Portland Metro Levee System
Feasibility Study

Feasibility Report and
Environmental Assessment

Appendix H – Cultural Resources
Attachment 1 – NRHP Form for the
Columbia Slough Drainage Districts Historic District
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United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, How to Complete the National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property
   Historic name: The Columbia Slough Drainage Districts Historic District
   Other names/site number:
   Name of related multiple property listing:

   (Enter "N/A" if property is not part of a multiple property listing)

2. Location
   Street & number: N/A
   City or town: Portland, Gresham, Fairview, and Troutdale
   State: Oregon
   County: Multnomah
   Vicinity:

3. State/Federal Agency Certification
   As the designated authority under the National Historic Preservation Act, as amended,
   I hereby certify that this nomination ___ request for determination of eligibility meets
   the documentation standards for registering properties in the National Register of Historic
   Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.
   In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I
   recommend that this property be considered significant at the following
   level(s) of significance:
   ___national  ___statewide  ___local
   Applicable National Register Criteria:
   ___A    ___B    ___C    ___D

   ___________________________  ___________________________
   Signature of certifying official/Title:                               Date

   ___________________________
   State or Federal agency/bureau or Tribal Government

   In my opinion, the property ___ meets ___ does not meet the National Register criteria.

   ___________________________  ___________________________
   Signature of commenting official:                                  Date

   ___________________________
   Title: State or Federal agency/bureau or Tribal Government
4. **National Park Service Certification**

I hereby certify that this property is:

___ entered in the National Register
___ determined eligible for the National Register
___ determined not eligible for the National Register
___ removed from the National Register
___ other (explain:) ___________________

<table>
<thead>
<tr>
<th>Signature of the Keeper</th>
<th>Date of Action</th>
</tr>
</thead>
</table>

5. **Classification**

**Ownership of Property**

(Check as many boxes as apply.)

Private:  
[ ]

Public – Local:  
[ ]

Public – State:  
[

Public – Federal:  
[

**Category of Property**

(Check only one box.)

Building(s):  
[

District:  
[ ]

Site:  
[

Structure:  
[

Object:  
[

Sections 1-6 page 2
Number of Resources within Property
(Do not include previously listed resources in the count)

<table>
<thead>
<tr>
<th>Contributing</th>
<th>Noncontributing</th>
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<tr>
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<td>20</td>
<td>6</td>
</tr>
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<td>23</td>
<td>13</td>
</tr>
</tbody>
</table>

Number of contributing resources previously listed in the National Register ______ 0 ______

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Waterworks

Current Functions
(Enter categories from instructions.)

Waterworks
7. **Description**

**Architectural Classification**  
(Enter categories from instructions.)

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderne</td>
</tr>
<tr>
<td>Other Utilitarian</td>
</tr>
</tbody>
</table>

**Materials:** (enter categories from instructions.)  
Principal exterior materials of the property: **earth, wood, concrete**

**Narrative Description**  
(Describe the historic and current physical appearance and condition of the property. Describe contributing and non-contributing resources if applicable. Begin with a summary paragraph that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity).

**Summary Paragraph**

The Columbia Slough Drainage Districts Historic Districts was evaluated as a part of a Section 106 Evaluation for the Multnomah County Drainage District in 2006 and was found to be eligible for listing in the National Register of Historic Places (NRHP) (O’Brien and Allen 2006). The U.S. Army Corps of Engineers (Corps) has requested the preparation of a National Register nomination for the planning for improvements in the Portland Metro Levee System. This NRHP form has been prepared by conducting a reconnaissance survey of previously identified resources, updating information, taking photos, and undertaking additional research. A portion of the original 2006 Section 106 documentation verbiage of Elizabeth O’Brien and Jason Allen has been incorporated into this document. Additional text has been added primarily to the historic context.

The four drainage districts Peninsula 1 (PEN 1), Peninsula 2 (PEN 2), Multnomah County Drainage District (MCDD), and Sandy Drainage Improvement Company (SDIC) have operated as individual entities, until recently. MCDD, the largest management area took over the management of all four districts in the early 2000s. Most recently, the four drainage districts as of September 29, 2019, through Oregon State Senate Bill 431 are officially merged into a single drainage district managed by a single board with representatives from the four drainage districts, from the nearby cities, and environmental groups (State of Oregon 2019).
Location and Setting

The Columbia Slough Drainage Districts Historic District is in Multnomah County, Oregon straddling the northern city boundaries of Portland, Fairview, and Troutdale along the northern border of Oregon. The districts border the Columbia River within the Columbia River floodplain between the Willamette and Sandy Rivers. The drainage districts occupy approximately 12,550 acres spanning three townships: Town 1 North, Range 1 East, Township 1 North, Range 2 East, and Township 1 N, Range 3 East, Willamette Meridian. The four drainage districts initially were developed for agricultural uses, but with time transitioned to a mix of industrial, commercial, recreational uses and also residential areas that have doubled in size since the 1970s (Levee Ready Columbia 2017).

Peninsula District No. 1 (PEN 1)

Peninsula District No. 1 (PEN 1) is the westernmost district and spans from Columbia River Mile 105.6 to 106.5 and is bounded on the west by the Oregon Washington Railroad & Navigation Company (OWR&N) Levee (technically an embankment and not a levee), Columbia Slough Levee to the south, N Denver Cross Levee on the east boundary, and Columbia River Levee on the north. The interior is a mix of recreational and industrial uses. Most prominent is the Heron Lakes Golf Course, operated by the City of Portland, the Portland International Raceway, and an industrial/commercial area along the north boundary on a natural levee once associated in the 1920s with Union Meat Company and Union Stock Yards (Laurgaard 1921). Two pump stations control the water levels within the drainage district: Portland International Raceway (PIR) Pump Station and Vanport Wetlands Pump Station. The latter serves the 90-acre Vanport Wetlands, a re-established wetland habitat. Approximately 995 acres are protected within the PEN 1 district.

Peninsula District No. 2 (PEN 2)

Peninsula District No. 2 (PEN 2) is situated east of PEN 1; the north boundary is from Columbia River Mile 106.5 to Mile 108.2. The district’s perimeter is defined by levees: Columbia Slough Levee defines the south boundary; Peninsula 2 Levee curves northward defining the east boundary; the Columbia River Levee borders the northern boundary, and the N. Denver Avenue Levee defines the west boundary. The levees in length measure approximately 6.5 miles (Meyer 2013). PEN 2 protects approximately 1,611 acres that are a mix of residential, commercial, industrial, and recreational uses. Residential areas are found in the north generally known as the Bridgeton and Faloma neighborhoods. Recreational facilities include Columbia Edgewater Country Club (1925), East Delta Park, and Portland Meadows (1946-2019), which has recently closed and is
planned for redevelopment (Singer 2019). Two pump stations control PEN 2 water levels: Schmeer Road Pump Station and NE 13th Avenue Pump Station, which both convey water to the Columbia Slough.

**Multnomah County Drainage District (MCDD)**

The Multnomah County Drainage District on the west begins at Columbia River Mile 108.2 and continues eastward to Mile 119. The west boundary is the Peninsula Drainage Canal, the north by the Columbia River Levee, east by the NE 223rd Avenue Cross Levee, and on the south by NE Sandy Boulevard and NE Columbia Boulevard. The district’s levee system totals approximately 14.7 miles (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a). The primary levees protecting the MCDD are the Columbia River Levee and the NE 13th Avenue Cross Levee; two cross levees are intended to protect against interior breeches: the NE 142nd Avenue and NE 223rd Avenue Cross Levees. MCDD is subdivided into two halves at the NE 142nd Avenue Cross Levee. Approximately 8,590 acres are protected within the MCDD (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a). Seven pump stations control water levels within the MCDD: Pump Station No. 1, Pump Station No. 2, Airtrans Pump Station/Pump Station No. 3, Pump Station No. 4, Broadmoor Pump Station, NE 181st Avenue Pump Station, and Cereghino/Fairview Lake Pump Station.

The MCDD is a mix of industrial, commercial, and recreational areas. Golf courses were developed in the 1920-1930s, when agriculture no longer seemed a profitable option for J.O. Elrod and the MCDD (MacColl 1979:240-244). Riverside Country Club (1925), Alderwood Country Club (1925), Colwood Golf Course (1930), and Broadmoor Golf Course (1931) were developed incorporating drainages and natural landforms into landscape features. The construction of the Portland Columbia Airport, currently Portland International Airport (PDX) began in 1935 and other World War II developments including the Portland Army Air Base set off a chain of development that continues to this day. Expansion of the airport in the 1950s led to removal of the Alderwood Country Club. Residential areas are evident in the east half of MCDD near Blue Lake and Fairview Lake. Primarily a recreational area in the 1920s, Blue Lake was developed first. A dam constructed circa 1950 and an associated weir assisted in controlling water levels in Fairview Lake, making it attractive to full-time residents, which led to residential developed on the south side of the lake in the 1990s-2000s (Graybill 2002; Portland Maps 2019).

**Sandy Drainage Improvement Company (SDIC)**

The Sandy Drainage Improvement Company is situated east of MCDD starting from Columbia River Mile 119 extending east to the mouth of the Sandy River at approximately Mile 120.5. It is
The Columbia Slough Drainage Districts Historic District

Name of Property

bounded on the south by the Union Pacific Railroad, on the west it shares the NE 223rd Avenue Cross Levee boundary with MCDD, and the north and east boundaries are defined by the SDIC Levee. Approximately 1,556 acres are protected within the SDIC (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018b:11). Floodplain water surface levels within the SDIC are controlled by one pump station; Sandy Pump Station in the drainage district’s northwest corner. The SDIC is a mix of commercial and industrial uses, including the Troutdale Airport.

Sandy Drainage Improvement Company developments began as a part of the Sun Dial Ranch operations circa 1915. Primarily devoted to agriculture, during World War II, a small private airstrip (present Portland-Troutdale Airport) was purchased by the Port of Portland in 1942 and used as a back-up airfield for the Portland Columbia Airport (Port of Portland Commission 1941-1942:14-15). Reynolds Aluminum Plant also established as a wartime aluminum plant (MacColl 1979:194-195). Electrical substations were built to serve the wartime operation and over time the area has become a hub for Bonneville Power Administration, Pacific Corp, and PGE substations and associated transmission line corridors. Other industry and services have been built up around the Portland-Troutdale Airport. The former location of the Reynolds Aluminum facility has been redeveloped as a FedEx distribution center, and adjacent lands are being developed as the Troutdale Reynolds Industrial Park (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018b:11).

Description

The Columbia Slough Drainage Districts Historic District is made up of four, historically separate drainage districts and includes the historic alignments of the levees and cross levees, and historic sloughs and drainages. Pump stations are included within the district and include their immediate setting of fenced and intake areas. Interior areas within the levee boundaries are not within the historic district, only the structures noted and managed by MCDD. See attached map as a complete verbal boundary reference.

Drainage District Features

The Columbia Slough Drainage Districts Historic District is composed of structures, drainages, ponds, and ditches, and buildings used in the management of an extensive drainage district system. The drainage districts were formed to control flooding and to convey water through the former Columbia Slough system, adapting natural features and constructing structures to manage water flow through the drainage districts. There are six major resource types identified within the Columbia Slough Drainage Districts Historic District: levees/cross levees, pump stations, weirs/dams, canals, sloughs, and drainage/ditch systems and flood walls.
Table 1. Levees and Cross Levees within
Columbia Slough Drainage Districts Historic District.

<table>
<thead>
<tr>
<th>Name</th>
<th>Associated Drainage District</th>
</tr>
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<tbody>
<tr>
<td>Columbia River Levee</td>
<td>PEN 1, PEN 2, MCDD</td>
</tr>
<tr>
<td>OWR&amp;N Levee (embankment)</td>
<td>PEN 1</td>
</tr>
<tr>
<td>Columbia Slough Levee</td>
<td>PEN 1, PEN 2</td>
</tr>
<tr>
<td>N Denver Avenue Levee</td>
<td>PEN 1</td>
</tr>
<tr>
<td>N Union Avenue / Martin Luther King Jr Avenue Levee</td>
<td>PEN 2</td>
</tr>
<tr>
<td>Peninsula No. 2 Levee</td>
<td>PEN 2</td>
</tr>
<tr>
<td>NE 13th Avenue Cross Levee</td>
<td>MCDD</td>
</tr>
<tr>
<td>NE 142nd Avenue Cross Levee</td>
<td>MCDD</td>
</tr>
<tr>
<td>NE 223rd Avenue Cross Levee</td>
<td>MCDD</td>
</tr>
<tr>
<td>Sandy Drainage Levee</td>
<td>SDIC</td>
</tr>
</tbody>
</table>

Levees & Cross Levees

Earthen structures identified within the historic district as levees, fills, or cross levees that total 27 linear miles. There are ten earthen levee structures within the four individual drainage districts, some of which serve as interior boundaries between the districts, generally cross levees, and others forming the boundary perimeter of the overall district. The levees incorporated into the historic district boundaries can be found in Table 1.

Levees control water flow within and outside the levee structures. Some of the levees have incorporated natural levees and landforms within their structure. The levee structure is generally composed of a core of sand or clay, topped by compacted sand with sloped sides and flat crown/crest. The waterside levee banks are generally coated with a layer of revetment/riprap, usually basalt rock, to protect against erosion. Grass is planted on the levee, which also protects against erosion. In maintaining the structural integrity of the levees, constant vigilance is necessary. The growth of vegetation must be monitored and plants such as trees with deep root systems must be removed from on or near the levee. Animal dens, burrows, pipes, and other structures embedded within the levee must be monitored, repaired, or removed.
Modifications and improvements have been ongoing since the 1930s with the Flood Act of 1936, the building of the Portland-Columbia Airport and Vanport City in the 1930s and early 1940s, as a result of the 1948 flood, and the Flood Control Act of 1950. Most of the modifications have resulted in strengthening levees, raising their crests, and minor reconfigurations. Overall, the character-defining feature of the levees and cross levees that make them historic is their alignment.

**PEN 1 Levees**

The historic contributing levees within PEN 1 include the Columbia River Levee, the OWR&N Levee (1909-1911), the Columbia Slough Levee (1918 to 1920), and the N Denver Avenue Cross Levee at the district's eastern edge (ca. 1912-1917).

**PEN 2 Levees**

In PEN 2 the historic contributing levees include the Columbia Slough Levee (1918 to 1920), the Peninsula 2 Levee (1919), the Columbia River levee (1919), and the Union Avenue/Martin Luther King Jr. Boulevard Cross Levee (ca. 1916). PEN 1 and PEN 2 are divided by the N Denver Avenue Cross Levee. The Columbia Slough levee extends from PEN 1 and continues until it connects to the PEN 2 levee. The PEN 2 Levee continues northward along the City Canal/Peninsula Drainage Canal and ends at the Columbia River Levee, which runs along the northern boundary of PEN 2. The Union Avenue/Martin Luther King Jr. Boulevard Cross Levee also provides protection within PEN 2.

**MCDD Levees**

The historic contributing levees within the MCDD include the Columbia River Levee (1919), the NE 13th Avenue Cross Levee (1919), and the NE 142nd Avenue Cross Levee (1960). On its east boundary is the NE 223rd Avenue Cross Levee (1954).

**SDIC Levee**

The SDIC consist of levees that encloses the district edges along the Sandy and Columbia rivers. They were constructed between 1916 and 1918. The NE 223rd Avenue Cross Levee (1954) is located on the SDIC's western boundary.

In maintaining the structural integrity of the levees, constant vigilance is necessary. The growth of vegetation must be monitored and plants such as trees with deep root systems must be removed from on or near the levee. Animal dens, burrows, pipes, and other structures embedded within the levee must be monitored, repaired, or removed.
The Columbia Slough Drainage Districts Historic District

Name of Property

Sandy Drainage Levee

The SDIC levee is approximately 3.28 miles long and runs near the south bank of the Columbia River from near the Sandy Pump station eastward to the Sandy River where it veers southeast following the west bank of the Sandy River south to near I-84. The area is a mix of open land, industrial and commercial development, and transmission line corridors and substations at the north end near the levee. The levee crown widths average from 8 to 22 feet and the levee elevation averages from 48.1 to 48.9 feet (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018b:2-1).

Pump Stations

The pump stations control the water levels within the individual districts conveying the flow of water to drainage outlets. The pump stations are generally small buildings that house one to five pumps that operate with sumps, inlet areas, and trash racks. Most have flat rooftops with parapets, having hatches that provide crane access to the pumps for maintenance or replacement. Building structures are wood-framed, poured concrete or steel framed. Most are utilitarian in style and are clad in metal or plywood sheeting. Schmeer Pump Station which dates from 1938-1940 reflects by its horizontal detailing Streamline Moderne architectural styling, and although modified retains sufficient integrity to be historic contributing. Others from this era have been modified and no long retain historical integrity or have been rebuilt. The character-defining features of pump stations are the building’s characteristics retaining features from the period of significance of design, massing, shape and materials.

Weirs/Dams

Weirs regulate the flow of water in a drainage system much like dams. The Fairview Lake Weir controls water levels in Fairview Lake. The metal structure is modern and was constructed in 2004 (Graybill 2002; Jensen 2004). The neighboring Fairview Lake Dam is an earthen structure. The dam was built over a period of time beginning circa 1950 by local residents and the MCDD using dredge materials and fill (Graybill 2002). Maintained as a dam, a residential development has been built upon it since circa 1990 (Portland Maps 2019).

Concrete Flood Wall

A concrete flood wall is located within PEN 1 on top of the Columbia River Levee in the section adjacent to the Oregon Slough. The concrete wall was added to a low area of a natural levee in 1940 (USACE 1942:1950-1957). The concrete wall stands six feet above grade and along the levee has two openings that can be fitted with concrete panels. The wall extends south with an opening in
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Marine Drive that can also be closed (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2014). The concrete flood wall retains its historic alignment and is historic contributing.

**Sloughs/Drainage Systems**

The sloughs and drainage systems within each drainage district are remnants of a natural inland drainage and waterway network, historically used for navigation, recreation and as the population of Portland grew, and an outlet for waste and sewage. The remnants of the sloughs, lakes and drainages are recognized as separate drainage networks with specific names. Columbia Slough is the primary slough within the drainage. The Columbia Slough defines the south boundary of PEN 1 and PEN 2 and splits into two channels in MCDD. The Columbia Slough, as well as the other sloughs, have been manipulated and channelized and maintained with dredging. Those sloughs that retain the historic alignments as they were channelized as determined through historical maps were identified to be Mud Slough Drainage, Force Lake Drainage, Bayou Slough Drainage, and Switzler Lake Drainage in PEN 1; and the Middle Slough and Upper Slough in MCDD. These slough alignments as manipulated and managed are historic contributing to the historic district.

The drainage ditch systems are either modified natural drainages or entirely artificial ditches. The drainage ditch systems were created to drain natural lakes, ponds, and wetlands, and to collect surface water into larger drainage systems. The ditch systems were modified to accommodate industrial and agricultural uses. The identified drainages include Switzler Lake Drainage, NE 82nd Avenue Drainage, and Salmon and Arata Creek Drainage. The identified alignments are considered historic, contributing to the historic district.

**Improvements within the Individual Districts**

**Peninsula Drainage District No. 1 (PEN 1)**

PEN 1 was organized in 1916. A bond issued in 1917 enabled the drainage district to pay for construction measures. As most of the district’s north boundary was on high ground, only a small levee was necessary from the Interstate Bridge westward to the present-day Exposition Center. PEN 1 took advantage of the OWR&N railroad fill on its western boundary and the Denver Avenue Fill on its eastern boundary built as an approach for the Interstate Bridge. Neither levee was intended to serve as levees and designed more to the specifications of a railroad or highway fill. Denver Avenue was initially known as Derby Street prior to a name change in 1923. The approach was built as a timber trestle and was infilled near the time it was reconstructed in 1917 (Oregonian 1917a). In June 1917, Pacific Bridge & Building Company received the contract to build the approach; it is not clear whether this was for just the trestle or included the fill portion of the contract, as well (Oregonian 1917b).
A substantial part of PEN 1 was developed into the wartime community of Vanport City for World War II shipyard workers. Site work began in August 1942 incorporating the major lakes and drainages into the site design grading the sloughs and drainages. Trees were planted along the drainages creating natural landscaped areas. The drainage system took up one-sixth of the Vanport City site design (Maben 1987:10-11). An underpass was constructed through the N. Denver Avenue Fill to access the community and an interchange was constructed to facilitate traffic flow (Maben 1987:11). A ring levee was constructed around the underpass (Figure 2).

Bayou Lake and Mud Slough were along the south border of Vanport City, Mud Slough meandered diagonally through the new community as did Bayou Slough. Buildings were positioned adjacent to a small pond feeding into Force Lake. Open areas provided visual relief in the densely built environment (Figure 3).

A major Columbia River flood in May 1948 resulted in a breach of the OWR&N embankment on May 31 (Figure 4). A wall of water swept through the community, with apartments and other
buildings breaking free and floating across the floodwaters. Almost all residents fled or were successfully evacuated, but Vanport was destroyed (Figure 5). It took about two months for the waters to completely recede, following which the surviving buildings were demolished or salvaged. Clean-up of the former Vanport location was not completed until April 1949 (Maben 1987:106-128).

In 1969, Heron Lakes Golf Course (West Delta Golf Course) opened in the west half of PEN 1. Designed by Robert Trent Jones II, a nationally noted golf course designer, the system of lakes and sloughs, Mud Slough, Bayou Slough, and Force Lake, formerly water features within Vanport City, were incorporated into the golf course as landscape features. Nine additional holes were added to the golf course in circa 1990 (Robert Trent Jones II Golf Course Architects 2019).
The Columbia Slough Drainage Districts Historic District  
Name of Property                 Multnomah, Oregon  
County and State

Figure 3. A 1942 view of Vanport showing a cafeteria situated next to Force Lake (Portland Archives A2001-025.767).

Figure 4. The site of breach of the OWR&N Levee (embankment) (Maben 1987:107).
Peninsula Drainage District No. 2 (PEN 2)

The PEN 2 drainage district, established in 1917, didn’t begin construction until 1919, although several features were already in place. The Union Avenue Fill or Cross Levee and Denver Avenue approach began as approaches to the Interstate Bridge, which opened in 1917. Work on the Union Avenue Fill approach was underway by 1915, partially built as trestle and also using fill from the Columbia Slough (Oregonian 1915).

In an effort to use the Columbia Slough for an improved sewer system, and rather than building a costly trunk sewer line, the City dredged the slough below the new “dam” (actually a levee) and excavated a new channel to the Columbia River expecting sufficient flow for sewage. Construction of the “City Canal” or later “Peninsula Drainage Canal” began in 1919 and was completed in 1921 (Laurgaard 1921:47-48; Oregonian 1919). The contractor for construction of the canal was Charles Swigert’s Pacific Bridge Company. The new channel extended northerly following an existing slough (McBride’s Slough) and then continued to the Columbia in an artificial channel. The canal at the time it was constructed measured approximately 7 feet deep, 150-ft-wide at the base and was bordered by 10-ft high berms or levees (later Peninsula No. 2 Levee and 13th Avenue Levee) (Laurgaard 1921:47-48).
The Flood Control Act of 1938 allowed further improvements to be made to PEN 2. The Columbia Slough and Peninsula 2 levees were raised and fortified. A ring levee was installed by Corps at an underpass installed on the N. Denver Avenue Cross levee to protect the entrance into the newly constructed Vanport City (see Figure 2).

The levee was breeched in the 1948 flood on May 31. As it was such an important transportation link, repairs were made within days of the inundation, filling the 500-ft wide break to open up the roadway back up to traffic (Figure 7) (Oregonian 1948).

Peninsula Drainage Canal never met the City’s expectations for increasing water flow. There were constant struggles with shoaling caused by the seasonal flooding on the Columbia River. The canal was closed permanently in 1959 with the City relinquishing its rights to the canal. The Corps blocked the base of the canal with an earthen plug that blocks the canal between the two levees at its south end.

More recent improvements to PEN 2 include the construction of the 13th Avenue Pump Station in 1982 and an electrical system upgrade after the 1996 Flood.
Figure 7. Vanport Flood of 1948 inundation showing the breech in the Denver Avenue Fill/Cross Levee (right) (Portland Archive A2001-025.626).

**Multnomah County Drainage District**

Levee construction within the MCDD began in 1919. The levee design near the Peninsula Drainage Canal took advantage of natural landforms along the riverbank formed over time, and when finished averaged from 34 to 40 feet in elevation. “Semi-pervious and impervious material” dredged from the Peninsula Drainage Canal were used in forming the levee (USACE 1957:A-2). The levee curved southward at the Peninsula Drainage Canal creating a cross levee that extended to near the southwest corner of MCCD. A pump station was constructed near the channel curved towards the Columbia River and south of the Columbia Slough channel continuing eastward. Work was proposed in 1940 to reconstruct approximately 11 miles of the riverfront levee. Approximately 8.45 miles from the Portland-Columbia Airport to the SDIC boundary were strengthened and raised on average 3.5 feet to meet the 1894 Flood levels. Hydraulic and non-hydraulic were laid on embankment on the existing levee. Dredge material extracted from the Government Island channel was used in completing this project segment using Port of Portland’s dredge (Oregonian 1941). Sections of the levee near the Portland-Columbia Airport were bolstered by stone revetment laid on the riverside embankment (USACE 1938:1779-1782; O’Brien and Allen 2006). Additional work was carried out after the 1948 Flood. The height was increased again, by a foot and revetment added in several
segments on the riverfront (Sunday Oregonian 1950). Applications of revetment were added to levee during from the 1960s through the 1980s (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a).

The original pump station, situated in the vicinity of Pump Station No. 1, was largely completed by June 1920 (Oregon Daily Journal 1920). It was built at the southwest corner of the MCDD along the outer curve of the Peninsula Drainage Canal levee and south of the Columbia Slough channel that continued eastward beyond the levee. Five auxiliary pump stations were built within the district’s interior along with the concrete tide boxes (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a). During the 1948 Flood, the main pump station pumps were overtaxed by breaches within the three cross levees to the west and the station severely damaged. A vibrating pump and its location outside the levee damaged the pump station, and led to flooding within MCDD (Sunday Oregonian 1950). The U.S. Army Corps of Engineers Portland District Office completed the engineering drawings of the new pump station and associated tide box on the opposing side of the levee in 1948 (USACE 1948:1-20).

Pump Station No. 2, constructed circa 1948, operates two pumps and has a spillway and trash rack. Like Pump Station No. 1, the station required rebuilding after the 1948 flood. It was again rebuilt in 1998-1999 following the 1996 flood. Two Cascade Pumps were installed in this timeframe with a combined pumping capacity of 13,000 gallons per minute (Dec-Olsen 2016). The building is wood-frame with a poured concrete foundation. The exterior walls were resided with wood siding ca. 2016 (Dec-Olsen 2016).

The NE 223rd Cross Levee divides MCDD from SDIC and runs north to south approximately 0.91 miles in length. The 1954 cross levee’s purpose is to protect areas from possible breaches in the neighboring levee (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a). The cross levee is one of the later additions to the MCDD drainage district system and was built in following the 1948 flood to further protect SDIC developments. Reynolds Metals Company encouraged the improvements to move forward by donating $555,000.00 for rebuilding the SDIC levee and the building the cross levee. The cross levee’s meandering alignment is the result of taking advantage of the existing landforms (Oregonian 1953).

The NE 142nd Avenue Cross Levee is an approximately 4,000-foot long earthen structure built in 1960. The cross levee was a 1950 Flood Control Act project undertaken to subdivide the MCDD into smaller protected areas (USACE 1961a:1474). The location was chosen as a general mid-point within the MCDD and also a shorter distance to build. The cross levee is oriented generally northeast to southwest from the Columbia River Levee southwest to near NE Columbia Boulevard.
The Columbia Slough Drainage Districts Historic District

The USACE awarded the contract to General Construction Co. According to a 1960 *Oregonian* article, the levee was built of sand dredged from the Columbia River. It was built 20 feet high, the base 140-feet wide, and the crest 12-feet wide. Gravel covered the levee’s crest, while the slopes were planted with grasses (*Oregonian* 1960). Pump Station No. 4 was also constructed in conjunction with the cross levee for draining the interior (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a; USACE 1961b:1874).

Pump Station No. 4 is a relatively new pump station needed after the construction of the NE 142nd Avenue Cross Levee in the same period in 1961 (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018a; *Oregonian* 1960). The pump station is situated south of Marine Drive and west of NE 185th Avenue within the east half of the MCDD. The intake and trash rack face south towards M1-29 ditch. The pump station holds four pumps that have the combined pumping capacity of 272,000 gallons per minute (Dec-Olsen 2016). The outflow is conveyed north into the Columbia River.


The Broadmoor Pump Station is situated near the southeast corner of Broadmoor Golf Course and adjacent to Portland International Airport. The intake is oriented north towards a ditch that continues into the golf course and extends to the Columbia Slough. The pump station was constructed in 2003 and has two pumps with a pumping capacity of 12,000 gallons per minute (Dec-Olsen 2016).

Known as the Cereghino Pump Station (also Fairview Lake Pump Station), the utilitarian structure is situated directly west of Fairview Lake and west of NE Fairview Lake Way on an undeveloped 1.18-acre land parcel noted in tax assessor records as a converted Commercial Segment. The structure is thought to date from 1961 and was later moved ca. 1996 (O’Brien and Allen 2006). The single pump draws 13,000 gallons per minute (Dec-Olsen 2016).

The NE 181st Pump Station has been buried underground and is not visible. It was replaced in 2006 (Dec-Olsen 2016). The Bridgestone/Firestone Pump Station is a small pump station, constructed in 2000 and situated north of NE Riverside Parkway.

Fairview Lake, formerly known as Mud Lake, was in an agricultural area envisioned along with Blue Lake for homesites in the 1920s by O.H. Skotheim (*Oregonian* 1925). Most were drawn to land oriented towards Blue Lake; few homes and summer cottages were built on Fairview Lake’s
northern perimeter from the 1920s-1950s. Fairview Lake was popular for duck hunting and fishing, and Multnomah County Drainage District found the local population up in arms when they proposed draining Fairview Lake in 1936 with WPA funds (Oregonian 1936). With time, other residences were built on the lakes northern perimeter and would later surround the lake and also on the earthen dam in the 1990s-2000s (Portland Maps 2019).

The Fairview Lake Weir was constructed in 2004 to replace the former concrete structure built in the 1950s (Graybill 2002; Jensen 2004). Fairview Lake Weir controls water levels within Fairview Lake fed by Fairview Creek, a local collector for storm drainage (Graybill 2002). The neighboring Fairview Lake Dam is an earthen dam that was constructed to control water levels in Fairview Lake. The dam was built over a period of time beginning circa 1950 by local residents and the MCDD, using dredge materials and fill (Graybill 2002). Maintained as a dam, residential development has been built on the structure since circa 1990.

The NE 82nd Avenue Drainage System is the remnant a large drainage system of sloughs and creeks the once spanned the Columbia Slough. This particular network is in the vicinity of NE 82nd Avenue to present-day I-205. Once the MCDD was formed in 1917 and work began in earnest in 1920, the drainage system was manipulated over time to make way for developments taking advantage of the reclaimed land. When agriculture no longer seemed a profitable option, J.O. Elrod and the MCDD turned to recreation ventures (MacColl 1979:240-244). The drainages were incorporated into golf courses. Alderwood Golf Course was built within the drainage system near the Columbia River Levee in the 1920s, and later Colwood Golf Course was built to the south near Columbia Boulevard (MacColl 1979:240-244; O’Brien and Chapman 2014). More radical modifications came when the Portland-Columbia Airport began in 1936, bisecting the natural drainage system north of Columbia Slough. Essentially one-square mile was filled, and a pipe drainage system installed (Port of Portland Commission 1939-1940:8). The drainage system was further modified in the early 1950s by the east expansion of the airport and runways that expanded into Alderwood Golf Course.

McBride’s Slough is a series of ditches and channels that drain the south end of Portland International Airport at the west end of MCDD. The natural drainage system of ponds, sloughs, and creeks have been modified since the 1920s when a section of the drainage was incorporated into the Peninsula Drainage Canal. Once the MCDD was formed in 1917, and work began in earnest in 1919-1920- the drainage system was manipulated over time to make way for developments taking advantage of the reclaimed land. Elrod’s actions to establish golf courses when agricultural development had limited success extended to the McBride’s Slough drainage with creation of the Riverside Country Club and Broadmoor Golf Course (1925 and 1931, respectively). Both courses
The Columbia Slough Drainage Districts Historic District  
Multnomah, Oregon

incorporated the drainages into landscape features. A 1921 map compared to a 1961 USGS map shows the early drainage meanders through Riverside Country Club and skirting the north side of Broadmoor and a pond partially drained and channelized through the golf course (Laurgaard 1921; USGS 1961). Most drastic changes occurred with the building of the Portland-Columbia Airport in the 1930s and other modifications have occurred since then. MCDD Pump Station No 2 and Broadmoor Pump Station east of the Broadmoor Golf Course maintain water levels within this drainage, which are conveyed to the Middle Slough.

Sandy Drainage Improvement Company

Levee construction within the Sandy Drainage Improvement Company was a part of the earliest developments within the Columbia Slough bottomland and the first drainage district area to make use of the reclaimed land. Experimentation on Sun Dial Ranch had begun circa 1912 and construction began in earnest circa 1916 near Fairview and expanding eastward towards the Sandy River, then veering southward near Sandy River’s west bank. Sun Dial Ranch, several companies and investors submitted a petition to formally organize a drainage district in July 1917. Union Meat Company, Roy Barton, and developer J.H. Townsend were among those listed on the petition (Oregonian 1917c). To further fund the expansion district bonds were marketed to the public. Sun Dial Ranch hoped to expand their operations and eventually subdivide the reclaimed property into smaller orchard tracts (O’Brien and Allen 2006).

Constructing the levee, provided proof that similar projects were viable. Prior to developing the protected areas, farming on the Columbia River floodplain near Troutdale and Fairview was limited to hay production. With levee protection and a pump station, 2,300 acres were planted and successfully harvested with forage and truck crops encouraging others to form drainage districts (Oregon Daily Journal 1920). In this early period, celery proved to be an important crop. Bulbs, nursery stock, and general truck farming also proved viable within the sandy loam bottomland.

In later years, the SDIC was funded to reconstruct the approximate three miles of the levee and a new pump station (USACE 1938:1779). Some of these improvements were made to the levees on the eve of World War II to protect war defense developments in the SDIC in 1940-1941 (O’Brien and Allen 2006). The levee was rebuilt and extended by 6,340 feet by the Corps (Cornforth Consultants, Inc. and WEST Consultants, Inc. 2018b). In 1941, the Defense Plant Corporation and Reynolds Metals Company took over a portion of Sun Dial Ranch to build an aluminum plant and two large warehouses that connected to the railroad lines (MacColl 1979:194-195). The Port of Portland purchased a 1920s private airstrip in June 1942 as a backup airfield for the Portland-Columbia Airport; it is known today as the Portland-Troutdale Airport (Port of Portland Commission 1941-1942:14-15).
In the 1950s, Reynolds Metals Company funded the rebuilding of the levee main levee extending along the river raising it to 44 feet (Oregonian 1955). A Gresham contractor Vernie Jarl completed the work (Oregonian 1955). A mile-long cross levee was constructed on the west boundary of the SDIC on Campbell Road (current NE 233rd Avenue) (Oregonian 1955). The current pump station was constructed in 1954. The interior was rebuilt 1998-1999 after the 1996 flood and one of the two pumps replaced in 2018 (McNamee 2019). A small levee segment was constructed to protect the newly constructed Troutdale Interchange.

More recent improvements include the addition of a Troutdale Reynolds Industrial Park (TRIP) Flow Control Structure. Situated south of the Sandy Pump Station, the structure was built in 2016-2017 to replace two culverts (Niakan 2019).
8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

A. Property is associated with events that have made a significant contribution to the broad patterns of our history. [x]

B. Property is associated with the lives of persons significant in our past.

C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction. [x]

D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark “x” in all the boxes that apply.)

A. Owned by a religious institution or used for religious purposes
B. Removed from its original location
C. A birthplace or grave
D. A cemetery
E. A reconstructed building, object, or structure
F. A commemorative property
G. Less than 50 years old or achieving significance within the past 50 years
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Areas of Significance
(Enter categories from instructions.)

Engineering

Community Planning & Development

Period of Significance
1916-1961

Significant Dates
1916-1918
1948

Significant Person
(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder
Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Columbia Slough Drainage Districts Historic District located in the Columbia Slough adjacent to the Columbia River in Multnomah County, Oregon was organized into four separate drainage districts 1916-1918 to reclaim a network of drainages known as the Columbia Slough.

The Columbia Slough Drainage Districts Historic District is significant under Criterion A for its associations with early drainage district development in Oregon, which reflected the national reclamation movement that began in the 1880s. That movement initially focused on irrigation of arid lands but extended to drainage of low-lying lands for agricultural use. In 1909, Oregon passed legislation that outlined the process for the creation of drainage, diking, and irrigation districts in Oregon (Lord and Montague 1910:III: 2204-2238). Further legislation in 1912 enacted the formation of the Oregon Irrigation Congress in 1912 with a focus on providing state support for reclamation projects (King 1972:4-5). A series of amendments would further define the drainage district management, and in 1919 language related to the bonding of such district was added (Oregon State Water Board 1919:3). This period saw the growth of twenty drainage districts in Oregon. Local landowners in what would become Sandy Drainage Improvement Company began to experiment building levee segments for agricultural purposes 1915-1916. Their success encouraged the establishment of PEN 1 (1916), PEN 2 (1917), and Multnomah County Drainage District (1917), with most of the initial levee construction completed by the early 1920s. The drainage districts levee network contained and protected the Columbia Slough bottomland from the seasonal Columbia River freshets and allowing agricultural developments beyond cattle grazing.

The Columbia Slough Drainage Districts Historic District is also significant under Criterion C as a major engineered drainage system that began circa 1916 and was essentially built by the early
1920s. First relying on road fill, local dredge, and earthworks, the individual drainage districts independently manipulated the Columbia Slough bottomlands building levees, pump stations, and draining and channelizing sloughs and ditches. The City of Portland also played a role in this initial period by building an outlet, the Peninsula Drainage Canal, to the Columbia River (Laurgaard 1921:47-48). U.S. Army Corp of Engineers stepped into the building and maintenance of the drainage districts as a result of the 1938 Flood Act, which provided funding for drainage district maintenance and improvements from the Corps through succeeding funding cycles (USACE 1938:1779-1782). The development and maintenance of the four drainage districts has allowed the bottomlands to expand from primarily agricultural uses to recreational, commercial, industrial, and residential developments. War-time engineering projects during World War II within the districts, such as the building of Portland International Airport (PDX), have fostered further industrial and commercial ventures since the 1960s that are important to statewide commerce and industry.

**Narrative Statement of Significance** (Provide at least one paragraph for each area of significance.)

**Areas of Significance**

*Drainage District Developments and Engineering*

The history of efforts to open lands to agriculture through construction of dikes and drainage systems extends back in time for thousands of years. Such efforts in the United States were initiated in the early 1800s but were primarily limited to individual farmers and landowners. Some limited legislation was adopted to encourage reclamation of swamp lands. In 1849, Congress passed a Swamp Land Act that transferred unclaimed swamplands to the State of Louisiana. The intent was to provide additional revenues to the state through reclamation and sale of those lands. The Act was extended to other southern states in 1850 and then to Oregon and Minnesota in 1860. Under the Act, the states were to designate swamplands and take ownership of them for eventual reclamation and sale. Abuse and corruption pervaded implementation of this act in every state, however (Carlson 2010:452).

In 1877, Congress passed the Desert Land Act, which was intended to encourage settlement and irrigation of arid lands in the American West. Its provisions were also initially subject to considerable fraud and abuse. The cost for constructing effective irrigation systems was also difficult for smaller claimants. One consequence was growth in private irrigation companies, many of which proved to not be financially viable (Ganoe 1937). The 1890 census gathered data on western irrigated lands and reported that irrigation had had limited success in Oregon. Other than Jackson and Josephine Counties and the Hood River Valley (still in Wasco County in 1890), irrigation
projects had been undertaken only in counties east of the Cascade Range, and even in those counties only about 5% of arable land had been irrigated. The most extensive irrigated acreage was in Baker, Harney, and Lake Counties, and in only three counties (Baker, Lake, Malheur) did the irrigated acreage occupy more than 10% of arable land (Newell 1894:202-217).

The Desert Land Act had had limited success in transforming arid lands in the American West into productive farmland. At the same time, there was a rapidly growing movement around the importance of irrigation, to which John Wesley Powell’s 1879 Report on the Lands of the Arid Region of the United States was a critical early study. More studies were conducted in the 1880s, and 1891 saw the first meeting of the Irrigation Congress and publication of its journal, The Irrigation Age. The extensive lobbying for direct federal support of reclamation through the 1890s by the National Irrigation Association culminated in passage Reclamation Act in 1902 (Lee 1978:510-519). The Reclamation Act led to the creation of the Reclamation Service. Since the Reclamation Act was designed to address arid lands, the first projects in Oregon were east of the Cascade Range, in Malheur, Klamath, and Umatilla Counties (Lovin 2009:170-171).

The Reclamation Act had not passed without opposition. Some Midwestern and Southern members of Congress began lobbying for Reclamation funds for use in draining wetlands in the South and upper Midwest. This effort was then opposed by western members of Congress. Negotiations in 1906 to forge a compromise led to formation of the National Drainage Association (NDA). The NDA was established to be “a permanent lobbying organization dedicated to securing the passage of a national drainage law” (Carlson 2010:464). This effort ultimately failed due to regional conflicts and a 1907 U.S. Supreme Court decision that suggested the federal government did not have authority to improve private lands (under the Swamp Land Acts, ownership of many wetlands had been transferred to states and had subsequently been privatized). The NDA therefore shifted their focus to lobbying states that had not yet adopted legislation permitting the formation of drainage districts (Carlson 2010:465-470).

Despite the failure to develop a centralized federal drainage program in the first decade of the twentieth century, the formation of local drainage districts increased significantly during this era. Drainage districts began to be established in the decades after the Civil War, especially in the 1880s and 1890s. “The heyday of land drainage occurred between 1900 and 1919 when high farm incomes, heavy demand for agricultural commodities, and above normal precipitation provided optimum conditions for the organization of fifty-one million acres of farmland . . . into drainage districts and other municipal drainage projects” (Carlson 2010:452-453). Census data from 1920 reported almost 80% of drainage organizations (drainage and levee districts) throughout the United States had been formed between 1900 and 1919 (Marsden 1922:371).
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

State laws authorizing the establishment of drainage districts began to be enacted in 1857 (Michigan) and were largely limited to Midwestern states through the late 1800s. An 1868 Oregon statute authorized individuals and municipalities to apply for permission of the relevant county to construct drainage facilities by acquiring rights of way across the necessary lands (U.S. Bureau of the Census 1932:406). The only other Western states authorizing drainage systems in the late 1800s were California (1885) and Washington (1895). Other western states followed between 1900 and 1920: Idaho (1903), Texas (1904), Nevada (1913), New Mexico (1917), Utah (1917), and Wyoming (1920) (McCorvie and Lant 1993:26).

The 1868 Oregon law appears to have addressed only the construction of drainage ditches or similar facilities but not the formation of drainage or diking districts. Further actions at the state level in Oregon followed passage of the Reclamation Act. The Oregon Reclamation Association was established in 1902 but was replaced by the Oregon Conservation Committee, which was created by the Oregon Legislature. That Committee was instrumental in passage in 1909 of the first legislation defining a process for the creation of drainage, diking, and irrigation districts (Lord and Montague 1910:III:2204-2238). Much of this legislation focused on formation of irrigation districts, possibly in response to problems that had arisen with irrigation projects in eastern Oregon.

The 1909 legislation stated that the owners of more than one-half of the acreage of lands “susceptible of one system of drainage, desire to drain and protect the same from overflow” could petition the relevant county for creation of a drainage district. The statute also defined how to establish a drainage district board and also granted such districts the authority to condemn land if necessary. Similar legislation was enacted for the creation of diking districts for lands subject to “overflow by tide water, or by freshets” (Lord and Montague 1910:III:2204, 2206-2207, 2209-2210). The 1909 statute was amended in 1911, 1913, 1915, and 1917. By 1919, the 1909 statute had grown substantially in length due the additional provisions on bonding authority, management of the districts, levying of taxes, etc. The 1909 language on formation of districts had been revised to read (Oregon State Water Board 1919:3):

The persons shown by the records of the county to be the owners of fifty per cent of the acreage in any contiguous body of Swamp, wet or overflowed lands or irrigated lands, waters from which contribute to the swamp, wet or overflowed conditions of said lands or any other lands, situate in one or more counties of the state, may form a drainage district for the purpose of having such lands reclaimed and protected by drainage or otherwise, from the effects of water for sanitary or agricultural purposes, or when the same may be conducive to the public health, convenience and welfare or of public utility or benefit.
Likely contributing to the legislation was formation of the Oregon Irrigation Congress in 1912 with a focus on providing state support for reclamation projects. The culmination was a 1919 amendment to the Oregon Constitution authorizing the State to guarantee the interest on the bonds issued by drainage and irrigation districts (i.e., cover the interest on such bonds if a district was unable to pay the interest). Districts were required to meet certain conditions to qualify for state support. Reclaimed lands could be sold, with World War I veterans and Red Cross nurses given preference in the purchase those lands (King 1972:4-5; Oregon State Water Board 1919:31-32). This provision in the Constitution was repealed in 1930.

The Oregon State Drainage Association was organized in 1915. A major figure in the organization was W.L. Powers, who chaired the Department of Irrigation and Drainage at Oregon Agricultural College (now Oregon State University). Powers was author or co-author of several leading guides on drainage in the 1920s and 1930s, especially for Oregon (e.g., Powers 1919, 1923a, 1923b, 1927, 1930; Powers and Cretcher 1921; Powers and Teeter 1922). Powers was a major proponent for the drainage of wetlands in the Willamette Valley for conversion to farmland. The Irrigation Congress and Drainage Association shared similar interests and merged in 1925 to form the Oregon Reclamation Congress (King 1972:7-8).

The state legislation and the promotion of irrigation and drainage districts spurred interest in organizing such districts on the Columbia River floodplain in the Portland area beginning in the early 1910s. In January 1913, North Portland interests began lobbying for creation of a drainage district in the Peninsula area. The major focus of this effort was to dredge Columbia Slough for shipping and to provide an outlet for sewerage (Morning Oregonian 1913a, 1913b). By mid-February 1913, the Portland City Engineer had defined the boundaries of the proposed district (Morning Oregonian 1913c). The proposed district was still being promoted into March 1913 (Morning Oregonian 1913d) but appears to have lacked sufficient support and faded until revived in 1916.

The year 1916 witnessed the first successful effort at construction of flood control facilities in the present project area. Prominent Portland industrialist Charles Swigert and two partners had purchased the Sun Dial Ranch at the present location of the Troutdale Airport in 1905. Planning to subdivide the ranch into smaller tracts and concerned about the viability of the land due to flooding, they constructed a levee and a pump at the western boundary of the ranch in 1916. Levee construction continued into 1917 around the northern and eastern perimeters of the property. It was in 1917 that Sun Dial Ranch, the Union Meat Company (which owned land in the area), and several other landowners petitioned to establish “the Sandy drainage district. . . . They state in their petition that they desire to reclaim approximately 1500 acres lying between the Columbia and Sandy rivers. The proposed reclamation is for both sanitary and agricultural purposes” (Oregonian 1917d).
A newspaper article in October 1918 (Sunday Oregonian 1918a) described a visit to Sun Dial Ranch by a large contingent of Portland area realtors. The visitors were “particularly interested in the fact that most of the Sun Dial ranch is land reclaimed from Columbia Slough by diking and drainage.” Following the visit to Sun Dial Ranch, the realtors traveled west “to inspect the proposed drainage and diking project along the shores of the slough from the Sun Dial ranch to the Interstate bridge.”

Not surprisingly, the tour of the proposed new district was led by J.O. Elrod, who was the leading proponent for what became the Multnomah County Drainage District No. 1. Elrod was an important real estate developer who—in partnership with several others—first proposed organizing the drainage district in the fall of 1917.

Prior to this proposal, the Columbia Slough Development League reported a proposed Corps survey of the entire slough to make the slough navigable for small boats. At the same time, the City of Portland had initiated studies for possible use of the slough for disposal of sewage (Sunday Oregonian 1916a). Shortly after this report (January 1916), the North Portland Commercial Club stated it had chartered a train to carry volunteers armed with picks and shovels to travel to the headwaters to dig a 200-foot long channel to connect the upper end of Columbia Slough to the Columbia River, thus providing better flow for moving sewage through the slough (Oregonian 1916a). There is no record this channel was dug. Later in the year, several meetings were held in north Portland to rally support for formation of a drainage and reclamation district that would extend along Columbia Slough from its mouth to Troutdale and between the Columbia River and Alberta Street (Oregonian 1916b).

North Portland business interests continued to promote improvements to Columbia Slough through the summer of 1916. Newspaper articles noted both an interest in dredging the slough for ship traffic but also that dredging the slough would open up thousands of acres for farming. Flooding in June of that year that destroyed crops in the lowlands provided additional evidence for the need for improvements to the slough area. The public discussion and debate were concurrent with the City’s plan to use the slough as a sewage outlet. Diking and dredging of Columbia Slough was thus presented as serving three objectives: creating a ship channel, opening up land for farming, and serving as a means of disposing of sewage (Oregonian 1916c; Sunday Oregonian 1916b). Local businesses led by the Peninsula Industrial Company and the Swift Meat Company organized the Peninsula Drainage District No. 1 in 1916. The following year saw formation of Peninsula Drainage District No.2 (Harry 1921a). The Swift Meat Company had purchased the former Union Meat Company plant along the Oregon Slough in 1906 and created the Kenton community in the early 1900s, where many of its workers lived (MacColl 1976:466).
There were no newspaper reports on these efforts between July 1916 and May 1917. It’s unclear if this only reflects a lack of newspaper coverage or promotion of drainage projects waned during those months. May 1917, however, saw a report that a Multnomah County judge had approved formation of a Peninsula Drainage District, which would encompass 951 acres (Oregonian 1917b). However, newspaper accounts failed again until January 1918 (U.S. entry into World War I in April 1917 undoubtedly diverted attention away from the drainage issues). In early 1918, another major dredging of Columbia Slough was proposed (Sunday Oregonian 1918b):

The plan is to dredge the Slough from the Willamette River to Blue Lake, about a mile from Fairview Avenue, and to dredge an intake from the Columbia River to Blue Lake, making Blue Lake a settling basin where silt may settle and thereby avoid settling in the Slough channel after the original dredging is completed.

The channel, as proposed, would be 300 feet wide, 14 feet deep at low water, 16 miles long, would cost about $50,000 a mile, including the piling of the shore lines, at the intake. Such a channel would open up a vast extent of new industrial property and would furnish a means of disposing of Peninsula District sewage.

The Portland City Engineer stated the reclaimed lands would “change from cheap low-water pasture lands to high class industrial sites.” The projected costs for the project were $900,000, with half the funding to come from the federal government (Oregon’s Congressional delegation promised support). A major issue to be addressed was the City’s plan to use the slough for sewage disposal from the Peninsula area, with concern that the slough was too sluggish to move the sewage. One proposal therefore recommended excavating a channel from the Sandy River to Blue Lake to increase water flow in the slough (Sunday Oregonian 1918b).

The plans then encountered major controversy with formation of the Multnomah County Drainage District No. 1 in late 1917. The District subsequently obtained a permit from the Corps to build a dam across Columbia Slough at Union Avenue. The dam would have been a critical element in reclaiming the lowlands to the east. Local residents and the City of Portland immediately objected on the grounds the dam would prevent dredging the slough for shipping and would diminish water flow to an extent that disposal of sewage into the slough would no longer be viable (Laurgard 1921:43; Oregonian 1918a, 1918b). The District and the City eventually resolved their differences through an agreement under which the proposed dam was relocated about 0.8 mile to the east. To move forward with the sewerage project, the City dredged the slough below the new “dam” (actually a levee) and excavated a new channel to the Columbia River that would assure sufficient flow for sewage. The new channel extended northerly following an existing slough (McBride’s Slough) and then continued to the Columbia in an artificial channel. This was later known as the “City Canal” or
“Peninsula Drainage Canal.” Construction of the canal began in 1919 and was completed in 1921 (Laurgaard 1921:47-48; Oregonian 1919). As noted above, the Pacific Bridge Company had the contract to dredge and dike for the City Canal. Laurgaard (1921:48) provided a description of this construction:

as many as seven dredges of various types were at work on the job . . . A portion of the work was performed by a large drag line operating on the banks excavating the material for the new channel and placing the material directly on the embankments. The size of the channel, however, being 150 feet wide on the bottom, with side slopes of 2 to 1 and 10-foot berm at the ground level, did not permit of the use of drag line only where considerable excavation was necessary near the location of the embankments. In many cases the large dipper dredge, Titan, excavated the material in water, placed this material in barges which were conveyed by tugs to the two other locations where the barges were unloaded by clamshell dredges or derricks. A portion of the work was performed by these clamshell dredges by excavating the material from the channel and placing the same directly in the embankments. During the latter portion of the work a large suction dredge was leased from the Port of Portland, which was used to good advantage in excavating the bottom of the channel from Columbia River to Columbia Slough, to grade.

One feature of the work which was of special interest was the placement of this wet material in the embankments. As the material was very difficult to handle on the comparatively steep slopes of 2 to 1 and 3 to 1, it was necessary to deposit a large bulk of the material in layers. The material was of such composition that when deposited to any great depth it sloughed off and slid outside of the limits provided for the embankments.

The Warren Construction Company held the contract to construct the MCDD levee, and a 1919 newspaper article on construction of the levee included a photograph of horse teams building the levee (Oregon Sunday Journal 1919): “several hundred men and teams are at work on the project.” The same article noted the new pump station had two pumps, one of which was of “a new type, designed by the engineer in charge of the New Orleans drainage system.” The manual/horse labor was employed on lower ground. A 1921 article on construction of the levee in The Excavating Engineer (1921:119-120) described the use of a dragline to build “the high section of the dike”: “six thousand feet of the 11 miles of dike was built with this dragline, aggregating a total yardage of 101,000 cubic yards . . . the balance of the dike, being low fill which had to be borrowed over a very wide area on the inside of the dike, was moved for the most part by teams.”

The dragline was transported to the work area by barge and then moved inland to the location of what was to become a borrow pit or where fill had already been placed by horse teams. It then excavated fill from the borrow pit to either add fill to the existing levee base or constructed a new
The Columbia Slough Drainage Districts Historic District

Figure 8. Dredging operations in the Lower Columbia Slough Channel ca. 1921 (Laurgaard 1921).

Figure 9. Transition from Lower Columbia Slough Channel to the Peninsula Drainage Canal, ca. 1921 (Laurgaard 1921).
section of the levee. The dragline was moved using a large donkey engine. The dragline work was conducted between February 4 and April 15, 1920 (Excavating Engineer 1921:119-20).

No similar information has been identified for construction of the SDIC, PEN 1, or PEN 2.

The creation of the four drainage districts was often presented as a means of transforming the floodplain into productive farmland. A 1918 tour of the Sandy and Multnomah drainage districts by delegates at Oregon State Drainage Association emphasized the increased value of crops grown on reclaimed land (Oregonian 1918c). As U.S. involvement in World War I escalated, the benefits of constructing the levees were stressed as integral to increasing emergency food production (Gresham Outlook 1918). A prominent Sunday Oregonian article in August 1920 (Harry 1920) glorified the transformation of mosquito-breeding lands and “carp pasture” into a “vegetable garden . . . that will produce the best grown-stuffs at minimum cost.” “It means the addition of further industry to the city, the creation of more wealth, the lowering of living costs, and the placing of more families on the land that will yield a good living.” Harry echoed his promotion of the districts a few months later in another Oregonian article that described the reclamation projects as promising a “New Netherlands District Replaces Territory Formerly Haunt of Browsing Carp, Adding One-Third to Cultivated Area of Multnomah County” (Harry 1921b) Another 1921 article also stressed an increase in acreage from the drainage projects, providing Portland with a productive truck garden (Harry 1921c).

Agricultural prospects may not have always been the primary motivation for the formation of the districts. The late 1910s witnessed a push for development of industrial sites along the lower Willamette River, and the Peninsula district was promoted as the location of major growth in Portland (MacColl 1979:227-230). It seems unlikely that the two major petitioners for the Peninsula Drainage District No. 1—the Peninsula Industrial Company and Swift Meat—were seriously interested in improving farming opportunities.

Another example of evolving plans is with J.O. Elrod and the Multnomah County Drainage District No. 1. Elrod was prominent real estate developer and investor in Portland through the 1910s and 1920s, including industrial development of the Guild’s Lake district. Elrod partnered with other prominent business interests to establish the drainage district and served as its first president. The District’s organizers initially planned to provide opportunities for farming for returning veterans from World War I, and construction of the MCDD levee was used as a project by the U.S. Employment Service to employ servicemen returning from World War I (Oregon Sunday Journal 1919). They were successful in this plan until the collapse of farm prices beginning in 1920. By the mid-1920s, Elrod had shifted his investments in the drainage district to recreational developments. As early as 1924, Elrod became involved in developing two private golf courses within the newly
established drainage districts, Columbia (later Columbia Edgewater, located in PEN 2) and Alderwood (located in MCDD, later demolished for the Portland Airport). Elrod became president of both golf clubs. These golf clubs were soon followed by three more, Broadmoor, Riverside, and Colwood (all located in MCDD) (MacColl 1979:240-244).

The initial impact of the drainage projects on agricultural production can be challenging to measure. The acreage of improved farmland in Multnomah County increased by more than 10,000 acres from 1910 to 1920. There was also a substantial increase over the same decade of total farm acreage by about 14,000 acres (Hall 1925:Table No. 2), which may reflect the surge in farm prices during World War I. But it isn’t clear how much of that increase can be attributed to development of the drainage districts as improvements in drainage on the floodplain were just beginning. The reported census data for 1920 (U.S. Bureau of the Census 1922:VII:722) enumerates 163 farms in Multnomah County as having drainage, but only 8 of those farms were listed as being in a drainage and levee district. However, the Hall report (1925:20, 28) noted a decline in dairying—which had a mainstay of agriculture on the Columbia River floodplain since the 1850s—and an increase in the production of truck crops: “several thousand acres of dyked land adapted to celery, cabbage, cauliflower, lettuce, and other vegetables are available” (Hall 1925:28).

As noted above, the transformation of the drainage district lands to productive agricultural fields was slowed by economic factors in the early 1920s. Maps of 1918 (USGS 1918) and 1919 (Ruzek and Carpenter 1922) show the floodplain from Troutdale west to Portland as occupied by only scattered farms. The 1922 Ruzek and Carpenter soil survey for Multnomah County described the floodplain as “overflow” lands suitable primarily for grazing livestock, especially dairy cattle. There is a gap in maps for the 1920s-1930s. The 1940 Portland and 1942 Camas USGS topographic maps illustrate much more extensive development through the drainage districts than twenty years earlier. But the later development is evident primarily in residential recreational clusters at a few locations: around Blue Lake, at the northern edge of the Parkrose area (largely removed over the past 40-50 years for commercial development and construction of I-205), along NE 47th north of NE Sandy, along NE Elrod east of NE 33rd (now largely removed with expansion of PDX), and in the Bridgeton area.

The expansion of farming and other developments led to more demands on the transportation system. These lands had formerly been accessible from Sandy Boulevard on higher ground to the south, a few County roads, and a network of farm roads. In 1928, the MCDD petitioned Multnomah County for construction of a road on the top of the levee from Bridgeton east to Alderwood Road, a distance of 3½ miles. The proposed road would require raising the levee by three feet and would have been paved. “The road would afford a scenic drive along the Columbia
and would serve about a mile of truck farming lands not now located on an improved road. It would also shorten the distance to the Alderwood Golf club.” The district also petitioned the County for another road from the Columbia River levee south to Elrod Road. This road “would serve about a mile of truck farming lands not now located on an improved road and would shorten the distance from Faloma and Columbia Country club districts to the junction of Elrod road” (Morning Oregonian 1928). It is worth noting these requests for new County roads would provide access to both farmlands and golf courses.

The Great Depression of the 1930s created major financial challenges for irrigation and drainage districts. The federal government provided additional funding from the Bureau of Reclamation and research projects such as soil and hydrographic surveys by the Works Project Administration (King 1972:10).

The 1930s also saw the first involvement by the Corps in reclamation projects through the 1936 Flood Control Act. The act specified

The words “flood control” as used in section 701a of this title, shall be construed to include channel and major drainage improvements and flood prevention improvements for protection from groundwater-induced damages, and Federal investigations and improvements of rivers and other waterways for flood control and allied purposes shall be under the jurisdiction of and shall be prosecuted by the Department of the Army under the direction of the Secretary of the Army and supervision of the Chief of Engineers [33 U.S. Code § 701a-1].

The 1938 annual report of the Chief of Engineers listed 40 drainage, diking, and improvement districts on the lower Columbia in which the Corps had initiated support. For the current projects, only surveys for proposed actions had been conducted in 1938. No work was proposed in 1939, but the following projects were recommended for 1940 (USACE 1938:1779-1782):

1. SDIC: reconstruction of approximately three miles of riverfront levee, placement of riprap, installation of tide-gates, and construction of a pump station.
2. MCDD: reconstruction of approximately 11 miles of riverfront levee and two miles of back levee, placement of riprap, and construction of “necessary drainage works” and a pump station.
3. PEN 1: reconstruction of approximately 1.2 miles of riverfront levee and 1.5 miles of back levee, and construction of “drainage works” and a pump station.
4. PEN 2: reconstruction of approximately 2.2 miles of riverfront levee and 3.1 miles of back levee, placement of riprap, and construction of a pump station.
The total projected costs for these projects was $1,093,000.

As of the end of 1940, the plans had been further defined, additional surveys conducted, and contracts awarded but no construction yet initiated (USACE 1941:1958-1963).

1. SDIC: reconstruction of approximately 2.4 miles of existing levee along the Columbia and Little Sandy Rivers; construction of approximately 1.2 miles of new levee along the Sandy River; and construction of a pump station, tide box, and “appurtenant work” in the northwest portion of the district.

2. MCDD: enlarging and strengthening, by hydraulic embankment, about 1.2 miles of existing levee along the Columbia River at the Portland-Columbia Airport, and constructing appurtenant levee drainage works; constructing hydraulic and nonhydraulic levee embankment on the existing levee for a distance of about 8.45 miles along the Columbia River from the Portland-Columbia Airport easterly to the boundary of the Sandy drainage district; constructing nonhydraulic levee embankment on the existing levee for a distance of about 2.2 miles from the Columbia River levee at the inlet to Columbia Slough southwesterly to the Union Avenue embankment; constructing stone revetment for a distance of about 0.7 mile along the Columbia River levee near the Portland-Columbia Airport; and reconstructing the existing pump station.

3. PEN 1: Construction of a new levee for a distance of about 0.2 mile along Oregon Slough, from Spokane, Portland & Seattle Railway easterly to a flood wall and from the easterly end of flood wall about 0.7 mile along Oregon Slough to high ground adjacent to Denver Avenue; construction of about 0.3 mile of reinforced concrete-steel sheet pile flood wall and four emergency stop-log structures in the industrial section of the drainage district, along Oregon Slough; enlarging and strengthening about 1.4 miles of existing levee along Columbia Slough from the Union Pacific Railroad embankment easterly to Denver Avenue; construction of one pump station; and construction of drainage facilities incidental to the levee and flood wall structure along Oregon Slough.

4. PEN 2: Enlarging and strengthening the existing levee for a distance of about 0.6 mile along Oregon Slough from the Union Avenue fill easterly to Faloma Station, and about 3.3 miles along Columbia Slough from the Columbia-Edgewater Clubhouse to Denver Avenue; the construction of two reinforced concrete flood walls, totaling 856 linear feet, along the existing levee between Faloma Station and the Portland Yacht Club; the construction of about 1.2 miles of stone revetment along Oregon Slough and the Columbia River; and the construction of one pump station and drainage facilities.
Projected costs for these projects had increased slightly to $1,111,320.

At the end of 1941 the Corps reported that much of the worked planned for 1941 had been completed. The remaining work consisted of (USACE 1942:1950-1957)

1. SDIC: some remaining levee reconstruction and embankment work and construction of the pump station.
2. MCDD: completion of the levee reconstruction and enlargement of the pump station.
3. PEN 1: completion of the levee reconstruction and the pump station.
4. PEN 2: the project was described as 95% complete with no details provided for remaining work.

The Corps report for 1943 referenced only the MCDD and noted only that the remaining projects had been deferred due to the war (USACE 1944:1691-1692).

No action was undertaken to complete the unfinished projects until 1948, when the Corps may have initiated the work to enlarge the existing pump station for the Multnomah Drainage District. However, that pump station was destroyed in the 1948 flood. The funds available for the pump station modification were therefore diverted to purchase and installation of a new pump. Plans were developed for the unfinished levee project and the contract put out to bid. No other work was undertaken (USACE 1950:2483).

The 1948 flood led to efforts to reinforce the structural integrity of the levee system. The Chief of Engineers report for 1950 referenced the 1950 Flood Control Act that authorized work in all four districts totaling about $4.7 million. This allocation appears to have been for new projects, but the only project undertaken in 1950, was improvements to a little more than a mile of the MCDD dike, some revetments, and completion of a pump station. This was referenced as finishing the projects that had been initiated in the late 1930s. It was also noted that “At the request of local interests, the levees were constructed with a top width of 36 feet to provide for construction of a roadway on the levee” (USACE 1951:2554-2555). In 1951, the only activity was for the MCDD: “Dressing up of the dumped-stone revetment placed prior to the high water season in fiscal year 1950, was completed by contract on September 5, 1950.

The completed project was turned over to local interests for operation and maintenance by letter dated January 31, 1951. This completed all work authorized by the Flood Control Act approved June 22, 1936” (USACE 1952:2271).
Little or no work was undertaken for projects approved in the 1950 Flood Control Act other than engineering and surveys in 1953 for improvements for the levees in the SDIC, including installation of an unspecified number of “type 2 toe drains” (USACE 1953:1894). This project was completed in 1954 (USACE 1954:1474). Work on projects proposed under the 1950 act resumed in 1959, with strengthening of the main levee and construction of a new cross levee for the MCDD. “Additional pumping capacity will be provided by the construction of a pump station in the east area of the district. Drainage structures equipped with gates at both ends will be installed at main slough crossings.” March 1959 saw completion of closure of the Peninsula Drainage Canal (USACE 1960:1772). The main levee improvements and construction of the cross levee at NE 142nd were completed in 1960 (USACE 1961a:1788). The remaining facilities for this district were completed in June 1961, including a new pump station and canal (USACE 1961b:1874). Additional minor work was undertaken in 1961 and 1962: extension of a drainage canal in the vicinity of NE 174th and Marine Drive; and construction of an interceptor toe drain in the vicinity of NE 96th and Marine Drive (USACE 1962:1917).

The Corps initiated design and engineering for improvements to the PEN 1 and PEN 2 levees in 1959 (USACE 1960:1773-1774). Problems arose with the two Peninsula districts arrangement “local cooperation” and the projects were either suspended or moved to inactive status (USACE 1961b:1874-1876). There is no evidence these projects were ever revived.

Later Corps reports only occasionally reference other projects for the four districts: protection work along the river at NE 96th (USACE 1966a:1466); bank protection work “in Powell” in the MCDD (USACE 1966b:1573), which was completed in 1968 (USACE 1968:1141); placement of stone revetment at the Switzler location in the PEN 2 (USACE 1971:Table 37-K); placement of revetment at the NE 158th and Powell locations in the MCDD (USACE 1974:Table 37-K); placement of revetment at the 122nd Avenue location (USACE 1976:Table 37-K; the report does not reference any drainage district for this location but the MCDD is the most likely). By the 1970s, the annual reports provided more abbreviated information than previous reports, which poses challenges in identifying project details and locations.

**Portland International Airport**

The Portland-Columbia Airport, currently Portland International Airport, was constructed on MCDD lands in the 1930s. Approximately 700 acres were leveled and graded, and a pipe drainage system installed along the airfield’s perimeter disrupting the former drainages within this area (Port of Portland Commission 1937-1938:14). With the construction of the Portland-Columbia Airport, which officially opened in 1940 and the outbreak of World War II, the open, reclaimed land in the drainage districts
Figure 10. Overview of the Portland Airport, ca. 1940.

and their proximity to transportation attracted war-related facilities. These facilities include the Portland Air Base south of the airport and the development of Vanport City to provide housing for shipyard workers. To the east, the war-related facilities included a landing strip developed near Troutdale and the Troutdale Aluminum Plant (later Reynolds Aluminum Plant (O’Brien and Allen 2006:15). Post-World War II expansion of population, the economy, and growing airport usage encouraged the Port of Portland to expand the airport to accommodate passenger “jetliners.” Plans for the expansion began in the early 1950s and a new terminal opened in September 1958 east of the original airfield (Port of Portland Commissioners 1957-1958:1-4). Expansion has continued east and west of the original airfield, Port of Portland encouraging commercial ventures, and other commercial and industrial developments have developed due to its proximity to transportation. Drainages near the runways continue to be filled in to meet Federal Aviation Administration requirements to discourage waterfowl near the runways (O’Brien and Allen 2006)
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Multnomah, Oregon

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Maben, Manly

MacColl, E. Kimbark

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McCorvie, Mary R., and Christopher Lant

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The Columbia Slough Drainage Districts Historic District

Multnomah, Oregon

Name of Property

County and State

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State of Oregon

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The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Name of Property

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The Columbia Slough Drainage Districts Historic District

Name of Property: ____________________________
County and State: ____________________________

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U.S. Bureau of the Census

United States Geological Survey (USGS)
1918 Portland, Oregon—Washington. 15-minute topographic map.
1940 Portland, Oregon—Washington. 15-minute topographic map.

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
X previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey #___________
____ recorded by Historic American Engineering Record #________
____ recorded by Historic American Landscape Survey #________

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
X Federal agency
____ Local government
____ University
____ Other
Name of repository: __________________________________________

Historic Resources Survey Number (if assigned): ________________

Section 9 page 47
10. Geographical Data

**Acreage of Property** ~ 12,750 acres (within outer boundary of Columbia Slough Drainage Districts Historic District)

Use either the UTM system or latitude/longitude coordinates

**Latitude/Longitude Coordinates**
Datum if other than WGS84: NAD 83 Zone 10
(enter coordinates to 6 decimal places)

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<tr>
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</tr>
</tbody>
</table>

**Verbal Boundary Description** (Describe the boundaries of the property.)

Roughly bounded by the OWN&R Levee to the west, the Columbia River Levee to the north, the Sandy Drainage Levee to the east, and the Columbia Slough Levee to and/or the Columbia Blvd. to the south (see maps below).

**Boundary Justification** (Explain why the boundaries were selected.)

The boundaries of the Columbia Slough Drainage Districts Historic District are based on the previous Section 106 evaluation of the historic district documentation and with guidance from National Register Bulletin # 21 Defining Boundaries for National Register Properties (Seifert et al. 1997).

The boundaries are comprised of the levees, major drainages evaluated to be contributing and reasonable immediate areas surrounding pump stations, weirs, and dams, essentially those features used in the management of the drainage districts. The interior areas within the four districts are not included within district boundaries; only those features specified within the document actively used, and in several cases cross levees no longer used in the management of the four drainage districts.
11. Form Prepared By

name/title: Elizabeth O'Brien, David V. Ellis
organization: Willamette Cultural Resources Associates, Ltd.
street & number: 2827 NE Martin Luther King Blvd
city or town: Portland state: Oregon zip code: 97212
e-mail: davve@willamettecra.com
telephone: 503 281-4576
date: August 27, 2019
The Columbia Slough Drainage Districts Historic District

Name of Property: The Columbia Slough Drainage Districts Historic District
City or Vicinity: Portland, Gresham, Fairview, and Troutdale
County: Multnomah
State: Oregon
Photographer: Elizabeth O'Brien
Date Photographed: May 13, 2019

Photo Log

Description of Photograph(s) and number, include description of view indicating direction of camera:

1 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0001) Columbia River Levee, the view is towards the east.
2 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0002) PIR Pump Station west and south facades, the view is towards the northeast.
3 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0003) Vanport Wetlands Pump Station east and north facades; the view is towards southwest.
4 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0004) Concrete Flood Wall (right) on the Columbia River Levee; the view is towards the east.
5 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0005) Columbia Slough Levee (right) and Lower Columbia Slough (left); the view is towards the southwest.
6 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0006) Lower Columbia Slough and Columbia Slough Levee (left); the view is towards the east.
7 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0007) Mud Slough Drainage; the view is towards the west.
8 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0008) Bayou Slough Drainage; the view is towards the east.
9 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0009) Force Lake Drainage; the view is towards the northwest.
10 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0010) OWR&N Levee where is crosses N Marine Drive; the view is towards the southwest.
11 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0011) N Denver Avenue Cross Levee; the view is towards the south.
12 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0012) Schmeer Road Pump Station east and north facades, the view is towards the southwest.
Name of Property: The Columbia Slough Drainage Districts Historic District

County and State: Multnomah, Oregon

13 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0013) Union Avenue/Martin Luther King Jr. Blvd Cross Levee; the view is towards the southeast.

14 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0014) NE 13th Avenue Pump Station north and east facades; the view is towards the south.

15 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0015) Switzzler Lake Drainage near the NE 13th Avenue Pump Station, the view is towards the north.

16 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0016) PEN 2 Slough Levee to left, the view is towards the north-northwest.

17 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0017) Peninsula Drainage Canal/City Canal, PEN 2 Slough Levee (left) and NE 13th Avenue Cross Levee (right); the view is towards the north.

18 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0018) Peninsula Drainage Canal Plug, facing southwest.

19 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0019) NE 13th Avenue Levee west slope and Peninsula Drainage Canal (left); the view is towards the north.

20 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0020) Pump Station No. 1 north and east facades; the view is towards the southwest.

21 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0021) Pump Station No. 2 east and north facades; the view is towards southwest.

22 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0022) Middle Columbia Slough west of Broadmoor Pump Station; looking southeast.

23 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0023) Broadmoor Pump Station west and south facades, the view is towards the northeast.

24 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0024) McBride’s Slough Drainage, the view is towards the east.

25 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0025) Airtrans Pump Station/Pump Station No. 3 south façade, the view is towards the northwest.

26 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0026) NE 82nd Avenue Drainage, the view is towards the northwest.

27 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0027) NE 142nd Avenue Cross Levee; the view is towards the north.

28 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0028) Pump Station No. 4 south and east facades, the view is towards the northwest.

29 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0029) Bridgestone Pump Station south façade, the view is towards the north.
The Columbia Slough Drainage Districts Historic District

30 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0030)
The Upper Slough near Airport Way; the view is towards the west.

31 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0031)
Cereghino/Fairview Lake Pump Station south and east facades; the view is towards the northwest.

32 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0032)
Fairview Lake Dam beyond the Fairview Lake Weir, the view is towards the north.

33 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0033)
Fairview Lake Weir; the view is towards the southeast.

34 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0034)
NE 223rd Avenue Cross Levee; the view is towards the north.

35 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0035)
Sandy Drainage Levee near the southeast end; the view is towards the north.

36 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0036)
Sandy Pump Station east and north facades, the view is towards southwest.

37 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0037)
Salmon and Arrata Creek Drainage System looking west from the NW Sundial Road

38 of 38. (OR_MultnomahCounty_ColumbiaSloughDrainageDistrictsHistoricDistrict_0038)
The new (2016-2017) TRIP Flow Control Structure at the NE 223rd Avenue Cross Levee; the view is towards the west.
The Columbia Slough Drainage Districts Historic District

Peninsula Drainage District No. 1 (Pen 1)

Photo 1. Columbia River Levee within the PEN 1 District, the view is towards the east.

Photo 2. PIR Pump Station west and south facades, the view is towards the northeast.

Photographs page 53
The Columbia Slough Drainage Districts Historic District  
Multnomah, Oregon

Name of Property

Photo 3. Vanport Wetlands Pump Station east and north facades; the view is towards southwest.

Photo 4. Concrete Flood Wall (right) on the Columbia River Levee; the view is towards the east.

Photographs page 54
The Columbia Slough Drainage Districts Historic District
Name of Property

Multnomah, Oregon
County and State

Photo 5. Columbia Slough Levee (right) and Lower Columbia Slough (left) within PEN 2 District; the view is towards the northwest.

Photo 6. Lower Columbia Slough and Columbia Slough Levee (left) within the PEN 2 District; the view is towards the east.
Photo 7. Mud Slough Drainage; the view is towards the west.

Photo 8. Bayou Slough Drainage; the view is towards the east.
Photo 9. Force Lake Drainage; the view is towards the northwest.

Photo 10. OWR&N Levee where it crosses N Marine Drive; the view is towards the southwest.
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Name of Property

Photo 11. N Denver Avenue Cross Levee; the view is towards the south.
Peninsula Drainage District No. 2 (Pen 2)

Photo 12. Schmeer Road Pump Station east and north facades, the view is towards the southwest.

Photo 13. Union Avenue/Martin Luther King Jr. Blvd Cross Levee; the view is towards the southeast.
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Name of Property
Multnomah, Oregon

Photo 14. NE 13th Avenue Pump Station north and east facades; the view is towards the south.

Photo 15. Switzer Lake Drainage near the NE 13th Avenue Pump Station, the view is towards the northeast.

Photographs page 60
Photo 16. PEN 2 Slough Levee to left, the view is towards the north-northwest.

Photo 17. Peninsula Drainage Canal/City Canal, PEN 2 Slough Levee (left) and NE 13th Avenue Cross Levee (right); the view is towards the north-northeast.

Photographs page 61
Photo 18. Peninsula Drainage Canal Plug, facing southwest.
The Columbia Slough Drainage Districts Historic District

Multnomah County Drainage District (MCDD)

Multnomah, Oregon

Name of Property
County and State

Photo 19. NE 13th Avenue Levee west slope and Peninsula Drainage Canal (left); the view is towards the north-northeast.

Photo 20. Pump Station No. 1 north and east facades; the view is towards the southwest.

Photographs page 63
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Name of Property

Photo 21. Pump Station No. 2 east and north facades; the view is towards southwest.

Photo 22. Middle Columbia Slough west of Broadmoor Pump Station; looking southeast.
The Columbia Slough Drainage Districts Historic District

Name of Property

Multnomah, Oregon

County and State

Photo 23. Broadmoor Pump Station west and south facades, the view is towards the northeast.

Photo 24. McBride’s Slough Drainage, the view is towards the east.
The Columbia Slough Drainage Districts Historic District  
Multnomah, Oregon 

Name of Property  
County and State

Photo 25. Airtrans Pump Station/Pump Station No. 3 south façade, the view is towards the northwest.

Photo 26. NE 82nd Avenue Drainage, the view is towards the northwest.
The Columbia Slough Drainage Districts Historic District

Multnomah, Oregon

Name of Property

County and State

Photo 27. NE 142nd Avenue Cross Levee; the view is towards the north.

Photo 28. Pump Station No. 4 south and east facades, the view is towards the northwest.

Photographs page 67
The Columbia Slough Drainage Districts Historic District  Multnomah, Oregon
Name of Property  County and State

Photo 29. Bridgestone Pump Station south façade, the view is towards the north.

Photo 30. The Upper Slough near Airport Way; the view is towards the west-northwest.
Photo 31. Cereghino/Fairview Lake Pump Station south and east facades; the view is towards the northwest.

Photo 32. Fairview Lake Dam beyond the Fairview Lake Weir, the view is towards the north.
Photo 33. Fairview Lake Weir; the view is towards the southeast.

Photo 34. NE 223rd Avenue Cross Levee; the view is towards the north.
The Columbia Slough Drainage Districts Historic District
Multnomah, Oregon

Sandy Drainage Improvement Company (SDIC)

Photo 35. Sandy Drainage Levee near the southeast end; the view is towards the northeast.

Photo 36. Sandy Pump Station east and north facades, the view is towards southwest.

Photographs page 71
The Columbia Slough Drainage Districts Historic District  
Multnomah, Oregon

Name of Property

County and State

Photo 37. Salmon and Arrata Creek Drainage System looking west from the NW Sundial Road.

Photo 38. The new (2016-2017) TRIP Flow Control Structure at the NE 223rd Avenue Cross Levee; the view is towards the west.
Figure 1. General location map.
Figure 2b. Location of PEN 2.

Columbia Slough Drainage Districts Historic District Boundary

County and State: Multnomah, Oregon
Name of Property: Columbia Slough Drainage Districts Historic District

OMB Control No. 1024-0018
Name of Property: Multnomah, Oregon

County and State: Multnomah, Oregon

Columbia Slough Drainage District Historic District Boundary

Figure 2c. Location of MCDD (western portion).
Figure 2d. Location of MCDD (middle western portion).
Figure 2e. Location of MDDD (middle-eastern portion).
Columbia Slough Drainage District Historic District

Name of Property: Multnomah, Oregon

County and State: Multnomah, Oregon

Name of Property: Columbia Slough Drainage District Historic District

Figure 2f. Location of MCDD (eastern portion).
Columbia Slough Drainage Districts Historic District

Name of Property: Multnomah, Oregon

County and State: Multnomah, Oregon

Historic District: Columbia Slough Drainage Districts Historic District

Figure 2g. Location of SDIC.
Figure 3a. Overview of resources.
Figure 3b. Overview of resources.
Figure 3c. Overview of resources.
Columbia Slough Drainage District Historic District

Name of Property

Multnomah, Oregon

County and State

Figure 3d. Overview of resources.

Additional Documentation

National Register of Historic Places

Continuation Sheet

OMB Control No. 1024-0018

United States Department of the Interior

NPS Form 10-900-a
Figure 3d. Overview of resources.
Columbia Slough Drainage District Historic District

Name of Property: Multnomah, Oregon

County and State: Multnomah, Oregon

Figure 3e. Overview of resources.
Figure 3f. Overview of resources.
Figure 3g. Overview of resources.
Columbia Slough Drainage District Historic District

Name of Property: Multnomah, Oregon

County and State: Multnomah, Oregon

Figure 4b. Photo Points map.
Columbia Slough Drainage District Historic District
Name of Property
Multnomah, Oregon
County and State
Figure 4c. Photo Points map.
Columbia Slough Drainage District Historic District

Name of Property
Multnomah, Oregon

County and State

Figure 4d. Photo Points map.
Figure 4e: Photo Points map.

Columbia Slough Drainage District
Name of Property
Multnomah, Oregon
County and State
National Register of Historic Places
Continuation Sheet
United States Department of the Interior
National Park Service
OMB Control No. 1024-0018
Table 1. Summary Table of Resources.

<table>
<thead>
<tr>
<th>Address/Property Name</th>
<th>Est.</th>
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<th>Built</th>
<th>Materials</th>
<th>Arch Class/Style</th>
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<th>RLS Dates</th>
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<th>Notes</th>
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Table 1. Summary Table of Resources (continued).

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Evaluation Codes: E=eligible/contributing, NC=not eligible/non-contributing, NP=not eligible/out of period, UN=undetermined/lack of info, XT=demolished.
NR Status Codes: NRI=Individually Listed, NRS=listed in Hist Dist, NRIB=listed individually and w/ Hist Dist, NRNI=listed as National Hist Landmark, NS=listed as part of an NRI.
## Table 1. Summary Table of Resources (continued).

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**Evaluation Codes:** ES=eligible/significant, FC=eligible/contributing, NC=not eligible/no-contribution, NP=not eligible/out of period, UN=undetermined/lack of info, XD=demolished

**NR Status Codes:** NRI=Individually listed, NRHD=listed in Hist.Dist, NHRB=listed individually and in Hist.Dist, NHL=listed as National Hist.Landmark, NPL=listed as part of an NPL
Table 1. Summary Table of Resources (continued).

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Total Resources Identified: 11

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