Crescent Sanitary District Wastewater System Improvement

Environmental Report

November 2015

Prepared for: Anderson Engineering & Surveying, Inc.
P.O. Box 28 / 17681 Hwy. 395
Lakeview, OR 97630

Prepared by:

Andréa Rabe
Senior Environmental Consultant
421 Commercial Street
Klamath Falls, OR 97601

11/6/15

Andréa Rabe **Date**

Contents

1.0 Purpose and Need of Proposal

1.1 Project Description (Proposed Action)

The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, Oregon, with the potential for expansion to include the neighboring communities of Gilchrist and West Crescent. The design of the treatment facility is planned to accommodate the communities of Gilchrist and West Crescent should agreement be reached for their inclusion and it is assumed for this report that these areas are included. A vicinity map (Figure 1) is included in the Section 6.

The proposed treatment facility includes facultative lagoons, storage pond, chlorination facility, and land application of the reclaimed water. There will be no discharge. The collection system is comprised of 8" minimum sewer main line and 4" lateral lines connecting to homes and businesses located within the rights of way of the streets and existing roadways. These lines collect and combine the sewer to one location where it can be pumped from a pump stations in Gilchrist and Crescent to the lagoons. Figure 2 in Section 6.0 shows the location of the sanitation ponds, new collection lines and pumps stations, and does not include the existing collection system in the community of Gilchrist. Detailed information on the proposed activities can be found in Section 7 of the Crescent Sanitary District Engineering Report for Wastewater System Improvements dated June 15, 2015 prepared by Anderson Engineering and Surveying, Inc.

1.2 Purpose and Need of the Proposal

The community of Crescent does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area.

The proposed project has the potential for expansion to include the communities of Gilchrist and West Crescent. The community of Gilchrist on the north boundary of the Crescent Sanitary District has an antiquated centralized sewer collection and treatment system installed prior to 1972.

The community of West Crescent also does not have centralized sewerage facilities and the residential properties are served with on-site septic systems. West Crescent has high ground water, shallow aquifers, and very permeable pumice sandy soils. The housing density in the West Crescent area is located close to the Little Deschutes River Basin's sensitive riparian and wetland areas.

Recent groundwater monitoring in Gilchrist showed nitrate levels exceeding the Environmental Protection Agency's (EPA) maximums and therefore, out of regulatory compliance. Additionally, increasing nitrate levels in the ground-water aquifer underlying the Central Oregon City of La Pine and the surrounding area (which includes Crescent, West Crescent, and the Gilchrist area) have been detected. Additionally, recent microorganism sampling showed high levels of total coliforms, including *Escherichia coli* (*E. coli*), in the Little Deschutes River. Samples collected near the outlet of the mill pond in Gilchrist had higher levels of total coliforms than downstream. This has large public health implications as this is the sole source of drinking water for area residents.

Furthermore, the concern is that nitrogen released from on-site septic systems may not only contaminate groundwater that supplies drinking water, but may migrate into the surface water, where nitrogen is known to decrease dissolved oxygen and have an adverse effect on pH levels in the river. This can cause increased algae plumes that remove oxygen needed by plants, fish, and animals to sustain a healthy eco-system.

This imminent public health threat and environmental concerns serve as the catalyst to proposed construction of a wastewater collection system and treatment facility for the Crescent Sanitary District and the surrounding communities of West Crescent and Gilchrist.

2.0 Alternatives to the Proposed Action

A detailed discussion of each of the options presented below can be found in Section 5 of the Engineering Report.

- **No Action:** The No Action alternative would leave sewage treatment in current state with on-site septic systems in Crescent and West Crescent and an out of compliance treatment facility in Gilchrist.
- **Alternative 1:** Alternative 1 would involve the construction of several smaller decentralized wastewater treatment centers to serve a small group or "clusters" of residential users and can vary from construction of aerobic tanks, larger underground septic systems or constructed treatment ponds depending on site conditions.
- **Alternative 2:** When on-site systems are not acceptable, wastewater must be collected for treatment at a centralized location. Alternative 2 explores 2 different categories of collection systems, conventional and alternative, to transport wastewater.
- **Alternative 3:** Alternative 3 explores 2 different treatment system options for sewage treatment at a centralized location. These options are a packaged treatment plant or facultative ponds.
- **Alternative 4:** Alternative 4 is the preferred alternative or proposed action described in Section 1. This alternative utilizes a conventional gravity sewer collection system and facultative pond system with storage and land application of effluent.

The costs associated with all alternatives and the selection factors for picking proposed action are presented in Section 6 of the Engineering Report.

Evidence of groundwater contamination with elevated levels of nitrates has been documented. Continued usage of on-site septic systems and drain fields or installation of new underground decentralized septic systems and drain fields does not address public health threats related to contaminated drinking water and environmental concerns. Therefore, the No Action Alternative and a portion of Alternative 1 are not viable options.

Above ground decentralized treatment ponds discussed in Alternate 1 require more space for treatment and disposal of effluent than the other alternatives, occur in close proximity to residential users, restrict future development in the service area and would be very expensive to maintain. Therefore, this is not a practical alternative and would have a greater area of impact than Alternative 4.

Conventional gravity sewer systems discussed in Alternative 2 work very well in cold weather, require less maintenance and have a longer life span than alternative collection systems, which would then

result in less environmental disturbance over time. Conventional systems are the most practical option and are part of Alternative 4.

Alternative 3 discusses facultative ponds versus packaged treatment plant which discharges treated water to a stream. It is highly unlikely given the nature of the environment of the Little Deschutes River Basin, which provides habitat for many sensitive plants, fish and animals, that a NPDES permit would be obtained for this action. Therefore, facultative ponds are the best environmental option.

Based on this information and information found in the Engineering Report, Alternative 4 which utilizes a conventional gravity sewer collection system and a centralized facultative pond system with storage and land application of effluent is the reasonable alternative and will be analyzed further.

3.0 Affected Environment/Environmental Consequences

3.1 Land Use/Important Farmland/Formally Classified Lands

3.1.1 Affected Environment

Existing land use consists of R1-Rural Residential, RUC-I-Rural Community Industrial, RUC-C-Rural Community Commercial, and F-Forest (see Figure 3 in Section 6). All land use planning is under the jurisdiction of the Klamath County Planning Department. The proposed wastewater treatment site is zoned F-Forest. The Forest Zone completely surrounds the planning area which makes locating a treatment site in an area with different zoning virtually impossible.

The project area does not exhibit soils determined to be important farmlands by the Natural Resource Conservation Service soil survey.

The project area does contain not formally classified land, except for the tax lot immediately west of the proposed location of the treatment facility which is National Forest land. Crescent Sanitary District (District) will need to negotiate a 30-foot wide access easement from the property currently owned by the US Forest Service or with the private landowner of the adjacent parcel.

3.1.2 Environmental Consequences

The residence and businesses of Crescent and potentially Gilchrist and West Crescent will be connected to this system addressing the issues of aging septic systems and contaminated groundwater.

The collection system for the sewerage throughout the planning area is allowed under the existing Rural Residential and Rural Community zones. However, per the Klamath County Comprehensive Land Use Plan, sewerage treatment is not an approved use in a Forest Zone. The proposed site will require additional effort to resolve the land use issue. However, as all the areas surrounding the project are zoned Forest, any other site selected would also require this process. An exception and re-zoning of the property will most likely be required. Given the lack of differently zoned land near the project area and the need for the system, the District has a strong case for approval of the re-zone. The land use issues have been discussed with the Klamath County Planning Department and the Department of Land Conservation and Development.

Alternative 4 does not affect areas determined to be important farmlands because none occur in the project area.

The project area is not formally classified land are within the project area, except the tax lot immediately west of the proposed location of the treatment facility which is National Forest land. Crescent Sanitary District (District) will need to negotiate a 30-foot wide access easement from the property currently owned by the US Forest Service or with the private landowner of the adjacent parcel. The District is currently working with the U.S. Forest Service regarding their requirements to grant utility corridor/temporary construction access to the site. A Special Use Permit from the U.S. Forest Service will be required. The U.S. Forest Service is required to conduct National Environmental Policy Act review and consult with the Tribes.

Cumulative impacts on land use, important farmlands or formally classified lands due to the implementation of the proposed actions are not likely to occur as no other development projects are currently slated for the project area.

3.1.3 Mitigation

As there is no important farmland in the project area, there is no mitigation needed for impacts on important farmland.

The Klamath County Planning Department, the Department of Land Conservation and Development and the U.S. Forest Service may require mitigation as a condition of granting their associated permits.

3.2 Floodplains

According to Flood Insurance Rate Map (FIRM; see Figure 4 in Section 6) produced in 1984 by the Federal Emergency Management Agency (FEMA), the proposed collection system, pump stations and treatment site are outside areas of 100-year flood (Zone A). All areas outside of Zone A are Zone C (areas of minimal flooding). No areas of 500-year flood are identified anywhere around Crescent, Gilchrist or West Crescent. There will be no adverse impacts to this resource and this resource will not be discussed further.

3.3 Wetlands

3.3.1 Affected Environment

The National Wetland Inventory (NWI) database shows wetlands along the Little Deschutes River corridor immediately adjacent to some of the locations where collection system pipeline will be installed. See Figure 5 in Section 6. Collection system pipelines must also cross wetlands along the Crescent Cutoff Road. No wetlands are identified near the proposed treatment site.

3.3.2 Environmental Consequences

The proposed project is not likely to have an effect on wetlands. Collection system pipelines will be installed in existing streets and utility corridor right-of ways. These areas are already highly impacted, built up with fill, and are of higher elevation then their surroundings. The Crescent Cutoff Road crosses the wetland via a bridge. The collection system pipes will be attached to the bridge, and placed within existing roadway alignments and will not adversely impact wetlands.

Cumulative impacts on wetlands due the implementation of the proposed actions are not likely to occur as no other development projects are currently slated for the project area and this project is not likely to have an effect on wetlands.

3.3.3 Mitigation

No mitigation is required for wetlands, as the proposed project is not likely to have an effect on wetlands.

3.4 Historic Properties

3.4.1 Affected Environment

A review of the National Register of Historic Places and Oregon Historic Sites database indicates there 4 historic sites in Crescent and 3 historic sites in Gilchrist, Oregon. Three of the 4 sites listed in Crescent search are within the project area. The 3 historic sites in Crescent are the Crescent School constructed in 1916, the Rouck Store constructed in 1919, and Bracken's Store constructed in 1911. The 3 historic sites in Gilchrist are multiple buildings (Gilchrist Mall, Theater and Mill Powerhouse) constructed in 1938-1939 by the Gilchrist Timber Company during development of the area.

3.4.2 Environmental Consequences

The proposed project is not likely to have an effect on known historic sites. Installation of the collection system will occur within previously developed streets and roads. No disturbance will occur to the buildings or structures. None of the historic places occur near the proposed treatment facility.

Cumulative impacts on historic sites due the implementation of the proposed actions are not likely to occur as no other development projects are currently slated for the project area and this project is not likely to have an effect on these sites.

3.4.3 Mitigation

No mitigation is required for historic places as the proposed project is not likely to have an effect on these sites.

3.5 Biological Resources

3.5.1 Affected Environment

Federal and State listed plant and animal species lists were reviewed to determine potential species of concern in the project. This review identified that Oregon spotted frog (*Rana pretiosa*), a federally listed species, has designed critical habitat along the Little Deschutes River corridor immediately adjacent to the project area. See Figure 6 in Section 6. A field visit on October22, 2015 by Andréa Rabe of Rabe Consulting determined that habitat was not present in the project area for any State or Federal listed species.

The field visit on October 22, 2015 also confirmed that no noxious weeds are in evidence in the project area. The proposed site were the treatment facility will be located is disturbed from past logging activity. There are some young lodge pole pine present with bitterbrush, rabbitbrush, grasses and weedy species in the understory.

3.5.2 Environmental Consequences

There will likely be no effect on any Federal or State listed plant, fish or wildlife species, as none are known to occur and there is no habitat present for these species in the project area. Collection system pipelines will be installed in existing streets and utility corridors. These areas are already highly impacted. The proposed site for the treatment facility is heavily disturbed. The areas was logged

removing most of the lodge pole pine trees from the site and does not provide habitat for the species of concern.

Designated critical habitat for the Oregon spotted frog is located along the Little Deschutes River corridor, as shown in Figure 6 in Section 6, but the proposed project is not likely to have an effect on this critical habitat. The Crescent Cutoff Road crosses the critical habitat via a bridge. The collection system pipes will be attached to the bridge, and placed within existing roadway alignments and will not adversely impact wetlands or critical habitat.

No noxious weeds are currently in evidence in the project area. Existing vegetation will be disturbed in the project area footprint and removed where the facultative ponds will be constructed.

Cumulative impacts on State or Federal listed plant, animal, or fish species due the implementation of the proposed actions are not likely to occur as no other development projects are currently slated for the project area and this project is not likely to have an effect on these species or their associated habitat.

3.5.3 Mitigation

No mitigation is required for federally or State listed plant, fish or wildlife species, as the proposed project is not likely to have an effect on the species or their associated habitat.

Equipment and vehicles entering the area of project effect for implementation of proposed actions will be weed free of noxious weed matter and seeds, so as to not introduce noxious weeds to the project area. This may be accomplished by power washing vehicles and equipment prior to entering the project area.

After project implementation, vegetation in areas impacted by construction and staging area activities will be replanted and revegetated as needed. Project impact area will be seeded or stocked with transplants as needed to ensure are of project effect will not be left in bare soil condition or in a condition that would not recover vegetatively.

3.6 Water Quality Issues

3.6.1 Affected Environment

As was discussed in the Purpose and Need section of this report, the community of Crescent does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. Recent groundwater monitoring in Gilchrist showed nitrate levels exceeding the Environmental Protection Agency's (EPA) maximums. Increasing nitrate levels in the ground-water aquifer underlying the Central Oregon City of La Pine and the surrounding area (which includes Crescent and the Gilchrist area) have been detected from contamination of residential septic systems. Additionally, recent microorganism sampling showed high levels of total coliforms, including *Escherichia coli* (*E. coli*), in the Little Deschutes River. Samples collected near the outlet of the mill pond in Gilchrist had higher levels of total coliforms than downstream. This has large public health implications as this is the sole source of drinking water for area residents.

This also has environmental implications. The communities of Crescent, Gilchrist and West Crescent are located close to the Little Deschutes River Basin's sensitive riparian and wetland areas. Nitrogen

released from on-site septic systems may not only contaminate groundwater that supplies drinking water, but may migrate into the surface water, where nitrogen is known to decrease dissolved oxygen and have an adverse effect on pH levels in the river. This can cause increased algae plumes that remove oxygen needed by plants, fish, and animals to sustain a healthy eco-system.

3.6.2 Environmental Consequences

The immediate environmental consequences include a very slight possibility of sediment loading into the Little Deschutes River in places where the project installation of the collection system occurs immediately adjacent to the riparian area. The river is downslope of the project and sediment leaving the construction site could reach the river. The only possible impacts will be during and immediately after construction. Once construction is completed, no additional sediment loading will be likely to occur due to the project.

The proposed project will improve water quality in the long-term. By creating a collection system and transporting sewage and wastewater to the proposed treatment facility and properly treating it, nitrates will no longer be deposited through aging septic systems into the groundwater. This addresses both public health and environmental concerns.

No other projects are planned in the general vicinity of this project in the immediate future, so there will be no cumulative effects in the area from this or other projects.

3.6.3 Mitigation

Best management practices for sediment and erosion control will be implemented during and immediately after construction to reduce and possibly eliminate the likelihood that sediment loading will occur. These best management practices may include, but are not limited to, sediment fencing, straw bale placement, and reseeding or vegetating. The best management practices will be implemented on an as-needed basis. On-going visual inspection during the construction phase will be used to determine when the practices are needed.

3.7 Coastal Resources

The proposed project is not in a coastal resource area and will therefore not affect a coastal resource. This resource will not be discussed further.

3.8 Socio-Economic/Environmental Justice Issues

3.8.1 Affected Environment

Existing land use consists of R1-Rural Residential, RUC-I-Rural Community Industrial, RUC-C-Rural Community Commercial, and F-Forest (see Figure 3 in Section 6). All land use planning is under the jurisdiction of the Klamath County Planning Department. Gilchrist, West Crescent, and Crescent do not have an urban growth boundary as they are unincorporated communities. The proposed wastewater treatment site is zoned F-Forest, and given this zoning, the sewage treatment facility will not convert existing farm ground or directly increase the number of residences within the area.

This project is not located in an exclusively low-income community. Some of the residences are lower income households, whereas some of the households are middle class families.

3.8.2 Environmental Consequences

This project will have a beneficial impact on the socio-economics of the communities of Crescent, West Crescent and Gilchrist. Currently, there is increasing concern over nitrate and high levels of total coliforms, including *Escherichia coli* (*E. coli*), contamination from the aging septic systems in the area and non-compliance of the Gilchrist centralized collection and treatment system. These concerns have made it extremely difficult for any new development to occur in the area. The proposed wastewater improvements will reduce groundwater contamination and allow new business and residential development.

Additionally, increasing nitrate levels in the ground-water aquifer underlying the Central Oregon City of La Pine and the surrounding area (which includes Crescent and the Gilchrist area) have been detected from contamination of residential septic systems. This has large public health implications as this is the sole source of drinking water for area residents. The proposed project will address this issue and bring the community of Gilchrist in compliance with current environmental standards and regulations.

Cumulative impacts due to implementation of proposed activities are not likely to occur as no other development projects area currently slated for the project area and project will have a beneficial impact on the socio-economic status of the project area.

3.8.3 Mitigation

Post-construction cleanup will be conducted within the project area of effect. All construction debris and excess materials will be removed from the site. As needed, the area will be revegetated where vegetation was disturbed as a result of the project.

3.9 Miscellaneous Issues

3.9.1 Affected Environment

The project area is not a Class I area for air quality. The EPA lists the area in the 3rd percentile for Particulate Matter diameter less than 2.5 micometers (PM2.5).

The project area is not near or adjacent airports or navigable waterways.

The project proposes to install collection system pipes along or in road and streets within Crescent, West Crescent and Gilchrist and in the utility corridor right-of way along U.S. Highway 97. Some the roads in Gilchrist, Crescent and West Crescent are unpaved. The proposed project also builds an access road that crosses the inactive railroad line east of the highway.

The highway and the logging mills in Crescent and Gilchrist contribute to the ambient noise levels in the project area. There is little noise from commercial businesses or residences in the area.

3.9.2 Environmental Consequences

Air quality during construction may be slightly degraded due to dust creation from dirt moving activities and vehicle travel on unpaved roads.

All roads proposed for collection system installation or upgrade will see increased traffic temporarily during construction activities. This may cause some temporary delays for or rerouting to residential or business access points.

Noise levels in the area of the project effect will be increased temporarily due to construction activities. There will likely be no increase in noise levels after construction is complete.

Cumulative impacts to air quality, transportation, or noise due to implementation of proposed activities are not likely to occur as no other development projects area currently slated for the project area.

3.9.3 Mitigation

To decrease dust from construction activities, unpaved roads will be watered as needed. Excavation spoils will be covered in the event of high winds or storm activities to reduce dust and soil transport away from the project site. Revegetating disturbed soils, as needed, after implementation of proposed actions will reduce sediment and dust movement after project completion.

To reduce the impact of construction traffic and noise on residential areas, construction will not occur on the weekends or in the evenings. Weekends and evenings are when the most residents would be at home, and therefore disturbed by the activities.

4.0 Summary of Mitigation

The mitigation activities in Table 1 will be implemented during construction of the proposed actions. These mitigation activities will mitigate potential impacts of the proposed actions. With the implementation of these mitigations activities, the proposed actions will not likely have a significant impact on the environment within the area of project effects.

The area of proposed project impact will be monitored and visually inspected at frequent intervals during project implementation. The mitigation activities will be assessed for their effectiveness. If the proposed mitigation activities are not adequate to offset project impacts, then mitigation activities will be modified or adjusted to compensate for the project impacts. Additional best management practices will be implemented as needed to eliminate project impacts on the project effect.

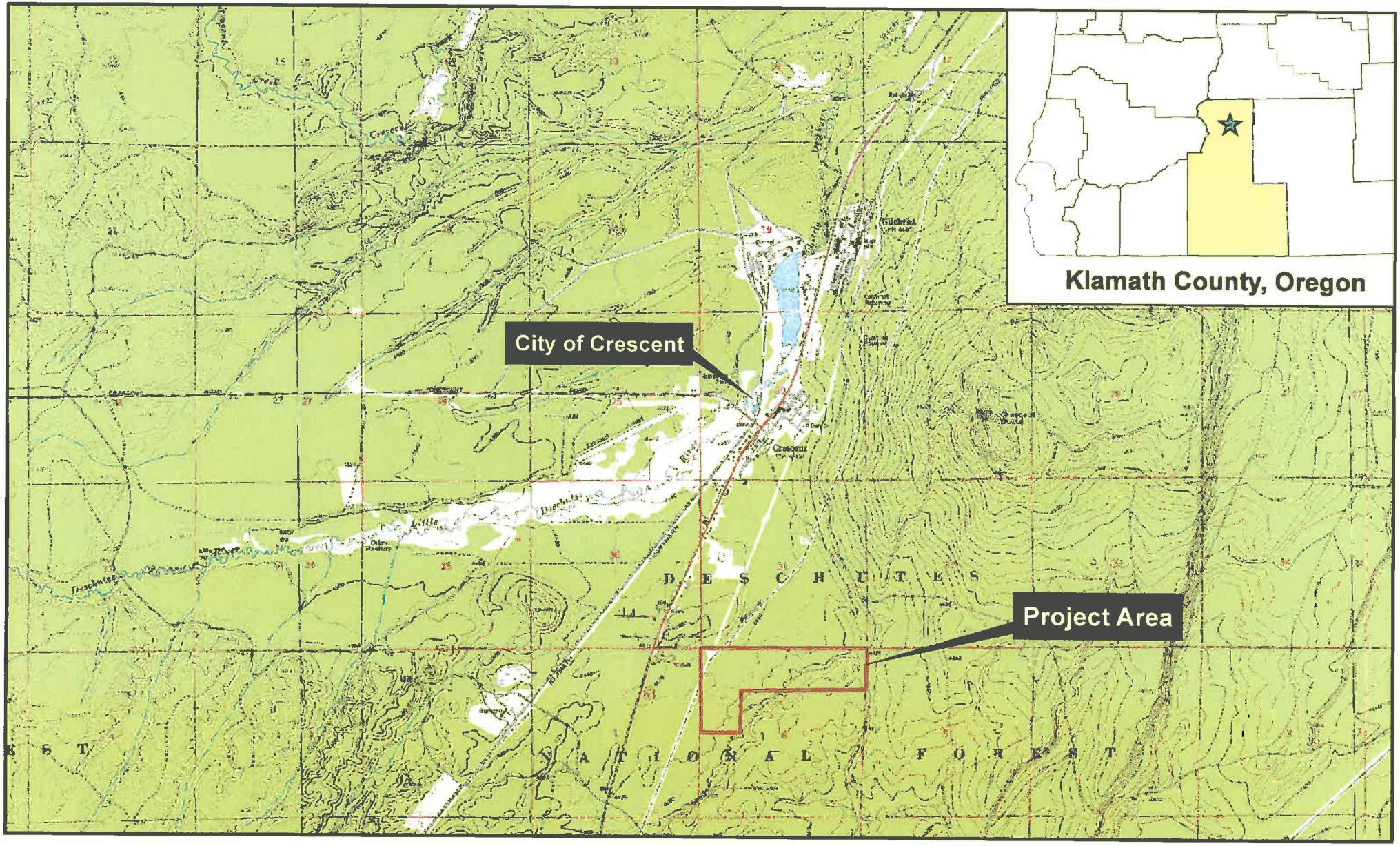
Table 1. Mitigation Activities	
1.	Equipment and vehicles entering the area of project effect for implementation of proposed actions will be weed free of noxious weed matter and seeds.
2.	After project implementation, vegetation in areas impacted by construction and staging area activities will be replanted and revegetated as needed.
3.	Sediment and erosion control will be implemented during and immediately after construction. These best management practices may include, but are not limited to, sediment fencing, straw bale placement, and reseeding or vegetating, as needed.
4.	Unpaved roads will be watered as needed.
5.	Excavation spoils will be covered in the event of high winds or storm activities to reduce dust and soil transport away from the project site.
6.	Construction activities that produce noise will not occur on the weekends or in the evenings.
7.	Monitoring and visual inspection of mitigation and construction activities will occur at frequent intervals during project implementation.
8.	Post-construction cleanup will be conducted within the project area of effect. All construction debris and excess materials will be removed from the site.

5.0 Correspondence

Correspondence was conducted with a number of State and Federal agencies and Tribes to gather information and for concurrence purposed. Letters dated October 6, 2015, were sent to the following entities: U.S. Army Corps of Engineers, Bureau of Land Management (BLM) – Prineville Office, U.S. Fish and Wildlife Service, U.S. Forest Service – Deschutes National Forest, Oregon State Historic Preservation Office, Portland State University, Klamath County Planning Department, Burns Paiute Tribe, The Klamath Tribe, and Confederated Tribes of Warm Springs. Copies of the letter sent can be found in Appendix A.

Two responses were received, one from Prineville District BLM and one from the Deschutes National Forest. Both letters acknowledge receipt of the proposed project description and neither agency expressed any concerns about the project. Copies of the responses can be found in Appendix B.

6.0 Exhibits/Maps



Crescent Sanitary District
Wastewater System Improvements

Figure 1 - Vicinity and Project Area Location Map

Map Created By: Ruth Olsen
Map Created On: October 16, 2015

Rabe Consulting

Township 25S Range 9E Section 6
Tax lot # 200

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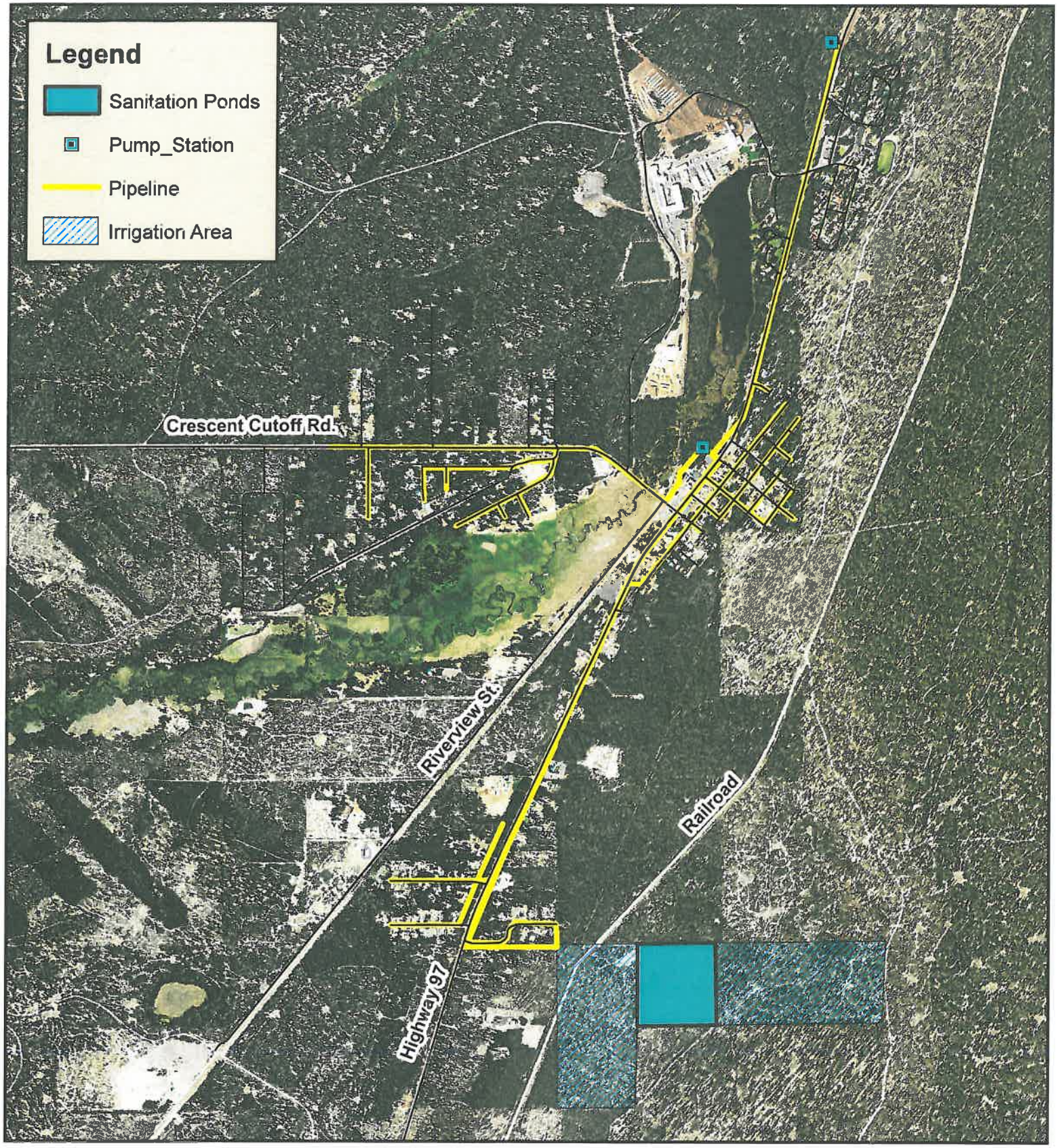
Miles



Crescent Sanitary District
Wastewater System Improvements

Figure 2 - Infrastructure Site Map

Map Created By: Ruth Olsen
Map Created On: October 16, 2015

Rabe Consulting

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Figure 3 – Land Use Zoning in Project Planning Area

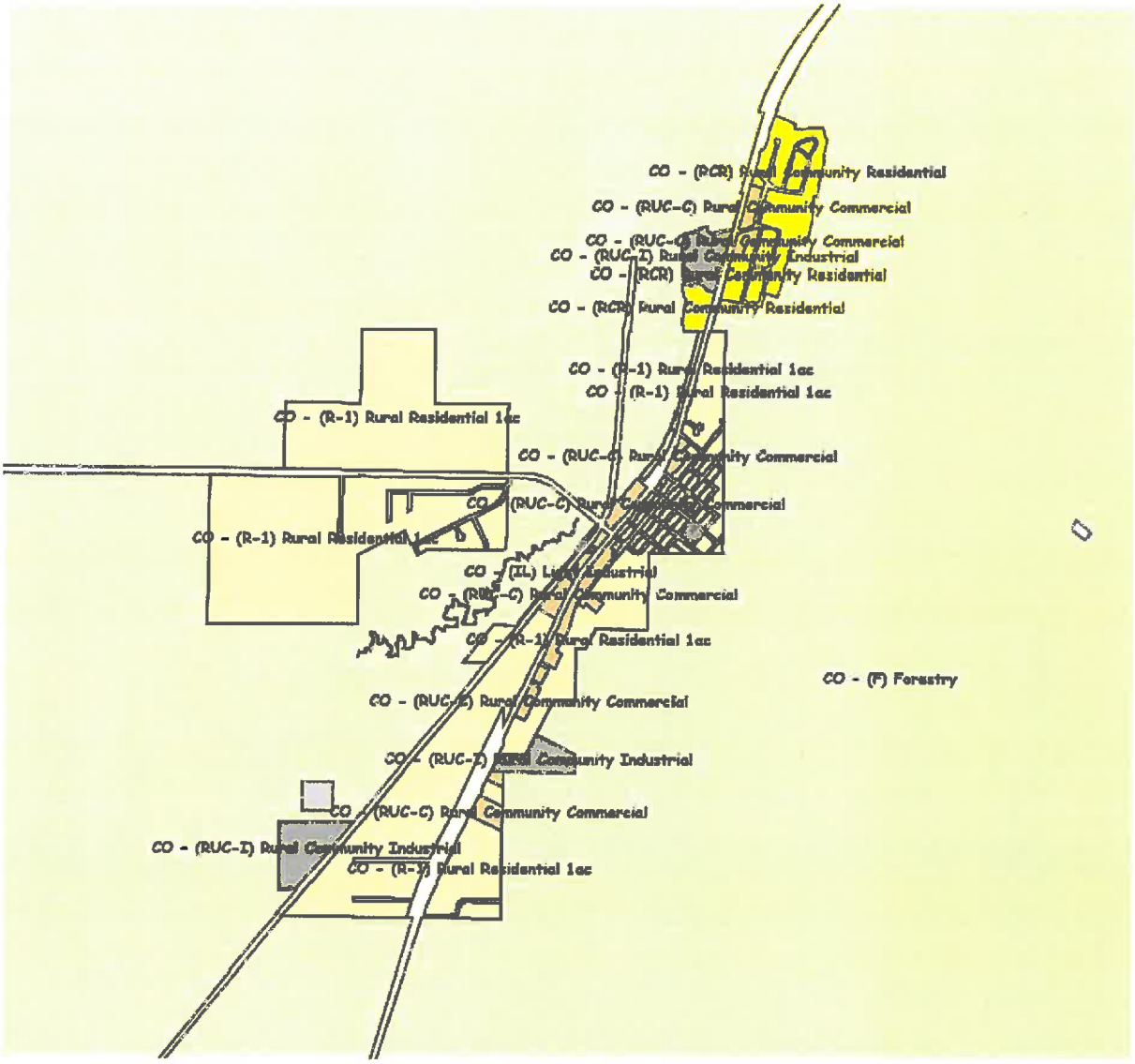
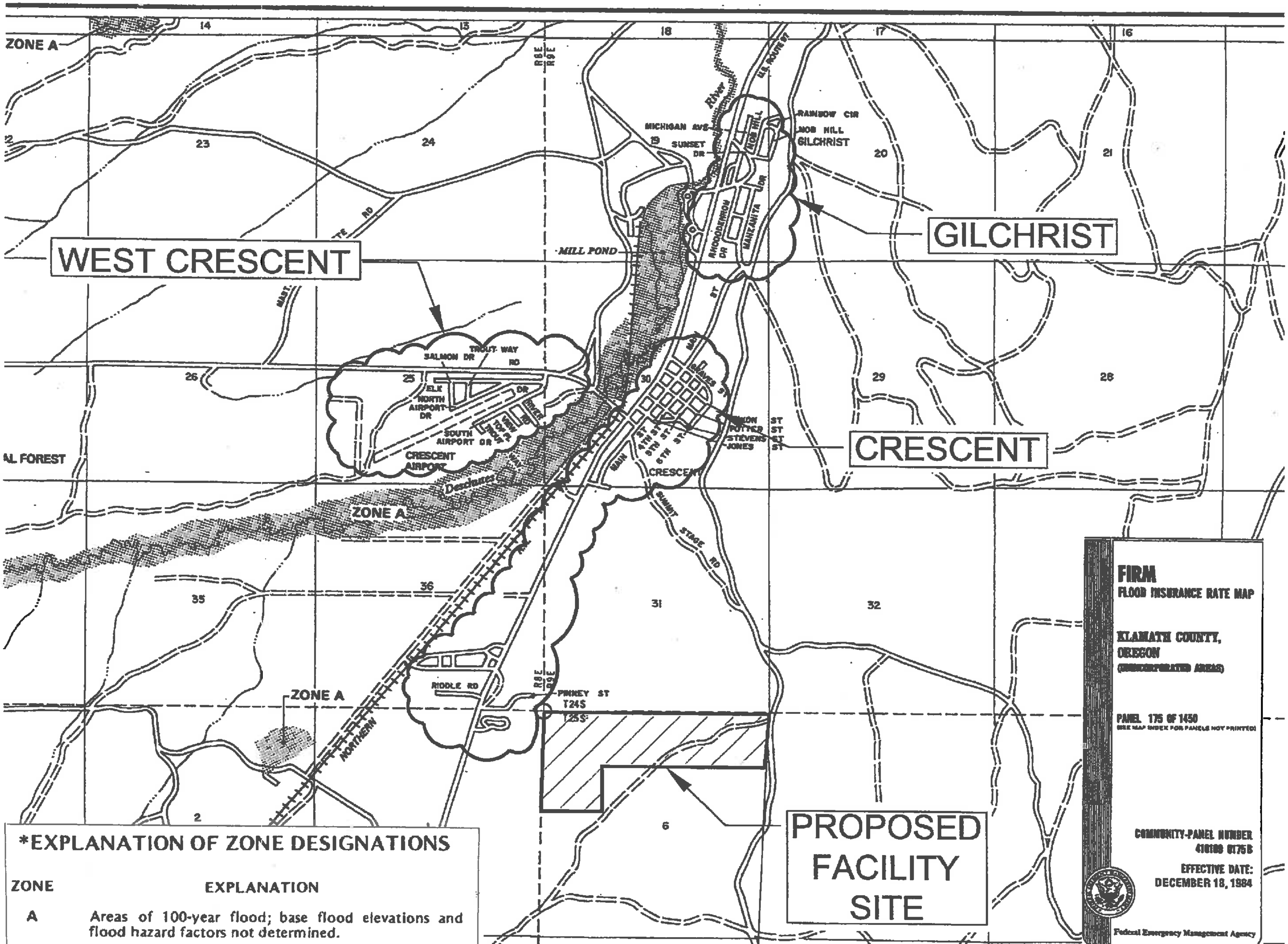
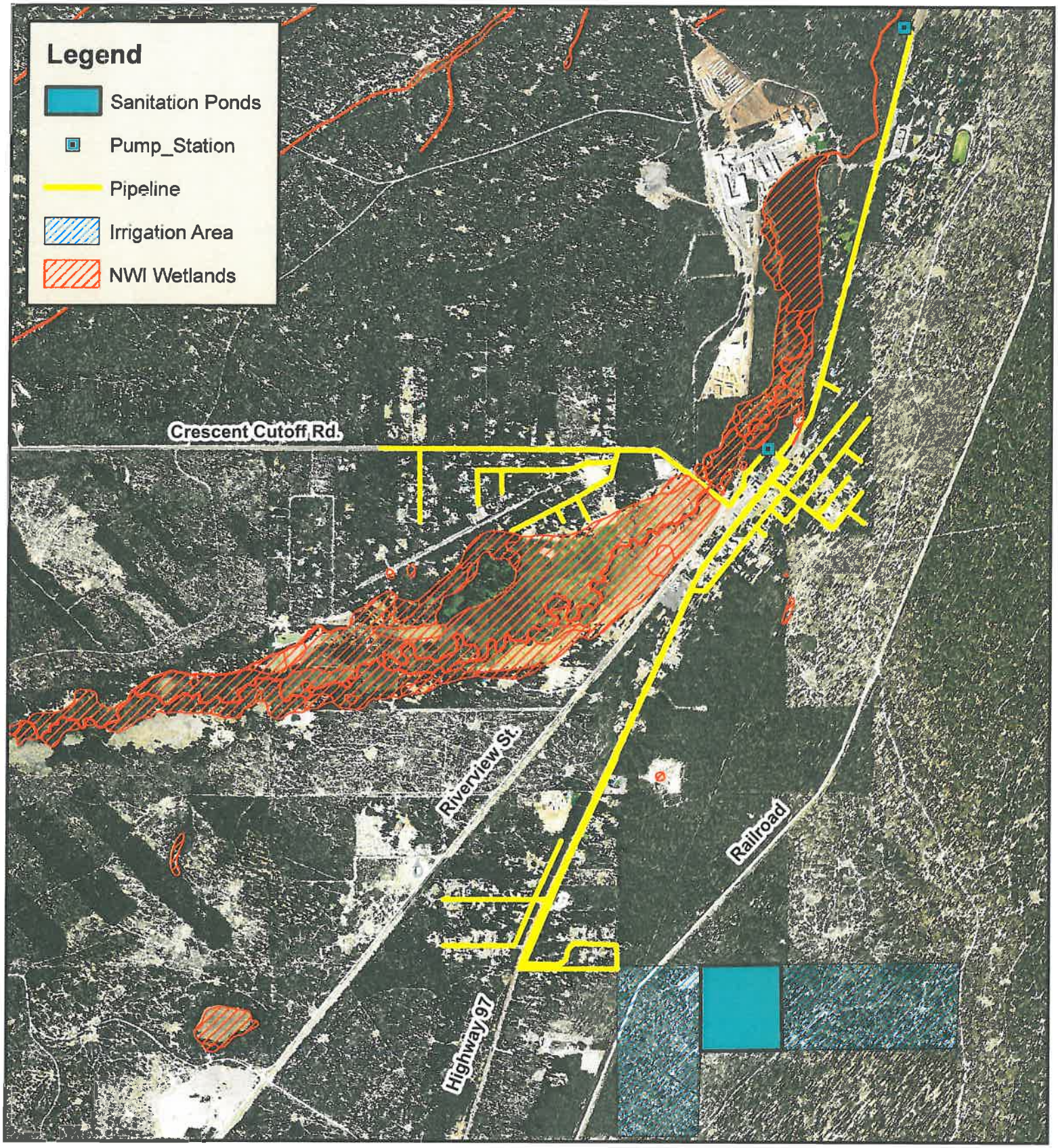


Figure 4



*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.



Crescent Sanitary District
Wastewater System Improvements

Figure 5 - Wetlands Map

Map Created By: Ruth Olsen
Map Created On: October 16, 2015

Rabe Consulting

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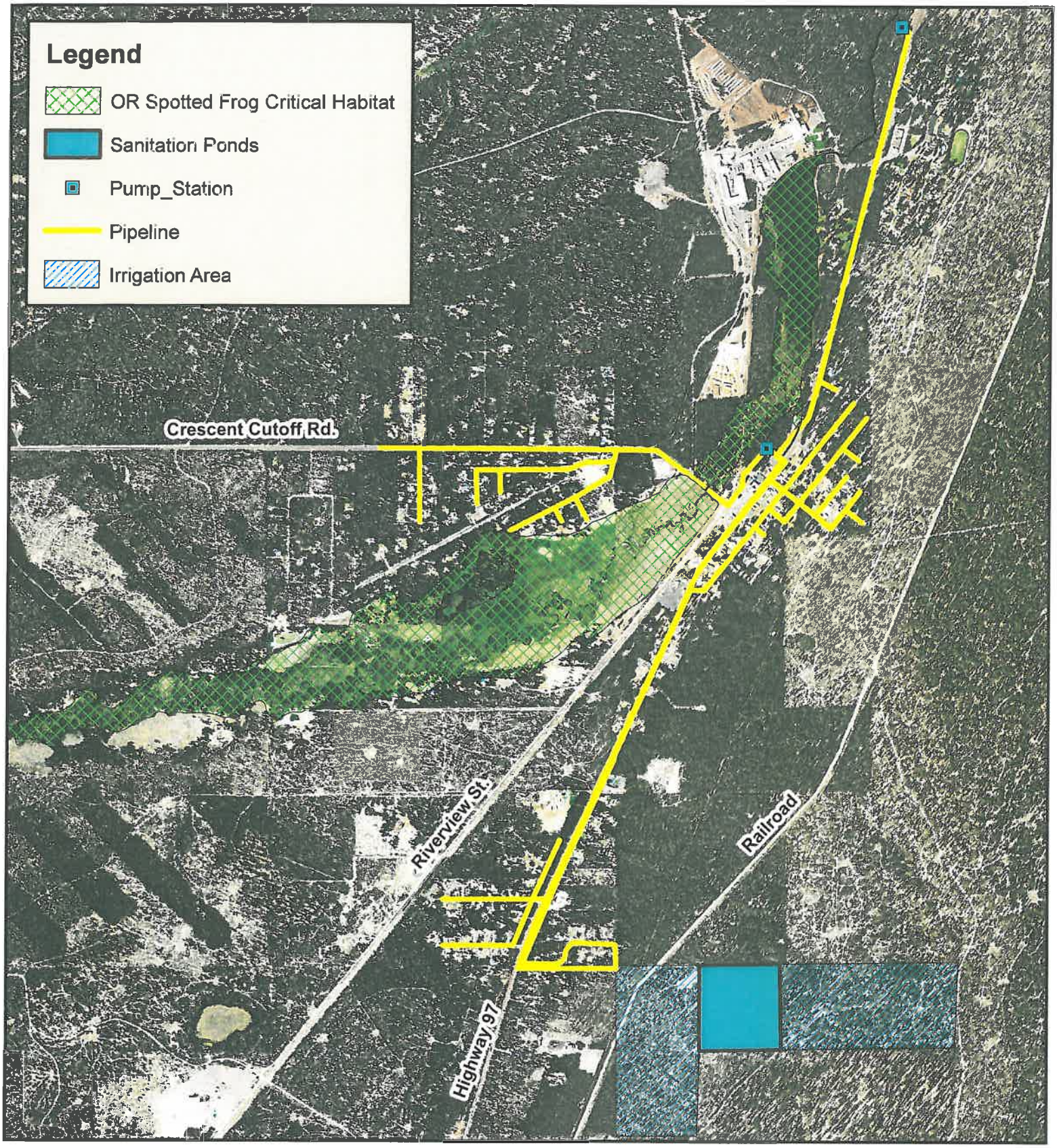

Crescent Sanitary District
Wastewater System Improvements

Figure 6 - Sensitive Species Map

Map Created By: Ruth Olsen
Map Created On: October 16, 2015

Rabe Consulting

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APPENDIX A – CORRESPONDENCE SENT

ANDERSON ENGINEERING AND SURVEYING, INC.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
17681 Hwy. 395, Lakeview, Oregon 97630
(541) 947-4407 Fax (541) 947-2321
www.andersonengineering.com

October 6, 2015

Shelly Hanson, Specialist
U.S. Army Corps of Engineers
Eugene Field Office
211 E 7th Avenue, Suite 105
Eugene, Oregon 97401-2722

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Ms. Hanson;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre sites. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests your comments regarding any potential impacts for the project.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

ANDERSON ENGINEERING AND SURVEYING, INC.
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17681 Hwy. 395, Lakeview, Oregon 97630
(541) 947-4407 Fax (541) 947-2321
www.andersonengineering.com

October 6, 2015

Carol Benkosky, District Manager
Bureau of Land Management – Prineville Office
3050 NE 3rd Street
Prineville, OR 97754

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Ms. Benkosky;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre sites. The attached maps show the area of potential effect for all construction activities.

As shown on the site map, construction may take place in the Deschutes Resource Area. We are seeking information on environmental effects from the project as an input to the Rural Utilities Service's decision-making process. We request your review of this project for potential impacts to officially designated areas within the Deschutes Resource Area and any recommendations you may have to mitigate or avoid these effects. We would also appreciate receiving any information regarding additional review requirements that your agency may have.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS
cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Diane Teeman
Burns Paiute Tribe
100 Pa'Si 'Go' Street
Burns, OR 97720

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Ms. Teeman;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests the assistance of the Burns Paiute Tribe in identifying areas of cultural significance that may be affected by the project. Please provide any recommendations you may have to mitigate or avoid any potential impacts.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

ANDERSON ENGINEERING AND SURVEYING, INC.
PROFESSIONAL ENGINEERS AND LAND SURVEYORS
17681 Hwy. 395, Lakeview, Oregon 97630
(541) 947-4407 Fax (541) 947-2321
www.andersonengineering.com

October 6, 2015

Mark Gallagher, Planning Director
Klamath County Planning Department
305 Main Street
Klamath Falls, OR 97601

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Mr. Gallagher;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

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The Crescent Sanitary District requests your comments regarding any potential land use impacts for the project.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Perry Chocktoot
Klamath Tribes
PO Box 436
Chiloquin, OR 97624

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Mr. Chocktoot;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests the assistance of the Klamath Tribes in identifying areas of cultural significance that may be affected by the project. Please provide any recommendations you may have to mitigate or avoid any potential impacts.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

Cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Lindsey Wise, Biodiversity Data Manager
Portland State University
Oregon Biodiversity Information Center Institute for Natural Resources
PO Box 751
Portland, Oregon 97207

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Ms. Wise;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests your comments regarding any potential impacts for the project.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Dennis Griffin, State Archaeologist
Oregon State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97301

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Mr. Griffin;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests the assistance of your office in identifying historic properties that are listed or eligible for listing on the national Register of Historic Places and that may be affected by the project. Please provide any recommendations you may have to mitigate or avoid these impacts to properties that may be affected.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

Cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Alan Mauer, Biologist
U.S. Fish & Wildlife Service
Bend Field Office
63095 Deschutes Market Road
Bend, Oregon 97701

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Mr. Mauer;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre sites. The attached maps show the area of potential effect for all construction activities.

The Crescent Sanitary District requests your comments regarding any potential impacts for the project.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

John Allen, Forest Supervisor
US Forest Service – Deschutes National Forest
63095 Deschutes Market Road
Bend, OR 97701

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Mr. Allen;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached maps show the area of potential effect for all construction activities.

As is shown on the map, construction may take place in the Deschutes National Forest. We are seeking information on environmental effects from the project as an input to the Rural Utilities Service's decision-making process. We request your review of this project for potential impacts to officially designated areas within the Deschutes National Forest and any recommendations you may have to mitigate or avoid these effects. We would also appreciate receiving any information regarding additional review requirements that your agency may have.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

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October 6, 2015

Holly Shea
Confederated Tribes of Warm Springs
PO Box 460
Warm Springs, OR 97761

Re: Crescent Sanitary District – Proposed Wastewater System Improvements

Dear Ms. Shea;

The Crescent Sanitary District is in the process of performing an environmental review pursuant to the National Environmental Policy Act for the USDA, Rural Utilities Service in order that it may assess the environmental impacts of wastewater system improvements for the community of Crescent in Klamath County, Oregon. The proposed project involves development of a wastewater treatment facility and wastewater collection system for the community of Crescent, with the potential for expansion to include the communities of Gilchrist and West Crescent. The area does not currently have a centralized wastewater collection and treatment system, and businesses and residences use individual septic systems. There is increasing concern over nitrate contamination from the aging septic systems in the area and these concerns have made it extremely difficult for any new development to occur in the area. The wastewater improvements are being proposed to reduce groundwater contamination from the on-site septic systems and allow new business and residential development.

The project will consist of installing collection piping in the Crescent area as well as constructing a treatment facility that will include treatment and storage lagoons and a chlorination facility. Once treated, the water will be used for crop irrigation on two 80-acre areas. The attached map shows the area of potential effect for all construction activities.

The Crescent Sanitary District requests the assistance of the Confederated Tribes of Warm Springs in identifying areas of cultural significance that may be affected by the project. Please provide any recommendations you may have to mitigate or avoid any potential impacts.

We would appreciate a response within 30 days. If you need further information or wish to discuss the project, please contact Darryl Anderson at (541) 947-4407.

Sincerely,

Darryl Anderson, PE, PLS

cc: Charles Lawrence, Crescent Sanitary District

Enclosures: Proposed Facility Map
Site Map

APPENDIX B – CORRESPONDENCE RECEIVED

From: "Manezes, Susie" <smanezes@blm.gov>
Date: 10/30/2015 7:58 AM (GMT-08:00)
To: Darryl Anderson <darryla@andersonengineering.com>, Jeffrey Kitchens <jhkitche@blm.gov>, Carol Benkosky <cbenkosk@blm.gov>, Michelle McSwain <mmcswain@blm.gov>, Michael Mckey <mmckey@blm.gov>
Subject: RE: Crescent Sanitary District Proposed Wastewater System Improvements

Darryl:

The BLM Prineville District received your letter regarding the proposed wastewater system improvements for the community of Crescent in Klamath County, Oregon on October 13, 2015.

We have reviewed the proposal, as identified on the maps you submitted along with your letter, and we have no concerns regarding this project. The project, as identified on the maps, is on private property and the BLM managed lands are quite a distance from the project.

The project, as proposed, looks like it would be a benefit to the community of Crescent and we hope the project is a success. Thank you for the opportunity to respond.

Regards,

--

Susie Manezes

Assistant Field Manager

Prineville District BLM

541-416-6725

smanezes@blm.gov

USDA United States Department of Agriculture | Forest Service | Deschutes National Forest | 63095 Deschutes Market Road
Bend, OR 97701
541-383-5300

File Code: 1340; 7430
Date: October 27, 2015

Darryl Anderson, PE, PLS
Anderson Engineering & Surveying, Inc.
17681 Hwy 395
Lakeview, Oregon 97630

Dear Mr. Anderson:

Thank you for allowing the Deschutes National Forest to provide feedback on the Proposed Wastewater System Improvements in Crescent, Oregon. The Crescent Ranger District has been in communication with the Crescent Sanitary District and Anderson Engineering and Surveying throughout the development of this project. As the project will not occur on Deschutes National Forest Land, we do not have any concerns at this time. Please continue to keep us updated on the status of the improvements.

Sincerely,

JOHN ALLEN
Forest Supervisor

Klamath County Planning Department

Klamath County Government Center
305 Main Street, Klamath Falls, Oregon 97601

Phone 1-541-883-5121 Option #4
Toll Free in Oregon 1-800-426-9763
Fax 1-541-885-3644

November 3, 2015

Darryl Anderson
Anderson Engineering and Surveying, Inc.
17681 Hwy. 395
Lakeview, OR 97630

RE: LAND USE IMPACTS FROM PROPOSED WASTEWATER TREATMENT FACILITY

Dear Mr. Anderson,

This letter is in response to your letter of October 6, 2015 regarding potential land use impacts from a new wastewater treatment facility in Crescent.

Because the proposed site of the wastewater treatment facility is located southeast of the town proper of Crescent, it should minimize any wind carried odors given a prevailing wind from the northwest.

As all the collection piping for the facility is underground, there will only be temporary surface disturbance during its installation.

I would anticipate the biggest land use "impact" from the facility will be the increased ability for more development within the rural community boundary. The current restrictive overlay on the residential properties, limiting them to a minimum lot size of 2 acres, can then be lifted and the 1 acre minimum lot size will go back into effect. The public treatment system would also make it easier for commercial development to fill existing vacant commercial land.

Sincerely,

Mark Gallagher
Planning Director