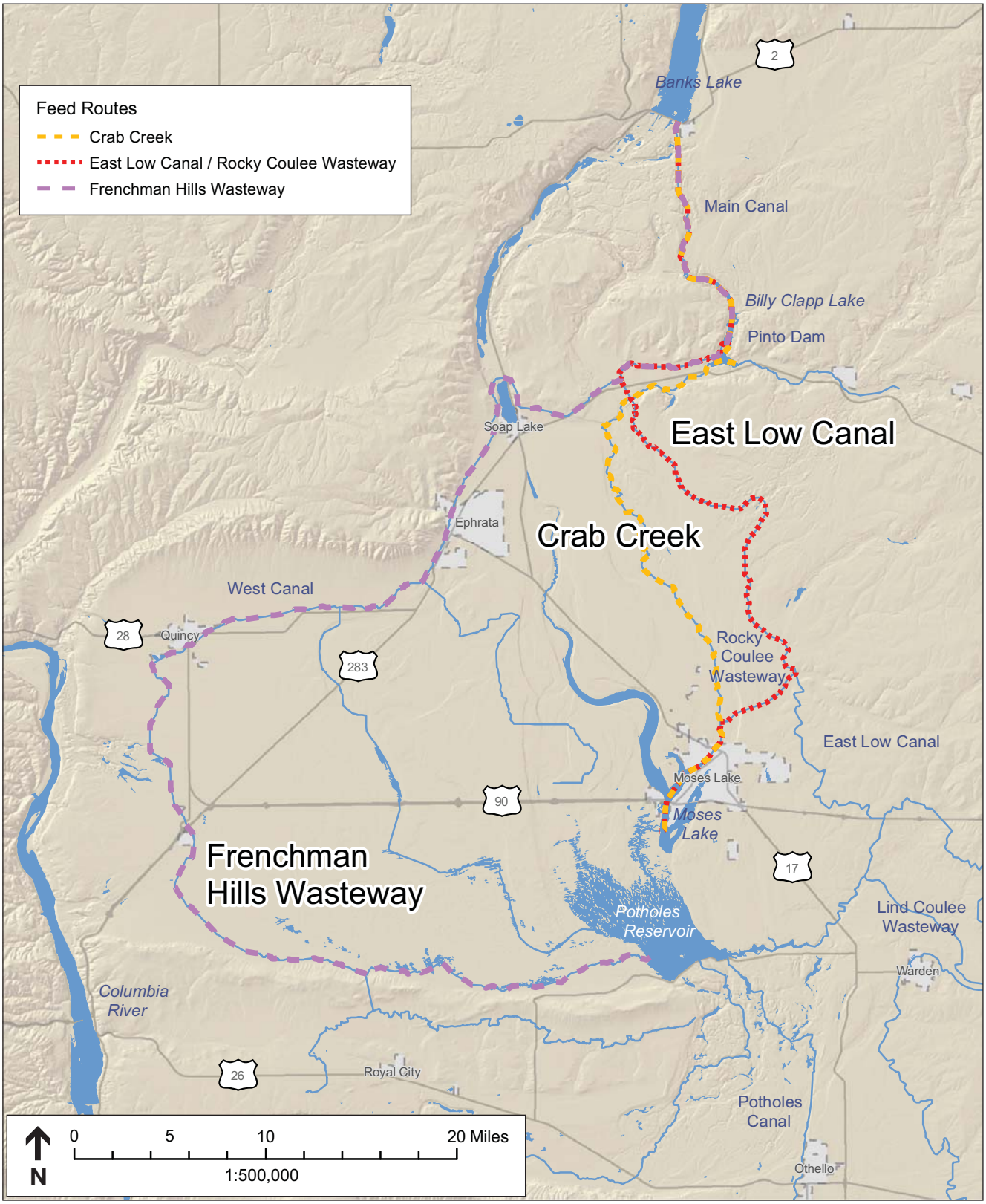


FILE NAME: Fig01_ColumbiaBasin.ai/ SEPA Checklist
CREATED BY: JAB / DATE LAST UPDATED: 11/13/07

Potholes Reservoir Supplemental Feed Route — Frenchman Hills Wasteway . 207301

SOURCE: Montgomery Water Group, 2006.

Figure 1
Columbia Basin Project
Washington



FILE NAME: Fig02_FeedRtes.ai / SEPA Checklist
CREATED BY: JAB / DATE LAST UPDATED: 11/30/07

Potholes Reservoir Supplemental Feed Route — Frenchman Hills Wasteway . 207301

SOURCE: Bureau of Reclamation.

Figure 2
Proposed Supplemental Feed Routes
Washington

FILE NAME: Fig03_RdC_crossing.ai / SEPA Checklist
CREATED BY: JAB / DATE LAST UPDATED: 01/14/08

Potholes Reservoir Supplemental Feed Route — Frenchman Hills Wasteway . 207301

SOURCE: Bureau of Reclamation, 2007.

Figure 3
Road C SE Crossing and Staging Areas
Washington

APPENDIX A – CULTURAL RESOURCE REPORT

CULTURAL RESOURCES SURVEY OF THE ROAD C SOUTHEAST CROSSING AT THE FRENCHMAN HILLS WASTEWAY FEED ROUTE, GRANT COUNTY, WASHINGTON

Prepared by:

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PARAGON RESEARCH ASSOCIATES

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November 2007

INTRODUCTION

Paragon Research Associates, LLC (PRA) was retained by ESA Adolfson to conduct a cultural resources assessment of the proposed Road C SE Wasteway crossing in Grant County, Washington. The project is located at the crossing of Road C SE and the Frenchman Hills Wasteway approximately 12 miles southwest of the Town of Moses Lake. The project area is within the SE quarter of Section 9 and the SW quarter of Section 10, Township 17 North, Range 27 East, on the Royal Camp 7.5' Series Quadrangle (Figure 1).

The current proposed action is for the Washington State Department of Ecology (Ecology) to issue a construction stormwater permit to the US Bureau of Reclamation (Reclamation) to temporarily stop the flow within the Frenchman Hills Wasteway in order to upgrade the Road C SE Crossing; Ecology and Reclamation are co-proponents of the project. The SEPA action is issuance of the construction stormwater permit. It is possible that Ecology will also issue a Section 401 permit although no Section 404 permit will be required from the US Army Corps of Engineers.

Previous environmental work related to the larger project includes a Technical Memorandum (Thomas and Lillywhite 2007) and an environmental assessment (EA) completed for the Potholes Supplemental Feed Route (Reclamation 2007); the EA had a Finding of No Significant Impact (FONSI). The project area falls within the boundaries of the Desert Wildlife Area (which is maintained by the Washington State Department of Fish and Wildlife) and along the Frenchman Hills Wasteway (which is managed by Reclamation).

PROJECT DESCRIPTION

Reclamation is proposing to upgrade the Frenchman Hills Wasteway Road C SE Crossing. Upgrading the crossing will enhance the safety and reliability of the Frenchman Hills Wasteway which is one of the supplemental supply routes for the Potholes Reservoir. Plans call for removal of the existing corrugated metal culverts, and replacing them with larger pipes. This will increase the maximum design flow capacity from 840cfs to 1500cfs. The project area encompasses the Road C SE prism (from the southern end of the crossing north approximately 120 m), a small buffer on either side of Road C SE, and the parking area north of the Wasteway and west of Road C SE. Construction activities along Road C SE include the building of a coffer dam across the upstream and downstream side of the crossing, removal of the road travel layer, excavation and removal of the existing metal pipes, placement of new metal pipes, and the replacement of excavated fill and surface materials. Activities within the parking area consist of the stockpiling of the removed surface and fill material and the staging of equipment and supplies. The project is approximately 1.5 acres in area.

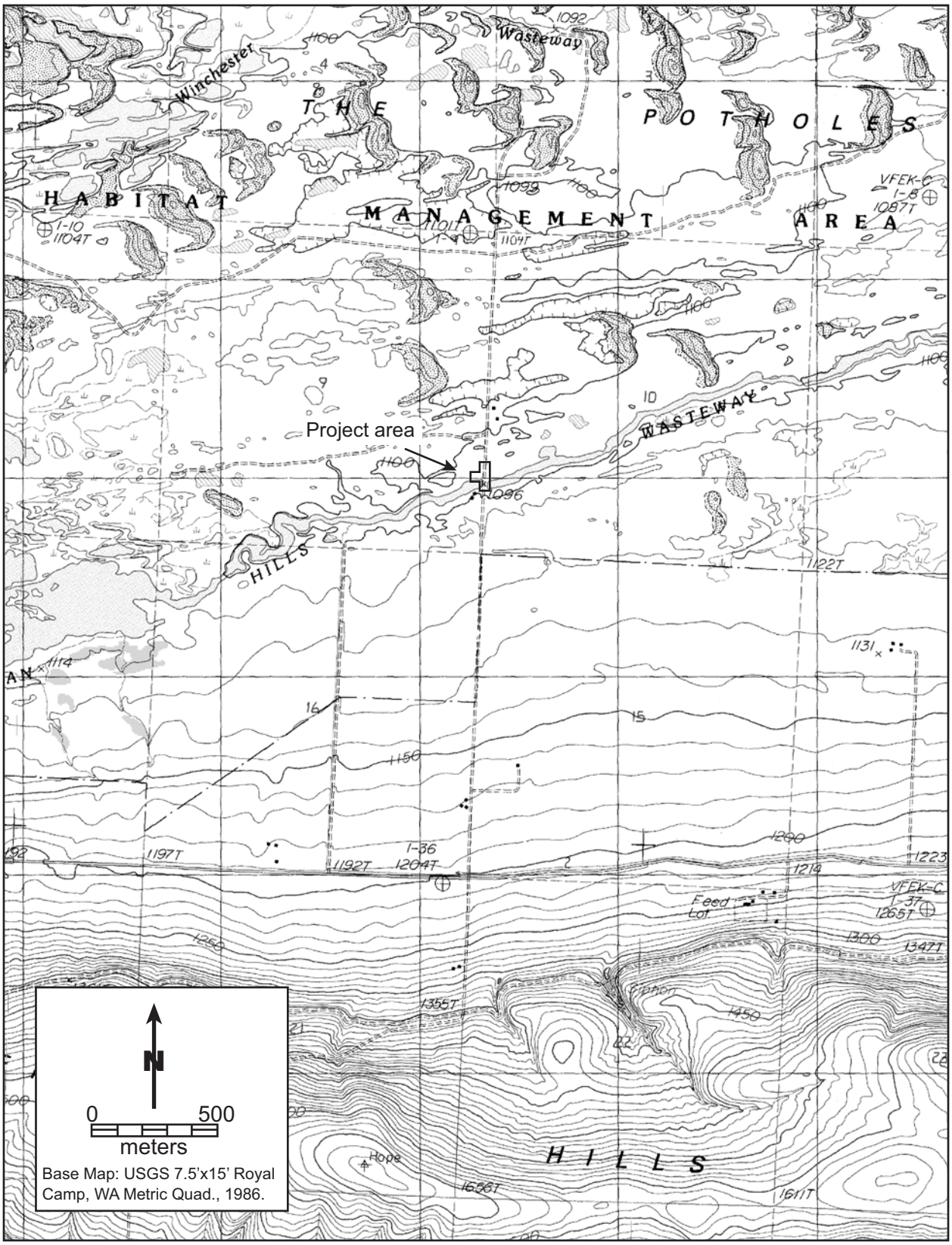

Figure 1. Map of the project area.

PRA conducted a review of public records and archives relevant to the Road C SE Crossing Project. Previous research, state records, and historic materials were examined in search of documented, potentially significant cultural resources and traditional cultural properties in the project area. Relevant documents were examined from multiple sources including: the Department of Archaeology and Historic Preservation; US Surveyor General Land Office Maps (GLO); the Bureau of Land Management Master Title Plot and Historic Index; Washington Digital Archives; and the University of Washington and Central Washington University Libraries.

ENVIRONMENTAL SETTING

The Road C SE Crossing Project lies along Frenchman Hills Wasteway, which is one of the supplemental feed routes for the conveyance of water to Potholes Reservoir. Frenchman Hills Wasteway is used to capture runoff from upland irrigation activities, as well as diverting water from Billy Clapp Reservoir (via the Main Canal and West Canal) to Potholes Reservoir during the spring when the use of other feed routes is restricted. The Frenchman Hills Wasteway canal has been channeling irrigation runoff since the implementation of the Columbia Basin Irrigation Project in the early 1950s. Documentation for initial use of the lower reaches of Frenchman Wasteway (near the project area) is poor. The first evidence for the Wasteway, within the project area, is observed on the 1965 15' USGS Corfu Quad. The 1951 15' USGS Corfu Quad does not show the Wasteway.

Prior to the use of the waterway the area was considered a typical Shrub Steppe environment (both shifting and stabilized sand dunes supporting grasses and sage) (Chatters 1998). Today, as a result of irrigation runoff, the project area is strewn with ponds and streams. These new riparian habitats support a thriving bird population and are under state protection as the Desert Wildlife Area.

The project area lies within the Columbia River Plateau, a large basin formed by a series of lava flows that covered much of Idaho, Eastern Oregon, and Eastern Washington 5-15 million years ago. Following basalt flows the immediate area was bisected by a series of faults which created the Saddle Mountains and Frenchman Hills. The landscape was subsequently molded by several massive floods that swept westward across Washington sheering basalt bedrock, carving channels, and leaving large pockets of sediment.

The predominant soil type in the project area is Wanser-Quincy sand. The Wanser Series is characterized as "deep, poorly drained soils formed in sand from mixed sources" (NRCS 1999). Slopes range from 0-12% and soils are often located on floodplains. These soils are typically moist due to high water table.

The climate within the project area can be characterized as primarily arid with warm temperatures and ample amounts of sunshine. Low average rainfall (16-30 cm annually), a product of the rainshadow effect associated with the Cascade Mountain Range, combines with relatively warm temperatures to create a desert-like

environment. The dominant vegetation is consistent with the *Artemisia tridentate /Agropyron spicatum* (sage and grasses) habitat type (Chatters 1998). The project area also contains riparian vegetation that was not historically present and is a byproduct of the Frenchman Hills Wasteway. The riparian vegetation is a mixture of native/nonnative species and includes willows (*Salix* ssp.), tule (*Schoenoplectus acutus*), cattails (*Typha latifolia*), Russian Olive (*Elaeagnus angustifolia*), and grasses. The fauna found within the project area has also been influenced by the construction of the Wasteway. In addition to the desert fauna typically supported by the shrub steppe vegetation region, waterfowl have become extremely abundant. The Frenchman Hills Wasteway, in association with the Potholes Reservoir, has created an environment conducive to the breeding and habitation of waterfowl.

PREVIOUS CULTURAL RESOURCE STUDIES

Previously Recorded Cultural Resources

The records search conducted at DAHP in preparation for this project resulted in the identification of no previously recorded cultural resources within two miles of the project area. 45GR20, a collection of boulders originally thought to be a burial site and later determined to be a series of hearths, is the nearest recorded archaeological site. 45GR20 is located approximately three miles southwest of the project area.

Previous Cultural Resource Surveys

Two cultural resource surveys have been conducted within two miles of the project area. No surveys have been conducted within the project area.

In 2004, a 30-acre survey was conducted approximately one mile northwest of the project area for the Frenchman Hills Wasteway Wetland Enhancement Project (Carmack and DeLeon 2004). Reclamation staff conducted the survey on Washington Department of Fish and Wildlife and Reclamation land. The survey is located within the Desert Wildlife Area (DWA) which also encapsulates the project area for the Road C SE Crossing. Background research and pedestrian survey were performed. No cultural materials, traditional cultural properties, or historic properties were identified. Reclamation archaeologists concluded that the wetlands project would have no adverse effects on identified historic resources.

In 1997 Archaeological and Historical Services conducted a cultural resource inventory on 23 tracts of land scheduled for disposal as part of the Columbia Basin Resource Management Plan (Boreson 1998). A 24-acre tract (labeled Tract 17 27 23, Royal Camp Quadrangle) is located approximately two miles southeast of the project area. This tract was surveyed and no archaeological sites were identified. No further archaeological work was recommended within this tract of land.

Expectations for the discovery of archaeological resources within the project area are low due to harsh environmental conditions, lack of historical natural water, sparse vegetation, and Aeolian sediments.

ETHNOGRAPHY AND HISTORY

The Road C SE Crossing Project lies within the Columbia Plateau culture region, an area traditionally used by the Wanupum, Sinkiuse, Spokane, Palouse, and Columbia people (Spier 1936; Walker 1998). Generally, groups maintained a riverine settlement pattern. Seasonal resource procurement guided movement throughout the region, with the reliance on temperate riverine environments for winter habitation (Ames et al. 1998).

There are no known ethnographic villages near the project area. The closest known village is approximately 30 miles west on the Columbia River. Ray describes the village as:

> *kawa'xtcin* ("living on the banks").
>
> The mouth of Rock Island creek, at the Columbia River, was the site of this important village.
>
> "Half Moon" was the last chief of this group. (Ray 1936:143)

The project area lies near the ethnographic boundary of the Salishan and Sahaptian language families (Kinkade et al. 1998).

The area saw sparse Euro-American contact prior to 1870 (mainly fur traders, surveyors, and stockman). Due to general lack of water within the project area settlement and industry developed slowly. Cattle grazing and dryland farming were attempted but the return was low. The cattle industry and farming did not fully take hold until the implementation of the Columbia Basin Irrigation Project in the 1950s. Today farming is the major industry throughout the region.

No homes or structures were noted on the 1881 GLO survey (Figure 2) and the Master Title Plot showed no acquired donation claims before 1896. According to the Historic Index and the Master Title Plot the Northern Pacific Railroad acquired the Section 9 (T17N, R27E) portion of the APE in 1896. The portion of the APE within Section 10 (T17N, R27E) was acquired in 1919 as a homestead by William G. Harris. The 1920 and 1930 Census reports state that Harris raised cattle and farmed with his family in Grant County. The 1923 and 1951 USGS Corfu Quads show at least one historic structure at the approximate location of the Wasteway within what appears to be the project area. The 1965 Quad shows the Frenchman Hills Wasteway, but no structure.

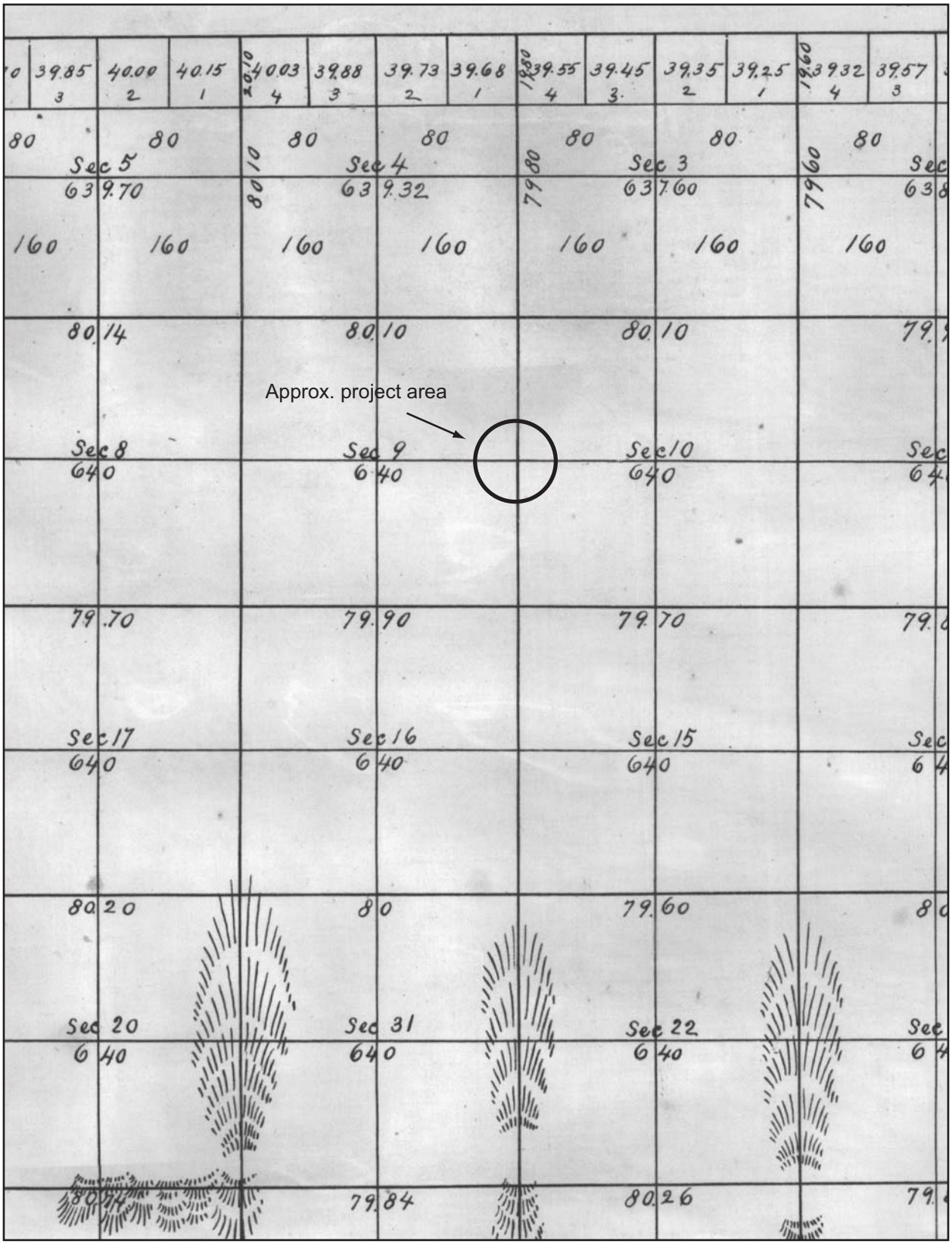

Figure 2. Historic map of project area. Source: US Surveyor General, 1881.

FIELD METHODS

PRA Archaeologist Bryan Hoyt conducted an archaeological survey of the project area on October 31, 2007 (Figures 3, 4, 5, and 6). Weather conditions were cool and clear with a temperature in the mid-40s. Hoyt walked a total of seven transects, spaced approximately 10 meters apart, in a north/south direction across the project area. Two transects were located on either side of Road C, and the other five transects were located within the parking area west of Road C. The northern shoreline of the Wasteway, along the south boundary of the parking area, was not surveyed due to dense riparian vegetation. Two 50 x 50 cm shovel probes were excavated within the parking area (Figure 7) using a round nose shovel. Sediment from each probe was screened through ¼" mesh, and the pits were backfilled. Hoyt recorded notes on his observations and took photographs. The location of the structure noted on the 1923 and 1951 USGS quads was also investigated.

RESULTS

Pedestrian survey and subsurface probing of the project area revealed no precontact or historic cultural resources. The area along and adjacent to Road C has been heavily impacted by road building activities and Wasteway construction. The prism associated with the construction of Road C ranges between 40 cm on the south end of the project area to 120 cm at the north end. At the intersection of Road C and Frenchman Hills Wasteway ground disturbance may reach depths greater than 200 cm due to placement of the piping. The eight corrugated metal pipes were examined and determined not to be historic in age. The corrugated metal stand pipe structure, and associated metal walkway, at the southwest corner of the project area were also determined to be less than 50 years in age. Hoyt was not able to locate either the structure, or associated features, noted on the 1923 and 1951 USGS Quads which is not unexpected as the 1965 quad shows the Frenchman Hills Wasteway at the location of the structure.

Ground visibility was at 100% along Road C, however this area appears to have been completely disturbed. Visibility within the parking area was at approximately 40% and is obscured by short grasses. There is no ground visibility throughout the remainder of the project area due to tall grasses, thistle, tule, cattails, and other riparian vegetation.

Shovel Probes 1 and 2 revealed Aeolian brown medium sands consistent with stabilized sand dunes. No stratigraphic changes were observed in either unit. Recent trash was noted within the top 15 cm of both units. No other cultural resources were documented. A brief description of the shovel probes is found below.

Shovel Probe 1: Located on the northern boundary of the parking area, grasses obscure 80% of the surface. 0-103 cmbs: loose brown medium sized sand with many small roots and one semirounded basalt gravel at 60 cmbs. Less than 5 pieces of recent garbage and 3 pieces of clay pigeon observed in the top 15 cmbs. Soil became slightly moist with increasing depth. The amount of roots decreased with depth.

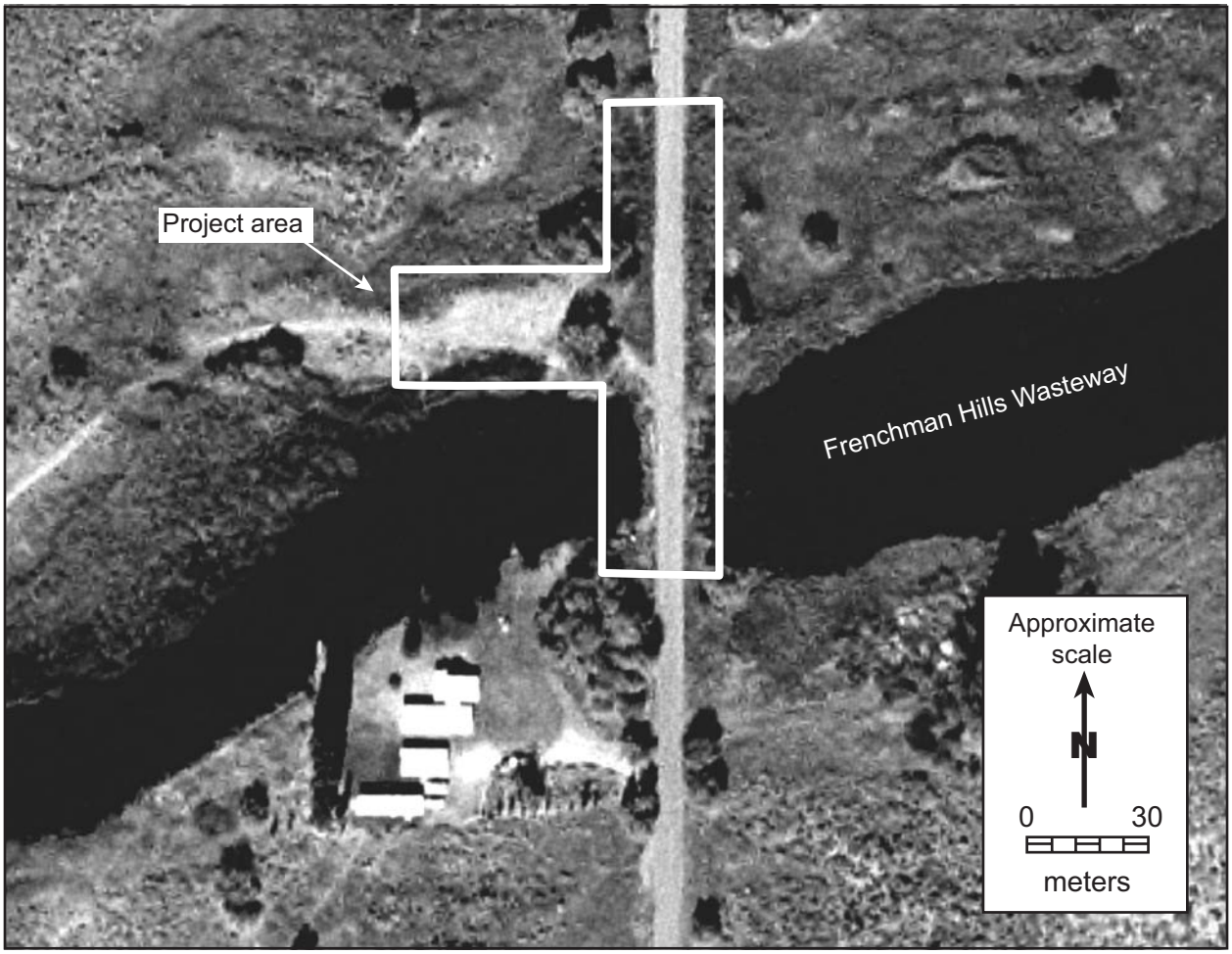

Figure 3. Aerial view of the project area. Photo source: US Bureau of Reclamation.

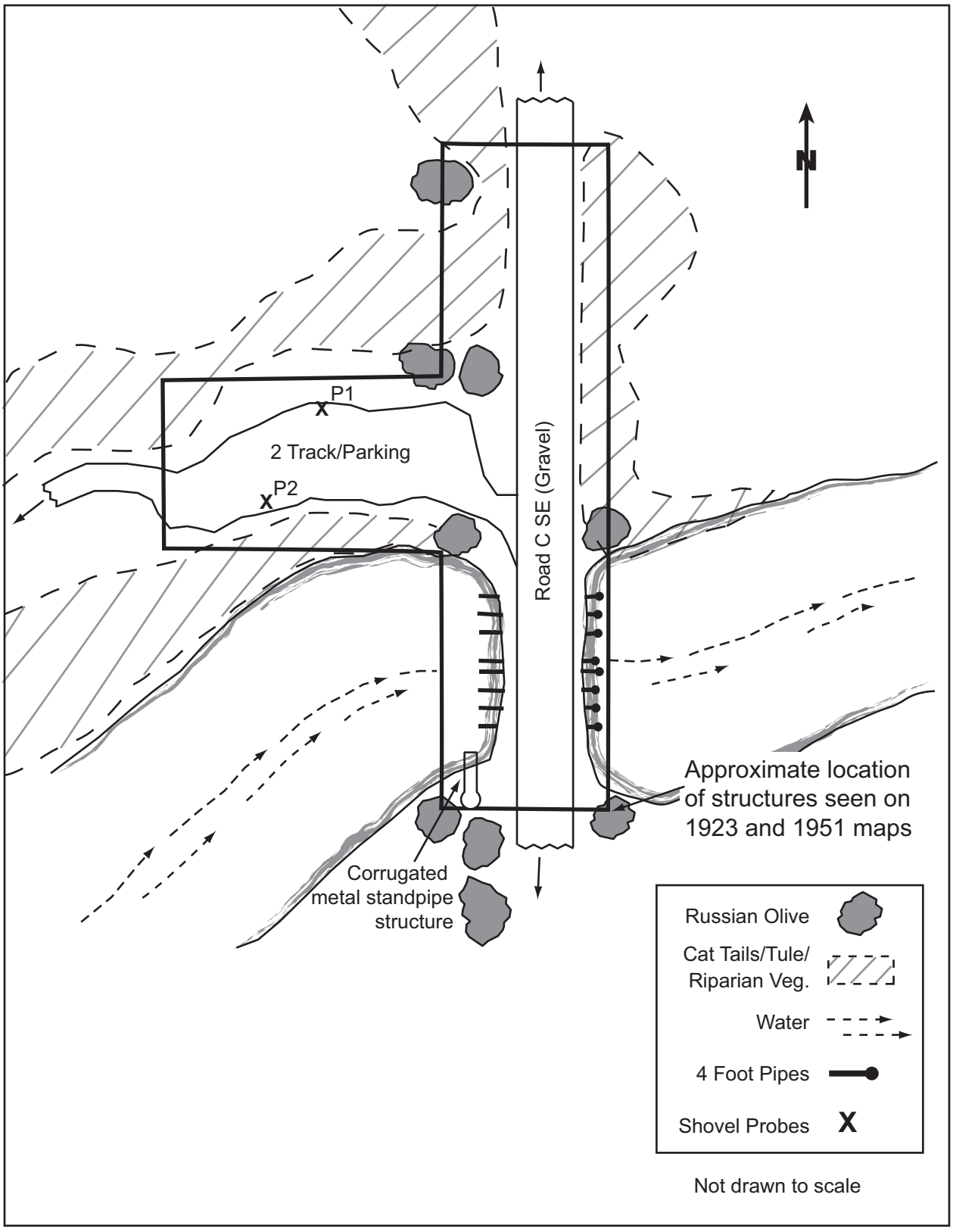

Figure 4. Field sketch of the Road C Crossing SE project vicinity.

Figure 5. North facing project area view, note road prism above Wasteway pipes.

Figure 6. South facing view of the project area, note raised road prism and riparian vegetation.

Figure 7. Southeast facing view of Shovel Probe 1 and parking area north of the Wasteway and west of Road C SE.

Shovel Probe 2: Located on the southern edge of the parking area, near the southeast corner of the small road that heads west adjacent to the Wasteway. The surface is almost completely obscured by grasses. 0-54 cmbs: loose brown medium sized sand with many small roots and no gravel. 4 pieces of recent garbage were observed in the top 15 cm.

RECOMMENDATIONS

No cultural resources were identified within the project area as a result of pre-field research, surface survey, and subsurface examination. Proposed construction activities along Road C, which includes minor excavation of the road grade and replacement of pipes, are not expected to impact cultural resources. The planned depth of excavation will not exceed the depth of previously disturbed sediments. Stockpiling activities in the parking area will not require excavation; however these sediments have no evidence of prior disturbance. Cultural resources are not expected to be impacted provided construction activities within the parking area proceed as planned. No further archaeological work is recommended for this project.

Although the probability of encountering archaeological resources is considered low inadvertent loss, damage, or alteration to cultural resources is possible with any construction project. If archaeological resources (e.g. artifacts, historic features,

prehistoric sites, human remains, etc.) are encountered during construction, work in the immediate area of the discovery should be stopped immediately and the Ecology and Reclamation Project Managers should notify the Department of Archaeology and Historic Preservation. Further mitigation of the discovery will be coordinated with DAHP and other stakeholders.

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