OPERATION & MAINTENANCE MANUAL

Water Quality Biofiltration Swales

NOTE: These facilities were installed and are maintained by Clean Water Services

Manual prepared: April/2019

DFI No. D00874, D00875, D00876

Figure 1a: DFI00874, north of Durham Rd, looking north

Figure 1b: DFI00875 looking south to SW Royal Villa Dr.

Figure 1c: DFI00876, south of SW Versailles Rd., looking south

Identification

Drainage Facility IDs (DFI):	D00874, D00875, D00876
Facility Type:	Water Quality Biofiltration Swale
Construction Drawings:	(V-File Numbers) ODOT: NO PLANS. Project plans are CWS Plans "Highway 99W Median Stormwater Quality Facilities Project" NOTE: ODOT built companion project without swales: 47V-018, OR99W: SW Durham Rd to SW Fischer Rd Sec. Appendix C includes excerpts from the Advanced Plans for 47V-018 which shows swale locations approximately as built. The final plans don't show swales since they were in CWS plans.
Location:	District: 2B Highway No.: 091 D00784 Mile Post: 11.30 to 11.35, [median] D00785 Mile Post 11.73 to 11.80 [median] D00786 Mile Post 12.06 to 12.09 (median)

1. Manual Purpose

The purpose of this manual is to outline inspection needs and summarize maintenance actions.

2. Facility Location

The location map below details the facility location. The highway, mile posts, side streets, access location, and stormwater flow directions are noted on the map. Note: Mile posts are from TransGIS.

Facility location type: Roadway median

Flow direction:

D00784 South
D00785 South and North parts drain to center outlet pipe
D00786 South

Figure 2: Facility location map

Facilities are located in the 99W median between the Tualatin River to a point just north of the intersection of 99W and SW Durham Rd.

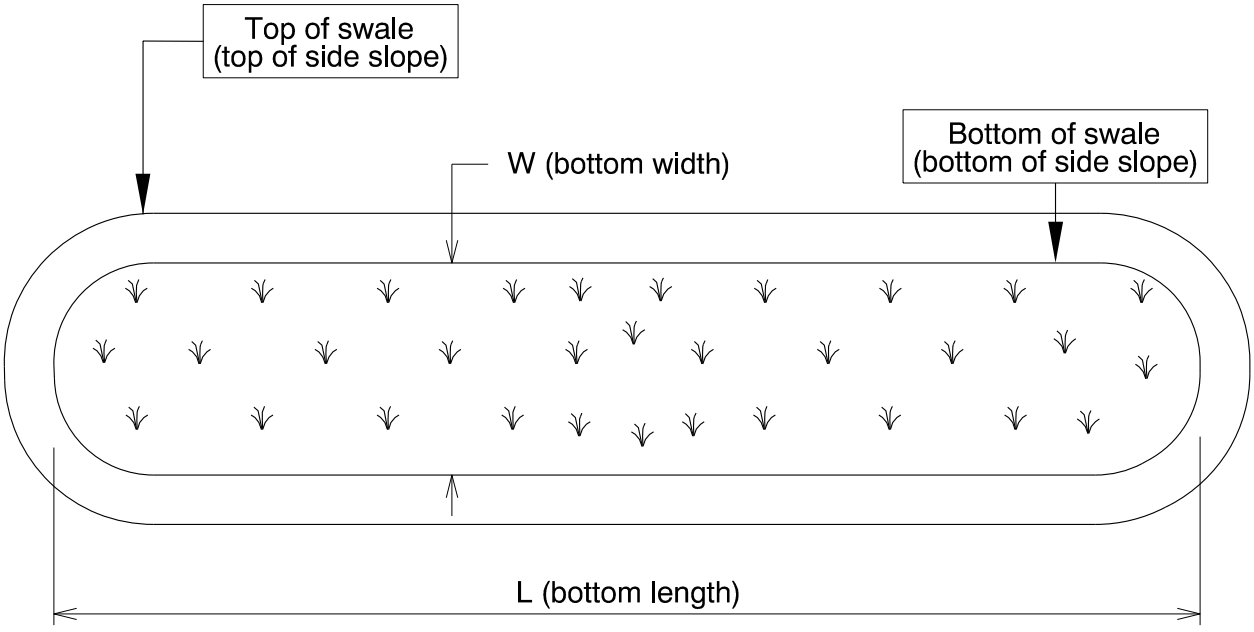
3. Facility Summary

The length and width of a swale is based on the bottom dimensions. See partial plans in Appendix A.

The bottom length and bottom width of the swale is:

Swale (ODOT DFI)	Bottom Length (feet)	Bottom Width (feet)
D00874	**202**	**6 min (treatment area)**
D00875a	**170**	**6 min (treatment area)**
D00875b	**111**	**6 min (treatment area)**
D00876	**200**	**6 min (treatment area)**

NOTE: These swales meander and the min bottom width listed is the treatment area. . See detail below following “typical”.



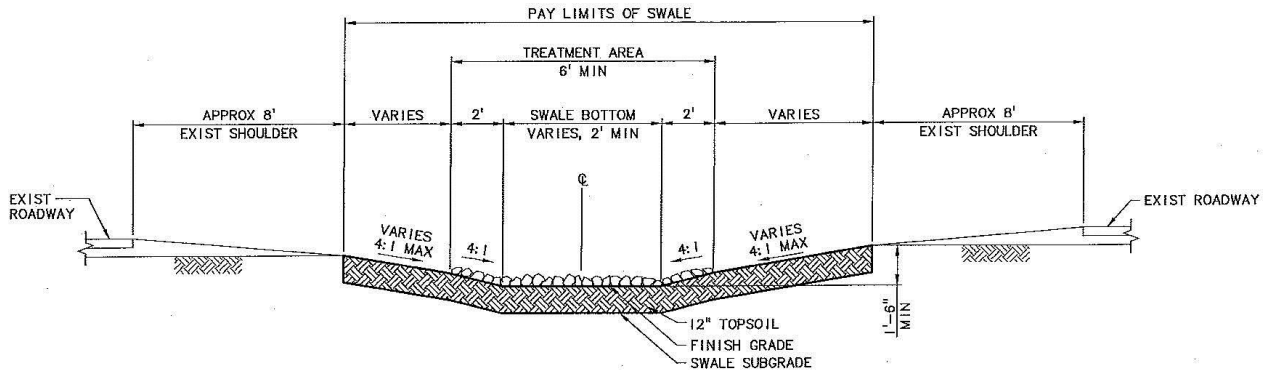
See Appendix A and C for more information about this project:

1. Plan Excerpts showing the swales (App A maintained by CWS) and connecting pipes (App C maintained by ODOT). The swales shown in these plans correspond to those in the IGA even though the noted stations do not match.
2. An overview of how the swales drain to the Tualatin River.

The depth of the swale is the vertical distance measured from the bottom of the swale to the top. The slope of the swale sides is presented by a vertical distance (rise) followed by the horizontal distance (run).

Depth and side slopes (and see unusual section below). Swales appear to be designed to retain a small wet area in the bottom.

Depth (feet)	Rise (feet)	Run (feet)
0.5 (min)	1	4



SWALE 1: STA 5+94 TO 7+96
SWALE 2: STA 33+97 TO 35+67
SWALE 3: STA 36+02 TO 37+13
SWALE 4: STA 71+25 TO 73+25

TYPICAL SECTION – WATER QUALITY SWALE (1/–)
SCALE: NTS

Site Specific Information:

These swales were installed as part of a retrofit project, “Highway 99W Median Stormwater Quality Facilities Project” with plans by CWS. **The IGA for the maintenance of these swales is found in Appendices B1 and B2.**

The IGA includes terms by which ODOT paid CWS to maintain these swales for ODOT from 2014 for 15 years, until 2029. ODOT maintenance confirms that CWS maintains the plantings in the swales. ODOT maintenance mows the slopes around the outside of the swales.

This O&M plan includes all three swales, D00874, D00875, and D00876 because, most importantly, all three are under the same IGA, and are not maintained by ODOT maintenance at this time. Moreover, 1) They are all same type of facility (2) they all drain to the Tualatin River at two outfalls very near each other (see App A Overview) (3) they were all installed at the same time.

4. Facility Access

Maintenance access to the facility:

☒Roadside pad	☒Roadside shoulder
☐Access road with Gate	☐Access road without Gate

Figure 3a: D00874, maintenance pad just north of Durham Rd. intersection with 99W

Figure 3b: D00875, looking south toward intersection of SW Royal Villa Dr., one NB and one SB maintenance pad.

Figure 3c: D00876, looking south toward Tualatin River Bridge, 2 SB maintenance pads

5. Operational Components / Maintenance Items

Classification

This facility is classified as an:

☐ On-line Swale	☒ Off-line Swale
A swale that does not include a high flow bypass component; flow drains into and through the facility	**A swale that treats low/small flows and diverts high flows using a bypass component**

Bypass Component

This facility includes a high flow bypass component:

☐ No	☒ Yes
There is no bypass component. High flows drains into and through the facility	**There is a bypass component. Only low/small flows drain into the swale. High flows are diverted around the swale using a bypass component**

Operational Components:

A swale has many components that assist with treatment, conveyance, and reducing flow velocity to minimize erosion. The components in use can vary depending if the facility was designed to operate on-line or off-line.

No Table is included because Clean Water Services maintains these components.

Operational Plan:

NOTE: Clean Water Services maintains the swales. ODOT maintains the area around the swale and certain connecting pipes. *Clean Water Services (CWS) requests that ODOT maintenance notify and coordinate with CWS when pipes are flushed to avoid large amounts of sediment in the swales they don't know about.*

The applicable standard operational plan for this facility is: NOT by ODOT.

☐ Operational Plan A	☐ Operational Plan B	☒ Operational Plan C
An on-line swale with roadside ditches	**An on-line swale with piped inlets and outlets**	**An off-line swale with a piped high flow bypass**
A standard operational plan illustrates the general facility footprint configuration and explains the purpose of each facility component. Operational plans (A, B, C) are provided in the Standard Operation Manual.		

See Appendix A for the swale plans from CWS and an overview showing the outfalls. These swales are not maintained by ODOT at this time.

Maintenance Items – *NOTE: Swales Maintained by CWS until 2029. Their performance measures are in IGA in Appendix B.*

Maintenance:

NOTE: Swales Maintained by CWS until 2029. CWS maintenance is shown in the IGA in Appendix B. Information below not applicable at this time. Notify CWS when cleaning related pipes.

Maintenance Frequency/Maintain Records

a. Inspect annually. Preferably prior to the rainy season.
b. Clean and maintain as necessary. Refer to Activity 125 for conditions when maintenance is needed.
c. Keep a record of inspections, maintenance, and repairs.

Maintenance Guide/Maintenance Actions

The ODOT Routine Road Maintenance Water Quality and Habitat Guide (the Blue Book) outlines the standard maintenance actions for water quality facilities under Activity 125.

There are standard maintenance tables for standard ODOT designs. The maintenance tables describe the maintenance component, the defect or problem, the condition when maintenance is needed, and the recommended maintenance to correct the problem. Use the following tables to maintain ODOT swales:

- Table 1 (General Maintenance): Contains general maintenance and inspection guidelines that are applicable to all ODOT water quality facilities
- Table 3 (Maintenance of Water Quality or Biofiltration Swales): Contains maintenance information for swales

The Blue Book can be viewed at the following website:
http://www.oregon.gov/ODOT/Maintenance/Documents/blue_book.pdf

6. **Limitations** **CWS maintains these. NOTE: w*hen cleaning related pipes or mowing: equipment wheels should be kept on the tops and side slopes.***

Access grid installed:

☒ No	☐ Yes
There are no duty porous pavers installed in this swale	

Swales are designed to allow equipment access along the bottom. If an access grid is NOT installed, vehicles entering the swale can create depressions (tire ruts), damage vegetation, and damage structural components (e.g. flow spreaders). These conditions may result in poor treatment and drainage performance. Mower arms may be run along the swale bottom.

7. Waste Material Handling

Material removed from the facility is defined as waste by the Department of Environmental Quality (DEQ). Refer to the road waste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options:

http://www.oregon.gov/ODOT/Maintenance/Documents/ems_manual.pdf

Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 667-7442
ODOT Region 1 Hazmat Coordinator	(503) 731-8290
ODOT Region 2 Hazmat Coordinator	(503) 986-2647
ODOT Region 3 Hazmat Coordinator	(541) 957-3594
ODOT Region 4 Hazmat Coordinator	(541) 388-6186
ODOT Region 5 Hazmat Coordinator	(541) 963-1590
ODEQ Northwest Region Office	(503) 229-5263

Appendix A – Site Specific Operational Plan D00874, D00875, D00876

Contents:

1. **CWS Swale Figures (plan schematic)**

   D00874 > Swale 1

   D00875a and *D00875b > Swale 2 and Swale 3

   The two D00875 swales drain to one outlet between them from north and south. They are considered one swale in the IGA.

   D00876 > Swale 4

   Sht C-5: Cross Section for Swales and related ditches

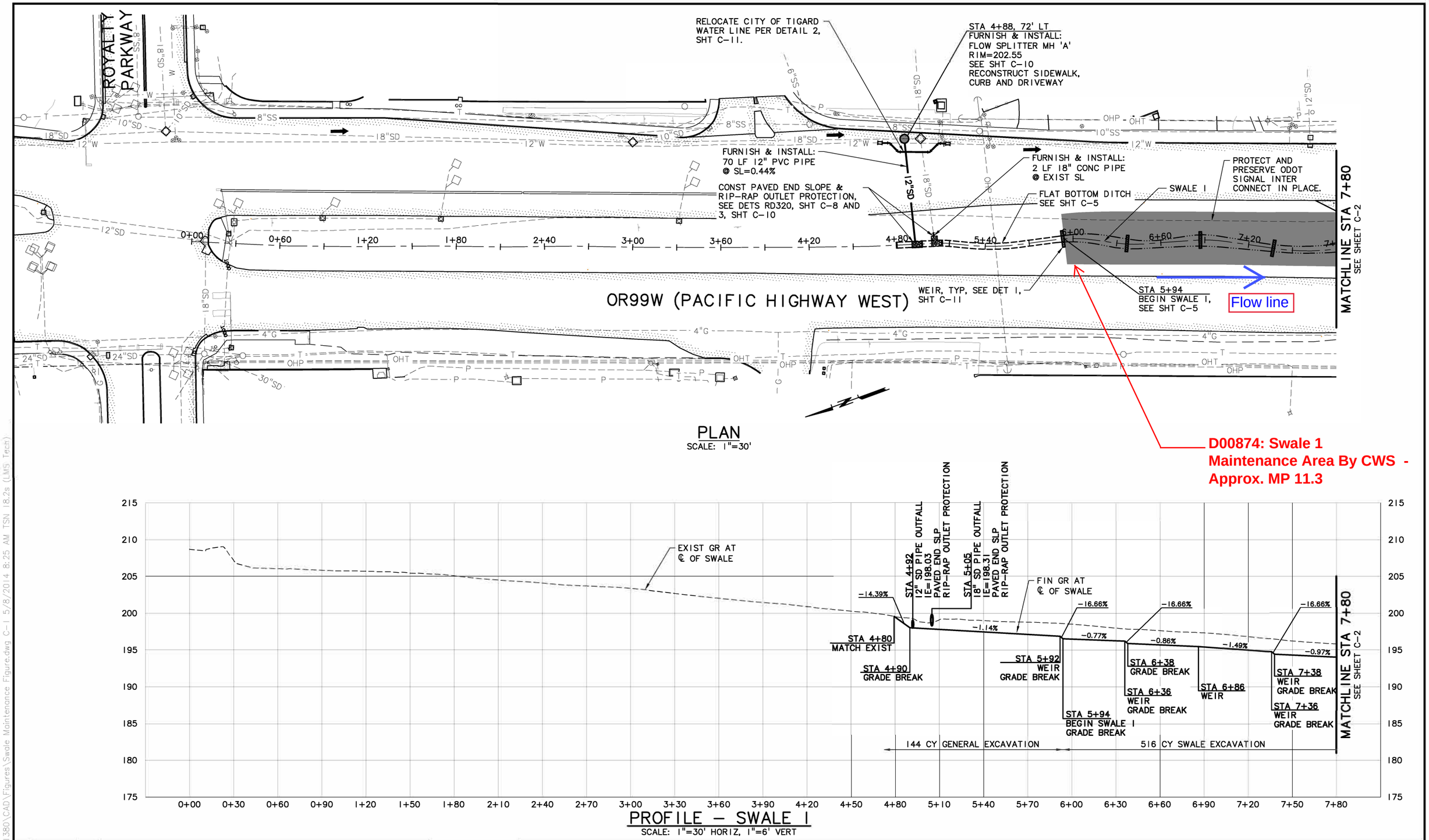
2. **Overview of outfalls**

NOTE - Outfalls of storm systems to which swales drain:

D00874 and D009875 flow to a pipe system to outfall at Tualatin east of where 99W crosses the Tualatin.

D00876 flows to pipe system to outfall under the bridge at 99W over Tualatin River.

The outfalls are only a few hundred feet apart.



NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TSN DESIGNED
DAK DRAWN
CSL CHECKED

REGISTERED PROFESSIONAL ENGINEER 80521 OREGON MAY 14, 2013 TYLER SHAWN NORD RENEWS 12-31-14

MSA Murray, Smith & Associates, Inc. Engineers/Planners
121 S.W. Salmon, Suite 900 Portland, Oregon 97204
PHONE 503-225-9010 FAX 503-225-9022

Clean Water Services
Our commitment is clear.

HIGHWAY 99W MEDIAN STORMWATER QUALITY FACILITIES PROJECT NO. 6588

PLAN AND PROFILE STA 0+00 TO STA 7+80

PROJECT NO.: 2 – 13 80 00 | SCALE: AS SHOWN | DATE: APRIL 20 14

SHEET C–1
15 of 27

G:\PDX_Projects\12\1380\CAD\Figures\Swale Maintenance Figure.dwg C–1 5/8/2014 8:25 AM TSN 18.2s (LMS Tech)

STA 7+94.5
FURNISH & INSTALL:
AREA DRAIN, TYPE II
RIM=193.87
SEE CWS STD DET 380,
SHT C-6

CONST MAINTENANCE PAD,
SEE DET RD160, SHT C-8

SWALE 1

STA 7+96
END SWALE 1

STA 9+85
FURNISH & INSTALL:
SHALLOW FLAT TOP MH
RIM=192.08
SEE CWS STD DET 040,
SHT C-6

PROTECT AND PRESERVE
ODOT SIGNAL INTER
CONNECT IN PLACE

STA 12+36
CONNECTION TO
EXIST CATCH
BASIN

OR99W (PACIFIC HIGHWAY WEST)

SW DURHAM RD

SW 116TH AVE

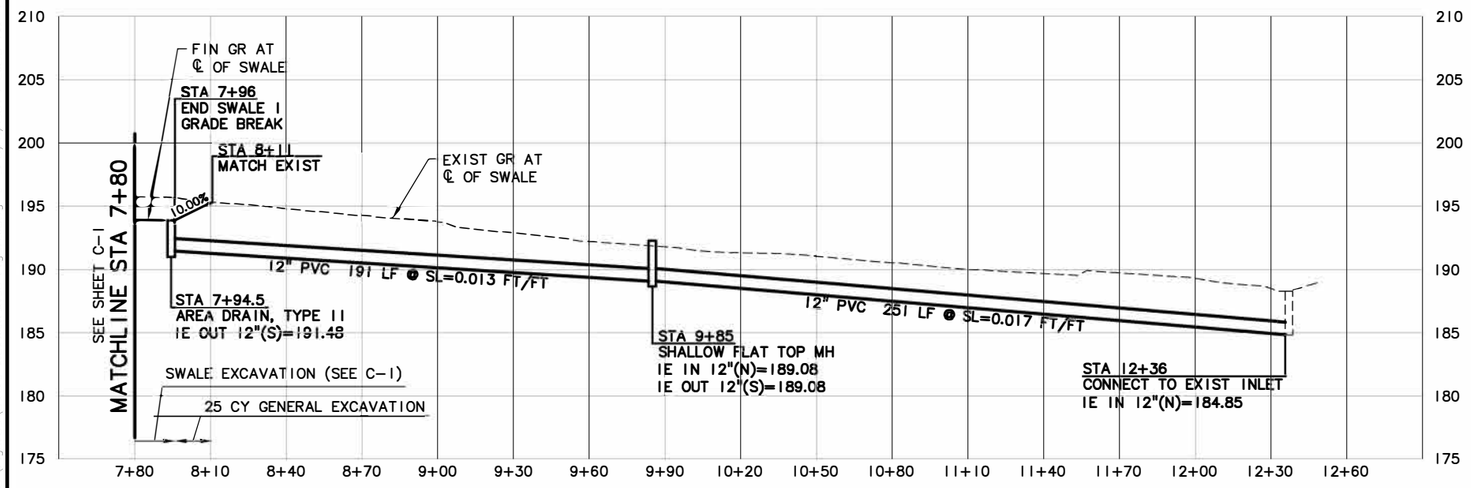
VEGETATED CORRIDOR

POTENTIAL WETLAND

SEE SHEET C-1
MATCHLINE STA 7+80

D00874: Swale 1 Maintenance Area by CWS - Approx. MP 11.35

PLAN
SCALE: 1"=30'



PROFILE – SWALE 1
SCALE: 1"=30' HORIZ, 1"=6' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TSN DESIGNED
DAK DRAWN
CSL CHECKED

REGISTERED PROFESSIONAL ENGINEER 80521 OREGON MAY 14, 2013 TYLER SHAWN NORD RENEWS 12-31-14

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HIGHWAY 99W MEDIAN STORMWATER QUALITY FACILITIES PROJECT NO. 6588

PLAN AND PROFILE STA 7+80 TO STA 22+50

PROJECT NO.: 12-1380.1001 | SCALE: AS SHOWN | DATE: APRIL 2014

SHEET C-2
16 of 27

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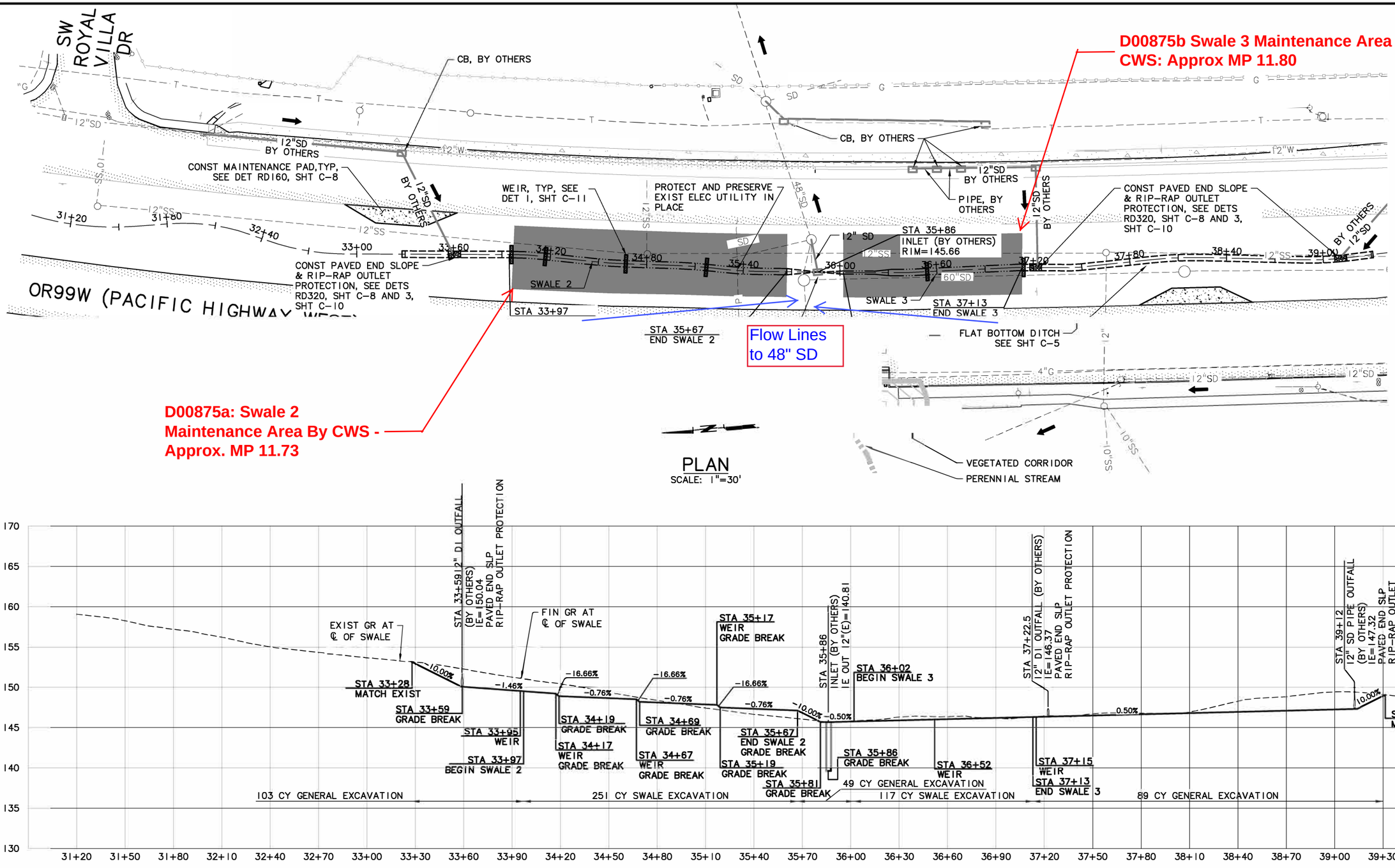

PROFILE – SWALES 2 & 3

SCALE: 1"=30' HORIZ, 1"=6' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TSN DESIGNED
DAK DRAWN
CSL CHECKED

REGISTERED PROFESSIONAL ENGINEER 80521 OREGON MAY 14, 2003 TYLER SHAWN MORO
RENEWS 12-31-14

Murray, Smith & Associates, Inc.
Engineers/Planners
121 SW Salmon Suite 900
Portland, Oregon 97204
PHONE 503-225-9010
FAX 503-225-9022

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HIGHWAY 99W MEDIAN STORMWATER QUALITY FACILITIES PROJECT NO. 6588

PLAN AND PROFILE STA 31+20 TO STA 39+40

PROJECT NO.: 12-1380.1001 | SCALE: AS SHOWN | DATE: APRIL 2014

SHEET C-3

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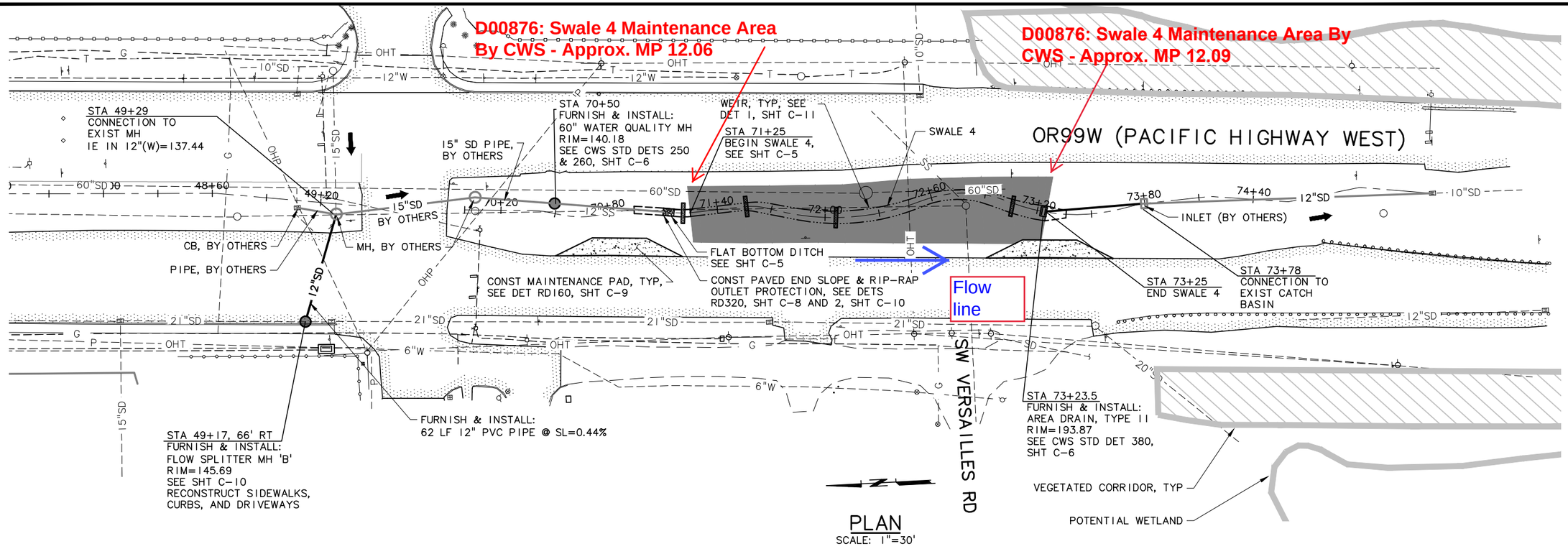
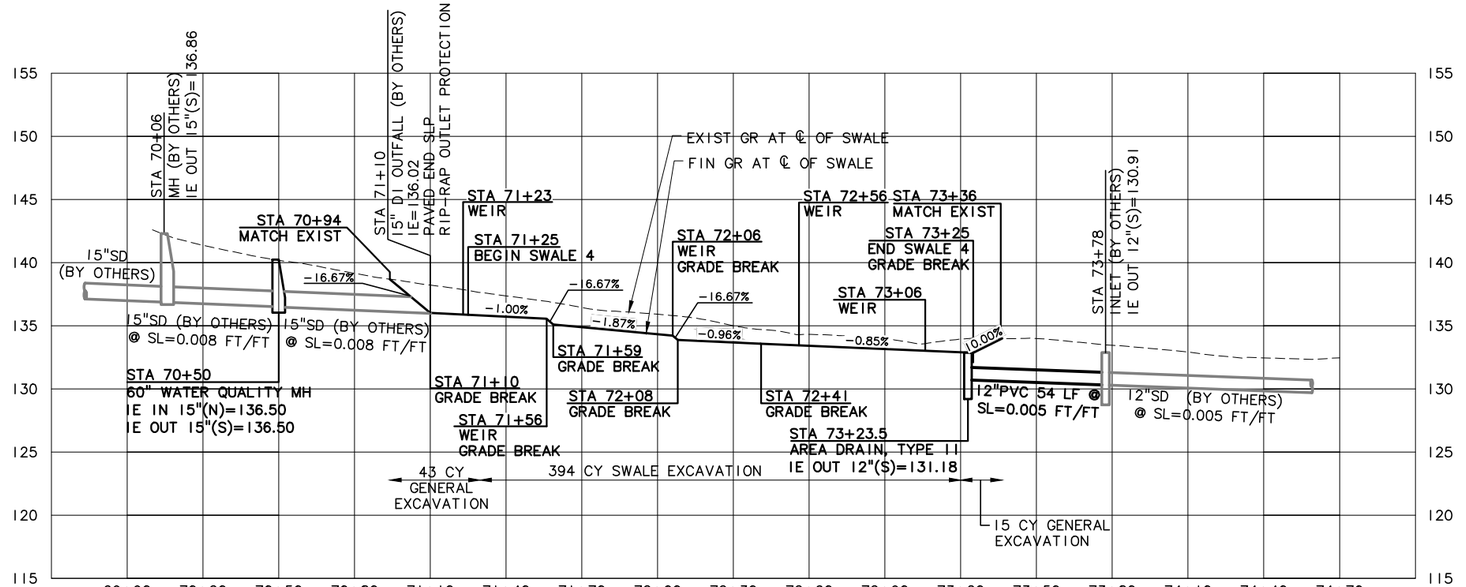


PLAN
SCALE: 1"=30'



PROFILE – SWALE 4
SCALE: 1"=30' HORIZ, 1"=6' VERT

NO.	DATE	BY	REVISION

NOTICE
0 ½ 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

TSN DESIGNED
DAK DRAWN
CSL CHECKED

REGISTERED PROFESSIONAL ENGINEER 80521 OREGON MAY 14, 2002 TYLER SHAWN NORD RENEWS 12-31-14

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PHONE 503-225-9010 FAX 503-225-9022

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HIGHWAY 99W MEDIAN STORMWATER QUALITY FACILITIES PROJECT NO. 6588

PLAN AND PROFILE STA 47+50 TO STA 74+55

PROJECT NO.: 12-1380.1001 | SCALE: AS SHOWN | DATE: APRIL 2014

SHEET C-4
18 of 27

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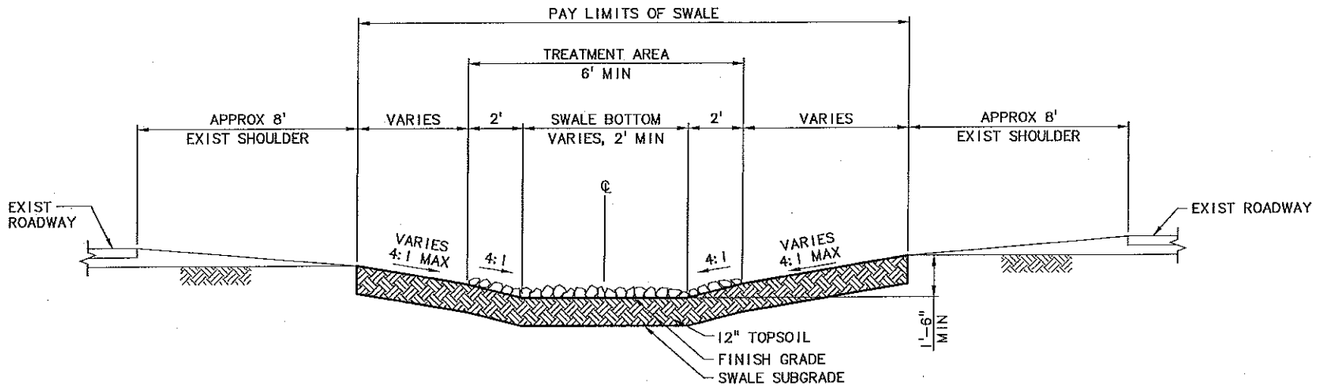
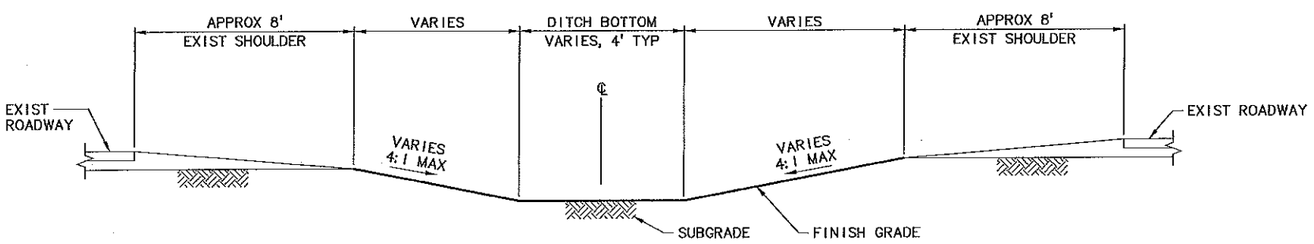


SWALE 1: STA 5+94 TO 7+96
SWALE 2: STA 33+97 TO 35+67
SWALE 3: STA 36+02 TO 37+13
SWALE 4: STA 71+25 TO 73+25

TYPICAL SECTION – WATER QUALITY SWALE (1)

SCALE: NTS



STA 4+80 TO 5+94 (4' WIDTH)
STA 7+96 TO 8+11 (4' WIDTH)
STA 33+28 TO 33+97 (4' WIDTH)
STA 35+67 TO 36+02 (WIDTH VARIES)
STA 37+13 TO 39+31 (4' WIDTH)
STA 70+94 TO 71+25 (4' WIDTH)
STA 73+25 TO 73+36 (4' WIDTH)

TYPICAL SECTION – FLAT BOTTOM DITCH (2)

SCALE: NTS

NOTES:

1. SEE CLEAN WATER SERVICES STANDARD DRAWING NUMBER 700 FOR ADDITIONAL SWALE DETAILS.
2. SEE SHEETS C–12 AND C–13 FOR CONTAMINATED SOIL DETAILS.

NO.	DATE	BY	REVISION

NOTICE: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE (0, ½, 1)

TSN DESIGNED | DAK DRAWN | CSL CHECKED

REGISTERED PROFESSIONAL ENGINEER 60521 — TYLER SHAWN NORD — MAY 14, 2013 — RENEWS 12-31-14

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HIGHWAY 99W MEDIAN STORMWATER QUALITY FACILITIES PROJECT NO. 6588

TYPICAL SECTIONS

PROJECT NO.: 12-1380.1001 | SCALE: AS SHOWN | DATE: APRIL 2014

SHEET C-5

19 of 27

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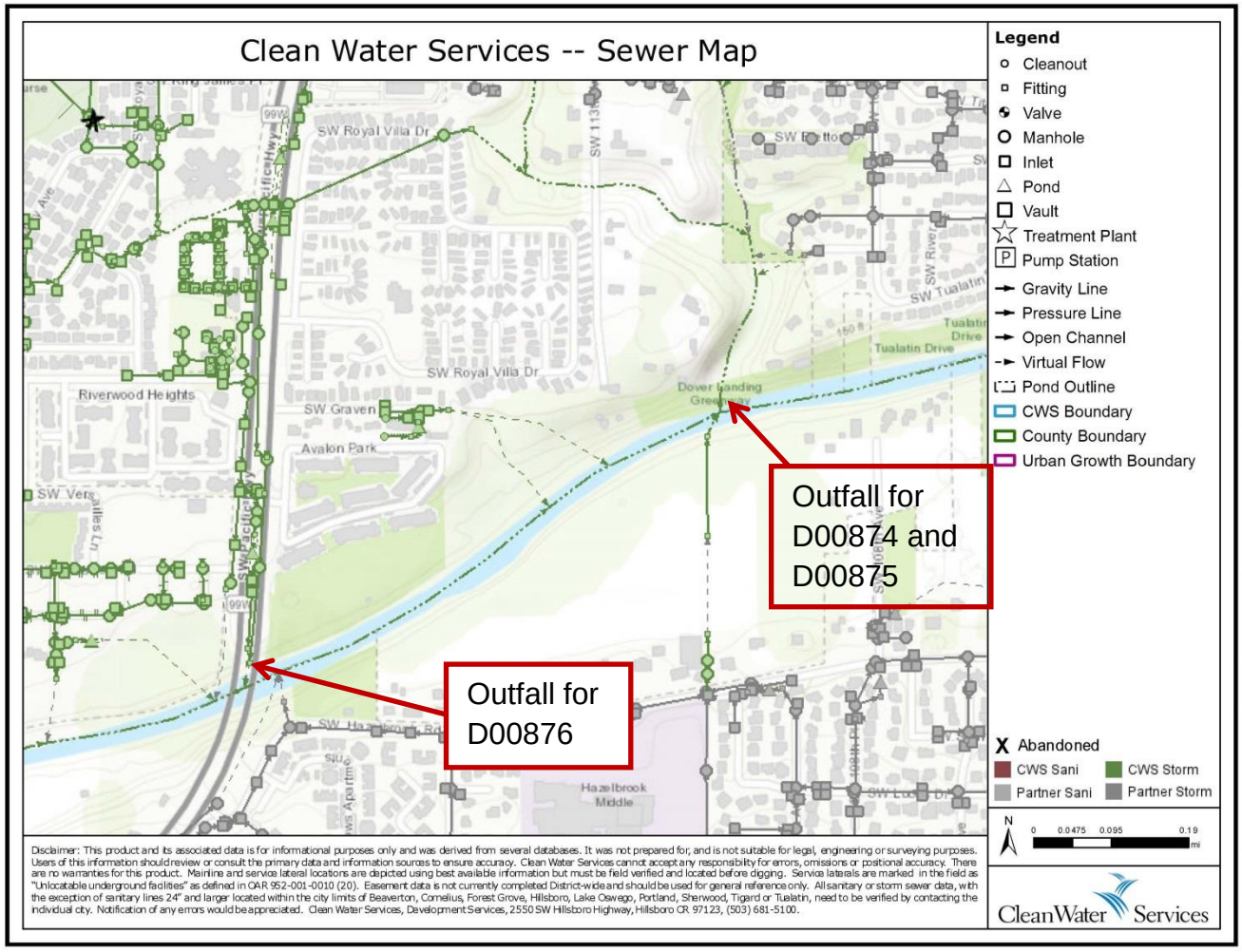
Overview of outfalls from the three swales to the Tualatin River.

Durham Road is north of SW Royal Villa Dr. shown in frame. Pipes from swale D00874, north of Durham Rd drain to the same outfall as those from D00875.



Appendix B1

Contents: IGA for Maintenance of D00874, D00875, and D00876 until 2029 between ODOT and Clean Water Services (CWS)

NOTE: Exhibit A including CWS maintenance protocols and swale figures are found in Appendix B2

Misc. Contracts and Agreements
No. 29632

MAINTENANCE AGREEMENT
Hwy 99W Median Stormwater Quality Facility

THIS AGREEMENT is made and entered into by and between the STATE OF OREGON, acting by and through its Department of Transportation (ODOT); and Clean Water Services, a county district acting by and through its designated officials (District), both herein (Party) or (Parties). service

O.D.A. 11/21/14

RECITALS

1. Pacific West Highway (OR 99W), is a part of the state highway system under the jurisdiction and control of the Oregon Transportation Commission (OTC).

2. By the authority granted in Oregon Revised Statutes (ORS) 190.110, state agencies may enter into agreements with units of local government for the performance of any or all functions and activities that a party to the agreement, its officers, or agents have the authority to perform.

3. In accordance with the Master Intergovernmental Agreement for Stormwater Retrofit Implementation Agreement No. 28141, dated December 19, 2011, ODOT and District agreed that an Operations and Maintenance (O&M) Manual would be required for any water quality facility constructed using Stormwater Retrofit Program funds. District has designed and will construct water quality facilities in the median of OR 99W using Stormwater Retrofit Program funds and the maintenance of these facilities will follow District guidelines.

NOW THEREFORE, the premises being in general as stated in the foregoing Recitals, it is agreed by and between the Parties hereto as follows:

TERMS OF AGREEMENT

1. Under such authority, ODOT and District agree to abide by the maintenance responsibilities listed in this Agreement for the water quality facilities constructed in the median of OR 99W (Project). District will follow its Performance Standards as specified in District Resolution and Order No. 11-7 which lists the types of maintenance activities performed and the frequency of maintenance activities for water quality facilities, attached hereto, marked Exhibit A, and by this reference, is made a part herof. A map of the approximate location of the facilities, is attached hereto, marked Exhibit B, and by this reference, is made a part hereof.

2. This Agreement shall become effective on the date all required signatures are obtained and shall remain in effect for the purpose of ongoing maintenance responsibilities for the useful life of the facilities constructed as part of the Project. The useful life is defined as 15 calendar years. Stormwater Retrofit Program funds cannot be used for the Project after December 31, 2014.

DISTRICT OBLIGATIONS

1. District shall be responsible for maintaining the water quality facilities constructed in the median of OR 99W between SW Royalty Parkway and just north of the Tualatin River, and as indicated in Exhibit A.

2. District shall comply with all federal, state, and local laws, regulations, executive orders and ordinances applicable to the work under this Agreement, including, without limitation, the provisions of ORS 279B.220, 279B.225, 279B.230, 279B.235 and 279B.270 incorporated herein by reference and made a part hereof. Without limiting the generality of the foregoing, District expressly agrees to comply with (i) Title VI of the Civil Rights Act of 1964; (ii) Title V and Section 504 of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1990 and ORS 659A.142; (iv) all regulations and administrative rules established pursuant to the foregoing laws; and (v) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations.

3. District shall perform the service under this Agreement as an independent contractor and shall be exclusively responsible for all costs and expenses related to its employment of individuals to perform the work under this Agreement, including, but not limited to, retirement contributions, workers compensation, unemployment taxes, and state and federal income tax withholdings.

4. District shall, without expense to ODOT, take all steps necessary to effectively protect the adjacent ODOT transportation facilities from any damage or incident from District activities within the Project area. District shall be liable to and shall reimburse ODOT for any damage to ODOT's facilities resulting from or reasonably attributed to District's repair or landscape maintenance for the Project.

5. The Project shall be maintained at the same level of service as similar District facilities, with the following exceptions as applicable to the Project:

    a. To meet the sight distance needs on OR 99W the following shall be maintained as follows: roadside vegetation shall be no higher than 18 inches; there shall be few obstructions in the clear zone; and vegetation shall not impede traffic movement and operation along the highways.

    b. Maintenance of landscaping shall include replacing dead or dying plants and trees, removing weeds or weed control, removing invasive species, and tree trimming to maintain a 17 foot clear zone in the travel lane.

    c. To ensure safety of the traveling public, the trees planted and maintained by District within the Project boundaries shall not block, impede or unreasonably limit the peripheral vantage point of the driving public.

6. District certifies and represents that the individual(s) signing this Agreement has been authorized to enter into and execute this Agreement on behalf of District, under the direction or approval of its governing body, commission, board, officers, members or representatives, and to legally bind District.

7. District's Project Manager for this Project is Steve Keenon, Field Construction/Maintenance Supervisor, 2025 SW Merlo Court, Beaverton, OR 97005, 503-681-8103, KeenonS@CleanWaterServices.org, or assigned designee upon individual's absence. District shall notify the other Party in writing of any contact information changes during the term of this Agreement.

ODOT OBLIGATIONS

1. ODOT hereby grants District the right to enter onto and occupy ODOT right of way only for the limited purpose of performing the necessary maintenance responsibilities listed in this Agreement in the Project area. District will notify the ODOT District 2B office at 971-673-6200 when it plans to perform maintenance work but will not be required to get a permit for regular maintenance activities. If maintenance activities by District will require lane closures, District will coordinate with ODOT with at least 48 hours advance notice on traffic control plans and ODOT may require District to get a permit for such work at no cost to District. D.D.L. 11/21/14

2. Upon execution of this Agreement, ODOT will pay a lump sum of $30,000 to District in return for maintaining the water quality facilities built on ODOT right of way for the term of this Agreement. ODOT will not be obligated to pay any further amounts to District for maintaining the facilities for the duration of this Agreement.

3. ODOT certifies, at the time this Agreement is executed, that sufficient funds are available and authorized for expenditure to finance costs of this Agreement within ODOT's current appropriation or limitation of the current biennial budget.

4. If a spill occurs on the highway that impacts the water quality facilities, ODOT will conduct the cleanup and will follow the ODOT HazMat Program Procedures Guidebook. The facilities will be restored to their previous condition at the expense of the person that caused the spill.

5. ODOT grants authority to District to enter upon ODOT right of way to construct this Project as provided for in a miscellaneous permit to be issued by ODOT District 2B Office.

6. ODOT's contact for this Project is Michael Strauch, District 2B Manager, 9200 SE Lawnfield Rd., Clackamas, OR 97015, 503- 673-6215, Michael.l.strauch@odot.state.or.us, or assigned designee upon individual's absence. ODOT shall notify the other Party in writing of any contact information changes during the term of this Agreement.

GENERAL PROVISIONS

1. This Agreement may be terminated by either party upon 30 days' notice, in writing and delivered by certified mail or in person.

2. ODOT may terminate this Agreement effective upon delivery of written notice to District, or at such later date as may be established by ODOT, under any of the following conditions:

   a. If District fails to provide services called for by this Agreement within the time specified herein or any extension thereof.

   b. If District fails to perform any of the other provisions of this Agreement, or so fails to pursue the work as to endanger performance of this Agreement in accordance with its terms, and after receipt of written notice from ODOT fails to correct such failures within 10 days or such longer period as may be necessary, provided District is diligently pursuing curative action.

   c. If ODOT fails to receive funding, appropriations, limitations or other expenditure authority sufficient to allow ODOT, in the exercise of its reasonable administrative discretion, to continue to make payments for performance of this Agreement.

3. Any termination of this Agreement shall not prejudice any rights or obligations accrued to the Parties prior to termination. The Party terminating the Agreement shall pay the non-terminating Party for all costs it incurred for work performed in accordance with this Agreement prior to termination and for all costs reasonably required to terminate the work.

4. If any third party makes any claim or brings any action, suit or proceeding alleging a tort as now or hereafter defined in ORS 30.260 (Third Party Claim) against ODOT or District with respect to which the other Party may have liability, the notified Party must promptly notify the other Party in writing of the Third Party Claim and deliver to the other Party a copy of the claim, process, and all legal pleadings with respect to the Third Party Claim. Each Party is entitled to participate in the defense of a Third Party Claim, and to defend a Third Party Claim with counsel of its own choosing. Receipt by a Party of the notice and copies required in this paragraph and meaningful opportunity for the Party to participate in the investigation, defense and settlement of the Third Party Claim with counsel of its own choosing are conditions precedent to that Party's liability with respect to the Third Party Claim.

5. With respect to a Third Party Claim for which ODOT is jointly liable with District (or would be if joined in the Third Party Claim), ODOT shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by District in such proportion as is appropriate to reflect the relative fault of ODOT on the one hand and of District on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of ODOT on the one hand and of District on the other hand shall be determined by reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. ODOT's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if ODOT had sole liability in the proceeding.

6. With respect to a Third Party Claim for which District is jointly liable with ODOT (or would be if joined in the Third Party Claim), District shall contribute to the amount of expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred and paid or payable by ODOT in such proportion as is appropriate to reflect the relative fault of District on the one hand and of ODOT on the other hand in connection with the events which resulted in such expenses, judgments, fines or settlement amounts, as well as any other relevant equitable considerations. The relative fault of District on the one hand and of ODOT on the other hand shall be determined by reference to, among other things, the Parties' relative intent, knowledge, access to information and opportunity to correct or prevent the circumstances resulting in such expenses, judgments, fines or settlement amounts. District's contribution amount in any instance is capped to the same extent it would have been capped under Oregon law, including the Oregon Tort Claims Act, ORS 30.260 to 30.300, if it had sole liability in the proceeding.

7. The Parties shall attempt in good faith to resolve any dispute arising out of this Agreement. In addition, the Parties may agree to utilize a jointly selected mediator or arbitrator (for non-binding arbitration) to resolve the dispute short of litigation.

8. If District fails to maintain facilities in accordance with the terms of this Agreement after ODOT has provided District written notice of such failure and an opportunity to correct the failure pursuant to Section 2.b. of the General Provisions of this Agreement, ODOT, at its option, may maintain the facility and bill District, seek an injunction to enforce the duties and obligations of this Agreement or take any other action allowed by law.

9. This Agreement may be executed in several counterparts (facsimile or otherwise) all of which when taken together shall constitute one agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of this Agreement so executed shall constitute an original.

10. This Agreement and attached exhibits constitute the entire agreement between the Parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. No waiver, consent, modification or change of terms of this Agreement shall bind either Party unless in writing and signed by both Parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of ODOT or District to enforce any provision of this Agreement shall not constitute a waiver by ODOT or District of that or any other provision.

THE PARTIES, by execution of this Agreement, hereby acknowledge that their signing representatives have read this Agreement, understand it, and agree to be bound by its terms and conditions.

SIGNATURE PAGE TO FOLLOW

District/ODOT
Agreement No. 29632

CLEAN WATER SERVICES, by and through its designated officials

By _____
General Manager or Designee

Date _____

APPROVED AS TO FORM

By _____
District Counsel

Date _____

District Contact:
Richard Boyle
2550 SW Hillsboro Hwy.
Hillsboro, OR 97123
503-681-4429
boyler@cleanwaterservices.org

ODOT Contact:
Michael Strauch, District 2B Manager
9200 SE Lawnfield Rd.,
Clackamas, OR 97015
503- 673-6215
Michael.l.strauch@odot.state.or.us

STATE OF OREGON, by and through its Department of Transportation

By _____
Region 1 Manager

Date 12/24/14

APPROVAL RECOMMENDED

By _____
Region 1 Maintenance Manager

Date 10-2-14

By _____
District 2B Manager

Date 10/2/14

APPROVED AS TO LEGAL SUFFICIENCY

By NOT REQUIRED
Assistant Attorney General

Date _____

District/ODOT
Agreement No. 29632

CLEAN WATER SERVICES, by and through its designated officials

By _____
General Manager or Designee

Date 12/3/14

APPROVED AS TO FORM

By _____
District Counsel

Date 10/6/14

District Contact:
Richard Boyle
2550 SW Hillsboro Hwy.
Hillsboro, OR 97123
503-681-4429
boyler@cleanwaterservices.org

ODOT Contact:
Michael Strauch, District 2B Manager
9200 SE Lawnfield Rd.,
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503- 673-6215
Michael.l.strauch@odot.state.or.us

STATE OF OREGON, by and through its Department of Transportation

By _____
Region 1 Manager

Date _____

APPROVAL RECOMMENDED

By _____
Region 1 Maintenance Manager

Date _____

By _____
District 2B Manager

Date _____

APPROVED AS TO LEGAL SUFFICIENCY

By NOT REQUIRED
Assistant Attorney General

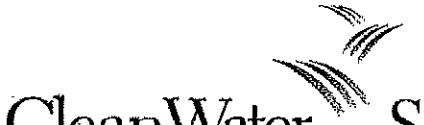
Date _____

Appendix B2

Contents: Exhibit A including CWS maintenance protocols and swale figures, from IGA for Maintenance of D00874, D00875, and D00876 until 2029 between ODOT and Clean Water Services (CWS)

NOTE: See Appendix B1 for the actual IGA language/signatures

Exhibit A



Sanitary, Storm and Surface Water Management Performance and Reporting Standards

R&O 11-17

Replaces R&O 07-46 and amendments contained in R&O Nos. 08-21, 09-21 and 10-13

Exhibit A

Table of Contents

Exhibit A

Exhibit A

Exhibit A

I. Definitions

A. Definitions from Ordinances 27 and 29 are hereby incorporated, including but not limited to definitions for "District", "Board", "General Manager", "Rule", "Sanitary Sewer System", "Sewage", "Standards", "Storm", "Storm and Surface Water System (SWM)", "The System", and "Wastewater". The term "City" shall mean any incorporated city within the District's service boundary. The term "County" shall mean the urbanized portions of Clackamas, Multnomah, and Washington counties that are within the District's service boundary.

B. District Sanitary and SWM Facilities are sanitary, storm, and surface water facilities which the District or City has determined meet all of the following criteria:

1. The facility is built to a standard generally equivalent to the District's current construction standards, or standards for public sanitary, storm and surface water facilities effective at the time of construction.

2. The facility is within an existing sanitary, storm or surface water easement or fee title granted to the District, County, City, or to the "public", or is within a County or City public road right-of-way, or public utility easement.

3. The facility is of general benefit to the public, and serves multiple properties.

4. The facility has been reviewed and accepted as a public facility by the District, City, or responsible public authority at the time of construction or by later action following the procedures in Section 4.

C. Categories of Work include the following:

1. Maintenance includes the proactive activities required to preserve the function and condition of a facility, and keep the facility at its existing standard of utility.

2. Repair is the restoration to full operational capacity and maintainability, or the remedial work to return facilities to a standard of utility. Repairs are not generally shown in the Capital Improvement Plan of the District or City.

   a. Major Repair -- Any repair to a public sanitary sewer line under 24" in diameter that extends from manhole to manhole or larger. Major repairs include cases where the most efficient construction method warrants replacing the entire manhole to manhole length, even though there may be small sections of pipe that do not require repair.
   b. Minor Repair -- Any repair to a public sanitary sewer line under 24" in diameter that is less than manhole to manhole in length, including lateral repairs that are District or City responsibility to repair as defined in District rules.

3. Replacement/Reconstruction/Rehabilitation is the construction of a new facility of the same size and capacity to replace a facility that has deteriorated to the point where it can

no longer effectively be maintained or repaired. This shall include neighborhood or area-wide rehabilitation and Inflow and Infiltration (I&I) abatement projects.

4. Construction/Improvement is the construction of a new facility where none existed, the expansion of an existing facility, or the construction of a new facility to replace an existing facility of a smaller size or capacity. District and Cities recognize that System Development Charge (SDC) funds can only be used on the construction costs associated with providing extra capacity.

D. Emergency is a sudden, unforeseen occurrence or set of occurrences, which causes or threatens to cause an immediate hazard to persons, property, or the environment.

E. Mandated Sanitary and SWM Programs are those programs, including but not limited to maintenance, planning, engineering, public outreach and education, monitoring, permit issuance, inspection, and record keeping required for compliance with a State, Federal, or locally mandated programs or activities for which the District is responsible.

F. Private Sanitary and SWM Facilities are all facilities that are not District or City facilities, and which have not been accepted for maintenance and/or ownership by another public entity.

G. Roadside Facilities include all of the following SWM facilities within County road rights of way:

1. Roadside Ditches and Swales are ditches on one or both sides of roadways, within the road right-of-way and generally intended for the collection and conveyance of storm and surface water runoff.

2. Driveway Culverts are the short pipes passing under driveways connecting two sections of roadside ditch.

3. Roadside Ditch Cross Piping is the piping systems connecting a roadside ditch or roadside piping system on one side of the road to a roadside ditch or roadside piping system on the other side of the road, and being at the grade of the roadside ditches or piping systems.

4. Roadside Piping Systems are the shallow pipes and inlets on one or both sides of a road, which are generally at a similar grade as typical roadside ditches, and generally lack manholes.

II. SWM and Sanitary Sewer Maintenance Programs - General

A. Performance of the work program elements constitutes the optimum use of available funds for maintenance, repair and operation of the SWM and Sanitary Sewer collection system.

B. It is recognized that some facilities will require varying from the specified maintenance frequency due to unusual characteristics or situations. It is also recognized that from year to year, conditions will vary and specified maintenance frequencies may not be achieved in a given year. The overall maintenance program objective is to provide uninterrupted service and prevent overflows and backups.

C. For purposes of reporting, the inventory of sanitary and storm system facilities shall be as of July 1 of each year. New facilities added after that date are included in the inventory in the following calendar year.

D. Elements of the SWM maintenance program are performed for the purpose of preserving the water quality and water quantity functioning of the public system. Such work is not designed nor intended to meet aesthetic goals or "public park" appearance standards.

E. This document defines the work programs and performance standards for the SWM and Sanitary Sewer maintenance and repair programs. Some of the information contained herein is for informational purposes and is not meant to be a program requirement. The following describes the intent of each type of information:

Activity – Informational only
Facility Description – An adopted standard defining the type of facility normally eligible for this type of work. Any work done on other facilities would be by exception, such as in an emergency.
Maintenance Frequency – The number of times an activity is to be performed for each facility over a certain period of time.
Special Notes and Requirements –Additional information is included here. If the information is stated as a requirement, it is an adopted standard.
Measurement Criteria – A standard for the minimum types of information that are required to be tracked.

III. Definition of Responsibility for SWM and Sanitary Systems and Facilities

A. District or City SWM and Sanitary Sewer facilities shall be maintained by the District (or City) according to the adopted maintenance program, subject to prioritization of the total workload and funding limitations. This shall include responsibility for facilities within State and County Roads, except as noted in Subsection F below.

B. Private sanitary and SWM facilities shall not be maintained or repaired by the District or City as part of the District's program unless related to a response to an emergency as described below, as part of an identified I&I abatement project, or when necessary for the proper functioning of the public system.

C. In an emergency and to the extent resources are available, the District or City may, at its discretion, remove or abate an obstruction or hazard, or install temporary protective measures on private property where there appears to be an imminent threat to life or safety, damage to

a structure, or damage to the environment. Such work will be performed only at the owner's request, upon the owner's permission, or when appropriate easements or public Right of Way exists. The extent of the District or City emergency work will be limited to providing temporary protection until the emergency passes, or the property owner or another responsible public entity can assume responsibility.

D. The SWM Program of the District or City is not responsible for Roadside Ditch Systems, except as provided in the agreement dated June 22, 2004, or as it may be amended, between the District and Washington County DLUT. The SWM Program of the District or City is not responsible for the reconstruction, repair, or enlargement of these systems, and is not responsible for any flooding or other damage resulting from the design or inadequate capacity of these systems, unless provided for under separate agreement or by Board action.

E. The SWM Program of the District or City is not responsible for bridge maintenance, which includes bridge structures and culverts 36" in diameter and larger.

F. The District or City is not responsible for SWM facilities and SWM programs within State Highways, except as may be allowed under separate agreement between the District or City and State.

IV. Policy for Accepting Existing Private Facilities

District or City may accept the transferal of private facilities, which will become District or City facilities when all of the following criteria are met:

A. The facility meets the standards for public facilities as defined in District's Design and Construction Standards.

B. All maintenance deficiencies are corrected.

C. The facility will not impose an undue short or long term maintenance burden upon the public (the benefits to the public must be in proportion to the maintenance burden).

D. The facility must be located in an easement or fee title granted to the District or City, or within a County or City right-of-way or public utility easement.

E. The facility serves multiple properties, and will serve a purpose that will benefit the public in general.

F. An easement or other appropriate property interest in a form acceptable to the District or City is granted for access to operate and maintain the facility as needed.

Acceptance of the facility shall be effective upon acceptance of easements for the facility by the District Board of Directors or City, or other action of the Board of Directors or City accepting the facility.

Exhibit A

V. Capital Improvement Policies and Priorities

A. Implementation of capital improvements shall be subject to levels of funding, and program priorities as determined from time to time by the Board through the annual budget process, revision to the Capital Improvements Plans and the Master Plans.

B. SWM Small Works Programs

Projects that meet all of the following screening criteria are eligible for District funding through the Small Works Program, subject to budgetary constraints:

1. Public System -- The capital improvement must be a part of the existing public drainage system, not a privately owned and maintained system, unless improvement to a private system is required for the proper functioning of a public system or to relieve flooding to a structure or to remedy a threat to public safety.

2. Property Damage -- Without the capital improvement, property damage will result. As used here, property damage means damage to a structure, a threat to public safety, or damage to the environment.

3. Minor Funding Requirement -- The cost of the capital improvement must be low enough to be funded within the budgeted amount. Projects are generally limited to a maximum of $50,000. The Board may approve projects on a case-by-case basis that exceed this criterion.

4. Non-Maintenance Problem -- Normal maintenance, such as cleaning catch basins and unplugging storm lines, would not solve the problem.

5. The improvement does not move the problem downstream -- The correction of one problem must not significantly transfer that problem downstream.

VI. Field Operations Services

A. Collection Systems Maintenance Programs – Sanitary Program

1. Sanitary Line Cleaning

Activity:	Routine, Small Lines
Facility Description:	All public sanitary sewer lines less than 24" in diameter
Maintenance Standard	Every line cleaned once every 4 years
Special Notes and Requirement	As needed in the field
Measurement Criteria:	Footage

Exhibit A

Activity: ..... Routine, Large Lines
Facility Description: ..... All public sanitary sewer lines 24" and greater in diameter
Maintenance Frequency: ..... As needed based on history and inspection
Special Notes and Requirement ..... As needed in the field

Activity: ..... Non routine
Facility Description: ..... All public sanitary sewer lines, all sizes
Maintenance Frequency: ..... As needed
Special Notes and Requirement: Facilities that are designated hotspots shall have cleaning frequency (weekly, quarterly, annually) specified by local agency.
Measurement Criteria: ..... Footage

Activity: ..... Non routine (access limited)
Facility Description: . Public sewer lines in stream corridors or remote areas, all diameters
Maintenance Frequency: ..... Varies
Special Notes and Requirement: ..... Lines must be cleaned per the frequency listed above for the facility unless local agency determines equipment cannot reach the area to be cleaned due to a physical impairment such as steep terrain or being surrounded by water. District must concur with the determination.
Measurement Criteria: ..... Footage

2. Sanitary Manhole Maintenance

Activity: ..... Adjust to Grade
Facility Description: ..... All public sanitary sewer manholes
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... As needed in the field
Measurement Criteria: ..... Number completed

Activity: ..... Sealing
Facility Description: ..... All public sanitary sewer manholes
Maintenance Frequency: ..... Initially as needed, repeat as needed
Special Notes and Requirement: ..... Use of automated sealing equipment recommended
Measurement Criteria: ..... Number completed

Activity: ..... Repair
Facility Description: ..... All public sanitary sewer manholes
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... Coordination with other local gov. agencies
Measurement Criteria: ..... Number repaired

3. Root Control – Sanitary Lines/Infrastructure

Activity: ..... Mechanical
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As needed, based on inspection
Special Notes and Requirement: ..... As needed in the field
Measurement Criteria: ..... Footage cleaned

Activity: ..... Chemical
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As needed, based on inspection
Special Notes and Requirement: ..... Special chemical handling required
Unit Costs for Estimating: ..... As needed in the field
Measurement Criteria: ..... Footage treated

Exhibit A

4. TV Inspection – Sanitary

Activity: ..... Routine, Small Lines
Facility Description: ..... All public sanitary sewer lines up to 48" in diameter
Maintenance Frequency: ..... Every line TV'd once every 7-years
Special Notes and Requirement: Crew of 2 to 3 (1 person crew in residential areas possible)Need to closely coordinate with line cleaning
Measurement Criteria: ..... Footage TV'd

Activity: ..... Routine, Large Lines
Facility Description: ..... All public sanitary sewer lines over 48" in diameter
Maintenance Frequency: ..... 9-year frequency
Special Notes and Requirement: ..... Need to closely coordinate with line cleaning
Measurement Criteria: ..... Footage TV'd

Activity: ..... Non Routine
Facility Description: ..... All public sanitary sewer lines, all sizes
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Footage TV'd

Activity: ..... 1-Year warranty
Facility Description: ..... All public sanitary sewer lines, all sizes
Maintenance Frequency: ..... Within 2 months before end of maintenance period
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Footage TV'd

Activity: ..... Laterals
Facility Description: ..... Private property laterals
Maintenance Frequency: Not done routinely as a part of District program, non-routine only
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number TV'd

5. Inspection, Maintenance & Repair of Trunk-lines & Lines in Stream Corridors

Activity: ..... Surface Inspection, replace manhole lids
Facility Description: ..... Public sewer lines in stream corridors
Maintenance Frequency: ..... 2-year frequency
Special Notes and Requirement:
..... Normally combined with Marker Post activity.
..... Activity includes removing manhole covers and
..... visually inspecting interior from the surface.
Measurement Criteria: ..... Footage inspected, manholes inspected

Activity: ..... Install/Repair Marker Posts
Facility Description: ..... Public sewer lines in stream corridors and remote areas
Maintenance Frequency: ..... Replace as needed
Special Notes and Requirement: ..... Normally combined with Surface Inspection activity.
Measurement Criteria: ..... Number installed or repaired

Exhibit A

Activity: ..... Install self-closing lids
Facility Description: ..... Public sewer lines 24" and larger
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number installed or repaired

6. Siphon Maintenance - Sanitary

Activity: ..... Clean siphons
Facility Description: ..... All public sanitary sewer siphons
Maintenance Frequency: ..... Annual, more often in problem areas
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number cleaned and cubic yards of material removed

7. Customer Response and Investigation - Sanitary

Activity: ..... Customer Response and Investigation
Facility Description: ..... All public sanitary sewer facilities
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number of responses

8. Emergency Response - Sanitary

Activity: ..... Emergency Response
Facility Description: ..... All public sanitary sewer facilities
Maintenance Frequency: ..... As needed
Special Notes and Requirement: .....
Measurement Criteria: ..... Number of responses

9. Laterals in Public Right of Way - Sanitary

Activity: ..... Investigation
Facility Description: ..... Private laterals as defined in District R&O
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number investigated

Activity: ..... Repair
Facility Description: ..... Private laterals as defined in District R&O
Maintenance Frequency: ..... As needed due to structural failure
Special Notes and Requirement: .....
..... Property owner responsible for demonstrating defect is in public R/W
..... and that it is a structural failure
Measurement Criteria: ..... Number repaired

10. Other Non-routine Work - Sanitary

Activity: ..... Other Non-routine Work
Facility Description: ..... All public sanitary sewer facilities
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Hours of work

11. Vector Control - Sanitary

Activity: ..... Chemical baiting
Facility Description: ..... All public sanitary sewer lines
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... Control of small rodents (rats, mice, etc.)
Measurement Criteria: ..... None

12. Access Road Maintenance – Sanitary

Activity: ..... Grading, Paving, Vegetation Control, General Maintenance
Facility Description: ..... Roads within or leading to public sanitary facilities
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... Level of maintenance determined by condition
..... Review easement document to determine maintenance responsibilities
Measurement Criteria: ..... None

13. Utility Locates – Sanitary

Activity: ..... Utility Locating
Facility Description: ..... All underground public sanitary sewer
..... facilities, and private sanitary sewer laterals in the public right of way
Maintenance Frequency: ..... As requested
Special Notes and Requirement: ..... Must be a member of Oregon One Call System
..... Must comply with Oregon utility locating rules
Measurement Criteria: ..... Compliance with locating rules

B. Collection Systems Maintenance Programs – Storm and Surface Water Maintenance Program

1. Storm Line Cleaning

Activity: ..... Routine
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: .....
..... Every line cleaned at least once every 6 years
Special Notes and Requirement: ..... As needed in the field
..... Inspect for illicit discharges per IDDE program
Measurement Criteria: ..... Footage cleaned and cubic yards of material removed

Activity: ..... Non routine
Facility Description: ..... All storm pipe lines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... As needed in the field
..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Footage cleaned and cubic yards of material removed

2. Storm Manhole Maintenance

Activity: ..... Adjust to Grade
Facility Description: ..... All public storm system manholes
Maintenance Frequency: ..... As needed

Exhibit A

Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number adjusted

Activity: ..... Repair
Facility Description: ..... All public storm system manholes
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number repaired

3. Root Control – Storm Lines/Infrastructure

Activity: ..... Mechanical
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... As needed in the field
Measurement Criteria: ..... Footage cleaned

4. TV Inspection - Storm

Activity: ..... Routine
Facility Description: ..... All public storm lines
Maintenance Frequency: ..... 8-year frequency
Special Notes and Requirement: ..... Need to closely coordinate with line cleaning
..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Footage TV'd

Activity: ..... Non Routine
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Footage TV'd

Activity: ..... 1-Year warranty
Facility Description: ..... All public storm lines
Maintenance Frequency: ..... Within 2 months before end of maintenance period
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program
Measurement Criteria: ..... Footage TV'd

5. Catch Basins - Storm

Activity: ..... Cleaning
Facility Description: ..... Public catch basins – with sump
.....(Facilities used primarily for TV/line cleaning access are not included in this activity)
Maintenance Frequency: ..... Once per year, problem areas more frequently
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program
Measurement Criteria: ..... Number cleaned and cubic yards of material removed

Activity: ..... Cleaning
Facility Description: ..... Public catch basins – no sump (flow through)
(Facilities used primarily for TV/line cleaning access are not included in this activity) .....
Maintenance Frequency: ..... Once per year, problem areas more frequently
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
..... Clean catch basins with debris, otherwise just inspect
Measurement Criteria: ..... Number cleaned and cubic yards of material removed

Exhibit A

6. Water Quality Manholes – Storm

Activity: ..... Cleaning
Facility Description: ..... Public water quality manholes
Maintenance Frequency: ..... Twice per year or more frequently as required
Special Notes and Requirement: Spring cleaning is only required if the water quality manhole is full of debris. Otherwise the "cleaning" is limited to removing floatables and oil from the top.
..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Number cleaned and cubic yards of material removed

7. Surface Retention/Detention Facility (Water quality and quantity facilities, not including filter vault facilities) – Storm

Activity: ..... Routine Ret/Det Facility Maintenance
Maintenance Frequency: ..... Average of 4 to 6 site visits per year
Special Notes and Requirement: . Routine functions include mowing, trimming, spraying, Inlet/outlet maintenance and inspection (see sub-activities below for description). Sub-Activities can be combined in one visit.

Sub-Activity: ..... Mowing
Facility Description: ..... Large open areas
Measurement Criteria: ..... Hours and acreage

Sub-Activity: ..... Trimming
Facility Description: ..... Confined, small, or steep areas
Measurement Criteria: ..... Hours and footage

Sub-Activity: ..... Spraying herbicides
Facility Description: ..... Fence-lines, perimeters, not for contact with water
Measurement Criteria: ..... Acreage and gallons sprayed

Sub-Activity: ..... Inlet/outlet maintenance
Facility Description: ..... Inlets, outlets, grates, sumps
Measurement Criteria: ..... Number maintained and cubic yards removed

Sub-Activity: ..... Inspection
Facility Description: ..... Entire facility
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Number of facilities inspected

Activity: ..... Levee/Bank maintenance
Facility Description: ..... Levees, banks, retaining walls
Maintenance Frequency: ..... Non-routine as needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number repaired

Activity: ..... Garbage removal
Facility Description: ..... Treatment area
Maintenance Frequency: ..... Non-routine as needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Facilities cleaned

Exhibit A

Activity: ..... Silt/debris removal/Coring out
Facility Description: ..... Treatment area
Maintenance Frequency: ..... Non-Routine As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number cleaned and cubic yards removed

Activity: ..... Watering and fertilizing
Facility Description: ..... Planted areas
Maintenance Frequency: ..... Watering - weekly to monthly in summer as needed
..... Fertilizing - 1 or 2 times per year as needed to establish plants (first two years)
Special Notes and Requirement: Only fertilize outside of the treatment area, and when needed to establish plantings
Measurement Criteria: ..... Number of facilities and acreage watered or fertilized

Activity: ..... Planting and replanting
Facility Description: ..... Areas requiring increased planting
Maintenance Frequency: ..... Non-routine as needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number of facilities and acreage

Activity: ..... Reshaping and Reconstructing
Facility Description: ..... Areas requiring upgrading
Maintenance Frequency: ..... Non-routine as needed
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Number of facilities

8. Storm Filter Structure Maintenance

Activity: ..... Filter Structure Inspection
Facility Description: Publicly maintained proprietary treatment systems that are housed in catch basins, manholes or vaults.
Maintenance Frequency: ..... 2 times/year until buildout; yearly thereafter
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
..... Include removing at least 1 canister cover to determine load
Measurement Criteria: ..... Number of facilities

Activity: ..... Filter Replacement
Facility Description: ..... Publicly maintained proprietary treatment systems
Maintenance Frequency: ..... Yearly, or as determined by inspection
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Number of filters

9. Siphon Maintenance - Storm

Activity: ..... Clean siphons
Facility Description: ..... All public storm sewer siphons
Maintenance Frequency: ..... Annual, more often in problem areas
Special Notes and Requirement: ..... Inspect for illicit discharges per IDDE program.
Measurement Criteria: ..... Number cleaned and cubic yards of material removed

10. Underground Detention Pipes - Storm

Activity: ..... Build Information Base
Facility Description: ..... Publicly maintained underground storm detention pipes

Maintenance Frequency:..... To be determined by inspection
Special Notes and Requirement:.....Inspect for illicit discharges per IDDE program.

Year 1 (FY12) Goals
Verify and update facility inventory and GIS attributes
Update MMIS to include facilities for future work orders
Determine if detention function is required for each location
Identify if pipe serving area as a detention facility
Year 2 (FY13) Goals
Develop plan for retrofitting those that can't be access for cleaning
Inspect pipes with access visually or by TV inspection
Clean detention lines if suitable access exists.
Year 3 (FY 14 and beyond) Goals
Develop and begin implementation of retrofit plan for pipes no longer required or without inspection or cleaning access.
Clean and TV according to adtopted standard
Measurement Criteria (FY14) Footage cleaned and cubic yards of material removed

11. Customer Response and Investigation – Storm

Activity: .....Customer Response and Investigation
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency:..... As needed
Special Notes and Requirement:.....Inspect for illicit discharges per IDDE program.

12. Emergency Response and Storm Patrol – Storm

Activity:..... Emergency Response
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency:.....As needed

Special Notes and Requirement:..... None
Measurement Criteria: .....Number of responses

13. Street Sweeping – Storm

Activity:..... Routine
Facility Description: .....Public streets with curbs
Maintenance Frequency:.....
.....Local streets - Once per month
.....Downtown areas - Up to weekly as needed
Special Notes and Requirement: Regenerative air sweeper or equivalent water quality sweeper required. Crew of 1. It is a requirement that the sweeping speed be 4 to 7 mph.
Mechanical sweeper is not acceptable for this activity.
Sweeper must be equipped with an independent recording device that records speed while sweeping (broom activated, pickup head down, blower on), miles swept, and hours swept. Operator supplied data is not sufficient
Measurement Criteria: .....Curb miles swept and cubic yards of material

Activity:.....Non routine
Facility Description: ..... Public streets

Maintenance Frequency: ..... Non-routine
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Curb miles swept and cubic yards of material

Activity: ..... Related to leaf program
Facility Description: ..... Public streets in leaf pick-up areas
Maintenance Frequency: ..... Following leaf machine
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Curb miles swept and cubic yards of material

14. Street Sweeping/Leaf Program Material Processing and Disposal – Storm

Activity: ..... Material Transportation
Facility Description: ..... Sweeping and leaf program areas
Maintenance Frequency: ..... Replace drop box once per week
Special Notes and Requirement: ..... None
Measurement Criteria: .... Cubic yards of material transported and number of boxes hauled

Activity: ..... Processing and Sorting
Facility Description: ..... Material processing yard
Maintenance Frequency: ..... Sort material as needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Cubic yards of material processed

Activity: ..... Disposal
Facility Description: ..... Material processing yard
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Cubic yards of material and number of boxes hauled

15. Creek and Stream Maintenance – Storm

Activity: ..... Debris Removal
Facility Description: .....
..... Public creeks and streams and those that affect public systems if not maintained
Maintenance Frequency: ..... Non-routine
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number of locations and cubic yards

Activity: ..... Planting and Restoration
Facility Description: .....
..... Public creeks and streams and those that affect public systems if not maintained
Maintenance Frequency: ..... Non-routine
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number of locations and acreage restored

Activity: ..... Bank stabilization
Facility Description: .....
..... Public creeks and streams and those that affect public systems if not maintained
Maintenance Frequency: ..... Non-routine
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number of locations

Activity: ..... Garbage/Nuisance/Hazard removal
Facility Description: .....

.....Public creeks and streams and those that affect public systems if not maintained
Maintenance Frequency:.....Non-routine
Special Notes and Requirement:.....None
Measurement Criteria: .....Number of locations and cubic yards of material

16. Leaf Program – Storm

Individual agencies determine the components of their leaf program, but must include some of the activities listed below or suitable alternate. Programs must be agreed to upon by District.

Activity:.....Formal curbside program
Facility Description: .....High leaf generation areas
Maintenance Frequency:.....No defined standard
Special Notes and Requirement: .....
.....Example frequency is every 2 weeks, 4 times total in leaf season
.....Send notice to affected area giving guidelines
.....of how to put leaves in street for pick-up
Measurement Criteria: ..... Number of curb miles and estimate or measured cubic yards
.....of material

Activity:.....Increased Recycling
Facility Description: .....High leaf generation areas
Maintenance Frequency:.....No defined standard
Special Notes and Requirement:.....
.....Negotiate extra pick-up of recycle can with garbage hauler through the leaf season
Measurement Criteria: .....
..... Number of additional pickups and estimated or measured cubic yards of material

Activity:.....Leaf drop day
Facility Description: .....High school, public works yard, other open areas
Maintenance Frequency:.....No defined standard

Special Notes and Requirement: .....
.....Example frequency is 1 to 4 times per year as needed in the leaf season
.....Crew removes leaves from plastic bags. Can be run with voluntary food donation.
Measurement Criteria: Number of days and estimate or measured cubic yards of material

17. Catch Basin and Storm Line Material Processing and Disposal – Storm

Activity:.....Processing and Sorting
Facility Description: .....Material processing yard
Maintenance Frequency:.....As needed
Special Notes and Requirement:.....Material must be de-watered to pass "paint-filter" test
Measurement Criteria: .....Cubic yards of material

Activity:.....Disposal
Facility Description: .....Certified landfill
Maintenance Frequency:.....As needed
Special Notes and Requirement:.....None
Measurement Criteria: .....Cubic yards and number of boxes hauled

Culvert Maintenance – Storm
Activity:.....Clean culverts
Facility Description: .....Culverts under 36" crossing under public streets
Maintenance Frequency:.....Non-routine

Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number cleaned and cubic yards of material

18. Other Non routine Work – Storm

Activity: ..... Other Non-routine Work
Facility Description: ..... All storm facilities listed in this R&O
Maintenance Frequency: ..... As needed
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Hours and number of locations

19. Vector Control – Storm

Activity: ..... Mosquito Control (West Nile Virus)
Facility Description: .... Public sumped catch basins and WQ facilities with ponding water
Maintenance Frequency: ..... Per IGA with Washington County
Special Notes and Requirement: Activity to be completed in conjunction with other routine maintenance activities such as catch basin cleaning, WQMH cleaning, and WQF maintenance.
Measurement Criteria: ..... Number of catch basins and WQ facilities treated

Activity: ..... Beavers, Nutria and beaver dams
Facility Description: .Public creeks and streams and those that affect public systems if not ..... maintained
Maintenance Frequency: ..... Non Routine
Special Notes and Requirement: ..... Response depends on circumstance and includes trapping,
..... Relocation, dam removal, and others
Measurement Criteria: ..... Number of responses

Activity: ..... Rodents
Facility Description: ..... All public storm lines
Maintenance Frequency: ..... Non Routine
Special Notes and Requirement: ..... Trapping is normally the only option
..... Generally chemical baiting is not allowed in the storm system unless the product is approved
Measurement Criteria: ..... Number of responses

20. Washington County Roadside Ditch Program – Storm

Activity: ..... Remove Debris
Facility Description: ..... Roadside ditches in County roads
Maintenance Frequency: .....
Major roads -- Once each 5 Years
Minor roads -- Once each 8 Years
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Footage cleaned and cubic yards removed

Activity: ..... Hydro-seeding
Facility Description: ..... Roadside ditches in County roads
Maintenance Frequency: ..... Following cleaning
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Acreage treated

Exhibit A

Activity: ..... Ditch armoring
Facility Description: ..... Roadside ditches in County roads
Maintenance Frequency: ..... Following cleaning, in highly erodeable areas
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Footage protected

Activity: ..... Clean roadside pipes and culverts
Facility Description: ..... Roadside pipes and culverts in County roads
Maintenance Frequency: .....
Major Roads - once each 5 years
Minor Roads - once each 8 years
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Footage and cubic yards removed

21. Washington County Roadside Pipes and Culverts – Storm

Activity: ..... Repair/replace roadside pipes and culverts
Facility Description: ..... Roadside pipes and culverts in County roads
Maintenance Frequency: ..... No standard, non-routine
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Number repaired or replaced

Activity: ..... Install new roadside pipes and culverts
Facility Description: ..... County roads without curb and gutter
Maintenance Frequency: ..... Non-routine
Special Notes and Requirement; ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Number installed

Activity: ..... Remove roadside pipes and culverts; re-establish roadside ditch
Facility Description: ..... County roads
Maintenance Frequency: ..... Non-routine
Special Notes and Requirement: ..... Performed as funded by County Road Fund
Measurement Criteria: ..... Footage of ditch re-established

22. Access Road Maintenance – Storm

Activity: ..... Grading, Paving, Vegetation Control, General Maintenance
Facility Description: ..... Roads within or leading to public storm facilities
Maintenance Frequency: As needed
Special Notes and Requirement: ..... Level of maintenance determined by condition
..... Review easement document to determine maintenance responsibilities
Measurement Criteria: ..... None

23. Utility Locates – Storm

Activity: ..... **Utility Locating**
Facility Description: ..... All underground public storm sewer
..... facilities and private storm laterals in the public right of way
Maintenance Frequency: As requested
Special Notes and Requirement: ..... Must be a member of Oregon One Call System
..... Must comply with Oregon utility locating rules
Measurement Criteria: ..... Compliance with locating rules

Exhibit A

C. Collection System Repairs – Sanitary and Storm Programs

1. Sanitary Line Major and Minor Repairs

Activity: ..... Dig
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As Required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number completed

Activity: ..... Link Pipe
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number installed

Activity: ..... Sealing
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... Initial sealing as needed, repeated 5 to 10 year frequency
Special Notes and Requirement: ..... Requires special material storage and handling
Measurement Criteria: ..... Number of joints sealed

Activity: ..... Re-Lining
Including pipe bursting, slip-lining or epoxy-liner installation
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Footage

2. Sanitary Capital Improvement and Rehabilitation Projects

Activity: ..... Dig
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number completed

Activity: ..... Rehabilitation Projects
Facility Description: ..... All public sanitary sewer lines under 24" in diameter
Maintenance Frequency: ..... As required
Special Notes and Requirement: .....
Measurement Criteria: ..... Footage and Number of Laterals Rehabilitated

3. Storm Line Major and Minor Repairs

Activity: ..... Dig
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As Required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number repaired

Activity: ..... Link Pipe
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As required
Special Notes and Requirement: ..... None

Exhibit A

Measurement Criteria: ..... Number installed

Activity: ..... New Facilities and Replacements
Facility Description: ..... All storm pipelines meeting criteria of Exh A Sec 1.B
Maintenance Frequency: ..... As required
Special Notes and Requirement: ..... None
Measurement Criteria: ..... Number installed

D. **General TV Inspection Standards (Sanitary and Storm)**

1) All TV inspections shall follow NASSCO-PACP standards, and procedures. All TV operators shall be certified to use this rating system.

2) Inspections shall be performed using a software suite that allows the capture of digital video, still images in real time, and the recording of observation locations. All observations shall be entered on an electronic log sheet and cross- referenced with their occurrence in the video. All inspection data to be delivered in a NASSCO Ver. 4.x database.

3) Quality – Under normal circumstances, the pipe to be inspected shall be recently cleaned prior to inspection to allow all defects to be recorded during the inspection. Fog in the pipe that limits the view during the inspection is not acceptable. The camera lighting shall allow a clear picture up to five pipe diameter lengths away for the entire periphery of the sewer, and the lighting shall be adjusted to eliminate hot spots.

4) Direction – Under normal circumstances, the TV inspection shall start at the upstream manhole and proceed downstream. The direction of flow shall be clearly marked on the video screen and the electronic log form.

5) TV footage measurement -- The TV inspection system shall be equipped to measure the length of each segment. The video counter shall be zeroed at the beginning of each new video inspection, and at any intermediate manhole.

6) Camera -- The CCTV camera shall record in color and shall be capable of panning the lens through a 360-degree arc about the vertical axis and tilting it at least 90 degrees to the longitudinal axis. For pipes larger than 6 feet in diameter, the equipment shall have a zoom feature capable of providing general views looking along the pipe up to five pipe diameter lengths away, and close up views of features.

7) Clean Water Services manhole and feature numbers shall be used on all reports. Where inspections are performed by a City or contractor, the reports shall use CWS numbering or unique facility numbers consistent with GIS data transferred to the District in accordance with Section II.C.

8) Digital Recordings – Video format shall be Mpeg1 with a frame size of 320x240, a frame rate of 29.97 or 30 frames per second and a bit-rate of 1150 kbps. The information shall be written to a DVD or other data digital transfer device or with District consent, the District's secure file transfer appliance. Inspection information shall be stored in a NASSCO PACP version 4.x database. Links to the inspection video shall be stored in the media tables within the PACP database using relative file references.

9) Still Photographs -- During CCTV inspections, still digital color photos may be taken of major defects and to document typical conditions within any reach. They may be included

with the PACP database and inspection video. If photographs are included they shall be in JPEG format and in the PACP database, and relative references to the stills must be included in the media tables.

10) Delivery of Work Product – For Cities or contractors doing the TV program, completed TV inspection reports that comply with the standards of this section shall be delivered to the Districton a quarterly basis, or as agreed to by the District and City. Video inspections should be available on request and may be reviewed on a quarterly basis as part of the District QA/QC program.

E. Geographical Information Systems (GIS)

This section applies to inventory and location information on all sanitary and stormwater facilities within the service area including inside the Cities as necessary for permit compliance, master planning, system modeling, flow monitoring and asset management.

1) Sanitary and storm sewer systems shall be mapped using an electronic mapping system (GIS).
2) District shall identify feature classes/data elements necessary for permit compliance, master planning, system modeling, flow monitoring and asset management. GIS systems of the sanitary and storm systems must contain these data elements. Data elements may be stored in MMIS as an alternate.
3) All facilities shall have a unique facility number, or the system must store the District's facility number.
4) Sanitary and storm sewer mapping shall be updated on a regular basis to include all new facilities installed by the jurisdiction or through development activity and any upgrades which affect size, slope, location, or pipe material.
5) Updated GIS data (including any GIS data stored in MMIS) shall be transferred between District and other jurisdictions' systems at a minimum frequency of quarterly, or as otherwise approved by the District.

F. Maintenance Management Information Systems (MMIS)

This section applies to systems used to track work elements identified in Section I.A. (Collection Systems Maintenance Programs) and any work elements identified in I.B (Local Collection System Repairs) which are performed by non-contracted crews.

1) MMIS shall track all field work orders and have the ability to generate reports showing current and historic work orders and management reports.
2) MMIS system must inter-relate to GIS to graphically show such things as scheduled and completed work.
3) District shall identify data elements and work categories necessary for permit compliance, reporting, program oversight, and coordination of repair and maintenance work. MMIS systems for the sanitary and storm systems must

contain these data elements in the same general work order format and the same work categories.

G. After Hours, Emergency, and Response Calls

A jurisdiction performing any portion of the system maintenance and repair of the storm and sanitary system must also have a system to receive and respond to emergency calls during regular work hours and after hours and to mobilize emergency crews that meets the following criteria:

1) There shall be a written after hours and emergency response procedure in place showing the phone numbers that the public is given for emergency contacts, how calls are routed during regular and after hours, who is responsible for making decisions and taking action, and what records are to be kept. If resolving the problem requires structural repairs, a capital improvement, increased maintenance, source control, cross connection repair, or other similar action, there must be a process in place to refer the problem to the appropriate person or department.

2) The appropriate after-hours number shall be advertised as part of the jurisdiction's storm and sanitary sewer public information program and clearly specify that the number is available 24/7.

3) The system will include a procedure to relay the incident report or complaint call to the appropriate first responder.

4) If sufficient information cannot be gathered over the phone, the first responder will respond with a goal of being on site within 1 hour, and no longer than within 2 hours for emergencies involving public health, safety, damage to the environment, or property damage that potentially is within the responsibility of the overall District program, and by the next business day for those calls that are not an emergency.

5) All complaint calls must be logged. The log must include the details of the call (date and time, name, phone number, and address of caller, description of complaint, etc.), and who the call was referred to for resolution. The log must indicate or link to a source that indicates the actual problem found during the investigation, and the actions taken. The log must be reviewed for conformance to this standard by a supervisor/manager on a monthly basis. Results of the review shall be available upon request by the District.

   The records must be retrievable from the system and must be able to provide a report that links the call to the response and final resolution. Records of calls taken by outside parties such as answering services or 911 also need to be accessible in the same manner. If a problem is referred to another jurisdiction or program, the person contacted should be noted. Records need to be maintained for a minimum of three years.

6) For sewer overflows caused by a defect in the public system, the records must include a completed Overflow Notification form.

Exhibit A

H. Illicit Discharge Detection and Elimination Program (IDDE)

Actions taken to identify and respond to illicit discharges into the surface water and storm sewer system and to eliminate illicit discharges are in accordance with written procedures as detailed in District's Illicit Discharge Detection and Elimination Program Procedures.

VII. Engineering, Inspection, and Support Elements

A. Development Plan Review Services

Ensure that all sanitary and stormwater facilities within the District's service boundary meet all minimum design and construction standards outlined in the District's Design and Construction Standards (D&C Standards).

1. Service Provider Letter (SPLs)

City staff involved in issuance of SPLs must obtain a District SPL/Pre-Screen Certification prior to conducting reviews. Staff must also attend and pass an annual plan review training event conducted by District personnel.

a.) Prescreen Issuance

Using aerial photos, photographs, District provided resource maps, utility maps, and other resources, review Sensitive Area Prescreening Site Assessment applications for requirements to perform additional site assessment on the basis of:

1) Possible existence of water quality sensitive areas on or within 200' of the project site; and
2) Type of proposed activity.
   i. Issue Sensitive Area Prescreening Site Assessment to applicant on District-approved forms.
   ii. Send a copy of approved Sensitive Area Prescreening Site Assessment to District on a monthly basis.
   iii. Keep database (electronic preferred) of information on all applications and determinations.

b.) Service Provider Letter Issuance

i. Issue SPLs pursuant to D&C Standards, including consideration for applicable mitigation requirements from other regulatory agencies (e.g., US Army Corps of Engineers and the Oregon Department of State Lands).
ii. Use forms approved by the District.
iii. Keep a database (electronic preferred) of information on all applications, including requirements, correspondence, and response times.
iv. Send a copy of any issued Service Provider Letters to the District within five calendar days of issuance.

Exhibit A

2. Land Use Comments Submittal

   a.) Submit comments within the land use comment period for all land use applications subject to regulation under the D&C Standards.

   b.) At a minimum, include general condition to meet the requirements of D&C Standards and provide specific conditions as necessary, including but not limited to:

   - Vegetated corridors and sensitive areas protections as specified in the SPL
   - Analysis of sanitary and storm/surface water systems, including downstream flow impact analysis
   - Public sanitary and storm system extensions to upstream properties
   - Separate lateral services to individual lots
   - Public water quality and quantity facilities, where appropriate

3. Land Use Review and Approval

   a.) Prior to Land Use Application being deemed "complete", ensure that land use applications for activities defined as development or redevelopment in the D&C Standards include a SPL.

   b.) Include conditions of approval to meet conditions submitted under II.A.2.

4. Plan Review

   1) Review plans for conformance with D&C Standards (at a minimum) and land use conditions of approval which apply to provision of sanitary sewer, storm sewer service, erosion control and vegetated corridors.

      a. Act as primary point of contact for applicants. Questions of interpretation or requests for exceptions from District standards are to be made by City staff. As early as possible, identify exceptions from standards and obtain District approval of the proposed alternative. City standards may be more stringent than District D&C Standards.

      b. When the plan reviewer believes plans are in substantial compliance with the D&C Standards, transmit the plans to District. Transmittal shall include the name of the plan reviewer seeking approval and a description and explanation of any known exceptions. District shall complete its review within 15 working days from receipt of the plans and return comments to City.

      c. City shall require incorporation of District comments prior to final approval.

   d. The City shall not approve or issue permits for sanitary sewer, storm sewer service, erosion control and vegetated corridors until it receives written notification of District approval. City may consider plans as approved by District if District fails to provide written comments within 15 working days.

5. Development Permit Issuance

This section applies to "public works", "site development", or other permit types covering the permitting, construction and inspection of storm, sanitary, and vegetated corridor improvements.

Issue permits for sanitary and storm sewer construction, connection, modification, and disconnection only when other regulatory requirements (i.e., U.S. Army Corps of Engineers and/or Oregon Division of State Lands) have been addressed and/or permits obtained. If early site development permit issuance is allowed, require that any activities undertaken prior to other regulatory (DSL and COE) approval is at the applicant's risk.

B. Development Inspection Services

Ensure all sanitary and stormwater facilities within the service boundary are constructed in accordance with the D&C Standards. The following are descriptions of major tasks associated with development inspection services.

1. New development inspection

Inspect all projects constructing sanitary and storm facilities (including all public conveyance elements and private and public water quality/quantity and vegetated corridor enhancement and mitigation sites) at least once per week during construction of the facilities covered by the D&C Standards; and more frequently depending on the nature and stage of the project.

2. New development final approval

Prior to issuing final approvals, receive and approve all required as-built drawings; TV inspect all new pipe systems; review the TV records; require correction of identified deficiencies; review and approve testing results; and require removal of appropriate erosion control measures. Final approval does not relieve the owner of responsibility for any other Federal, State, or local permit conditions.

3. Cross-connection identification/notification and correction

Meet Illicit Discharge Elimination requirements outlined in NPDES Watershed-Based Waste Discharge Permit (Permit) and MS4 Storm Water Management Plan (SWMP).

As identified, pursue the abatement of cross-connections. Within 15 working days of identification, eliminate identified cross-connections using immediate notification to responsible parties (owners/operators of property) and escalating abatement procedures, up to and including correction and billing of the responsible party. (There may be mitigating circumstances that may preclude meeting this timeline. However, the intent of the abatement process is to ensure initial action within 15 working days and continued action to correct.)

Inspect all cross-connection corrections with qualified personnel and document correction to DEQ.

4. Erosion Control Inspection

   Meet inspection frequencies as required by the Permit and SWMP. Maintain documentation (inspections log or notes) of erosion control deficiencies.

5. Erosion Control Enforcement Program

   Employ an active enforcement program to allow inspection staff to gain timely compliance and correction of identified deficiencies (i.e., compliance within 48 hours). Include the following minimum enforcement procedures.

   - Verbal warnings
   - Deficiency Notice (DN)
   - Stop Work Orders (SW)
   - Issuance of Civil Penalties

6. Erosion Control Wet Weather Management

   Issue wet weather letters to all active and inactive development projects. Using the District supplied template, issue a letter by September 15th each year, with a second reminder letter by September 30th each year. During wet weather periods, inspect all development sites at least weekly.

7. Maintenance Assurance Inspection of Landscaping in Water Quality Facilities and Vegetated Corridors

   Conduct and document inspection of landscaping for vegetated corridors and for water quality facilities in accordance with the D&C Standards.

8. Erosion Control and Vegetated Corridor Training

   District will lead development, coordination, presentation, and promotion of erosion control inspection training and water quality facility standards and design training at least once a year.

9. All staff performing erosion control inspection shall attend erosion control inspection training as required by the Permit and SWMP.Capital Projects

   Coordinate the CIP Program to provide adequate sanitary and storm system capacity and prevent storm-related overflows from the sanitary system as specified in the Permit and by law, i.e., overflows prohibited except during a storm event greater than the one-in-five-year, 24-hour duration storm from November 1 through May 21 and except during a storm event greater than the one-in-ten-year, 24-hour duration storm from May 22 through October 31 and all storm-related overflows prohibited after January 1, 2010.

10. Master Planning

Prepare sanitary and storm sewer Master Plans for the entire service area. For sanitary sewer, analyze pipes greater than 10-inch in diameter. Include smaller pipe system if flow monitoring indicates additional analysis for the sewershed is needed. For storm sewer, analyze an average subbasin size of 25-acres and include all pipes greater than 15-inch in diameter.

Incorporate appropriate data from local master plans for additional detail in District-wide Master Plan.

Incorporate city-identified population and growth projections in the analysis.

11. System Monitoring

Monitor system performance through sewer flow monitoring, stream flow monitoring, and water quality monitoring in accordance with the NPDES Watershed Discharge Permit requirements. Coordinate monitoring program for the entire service area to achieve maximum efficiency. Locate monitoring equipment to assist with master planning and project selection process.

Provide a project specific map showing flow monitoring requests for proposed CIP projects including sanitary capacity improvements and for Infiltration and Inflow abatement projects at least one year prior to start of design.

C. Joint Cities-District Capital Project Review Committee

A Joint City-District Capital Project Review and Prioritization Committee (Committee) exists to ensure Cities and District collaboratively prioritize sanitary conveyance and stormwater capital improvement projects, coordinate the planning and scheduling of projects impacting multiple jurisdictions, and pursue implementation of the prioritized projects.

Clean Water Services (District) and member Cities are required to participate in the CIP Committee.

1. Purpose:

Sanitary Conveyance
The Committee will annually update, revise and prioritize the list of all sanitary conveyance water capital improvement projects proposed throughout the District. (The Committee will not review Wastewater Treatment Projects.) Sanitary conveyance prioritization shall address I/I abatement projects, capacity enhancing sewer and pump station projects, expansion projects, and rehabilitation projects with system-wide infrastructure planning in mind. The Committee shall recommend the prioritized projects to be included in the District-wide CIP to the Board as part of the District's annual budget process.

Exhibit A

Storm and Surface Water Conveyance and Treatment
The committee will annually update, revise and prioritize the list of all stormwater conveyance and storm and surface water capital improvement projects proposed throughout the District. Storm and surface water project prioritization shall address flow quantity projects, stormwater quality and treatment projects, and habitat enhancement projects and shall identify project eligibility for SDC funding. The Committee shall recommend the prioritized projects to be included in the District-wide CIP to the Board as part of the District's annual budget process.

All sanitary and storm and surface water Capital Improvement Projects are prioritized to meet the following objectives:

Personal Health and Safety
Environmental Health
Permit compliance
Operational, Maintenance and Cost Effectiveness
Development Responsiveness

The joint Cities-District CIP committee's governance and processes abide by the By-Laws of the committee and are contained in a separate document.

D. **Source Control**

1. Fat, Oil, Grease (FOG) Abatement Program

a) District has developed a Fat, Oil, Grease (FOG) Abatement Program in cooperation with other Metro-area municipalities, the Oregon Restaurant Association and pumping companies that service grease removal devices (see http://preferredpumper.org). The FOG Abatement Program meets the requirements of the District's Industrial Sewer Use R&O 09-1. District and its member Cities are working collaboratively to implement the FOG Abatement Program and are actively communicating with food service establishments within the service area. Implementation of the program will be completed in Fiscal Year '09-'10, and on-going inspections and education will continue indefinitely.

b) The District will provide a list of all known FSEs to each member City on an annual basis, but no later than July 1, of each year. The list will be a consolidated list of all FSEs permitted by both the Washington County Health Department and the Oregon State Department of Agriculture, and any additional FSEs that are known at the time the list is created. ~~Each~~ Thereafter, each member City is responsible for maintaining a

comprehensive list of FSEs for the FOG Abatement Program within their jurisdiction.

c) Training

All FSE inspectors are required to complete a training program provided by the District. Managers of food service establishments are also encouraged to complete the traaiining program.

d) Inspection

All known Food Service Establishments (FSEs)* in each member City will have one inspection by June 30, 2011 and must be inspected annually thereafter.
Inspectors will observe one full pump out** of each Grease Removal Device (GRD)*** every five years. That full pump out observation will be documented and submitted to the District in the semi-annual report mentioned below.

e) Reporting

f) Member Cities will report back to the District on a semi-annual basis a current inventory of FSEs and a list of FSEs inspected to date.

*FSEs refers to Food Service Establishments or "serving establishments" as defined in the State of Oregon Plumbing Specialty Code, Chapter 10 Section 1014.1. **One full pump out constitutes observing the GRD empty, which typically occurs at the time of maintenance (pump out).

*** GRD refers to the FOG treatment device, typically a grease trap or grease interceptor.

2. Illicit Discharge Detection and Elimination

Source Control personnel will work with District and City staff to investigate reports of illicit discharges in accordance with the District's IDDE Program.

E. **Service and Information Requests**

Receive and process inquiries and requests for information for sanitary and storm sewer system.

F. **Private Water Quality Facility Management Program**

This program is intended to ensure adequate maintenance of privately-owned water quality facilities (PWQFs). The program has four major elements – Inventory, Inspection, Education and Outreach, and Enforcement, which are supported by program management.

Exhibit A

1. Inventory of PWQFs

   Update and maintain an inventory of existing and newly-added facilities, including the area treated on an annual basis.

   Inventory shall be available in an electronic format (Excel, Access) and include the following information for the PWQF: 1) location, 2) owner, 3) current rating, and 4) type.

   Maintenance Agreements are required for all new facilities as described in the D&C Standards.

2. Inspection of PWQFs

   At a minimum, inspect 25% of the sites each year and all sites in a four-year cycle. Assess the condition of all water quality facilities on each site inspected including pretreatment structures associated with the treatment train.

   Send annual notices to every PWQF owner as a reminder of their obligation to maintain the PWQFs.

   Develop and maintain an electronic database for inspections that includes the following information for the PWQF: 1) location, 2) owner, 3) date of inspections, 4) condition assessment rating, and 5) follow-up actions. Also retain copies of correspondence to PWQF owners and supporting materials from inspections.

   When inspection requires entering private property, permission may be provided by a maintenance agreement, by the owner or owner's representative, or by procedures in code, ordinance or other regulation.

3. Education and Outreach for PWQF Management Program

   District will provide and periodically update educational materials about PWQF maintenance and inspection for Cities and owners.

   District will provide a website with educational materials for PWQF Management.

   District and Cities shall evaluate the effectiveness of the outreach program each year and modify activities as appropriate.

4. Enforcement of PWQF Management Program

   Enforcement Procedures

   Employ an active enforcement program to allow timely compliance and correction of identified deficiencies, including the following minimum enforcement procedures.

Education on Required Corrective Maintenance Actions
Establishing and Monitoring Corrective Work Plans
Deficiency Notices
Issuance of Civil Penalties

Exhibit A

Progressive enforcement shall be used if compliance is not achieved by education and coaching. All contacts and notices must be documented.

Enforcement Procedures By Condition of Water Quality Facility	
Rating/Problem	Enforcement
For Facilities with regular inspection ratings	
Note: For all Facilities with regular inspections, ensure that the annual notice has been sent and that there is a recent inspection before proceeding with any enforcement.	
1 – Excellent 2 – Good 3 – Fair	No additional action unless rating falls to poor/very poor (4 or 5). For facilities in fair (3) condition, it may be appropriate to contact the owner and explain how to improve items needing maintenance.
4 – Poor 5 – Very Poor	Follow Enforcement Procedures Use established Abatement Procedures, if necessary.

VIII. Business and Customer Related Services

A. Customer Billing

1. Regular Service Charge Billings

   Regular billing consists of preparing and sending the regular billing, typically monthly or bi-monthly, of all sanitary and storm water service charges to all customers within the designated service area. The customer account files are regularly updated with move-in and move-out information and updated based on new construction/development within the service area. In addition, the billing jurisdiction records, tracks, and is able to identify the total number of equivalent dwelling units being billed for storm water and sanitary sewer. Combined billing may occur where multiple utility services are provided by the billing jurisdiction and are combined into one bill.

2. Remittance Handling

   Payments for billed services are receipted each business day and these payments are posted to the appropriate accounts within 7 business days. Service charge receipts are designated as stormwater or sanitary sewer and deposited to the corresponding account or fund.

3. Winter Average Update

   A new Winter Average as defined in the Rates and Charges will be determined each year for each customer effective with the charges incurred no earlier than July 1 and no later than September 1 of that year, based on the schedule established in the District's current Rates and Charges Resolution and Order (Section II E. 1. a.). The

updated Winter Average will be used to calculate the variable/usage portion of a customer's sewer service charge for the coming 12 month period.

4. Account Update

Prior to the next billing cycle, update stormwater and sanitary sewer customer accounts by the billing jurisdiction based on the previous activities related to discontinuation of service, move-in/outs, new accounts or changes to billing address.

B. **Customer Service**

1. Billing Revision Request

Review customers' requests to change in billing status and if approved by the responsible jurisdiction, incorporate changes into the customer account file with the requested/approved billing revision reflected in the next full billing cycle.

2. Billing and Customer Support

Staff is available during its normal business hours to receive questions and requests from customers relating to billing and account status, and to receive and respond to other general inquiries relating to the storm and sanitary sewer program.

C. **Bad Debt Expense**

1. Enforcement Procedure Documentation

For accounts combined with water service billing, apply non or under-payment of sewer and stormwater bills to the water utility which establishes termination of water service as the preferred response to any non or under-payment. Initiate collection procedures through a letter no later than at the 60 day past due point with water termination procedures beginning no later than at the 90 day past due point.

Follow the collection procedure in C.2 below, for accounts that are sewer and/or storm only (no joint water account).

2. Collection Procedure

In those cases where water service termination does not produce payment, billing jurisdiction initiates collection procedures against the past due account. Collection procedures may be delayed until the past due account becomes large enough to warrant the collection process defined as more than 3 months past due, more than $500 past due, or both.

IX. Reporting Standards

Individual Cities are responsible to perform certain elements of the overall storm and sanitary sewer program. These responsibilities are defined in the intergovernmental agreements between each City and the District. Following are the reporting

requirements for each element of the program. If a City is responsible for an element of the program, then the City is also responsible for the reporting requirements.

The District shall specify the format and exact content of each report, and may revise the format and content periodically.

A. **Field Maintenance and Repair**

1. General –

   City will provide access to City MMIS to allow CWS to monitor Field Operations work orders, or, upon request from CWS, City must generate reports showing current and historical work orders and other management reports.

2. TV Inspection and Line Cleaning –

   On a quarterly basis, the City shall provide a list to the District of storm and sanitary lines cleaned and TV inspected by the City in the previous quarter. 1–

3. Street Sweeping Material –City and District shall comply with all regulations pertaining to the management of solid wastes, including the beneficial use requirements or OAR 340-093-0260.

4. Quarterly Performance Report – City shall provide to the District a quarterly report no later than the end of the month following each quarter showing the quantity of work performed (such as number of catch basins cleaned) and secondary reporting criteria if any (such as cubic yards of material removed) in each category. The report shall also include miles swept and average speed while street sweeping. Original street sweeping records, electronic or tachograph shall be available on request.

The City shall notify the District with the third quarter report of each year of any performance standards that may not be met by the end of the fiscal year. An explanation shall include the following:

- Reasons for not meeting the standard (i.e. weather, resources, etc.)
- Steps taken in the coming year so the standards can be met on a consistent basis.

5. Certification - City shall "certify" each quarterly report with the following:

   Certification Statement, 40 CFR 122.22 (d)

   I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

   Signature _____

   Date_____

Exhibit A

B. **Finance and Accounting – City shall provide to the District:**

1) Annually no later than January 1 for the prior Fiscal Year, a summary of expenditures from Storm and Sanitary Sewer funds including SDC's and Capital Funds. If available, the CAFR for the sewer and storm fund reporting, and the "Homebuilder Report" for SDC's would meet this requirement.

2) Annually, no later than July 31 of each year, a summary of positions funded in the current Fiscal Year by storm or sanitary sewer funds. This requirement can be met by providing a copy of the storm and sanitary portion from the current adopted line item budget.

3) Annually no later than August 1 if the amount exceeds 1% of the annual City storm and sanitary sewer revenue,

4) A listing of all over 90 day past due storm and sanitary sewer accounts and the status of actions taken to obtain payment

5) A listing of any write offs taken by the City relative to past due storm and sanitary sewer accounts.

6) Monthly, no later than the end of the month following that month,

7) A summary of storm and sanitary sewer revenue received including SDC's.

8) A total of all equivalent dwelling units for stormwater and for sanitary sewer

C. **Engineering and Inspection**

1. Monthly, no later than the 15th of each month, issuance of storm and sanitary permits by the Cities is to be documented and forwarded to the District. This Connection report can be combined with the Finance and Accounting Reporting element.

2. Monthly, no later than the 15th of each month, permitted project, water quality facility information, substantial completion, and justification for each water quality fee-in-lieu granted will be documented and reported to the District in the Site Development Permit Form report.

3. Monthly, no later than the 15th of each month, report erosion control inspections conducted.

4. Other Engineering Submittals:

With each plan review, a transmittal shall be submitted to District noting any attachments to the design plans, and engineering and environmental exceptions. Other engineering submittals may be required for specific performance standard elements not included in the report requirements above.

Engineering data for MS4 report tracking measures, not covered in the reports above, will be separately submitted annually, no later than August 1 for the prior Fiscal Year or as otherwise required by the District.

5. Quarterly, no later than 30 days after end of quarter, send updated GIS data as specified in (I. C. 5).

6. Annually, no later than July 30 of each year, report on the following for the Private Water Quality Facility Management Program:

   a. For Inspections:

   - Number of inspections performed for sites and facilities
   - Number of facilities rated poor/very poor
   - Number of facility ratings improved to fair/good/excellent in Fiscal Year
   - Number of corrective improvements plans established
   - Number of Deficiency Notices
   - Number of Civil Citations
   - List of facilities not inspected due to access being denied and the procedures used to gain access

   b. Number of annual notices sent

   c. Updated inventory list with number of sites, number of facilities and area treated

D. **Capital Improvement Construction**

1. Annually, no later than October 1 of each year, report summary of CIP implementation status of sanitary, storm, and surface water projects listed in the previous year CIP, including:

   a. Actual vs. planned schedule for the prior fiscal year.

   b. Actual (unaudited) expenditures vs. planned budget for the prior fiscal year.

   c. Description and justification for scope variance, if applicable.

   d. Annually, no later than the 10th of January, report summary of CIP actual (or best estimate of) expenditures for the first two quarters of the current fiscal year.

   Annually, no later than the 10th of January, report summary of CIP projected expenditures for the last two quarters of the current fiscal year.

E. **District Summary Reports**

District shall compile information from the reports identified in sections IV.A.-D., incorporate data from its own performance of the same functions and provide the following summary reports to all jurisdictions:

1) Field Operations Quarterly Report
2) Annual Field Operation Summary and Reports necessary for compliance with the Permit
3) Annual Financial Summary Report
4) Quarterly Engineering and Inspection Report

5) Annual Engineering Summary Report and Reports necessary for compliance with the Permit

6) Annual CIP Implementation Summary

X. **Enforcement –**

The following procedures shall be used where there is an identified or suspected deficiency in the performance of an element or Activity of the Local City Program by a member City:

1) Monitoring – CWS shall set up a system to monitor the city performance of each element and Activity of the Local City Program

2) Notification – Each city shall designate a "responsible city contact" person. In the event that CWS believes an element or Activity of the Local City Program is not being performed up to the established standard, CWS will notify the city contact person. The city contact person will be responsible for disseminating that notice to all appropriate staff and administration at the city.

3) Initial Meeting – Following the initial notice, CWS and city will meet to review the elements or Activities of the program in question. In the event that CWS and city disagree on whether the program element or Activity is being performed up to standard, CWS will make the final decision.

4) Plan of Action – In the event of an identified deficiency, City shall develop and submit to CWS within two weeks a schedule that includes development of a plan of action for bringing the specific program element or Activity into compliance. The plan of action must show how the program standard will be met in a timely manner. CWS will review the schedule to determine if it is reasonable and appropriate.

5) Failure to Meet Standard – In the event the program element or Activity in question is not corrected within the established schedule, the City and CWS may agree on a revised plan of action, or CWS may recommend to the City staff that it take over that element or Activity of the program. If the City does not agree on CWS taking over that element or Activity, CWS may notify the City that the issue will be taken to the CWS Board in accordance with the current City/CWS operating agreement.

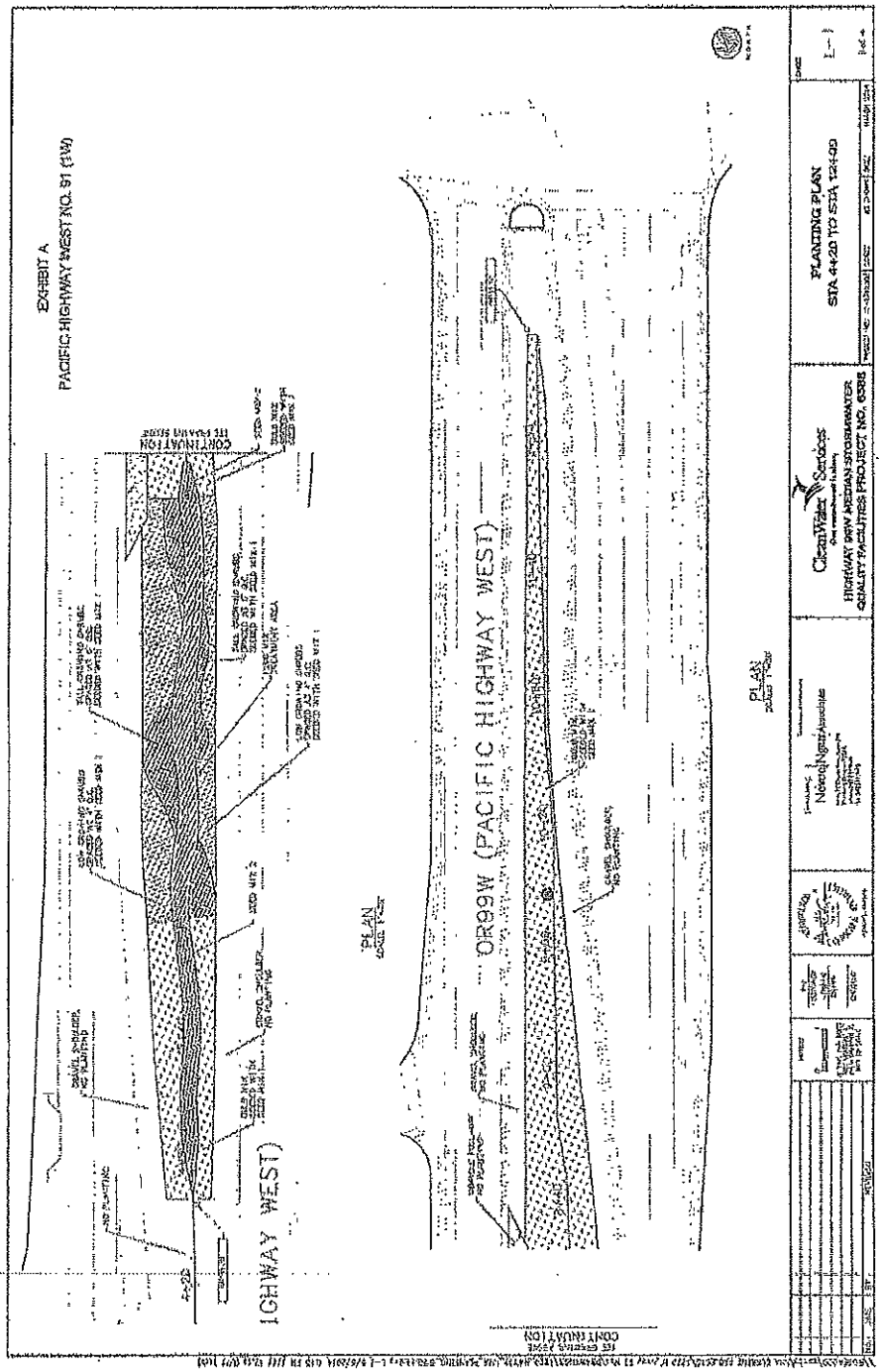
6) Single Errors – This procedure is not intended to require that a City be "perfect" in its execution of the City Program elements and Activities. Errors and isolated deficiencies will occur from time to time. This procedure is meant to address programmatic deficiencies.

XI. **Response to Sanitary Sewer Overflows and Spills**

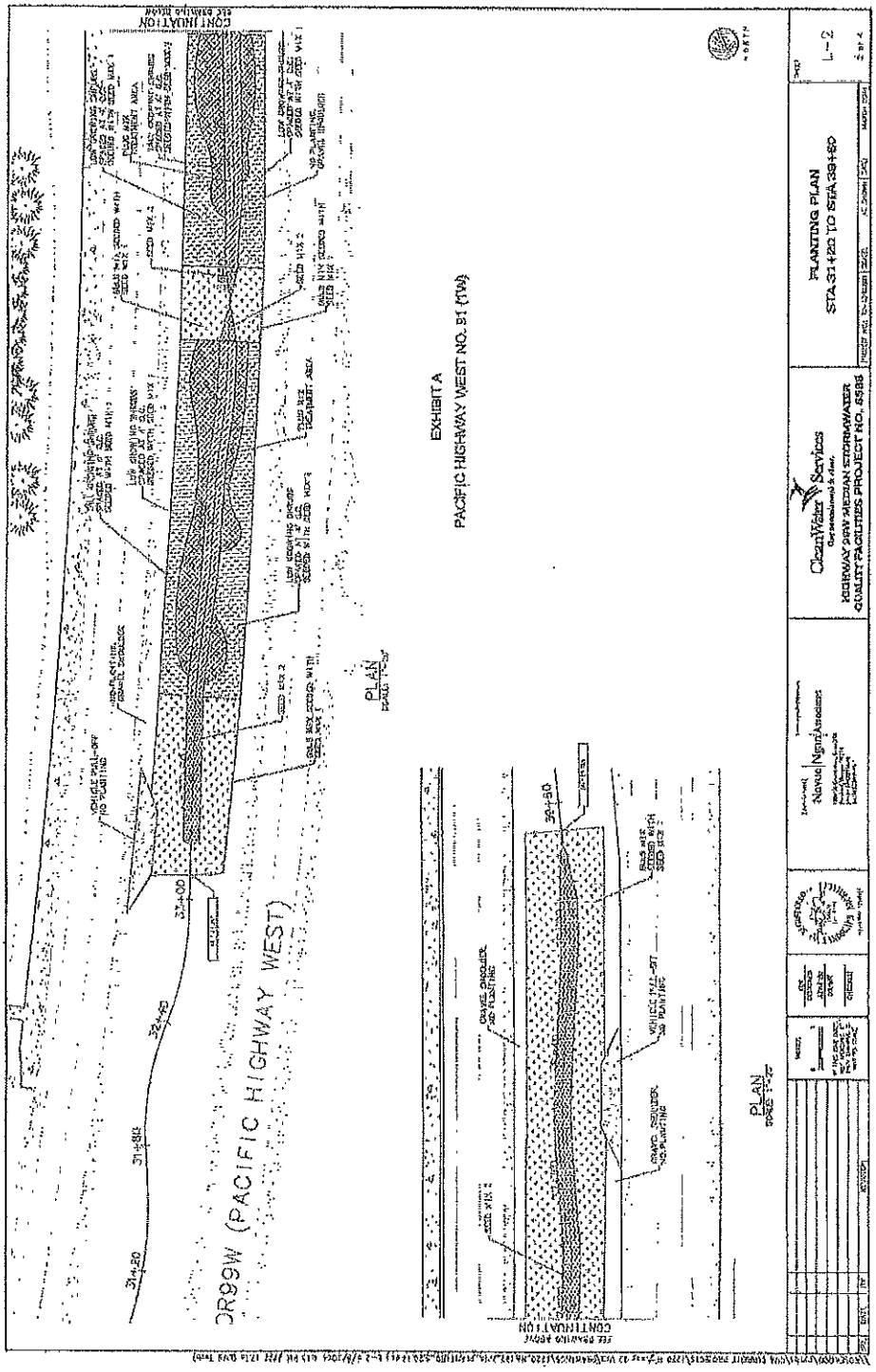
Actions taken to respond to Sanitary Sewer Overflows and Spills are in accordance with written procedures as detailed in District's SSO Response Plan and identified as the "Reporting Procedures Manual for Collection System Overflows and Spills."

District/ODOT
Agreement No. 29632

EXHIBIT B
FACILITY MAINTENANCE AREAS



District/State
Agreement No.29632



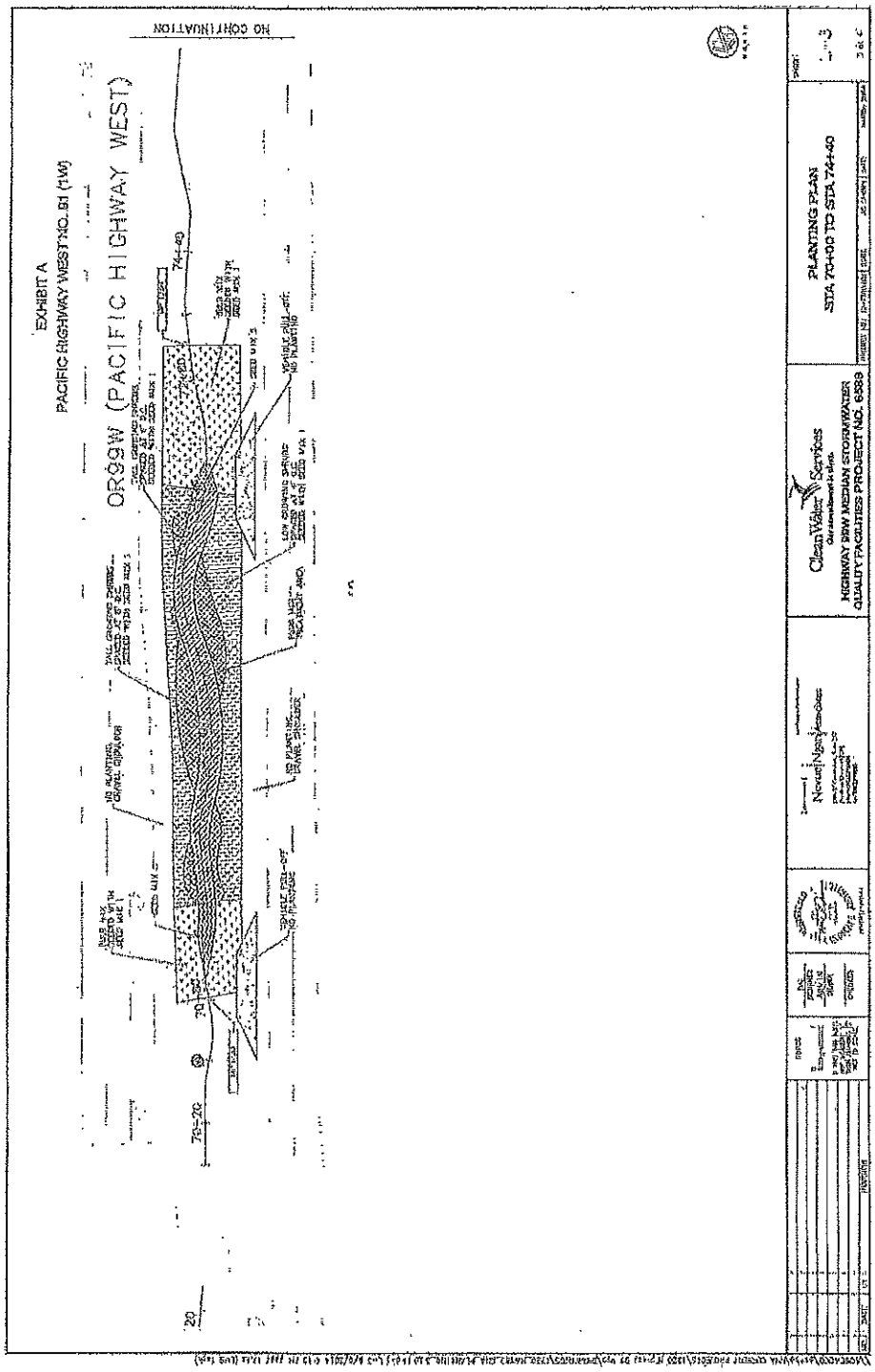


EXHIBIT A
PACIFIC HIGHWAY WEST NO. 81 (1W)
OR99W (PACIFIC HIGHWAY WEST)
NO CONTINUATION
PLANTING PLAN
STA 704+05 TO STA 744+60
Clean Water Services
HIGHWAY 99W MEDIAN STORMWATER
QUALITY FACILITIES PROJECT NO. 6889

SCHERZINGER Richard B

From: SCHERZINGER Richard B
Sent: Friday, December 19, 2014 3:28 PM
To: ALL REGION1 Mailboxes
Subject: SIGNATURE AUTHORITY - Rian out Mon 12/22 - Fri 12/26

All,

Rian is out of the area Monday 12/22/14 through Friday 12/26/14 for the Christmas holidays, returning Monday 12/29/14.

Rian designates the following individuals for the dates indicated as Acting Region Manager for those days, with full delegated authority allowed by rule/statute under Delegation Order HWY10 (Delegation Order attached below):

Mon 12/22 – Tue 12/23	Ted Miller	
Wed 12/24 & Fri 12/26 (on call)	David Kim	cell = 503-928-0107


HWY10-DO-100...

Please bring any documents requiring signature to me and I will manage them to/from David.

This signature authority does NOT apply to HR documents such as Temp Requests, WOC, etc. Those types of documents will have to wait until Rian returns Mon 1/29.

Thanks,

Richard

Richard Scherzinger
Executive Support to Rian Windsheimer
ODOT Region 1 Manager

Oregon Department of Transportation
123 NW Flanders
Portland, Oregon 97209
503-731-8256
503-731-8259 (fax)
richard.b.scherzinger@odot.state.or.us

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Appendix C

Contents:

Originally the swales were going to be designed by a consultant under ODOT project 17701.

Then, agreement was made for CWS to design the swales as part of Clean Water Services Project, Highway 99W Median Stormwater Quality Facilities Project NO. 6588, and they were deleted from the ODOT plans for 17701.

This Appendix includes the Advanced ODOT 17701 plans which show the piping and approximate swale locations for swales later designed under the CWS project. The final 17701 plans, 47V-018, OR99W: SW Durham Rd to SW Fischer Rd Sec, unfortunately do not identify these approximate swale locations.

Sec. 15, T. 2S, R. 1W, W.M.

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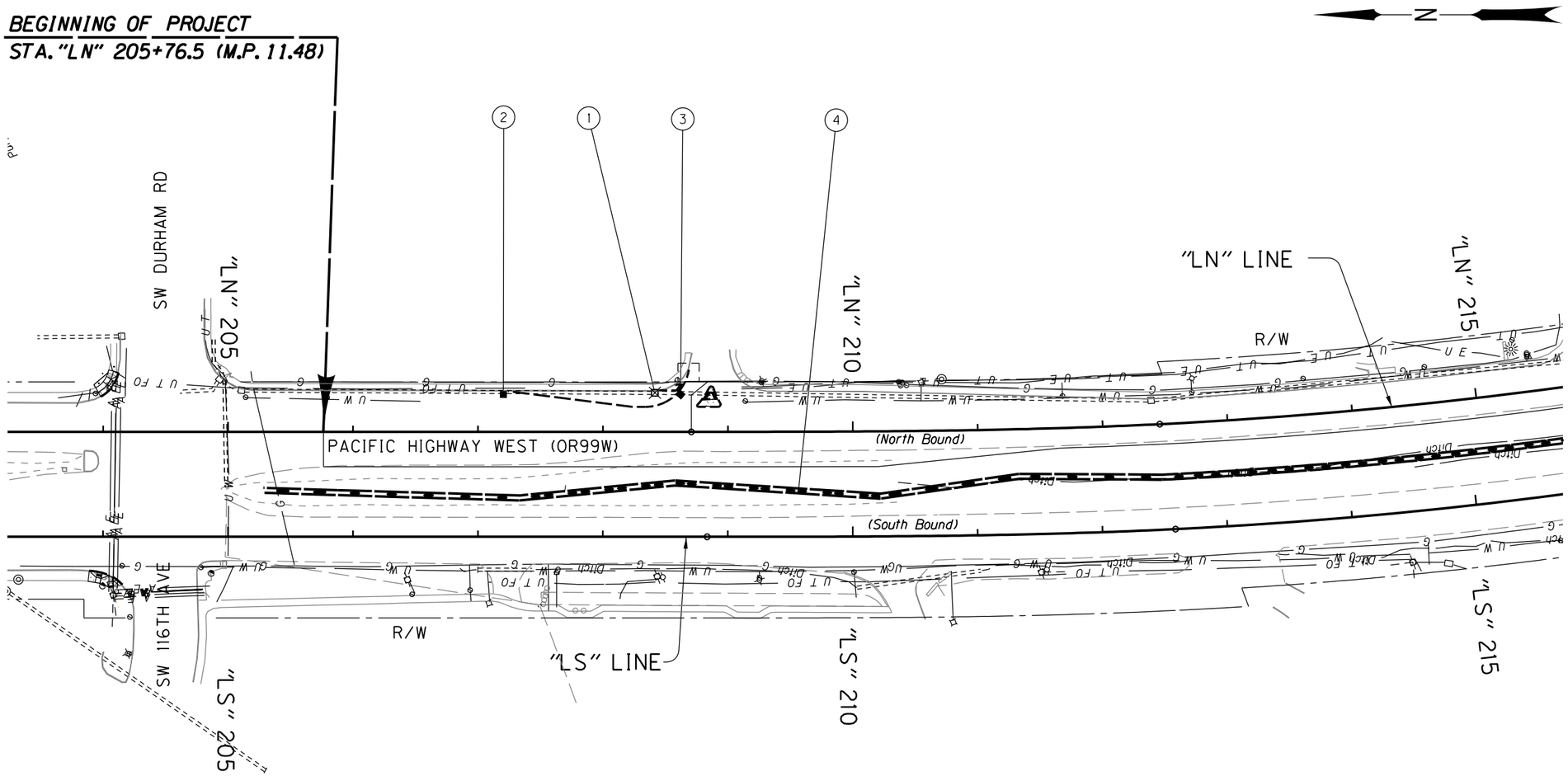

1. Remove inlet
2. Sta. "LN" 207+20, Lt.
   Const. Type "CG-1" conc. inlet
   Connect to extg. storm sew. pipe.
   (See drg. no. RD364)
3. Sta. "LN" 208+62, Lt.
   Const. Type "CG-1" conc. inlet
   Connect to extg. storm sew. pipe.
4. Water quality swale
   (By others)

Remove inlet shown as thus: ⊠

OREGON DEPARTMENT OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
80,52
OREGON
14, 2013
TYLER S. NORD
RENEWS: 12-31-2014

FOR REVIEW ONLY

Murray, Smith & Associates, Inc.
121 S.W. Salmon, Suite 900, Portland, Oregon 97204-2919
503.225.9010

MSA

OR99W: SW DURHAM RD - SW FISCHER RD SEC.
PACIFIC HWY WEST
WASHINGTON COUNTY

Reviewed By - Chris S. Link
Designed By - Tyler S. Nord
Drafted By - Adam N. Blair

DRAINAGE & UTILITIES

SHEET NO. 3A

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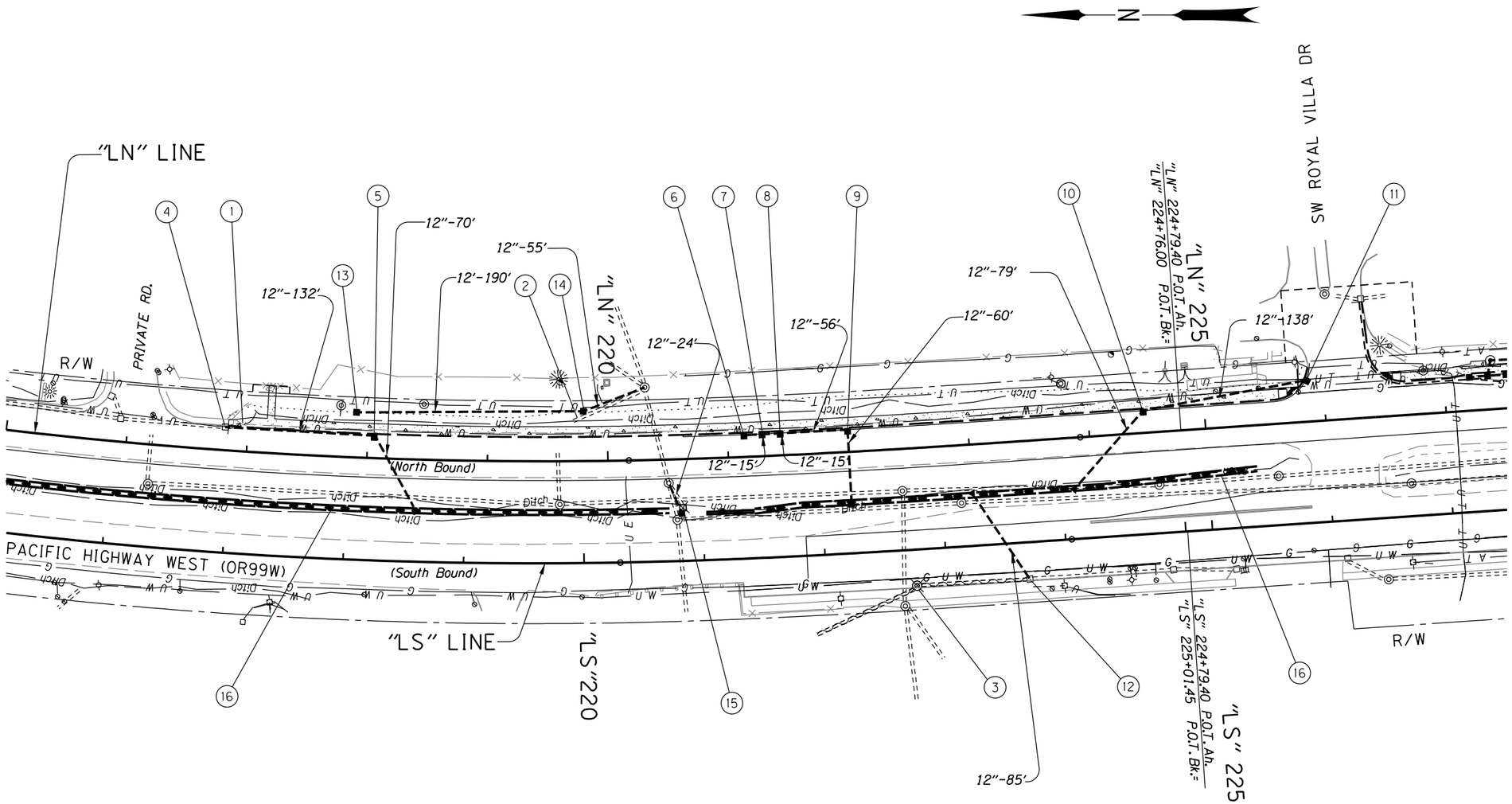

1. Remove pipe-28'
2. Remove pipe-65'
3. Remove manhole
4. Sta. "LN" 216+81. Lt.
   Inst. 12" storm pipe - 132'
   5' depth
   Connect to extg. inlet
5. Sta. "LN" 218+05. Lt.
   Const. type "CG-1" conc. inlet
   Inst. 12" storm pipe - 70'
   5' depth
   Const. 12" sloped end section
   Const. paved end slope
   (See drg. nos. RD316, RD318, RD319, RD320)
6. Sta. "LN" 221+29. Lt.
   Const. type "CG-1" conc. inlet
   Inst. 12" storm pipe - 15'
   5' depth
   (See drg. no. RD366)
7. Sta. "LN" 221+14. Lt.
   Const. type "CG-1" conc. inlet
   Inst. 12" storm pipe - 15'
   5' depth
8. Sta. "LN" 221+44. Lt.
   Const. type "CG-1" conc. inlet
   Inst. 12" storm pipe - 56'
   5' depth
9. Sta. "LN" 222+00. Lt.
   Const. type "CG-3" conc. inlet
   Inst. 12" storm pipe - 60'
   5' depth
   Const. 12" sloped end section
   Const. paved end slope
10. Sta. "LN" 224+46. Lt.
    Const. type "CG-1" conc. inlet
    Inst. 12" storm pipe - 79'
    5' depth
    Const. 12" sloped end section
    Const. paved end slope
11. Sta. "LN" 225+86. Lt.
    Const. type "CG-1" conc. inlet
    Inst. 12" storm pipe - 138'
    5' depth
12. Sta. "LS" 223+68. Rt.
    Inst. 12" storm pipe - 85'
    5' depth
    Const. 12" sloped end section
    Const. paved end slope
    Connect to extg. inlet
13. Sta. "LN" 217+90, 37.39' Lt.
    Const. type "G-2M" conc. inlet
    Inst. 12" storm pipe - 190'
    5' depth
    (See drg. no. 374)
14. Sta. "LN" 219+80, 41.36 Lt.
    Const. type "G-2M" conc. inlet
    Inst. 12" storm pipe - 55'
    5' depth
15. Sta. "LN" 220+61, 45.7 Rt.
    Remove inlet
    Remove pipe-25'
    Const. type "G-2M" conc. inlet
    Inst. 12" storm pipe - 24'
    5' depth
    (See drg. no RD368)
16. Water quality swale
    (By others)

Remove inlet shown as thus: ⊠
Abandon pipe shown as thus: ▭▭▭▭▭
Remove manhole shown as thus: ⊠

REGISTERED PROFESSIONAL ENGINEER
80,5
OREGON
MAY 14, 2013
TYLER S. NORD
FOR REVIEW ONLY
RENEWS: 12-31-2014

OREGON DEPARTMENT OF TRANSPORTATION

Murray, Smith & Associates, Inc.
121 S.W. Salmon, Suite 900, Portland, Oregon 97204-2919
503.225.9010

MSA

OR99W: SW DURHAM RD - SW FISCHER RD SEC.
PACIFIC HWY WEST
WASHINGTON COUNTY

Reviewed By - Chris S. Link
Designed By - Tyler S. Nord
Drafted By - Adam N. Blair

DRAINAGE & UTILITIES

SHEET NO. 4A

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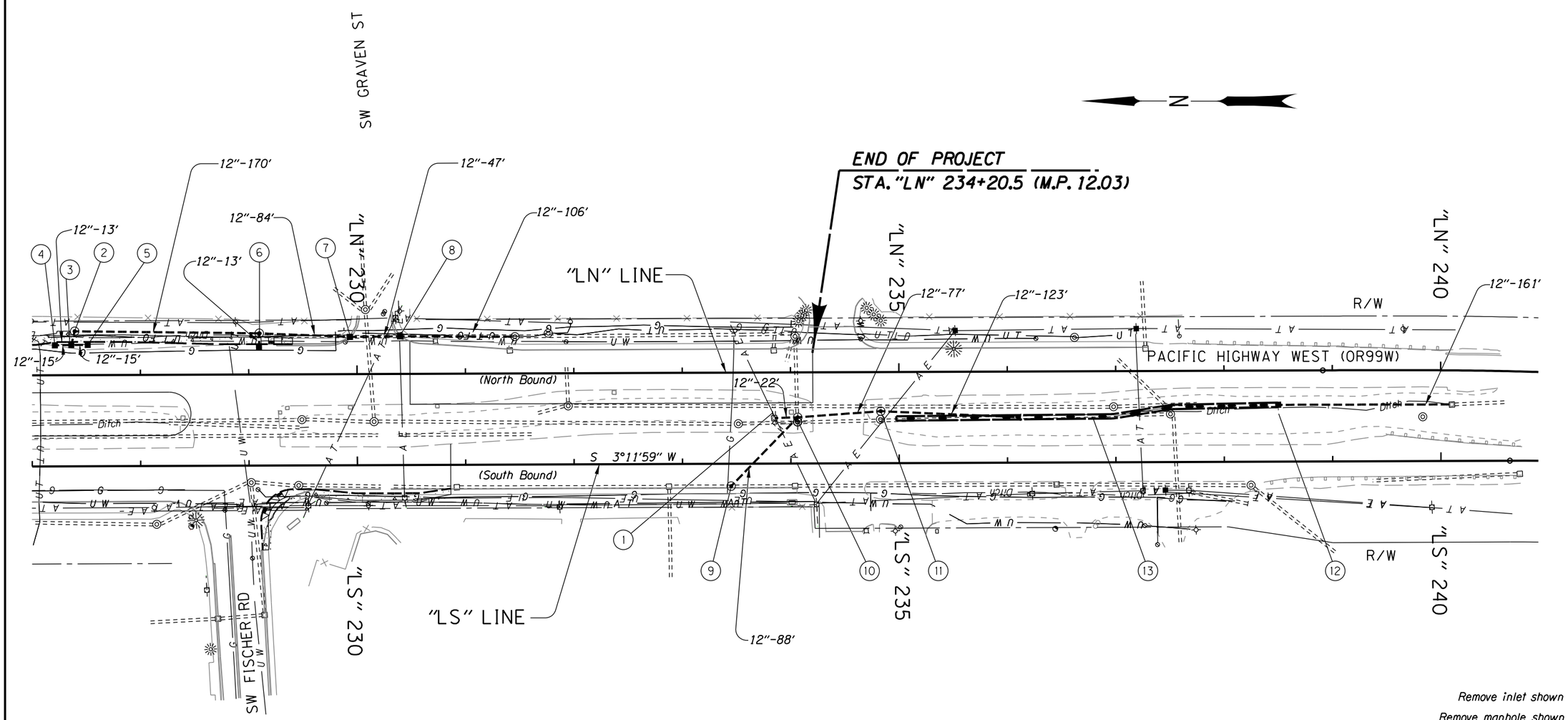

Remove inlet shown as thus:

Remove manhole shown as thus:

(1) *Remove pipe-18'*

(2) *Sta. "LN" 227+40, 40.5 Lt.*
Const. storm sew. manhole

(3) *Sta. "LN" 227+36*
Inst. 12" storm pipe - 12'
5' depth
Const. type "CG-3" conc. inlet
Inst. 12" storm pipe - 146'
5' depth
(See drg. nos. RD335, RD336, RD344, RD356, RD371, RD373)

(4) *Sta. "LN" 227+21, Lt.*
Const. type "CG-3" conc. inlet w/ 12" sump
Inst. 12" storm pipe - 15'
5' depth

(5) *Sta. "LN" 227+51, Lt.*
Const. type "CG-3" conc. inlet w/ 12" sump
Inst. 12" storm pipe - 15'
5' depth

(6) *Sta. "LN" 229+09, 38.0 Lt.*
Const. storm sew. manhole
Remove pipe - 84'
Inst. 12" storm pipe - 13'
5' depth
Const. Type "CG-3" conc. inlet
Inst. 12" storm pipe - 84'
5' depth

(7) *Sta. "LN" 229+94, Lt.*
Remove extg. inlet
Remove pipe - 47'
Const. type "CG-1" conc. inlet
Inst. 12" storm pipe - 47'
5' depth

(8) *Sta. "LN" 230+40, Lt.*
Remove extg. inlet
Remove pipe - 106'
Const. type "CG-1" conc. inlet
Inst. 12" storm pipe - 106'
5' depth
Connect to extg. manhole

(9) *Sta. "LS" 233+45, 20.65' Rt.*
Const. split flow manhole
Connect to extg. storm sew. pipe
Inst. 12" storm pipe - 88'
10' depth

(10) *Sta. "LS" 234+06, 41.42' Lt.*
Remove extg. manhole
Remove pipe- 23'
Const. storm sew. manhole
Inst. 12" storm pipe - 23'
5' depth
Connect to extg. inlet
Inst. 12" storm pipe - 77'
10' depth

(11) *Sta. "LS" 234+83, 47.90' Lt.*
Const. storm sew. manhole
Inst. 12" storm pipe - 123'
5' depth
Const. 12" sloped end section
Const. paved end slope

(12) *Sta. "LS" 238+50, 47.4' Lt.*
Const. type "D" conc. inlet
Inst. 12" storm pipe - 161'
5' depth
Connect to extg. inlet
(See drg. no. RD374)

(13) *Water quality swale*
(By others)

REGISTERED PROFESSIONAL ENGINEER
80,5..
OREGON
MAY 14, 2013
TYLER S. NORD
RENEWS: 12-31-2014

FOR REVIEW ONLY

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SHEET NO. 5A