CITY OF PENDLETON STORMWATER INFRASTRUCTURE IMPROVEMENT PROJECTS

State Environmental Review Process Document

Prepared for

City of Pendleton

June 2017

CONTENTS

LIST OF TABLES

1.0 INTRODUCTION

The City of Pendleton (City) is requesting financing for municipal stormwater infrastructure improvements through Oregon's Clean Water State Revolving Fund (CWSRF), administered by the Department of Environmental Quality (DEQ). On behalf of the City, Environmental Science Associates has prepared this document to satisfy requirements of the State Environmental Review Process (SERP) for the proposed improvements. The format and content of this SERP document follows guidance presented in the DEQ's *Applicant Guide to the State Environmental Review Process* (DEQ, 2012). The purpose of this SERP document is to provide the DEQ with the information necessary to determine the potential for environmental impacts and support informed decision-making about the allocation of state financing.

Supporting information for this SERP document is contained in the following documents:

Wetland Water Resources Report

Biological Evaluation

1.1 Project Location and Overview

The City of Pendleton is in Umatilla County, located approximately 200 miles east of Portland in Township 3 North, Range 32 East, Section 31 and Township 2 North, Range 32 East, Section 5, Willamette Meridian, within the lower Umatilla River Basin. The City is situated in the Columbia River Plateau just west of the foothills of the Blue Mountains, which extend from northeastern Oregon to southeast Washington. The terrain downtown and along the Umatilla River is relatively flat, with rolling hills rising to the south and north of city center. According to the City of Pendleton Land Use Zoning Map, published in April 2015, the properties range from residential (low density to high density) to heavy industrial. Elevations range from approximately 950 feet to over 1,500 feet above mean sea level.

The Umatilla River flows westerly through the City and joins the Columbia River approximately 40 miles downstream. Tributaries of the Umatilla River in the Pendleton vicinity include Wildhorse Creek, Tutuilla Creek, McKay Creek and Nelson Creek.

The City's stormwater system consists of approximately 46 miles of gravity drainage piping, 646 manhole structures, 3.5 miles of open channels, and 15 flow control facilities (MSA, 2015). The 73 outfalls within the City's system drain into the Umatilla River and its tributaries. Of these 73 outfalls, 38 discharge directly into local waterways, with the remainder discharging to ditches, drainages or other manmade drainage structure (MSA, 2015). The City's levee system along the Umatilla River comprises approximately 3.5 miles of embankment.

The 43 stormwater system improvements addressed in this SERP document were identified by the City as part of its Capital Improvement Program (CIP) 5-year infrastructure master planning efforts. The stormwater conveyance system downtown where improvements are proposed was constructed between 50 and 100 years ago, and the undersized pipes occasionally lead to flooding in the streets following high-intensity, short duration storms that occur periodically in the summer (MSA, 2015). The

43 proposed projects address existing and future capacity deficiencies and ongoing repair and replacement of aging stormwater infrastructure.

2.0 PROJECT DESCRIPTION

The City has identified 43 stormwater infrastructure upgrades in the City's downtown area as part of its 5-year infrastructure master planning efforts. This downtown sub-drainage area is almost 100 percent built-out. Run-off from the downtown area is ultimately discharged to the Umatilla River via outfalls on the south bank above ordinary high water line (MSA, 2015). No new impervious surface or increased capacity of storm conveyance is proposed at this time. The projects also do not involve the construction of new or upgraded stormwater outfalls or any work within rivers or streams.

Each of the proposed stormwater projects as identified in

Table 1 will replace and upgrade existing stormwater infrastructure. All of these pipes are located within existing developed areas. Storm pipes in the downtown area range in size from 8 inches to 16 inches; most are likely made of terra-cotta and would be replaced with PVC material. Existing 8-inch pipes would be replaced with 16 to 24 inch diameter pipes; 10-inch pipes would be replaced with 24-inch pipes, and 12-inch pipes would be replaced with 18 to 30-inch pipes. Affected streets include SW Court Ave., SW Dorion Ave., SW Emigrant Ave., SW Frazer Ave., SW Goodwin Avenue, and SW. 5th Street, as shown in Appendix A[1].

A detailed construction schedule for the proposed stormwater system improvements has not been developed. Construction would likely occur in the summer months and require either lane or entire street closures. Equipment for the various stormwater infrastructure upgrades may include excavators, backhoes, loaders, compactors, pipe cutters, dump trucks, flatbed trucks, pickup trucks, and other machinery and tools. No impact pile driving, blasting, or other activities that produce extremely high noise levels will be conducted as part of this project. The loudest activities will be associated with the use of jackhammers or hoe rams to break up existing pavement. Construction stockpiling and staging areas for the project will be within already developed areas and cleared portions of the site.

The proposed projects will not involve in-water work or disturbance to riparian areas of the Umatilla River or its tributaries. As all construction will occur within footprint of an existing facility, dewatering of excavations is not expected to be needed. The City will require construction contractors to prepare and implement erosion and sediment control plants for individual projects, to minimize the potential for soil erosion and sediment-laden runoff.

[1] All figures for this SERP document are contained in Appendix A.

Table 1. Proposed 5-year stormwater infrastructure projects evaluated in this SERP Document

Project ID	Existing Diameter	New Diameter		Project ID	Existing Diameter	New Diameter
*CDT-167	8''	12"		4428	12''	18"
*4822	8''	12"		4695	10''	24"
*4827	8''	12"		4696	8''	24"
*4835	8''	12"		4807	24''	36"
*4836	8''	12"		4823	8''	12"
3605	6''	8"		4824	8''	12"
3606	12''	24"		4825	8''	24"
3608	12''	30"		4826	8''	12"
3609	8''	24"		4974	12''	30"
CDT-111	10''	24"		4979	8''	24"
CDT-113	10''	24"		4980	14''	24"
CDT-161	24''	36"		4981	14''	24"
3617	12''	24"		4982	12''	24"
3629	24''	36"		4983	12''	24"
3642	8''	18"		4985	10''	24"
3645	8''	18"		4986	12''	24"
3646	8''	18"		4987	10''	24"
3724	10''	36"		4988	10''	24"
3725	10''	36"		4989	10''	24"
4425	10''	24"		4991	12''	18"
4426	10''	24"		5014	8''	10"
4427	10''	24"				

*Cultural and Historic Resources: located within South Main Street Commercial Historic District

3.0 CROSS-CUTTING AUTHORITIES

The term "cross cutters", as it relates to DEQ's SERP requirements, refers to the applicable federal environmental laws and Executive Orders for which a CWSRF applicant must demonstrate project compliance. The following subsections 3.1 through 3.9 address the cross cutters listed in subsections 3.1 through 3.9 of DEQ's *Applicant Guide to the SERP*, using the methods of analysis outlined in that document.

3.1 Historic/Cultural Resources – (NHPA) 1966 & (AHPA) 1974

DEQ's SERP guidance (2012) states the following with respect to cultural and historic resources:

> *Consult with Oregon's State Historic Preservation Office (SHPO) to determine whether any information exists to indicate that the project area is likely to contain cultural resources. If not, document the SHPO response in the environmental report for the project.*

A letter describing the proposed projects was sent to the Confederation Tribes of the Umatilla Indian Reservation on April 13, 2017 (Appendix B[2]). The Tribe was contacted again on June 8, 2017, and still no response has been received back.

A letter describing the proposed projects was also sent to SHPO on April 13, 2017. This project was assigned SHPO Case Number 17-0674. SHPO responded by letter on May 12, 2017 stating:

> *Our office believes that the likelihood of finding archaeological resources in the project area is very high. We recommend doing extensive tribal consultation to help identify prehistoric archaeological resources and a robust historical background to identify historical resources. The thoroughness and outcome of the background research will help determine whether our office recommends monitoring or testing in areas where asphalt is already present. In areas where bare soil remains our office recommends pedestrian surveys and shovel probes, especially in those areas near the river, or in the vicinity of past river channels.*

The City of Pendleton has been a Certified Local Government (CLG) since 2014 by the State Historic Preservation Office (SHPO). Each CLG is responsible for maintaining an historic preservation commission and complying with OAR 660-023-0200, Goal 5, which specifies that local government must, among other things, protect National Register resources. The National Register of Historic Places (NRHP) and recommendations of the State Advisory Committee on Historic Preservation was used in designating historic sites on the City's Local Landmark Register. A records search of the City's Landmark Register and the NRHP for listed districts, sites, buildings, structures, and objects was conducted. The City has a registered National Register Historic District (South Main Street Commercial Historic District). Two projects (4835 and 4836) within the right-of-way of SW Emigrant Ave., are within the Historic District. Two additional projects (CDT-167 and 4827) within the right-of-way of SW Dorion Ave., run north of the

[2] All correspondence for this SERP document is contained in Appendix B.

Historic District boundary. There are historic properties adjacent to these four projects. SHPO deferred recommendations for paved areas until background research is conducted. The concluded that no effects are anticipated to known historic resources. Projects that may be adjacent to recorded historic resources or within the S. Main St. Historic District, will require all construction activities to be confined to the existing right-of-way.

A records search of SHPO's online GIS for Archaeological Records Data was conducted on April 5, 2017, to identify any previously recorded historic or precontact cultural resources or cultural resources surveys within a two mile radius of the project area[3]. There have been 20 previous cultural resources studies within two miles of the Urban Growth Boundary (UGB).

The background review of readily available cultural/historic data suggests there is a high probability for precontact and historic cultural resources due to its proximity to the Oregon Trail and the Umatilla River. Two archaeological sites recorded within two miles of the proposed Stormwater Improvements are early 20th century refuse scatters consisting of bottle and ceramic vessel fragments, cans, and structural materials (Baker et al. 2001; Musil 2015). The depth of archaeological materials was up to 70 centimeters (2.3 feet) below the surface. The proximity of the stormwater improvements to the Umatilla River suggests the project has a high likelihood for encountering buried cultural resources. Prehistoric and historic archaeological resources, if present, are likely to contain surface and subsurface components.

SHPO recommends monitoring for paved areas of the project area. Monitoring will be conducted under the terms of an archaeological resources monitoring plan. The monitoring plan will integrate the results of the background research and outline the project elements that will be monitored and thresholds for changing the level of effort for monitoring.

3.2 Protection of Wetlands – EO 11990 (1997)

DEQ's SERP guidance (2012) states the following with respect to protection of wetlands:

> *Complete a Wetland Determination Request form and submit to DSL (allow 30 days response). After reviewing the form, DSL will determine if additional investigations or mitigation measures are required.*

A wetland delineation was performed for the project and submitted to DSL for concurrence on April 26, 2017 (WD 2017-0185). The wetland water resource delineation identified no wetlands and only one jurisdictional stream (the Umatilla River) within the defined study area.

There will be no impacts to either wetlands or jurisdictional waterbodies. All of the proposed stormwater infrastructure upgrades are within the developed footprint of an existing facility. The City will require construction contractors to prepare and implement erosion and sediment control plans for

[3] because the various improvements are throughout the city, the Urban Growth Boundary (UGB) was considered the project area

individual projects, to minimize the potential for soil erosion and sediment-laden runoff leaving the project sites during and after construction.

3.3 Floodplain Management – EO 11988 (1977) & EO 12148 (1979)

DEQ's SERP guidance (2012) states the following with respect to floodplain management:

> *If project is outside a 100-year floodplain and no impact has been identified, the action may proceed without further consideration of the remaining procedures. Documentation within the file should include at a minimum of FIRM plate maps references.*

All of the proposed stormwater projects are located outside of any designated flood hazard area, as indicated on the FEMA maps provided in Appendix A of this SERP document. The projects will not impact 100-year base flood elevations, and no floodplain permit from the City is required for the project.

3.4 Farmland Protection Policy Act (1981)

DEQ's SERP guidance (2012) states the following with respect to farmland protection:

> *There is no need for consultation with the Natural Resource Conservation Service (NRCS) when all work of the project is either:*
>
> *a. On previously disturbed land within the footprint of an existing facility or*
>
> *b. Inside the incorporated limits of a city.*
>
> *Make sure the environment document provides information from which DEQ can verify the basis of determination.*

The proposed stormwater system improvement projects are located entirely within the incorporated city limits of Pendleton. Although there are several portions of the City's urban growth boundary (UGB) that have been designated as Exclusive Farm Use (EFU) by either Umatilla County or the City, none of the proposed stormwater system projects are located within these areas, as indicated in Appendix A of this SERP document.

3.5 Coastal Zone Management Act (1972)

In Oregon, coastal zone management applies to Clatsop, Columbia, Tillamook, Washington, Yamhill, Lincoln, Polk, Benton, Lane, Douglas, Coos, and Curry counties. The proposed stormwater system projects are located within Umatilla County, outside of Oregon's coastal zone.

3.6 Wild & Scenic Rivers (1968)

The proposed projects are located within the Umatilla Watershed (HUC8 ID# 17070103). There are no rivers in the Umatilla Watershed that are designated as Wild & Scenic on the National Wild & Scenic River System (National Wild & Scenic River System, 2017).

3.7 Endangered Species & Habitat (1973) and Essential Fish Habitat (1976)

A Biological Evaluation (BE) was prepared for the proposed stormwater infrastructure projects. The purpose of this BE was to determine the potential effects of project construction on species and habitat protected under the federal Endangered Species Act, and on Essential Fish Habitat protected under the Magnuson-Stevens Fisheries Conservation Act, to allow informed decision-making about the allocation of state financing.

The BE was submitted to the Environmental Protection Agency (EPA) for concurrence. The City received a letter from EPA on June 2, 2017 (Appendix B) stating that:

> *Based upon the information provided, the EPA has determined that the proposed project, as described, will have* ***no effect*** *on ESA listed species or their designated critical habitat and will have* ***no adverse effect*** *on designated essential fish habitat.*

3.8 Clean Air Act (1977)

DEQ's SERP guidance (2012) states the following with respect to the Clean Air Act:

Documentation supporting the clean air act cross cutter is:

a. *Copy of the printed reply from DEQ AQ or Regional Air Quality authority related to this project;*
b. *Separately listed mitigation measures (if any) required by DEQ Regional Air Quality authority*

DEQ Eastern Region Air Quality Program staff was contacted regarding the proposed stormwater infrastructure upgrades (Appendix B). DEQ recommends that proper dust abatement be implemented during construction.

3.9 Safe Drinking Water (1974)

The proposed stormwater system projects will not involve *direct* discharges to groundwater, either during construction or for the post-construction, long-term operation of the water lines.

Trench dewatering is not expected to be needed for pipe replacements, but if required due to saturated/slow-draining soils construction could involve land application of water pumped from trenches. This would represent an indirect discharge to groundwater through infiltration from the ground surface.

Regardless of the need for trench dewatering, the proposed projects are not located within or near a Sole Source Aquifer for drinking water and are not expected to impact drinking water resources. Refer to the U.S. Environmental Protection Agency's (EPA's) Sole Aquifer Map for the Pacific Northwest in Appendix A of this SERP document. These stormwater projects are not expected to impact drinking water resources.

4.0 ENIVORNMENTAL COMMITMENTS & MITIGATION

As described above, the proposed stormwater infrastructure improvement project complies with federal cross-cutters. The City has included following environmental commitments to further reduce or mitigate project impacts:

- Construction stockpiling and staging areas for the project will be within already developed areas and cleared portions of the site.
- Projects that may be adjacent to recorded historic resources or within the S. Main St. Historic District, will require all construction activities to be confined to the existing right-of-way.
- The City will prepare and implement an Inadvertent Discovery Plan to outline procedures to be followed if buried cultural resources are identified during construction. If the resource is considered eligible to the NRHP and impacts cannot be avoided, then a treatment plan would be developed to mitigate for any impacts to the site. Project elements proposed to occur near known cultural resources include repair or replacement of existing underground water pipes.
- Cultural Resources monitoring will be conducted during construction under the terms of an archaeological resources monitoring plan. The monitoring plan will integrate the results of the background research and outline the project elements that will be monitored and thresholds for changing the level of effort for monitoring. Additional mitigation measures may be developed based on the results of tribal consultation or background research.
- Several types of mitigation measures will be implemented in order to prevent any direct or indirect impacts to water resources. The City will require construction contractors to prepare and implement erosion and sediment control plans for individual projects, to minimize the potential for soil erosion and sediment-laden runoff leaving the project sites during and after construction.
- Dust abatement will be implemented during construction.

5.0 REFERENCES

Murray, Smith and Associates (MSA). 2015. Water System Master Plan, prepared for the City of Pendleton.

National Marine Fisheries Service (NMFS). 2009. Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan, prepared by NMFS Northwest Region.

NMFS. 2006. Endangered and Threatened Species; Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead. 71 FR 834 (January 5, 2006).

StreamNet. 2017. Fish Distribution Query for the Umatilla River, March 20, 2017. Available at: http://q.streamnet.org/Request.cfm?cmd=BuildQuery&NewQuery=BuildCriteria&Required=Run,Stream&Stream=1240483462464&DataCategory=23

United States Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed.

J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Department of Agriculture (USDA). 2017. USDA Field Office Climate Data; WETS Table. WETS Station: Estacada 2SE, OR. Accessed: 12 March 2017.

United States Geologic Service. (USGS). 2017. The Hydrography Viewer. Accessed: 17 April 2017. Available: https://viewer.nationalmap.gov/viewer/nhd.html?p=nhd.

USEPA.2013. Designated Sole Source Aquifers in EPA Region 10 Idaho, Oregon, Washington., March 20, 2017. Available at: https://www3.epa.gov/region10/pdf/water/ssa/maps/ssa_all_2013.pdf

APPENDIX A: FIGURES

SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

FEMA Floodplain
Exclusive Farm Use Zone
Historic Resource
LWI Wetlands
Tax Lot Boundary
Urban Growth Boundary
City Limits
Stormwater System Improvements

ESA

ESA Project No.160691 State Environmental Review Process

Project Map 1a
Storm Water System
City of Pendleton, OR

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SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

FEMA Floodplain
Exclusive Farm Use Zone
Historic Resource
LWI Wetlands
Tax Lot Boundary
Urban Growth Boundary
City Limits
Stormwater System Improvements

ESA

ESA Project No.160691 State Environmental Review Process

Project Map 1b
Storm Water System
City of Pendleton, OR

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SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

ESA Project No.160691 State Environmental Review Process

Project Map 1c
Storm Water System
City of Pendleton, OR

- FEMA Floodplain
- Exclusive Farm Use Zone
- Historic Resource
- LWI Wetlands
- Tax Lot Boundary
- Urban Growth Boundary
- City Limits
- Stormwater System Improvements

ESA

SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

ESA Project No.160691 State Environmental Review Process

Project Map 1d
Storm Water System
City of Pendleton, OR

FEMA Floodplain
Exclusive Farm Use Zone
Historic Resource
LWI Wetlands
Tax Lot Boundary
Urban Growth Boundary
City Limits
Stormwater System Improvements

ESA

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SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

ESA Project No.160691 State Environmental Review Process

Project Map 1e
Storm Water System
City of Pendleton, OR

- FEMA Floodplain
- Exclusive Farm Use Zone
- Historic Resource
- LWI Wetlands
- Tax Lot Boundary
- Urban Growth Boundary
- City Limits
- Stormwater System Improvements

ESA

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SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

FEMA Floodplain
Exclusive Farm Use Zone
Historic Resource
LWI Wetlands
Tax Lot Boundary
Urban Growth Boundary
City Limits
Stormwater System Improvements

ESA

ESA Project No.160691 State Environmental Review Process

Project Map 1f
Storm Water System
City of Pendleton, OR

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by July 4, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documenation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), OR/WA Bureau of Land Management (2005), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

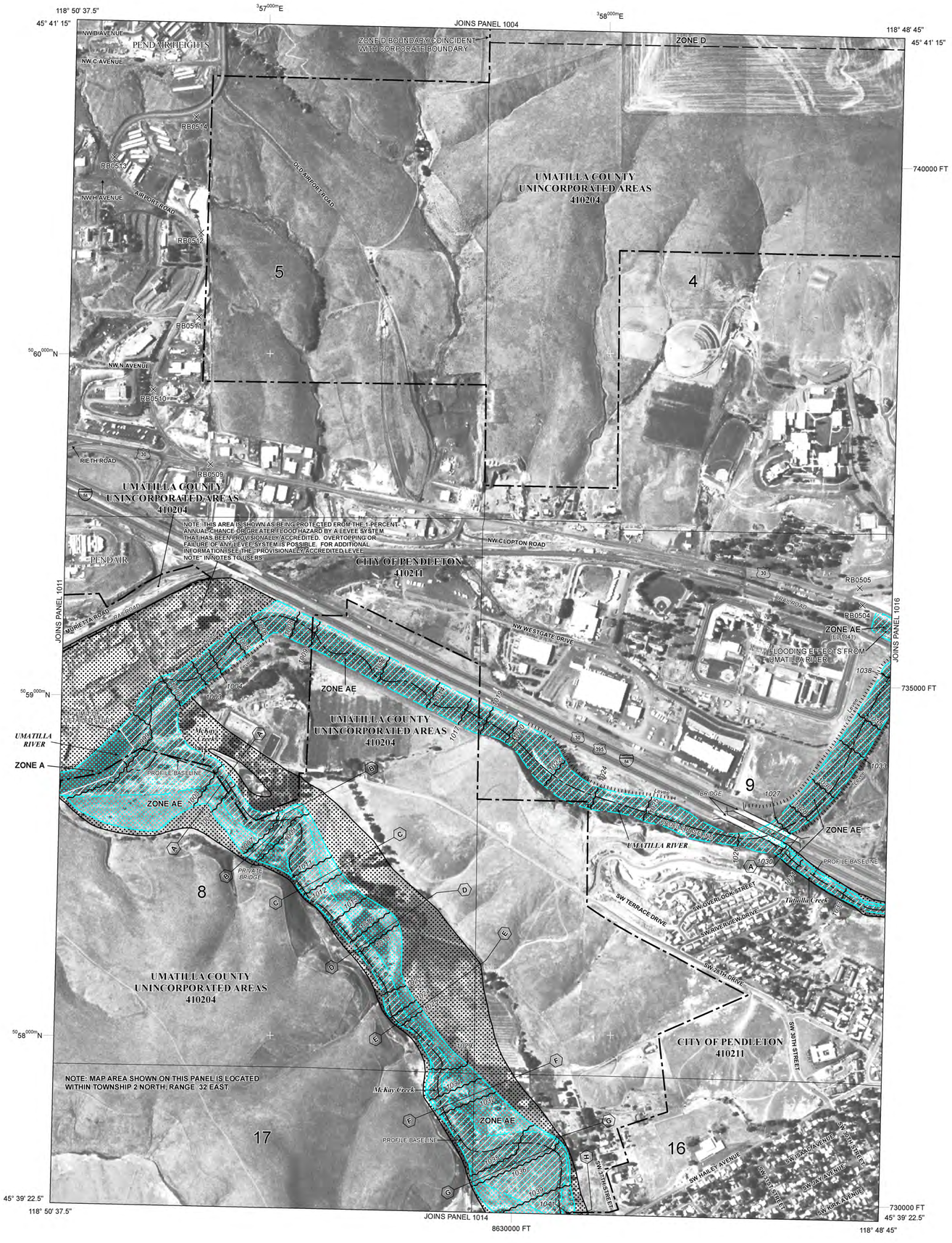
The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A ⬡ A	Cross section line
23 ⬡ 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
4 89 000m N	1000-meter Universal Transverse Mercator grid values, zone 11N
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 3, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1012G

FIRM

FLOOD INSURANCE RATE MAP

UMATILLA COUNTY, OREGON AND INCORPORATED AREAS

PANEL 1012 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PENDLETON, CITY OF	410211	1012	G
UMATILLA COUNTY	410204	1012	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41059C1012G
EFFECTIVE DATE
SEPTEMBER 3, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by July 4, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documenation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), OR/WA Bureau of Land Management (2005), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
4489000mN	1000-meter Universal Transverse Mercator grid values, zone 11N
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 3, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1016G

FIRM

FLOOD INSURANCE RATE MAP

UMATILLA COUNTY, OREGON AND INCORPORATED AREAS

PANEL 1016 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PENDLETON, CITY OF	410211	1016	G
UMATILLA COUNTY	410204	1016	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41059C1016G
EFFECTIVE DATE
SEPTEMBER 3, 2010

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Provisionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by July 4, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documenation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), OR/WA Bureau of Land Management (2005), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

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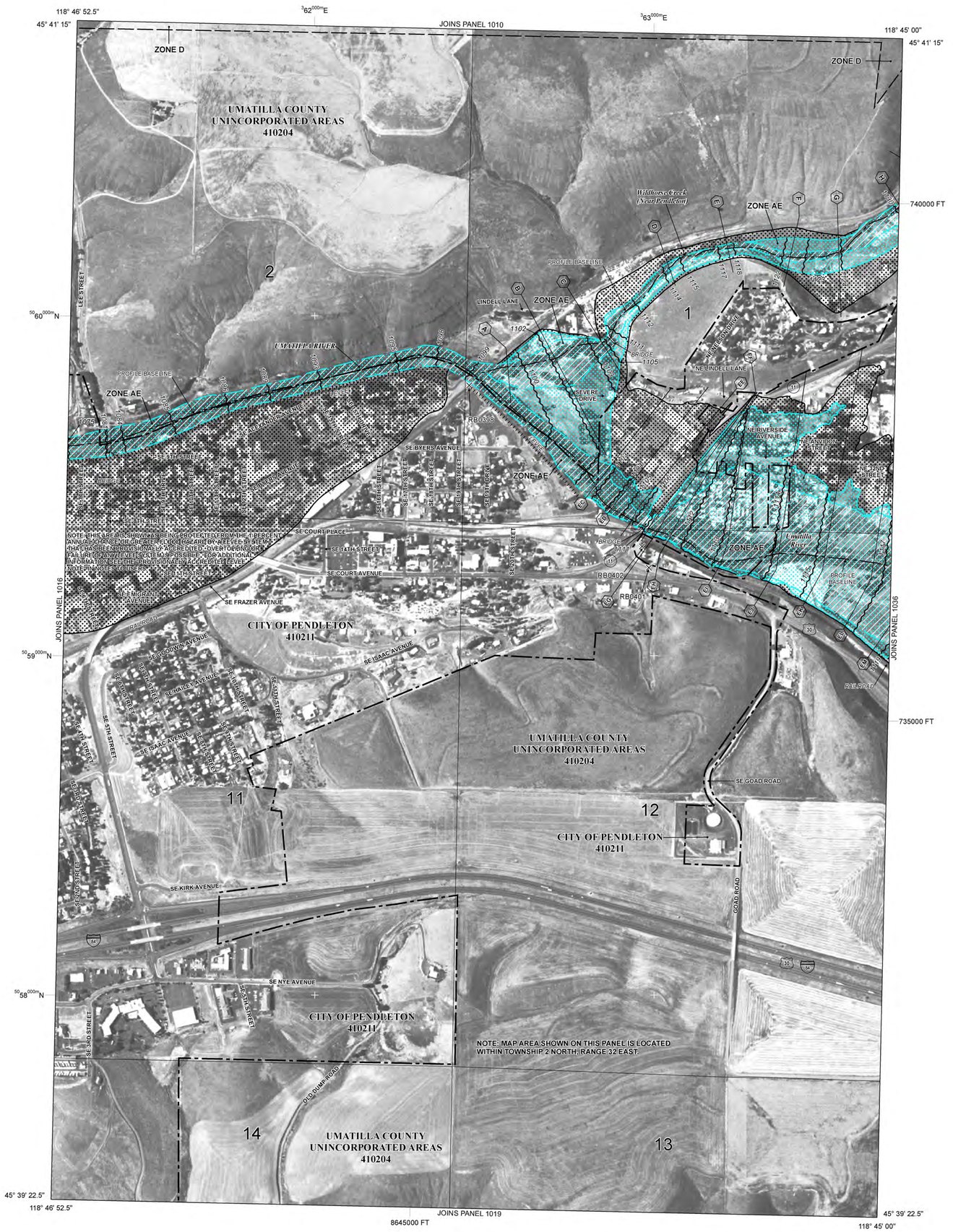
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
89000m N	1000-meter Universal Transverse Mercator grid values, zone 11N
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
September 3, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1017G

FIRM

FLOOD INSURANCE RATE MAP

UMATILLA COUNTY, OREGON AND INCORPORATED AREAS

PANEL 1017 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PENDLETON, CITY OF	410211	1017	G
UMATILLA COUNTY	410204	1017	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
41059C1017G
EFFECTIVE DATE
SEPTEMBER 3, 2010

Federal Emergency Management Agency

NOTES TO USERS

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Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
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National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from multiple sources. Base map files were provided in digital format by the State of Oregon. This information was compiled from the U.S. Geological Survey (2007), Oregon Department of Transportation (2007), OR/WA Bureau of Land Management (2005), Oregon Department of Forestry (2003), NGS (2007), and USDA-FSA (2006) at a scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

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If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - - 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	5000-foot ticks: Oregon State Plane North Zone (FIPS Zone 3601), Lambert Conformal Conic projection
4889000mN	1000-meter Universal Transverse Mercator grid values, zone 11N
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 3, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1018G

FIRM

FLOOD INSURANCE RATE MAP

UMATILLA COUNTY, OREGON AND INCORPORATED AREAS

PANEL 1018 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

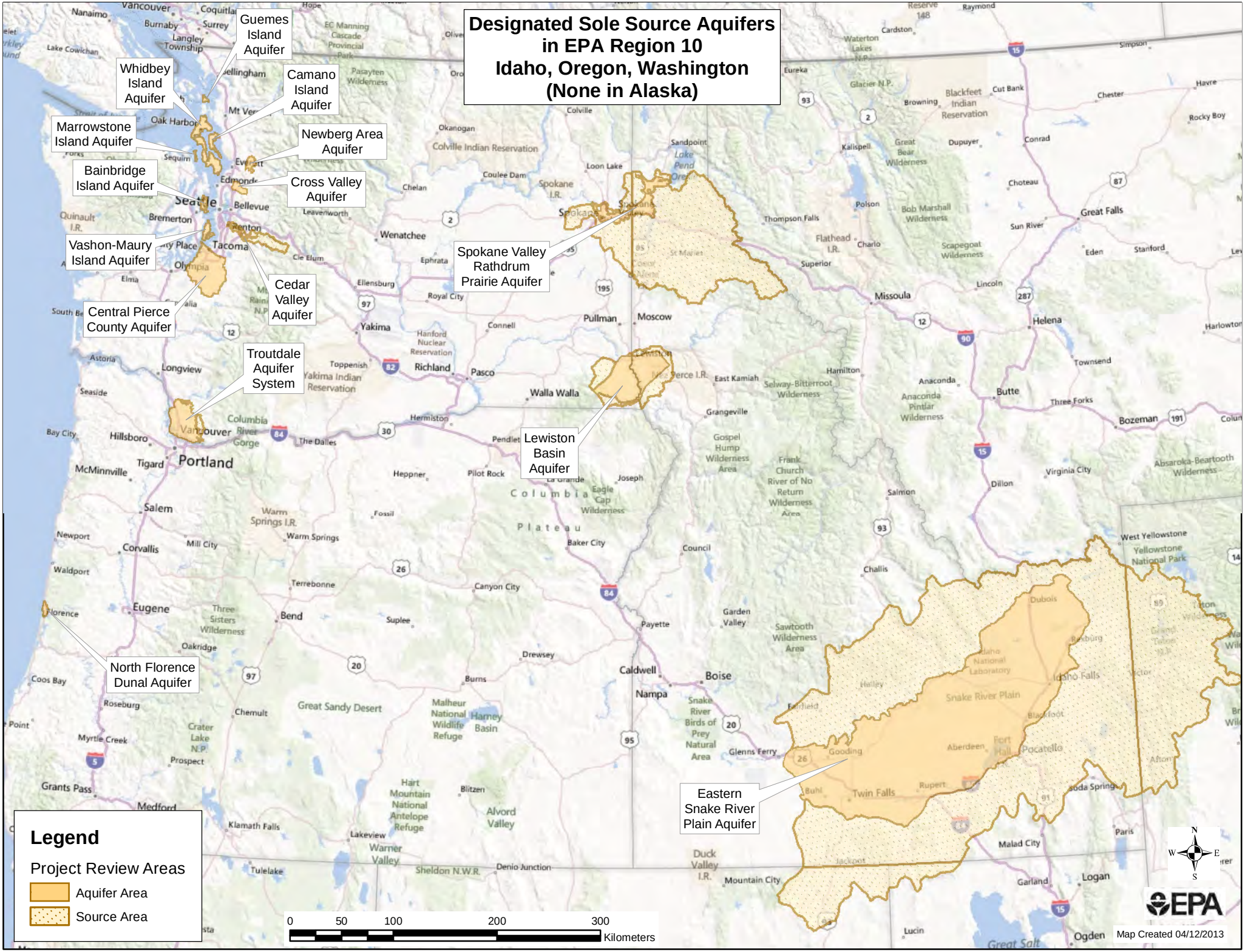
COMMUNITY	NUMBER	PANEL	SUFFIX
PENDLETON, CITY OF	410211	1018	G
UMATILLA COUNTY	410204	1018	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 41059C1018G

EFFECTIVE DATE SEPTEMBER 3, 2010

Federal Emergency Management Agency


Designated Sole Source Aquifers
in EPA Region 10
Idaho, Oregon, Washington
(None in Alaska)
Guemes Island Aquifer
Whidbey Island Aquifer
Camano Island Aquifer
Marrowstone Island Aquifer
Newberg Area Aquifer
Bainbridge Island Aquifer
Cross Valley Aquifer
Vashon-Maury Island Aquifer
Spokane Valley Rathdrum Prairie Aquifer
Cedar Valley Aquifer
Central Pierce County Aquifer
Troutdale Aquifer System
Lewiston Basin Aquifer
North Florence Dunal Aquifer
Eastern Snake River Plain Aquifer
Legend
Project Review Areas
Aquifer Area
Source Area
0 50 100 200 300
Kilometers
N
W
E
S
EPA
Map Created 04/12/2013

APPENDIX B: CORRESPONDANCE

ESA

819 SE Morrison Street
Suite 310
Portland, OR 97214
503.274.2010 phone
503.274.2024 fax

www.esassoc.com

April 13, 2017

Teara Farrow Ferman
Program Manager
Cultural Resources Protection Program
Confederated Tribes of the Umatilla Indian Reservation
via email

Subject: City of Pendleton Utilities Improvement Environmental Review (for Stormwater System) Project, Pendleton, Umatilla, Oregon

Dear Ms. Ferman:

ESA has been retained by the City of Pendleton (City) to assist in the State Environmental Review Process (SERP). The City is preparing to use federal Clean Water State Revolving Funds (SRF) through the Oregon Department of Environmental Quality to conduct Stormwater System improvement projects (Project) in the following areas of Pendleton, Umatilla County, Oregon (see Figure 1).

Stormwater System Improvement Project: Multiple Stormwater System improvements that run along: SW Court Ave, SW Dorian Ave, SW 10th St, SW Emigrant Ave, SW 3rd St, SW Frazer Ave, SW 4th St, SW Goodwin Ave, and SW 5th St. The City intends to replace pipes in phases over the next 20 years; in the next five years, work will occur in downtown Pendleton. The pipe diameters range in size from 8 to 10 inches in the downtown area. For pipe replacements and new pipes within an existing road prism, the pipes will be installed in existing trenches with top of pipes at least 3 feet below the ground surface. This project involves the following elements:

- Abandoning the existing segment of a stormwater pipe (if applicable), varying in sizes, along a specific road length;
- Installing new segments of pipe upgrades; and
- Connecting the pipes with existing lines on either end and along the right-of-way.

Cultural Resources Summary: A summary of cultural resources located within two miles of this project area include two recorded archaeological sites (35UM360 and 35UM491). The two sites were classified as historic period household refuse. None of these sites are within the Project Area. There have been a total of twenty cultural resources surveys conducted near the Project Area. At least two of these occurred adjacent to the Project Area.

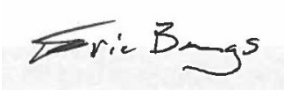
There are three structures within the Project Area that are listed on the National Register of Historic Places (NRHP) as well as a National Register Historic District and 11 properties considered eligible for listing to the NRHP. The listed properties are the US Post Office and Courthouse (104 SW Dorian Ave), the W. C. Loyd Garage (342-344 SW 1st St), and the Troy Laundry (348-352 SW 1st St). The project intersects the South Main

Street Commercial Historic District along SW Dorian Ave and SW Emigrant Ave between SW 2nd and SW 1st streets. There are 25 contributing properties in the South Main Street Commercial Historic District.

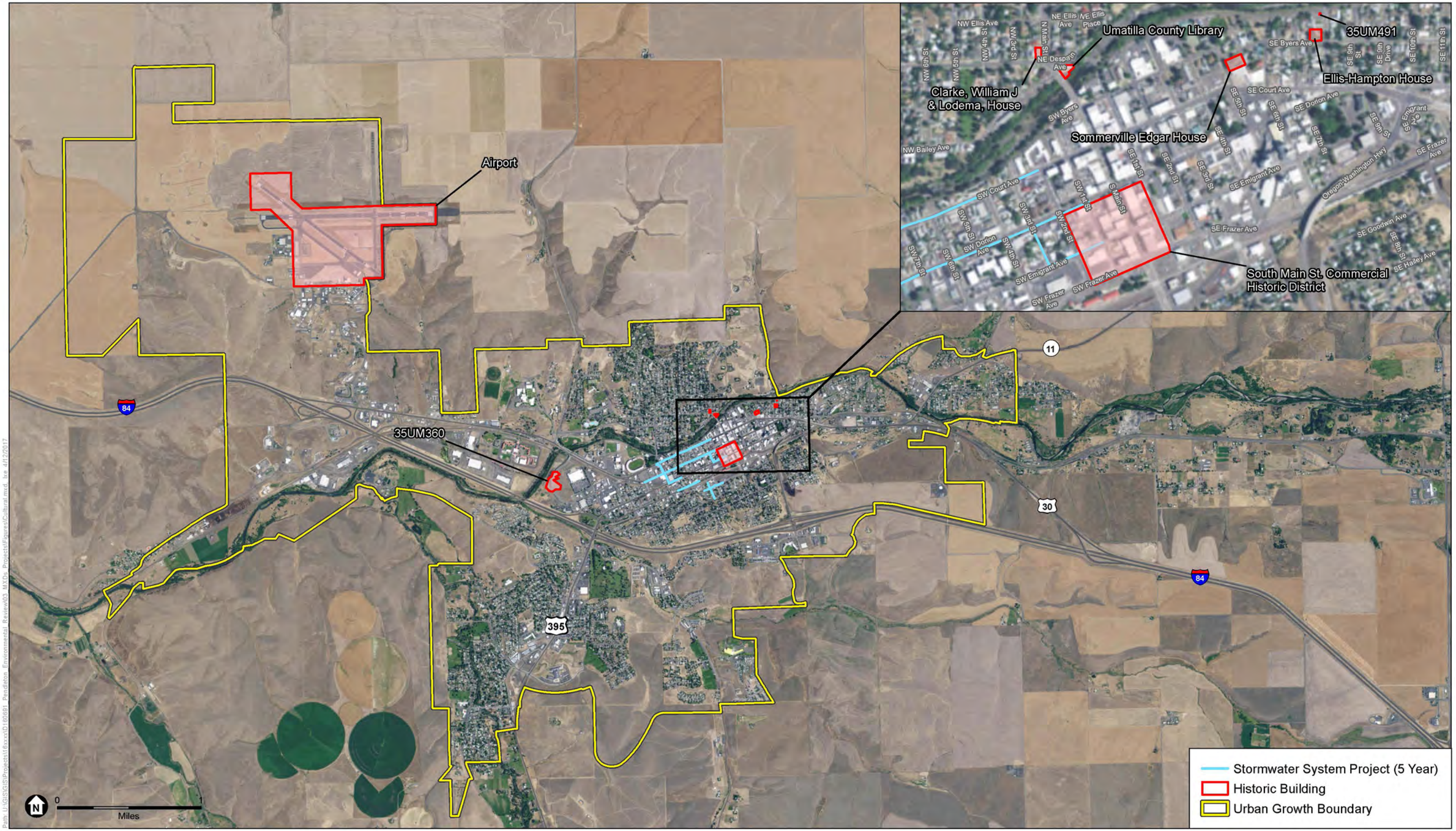
We are assisting with determining the required level of environmental review for historic and cultural resources under the National Historic Preservation Act and Archaeological and Historic Preservation Act. Our research indicates there are recorded historic and precontact archaeological sites within two miles of the project area elements. We are contacting you to determine if the Umatilla Tribe has any specific concerns about the project or any requests for cultural resources measures prior to construction. Your response will be included with the cross cutter documentation for the project.

I look forward to receiving your comments or input on this project by May 15, 2017. You can reach me at ebangs@esassoc.com or 503-274-2010.

Sincerely,



Eric Bangs, PhD, RPA
Senior Archaeologist, Portland Cultural Resources
Environmental Science Associates



SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

160691 . Pendleton Environmental Review

Figure 1
Stormwater
Pendleton, OR

ESA

Path: U:\GIS\GIS\Projects\116xxxx\D160691_Pendleton_Environmental_Review\03_MXDs_Projects\Figures\Cultural.mxd, lxe 4/12/2017

ESA

819 SE Morrison Street
Suite 310
Portland, OR 97214
503.274.2010 phone
503.274.2024 fax

www.esassoc.com

April 13, 2017

John Pouley
Assistant State Archaeologist
Oregon State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97301

Subject: City of Pendleton Utilities Improvement Environmental Review (for Storm Water System), Pendleton, Umatilla, Oregon

Dear Mr. Pouley:

ESA has been retained by the City of Pendleton (City) to assist in the State Environmental Review Process (SERP). The City is preparing to use federal Clean Water State Revolving Funds (SRF) through the Oregon Department of Environmental Quality to conduct storm water infrastructure improvement projects (Project) in Pendleton, Umatilla County, Oregon. As part of the application for the SERP, ESA is contacting the Oregon State Historic Preservation Office (SHPO) to determine the likelihood of encountering cultural resources during the project, and any recommendations for archaeological survey.

ESA has contacted the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) concurrently, for information concerning any recorded archaeological or historic sites and potential traditional cultural use areas within the boundaries of the project area. We are currently awaiting response from the CTUIR. In addition, a search of SHPO's archaeological records, within a two mile radius of each area of the Project was conducted online. A summary of these findings and descriptions of the Storm Water System improvement project is listed below:

Storm Water System Improvement Project: Multiple Storm Water System improvements that run along: SW Court Ave, SW Dorian Ave, SW 10th St, SW Emigrant Ave, SW 3rd St, SW Frazer Ave, SW 4th St, SW Goodwin Ave, and SW 5th St. The City intends to replace pipes over the next 20 years; however in the next five years, work will occur in downtown Pendleton. The pipe diameters range in size from 8 to 10 inches in the downtown area, all within road right-of-way. For pipe replacements and new pipes within an existing road prism, the pipes will be installed in existing trenches with top of pipes at least 3 feet below the ground surface. This project involves the following elements:

- Abandoning the existing segment of a storm water pipe (if applicable), varying in sizes, along a specific road length;
- Installing new segments of pipe upgrades; and
- Connecting the pipes with existing lines on either end and along the right-of-way.

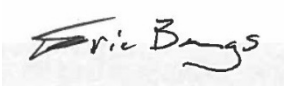
Summary of Cultural Resources: Cultural resources located within 2 miles of this project area include two recorded archaeological sites (35UM360 and 35UM491). The two sites were classified as historic period household refuse. None of these sites are within the Project Area. There have been a total of twenty cultural resources surveys conducted near the Project Area. At least two of these occurred adjacent to the Project Area.

There are three structures within the Project Area that are listed on the National Register of Historic Places (NRHP) as well as a National Register Historic District and 11 properties considered eligible for listing to the NRHP. The listed properties are the US Post Office and Courthouse (104 SW Dorian Ave), the W. C. Loyd Garage (342-344 SW 1st St), and the Troy Laundry (348-352 SW 1st St). The project intersects the South Main Street Commercial Historic District along SW Dorian Ave and SW Emigrant Ave between SW 2nd and SW 1st streets. There are 25 contributing properties in the South Main Street Commercial Historic District.

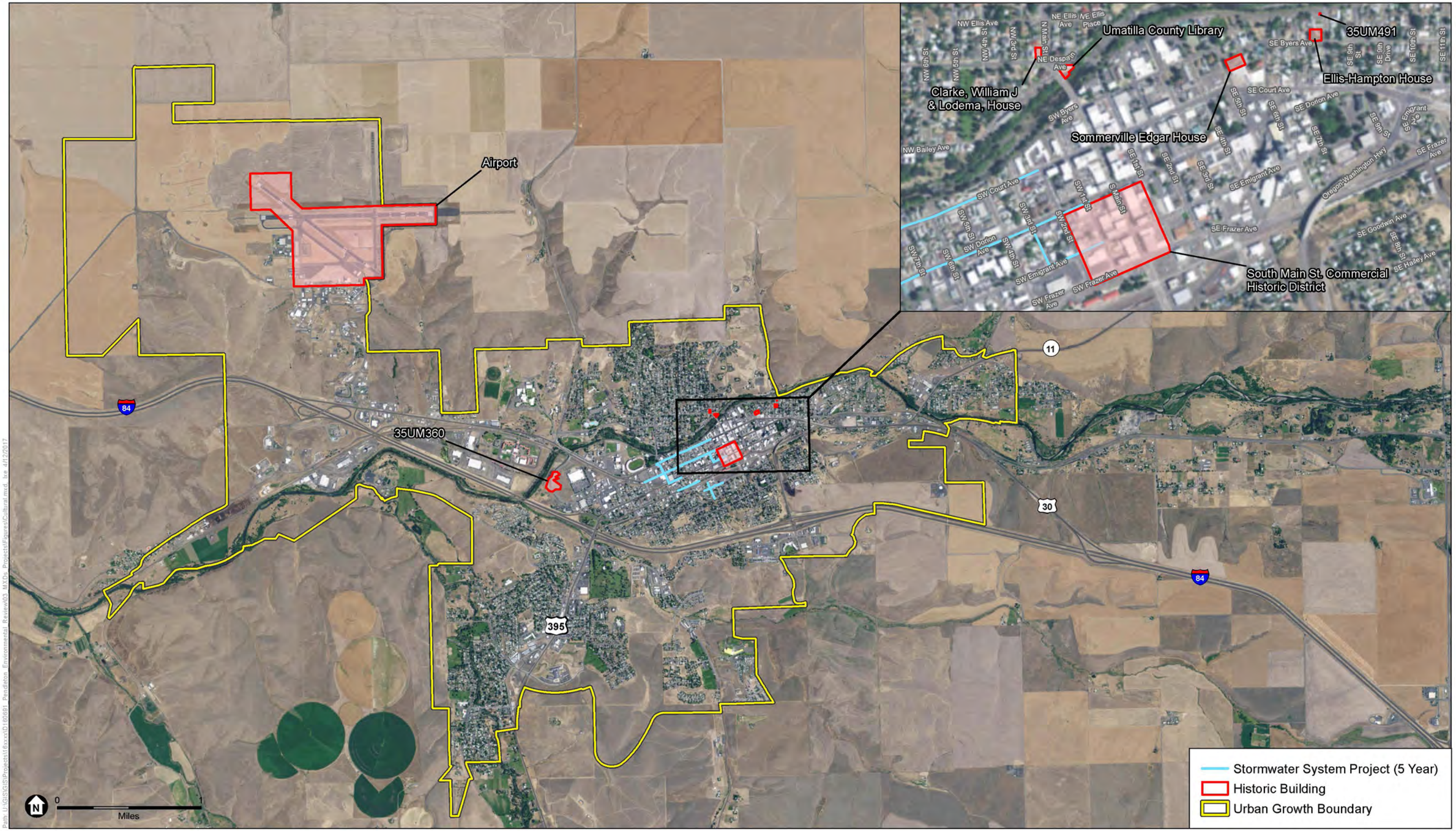
Attached are maps showing the project locations. ESA is requesting the SHPO review this information and consider recommendations for a cultural resources survey be performed prior to beginning work, or that cultural resources monitoring occur during the project. Please note that the proposed Stormwater Improvements are all currently under pavement.

Thank you for your assistance.

Sincerely,



Eric Bangs, PhD, RPA
Senior Archaeologist, Portland Cultural Resources
Environmental Science Associates



SOURCE: USDA NAIP, 2016; City of Pendleton, 2017; Open Street Maps, 2016; ESA, 2017

160691 . Pendleton Environmental Review

Figure 1
Stormwater
Pendleton, OR

ESA

Path: U:\GIS\GIS\Projects\116xxxx\D160691_Pendleton_Environmental_Review\03_MXDs_Projects\Figures\Cultural.mxd, lxe 4/12/2017

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

May 15, 2017

Ms. Paula Johnson
ESA
5309 Shilshole Ave NW, Ste 200
Seattle, WA 98107

RE: SHPO Case No. 17-0674
City of Pendelton Utilities Improvement for Storm Water System
Pipe installation
, Pendleton, Umatilla County

Dear Ms. Johnson:

Our office has recently received a letter from your agency requesting concurrence regarding your Area of Potential Effect (APE) boundaries, information about cultural resources, and recommendations for future work for the project referenced above. Upon review of your letter, we concur with the proposed project's APE boundaries. Our office believes that the likelihood of finding archaeological resources in the project area is very high. We recommend doing extensive tribal consultation to help identify prehistoric archaeological resources and a robust historical background to identify historical resources. The thoroughness and outcome of the background research will help determine whether our office recommends monitoring or testing in the areas where asphalt is already present. In areas where bare soil remains our office recommends pedestrian surveys and shovel probes, especially in those areas near the river, or in the vicinity of past river channels. Depending upon the outcomes of these measures our offices recommendations may change and please feel free to contact us in the future as the project progresses. Additionally, we recommend having archaeological permits in hand whenever doing subsurface work or monitoring. Our office looks forward to receiving a copy of the cultural resource survey report for the project once it has been completed. Under federal and state law archaeological sites, objects, and human remains are protected on both public and private lands in Oregon. If you have not already done so, be sure to consult with all appropriate Indian tribes regarding your proposed project. If you have any questions or comments regarding this letter, please do not hesitate to contact me. In order to help us track your project accurately, please be sure to reference the SHPO case number above in all correspondence.
This letter refers to archaeological resources only. Comments pursuant to a review for above-ground historic resources will be sent separately.

Sincerely,

Jamie French, M.A.
SHPO Archaeologist
(503) 986-0729
Jamie.French@oregon.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
WATER AND WATERSHEDS

City of Pendleton
Bob Patterson, Public Works Director
500 SW Dorion Ave.
Pendleton, OR 97801

June 2, 2017

Re: The U.S. Environmental Protection Agency Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act for the Stormwater Conveyance System Improvement Projects.

Dear Mr. Patterson:

The Environmental Protection Agency has reviewed the supporting information for a Biological Evaluation (BE) submitted by Environmental Science Associates (Portland, OR), on behalf of the City of Pendleton, for the City's stormwater conveyance improvements. Based upon the information provided, the EPA has determined that the proposed project, as described, will have ***no effect*** on ESA listed species or their designated critical habitat and will have ***no adverse effect*** on designated essential fish habitat.

Project Description

The City is proposing to replace storm water pipes to address existing conveyance system deficiencies as part of its 5-year infrastructure master planning efforts. The storm sewer components slated for replacement are between 50 and 100 years old; these undersized pipes occasionally lead to street flooding after short, intense summer storms.

In the project area, the storm sewer system consists of curbs, gutters, catch basins, vaults, and storm drains. Run-off is discharged to the Umatilla River via outfalls on the south bank above the ordinary high water line. No new or upgraded outfalls or in-water work is proposed. Strom pipes in the project area range in size from eight inches to 16-inches (existing piping, most likely made of terra-cotta, would be replaced with PVC piping). Existing eight inch pipes would be replaced with 16 to 24 inch pipes; 10-inch pipes will be replaced with 24-inch pipes; 12-inch pipes will be replaced with 18 to 30-inch pipes. Six streets are would be included in the project.

Construction would likely occur in the summer months and is expected to involve excavating trenches within existing street surfaces. Construction stockpiling and

staging areas for the project will be within already developed areas and cleared portions of the site.

Summary of ESA and MSA Effects Determinations

The proposed sewer collection system improvements occur within the general range of several ESA listed species. The following ESA regulated species may occur within the vicinity of the construction area:

Common Name	Scientific Name	ESA Status	Jurisdiction	Designated Critical Habitat in Project Area?
Gray Wolf	*Canis lupus*	Endangered	USFWS	No
Yellow-Billed Cuckoo	*Coccyzus americanus*	Threatened	USFWS	No
Bull Trout	*Salvelinus confluentus*	Threatened	USFWS	No
Steelhead Trout	*O. mykiss (Mid. Columbia R. DPS)*	Threatened	USFWS	No

Gray wolves have been documented in Northeast Oregon, transiting Central Oregon, entering California and returning to Oregon; recently there may be a mating pair or even a pack in the southern Oregon Coast Range. There are no gray wolves documented to occur in the project area and there is no suitable habitat and the project area is not within a reintroduction management area. No critical habitat is designated for the gray wolf in Oregon. Gray wolves have been documented in Northeast Oregon, transiting Central Oregon, entering California and returning to Oregon; recently there may be a mating pair or even a pack in the southern Oregon Coast Range. There are no gray wolves documented to occur in the project area and there is no suitable habitat in the area, and the project area is not within a reintroduction management area.

The yellow-billed cuckoo breed in large blocks of riparian habitats, particularly cottonwood and willow woodlands. The lack of significant cottonwood and willow thicket vegetation at the site proposed for the sewer system improvements would likely preclude the presence of this bird in the immediate project vicinity. Yellow-billed cuckoos are thought to be extirpated as a breeding species from Oregon and Washington.

The Umatilla River in the Pendleton vicinity is identified by the State as suitable rearing and migration habitat for bull trout and is designated Critical Habitat for bull trout. Tributary streams in the Pendleton vicinity, including the urban project Action Area, are not identified for bull trout use and are not Critical Habitat for bull trout.

The Umatilla River in the Pendleton vicinity provides suitable rearing and migration habitat for Middle Columbia River steelhead. Wildhorse Creek and McKay Creek, which are tributary streams that enter the Umatilla River in the eastern and western portions of the City, respectively, are identified as potential spawning and rearing habitat for MCR steelhead. The Umatilla River and McKay Creek are designated Critical Habitat for MCR steelhead.

The Umatilla river, Wildhorse Creek, Tutuilla Creek, and McKay Creek in the Pendleton vicinity are Essential Fish Habitat for Pacific salmon (Chinook and coho).

The Action Area is located in a built-out portion of downtown Pendleton. No new impervious surface or increased capacity of storm conveyance is proposed at this time. The project also does not involve the construction of new or upgraded stormwater outfalls or any work within rivers, streams, or riparian habitat.

To minimize or eliminate erosion or sedimentation during construction activities, an erosion and sediment control (ESC) plan will be prepared and implemented. The ESC plan will specify Best Management Practices (BMPs) for sediment and erosion control, including the detention of runoff on-site to prevent turbid water from entering the Umatilla River. Examples of BMPs include sediment fencing, erosion control blankets, and the delineation of clearing and grubbing limits with high visibility fencing. Pollution control measures would include maintaining appropriate containment and spill repose material on-site during all construction activities, and staging equipment and material in designated areas away from any water bodies.

The EPA has determined that the proposed project, as described, will have ***no effe****ct*, on ESA listed species or their critical habitat and will have ***no adverse effect*** on designated essential fish habitat (EFH). No in water work is proposed, impacts from proposed construction activities are expected to be short term, insignificant, and discountable.

These determinations of effect are based upon the information for a Biological Assessment provided by Environmental Science Associates for the City of Pendleton, USFWS ESA species descriptions, EFH maps, and from the USFWS IPaC conservation and mapping tool. The project proponents must immediately notify EPA if: 1) new information reveals the action may affect listed species or designated critical habitat; 2) the action is modified in a manner that causes an effect to listed species or designated critical habitat; or 3) a new species is listed or critical habitat designated, that may be affected by the proposed actions.

If you have any questions, please do not hesitate to contact me at (206) 553-1646 or by email at pedersen.rob@epa.gov.

Sincerely,

Rob Pedersen
Environmental Engineer

cc: Jamie Isaza, ODEQ

Luke Johnson

To: Luke Johnson
Subject: RE: City of Pendleton infrastructure FEMA impact

Luke Johnson, Associate Biologist
ESA | Environmental Science Associates
503.274.2010 main | 503.274.2024 fax

From: Luke Johnson
Sent: Wednesday, May 3, 2017 10:31 AM
To: 'Brandon Seitz' <brandon.seitz@umatillacounty.net>
Subject: RE: City of Pendleton infrastructure FEMA impact

Brandon,

I just wanted to follow up and thank you again for your correspondence on the Floodplain Development permits for the two proposed water mains crossing the Umatilla River. I am coordinating with the City for the requirements regarding SE 3rd street. You will likely hear more about the 8th street bridge as planning for the project advances a bit further.

Thanks,

Luke Johnson, Associate Biologist
ESA | Environmental Science Associates
503.274.2010 main | 503.274.2024 fax

From: Brandon Seitz [mailto:brandon.seitz@umatillacounty.net]
Sent: Wednesday, April 19, 2017 8:55 AM
To: Luke Johnson <LJohnson@esassoc.com>
Subject: Re: City of Pendleton infrastructure FEMA impact

Luke,

Part of the 8th street bridge is within the City's jurisdiction and part of the bridge is in the County's jurisdiction. Based on where the bridge currently sits I'm assuming the bridge construction will require a Floodplain Development Permit from both the City and County.

You could certainly include the water main and any other utilities on the bridge Floodplain Development permit and lump all of the permits together. That seems to be the best route moving forward.

Any work within County right-of-way will require some sort of coordination and permit from the County Public Works Department. I'm assuming you could also lump the bridge and utility permits together for them as well. However, you will need to contact them directly.

Thanks,
Brandon

On Mon, Apr 17, 2017 at 11:34 AM, Luke Johnson <LJohnson@esassoc.com> wrote:

Hi Brandon,

Thanks for getting back to me. To offer some clarity for the SE 8th Street/Lee Street Bridge project, I am working on the permitting only for the water main along the bridge, which will likely be installed during construction of the bridge replacement project. However, I am wondering if the water main and the bridge construction can be reviewed for a Floodplain Development Permit concurrently? ESA is a part of the design team for this project, as a sub-consultant with OBEC, and have been involved in the FEMA floodplain analysis for various parts of the bridge. Do you think that a utility permit from the County Public Works Department will also be needed for the bridge itself and if so, could this permit be lumped to encompass the associated water main?

If this makes sense to you, all I would need from the County is correspondence indicating that any evaluation of Floodplain impacts related to this water main project would be included in the larger evaluation of the SE 8th St/ Lee Street Bridge replacement. Does sound like the right route to go? If so, email would be fine for my submittal to the Oregon Health Authority.

Thanks for your help, Brandon.

Luke Johnson, Associate Biologist

ESA | Environmental Science Associates

503.274.2010 main | 503.274.2024 fax

From: Brandon Seitz [mailto:brandon.seitz@umatillacounty.net]
Sent: Friday, April 14, 2017 2:14 PM
To: Luke Johnson <LJohnson@esassoc.com>
Cc: Tamra Mabbott <tamra.mabbott@umatillacounty.net>
Subject: Re: City of Pendleton infrastructure FEMA impact

Luke,

Allow me to introduce myself. My name is Brandon Seitz and I am an assistant planner with Umatilla County. Tamra asked me to respond to your email. First the 3rd Street project is completely with City Limits and is within the City's planning jurisdiction for any FEMA floodplain determination or permitting requirements. The County would not have permitting requirements for that project.

Based on the information in your email and the attached floodplain map you may not need a Floodplain Development Permit for the 8th street bridge work in the County. It appears to me based on the attached map that the end of the bridge is out of the floodplain. In order to make an official determination I would need a more detailed map and description of work/ground disturbing activities for the 8th street bridge project.

If the northern end of the bridge is not in the floodplain and you are not doing any other work in the floodplain then you will likely only need a utility permit from the County Public Works Department. If on the other hand you have ground disturbing work within the floodplain the County will require a floodplain development permit.

If you have any question please let me know.

Thanks,

Brandon

On Thu, Apr 13, 2017 at 1:42 PM, Tamra Mabbott <tamra.mabbott@umatillacounty.net> wrote:

> Please follow up with Luke. I think what he is asking is requesting floodplain determination and floodplain permit.
>
> ---------- Forwarded message ----------
> From: **Luke Johnson** <LJohnson@esassoc.com>
> Date: Wed, Apr 12, 2017 at 11:23 AM
> Subject: City of Pendleton infrastructure FEMA impact
> To: "tamra.mabbott@umatillacounty.net" <tamra.mabbott@umatillacounty.net>
>
> Hi Tamra,
>
> I am working with the City of Pendleton to complete the environmental review for many of the infrastructure improvement projects proposed in the City's Capital Improvement Plan. The City is preparing to use federal Drinking Water State Revolving Funds (SRF) to implement the projects. These SRF are administered by Oregon Health Authority. In order to qualify for the program, the City needs to show compliance with applicable environmental laws, in accordance with the State Environmental Review Process (SERP). As a part of the Floodplain Management requirement under this process, I am requesting your comments on two proposed projects. These water main projects are located within the FEMA floodplain. The 8th Street Bridge project, as shown in the attached map, will be a replacement of an existing water main that crosses the Umatilla River by being attached to the 8th Street bridge. This project will likely involve minimal work, if any, within the FEMA floodplain. The 3rd Street project will be a sliplining project within an existing water

main which crosses underneath the Umatilla River. This project will not involve any excavation within the FEMA floodplain, all of the proposed excavation would be on the north and south sides of the river. I have attached a map, which shows the project names and locations. Can you please provide your comments on whether or not these projects will require a permit?

I would also like to coordinate with you on the following SERP actions: create and distribute early public notice of proposed project and to create a floodplain assessment. Any guidance and comments that you may have will be greatly appreciated. Ultimately, I will need a written determination (email) and a list of mitigation measures (if any) that I can use as documentation for the SERP.

Thanks for your time,

Luke Johnson, Associate Biologist

ESA | Environmental Science Associates
819 SE Morrison Street, Suite 310
Portland, OR 97214

503.274.2010 main | 503.274.2024 fax

Ljohnson@esassoc.com | www.esassoc.com

Follow us on Facebook | Twitter | LinkedIn

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-

Tamra Mabbott, Planning Director

Umatilla County Department of Land Use Planning

216 SE 4th ST | Pendleton, OR 97801

Phone: 541-278-6246| Fax: 541-278-5480

http://www.umatillacounty.net/planning - Visit our website for copies of planning documents, permit applications and other helpful information.

Please Be Aware - Documents such as emails, letters, maps, reports, etc. sent from or received by the Umatilla County Department of Land Use Planning are subject to Oregon Public Records law and are NOT CONFIDENTIAL. All such documents are available to the public upon request; costs for copies may be collected. This includes materials that may contain sensitive data or other information, and Umatilla County will not be held liable for its distribution.

--

Brandon Seitz, *Assistant Planner*

Umatilla County Department of Land Use Planning

216 SE 4th ST, Pendleton, OR 97801

Phone: 541-278-6249 | Fax: 541-278-5480

http://www.umatillacounty.net/planning

Visit the County's website for application forms, planning documents, and other helpful information.

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--
Brandon Seitz, *Assistant Planner*
Umatilla County Department of Land Use Planning
216 SE 4th ST, Pendleton, OR 97801
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Luke Johnson

From: Carol Johnson <carol.johnson@umatillacounty.net>
Sent: Friday, May 5, 2017 10:36 AM
To: Luke Johnson
Cc: Tamra Mabbott
Subject: Re: City of Pendleton EFU designation request

Good morning Luke,

Thank you for the opportunity to provide some early input regarding land use permits for the City of Pendleton's infrastructure improvement projects.

As you provide in your email summary, some of the City's proposed pipeline routes cross land located within the city limits and some cross land located within the City's Urban Growth Boundary (UGB). All of the routes identified and submitted to the County for review are zoned County Exclusive Farm Use (EFU). Although unusual this also includes some routes across land zoned County EFU located within the city limits and routes across EFU lands outside of the UGB, but annexed into the city.

The EFU zoned areas located within the city limits but outside of the UGB do present some gray area; however, uses allowed in the EFU zoning include a process to establish and permit "utility facilities necessary for public service." The County Planning Department believes the City of Pendleton's infrastructure improvement projects are "utility facilities necessary for public service."

The City of Pendleton has authority, as delineated in the Joint Management Agreement (JMA), to process land use request applications within the city's UGB. Land use requests and applications affecting lands within the UGB would also follow JMA notice requirements to the County.

Lastly, mitigation measures should be implemented for areas disturbed as a result of pipeline installation across farm ground. Reseeding areas to native plants to control erosion and prevent the infiltration of noxious weeds should be required.

It is the desire of the County Planning Department to help the City's infrastructure improvement projects succeed. If we can be of further assistance please let us know.

Thank you,

Carol Johnson

On Thu, May 4, 2017 at 10:15 AM, Luke Johnson <LJohnson@esassoc.com> wrote:

> Hi Carol,
>
> Thanks for your call this morning. I just wanted to summarize our conversation for clarity sake. I have also attached the relevant EFU page from the SERP document, which can be found in entirety at this website: http://www.deq.state.or.us/wq/loans/docs/SERPApplicantGuide.pdf
>
> -All land use applications for County designated EFU lands within the UGB will likely be applied for and processed by the City. Although the land is County designated EFU, it is under the City's jurisdiction so long as the City adheres to the County adopted land use type.
>
> -There are several portions of County designated EFU that are technically within the incorporated City limits, but not included in the UGB. These lands would be classified as State Planning Goal 3 lands because they are outside the UGB. Although this presents a technical gray area, you would expect that these lands would also be within the City's jurisdiction.
>
> -In both instances it seems as though the City has authority to designate their projects as "utility facilities necessary for public service", however, you would expect that the City would coordinate with the County before approving any land use applications for County designated EFU lands.
>
> Thanks for your help and I look forward to your formal response (email is fine) tomorrow.
>
> Thanks,
>
> Luke Johnson, Associate Biologist
>
> ESA | Environmental Science Associates

HOW TO REMOVE NONFRIABLE ASBESTOS (AC) WATER PIPE

A Guide for Meeting DEQ Rules

Exposure to asbestos can result in severe health impacts and the Department of Environmental Quality (DEQ regulates the removal, handling and disposal of asbestos-containing materials (ACM) during construction, remodeling, and demolition. This document outlines handling procedures for working with water pipe that contains asbestos.

The safest way to handle AC Pipe is to make sure the material stays in a nonfriable condition. Friable asbestos material will easily release fibers when crushed. Nonfriable asbestos material has a solid matrix that holds the asbestos fibers in check and will not allow asbestos fibers to release easily, unless mishandled, damaged, or in badly weathered condition. In most cases, AC Pipe is considered nonfriable.

Nonfriable asbestos materials in good condition are exempt from some DEQ rules. You **do not** need to be a DEQ licensed asbestos contractor or DEQ certified asbestos worker to do nonfriable removal. If you follow the procedures in this guide, the AC pipe should remain in nonfriable condition.

Nonfriable material must be handled, transported, and disposed of in a way that prevents it from becoming friable and releasing asbestos fibers. For more information about the asbestos rules or if you have questions contact one of the DEQ regional offices:

Eastern Region Bend at (541) 388-6146, ext. 226
Eastern Region Pendleton at (541) 278-4626
Eugene LRAPA (541) 736-1056, ext. 222
Northwest Region in Gresham at (503) 667-8414 x 55022, x 55018, or (800) 452-4011 Western Region Salem at (503) 378-5086, or (800) 349-7677
Western Region Medford at (541) 776-6010, ext. 235 or (877) 823-3216
Western Region Coos Bay at (541) 269-2721, ext. 22

The Oregon Occupational Safety and Health Division (OR-OSHA) has rules about worker training, building surveys, and the safe handling of nonfriable asbestos. (See OAR 437, Division 3, Construction.) Contact OR-OSHA at (503) 378-3272, for current rule and policy information.

A. FOR AC WATER PIPE TO BE CONSIDERED NONFRIABLE IT MUST BE REMOVED IN WHOLE SECTIONS.

You cannot cause the AC pipe to shatter, crumble, be pulverized, or release asbestos fibers. You cannot sand, saw, grind, chip, or use power tools on AC pipe. If you use this guide, licensing as a DEQ asbestos abatement contractor and DEQ worker certification are not needed.

1. File a DEQ nonfriable notification and pay the nonfriable fee as outlined in OAR 340-248-0260.

2. Keep the material wet while you remove it. You can use a water hose, garden sprayer, spray bottles, or any method that keeps the material wet. **Wetting prevents fiber migration during removal**.

3. Pull the pipe up out of the ground in easy to handle lengths (3 feet to 5 feet), using DEQ approved cutting procedures.

4. DEQ suggests you place the pipe in leaktight containers with a warning statement "DANGER ASBESTOS-CONTAINING MATERIAL". The asbestos-containing waste material (ACWM) must remain wet until disposed of at a landfill authorized to handle asbestos waste. It is also suggested that you fill out a DEQ ASN-4 waste shipment report for transport and give it to the landfill upon arrival. DEQ advises you to contact the landfill before you start your project so you can find out what that landfill's disposal needs are. Many landfills require asbestos to be specially packaged and labeled. **Nonfriable asbestos waste may not be used as clean fill and DEQ rules do not allow on-site burial of AC pipe, unless the reason for this burial meets specific exception conditions!**

NOTE: *DEQ knows that some breakage and damage will occur during this process. However, that breakage will be minimized if you follow this guide***.**

DEQ CAN ALLOW ALTERNATE REMOVAL AND DISPOSAL PROCEDURES:

The DEQ can consider unusual conditions and allow the use of a different removal and disposal procedure on a case by case basis. Some of these exceptions may include removal procedures not listed in this guide. Options for leaving AC pipe in place instead of removal and disposal may be available through this exception. AC pipe buried under a roadway, or AC pipe that goes under a structure normally is considered an acceptable reason for on site burial.

DEQ staff is willing to discuss any situation where the removal and disposal of AC pipe, instead of on site burial, may cause an extreme financial hardship. For more information about these exceptions or to see if your project qualifies for an exception, please contact the DEQ.

B. USE THE FOLLOWING PROCEDURES WHEN THE REMOVAL RESULTS IN THE AC PIPE BECOMING FRIABLE.

If AC PIPE is shattered, damaged, or badly weathered, it is considered to be friable and will likely release asbestos fibers. ***A DEQ licensed asbestos abatement contractor using DEQ certified workers must remove all friable asbestos materials.***

All asbestos abatement rules under OAR 340-248-0005 through -0280 must be followed, including the following:

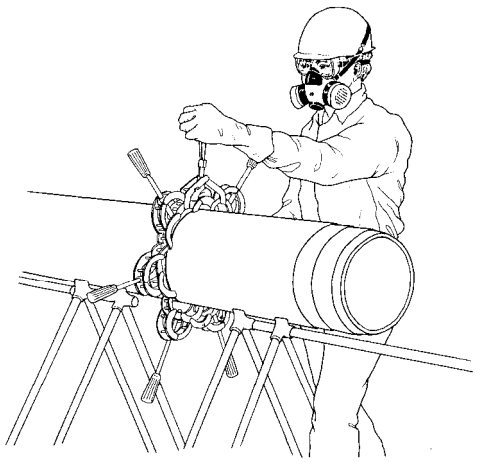
1. File a friable asbestos abatement notification and fee as outlined in OAR 340-248-0260.

2. Hire a DEQ licensed asbestos abatement contractor to remove the asbestos for you.

The following information was excerpted from the American Water Works Association guideline for handling AC pipe. This information is modified to make it compatible with the DEQ asbestos removal regulations. There may be other removal and handling procedures employing non-power options that are equally effective and also meet DEQ asbestos requirements.

AMERICAN WATER WORKS ASSOCIATION RECOMMENDED WORK PRACTICES FOR CUTTING AND SPLICING CEMENT WATER PIPE

1. USING CARBIDE TIPPED BLADES TO CUT AC PIPE, IN SIZES FROM 3 INCH THROUGH 24 INCH.

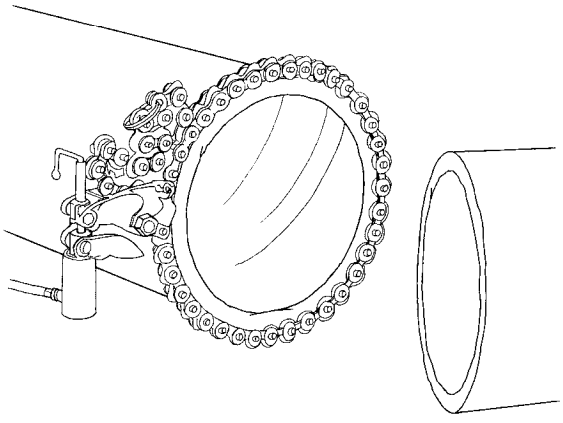


Blade cutters are frame adjustable to the circumference of the pipe and have a number of self-tracking rollers that align one or more carbide-tipped cutting blades. Because of the relatively low mechanical input and clean cutting action, hand operated blade cutters do not produce significant amounts of airborne asbestos dust.

KEEP MATERIAL WET AT ALL TIMES.

***DO NOT** blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

2. USING SNAP CUTTERS TO CUT AC PIPE IN SIZE RANGES 3 INCH THROUGH 24 INCH.

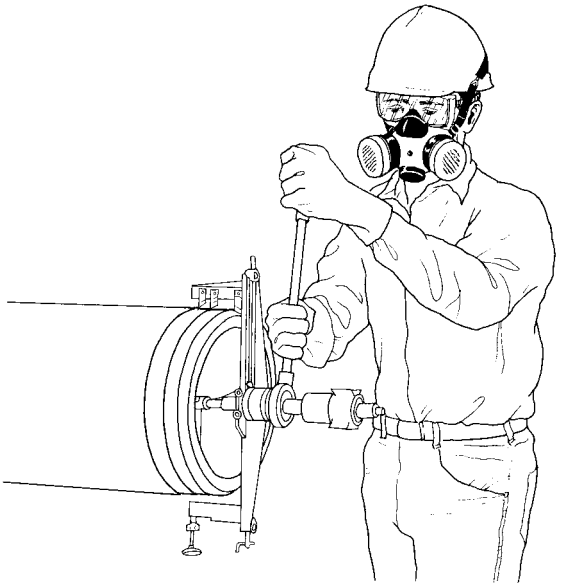


Snap cutters ("squeeze-and-pop" equipment) operate by means of cutting wheels mounted in a chain wrapper around the pipe barrel. Hydraulic pressure, applied by means of a remote, pneumatically, or manually operated pump, squeezes the cutting wheels into the pipe wall until the cut is made. This type of cutting minimizes the release of asbestos fibers.

KEEP MATERIAL WET AT ALL TIMES.

***DO NOT** blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

3. USING MANUAL FIELD LATHES TO MACHINE AC PIPE IN ALL SIZES.

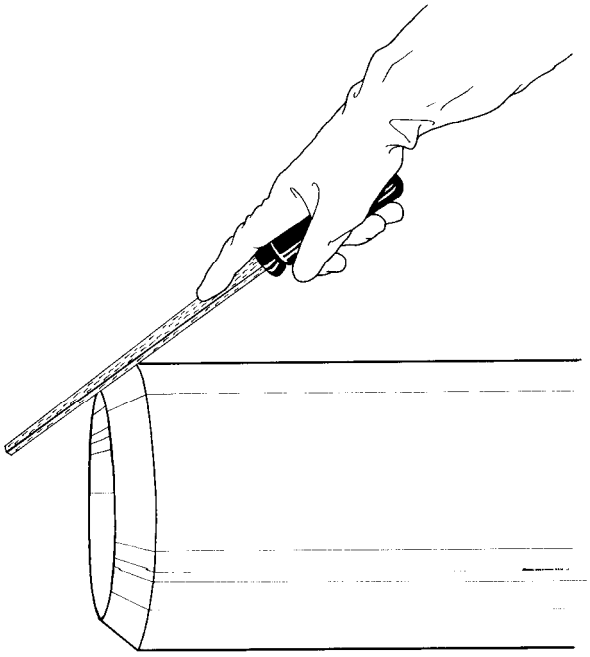


Manual field lathes are designed to end-trim and re-machine rough pipe barrels to factory-machined end profiles. The lathe consists of an adjustable, self-aligning arbor inserted into the pipe bore (which acts as a mandrel upon which the turning handle operates), a screw-fed turning frame, carbide machining blades, and manual (hand or ratchet) turning handles.

KEEP MATERIAL WET AT ALL TIMES.

DO NOT *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

4. USING A MANUAL RASP TO MACHINE AC PIPE IN ALL SIZES.



Short lengths of AC pipe, machined-end exclusively (MEE) and machined overall (MOA), can be cut to make closures and repairs and to locate fittings exactly. Field-cut ends may be re-beveled with a coarse wood rasp to form a taper approximating the profile of the factor-beveled end.

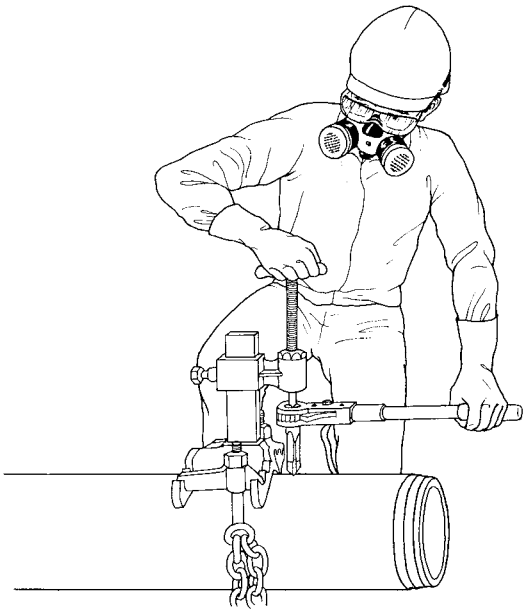
KEEP MATERIAL WET AT ALL TIMES.

DO NOT *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

5. WET TAPPING AC PRESSURE PIPE IN ALL SIZES.

Pressure or "wet" tapping for service connections is performed in the trench while the pipe is under pressure. The equipment (manual driven) is affixed to the pipe by means of a chain yoke. A combination boring-and-inserting bar drills and taps the pipe wall and inserts a corporation stop or pipe plug. The pressure chamber, which protects against water leakage, also catches the asbestos-cement chips, so this is essentially a dust-free operation. To minimize (1) the fouling of valves, regulators, meters, and other equipment with chips and (2) unnecessary addition of asbestos to drinking water, provisions should be made for downstream flushing or use of tapping equipment with positive purge or "blow-off" features. **KEEP MATERIAL WET AT ALL TIMES.** ***DO NOT*** *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

6. DRY TAPPING AC PRESSURE PIPE IN ALL SIZES.

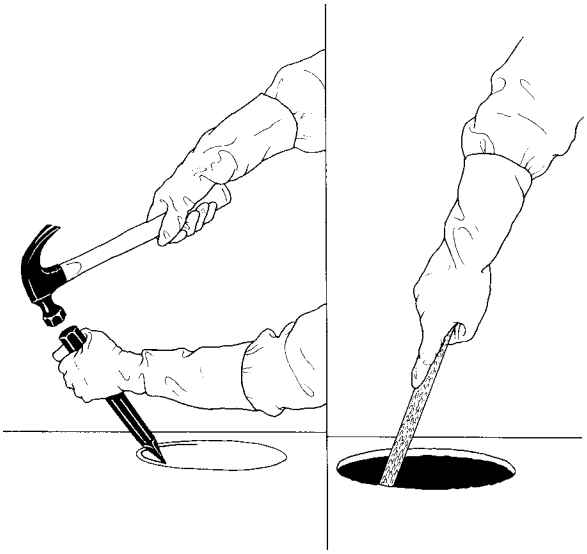


Non-pressure or "dry" tapping for service connections may be performed in or out of the trench. The equipment is affixed to the pipe by means of a chain yoke. Separate drills and taps or a combination tool is used to drill and tap the pipe wall. Remember; always keep the pipe wet during these processes. Corporation stops or other connections may then be affixed to the pipe. To minimize (1) the fouling of valves, regulators, meters, and other equipment with chips and (2) the unnecessary addition of asbestos to drinking water, all dust and cuttings should be removed from the pipe's interior by flushing with water, wet mopping, or vacuuming with a HEPA rated vacuum cleaner.

KEEP MATERIAL WET AT ALL TIMES.

DO NOT *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

7. USING CHISEL AND RASP TO HOLE CUT AC PIPE IN ALL SIZES.

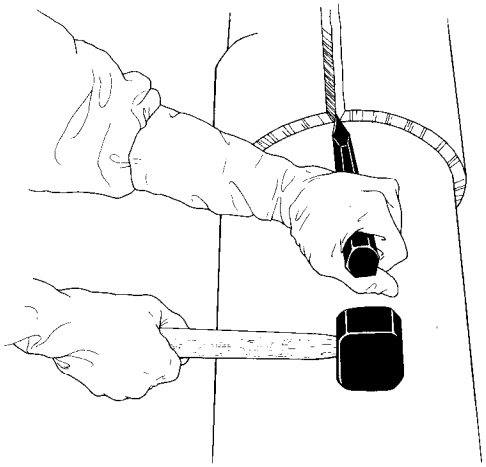


Holes may be cut into AC pipe with a hammer and chisel. The edge of a plumber's wood chisel is used to cut completely around the hole outline, about ¼ in. (7 mm) from the prescribed line. The operation is repeated and the cut deepened until through. The edges of the hole are then dressed with a coarse wood rasp. When cutting holes in AC pipe products, all dust and cuttings should be removed from the pipe or duct interior after the cutting operation. Removal may be accomplished by flushing with water, wet mopping or vacuuming with a HEPA rated vacuum cleaner.

KEEP MATERIAL WET AT ALL TIMES.

DO NOT *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

8. USING HAMMER AND CHISEL TO REMOVE COUPLING FROM AC PIPE IN ALL SIZES.



Replacement of damaged pipe necessitates excavation, exposure and removal. AC coupling removal may be accomplished by gradually splitting the coupling lengthwise using a chisel and hammer. After the top of the coupling has been split, a crowbar or similar tool is used as a lever to split the bottom of the coupling.

KEEP MATERIAL WET AT ALL TIMES.

DO NOT *blow out with compressed air, dry sweep, or vacuum with a non-HEPA rated vacuum cleaner!*

DEQ and Oregon OSHA have carefully evaluated the above procedures and determined that they can be used safely when handling and repairing AC pipe.

REMEMBER, DEQ regulations require that all asbestos-containing materials be kept wet during removal and disposal in accordance with the asbestos disposal regulations. Exceptions to these requirements must be approved prior to starting an asbestos removal project.

(Revised 6/26/06)

Luke Johnson

From: BAILEY Mark <mark.bailey@state.or.us>
Sent: Friday, March 3, 2017 1:55 PM
To: Luke Johnson; BAILEY Mark
Cc: HACK Tom; John Vlastelicia
Subject: RE: City of Pendleton CAA Consultation

Thanks again.

From: Luke Johnson [mailto:LJohnson@esassoc.com]
Sent: Friday, March 03, 2017 1:36 PM
To: BAILEY Mark
Cc: HACK Tom; John Vlastelicia
Subject: RE: City of Pendleton CAA Consultation

Thanks for your response, Mark. I figured that we would need to have a more advanced conversation and mostly wanted to put this on your team's radar. I will look forward to continuing this conversation with Tom Hack at the Pendleton office.

Have a great weekend.

Luke Johnson, Associate Biologist
ESA | Environmental Science Associates
503.274.2010 main | 503.274.2024 fax

From: BAILEY Mark [mailto:mark.bailey@state.or.us]
Sent: Friday, March 3, 2017 1:25 PM
To: Luke Johnson <LJohnson@esassoc.com>
Cc: HACK Tom <tom.hack@state.or.us>
Subject: RE: City of Pendleton CAA Consultation

Thanks for reaching out. DEQ cannot make any specific air quality determination based on the information provided in your email. We can give general guidance on dust control from excavation activities and handling asbestos containing materials. Some old pipes do contain asbestos.

I have turned this over to Tom Hack (541-278-4626), in our Pendleton office.

Thanks

Mark Bailey
DEQ-Bend

From: Luke Johnson [mailto:LJohnson@esassoc.com]
Sent: Friday, March 03, 2017 8:58 AM
To: BAILEY Mark
Subject: City of Pendleton CAA Consultation

Mark,

I sent an identical email to Nancy Swofford, Permit Coordinator, yesterday afternoon and she informed me that this email was forwarded also to you, however, I thought it best to correspond directly with you.

The City of Pendleton is preparing to use federal Clean Water State Revolving Funds (SRF) to implement infrastructure improvements according to their Capital Improvement Plan (CIP). As a part of the Clean Air Act consultation requirement under the DEQ State Environmental Review Process (SERP), I am requesting your determination whether or not any of these projects will impact air quality. At this time we are interested in your comments only on the 5-year (immediate) and 10-year projects. I have attached three figures, one for each CIP category (water system, collection system, and storm water system), which illustrate the location and general nature of each project. The majority of the construction projects are new pipe installation, new pump station installation, and pipe replacements for the water, storm, and sewer systems. Please let me know any initial comments that you may have. Ultimately, I will need a written determination (email) and a list of mitigation measures (if any) that I can use as documentation for the SERP. Thank you in advance for your time and please do not hesitate to call with questions.

Thanks,

Luke Johnson, Associate Biologist
ESA | Environmental Science Associates
819 SE Morrison Street, Suite 310
Portland, OR 97214
503.274.2010 main | 503.274.2024 fax
Ljohnson@esassoc.com | www.esassoc.com
Follow us on Facebook | Twitter | LinkedIn

Luke Johnson

From: HACK Tom <tom.hack@state.or.us>
Sent: Monday, March 6, 2017 11:30 AM
To: Luke Johnson
Subject: FW: Removal of Asbestos-Containing Transite Piping
Attachments: F-ASBPIPE.2006.DOC

My apology, Luke:

It would help if I send the attachment. Have a great day!

Tom

From: HACK Tom
Sent: Monday, March 06, 2017 11:25 AM
To: 'LJohnson@esassoc.com'
Subject: Removal of Asbestos-Containing Transite Piping

Hello Luke:

Thank you for your inquiry this morning. As you requested, I have included DEQ Guidance on the proper removal of asbestos-containing transite piping.

As you are aware, fugitive dust must also be adequately controlled during the excavation and construction process.

If I can be of further assistance, please feel free to call me (541) 278-4626 or feel free to visit our website at www.deq.state.or.us

Tom Hack
Oregon DEQ
Air Quality Program
Eastern Region - Pendleton