

**DRAFT ENVIRONMENTAL ASSESSMENT  
PARKER LANE STORMWATER CHANNEL RESTORATION  
LOOKOUT POINT-DEXTER DAM PROJECT  
LANE COUNTY, OREGON**

**INTRODUCTION AND BACKGROUND**

The proposed project is located in Lane County, Oregon, approximately 17 miles southeast of Eugene, Oregon, just south of the intersection of Parker Lane and Boundary Road (also known as County Road 360), on the north shore of Dexter Lake (T19S, R1W, Section 14). The site is within the City of Lowell, on property owned by the U.S. Army Corps of Engineers (COE), and is managed by the COE as part of its Lookout Point and Dexter dam operations.

Restoration of historic drainage patterns in the Parker Lane area is proposed. The restoration is expected be carried out in a two to three day period in September or early October, 2004, by adding a culvert under Boundary Road, removing a 50' section of abandoned roadway that once connected Parker Lane and Boundary Road, restoring the former roadway area as a natural swale, and deepening a 30' x 100' area within an existing swale just downhill from the removed roadway by six to twelve inches. The project is necessary to cure an existing drainage problem at the City of Lowell's water treatment plant, to prevent worsening of the City's drainage problem due to an 80-lot subdivision currently under construction on the hill above the site, and to restore water to existing wetland areas that could be adversely affected by drainage pattern changes within the subdivision. Other benefits include creation and enhancement of wetland areas, stormwater retention, and biological pre-treatment of stormwater.

Sunridge Subdivision is an 80-lot development located between Boundary Road and East First Street within the City of Lowell. About one-quarter of the lots have already been constructed, and another 40 lots have been approved by the City of Lowell and are now under construction. The Sunridge development is shown on the attached "Overview" map.

Historically, storm water flowed south off the Sunridge site in a sheet flow. There are no excised drainageways on the site. The sheet flow entered the ditch on the north side of Boundary Road, then flowed south through several small culverts to COE property, and fanned out as sheet flows in numerous wetlands on its way to Dexter Lake. This is illustrated on the attached "Overview" map.

The development of Sunridge has changed the historical flow of stormwater. Construction of streets, driveways and homes concentrates rainfall, which must be collected and controlled with a piping system. Serious geotechnical problems, such as slope failures and erosion, could result if concentrated stormwater is discharged on the steep slopes (30-50% grade) at the southern end of Sunridge. Consequently, the collected stormwater is piped to an existing drainageway to the west of Sunridge, where it flows to the east side of Parker Lane, and from there to Dexter Lake. This route is shown as a dashed line on the "Overview" map. Without the proposed drainageway improvements,

this drainage pattern change could reduce the amount of surface water that reaches the valley terrace south of Boundary Road by up to 50%.

Stormwater that reaches the Parker Lane area currently runs just to the east of Parker Lane, in a shallow ditch reinforced by a man-made berm on the east side. As the ditch approaches the Lowell water treatment plant near the lake, it veers east to go around the plant. Historical aerial photographs show that the area east of the Parker Lane was an agricultural field prior to its acquisition by the COE. It is probable that the farmer, to keep water out of his fields, constructed the ditch and berm. When the City of Lowell built its water plant in 1969, the ditch was diverted to the east around the plant.

A detailed topographic ground survey and wetland delineation of the Parker Lane area has recently been completed. See the attached "Wetland Delineation" map. The survey shows that a wide swale originates in the vicinity of the intersection of Parker Lane and Boundary Road, and fans out into the eastern portions of the upper Willamette River terrace about 1000 feet to the east. Prior to the construction of Boundary Road and Parker Lane, and the ditch and berm system along Parker Lane, it is probable that the uphill area drained to this swale, and not to the Parker Lane ditch. Now, however, this swale receives little water. Considerable portions of this upper river terrace and abandoned field have converted to upland.

The ditch and berm system along Parker Lane is not sufficient to contain all the water during major storm events. The periodic overflows cause flooding of the City's water treatment plant yard. The City lacks the funds to do anything about this problem.

Without action, the development of Sunridge will exacerbate these flooding problems. An April 12, 2003 analysis by EGR Engineering found that the existing 10-year storm flow in the Parker Street area is 77 cubic feet per second (cfs). The addition of the Sunridge stormwater will bring the 10-year storm to 88 cfs, an increase of 14%. The same engineering study found that the capacity of the ditch and culvert system at the treatment plant is only about 6 cfs, which is less than 10% of the current 10-year storm flow.

The proposal will fully cure the drainage problems at the water plant by restoring most of the stormwater flow to the existing swale east of the water plant, its probable historic destination. All costs of the project will be paid by Shade Tree Properties, developer of Sunridge. After the initial establishment of vegetative cover in disturbed areas, no maintenance of the project is anticipated, although further enhancement or restoration of the abandoned farm field/upper Willamette River terrace appears possible.

#### **NEED AND PURPOSE FOR ACTION**

The primary need for the project is to cure the existing flooding problem at the City of Lowell's water treatment plant, and to prevent worsening of the flooding problem due to the construction of the Sunridge subdivision. The proposal will eliminate the drainage problems at the water plant by restoring most of the stormwater flow to the existing swale east of the water plant, its probable historic destination.

Another objective of the project is to restore water to existing wetland areas that could be adversely affected by drainage pattern changes within the subdivision. As shown on the "Overview" map, the wetlands west of the park were the historic destination for much of the Sunridge stormwater via the Boundary Road culverts. The proposed drainageway improvements will direct this stormwater to the same area, via the swale just east of Parker Lane. Water entering this swale flows south and east to these wetland areas, and from there, makes its way slowly by shallow surface swales and sheet flow to Dexter Lake.

Other benefits of the project include probable restoration of historical wetlands possibly dewatered by ditch construction along Parker Lane, maintenance of existing wetland hydrology in the vicinity of Parker Lane, hydrologic enhancement of the small wetland areas extant on the upper river terrace southeast and down slope of the project, added natural diffuse storm water retention, and increased biological pre-treatment of storm waters in the hummocky upper river terrace/abandoned agricultural field system prior to its reaching Dexter Lake. As noted above, much of the swale area, which is presumed to have historically been wetland, is now upland. These areas are likely to return to wetland upon the reintroduction of water to the swale. Stormwater entering the swale will be retained within the down slope alluvial terrace areas, rather than flowing rapidly in the ditch to Parker Lane. Bio-filtration of the runoff within these shallow swale and hummocky meadow areas will result in a cleaner discharge to Dexter Lake, possibly cleaner than the existing channelized discharge of runoff from impervious upslope surfaces.

## **PROPOSED ACTION AND ALTERNATIVES**

### **Proposed Action**

The proposed action is the restoration of the natural drainage pattern at this location to eliminate or reduce flooding at the City of Lowell's water treatment plant, re-establish and enhance wetlands on COE property, increase the stormwater retention capacity of wetlands, and increase the biological pre-treatment and filtration abilities at the site. To restore a more natural drainage and reconnect the stormwater linkage to an existing swale and wetlands, several small construction actions will need to be accomplished.

A 36" culvert will be added under the Boundary Road adjacent to the existing culvert. The abandoned cut-off road at the southeast corner of Parker Lane and Boundary Road will be removed. All asphalt and road fill will be disposed off site. This area will be restored as a swale running down slope at about an 8% grade. Just downhill from the removed roadway, an area 30' by 100' within an existing swale will be deepened by six to twelve inches to ensure that water cannot escape and flow south to the City's water treatment plant.

The existing culvert under the cut-off road will be retained to allow enough water to nourish the man-made wetlands that now exist along the Parker Road ditch. By retaining this culvert, the wetlands associated with the existing ditch will be maintained but higher

flows will be directed down the restored swale and avoid flooding the water treatment facility.

All disturbed areas will be re-vegetated with native plant species including *Carex*, *Juncus*, bulrush, grasses, and trees/shrubs such as ninebark, willow, cottonwood, alder, and dogwood.

### **No Action Alternative**

This alternative would continue to route all stormwater to the existing ditch and berm system along Parker Lane. Periodic flooding of the City's water treatment plant would continue to occur, with the frequency and severity of the flooding increasing as the Sunridge Subdivision is further developed. The wetlands west of the park would receive less water than they have in the past, possibly causing some of these areas to convert to upland. No restoration of wetlands out on the terrace area would occur. There would be no increase in stormwater retention capacity or in the natural, biological pre-treatment of stormwater.

### **Other Alternatives**

Two other alternatives were discussed in the conceptual phase but have been eliminated from further consideration because they did not provide for the protection and/or restoration of wetland areas. Both alternatives relied heavily on engineered structures including additional berm construction, installation of drains and pressurized pipe, and deepening of the existing ditch. Major infrastructure changes would be required at the water treatment plant for operational activities.

## **AFFECTED ENVIRONMENT**

The proposed project site is within the City of Lowell on property owned by the COE. The site has been previously disturbed by road and ditch construction, culvert placements, and berm construction. From analysis of historical aerial photographs, it appears that the site was part of a natural swale. The site had previously been ditched and bermed for agricultural purposes prior to construction of the Dexter Dam Project. The area affected extends from the intersection of Boundary Road and Parker Lane to a large river terrace area about 1000 feet to the east. A wetland delineation has been completed for the site and is included as an attachment.

## **ENVIRONMENTAL CONSEQUENCES**

### **Biological Resources**

#### **Endangered Species**

The U.S. Fish and Wildlife Service provided a species list dated July 18, 2004, indicating that federally listed endangered and threatened species may occur in the vicinity of the project site. Bald eagle (*Haliaeetus leucocephalus*), Steelhead (Upper Willamette River) (*Oncorhynchus mykiss*), Chinook salmon (Upper Willamette River) (*Oncorhynchus tshawytsch*), Oregon chub (*Oregonichthys crameri*), Fender's blue butterfly (*Icaricia icarioides fenderi*), Willamette daisy (*Erigeron decumbens* var. *decumbens*), Bradshaw's lomatium (*Lomatium bradshawii*), and Kincaid's lupine (*Lupinus sulphureus* var.

*kincaidi*) are the federally listed species that may potentially occur in the proposed project area.

A field reconnaissance was conducted on May 25, 2004. The site was determined to be a low probability area for Bradshaw's lomatium, Willamette daisy, Kincaid's lupine, and Fender's blue butterfly. None were found during the site visit, and no suitable habitat areas were identified.

There are no known bald eagle nesting, roosting, or perching sites within the proposed project area. No fish species or suitable habitats are located in the proposed project area.

The proposed action will have no effect to any federally listed endangered or threatened species or their critical habitat.

### **Wetlands**

Approximately 100 square feet of existing wetland will be filled by construction activities related to the removal of the abandoned cut-off road and installation of the 36" culvert. Fill volume for this area will be less than 10 cubic yards. This small area will convert to an upland site.

Another 1000 square feet of existing wetland will be disturbed to a depth of less than one foot during the deepening and reshaping of the swale. The site will be re-vegetated and will remain as a wetland.

At least 3000 square feet of existing upland will likely revert to wetland due to the introduction of additional stormwater. Increased surface water volumes may enhance or restore additional down slope wetland areas.

The existing man-made wetlands along Parker Lane and the Water Treatment Plant bypass ditch will continue to be nourished by the flow retained from the existing culvert under the abandoned cut-off road.

In addition to the providing flood protection to the Water Treatment Plant, the creation and enhancement of wetland areas is a purpose and benefit of this project. There should be a significant enhancing effect to lands downslope from the project area, some of which are now uplands, but presumably were once wetland. Wetland plant indicator elements are likely to increase in response to significantly increased early fall and additional later seasonal runoff volumes. These receiving lands should serve as both volume retention areas and bio-filtration areas.

The large down slope area that is vegetated and at a very gentle slope would treat any sediment and subdivision runoff pollutant loads prior to the stormwater reaching Dexter Reservoir. Treatment would include increased sheet runoff volumes through areas vegetated by blackberry, cottonwood, and large areas of grassy hummocks (species composition is presently predominantly non-wetland indicators with a minor component of wetland indicators present in all down slope areas). This is preferable to routing the

stormwater directly to Dexter Lake via the Parker Lane drainage system, as would be done under all other alternatives, including the no action alternative.

Sunridge's stormwater is expected to be cleaner than typical subdivision runoff. Sunridge's deed covenants prohibit all outdoor use of synthetic herbicides and pesticides, and prohibit discharge of any substance other than water to the storm drain system. The stormwater will also be cleaned with an oil/water separator before it is discharged into the Parker Lane drainage system.

The altered local hydrograph should not affect inputs into Dexter Reservoir, due to the large down slope area, the shallow grades (under 2%), the distance to the lake, and the site's biofiltration treatment capacity. While initial site disturbance will produce minor silt loads, these should not be detectable in waters entering the lake due to the large down slope filtration and retention capacity. Furthermore, sediment runoff from impact disturbance will be minimized through prompt seeding and planting of the site.

### **Cultural Resources**

The Lookout Point and Dexter Dam Project has been intensively surveyed for cultural resources. An archeological investigation conducted in 1999 within the proposed action area indicated that there would be no effect on cultural resources. COE personnel will be present and monitor during the restoration activities.

### **COORDINATION**

This Environmental Assessment (EA) will be distributed for 30-day public review. Review comments will be requested from federal and state agencies as well as various property owners and interested publics. Agencies the document has been sent to include:

- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife

### **CONSULTATION REQUIREMENTS**

- A. Clean Air Act of 1970, as amended. The proposed action would not affect clean air standards.
- B. Clean Water Act of 1977 (33 U.S.C. 1344): The proposed action would fill about 100 square feet of delineated wetland area, probably resulting in its conversion to upland. Another 1000 square feet will be disturbed to a depth less than one foot, but will remain as wetland. About 3000 square feet of existing upland will likely be converted to wetland. Total fill/disturbance volume is under 40 cubic yards.

The impact site disturbances will produce minor silt loads, which should not be detectable in waters entering the lake due to the large down slope filtration and retention capacity. Site sediment runoff from impact disturbance will be

minimized through seeding and planting of the site. No adverse impacts to water quality are expected.

A 404(b)(1) evaluation is being prepared and a 401 Water Quality Certification will be requested from the Oregon Department of Environmental Quality. The fill/removal volume is less than 40 cubic yards.

- C. Coastal Zone Management Act: Not applicable.
- D. Endangered Species Act of 1973, as amended: The proposed action would have no effect on threatened or endangered species. This determination has been coordinated with Federal and State resource agencies.
- E. Fish and Wildlife Coordination Act: The proposed action has been coordinated with the U.S. Fish and Wildlife Service in compliance with this Act concurrent with the review of this Environmental Assessment.
- F. Marine Protection, Research and Sanctuaries Act of 1972, as amended: Not applicable.
- G. Cultural Resources Acts: The proposed site has been previously surveyed and determined that there would be no effect to cultural resources.
- H. Executive Order 11988, Flood Plain Management, 24 May 1977: The proposal will have no effect on flood plains.
- I. Executive Order 11990, Protection of Wetlands: The proposed action would fill about 100 square feet of delineated wetland area, probably resulting in its conversion to upland. Another 1000 square feet will be disturbed to a depth less than one foot, but will remain as wetland. About 3000 square feet of existing upland will likely be converted to wetland.

A 404(b)(1) evaluation is being prepared and a 401 Water Quality Certification will be requested from the Oregon Department of Environmental Quality.

- J. Analysis of Impact on Prime and Unique Farmlands: The project area is not farmland, and the soils present, Salkum and Oxley, are not classified as prime or unique.
- K. Comprehensive Environmental Response, Compensation, and Liability (CERCLA) and Resource Conservation and Recovery Act (RCRA): There is no indication that any hazardous, toxic or radioactive waste (HTRW) is in the vicinity. The proposed action would not be affected by the requirements of this Act.

## **LITERATURE CITED**

EGR Engineering. *Stormwater analysis and drainage study*. Dated April 12, 2003.

Perkins, E. (2004). *Lowell/parker street wetland report*.

US Army Corps of Engineers. (1987). *Archaeological site form (35LA192)*.

US Fish and Wildlife Service. *Federally listed threatened, endangered, proposed, and candidate species which may occur in Lane County*. Dated July 18, 2004.

US Forest Service. Unpublished archaeological report. Dated July 23, 1999.

University of Oregon. Aerial photos for 1944, 1954, 1968, 1979, and 1990. Map Archives.

## **ATTACHMENTS**

Vicinity map

Overview map

Wetland delineation map

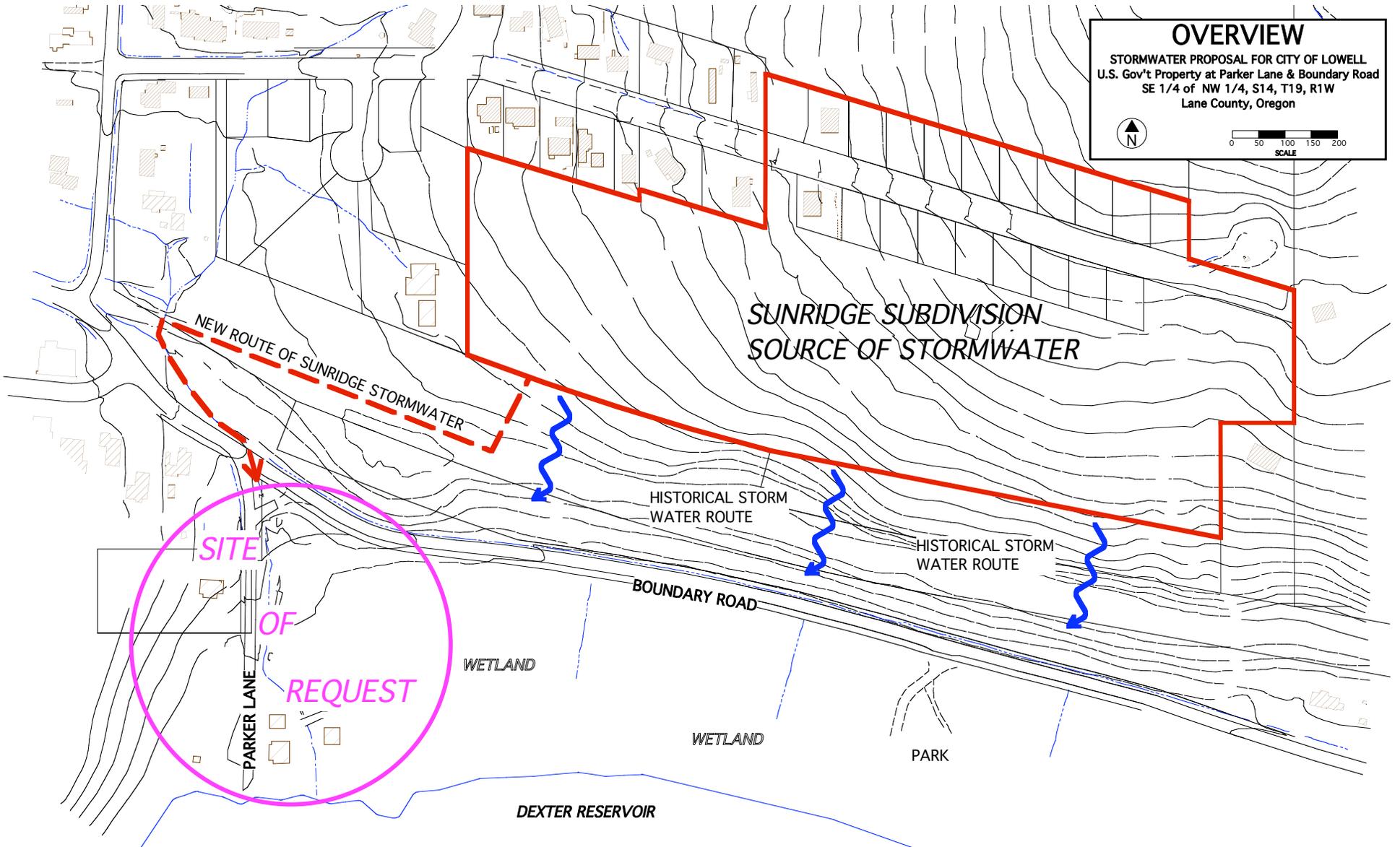
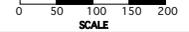
Proposal map



# VICINITY MAP

# OVERVIEW

STORMWATER PROPOSAL FOR CITY OF LOWELL  
U.S. Gov't Property at Parker Lane & Boundary Road  
SE 1/4 of NW 1/4, S14, T19, R1W  
Lane County, Oregon



NEW ROUTE OF SUNRIDGE STORMWATER

SUNRIDGE SUBDIVISION  
SOURCE OF STORMWATER

HISTORICAL STORM  
WATER ROUTE

HISTORICAL STORM  
WATER ROUTE

SITE  
OF  
REQUEST

PARKER LANE

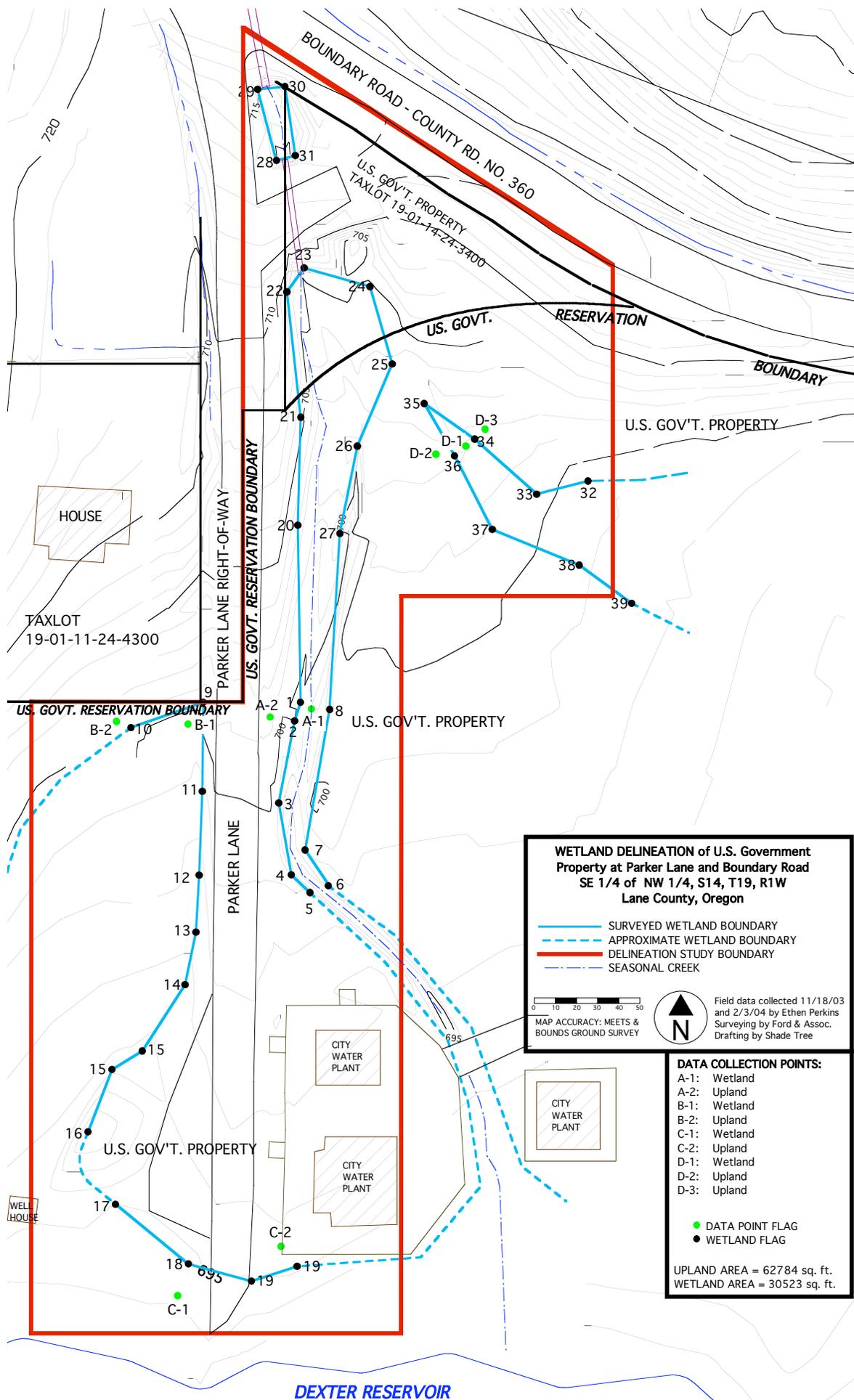
BOUNDARY ROAD

WETLAND

WETLAND

PARK

DEXTER RESERVOIR



**WETLAND DELINEATION of U.S. Government Property at Parker Lane and Boundary Road SE 1/4 of NW 1/4, S14, T19, R1W Lane County, Oregon**

- SURVEYED WETLAND BOUNDARY
- - - APPROXIMATE WETLAND BOUNDARY
- DELINEATION STUDY BOUNDARY
- · - · - SEASONAL CREEK

0 10 20 30 40 50  
 MAP ACCURACY: MEETS & BOUNDS GROUND SURVEY

**N** Field data collected 11/18/03 and 2/3/04 by Ethen Perkins Surveying by Ford & Assoc. Drafting by Shade Tree

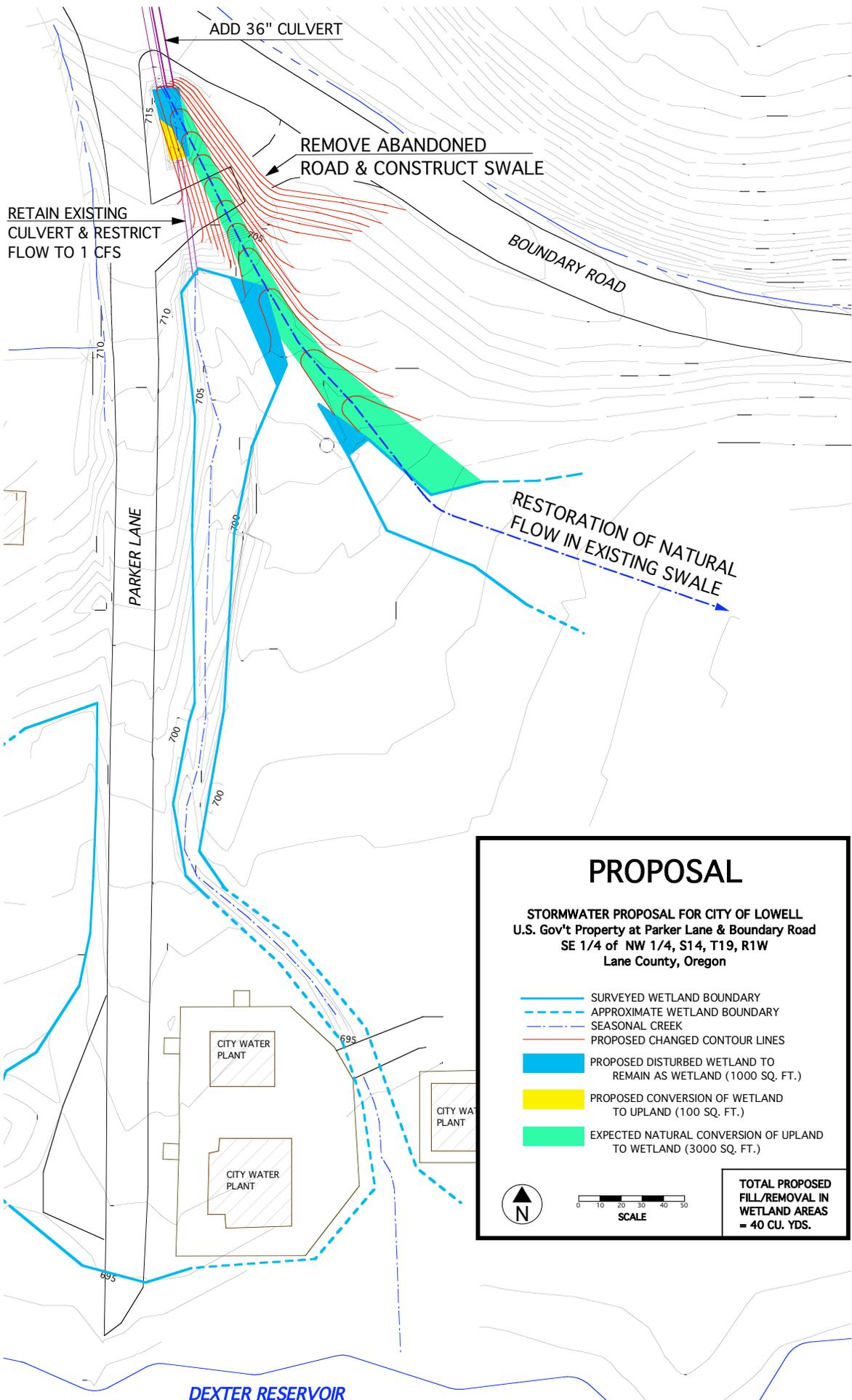
**DATA COLLECTION POINTS:**

- A-1: Wetland
- A-2: Upland
- B-1: Wetland
- B-2: Upland
- C-1: Wetland
- C-2: Upland
- D-1: Wetland
- D-2: Upland
- D-3: Upland

● DATA POINT FLAG  
 ● WETLAND FLAG

UPLAND AREA = 62784 sq. ft.  
 WETLAND AREA = 30523 sq. ft.

**DEXTER RESERVOIR**



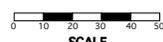
## PROPOSAL

**STORMWATER PROPOSAL FOR CITY OF LOWELL**  
 U.S. Gov't Property at Parker Lane & Boundary Road  
 SE 1/4 of NW 1/4, S14, T19, R1W  
 Lane County, Oregon

- SURVEYED WETLAND BOUNDARY
- - - - APPROXIMATE WETLAND BOUNDARY
- · - · - SEASONAL CREEK
- - - - PROPOSED CHANGED CONTOUR LINES
- PROPOSED DISTURBED WETLAND TO REMAIN AS WETLAND (1000 SQ. FT.)
- PROPOSED CONVERSION OF WETLAND TO UPLAND (100 SQ. FT.)
- EXPECTED NATURAL CONVERSION OF UPLAND TO WETLAND (3000 SQ. FT.)



N



SCALE

**TOTAL PROPOSED  
FILL/REMOVAL IN  
WETLAND AREAS  
= 40 CU. YDS.**

**DEXTER RESERVOIR**