

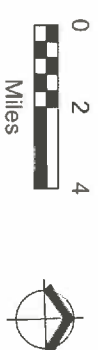
# FIGURES



**Figure 1-1**  
**Cowitz County Features**  
 Cowitz County  
 Solid Waste  
 Management Plan

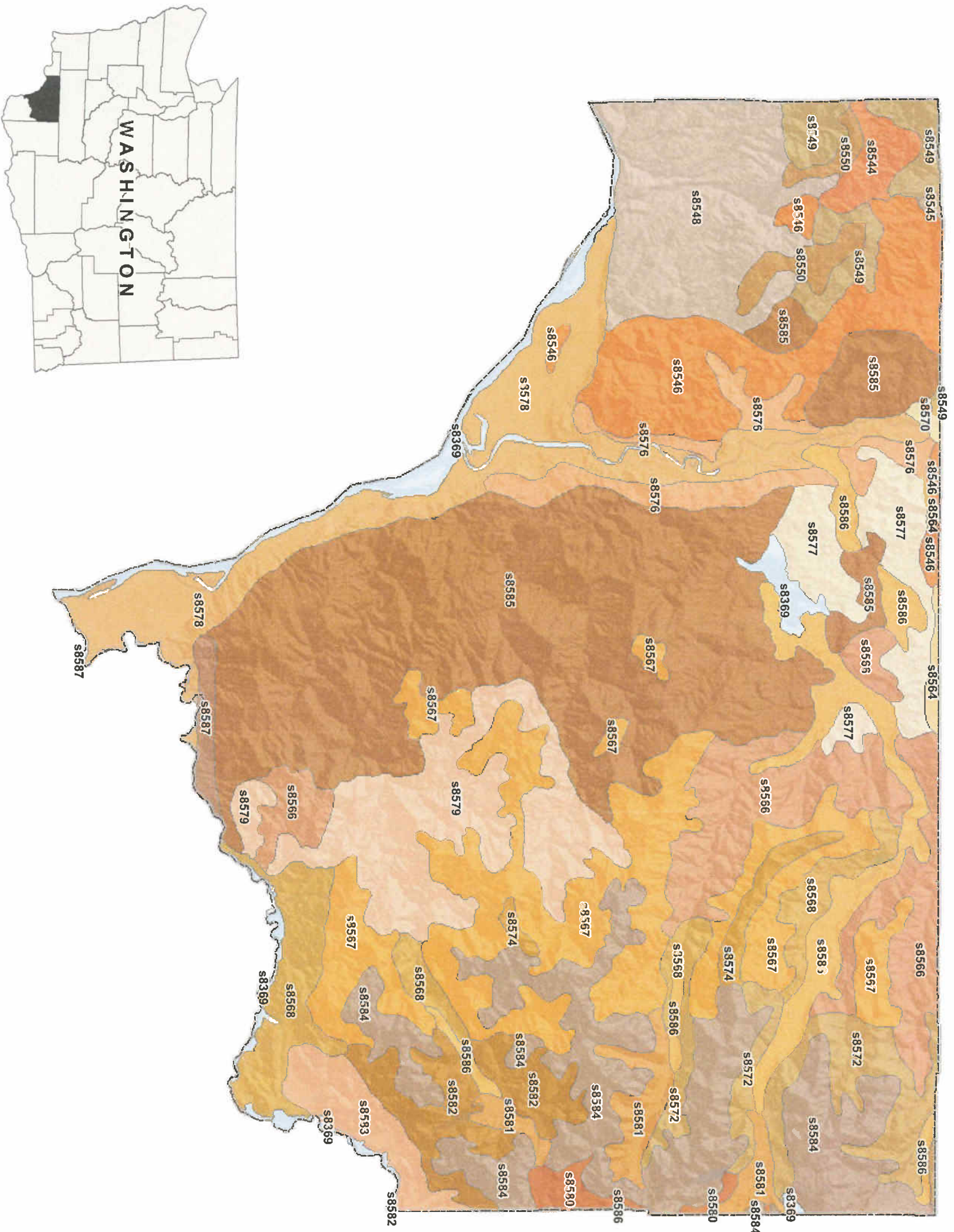


- Legend**
- Major Highways
  - City Limits
  - County Boundary



Source: Basemap provided by ESRI, Inc.  
 ArcGIS Online/Bing Maps; County features  
 obtained from Cowitz County GIS.

**Figure 1-2**  
**Soils**  
Cowlitz County  
Solid Waste  
Management Plan



- Soil Type Legend**
-  Gobler-Cinebar (S8579)
  -  Melbourne-Lyre-Centralia-Buckpeak (S8546)
  -  Newakum-Hesson-Cinebar (S8568)
  -  Odne-Hillsboro-Gee (S8587)
  -  Olequa-Minniece-Kalso-Godfrey (S8576)
  -  Olympic-Hesson-Hazel Dell (S8585)
  -  Pitcher-Pheener-Mal-Jonas (S8567)
  -  Raught-Olympic-Lyre-Germany (S8548)
  -  Rock outcrop-Knappton-Kaula-Bunker (S8549)
  -  Salkum-Prather-Kinney-Cinebar (S8564)
  -  Seaquest-Sara (S8577)
  -  Stahl-Reichel-Pheener (S8574)
  -  Studobaker-Riwenwash-Delameter-Cowlitz (S8581)
  -  Swern-Mummen-Lakes (S8550)
  -  Vanson-Tradedollar (S8584)
  -  Vobast-Trouler-Rock outcrop-Carnolis (S8586)
  -  Wakepish-Shoosting-Rock outcrop-Polepatch-Osecurity (S8580)
  -  Washougat-Sauvie-Clato-Caples (S8578)
  -  Wilkeson-Schneider-Olympic-Baumgard (S8566)
  -  Winston-Ledow-Cloquale (S8570)
  -  Zenker-Hoquiam-Elochoman (S8545)
  -  Zenker-Lyell Astoria (S8544)
  -  Zygore-Swift-Cinnamon-Chemawa-Aschoff (S8582)
  -  Zymer-Valelake (S8583)
  -  Zynbar-Mal-Hofstaadt-Donnell (S8572)
  -  Water (S8369)
  -  County Boundary

Notes: Soils data obtained from USDA-NRCS Soil Data Mart (2006).

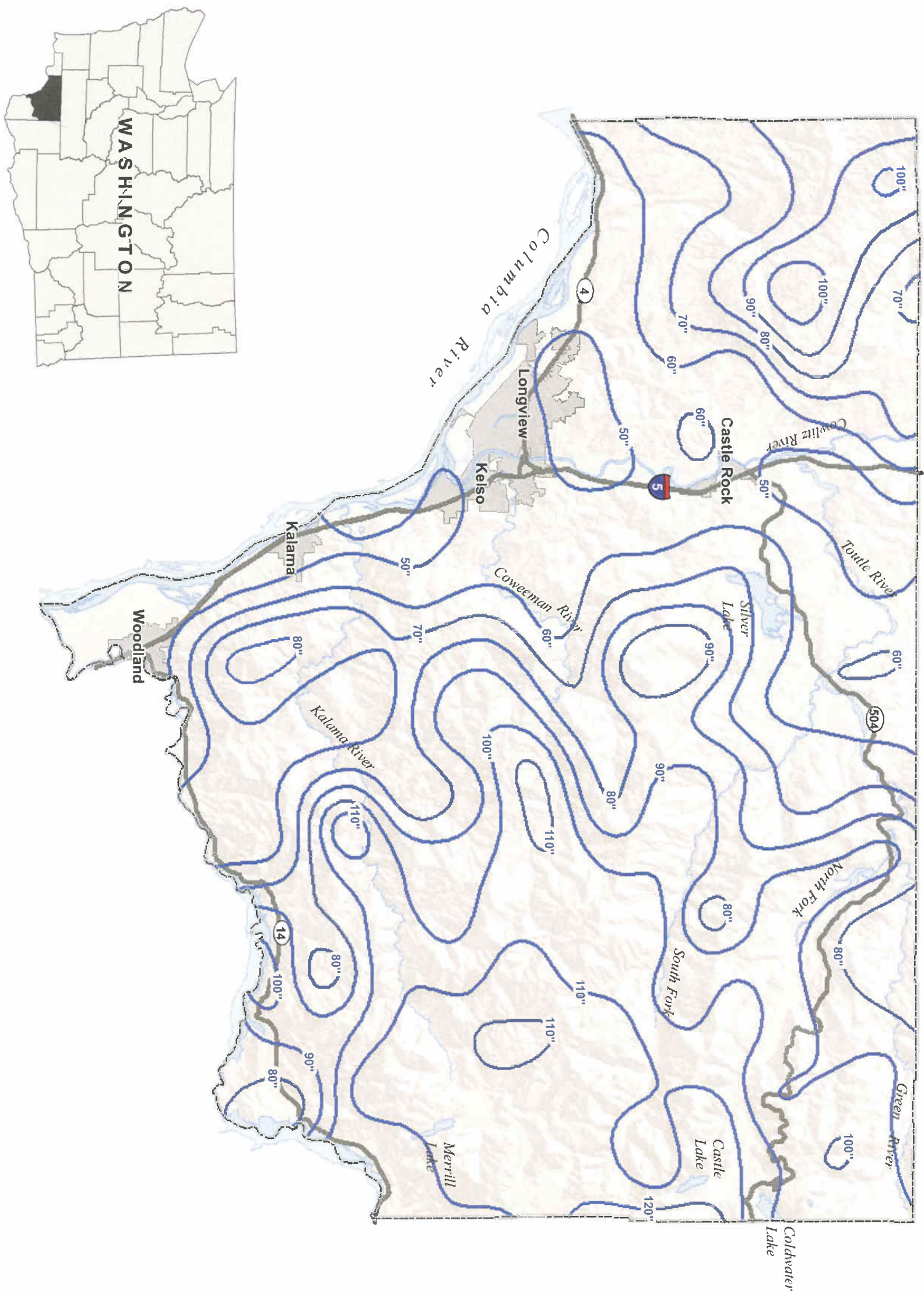


Source: Basemap provided by ESRI, Inc.  
ArcGIS Online/Bing Maps



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**Figure 1-3**  
**Annual Precipitation**  
 Cowitz County  
 Solid Waste  
 Management Plan



- Legend**
- Total Precipitation
  - Major Highways
  - City Limits
  - County Boundary



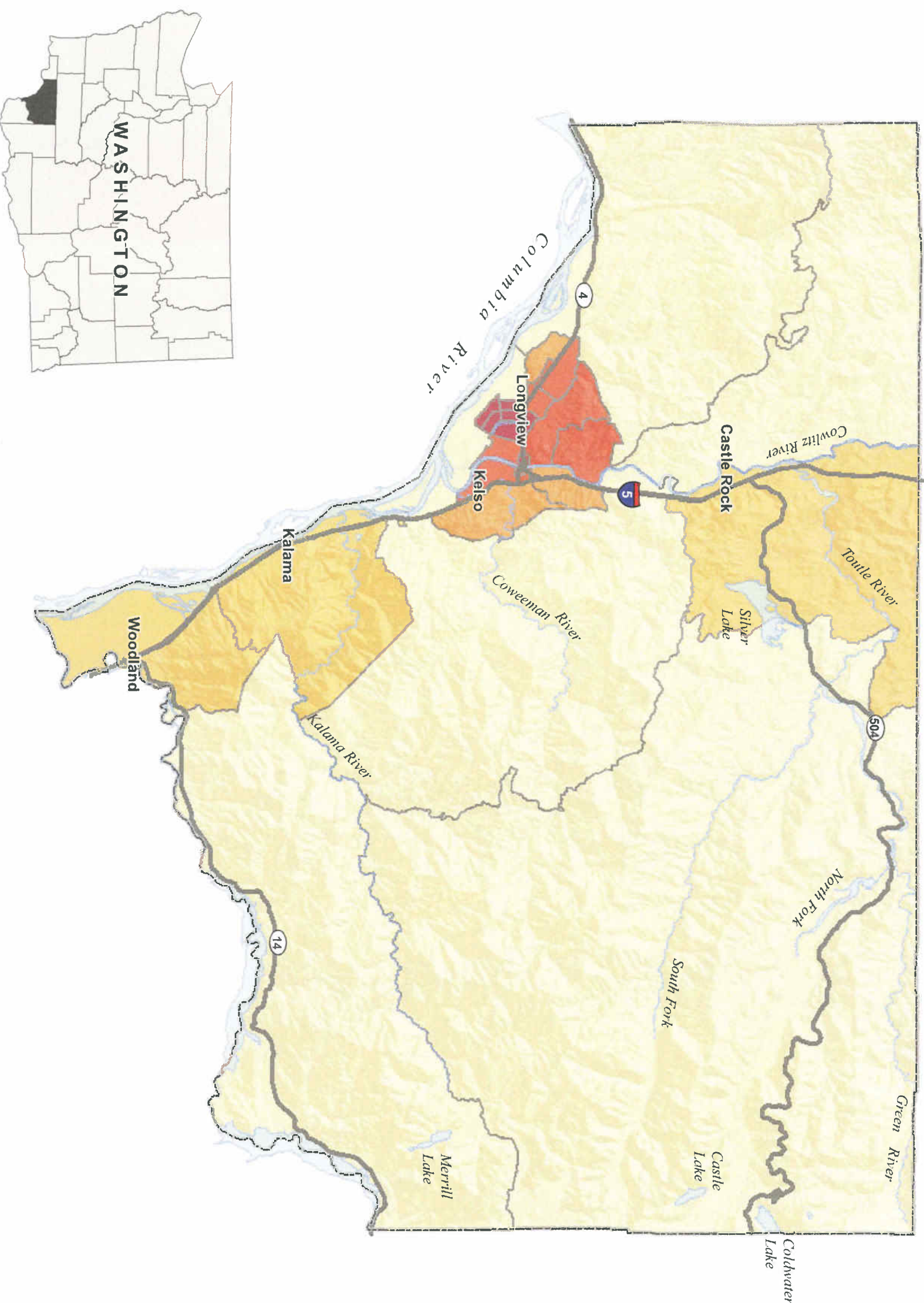
- Notes:**
1. Normalized Precipitation data obtained from the National Weather Service (2010).
  2. Data Interpolated using ArcGIS Spline tool.

Source: Basemap provided by ESRI, Inc. ArcGIS Online/Bing Maps; County features obtained from Cowitz County GIS.

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**Figure 1-4**  
**Population Density**  
 Cowitz County  
 Solid Waste  
 Management Plan



**Legend**

**2010 Population per Square Mile**  
 (by U.S. Census Tract)

- < 75
- 75 - 300
- 301 - 1,000
- 1,001 - 3,000
- > 3000

- Major Highways
- County Boundary

**Cowitz County**  
 Total Population (2010) = 102,410

0 2 4  
 Miles

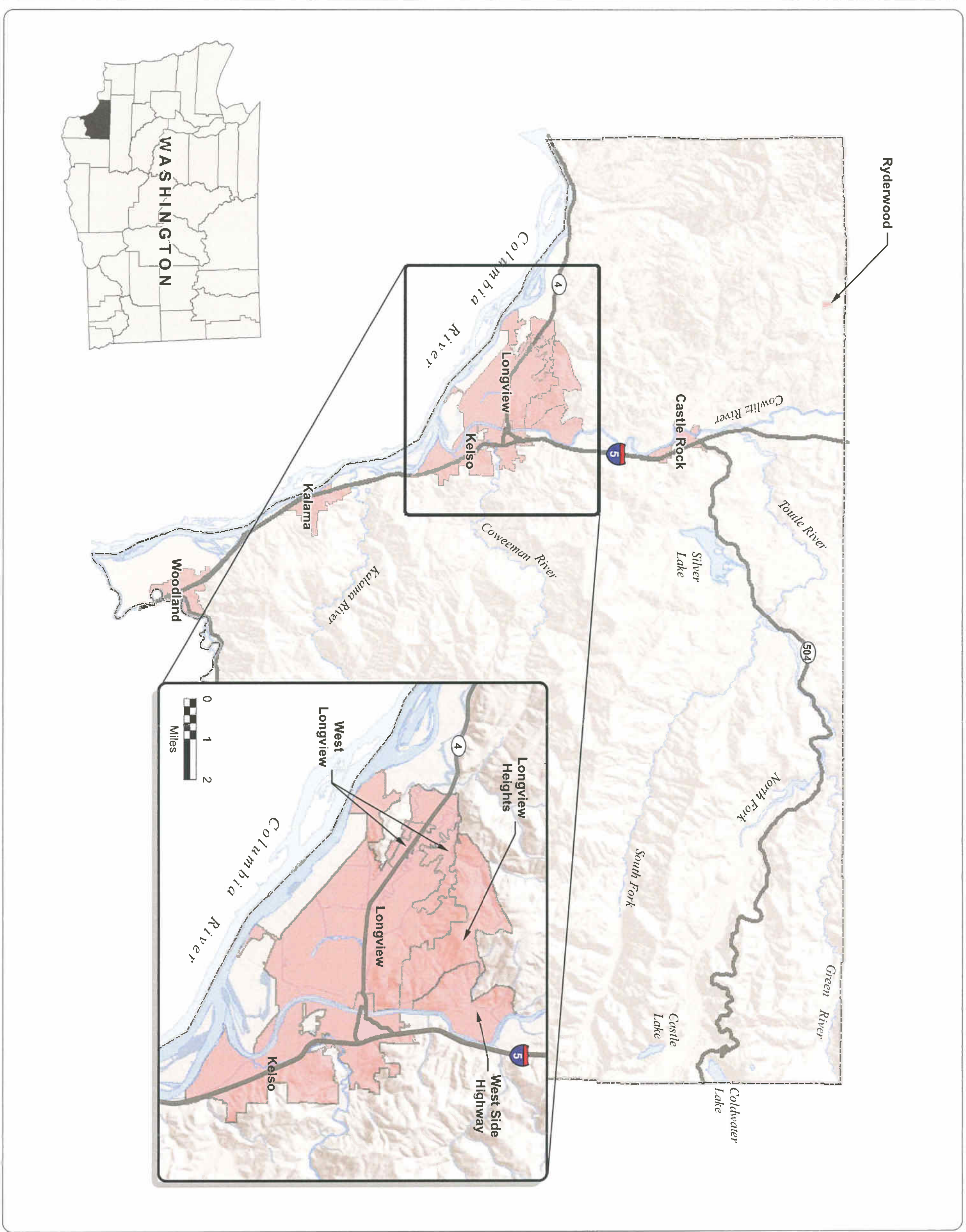
**Notes:**

1. Population data obtained from U.S. Census Bureau FactFinder (2010).
2. Census Tracts obtained from U.S. Census Bureau TIGER/Line Shapefile Database (2010).

Source: Basemap provided by ESRI, Inc. ArcGIS Online/Bing Maps. County features obtained from Cowitz County GIS.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Figure 1-5**  
**Census Designated Places**  
 Cowlitz County  
 Solid Waste  
 Management Plan

- Legend**
- Census Designated Places
  - Major Highways
  - County Boundary

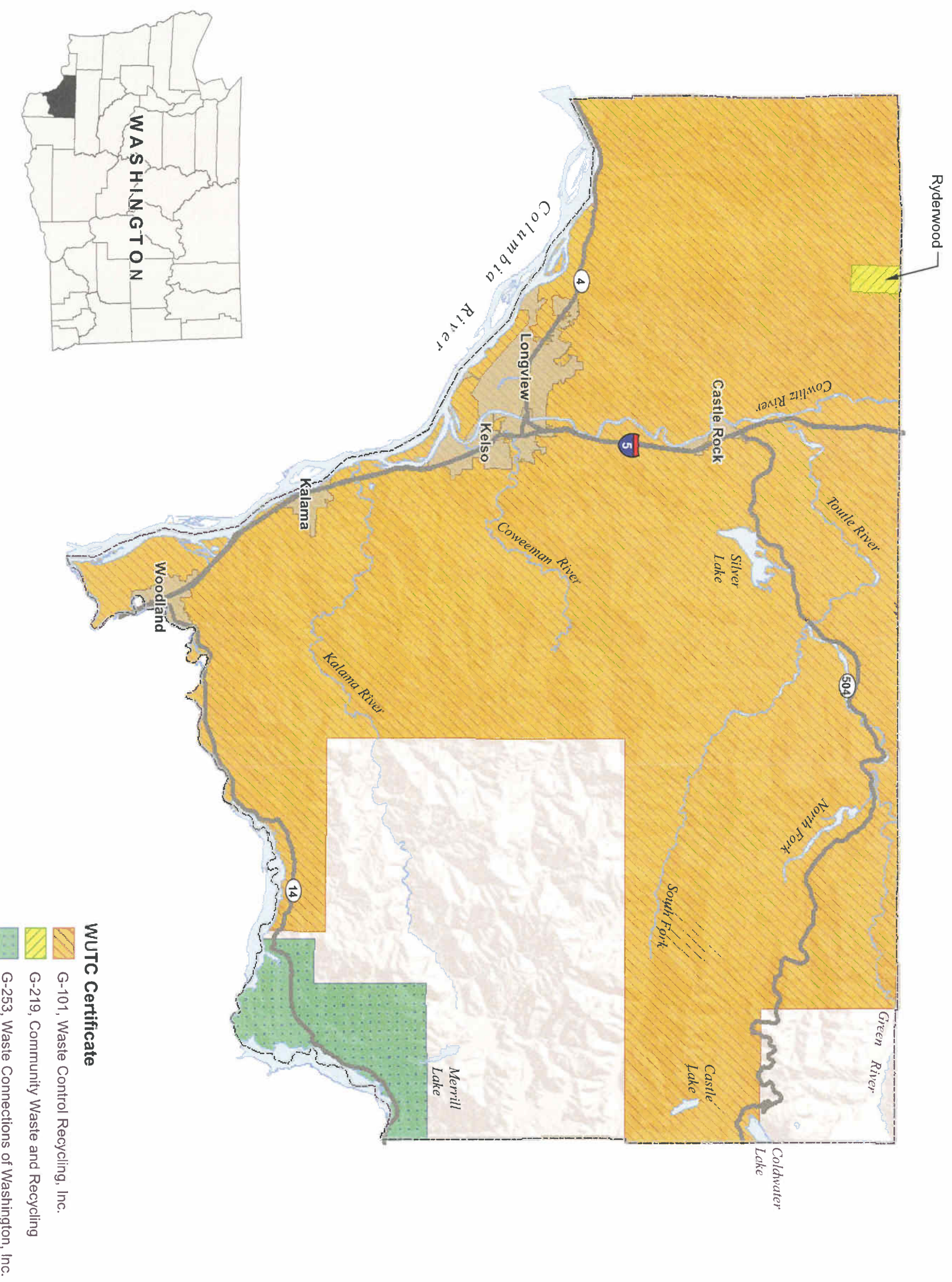
- 0 2 4 Miles
- 

Note: Census Designated Places obtained from U.S. Census Bureau TIGER/Line Shapefile Database (2010).

Source: Basemap provided by ESRI, Inc. ArcGIS Online/Bing Maps; County features obtained from Cowlitz County GIS.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Figure 6-1**  
**Collection Certificate Areas**  
 Cowlitz County  
 Solid Waste  
 Management Plan

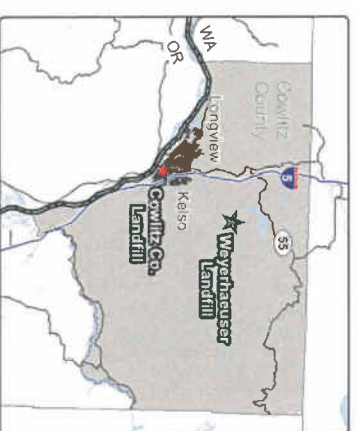
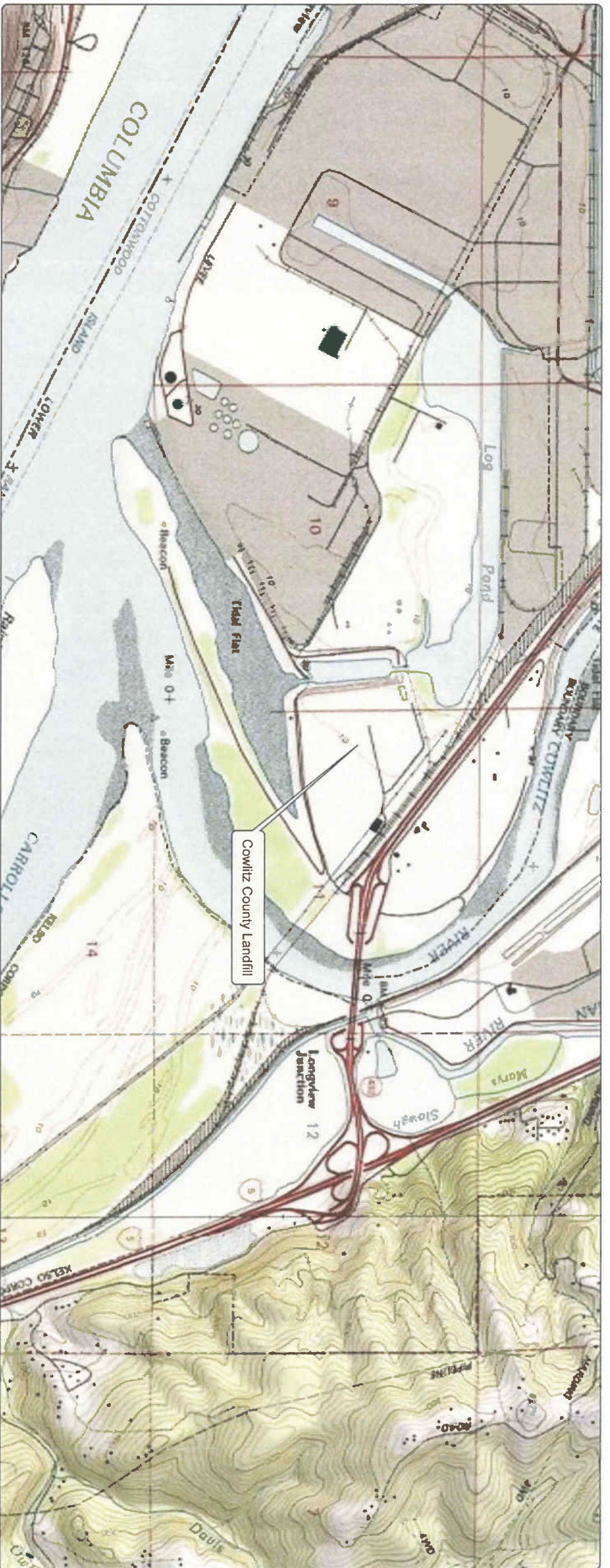
- Legend**
- Major Highways
  - City Limits
  - County Boundary



Source: Basemap provided by ESRI, Inc.  
 ArcGIS Online/Bing Maps; County features  
 obtained from Cowlitz County GIS.

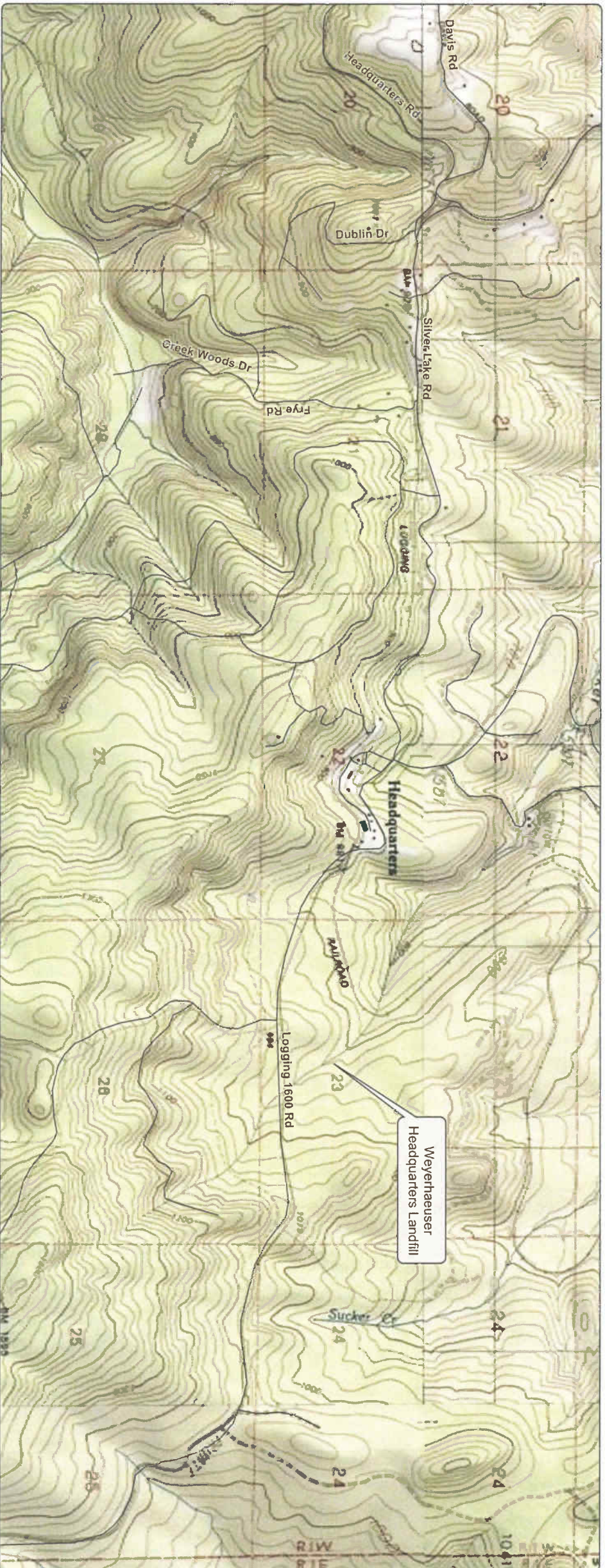


This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or scientific purposes. Errors of this information should reflect or omit the primary data and information sources to ascertain the usability of the information.



**Figure 8-1**  
**Cowlitz County and**  
**Weyerhaeuser Headquarter**  
**Landfills**

Cowlitz County  
 Solid Waste Management Plan



Source: US Geological Survey (1990) 7.5-minute topographic quadrangle.  
 Cowlitz County Landfill  
 Quad - Ranier,  
 Section 11, Township 7N, Range 2W;  
 Weyerhaeuser Landfill  
 Quad - Mt. Brynion,  
 Section 23, Township 9N, Range 1W

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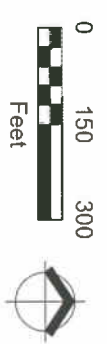




**Figure 8-2**  
**Cowlitz County Landfill**  
**Site Plan**

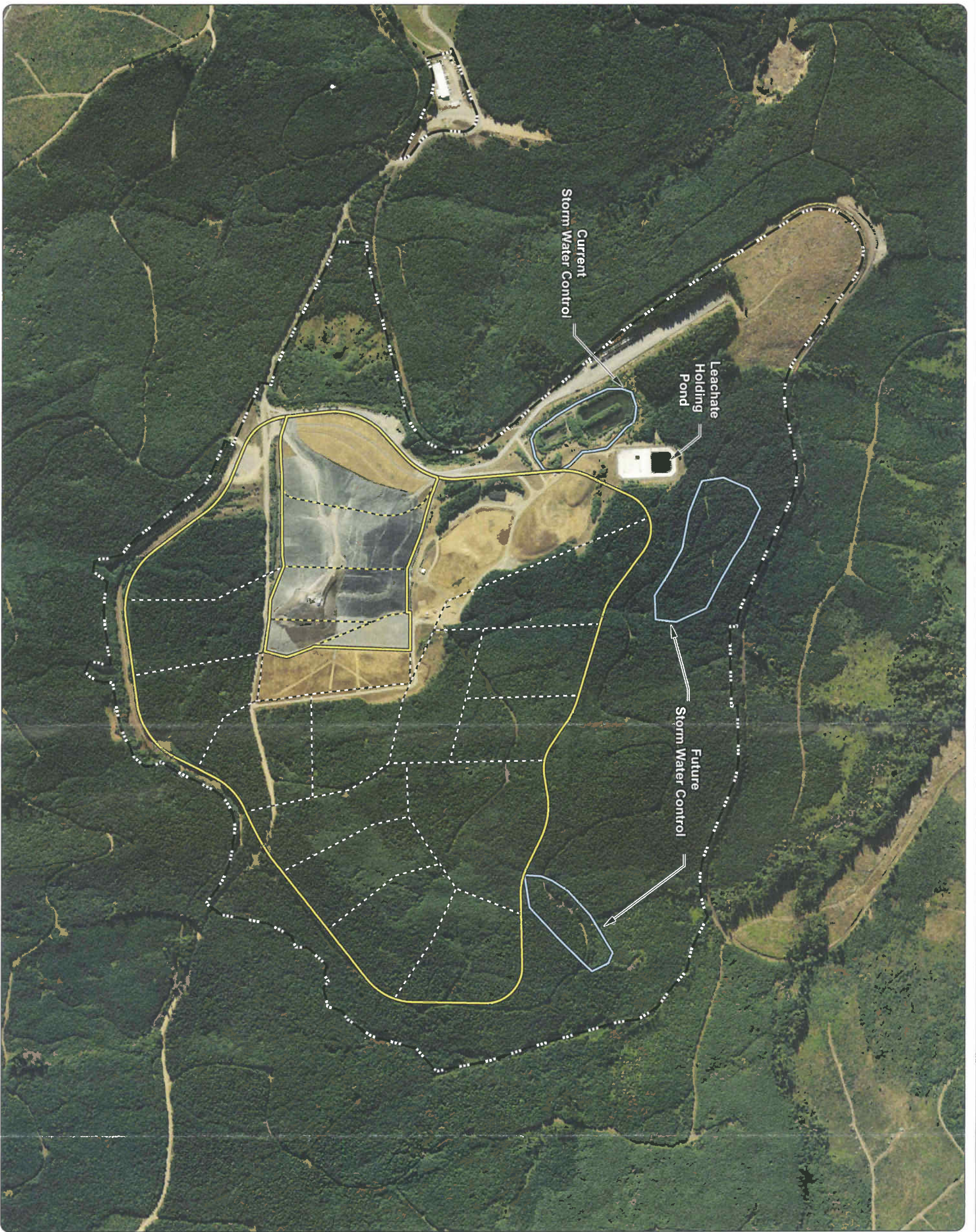
Cowlitz County  
 Solid Waste Management Plan

- Legend**
- ⊗ Monitoring Well
  - Landfill Boundary
  - Compost Facility
  - Cell Boundary
  - - - - Property Boundary



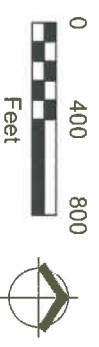
Source: NAIP Orthophoto 2009;  
 Cowlitz County Public Works

This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



**Figure 8-3**  
**Weyerhaeuser Headquarters**  
**Landfill Site Plan**  
 Cowiitz County  
 Solid Waste Management Plan

- Legend**
- Landfill Boundary
  - - - Existing Cell
  - - - New Cell
  - Property Boundary



Source: NAIP Orthophoto 2009;  
 Cowiitz County Public Works

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**APPENDIX A**  
INTERLOCAL AGREEMENTS AND  
RESOLUTIONS OF PARTICIPATION AND ADOPTION



INTERLOCAL AGREEMENT FOR  
MANAGEMENT OF MUNICIPAL SOLID WASTE



3337288

06/07/2007 03:58:07 PM Pages: 12  
Agreement COWLITZ COUNTY COMMISSIONERS 0.00  
Cowlitz County Washington



## INTERLOCAL AGREEMENT FOR MANAGEMENT OF MUNICIPAL SOLID WASTE

WHEREAS, Cowlitz County (the "County") and the signatory City have cooperated in developing and implementing the Cowlitz County Comprehensive Solid Waste Management Plan (the "Comprehensive Solid Waste Management Plan") pursuant to RCW 70.95 and,

WHEREAS, the Comprehensive Solid Waste Management Plan designates Cowlitz County to be responsible for the selection of sites and a method for the disposal of solid waste generated within the County; and,

WHEREAS, the County has selected a vendor to provide certain solid waste handling services, including development of local facilities (the "facilities") for the receipt, recycling, and containerizing for out-of-county disposal of solid waste generated within the cities and within unincorporated areas of the County; and,

WHEREAS, in order to successfully develop and finance the County's Solid Waste Disposal System and provide for cooperative management of solid waste generated in Cowlitz County, it is desirable that all such solid waste, including waste generated in incorporated cities within the County, be disposed of through the County Solid Waste Disposal System and that County be authorized to designate disposal sites for the disposal of certain solid waste (as defined herein) generated within the corporate limits of the City; and,

WHEREAS, the County and City have jointly contributed to a County managed solid waste reserve fund (ELF) that is recognized to be a joint asset of the County and those Cities who have disposed solid waste at Cowlitz county operated facilities; and,

WHEREAS, the County and City are authorized and empowered to enter into this interlocal agreement pursuant to Chapter 39.34 RCW; now therefore,

**COWLITZ COUNTY AND THE UNDERSIGNED CITY UNDERSTAND AND AGREE AS FOLLOWS:**

1. **Definitions.** For purposes of this Interlocal Agreement, the following definitions shall apply.

- 1.11. "System" means all facilities for solid waste handling provided by the County, either directly or by contract with a vendor, and all administrative activities related thereto. The term "System" includes all sites designated by the County for the receipt or disposal of solid waste.
2. Responsibility for Solid Waste Disposal. For calendar years 2006 through 2045, the County shall be responsible for the disposal of solid waste generated within unincorporated areas of the County and within the City to the extent provided in the Comprehensive Solid Waste Management Plan and the Agreement executed by the County with Waste Control Recycling, Inc., on or about November 20, 2006.
3. Comprehensive Plan. For the duration of this Interlocal Agreement, the City and County shall adhere to the Comprehensive Solid Waste Management Plan prepared and periodically reviewed and revised by the County pursuant to Chapter 70.95 RCW. For the duration of this Interlocal Agreement, the City authorizes the County to include in the Comprehensive Solid Waste Management Plan provisions acceptable to the City for the management of solid and moderate risk waste generated in the City.
4. Solid Waste Advisory Committee. Pursuant to RCW 70.95.165(3) and RCW 39.34.030(4) and Cowlitz County Code Chapter 15.30, the Solid Waste Advisory Committee (SWAC) shall continue operating for the purpose of rendering advice to Cowlitz County and the Governance Committee created under section 5 of this Agreement regarding general solid and moderate risk waste related issues, service levels, disposal rates, and short and long term planning, and especially the administration and implementation of the Comprehensive Solid Waste Management Plan.
  - 4.1. Regular Members. Regular members shall be appointed by the Board of County Commissioners and shall, as a minimum, represent the cities, the waste management industry, and citizens.
  - 4.2. Ex-Officio Members. The Board of County Commissioners (BOCC) may appoint Ex-Officio Members who will serve at the pleasure of the BOCC. Ex-Officio Members will be non-voting members.
  - 4.3. Auxiliary Members. The regular membership of the Solid Waste Advisory Committee may appoint auxiliary members for a specific time period to serve on the committee in a non-voting capacity, for the purpose of providing specific information, technical advice, and information of a general nature which is pertinent to the committee's activities or any other form of assistance which will aid the committee in carrying out its purposes.

Comprehensive Solid Waste Management Plan. Where appropriate and agreed, the County may provide funding to the Cities to implement such waste reduction and recycling programs, provided such programs have been included in the Comprehensive Solid Waste Management Plan and such funding is recommended by the Governance Committee.

8. Contracts with Vendors / No City Obligation.

8.1. The County has entered into a contract with Waste Control Recycling, Inc. for long-term handling, transfer and disposal of solid waste. The County may at its discretion enter into further contracts with vendors to provide solid waste handling services. The City acknowledges that in entering into such contracts, the County may rely on the City's designation of the County as the entity with responsibility for preparing and revising the Comprehensive Solid Waste Management Plan and for designating solid waste disposal sites under the terms of the Comprehensive Solid Waste Management Plan and this Interlocal Agreement.

8.2. The City shall not be obligated, directly or indirectly, for the collection or delivery of any specified quantity of solid waste to a solid waste disposal site designated by the County. No contract between the County and a vendor shall purport to create any general obligation or special fund or utility obligation of the City.

9. Indemnification.

9.1. Except as provided below, the County shall indemnify and hold harmless, and shall have the right and duty to defend the City, through the County's attorneys, against any and all claims arising out of the County's operations of the System, and the right to settle such claims, recognizing that all costs incurred by the County thereby are System costs which must be satisfied from disposal rates. In providing a defense for the City, the County shall exercise good faith in that defense or settlement so as to protect the City's interests. For purposes of this paragraph, "claims arising out of the County's operations" shall include claims arising out of the ownership, control or maintenance of the System, but shall not include any claims arising out of the City's collection of certain solid waste, the disposal or attempted disposal of hazardous waste, or other activities under the control of the City.

9.2. In the event that the County acts to defend the City against a claim, the City shall cooperate with the County.

9.3. For purposes of this section, reference to the City and to the County shall be deemed to include the officers and employees of any party, acting within the scope of their authority.

THIS INTERLOCAL AGREEMENT has been executed by the parties shown below and is dated as of the \_\_\_\_ day of \_\_\_\_\_, 2007.

CITY OF LONGVIEW

By: Robert J. Gregory  
Robert J. Gregory, City Manager

Attest: Ann C Davis  
City Clerk

Name Printed: Ann C Davis

Approved as to form:

M.K. Nitterberg-Haan  
Attorney for City of Longview

Name Printed: M.K. Nitterberg-Haan



THIS INTERLOCAL AGREEMENT has been executed by the parties shown below and is dated as of the 4<sup>th</sup> day of April, 2007.

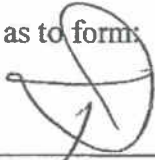
CITY OF CASTLE ROCK

By: Barbara L. Larsen  
Barbara L. Larsen, Mayor

Attest: Ryana Covington  
City Clerk

Name Printed: Ryana Covington

Approved as to form:




\_\_\_\_\_  
Attorney for City of Castle Rock

Name Printed: TOM O'NEILL

THIS INTERLOCAL AGREEMENT has been executed by the parties shown below and is dated as of the 19<sup>th</sup> day of March, 2007.

CITY OF WOODLAND

By:   
Douglas A. Monge, Mayor

Attest:   
Mari E. Ripp, Clerk-Treasurer

Name Printed: Mari E. Ripp

Approved as to form:

  
Paul Brachvogel, City Attorney for City of Woodland

RESOLUTIONS FOR PARTICIPATION



RECEIVED

APR 08 2011

RESOLUTION NO. 2011-04

COWLITZ COUNTY  
PUBLIC WORKS DEPT

---

**A Resolution authorizing Cowlitz County to prepare a Solid Waste Management Plan and Moderate Risk Waste Plan on behalf of the City of Castle Rock, for inclusion in the Cowlitz County Comprehensive Solid Waste Management Plan.**

---

**WHEREAS, RCW 70.95.080 requires the City of Castle Rock to engage in the preparation of a cooperative, coordinated, Comprehensive Solid Waste Management Plan; and**

**WHEREAS, RCW 70.105.220 requires local government or combination of contiguous local governments to prepare a local hazardous waste plan for management of moderate risk waste; and**

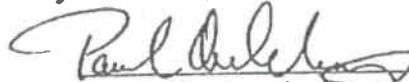
**WHEREAS, Resolution No. 2008-01 of the City of Castle Rock, passed January 28, 2008, adopted the 2007 Cowlitz County Comprehensive Solid Waste Management Plan, as an update of the 1993 Solid Waste Management Plan; and Resolution No. 91-01 of the City of Castle Rock, passed March 25, 1991, adopted the last update of the Moderate Risk Hazardous Waste Plan; and**

**WHEREAS, RCW Chapter 70.95 requires that said Solid Waste Management Plan be periodically updated; and RCW 70.105.220 (6) allows for amendment to the 1991 Moderate Risk Hazardous Waste Management Plan**

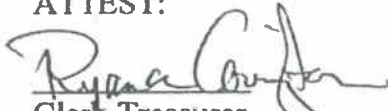
**WHEREAS, it is in the best interest of the City of Castle Rock to authorize Cowlitz County to prepare such plan(s) for management of the City's solid and moderate risk waste, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington;**

**NOW, THEREFORE, BE IT RESOLVED** by the Castle Rock City Council that said City Council hereby authorizes Cowlitz County, Washington; to prepare a plan for said City's solid waste and moderate risk waste management, subject to review and final approval by the City Council, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington.

Adopted by the Council of the City of Castle Rock and signed by the Mayor at a regular meeting of said Council held on the 14<sup>th</sup> day of March, 2011.

  
Mayor Paul Helenberg

ATTEST:

  
Clerk-Treasurer

APPROVED AS TO FORM:

  
City Attorney

RESOLUTION NO. 1980

---

**A Resolution authorizing Cowlitz County to prepare a Solid Waste Management Plan and Moderate Risk Waste Plan on behalf of the City of Longview, for inclusion in the Cowlitz County Comprehensive Solid Waste Management Plan.**

---

**WHEREAS, RCW 70.95.080 requires the City of Longview to engage in the preparation of a cooperative, coordinated, Comprehensive Solid Waste Management Plan; and**

**WHEREAS, RCW 70.105.220 requires local government or combination of contiguous local governments to prepare a local hazardous waste plan for management of moderate risk waste; and**

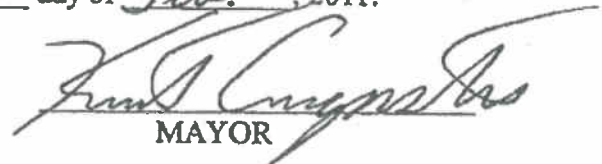
**WHEREAS, Resolution No. 1874 of the City of Longview, passed January 10, 2008, adopted the 2007 Cowlitz County Comprehensive Solid Waste Management Plan, as an update of the 1993 Solid Waste Management Plan; and Resolution No. 1457 of the City of Longview, passed March 1, 1991, adopted the last update of the Moderate Risk Hazardous Waste Plan; and**

**WHEREAS, RCW Chapter 70.95 requires that said Solid Waste Management Plan be periodically updated; and RCW 70.105.220 (6) allows for amendment to the 1991 Moderate Risk Hazardous Waste Management Plan; and**

**WHEREAS, it is in the best interest of the City of Longview to authorize Cowlitz County to prepare such plan(s) for management of the City's solid and moderate risk waste, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington;**

**NOW, THEREFORE, BE IT RESOLVED** by the Longview City Council that said City Council hereby authorizes Cowlitz County, Washington; to prepare a plan for said City's solid waste and moderate risk waste management, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington.

Adopted by the Council of the City of Longview and signed by the Mayor at a regular meeting of said Council held on the 24 day of Feb., 2011.

  
MAYOR

ATTEST:

  
City Clerk

RECEIVED

RESOLUTION NO. 11-1041

MAR 25 2011

**A RESOLUTION AUTHORIZING COWLITZ COUNTY TO PREPARE A SOLID WASTE MANAGEMENT PLAN AND MODERATE RISK WASTE PLAN ON BEHALF OF THE CITY OF KELSO, FOR INCLUSION IN THE COWLITZ COUNTY COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN.**

COWLITZ COUNTY  
PUBLIC WORKS DEPT.

WHEREAS, RCW 70.95.080 requires the City of Kelso to engage in the preparation of a cooperative, coordinated, Comprehensive Solid Waste Management Plan; and

WHEREAS, RCW 70.105.220 requires local government or combination of contiguous local governments to prepare a local hazardous waste plan for management of moderate risk waste; and

WHEREAS, Resolution No. 08-965 of the City of Kelso, passed February 19, 2008, adopted the 2007 Cowlitz County Comprehensive Solid Waste Management Plan, as an update of the 1993 Solid Waste Management Plan; and Resolution No. 621 of the City of Kelso, passed March 19, 1991, adopted the last update of the Moderate Risk Hazardous Waste Plan; and

WHEREAS, RCW Chapter 70.95 requires that said Solid Waste Management Plan be periodically updated; and RCW 70.105.220 (6) allows for amendment to the 1991 Moderate Risk Hazardous Waste Management Plan; and

WHEREAS, it is in the best interest of the City of Kelso to authorize Cowlitz County to prepare such plan(s) for management of the City's solid and moderate risk waste, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington;

**NOW, THEREFORE, BE IT RESOLVED** by the Kelso City Council that said City Council hereby authorizes Cowlitz County, Washington; to prepare a plan for said City's solid waste and moderate risk waste management, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington.

RESOLUTION NO. 560

**A Resolution authorizing Cowlitz County to prepare a Solid Waste Management Plan and Moderate Risk Waste Plan on behalf of the City of Kalama, for inclusion in the Cowlitz County Comprehensive Solid Waste Management Plan.**

**WHEREAS**, RCW 70.95.080 requires the City of Kalama to engage in the preparation of a cooperative, coordinated, Comprehensive Solid Waste Management Plan; and

**WHEREAS**, RCW 70.105.220 requires local government or combination of contiguous local governments to prepare a local hazardous waste plan for management of moderate risk waste; and

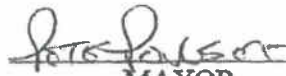
**WHEREAS**, Resolution No. 511 of the City of Kalama, passed February 6, 2008, adopted the 2007 Cowlitz County Comprehensive Solid Waste Management Plan, as an update of the 1993 Solid Waste Management Plan; and Resolution No. 281 of the City of Kalama, passed March 20, 1991, adopted the last update of the Moderate Risk Hazardous Waste Plan; and

**WHEREAS**, RCW Chapter 70.95 requires that said Solid Waste Management Plan be periodically updated; and RCW 70.105.220 (6) allows for amendment to the 1991 Moderate Risk Hazardous Waste Management Plan; and

**WHEREAS**, it is in the best interest of the City of Kalama to authorize Cowlitz County to prepare such plan(s) for management of the City's solid and moderate risk waste, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington;

**NOW, THEREFORE, BE IT RESOLVED** by the Kalama City Council that said City Council hereby authorizes Cowlitz County, Washington; to prepare a plan for said City's solid waste and moderate risk waste management, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington.

Adopted by the Council of the City of Kalama and signed by the Mayor at a regular meeting of said Council held on the 16th day of March, 2011.

  
MAYOR

ATTEST:

  
City Clerk

RECEIVED

CITY OF WOODLAND, WASHINGTON

APR 08 2011

RESOLUTION NO. 597

COWLITZ COUNTY  
PUBLIC WORKS DEPT

A Resolution authorizing Cowlitz County to prepare a Solid Waste Management Plan and Moderate Risk Waste Plan on behalf of the City of Woodland, for inclusion in the Cowlitz County Comprehensive Solid Waste Management Plan.

WHEREAS, RCW 70.95.080 requires the City of Woodland to engage in the preparation of a cooperative, coordinated, Comprehensive Solid Waste Management Plan; and

WHEREAS, RCW 70.105.220 requires local government or combination of contiguous local governments to prepare a local hazardous waste plan for management of moderate risk waste; and

WHEREAS, Resolution No. 556 of the City of Woodland, passed December 12, 2007, adopted the 2007 Cowlitz County Comprehensive Solid Waste Management Plan, as an update of the 1993 Solid Waste Management Plan; and Resolution No. 317 of the City of Woodland, passed March 18, 1991, adopted the last update of the Moderate Risk Hazardous Waste Plan; and

WHEREAS, RCW Chapter 70.95 requires that said Solid Waste Management Plan be periodically updated; and RCW 70.105.220 (6) allows for amendment to the 1991 Moderate Risk Hazardous Waste Management Plan; and

WHEREAS, it is in the best interest of the City of Woodland to authorize Cowlitz County to prepare such plan(s) for management of the City's solid and moderate risk waste, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington,

NOW, THEREFORE, BE IT RESOLVED by the Woodland City Council that said City Council hereby authorizes Cowlitz County, Washington, to prepare a plan for said City's solid waste and moderate risk waste management, for inclusion in the Comprehensive Solid Waste Management Plan of Cowlitz County, Washington.

ADOPTED in an open public meeting this 22nd day of February, 2011

CITY OF WOODLAND, WA

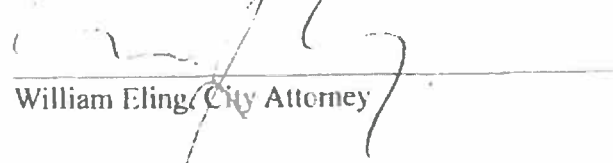
Approved:

  
Charles E. Blum, Mayor

ATTEST:

  
Mari E. Ripp, Clerk/Treasurer

APPROVED AS TO FORM:

  
William Eling, City Attorney



RESOLUTIONS OF ADOPTION



# APPENDIX B

SEPA CHECKLIST



**SEPA Checklist  
WAC 197-11-960**

**A. BACKGROUND**

**1. Name of proposed project, if applicable:**

Cowlitz County Solid Waste Management Plan (SWMP) and Cowlitz County Moderate Risk Hazardous Waste Plan (MRWP)

**2. Name of applicant:**

Cowlitz County Department of Public Works

**3. Address and phone number of applicant and contact person:**

Cowlitz County Department of Public Works  
Don Olson, Solid Waste Superintendent  
207 Fourth Avenue North  
Kelso, WA 98626  
(206) 577-3125

**4. Date checklist prepared:**

September 2, 2011

**5. Agency requesting checklist:**

Cowlitz County Department of Building and Planning

**6. Proposed timing or schedule (including phasing, if applicable):**

Proposed implementation of the Cowlitz County SWMP will begin upon adoption and proceed through plan revision in 2017. The SWMP recommends various solid waste management programs to be developed and implemented over the next five years. The MRWP is included as Appendix D of the SWMP and will be adopted concurrently with the SWMP.

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

Yes, the SWMP will be reviewed five years after its implementation and updated if necessary, as required by state law. The Moderate Risk Waste Plan will be updated as needed or as required by law.

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

- 12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The jurisdiction of the SWMP will include all incorporated and unincorporated areas in Cowlitz County, Washington. Certain plan recommendations are for specific areas or sites in the county.

**B. ENVIRONMENTAL ELEMENTS**

**1. Earth**

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other .**

Future solid waste facilities or programs will be required to evaluate site conditions as part of SEPA documentation.

- b. What is the steepest slope on the site (approximate percent slope)?**

Does not apply.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

Does not apply.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

Future solid waste facilities or programs will be required to evaluate soils as part of SEPA documentation.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**

Does not apply.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

Does not apply.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Does not apply.

- 4) **Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

Does not apply.

- 5) **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

Does not apply.

- 6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

Does not apply.

**b. Ground:**

- 1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

Future solid waste facilities or programs will be required to evaluate ground water as part of SEPA documentation.

- 2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

Does not apply.

**c. Water runoff (including stormwater):**

- 1) **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Future solid waste facilities or programs will be required to evaluate water runoff as part of SEPA documentation.

- 2) **Could waste materials enter ground or surface waters? If so, generally describe.**

Does not apply.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

Does not apply.

**4. Plants**

- a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Various facilities and programs proposed in the SWMP will require small amounts of electric power and petroleum-based fuels for transportation and facility or equipment operation.

- b. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

Does not apply.

- c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

The Cowlitz County SWMP emphasizes waste reduction and recycling, which results in the conservation of energy and natural resources. The SWMP also recommends the evaluation of the potential for utilizing landfill gas for energy.

## 7. Environmental health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

No environmental health risks are anticipated as a result of new or additional programs proposed by the Cowlitz County SWMP. Potential environmental health hazards specific to existing facilities have been addressed through approved facility operation plans or health and safety plans. Future solid waste facilities or programs will be required to identify and evaluate potential environmental health hazards as part of SEPA documentation.

- 1) **Describe special emergency services that might be required.**

Additional emergency services are not required by any of the SWMP recommendations.

- 2) **Proposed measures to reduce or control environmental health hazards, if any:**

There are no net increases in risk caused by the SWMP recommendations. Existing site-specific emergency procedures are addressed in the sites' safety plans.

- i. **Approximately how many people would reside or work in the completed project?**  
Does not apply.
- j. **Approximately how many people would the completed project displace?**  
Does not apply.
- k. **Proposed measures to avoid or reduce displacement impacts, if any:**  
Does not apply.
- l. **Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**  
Does not apply.

## 9. Housing

- a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**  
Does not apply.
- b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**  
Does not apply.
- c. **Proposed measures to reduce or control housing impacts, if any:**  
Does not apply.

## 10. Aesthetics

- a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**  
Future solid waste facilities or programs will be required to evaluate aesthetics as part of SEPA documentation.
- b. **What views in the immediate vicinity would be altered or obstructed?**  
Does not apply.
- c. **Proposed measures to reduce or control aesthetic impacts, if any:**  
Does not apply.

## 11. Light and glare

- a. **What type of light or glare will the proposal produce? What time of day would it mainly occur?**  
Future solid waste facilities or programs will be required to evaluate light and glare as part of SEPA documentation.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**  
Does not apply.
- c. How many parking spaces would the completed project have? How many would the project eliminate?**  
Does not apply.
- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**  
Does not apply.
- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**  
Does not apply.
- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**  
Does not apply.
- g. Proposed measures to reduce or control transportation impacts, if any:**  
Does not apply.

**15. Public services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**  
Future solid waste facilities or programs will be required to evaluate public services as part of SEPA documentation.
- b. Proposed measures to reduce or control direct impacts on public services, if any.**  
Does not apply.

**16. Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**  
Future solid waste facilities or programs will be required to evaluate utilities as part of SEPA documentation.



**D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS**

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

**1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?**

Implementation of the proposed SWMP and the associated Moderate Risk Waste Plan included as Appendix D should result in an overall decrease in discharges to the environment as a result of management strategies developed to prevent or minimize problems associated with solid waste and household hazardous waste. By providing for secure disposal of solid wastes and increased recycling activities, the SWMP is expected to decrease impacts and discharges to water and air, and to provide for more secure handling of toxic or hazardous substances that may be part of the solid waste stream. No substantial increases or decreases in noise levels are expected as a result of the SWMP's recommendations.

Recycling, waste reduction, and educational programs, along with the construction and demolition debris diversion incentives, recommended in the SWMP should increase public awareness and contribute to decreasing the discharge of contaminants into the environment.

The recommendation to consider in-county waste transfer to the Headquarters Landfill as an alternative to out-of-county disposal of waste as currently stipulated in County contracts, is likely to result in increased air emissions and noise along transportation routes due to the transport of waste to the in-county disposal facility. However, it is anticipated that the alternative of a short-haul transfer to an in-county facility will have certain benefits when compared to the long-haul out-of-county option. Most significantly, the in-county option will result in a simplified transportation system to convey waste, resulting in lower amount of fossil fuel used, lower emissions to the air and water, and decreased wear to the regional transportation infrastructure.

**Proposed measures to avoid or reduce such increases are:**

Implementation of out-of-county disposal by Waste Control would provide for the transportation of the waste by rail instead of by truck. Rail hauling of waste will minimize air emissions per ton of MSW as opposed to hauling by truck, and should avoid the impacts to public roads and highways with respect to noise and congestion.

**Proposed measures to protect or conserve energy and natural resources are:**

Implementation of out-of-county disposal by Waste Control would provide for the transportation of the waste primarily by rail. Rail hauling of waste would reduce consumption of fossil fuel per ton of MSW as opposed to long-hauling waste by truck.

Implementation of a short-haul transfer to an in-county facility will result in a simplified transportation system to convey waste over a significantly shorter distance, resulting in lower amount of fossil fuel used, lower emissions to the air and water, and decreased wear to the regional transportation infrastructure.

- 4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

The SWMP recommendations will enhance environmentally sensitive areas by improving water quality through the education of the public to properly manage and dispose of solid and hazardous waste, and the positive impact of low disposal fees on illegal dumping.

**Proposed measures to protect such resources or to avoid or reduce impacts are:**

Proposed measures to reduce impacts to sensitive areas include extensive public education on proper waste disposal, source reduction, and recycling of solid waste. The recommendation for either out-of-county or in-county disposal of MSW will use existing transportation corridors. In-county transfer will increase impact to the area surrounding the Headquarters Landfill due to increased transportation.

- 5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

The SWMP does not make any recommendations for land and shoreline use that are incompatible with existing plans or regulations.

**Proposed measures to avoid or reduce shoreline and land use impacts are:**

No impacts are anticipated.

- 6. How would the proposal be likely to increase demands on transportation or public services and utilities?**

Increased recycling will increase the amount of transportation required, since recyclable materials must be hauled separately from waste materials. The implementation of out-of-county disposal of MSW will increase the demands on the existing transportation systems compared to disposal at the Tennant Way Landfill under the existing system. The implementation of in-county transfer to the Headquarters Landfill will also increase demands on the existing transportation system.

MITIGATED DETERMINATION OF NON-SIGNIFICANCE



DETERMINATION OF NON-SIGNIFICANCE  
PENDING REVIEW OF APPLICABLE REVIEW  
AGENCIES; TO BE PROVIDED PRIOR TO  
FINAL DRAFT SUBMITTAL OF THE SOLID  
WASTE MANAGEMENT PLAN



# APPENDIX C

## UTC COST ASSESSMENT



# COST ASSESSMENT QUESTIONNAIRE

PLAN PREPARED FOR THE COUNTY OF: Cowlitz

PLAN PREPARED FOR THE CITY OF: N/A

PREPARED BY: Cowlitz County Department of Public Works, Don Olson.

CONTACT TELEPHONE: (360) 557-3125 DATE: **August 23, 2011**

## DEFINITIONS

*Please provide these definitions as used in the Solid Waste Management Plan and the Cost Assessment Questionnaire.*

*Throughout this document:*

YR.1 shall refer to 2011.

YR.3 shall refer to 2013.

YR.6 shall refer to 2016.

Year refers to (circle one) calendar (Jan 01 - Dec 31)

fiscal (Jul 01 - Jun 30)

- Recycling rate increase of 1.0% per year, based on 2003 recycling and diversion estimates.
- Recycling is comprised of components from residential, industrial, and CDL waste.

**3. SYSTEM COMPONENT COSTS:** *This section asks questions specifically related to the types of programs currently in use and those recommended to be started. For each component (i.e., waste reduction, landfill, composting, etc.) please describe the anticipated costs of the program(s), the assumptions used in estimating the costs and the funding mechanisms to be used to pay for it. The heart of deriving a rate impact is to know what programs will be passed through to the collection rates, as opposed to being paid for through grants, bonds, taxes and the like.*

### **3.1 Waste Reduction Programs**

3.1.1 *Please list the solid waste programs which have been implemented and those programs which are proposed. If these programs are defined in the SWM plan please provide the page number. (Attach additional sheets as necessary.)*

See SWMP Table 13-1, Section 3, Waste Reduction.

3.1.2 *What are the costs, capital costs and operating costs for waste reduction programs implemented and proposed?*

See SWMP Table 13-1, Section 3, Waste Reduction.

3.1.3 *Please describe the funding mechanism(s) that will pay the cost of the programs in 3.1.2.*

The waste reduction programs are funded through tip fees and Ecology CPG funds.

### **3.2 Recycling Programs**

3.2.1 *Please list the proposed or implemented recycling program(s) and, their costs, and proposed funding mechanism or provide the page number in the draft plan on which it is discussed. (Attach additional sheets as necessary.)*

See SWMP Table 13-1, Section 3, Waste Reduction. The recycling programs are funded through tip fees.

### **3.3 Solid Waste Collection Programs**

#### **3.3.1 Regulated Solid Waste Collection Programs**

*Fill in the table below for each WUTC regulated solid waste collection entity in your jurisdiction. (Make additional copies of this section as necessary to record all such entities in your jurisdiction.)*

3.3.2 **Other (non-regulated) Solid Waste Collection Programs** Fill in the table below for other solid waste collection entities in your jurisdiction. (Make additional copies of this section as necessary to record all such entities in your jurisdiction.)

City of Longview Contracted to Waste Control, Inc.			
	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Residential			
# of Customers	14,294	14,582	15,024
Tonnage	12,523	12,775	13,162
Commercial			
# of Customers	942	961	990
Tonnage	14,198	14,483	14,992

City of Kelso Contracted to Waste Control, Inc.			
	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Residential			
# of Customers	4,068	4,149	4,275
Tonnage	6,476	6,606	6,806
Commercial			
# of Customers	514	524	540
Tonnage	1,388	1,416	1,459

City of Kalama Contracted to Waste Control, Inc. (City contract specifies WUTC set rates)			
	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Residential			
# of Customers	581	593	611
Tonnage	925	943	972
Commercial			
# of Customers	67	68	70
Tonnage	632	644	664



**3.5 Land Disposal Program**

**Cowlitz County Landfill**

3.5.1 Provide the following information for each **land disposal facility** in your jurisdiction which receives garbage or refuse generated in the county.

**Landfill Name:** Cowlitz County Landfill (will close in 2013)  
**Owner:** Cowlitz County  
**Operator:** Cowlitz County, Department of Public Works

**Landfill Name:** Weyerhaeuser Headquarters Regional Landfill (when purchased will become Cowlitz County Headquarters Landfill)

**Owner:** Weyerhaeuser  
**Operator:** Weyerhaeuser

3.5.2 Estimate the **approximate tonnage** disposed at the landfill by **WUTC regulated haulers**. If you do not have a scale and are unable to estimate tonnages, estimate using cubic yards, and indicate whether they are compacted or loose.

	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Cowlitz County Landfill	24,715	8,403	0
Headquarters Regional Landfill	6,000	22,808	31,975

3.5.3 Using the same conversion factors applied in 3.5.2, please estimate the **approximate tonnage** disposed at the landfill by other contributors.

	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Cowlitz County Landfill	74,789	25,430	0
Headquarters Regional Landfill	252,863	303,725	320,510

3.5.4 Provide the cost of operating (including capital acquisitions) each landfill in your jurisdiction. For any facility that is privately owned and operated, skip these questions.

	Year 1 (2011)	Year 3 (2013)	Year 6 (2016)
Cowlitz County Landfill	\$2,326,014	\$811,295	\$0
Headquarters Regional Landfill	private	\$7,435,649	\$7,767,883

### 3.7 (a) Other Programs

*For each program in effect or planned which does not readily fall into one of the previously described categories please answer the following questions. (Make additional copies of this section as necessary.)*

3.7.1 (a) *Describe the program, or provide a page number reference to the plan.*

Existing Home Composting Program (SWMP Section 5.3.4)

3.7.2 (a) *Owner/Operator:* Cowlitz County

3.7.3 (a) *Is WUTC Regulation Involved? If so, please explain the extent of involvement in section 3.8.*

No.

3.7.4 (a) *Please estimate the anticipated costs for this program, including capital and operating expenses.*

See SWMP Table 13-1, Section 3, Waste Reduction

3.7.5 (a) *Please describe the funding mechanism(s) that will recover the cost of this component.*

Solid waste tip fees, state coordinated prevention grant

### 3.7 (c) Other Programs

*For each program in effect or planned which does not readily fall into one of the previously described categories please answer the following questions. (Make additional copies of this section as necessary.)*

3.7.1 (c) *Describe the program, or provide a page number reference to the plan.*

Existing Special Waste Program

Education Materials Sections 3.4, 4.10, & 10.2.3.3

White Goods Section 10.7.3

Tires Section 10.8.4

Sharps Section 10.9.3 (3)

Moderate Risk Waste Section 10.11.3

3.7.2 (c) *Owner/Operator:* Cowlitz County

3.7.3 (c) *Is WUTC Regulation Involved? If so, please explain the extent of involvement in section 3.8.*

No.

3.7.4 (c) *Please estimate the anticipated costs for this program, including capital and operating expenses.*

See SWMP Table 13-1, Section 1, Introduction and Background

3.7.5 (c) *Please describe the funding mechanism(s) that will recover the cost of this component.*

Included in landfill operations in Section 3.5.4, above.

3.7.9 (d) *Please estimate the anticipated costs for this program, including capital and operating expenses.*

SWMP Table 13-1, Section 8, Solid Waste Disposal (Items a thru d).

3.7.10 (d) *Please describe the funding mechanism(s) that will recover the cost of this component.*

Revenue bonds, reserve funds, solid waste tip fee

### **3.8 References and Assumptions** *(attach additional sheets as necessary)*

- Section 3.1 and 3.2:
- Section 3.3: Customers and tonnages provided by WUTC haulers and contract haulers. Estimation and projection calculations and assumptions are attached.
- Section 3.4:
- Section 3.5:
- Section 3.6:
- Section 3.7:

<sup>c</sup>Closure Costs include contributions to the Closure Fund, Post Closure Fund—Lined Landfill, and Post Closure Fund—Unlined Landfill.

<sup>d</sup>The Toutle Drop Box facility operation and transportation costs based on cost divided by system tonnage disposed.

<sup>e</sup>Headquarters Landfill is a placeholder, since only reporting tip fee components for existing 2010 facilities and operations.

<sup>f</sup>Waste Control Transfer Station operation cost based on total 2010 system tons disposed (98,519 tons).

**Table 4.1.3 Funding Mechanism**

Name of Program Funding Mechanism that will defray costs	Bond Name	Total Bond Debt	Bond Rate	Bond Due Date	Grant Name	Grant Amount	Tip Fee	Taxes	Other	Surcharge
Disposal Operations							\$1,231,930			
Solid Waste Planning						\$12,378	\$4,126			
HHW Collection & Disposal					Coordinated Prevention Grant	\$70,918	\$24,533			
Backyard Composting					CPG	\$18,000	\$6,000			
Solid Waste Administration							\$107,870			
Solid Waste Closure and Post Closure							\$918,197			
Toutle Drop Box							\$28,224			
WC Transfer Station Equipment Land and Facilities Fund							\$1,077,836			
Notes:							\$709,304			

<sup>a</sup>Excess transportation costs are subsidized by the ELF fund.

4.2 **Funding Mechanisms** summary by percentage: In the following tables, please summarize the way programs will be funded in the key years. For each component, provide the expected percentage of the total cost met by each funding mechanism. (e.g. Waste Reduction may rely on tip fees, grants, and collection rates for funding). You would provide the estimated responsibility in the table as follows: Tip fees=10%; Grants=50%; Collection Rates=40%. The mechanisms must total 100%. If components can be classified as "other," please note the programs and their appropriate mechanisms. Provide attachments as necessary.

<b>Table 4.2.1 Funding Mechanism by Percentage</b>						
<b>Year One</b>						
Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Waste Reduction	25	75				100%
Recycling	100					100%
HHW Collection	25	75				100%
ER&I	100					100%
Transfer	100					100%
Land Disposal	100					100%
Administration	100					100%
Other						100%

<b>Table 4.2.2 Funding Mechanism by Percentage</b>						
<b>Year Three</b>						
Component	Tip Fee %	Grant %	Bond %	Collection Tax Rates %	Other %	Total
Waste Reduction	25	75				100%
Recycling	100					100%
HHW Collection	25	75				100%
ER&I	100					100%
Transfer	100					100%
Land Disposal	100					100%
Administration	100					100%
Other						100%

ATTACHMENT C1  
UTC CALCULATIONS



**Table 13-1  
Implementation Action Costs - 2011 through 2016  
Cowlitz County  
2011 Solid Waste Management Plan**

Program Component	Estimated Cost						Responsibility
	2011	2012	2013	2014	2015	2016	
<b>1. Introduction and Background</b>							
a. Annual Plan Review/Report	5,000	5,100	5,202	5,306	5,412	5,520	County Staff
b. SWMP Update	100,000	0	0	0	0	0	Consultant/County Staff
<b>Subtotal</b>	<b>105,000</b>	<b>5,100</b>	<b>5,202</b>	<b>5,306</b>	<b>5,412</b>	<b>5,520</b>	
<b>2. Waste Stream Description</b>							
a. Update Waste Characterization	2,700	2,754	2,809	2,865	2,923	2,981	County Staff
b. Recycling Tracking	8,000	8,160	8,323	8,490	8,659	8,833	County Staff / Private Disp. Facility
<b>Subtotal</b>	<b>10,700</b>	<b>10,914</b>	<b>11,132</b>	<b>11,355</b>	<b>11,582</b>	<b>11,814</b>	
<b>3. Waste Reduction</b>							
a. WR & Recycling Education							
Update Brochure	8,000	0	0	0	0	8,832	County Staff
Distribute Brochure	18,200	18,564	18,935	19,314	19,700	18,769	County Staff
School Presentations	4,020	4,100	4,182	4,266	4,351	4,438	County Staff
b. Home Composting Program							
Update Brochure	2,679	0	0	0	0	2,958	County Staff
Distribute Brochure	18,222	18,586	18,958	19,337	19,724	20,119	County Staff
Subsidize Compost Bins	4,000	4,080	4,162	4,245	4,330	4,416	County Staff
c. Fund Home Compost Education	1,500	1,530	1,561	1,592	1,624	1,656	County
d. Sponsor 2Good2Toss Website	700	714	728	743	758	773	County
e. In-House WR and Procurement Policies	2,675	2,729	2,783	2,839	2,896	2,953	County Staff
<b>Subtotal</b>	<b>59,996</b>	<b>50,303</b>	<b>51,309</b>	<b>52,336</b>	<b>53,382</b>	<b>64,914</b>	



**Table 13-1  
Implementation Action Costs - 2011 through 2016  
Cowlitz County  
2011 Solid Waste Management Plan**

Program Component	Estimated Cost						Responsibility
	2011	2012	2013	2014	2015	2016	
<b>7. Solid Waste Transfer</b>							
a. Transfer Station Development/Operations	1,103,220	1,134,688	1,463,574	1,613,379	1,662,955	1,714,054	County Staff/Waste Control
b. Haul MSW from Transfer Station to Landfill	0	0	485,968	667,868	688,390	709,543	Waste Control
Subtotal	1,103,220	1,134,688	1,949,542	2,281,247	2,351,345	2,423,597	
<b>8. Solid Waste Disposal</b>							
a. Landfill Permitting	500,000	500,000	0	0	0	0	
b. Due Diligence	138,000	0	0	0	0	0	
c. Purchase Landfill	0	19,000,000	0	0	0	0	
d. Landfill upgrades	0	0	8,500,000	0	4,730,000	0	
Subtotal	638,000	19,500,000	8,500,000	0	4,730,000	0	
<b>9. Solid Waste Import and Export</b>							
a. Interlocal Agreements	0	0	4,903	0	0	0	County Staff
Subtotal	0	0	4,903	0	0	0	
<b>10. Special and Industrial Waste</b>							
a. CDL Waste Educational Materials							
Update Brochure	804	820	836	853	870	888	County Staff
Distribute Brochure	1,179	1,203	1,227	1,251	1,276	1,302	County Staff
b. Construction Recycling Demonstration Site	0	24,611	0	0	0	0	County Staff
c. Research and Evaluate CDL Diversion Incentives	0	2,451	0	0	0	0	County Staff
d. Evaluate Biosolids for Disposal at Weyerhaeuser Regional Landfill	1,190	0	0	0	0	0	County Staff
e. Continue to operate MRW program	46,283	47,705	49,171	50,239	52,844	53,864	County Staff / Waste Control
Subtotal	49,456	76,790	51,234	52,343	54,990	56,053	
<b>11. Administration and Enforcement</b>							
a. Maintain Flow Control Agreements with Cities	1,102	1,124	0	0	0	0	County Staff
Subtotal	1,102	1,124	0	0	0	0	
Total	2,034,446	20,911,545	10,633,708	2,443,905	7,249,090	2,605,366	

ATTACHMENT C2  
FINANCIAL ASSURANCE ANALYSIS 2010



**COWLITZ COUNTY  
SOLID WASTE**

**FINANCIAL ASSURANCE  
ANALYSIS  
ANNUAL UPDATE**

As required by WAC 173-351-600

March 31, 2010

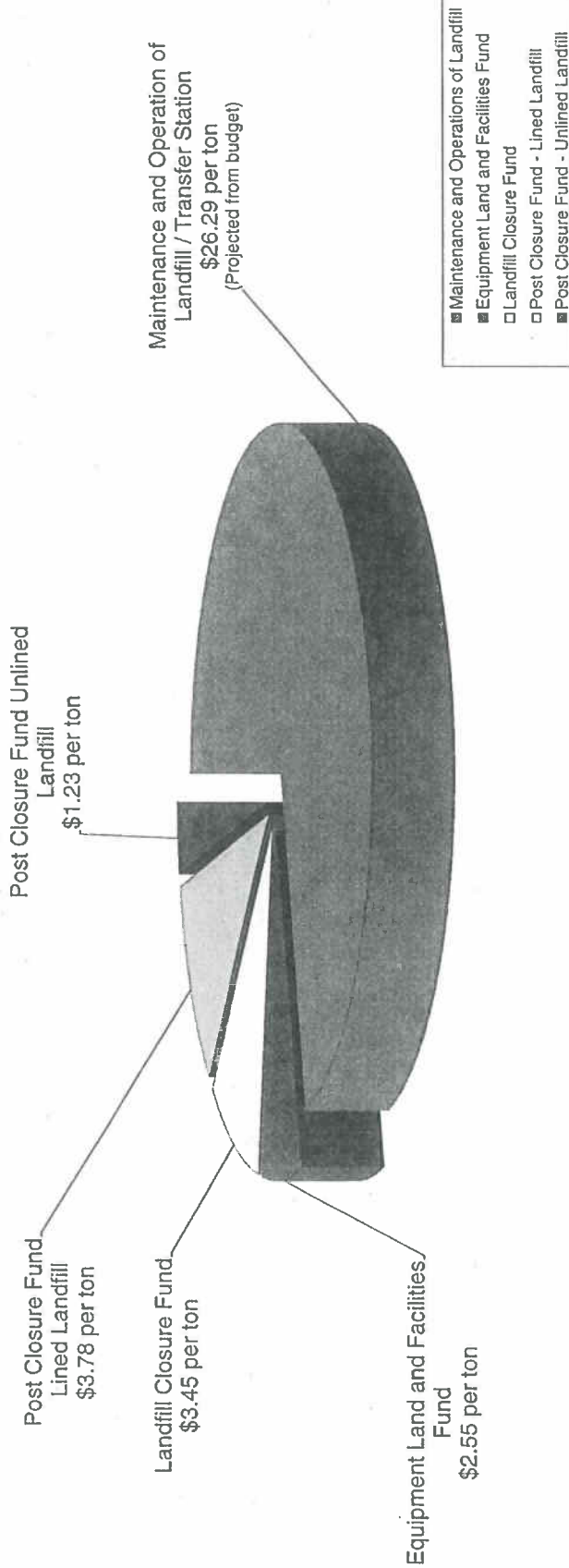
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**SUMMARY OF TIPPING FEE  
REVENUE PER TON**

(March 2010)

Maintenance and Operations of Landfill	\$ 26.29
Equipment Land and Facilities Fund	\$ 2.55
Landfill Closure Fund	\$ 3.45
Post Closure Fund - Lined Landfill	\$ 3.78
Post Closure Fund - Unlined Landfill	\$ 1.23
<b>TOTAL TIPPING FEE</b>	<b>\$ 37.30</b>

**Solid Waste Tipping Fee Distribution for 2010**



## EQUIPMENT LAND AND FACILITIES FUND

YEAR	TGNS	ANNUAL \$ TO ELF RESERVES	\$/TON TO ELF	ANNUAL INTEREST	INTEREST RATE	CPI RATE	EXPENDITURES	BALANCE
1991	6,500						3,443,779	3,754,993
1992	85,765	2,032,931	23.70	123,776	3.1	4.0	2,741,685	3,236,415
1993	86,294	1,726,174	20.00	79,092	3.2	2.8	1,929,560	3,277,220
1994	89,330	1,445,291	16.18	104,954	4.2	2.5	727,047	4,145,870
1995	95,518	1,712,336	17.93	193,391	5.8	2.8	1,068,265	5,054,971
1996	82,952	1,643,469	19.81	227,675	5.3	2.9	1,997,302	4,986,879
1997	81,842	1,882,515	23.00	230,143	5.4	2.2	696,780	6,477,952
1998	81,527	1,786,181	21.91	306,651	5.4	1.3	197,433	8,373,351
1999	81,770	1,244,550	15.22	336,358	5.3	2.2	1,429,179	9,004,555
2000	81,669	2,241,596	27.45	547,019	6.0	3.5	194,433	11,598,737
2001	78,406	1,347,612	17.19	549,098	4.1	2.7	509,731	12,985,716
2002	82,806	2,400,000	28.98	276,282	1.8	1.4	312,495	15,349,503
2003	85,778	2,178,574	25.40	99,588	1.2	2.2	10,783,291	6,844,374
2004	92,151	2,031,419	22.04	75,144	1.4	2.6	3,029,695	5,921,242
2005	102,306	2,667,528	26.07	166,414	3.1	3.5	204,461	8,550,723
2006	106,885	2,760,980	25.83	380,303	4.4	3.2	98,302	11,506,153
2007	109,134	2,201,500	20.17	565,971	4.9	2.9	182,601	14,091,023
2008	103,865	2,108,413	20.30	359,719	2.3	4.1	432,313	16,229,749
2009	96,165	915,621	9.52	122,506	0.6	(0.1)	208,805	17,070,391
2010	98,088	721,250	7.35	256,056	1.5	3.2	904,913	17,142,784
2011	100,050	700,291	7.00	342,856	2.0	3.2	50,000	18,135,931
2012	102,051	679,327	6.66	453,398	2.5	3.2	50,000	19,218,656
2013	90,519	485,856	5.37	190,265	3.0	3.2	25,000	19,869,776
2013	27,375	170,706	37.30	386,295	3.0	3.2	1,378,879	18,396,778
2014	116,969	3,973,496	38.25	643,887	3.5	3.2	5,231,882	17,782,280
2015	117,554	4,098,164	39.23	711,291	4.0	3.2	5,353,078	17,238,657
2016	118,142	4,226,728	40.24	775,740	4.5	3.2	5,477,066	16,764,058
2017	118,732	4,359,310	41.27	771,147	4.6	3.2	5,603,911	16,290,603
2018	119,326	4,496,035	42.33	749,368	4.6	3.2	5,733,679	15,802,327
2019	119,923	4,637,032	43.41	726,907	4.6	3.2	5,866,438	15,299,828
20	120,522	4,782,435	44.52	703,792	4.6	3.2	6,002,258	14,783,797
21	121,125	4,932,380	45.66	680,055	4.6	3.2	6,141,209	14,255,024
2022	121,730	5,087,010	46.83	655,731	4.6	3.2	6,283,365	13,714,400
2023	122,339	5,246,469	48.03	630,862	4.6	3.2	6,428,799	13,162,932
2024	122,951	5,410,909	49.26	605,495	4.6	3.2	6,577,589	12,601,747
2025	123,566	5,580,484	50.52	579,680	4.6	3.2	6,729,812	12,032,100
2026	124,183	5,755,355	51.81	553,477	4.6	3.2	6,885,348	11,455,384
2027	124,804	5,935,686	53.14	526,948	4.6	3.2	7,044,878	10,873,140
2028	125,428	6,121,648	54.50	500,164	4.6	3.2	7,207,886	10,287,066
2029	126,055	6,313,414	55.89	473,205	4.6	3.2	7,374,658	9,699,027
2030	126,686	6,511,168	57.32	446,155	4.6	3.2	7,545,282	9,111,068
2031	127,319	6,715,094	58.79	419,109	4.6	3.2	7,719,846	8,525,425
2032	127,956	6,925,385	60.30	392,170	4.6	3.2	7,898,442	7,944,537
2033	128,596	7,142,238	61.84	365,449	4.6	3.2	8,081,164	7,371,060
2034	129,239	7,365,859	63.42	339,069	4.6	3.2	8,268,109	6,807,879
2035	129,885	7,596,458	65.05	313,162	4.6	3.2	8,459,374	6,258,126
2036	130,534	7,834,252	66.71	287,874	4.6	3.2	8,655,059	5,725,192
2037	131,187	8,079,464	68.42	263,359	4.6	3.2	8,855,268	5,212,747
2038	131,843	8,332,326	70.17	239,786	4.6	3.2	9,060,105	4,724,754
2039	132,502	8,593,075	71.97	217,339	4.6	3.2	9,269,679	4,265,489
2040	133,164	8,861,958	73.81	196,212	4.6	3.2	9,484,100	3,839,560
2041	133,830	9,139,227	75.70	176,620	4.6	3.2	9,703,480	3,451,927
2042	134,499	9,425,142	77.64	158,789	4.6	3.2	9,927,934	3,107,923
2043	135,172	9,719,973	79.62	142,964	4.6	3.2	10,157,581	2,813,280
2044	135,848	10,023,997	81.66	129,411	4.6	3.2	10,392,542	2,574,147
2045	136,527	10,337,501	83.75	118,411	4.6	3.2	10,632,939	2,397,119

Assumptions:

- 1) Waste stream growth rate 0.5% per year
- 2) Historical interest thru 2009 is average of monthly Washington State Investment Pool net earnings rate
- 3) February 11, 2003 BOCC removed by Resolution No. 03-024 \$8,511,514 from Solid Waste ELF fund to the General Capital Construction Fund.
- 4) 13,2004 BOCC removed by \$2,800,000 from SW ELF fund to General Capital Construction Fund.
- 5) August 8, 2008 \$2.9 million loaned to TRRWA
- 6) Cowlitz County PFD Resolution of 10/21/08 will advance \$810K in 2010

## Equipment Land and Facilities Expenditures

YEAR	PROJECT	APPROX DATE COMPLETED	COST
1989	Dredge Sand 300,000 cy- booster pump rent	Dec-89	126,000
1989	Permits and Design for Site B.....CH2-Hill	Dec-91	989,837
1990	Southwest Washington Advisory Board	Jan-91	8,466
1990	Lagoon Lining Project	Sep-91	209,446
1990	Purchase Shakemill Property-3 acres	Apr-91	175,474
1990	Cell 1- Preload	Dec-90	595,070
1988	Purchase BN Railroad Property-7.9 acres	Jun-91	61,741
1990	Solid Waste Management Plan Update	Sep-93	182,133
1990	Public Disposal and Storm-drain Construction	Mar-92	766,471
1991	Site A -Unlined Closure	Jan-93	2,741,685
1991	Dredge Sand 250,000 cy - booster pump rent	Jun-91	120,000
1991	Cell 2- Preload	Jun-92	720,315
1991	Cell 1 Construction	Oct-92	1,522,378
1991	Remove Cell 2 Preload and Construct Cell 2	Nov-93	1,689,710
1993	Replace D-8 Cat	Dec-99	237,430
1993	Hazardous Waste Collection Facility	Dec-93	24,988
1993	Legal and Professional Services	Mar-95	453,124
1994	Replace 826C Compactor	Dec-94	273,923
1995	Equipment Maintenance Slab	Jun-95	11,783
1995	Misc Facility Improvement	Sep-95	9,041
1995	Cell 3A-3B Permit / Design Development	Jun-95	461,704
1995	Dredge 234,000 cy of Spoils @ 2.55 c.y	Jan-96	552,785
1996	Purchase Drop Box Truck w/ rolloff system	Dec-96	115,295
1996	Facility Improvements / Cox Tire Cleanup	Dec-96	260,255
1996	Cell 3A Construction	Apr-97	1,601,007
1997	Misc Facility Improvement	Dec-97	33,144
1997	Cell 3 Dredging / Development	Jan-97	120,434
1997	Composting Pad	Jan-98	494,741
1998	Replace Case W-36 Loader	Dec-98	161,257
1998	Misc Facility Improvement	Dec-98	6,618
*1998	Cell 1-2 Partial Closure	Mar-02	2,357,042
1998	Landfill Replacement Study	Jun-02	73,168
1999	Replace 826C Compactor	Dec-99	303,654
1999	Upgrade Water Truck	Dec-99	10,000
1999	Misc Small Equipment (forklift, mower, hw eq.)	Dec-99	80,271
2000	HazMat Facility Improvements	Dec-00	13,158
2000	Construction Demo Tire Pad	Jun-02	102,763
2000	Visual Screening-Inspection Platform	Apr-02	153,600
2001	Replace Drop Box Truck	Dec-02	130,000
2001	Gas Utilization Development	Dec-04	7,540
2001	Design / Construct Cell 3B	Mar-04	100,488
2002	Solid Waste Management Plan Update	Dec-07	125,000
2002	Request for Solid Waste Services	Jun-02	19,139
2003	Transfer to General Capital Construction Fund	Feb-03	8,511,514
2003	Construct Cell 3B	Mar-04	2,133,847
2004	Transfer to General Capital Construction Fund	Apr-04	2,800,000
2004	Misc Eq. and Planning	Dec-04	192,242
2004	Replace 81K Aljon Compactor	May-04	278,884
2005	Replace Cat 950-F Loader	Oct-05	114,441
2005	Misc Eq. and Planning	Dec-05	90,021
2006	Misc Eq. and Planning	Dec-06	98,302
2007	Pump Station Modifications	Apr-07	82,515
2007	Misc Eq. and Planning	Dec-07	113,014
2008	Misc Eq. and Planning	May-08	86,370
2008	Replace D7H Cat	Nov-08	333,022
2009	Equipment (Trommel Screen 75% Grant)	Jun-09	117,880
2009	Planning & Misc Eq	Dec-09	90,924
2010	Replace Landfill Compactor	Aug-10	504,063
2010	Gas System and Stormwater Improvements	Aug-10	289,500
2010	Misc Eq. and Planning	Dec-10	111,350
2011	Misc Eq. and Planning		50,000
2012	Misc Eq. and Planning		50,000
2013	Misc Eq. and Planning		25,000
	<b>Total</b>		<b>34,298,758</b>

\*Funds from Closure Account all others from Equipment Land and Facilities Fund

\*Costs inflated based on projected annual CPI rate - see column G of previous table

**2003 CELL CONSTRUCTION COST ESTIMATES COWLITZ COUNTY  
SANITARY LANDFILL**

ITEM BREAKDOWN				CELL 3B - 2003	
ITEM NO.	DESCRIPTION	UNIT	2003 UNIT PRICES	QTY	AMOUNT
1	Mobilization	LS	54,968	1	54,967.50
2	Subgrade Preparation	ACRE	2,199	12	25,285.05
3	Perimeter Berm Soil Placement	CY	2.20	-	-
4	Sedimentation Control Ditch	CY	38.48	-	-
5	Excavate Preload Stockpiles	CY	0.83	-	-
6	Place Excavated Preload Soils	CY	0.83	-	-
7	Primary Soil Liner	CY	10.99	37,200	408,958.20
8	Leachate Collection Layer	CY	17.59	27,900	468,720.00
9	Filter Gravel	CY	18.90	3,000	56,700.00
10	Primary Geomembrane	SF	0.58	478,000	277,240.00
11	Fabricated Pipe Penetration	EA	3,675.00	2	7,350.00
12	Leachate Manhole	EA	6,825.00	2	13,650.00
13	Leachate Collection Pipeing	LF	17.64	1,600	28,224.00
14	Leachate Transmission Piping	LF	33.92	150	5,088.00
15	Leachate Force Main & Pump Station	LS	157,500.00	1	157,500.00
16	Crushed Surfacing	TON	11.03	350	3,860.50
17	Structural Fill	CY	4.20	2,000	8,400.00
18	Erosion Control Matting	SY	2.89	5,000	14,450.00
19	Culverts	LF	31.50	-	-
20	Chain Link Fence	LF	18.38	-	-
21	Excavate and Haul Sand Stockpile	CY	2.10	170,000	357,000.00
22	Miscellaneous Support Structures	LS	52,500.00	1	52,500.00
SUBTOTAL COST (2003 Unit Prices)					1,917,932.50
State Sales Tax at 7.5%					143,844.94
Permit Engineering/Construction Mgmt Cell 2 & 3 Permit Application		LS	157,500.00	-	-
Permit Modifications		LS	105,000.00	1	105,000.00
Construction Documents		LS	52,500.00	1	52,500.00
Construction Mgmt QA/QC		LS	52,500.00	1	52,500.00
TOTAL COST THIS PHASE (2003 Unit Prices)					2,271,777.44

## LANDFILL CLOSURE FUND

YEAR	TONS	\$3.45 /TON	INTEREST INTEREST	INTEREST RATE	CPI RATE	EXPENDITURES	BALANCE
							602,630
1994	89,330	404,942	15,213	4.2	2.5	0	1,022,785
1995	95,518	408,857	73,370	5.8	2.8	0	1,505,012
1996	82,952	355,731	75,193	5.3	2.9	0	1,935,936
1997	81,842	398,937	108,574	5.4	2.2	0	2,443,447
1998	81,527	393,790	120,329	5.4	1.3	56,578	2,900,988
1999	81,770	380,648	149,029	5.3	2.2	140,900	3,294,298
2000	81,669	188,305	163,521	6.0	3.5	2,157,687	1,489,958
2001	78,406	192,435	55,729	4.1	2.7	7,931	1,730,122
2002	82,806	195,324	28,793	1.8	1.4	0	1,954,368
2003	85,378	259,499	20,516	1.2	2.2	0	2,234,322
2004	92,151	296,181	29,858	1.5	2.6	0	2,560,361
2005	102,306	286,756	82,935	3.6	3.5	0	2,930,052
2006	106,885	276,686	132,898	4.4	3.2	0	3,339,636
2007	109,134	299,750	181,841	4.9	2.9	0	3,821,227
2008	103,865	370,530	95,857	2.5	4.1	0	4,287,614
2009	96,165	404,621	25,100	0.6	-0.1	0	4,717,336
2010	98,088	338,405	70,760	1.5	3.2	0	5,126,501
2011	100,050	345,173	102,530	2.0	3.2	0	5,574,204
2012	102,051	352,076	139,355	2.5	3.2	0	6,065,635
2013	90,519	312,291	45,492	3.0	3.2	3,162,392	3,261,027
2014	0			3.5		3,162,392	98,635

### LANDFILL CLOSURE COSTS

(2010 COSTS)

1998 - 1999 Partial Closure Cells 1 & 2	197,478
2000 - Closure Phase I (Portions of Cell 1 & 2)	2,157,687
2001 - Closure Phase I (Portions for Cell 1 & 2)	7,931
2013 - Begin Closure CELL 3A-3B	3,162,392
2014 - Complete Closure CELL 3A-3B	3,162,392
	8,687,880

### Assumptions:

- 1) Waste stream growth rate - 0.5%
- 2) Historical interest rate thru 2009 is average of monthly Washington State investment pool net earnings rate



## 2010 CLOSURE CONSTRUCTION COST ESTIMATES

### COWLITZ COUNTY LANDFILL

1.041

ITEM BREAKDOWN				PHASE 2 - 2013	
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	Mobilization	LS	178,064	1	178,064
2	Subgrade Preparation	ACRE	5,315	26	138,199
3	Geosynthetic Clay Liner	SF	0.56	1,132,560	636,657
4	60 Mil Geomembrane Cover	SF	0.74	1,132,560	837,086
5	Drainage Layer	CY	21.25	41,960	891,516
6	Geotextile	SF	0.25	1,132,560	282,959
7	Topsoil	CY	9.75	62,920	613,732
8	Drainage Ditches	LF	5.12	5,000	25,609
9	Culverts	LF	43.56	525	22,867
10	Underdrains	LF	4.59	15,050	69,092
11	Hydroseeding	ACRE	1,492.99	26	38,818
12	Flare Station	LS	14,789.75	-	-
13	Blowers	EA	14,986.91	-	-
14	Vertical Gas Extraction Syst.	VF	161.22	1,210	195,076
15	Gas Piping	LF	16.28	10,270	167,208
16	Flare Station Piping	LS	22,538	-	-
17	Crushed Surfacing	TON	18.46	650	11,997
18	Misc Structures & Improvements	LS	60,411.62	4	241,646
SUBTOTAL COST THIS PHASE (2010 Unit Prices)					4,350,526
State Sales Tax at 7.8%					339,341
<b>Permit Engineering &amp; Construction Mgmt</b>					-
Phase 2 Construction Document (5%)					217,526
Phase 2 Construction Mgmt (12%)					522,063
<b>TOTAL COST THIS PHASE (2010 Unit Prices)</b>					<b>5,429,457</b>

**Assumptions:**

1) CPI rate puts phase 2 cost at \$6,324,783,098 in 2014

**POST CLOSURE FUND - LINED LANDFILL**

YEAR	TONS	\$3.78 per ton	ACTUAL per ton	INTEREST RATE	INTEREST RATE	CPI RATE	EXPENDITURES	BALANCE
1991	83,755	108,750	1.30	5,959	3.2	4.0		108,750
1992	85,765	116,000	1.35	9,120	3.1	2.9		223,459
1993	86,294	294,050	3.41	15,401	3.2	2.8		348,579
1994	89,330	347,345	3.89	22,214	4.2	2.5		658,030
1995	95,518	253,057	2.65	71,550	5.8	2.8		1,027,589
1996	82,952	220,175	2.65	67,939	5.3	2.9		1,352,196
1997	81,842	50,928	0.62	93,004	5.4	2.2		1,640,310
1998	81,527	50,271	0.62	88,065	5.4	1.3		1,784,242
1999	81,770	139,699	1.71	95,549	5.3	2.2		1,922,578
2000	81,669	88,899	1.09	132,268	6.0	3.5		2,157,826
2001	78,406	90,849	1.16	140,712	4.1	2.7		2,378,993
2002	82,806	150,056	1.81	59,808	1.8	1.4		2,610,554
2003	85,778	187,122	2.18	32,487	1.2	2.2		2,820,118
2004	92,151	221,162	2.40	40,918	1.4	2.6		3,039,727
2005	102,306	209,594	2.05	107,474	3.1	3.5		3,301,807
2006	106,885	202,232	1.89	120,426	4.4	3.2		3,618,875
2007	109,134	219,090	2.01	250,690	4.9	2.9		3,941,533
2008	103,865	301,058	2.90	114,694	2.6	4.1		4,411,312
2009	96,165	340,847	2.09	28,386	0.6	-0.1		4,838,987
2010	98,088	370,774	3.78	78,123	1.5	3.2		5,208,220
2011	100,050	378,189	3.78	113,142	2.0	3.2		5,657,117
2012	102,051	385,753	3.78	153,711	2.5	3.2		6,148,449
2013	90,519	342,162	3.78	200,637	3.0	3.2	47,995	6,687,913
2014	0	0	0	251,395	3.5	3.2	297,187	7,182,717
2015	0	0	0	285,477	4.0	3.2	306,697	7,136,925
2016	0	0	0	320,207	4.5	3.2	316,512	7,115,705
2017	0	0	0	327,492	4.6	3.2	326,640	7,119,400
2018	0	0	0	327,532	4.6	3.2	337,093	7,120,252
2019	0	0	0	327,092	4.6	3.2	347,879	7,110,691
2020	0	0	0	326,136	4.6	3.2	359,012	7,089,903
2021	0	0	0	324,623	4.6	3.2	370,500	7,057,027
2022	0	0	0	322,513	4.6	3.2	382,356	7,011,151
2023	0	0	0	319,760	4.6	3.2	394,591	6,951,307
2024	0	0	0	316,318	4.6	3.2	407,218	6,876,476
2025	0	0	0	312,136	4.6	3.2	420,249	6,785,576
2026	0	0	0	307,163	4.6	3.2	433,697	6,677,463
2027	0	0	0	301,343	4.6	3.2	447,576	6,550,929
2028	0	0	0	294,616	4.6	3.2	461,898	6,404,696
2029	0	0	0	286,921	4.6	3.2	476,679	6,237,414
2030	0	0	0	278,192	4.6	3.2	491,932	6,047,656
2031	0	0	0	268,360	4.6	3.2	507,674	5,833,916
2032	0	0	0	257,352	4.6	3.2	523,920	5,594,602
2033	0	0	0	245,090	4.6	3.2	540,685	5,328,034
2034	0	0	0	231,492	4.6	3.2	557,987	5,032,438
2035	0	0	0	216,473	4.6	3.2	575,843	4,705,943
2036	0	0	0	199,942	4.6	3.2	594,270	4,346,573
2037	0	0	0	181,803	4.6	3.2	613,286	3,952,246
2038	0	0	0	161,955	4.6	3.2	632,912	3,520,763
2039	0	0	0	140,291	4.6	3.2	653,165	3,049,806
2040	0	0	0	116,699	4.6	3.2	674,066	2,536,933
2041	0	0	0	91,060	4.6	3.2	695,636	1,979,566
2042	0	0	0	63,250	4.6	3.2	717,897	1,374,989
2043	0	0	0	33,136	4.6	3.2	740,869	720,342
								12,609

**POST CLOSURE COSTS**

(2010 COSTS)

Environmental Monitoring	82,620	\$82,620/yr x 30 years =	2,478,600
General Site Maintenance	11,093	\$11,093/yr x 30 years =	332,790
Landfill Final Cover System	10,673	\$10,673/yr x 30 years =	320,190
Leachate Pretreatment System	90,423	\$90,423/yr x 30 years =	2,712,690
Landfill Gas System	34,561	\$34,561/yr x 30 years =	1,036,830
Stormwater System	2,619	\$ 2,619/yr x 30 years =	78,570
Administration	23,199	\$23,199/yr x 30 years =	695,967
<b>TOTAL</b>	<b>255,188</b>	<b>TOTAL</b>	<b>7,655,637</b>

**Assumptions:**

- 1) Waste Stream Growth Rate - .5%
- 2) Historical interest thru 2009 is average of monthly Washington State investment pool net earnings rate

**COWLITZ COUNTY LANDFILL  
POST CLOSURE - LINED LANDFILL**  
(2010 Dollar Estimate)

Post Closure Activity	Basis of Estimate	Total Cost Per Year
<b>ENVIRONMENTAL MONITORING</b>		
Groundwater Monitoring Analysis	12 Wells Sampled Quarterly @ \$765 ea.....	36,720
Surface Water Monitoring Analysis	2 Locations Sampled Quarterly @ \$765 ea.....	6,120
Field Blank Monitoring Analysis	1 Sample Per Quarter @ \$765 ea.....	3,060
Landfill Leachate Monitoring Analysis	2 Locations Sampled Quarterly @ \$765.....	6,120
Leachate Discharge Monitoring	1 Sample Monthly @ \$301.....	3,612
Influent Discharge Monitoring	2 Samples Per Year @ \$301.....	602
Leachate Discharge VOC Monitoring	1 Sample Annually @ \$1083.....	1,083
Leachate Discharge Reporting	2 Hours Per Month @ \$43.01.....	1,032
Landfill Gas Monitoring Labor	2 Hours Per Quarter @ \$43.01.....	344
Leachate Sampling Labor	24 Hours Per Quarter @ \$43.01.....	4,129
Leachate Discharge Labor	2 Hours Per Week @ \$24.40.....	2,538
Groundwater Quarterly Report	40 Hours Per Quarter @ \$68.91.....	11,026
Groundwater Annual Report	60 Hours @ \$79.23 + Direct Costs (\$235).....	4,989
Monitoring Equipment Replacement	10 Year Life Span on \$12,446 equipment.....	1,245
		83,620
<b>GENERAL SITE MAINTENANCE</b>		
Access & On-Site Roads	5 Hours Per Year @ \$62.46 (grader).....	312
Fence Repair	1 Repair Per Year @ \$490.....	490
Vegetation Control	Spraying - 4 Hrs/Year @ \$61.00/hr.....	244
Illegal Dumping Control	8 Hrs/Year @ \$24.40/hr.....	195
Health Department Post Closure Fee	40+ Acres @ \$9852.....	9,852
		11,093
<b>LANDFILL FINAL COVER SYSTEM</b>		
Drainage Improvements	One Improvement Per Year.....	6,516
Liner Repair	One Per Year @ \$1,223.....	1,223
Erosion Control	One Acre Per Year @ \$1467.....	1,467
Vegetation Control	Mow Once Per Year @ \$1467.....	1,467
		10,673
<b>LEACHATE PRETREATMENT SYSTEM</b>		
Pumping Facilities	10 Pumps/Rebuild Every 10 Years @ \$3,733.....	3,733
Aerator	20 Year Life @ \$23117.....	1,556
Electricity (Aerator; pumps)	\$309 Per Month.....	3,708
Equipment Maintenance	Lubrication, Repair, Etc. 40 hrs/Yr @ \$26.69.....	1,068
Lagoon Cleaning/Liner Inspection	Every August - Drain & Clean.....	6,285
Leachate Disposal Treatment	20 Million Gallons Per Year.....	47,418
Autodialer	12 Months @ \$18.28/mo.....	219
Auto Sampler	\$4,844/unit - 15-year life.....	323
Flow Meter Calibration	2 @ \$125.....	250
Annual Discharge Permit	Permit Fee.....	25,863
		90,423
<b>LANDFILL GAS SYSTEM</b>		
LFG Collection System Maintenance	8 hrs/month @ \$37.31.....	3,581
Blower Maintenance	4 hrs/month @ \$37.31.....	1,791
Flare Maintenance	4 hrs/month @ \$37.31.....	1,791
LFG Well Replacement	1 Well Every 4 Years @ \$4,458/yr.....	1,114
LFG Blower Replacement	2 @ 10 Yr Life @ \$30,966 ea.....	6,193
LFG System Repair Parts	Flare Liners, Sensors, Bearings, Etc.....	2,416
LFG Blower Electricity	Per month @ \$308.....	3,698
Permit Fee	Air Pollution Control Permit @ \$13,977/yr.....	13,977
		34,561
<b>STORMWATER SYSTEM</b>		
Ditch and Structure Maintenance	1 Day/Month @ \$24.25.....	2,328
Stormwater Discharge Permit	Annual Permit Fee.....	291
		2,619
<b>ADMINISTRATION</b>	10% of Annual Operations Cost.....	23,199
<b>ANNUAL POST CLOSURE OPERATION &amp; MAINTENANCE COSTS</b>		<b>255,188</b>

**POST CLOSURE FUND - UNLINED LANDFILL**

YEAR	TONS	SI.23 /TON	ACTUAL per ton	INTEREST INTEREST	INTEREST RATE	CPI RATE	EXPENDITURES	BALANCE
1991	83,755	3,750	0.04	197	3.7	4.0	0	3,750
1992	85,765	4,000	0.05	304	3.1	2.9	0	7,697
1993	86,294	23,451	0.27	756	3.2	2.8	0	12,001
1994	89,330	24,094	0.27	1,148	4.2	2.5	0	36,208
1995	95,518	22,150	0.23	3,380	5.8	2.8	6,000	61,450
1996	82,952	18,896	0.23	4,003	5.3	2.9	0	80,980
1997	81,842	29,709	0.36	5,837	5.4	2.2	0	103,879
1998	81,527	29,325	0.36	6,781	5.4	1.3	0	139,425
1999	81,770	42,158	0.52	8,652	5.3	2.2	0	175,531
2000	81,669	28,286	0.35	13,830	6.0	3.5	0	226,341
2001	78,406	28,907	0.37	15,807	4.1	2.7	0	268,457
2002	82,806	82,992	1.00	6,897	1.8	1.4	29,696	313,171
2003	85,778	89,733	1.05	3,702	1.2	2.2	36,938	371,352
2004	92,151	100,351	1.09	5,369	1.4	2.6	38,220	427,850
2005	102,306	90,719	0.89	14,543	3.1	3.5	45,396	500,799
2006	106,885	87,533	0.82	26,849	4.4	3.2	38,533	563,970
2007	109,134	94,830	0.87	31,362	4.9	2.9	38,747	637,720
2008	103,865	120,749	1.16	18,854	2.6	5.6	44,266	725,165
2009	96,165	116,911	1.22	6,364	0.6	(0.1)	42,998	821,050
2010	98,088	120,649	1.23	13,517	1.5	3.2	46,074	901,159
2011	100,050	123,062	1.23	19,785	2.0	3.2	48,832	989,251
2012	102,051	125,523	1.23	27,082	2.5	3.2	50,395	1,083,266
2013	90,519	111,338	1.23	35,564	3.0	3.2	52,007	1,185,476
2014	0	0	0	44,813	3.5	3.2	53,672	1,280,371
2015	0	0	0	50,860	4.0	3.2	55,389	1,271,512
2016	0	0	0	57,014	4.5	3.2	57,162	1,266,984
2017	0	0	0	58,274	4.6	3.2	58,991	1,266,836
2018	0	0	0	58,242	4.6	3.2	60,878	1,266,120
2019	0	0	0	58,120	4.6	3.2	62,827	1,263,483
2020	0	0	0	57,904	4.6	3.2	64,837	1,258,776
2021	0	0	0	57,585	4.6	3.2	66,912	1,251,843
2022	0	0	0	57,156	4.6	3.2	69,053	1,242,516
2023	0	0	0	56,608	4.6	3.2	71,263	1,230,619
2024	0	0	0	55,934	4.6	3.2	73,543	1,215,965
2025	0	0	0	55,124	4.6	3.2	75,897	1,198,356
2026	0	0	0	54,169	4.6	3.2	78,325	1,177,584
2027	0	0	0	53,058	4.6	3.2	80,832	1,153,427
2028	0	0	0	51,780	4.6	3.2	83,418	1,125,653
2029	0	0	0	50,325	4.6	3.2	86,088	1,094,015
2030	0	0	0	48,680	4.6	3.2	88,842	1,058,252
2031	0	0	0	46,832	4.6	3.2	91,685	1,018,089
2032	0	0	0	44,769	4.6	3.2	94,619	973,236
2033	0	0	0	42,476	4.6	3.2	97,647	923,386
2034	0	0	0	39,938	4.6	3.2	100,772	868,214
2035	0	0	0	37,140	4.6	3.2	103,997	807,380
2036	0	0	0	34,064	4.6	3.2	107,324	740,523
2037	0	0	0	30,694	4.6	3.2	110,759	667,263
2038	0	0	0	27,011	4.6	3.2	114,303	587,198
2039	0	0	0	22,996	4.6	3.2	117,961	499,906
2040	0	0	0	18,627	4.6	3.2	121,736	404,941
2041	0	0	0	13,884	4.6	3.2	125,631	301,833
2042	0	0	0	8,744	4.6	3.2	129,651	190,086
2043	0	0	0	3,182	4.6	3.2	133,800	69,179
								(61,439)

**POST CLOSURE COSTS**

Environmental Monitoring	6,120	\$ 6120 /yr x 34 years =	208,080
General Site Maintenance	10,096	\$ 10,096/yr x 34 years =	343,264
Landfill Final Cover System	3,405	\$ 3,405/yr x 34 years =	115,770
Leachate Pretreatment System	225	\$ 225/yr x 34 years =	7,650
Landfill Gas System	21,271	\$21,271/yr x 34 years =	723,214
Stormwater System	768	\$ 768/yr x 34 years =	26,112
Administration	4,189	\$ 4,189/yr x 34 years =	142,409
<b>TOTAL</b>	<b>46,074</b>	<b>TOTAL</b>	<b>1,566,499</b>

**Assumptions:**

- 1) Waste Stream Growth Rate - 5%
- 2) Historical interest thru 2009 is average of monthly Washington State Investment Pool net earnings rate

**COWLITZ COUNTY LANDFILL  
POST CLOSURE - UNLINED LANDFILL  
(2010 Dollar Estimate)**

Post Closure Activity	Basis of Estimate		Total Cost Per Year
ENVIRONMENTAL MONITORING Groundwater monitoring analysis. All other monitoring costs included in Site B - Post Closure costs.	2 Wells Sampled Quarterly @ \$765 each	6,120	6,120
GENERAL SITE MAINTENANCE Vegetation Control Health Department Post Closure Fee	Spraying - 4 hrs/yr @ \$61.00/hr 40+ Acres	244 9,852	10,096
LANDFILL FINAL COVER SYSTEM Liner Repair Erosion Control Vegetation Control	One Per Year @ \$1,224 One Acre Per Year @ \$1,528 Mow Once Per Year @ \$653	1,224 1,528 653	3,405
LEACHATE PRETREATMENT Autodialer All other costs included in Site B - Post Closure costs.	12 Months @ \$18.80/mo	225	225
LANDFILL GAS SYSTEM LFG Collection System Maintenance Blower Maintenance Flare Maintenance LFG Well Replacement LFG Blower Replacement LFG System Repair Parts LFG Blower Electricity Permit Fee	8 hrs/month @ \$37.62 4 hrs/month @ \$37.62 4 hrs/month @ \$37.62 1 Well Every 4 Years @ \$4,537 2 @ 10 Yr Life @ \$31,532 each Flare Liners, Sensors, Bearings, Etc Per month @ \$313 Air Pollution Control Permit @ \$467/yr	3,611 1,805 1,805 1,134 6,306 2,387 3,756 467	21,271
STORMWATER SYSTEM Ditch and Structure Maintenance	1 Day/Quarter @ \$23.98/hr	768	768
ADMINISTRATION	10% of Project Cost	4,189	4,189
<b>ANNUAL POST CLOSURE OPERATION &amp; MAINTENANCE COSTS</b>			<b>46,074</b>

APPENDIX D  
COWLITZ COUNTY MODERATE RISK WASTE PLAN



# COWLITZ MODERATE RISK HAZARDOUS WASTE MANAGEMENT PLAN

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COWLITZ COUNTY, WASHINGTON

*Prepared for*

**COWLITZ COUNTY**

DEPARTMENT OF PUBLIC WORKS

*August 31, 2011*

*Project No. 9041.04.06*



MAUL  
FOSTER  
ALONGI

*Prepared by*

*Maul Foster & Alongi, Inc.*

*7223 NE Hazel Dell Avenue, Suite B*

*Vancouver, WA 98665*

# COWLITZ MODERATE RISK HAZARDOUS WASTE MANAGEMENT PLAN

COWLITZ COUNTY, WASHINGTON

*The material and data in this plan were prepared  
under the supervision and direction of the undersigned.*

MAUL FOSTER & ALONGI, INC.



A handwritten signature in cursive script, appearing to read "Erik Bakkom".

*Erik I. Bakkom, PE  
Senior Engineer*



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- 4-3 SMALL-QUANTITY GENERATOR PROGRAM

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- 4-1 HOUSEHOLD HAZARDOUS WASTE PARTICIPATION AND COLLECTION

## ACRONYMS AND ABBREVIATIONS

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CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPG	Coordinated Prevention Grant
Ecology	Washington State Department of Ecology
EHU	Environmental Health Unit
E-Waste	electronic waste
HHW	household hazardous waste
HWMA	Hazardous Waste Management Act
MRW	moderate risk waste
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
SQG	small-quantity generator
SWAC	Solid Waste Advisory Committee
SWMA	Solid Waste Management Act
SWMP	Solid Waste Management Plan
UWR	Universal Waste Rule

# 1 INTRODUCTION / BACKGROUND

---

This is a revision of the Cowlitz-Wahkiakum Moderate Risk Hazardous Waste Management Plan originally approved by the Washington State Department of Ecology (Ecology) in 1991. This report is intended to be included as an appendix to the Cowlitz County Solid Waste Management Plan (SWMP). The planning area is fully described in Section 1.12 of the SWMP. The primary goal of the plan is to reduce the generation of hazardous waste and to reduce illegal hazardous waste dumping, including the improper disposal of hazardous waste in public landfills, sewers, storm drains, and septic systems. As stated in Revised Code of Washington (RCW) 70.105.220, all local governments or combinations of contiguous local governments are required to develop a local hazardous waste plan. The plan review and approval process for the MRW and SWMP is outlined in Section 1.8 of the SWMP. A description of the plan update process is provided in Sections 1.4 through 1.6 of the SWMP.

RCW 70.105.010 defines moderate risk waste (MRW) as any waste that exhibits any of the properties of hazardous waste but is exempt from regulation under RCW 70.105 solely because the waste is generated in quantities below the threshold for regulation. Being exempt from state regulations for hazardous waste, MRW is typically regulated by local jurisdictions. MRW is composed of household hazardous waste (HHW) and small-quantity generator (SQG) waste. HHW is generated from the disposal of substances identified by Ecology as hazardous household substances. SQG is hazardous waste generated by businesses that do not produce quantities above the threshold for regulation. Table 1.1 contains the household hazardous substance list developed by the Department of Ecology. All of these products become HHW when discarded (if they are flammable, corrosive, toxic, or reactive).

For its MRW program, Cowlitz County follows the waste hierarchy established in RCW 70.105.150. The hierarchy, in descending order of priority, is: waste reduction; waste recycling; physical, chemical, and biological treatment; incineration; solidification/stabilization treatment; and landfilling.

A list of all small-, medium-, and large-quantity generators in Cowlitz County and Wahkiakum County is contained in Appendix A of this document. There are currently no hazardous waste treatment, storage, or disposal facilities with U.S. Environmental Protection Agency/State ID numbers in Cowlitz or Wahkiakum counties. Cowlitz Clean Sweep, Inc., Waste Control, and NW Tankcar Services are the only companies in the county registered to transfer hazardous waste.

Since the last plan update, the MRW and HHW collection facilities have been moved from Cowlitz County Landfill to the Waste Control Transfer Facility. These facilities are described in additional detail in Section 4.1.1.

## 2 ANALYSIS OF CURRENT CONDITIONS

---

This section provides a summary of MRW and Hazardous Waste disposed of and managed by the County.

### 2.1 Moderate Risk Waste Inventory

Table 2-1 provides a summary of participation and costs of the MRW program, and Table 2-2 provides a material breakdown of waste collected. In 2009, oil represented the largest waste stream collected, including 300,240 pounds by volume or approximately 50 percent of the material collected in the county. The next highest category of waste is electronic waste (E-Waste), totaling 102,920 pounds. Oil, E-Waste, paint (oil and latex), flammable liquids, and antifreeze accounted for more than 93 percent of the MRW waste collected by the County in 2009. These trends in the county have been consistent over the last several years. MRW collection dropped off in 2007, but steadily increased in 2008 and 2009.

### 2.2 Hazardous Waste Inventory

An inventory of the hazardous waste generators is provided in Appendix A. This list is based on information provided by Ecology, including dangerous waste generators, remedial action sites, transporters and facilities that manage, treat, and store hazardous waste, and zone designations. This information was updated June 1, 2009.

#### 2.2.1 Dangerous Waste Generators

Ecology maintains a list of dangerous waste generators within Cowlitz County. Dangerous wastes are those solid wastes that designate as dangerous waste or extremely hazardous waste under WAC 173-303-070 through WAC 173-303-100. The term "Dangerous Wastes" includes federal Hazardous Wastes and wastes regulated only by Washington State. Washington State regulates small, medium, large and exempt hazardous waste generators; a list of these generators is provided in Appendix A and their definitions are provided below.

- **Small Quantity Generators:** A generator whose monthly waste generation is less than the QEL (220 pounds for most common wastes or 2.2 pounds for acutely hazardous wastes) and whose accumulation (at any time) is less than 2,200 pounds for waste with a QEL of 220, or 2.2 pounds for waste with QEL of 2.2 pounds.

# 3 FUNDING AND GOVERNANCE

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Ecology's Coordinated Prevention Grants (CPGs) support most of the moderate risk waste programs in the county. The CPG program is funded by a 7/10 percent tax on all hazardous substances generated in the state. Cowlitz County has successfully received funding from the CPG program since its inception in 1991. The CPG program is not an entitlement program—local governments are required to prove their eligibility, follow priorities contained in approved solid and hazardous waste management plans, and provide a 25 percent match to the funding. Current Cowlitz County 2010 program revenue and expenditures are presented in Table 3-1.

The SQG fees (Table 3-2) cover only the costs of the actual disposal of generated materials—labor for processing and packaging the waste and administration is covered by the solid waste enterprise fund or the CPG.

The funding of MRW programs by Ecology is meant to encourage the public use of the program and to divert MRW from disposal in local landfills. If residents or businesses were asked to pay the actual handling and disposal costs associated with MRW, it is likely that participation rates would be much lower and disposal of MRW in local landfills would continue.

# 4 MODERATE RISK WASTE PROGRAM SERVICES

---

The County MRW program provides education, outreach, and collection services, in coordination with private contractors and haulers, to the residents and businesses in Cowlitz and Wahkiakum counties.

## 4.1 Household Hazardous Waste Collection

Cowlitz County offers public drop-off opportunities at the Waste Control Transfer Station and at mobile collection events.

### 4.1.1 Transfer Station

Cowlitz County collects HHW through its vendor at the Waste Control Transfer Facility and Recycling Drop-off Facility, 1150 3rd Avenue, Longview, WA 98632. On Tuesdays and Saturdays between 9:30 a.m. and 11:30 a.m., members of the general public are invited to come to the transfer station to properly dispose of pesticides, herbicides, fertilizers, paints, thinners, solvents, motor oil, antifreeze, pool chemicals, cleaning products, and any other toxic, flammable, or corrosive material. The total volume of these items cannot exceed 25 gallons or 200 pounds, or individual items larger than five gallons or 50 pounds, without prior approval.

Fluorescent light tubes brought to the transfer station in quantities of 22 or fewer are disposed of in the landfill. Quantities larger than 22 tubes are referred to commercial services specializing in the disposal of fluorescent tubes. The Washington State Legislature passed ESSB 5543 in 2010 to establish a producer-financed product stewardship program for the collection, recycling, and disposal of mercury-containing lights. The bill has been codified in state law as 770.95M RCW and will go into full effect in 2014. Cowlitz County is evaluating the impact of the law on the collection of fluorescent tubes and other mercury-containing products and will participate in the program when it is established by the state. At a minimum, the County will put in place a recovery system for mercury-containing products at the HHW collection facilities. In the meantime, the County transfer station will continue with current practices.

Propane tanks are accepted for a \$5.00 fee and are recycled by Waste Control. E-Waste is currently accepted free of charge under the program E-Cycle Washington, at the Transfer Facility drop-off recycling center located on the north end of the facility. The center is open from 7:30 a.m. to 5:30 p.m. seven days a week but is closed on major holidays. E-Waste eligible under the program includes:

- Televisions
- Computers

## 4.2 Household and Public Education and Outreach

The County provides educational materials to residents of Cowlitz and Wahkiakum counties in the form of brochures and booklets dealing with recycling, waste reduction, and proper disposal of HHW. The brochures are stocked and maintained at all public libraries in Cowlitz County as well as at the HHW Facility. They are also distributed at county events such as the local Earth Day celebration as well as at the County Fair. The brochures are available by request at the transfer station and the Department of Public Works. The County also promotes its HHW, recycling, and SQG programs through newspaper ads. The HHW waste mobile collection schedule is provided in Table 4-1.

## 4.3 Used Oil Collection

The County provides 12 collection sites for used motor oil and antifreeze (see Table 4-2). These sites include three in Longview; two in Kelso; one site each for Castle Rock, Cathlamet, Kalama, Ryderwood, Toutle, and Woodland; and one at the transfer station. Each site is monitored, cleaned, and maintained on a weekly basis. The residential used oil collection program meets the sign and container requirements of RCW 70.95I.040 and RCW 70.95I.030. Annual statements of the quantity of used oil collected are provided to Ecology. In 2009, the County collected 39,505 gallons of used motor oil.

## 4.4 Small Business Collection and Technical Assistance

Businesses that register as SQG also use the hazardous waste collection facility at the Waste Control Transfer Station. Individual or entities must preregister as an SQG and call ahead to make an appointment. Table 4-3 provides a history of the SQG program since 1998. Charges are based on types and quantities of hazardous waste and are shown in Table 3-2. County staff is not providing on-site technical assistance to businesses at this time. Staff does make SQG aware of the collection program for fee when inquiries are made and the county vendor does provide general disposal education during waste screening activities at the transfer station. In 2008, the County was among the top five counties for most SQG waste collected per capita. SQG registration forms can be obtained at the Waste Control Web site:

[www.wastecontrolrecycling.com/smallquantitygenerators.php](http://www.wastecontrolrecycling.com/smallquantitygenerators.php)

SQGs disposing of fluorescent tubes are referred to a private firm such as Ecolights, which provides pickup and disposal services. Propane tanks are accepted for a \$5.00 fee and are recycled by Waste Control.



Hazardous Waste Management Act (HWMA)—The HWMA, 70.105 RCW, regulates the transport, treatment, storage, and disposal of hazardous waste. The statute requires a comprehensive statewide hazardous waste plan; local hazardous waste management plans; dangerous waste regulations that address hazardous waste generation, handling, and disposal; criteria for siting hazardous waste management facilities; and identification of local areas that meet siting criteria and zoning for hazardous waste management facilities.

Ecology has provided rules to implement the HWMA. The Dangerous Waste regulations, Chapter 173-303 WAC, address the designation of dangerous wastes and the requirements for generators, transporters, and facilities handling these wastes. Waste generators must identify hazardous wastes at the business site, properly store and label wastes, and ensure that wastes are handled by qualified transporters and are disposed of at a permitted facility. Generators are responsible for their wastes until such point as the wastes are no longer hazardous. Failure to comply with requirements can result in civil and criminal penalties.

Used Oil Recycling Act—The 1991 Used Oil Recycling Act, Chapter 70.95I RCW, required each local hazardous waste management plan to establish used oil collection sites based on local goals, enforce sign and container requirements, educate the public on used oil recycling, and create funding estimates for used oil collection. Local governments must also submit annual reports to Ecology describing the number of collection sites and amounts of used oil collected from households. Requirements for transport, treatment, recycling, and disposal of used oil are also specified in the Used Oil Recycling Act.

Electronic Product Recycling Act—In 2006, the Washington legislature passed the Electronic Product Recycling Act, RCW 70.95N, requiring a convenient, safe and environmentally sound system for collecting and transporting covered electronic products. Covered electronics include televisions, computers, computer monitors, and portable or laptop computers. The statute mandated a system that encouraged the design of less toxic and more recyclable electronic products and that shared responsibility for the system among all stakeholders. Manufacturers must finance the collection, transportation, and recycling system. Regulations set by Ecology in WAC 173-900 govern program implementation.

#### Local:

The agencies involved in the enforcement of solid waste regulations in Cowlitz County are: the Environmental Health Unit (EHU), the County, and the cities. Detailed information regarding enforcement of solid waste regulations is provided in the SWMP Section 11.

The EHU is responsible for issuing permits for solid waste facilities. The EHU may contract any portion of its permit/enforcement program to Ecology, subject to restrictions and compliance with RCW 70.95.165. Every application for a permit is reviewed to determine whether the facility meets all applicable laws and regulations, conforms to the approved comprehensive SWMP, and complies with all zoning

# 5 STATE OF WASHINGTON BEYOND WASTE PLAN ELEMENTS

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Cowlitz County supports the State of Washington's Beyond Waste plan through the full implementation of this Moderate Risk Hazardous Waste Management Plan. The vision of the Beyond Waste plan is to:

Transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality.

The County's SWMP and MRW plans, while structured differently from a statewide plan, reflect the key initiatives in Beyond Waste related to reducing toxics and small-volume hazardous materials and wastes. The goal of these initiatives is to increase the progress toward eliminating the risks associated with these wastes, including those commonly used in residential and commercial settings. The recent Beyond Waste update included an increased emphasis on environmentally preferable purchasing and product stewardship rather than an end-of-life, chemical-by-chemical approach.

The County has a number of programs that support these goals, including:

- Hazardous waste collection events and convenient disposal and recycling locations
- Ongoing outreach and education
- E-Waste collection site located at the Waste Control facility
- Increasing program efficiency by facilitating services in both Cowlitz and Wahkiakum counties

# 6 IMPLEMENTATION

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The County will implement this plan at the same level of service as the previous plans over both the one and five-year planning period. This plan will be reviewed and updated if needed to determine eligibility of the County for applicable grant funding and/or to evaluate the effectiveness of programs and adjust them accordingly.

## 6.1 Goals and Objectives

The County's MRW goals and objectives flow from the guiding principles presented in its solid waste mission statement, as adopted by the County Board of Commissioners on March 19, 2002, as follows:

Provide the residents, businesses and cities of Cowlitz County with the most effective solid waste management possible considering economics, the environment, regulatory requirements, and the social and political environment of the community.

The primary goal of this plan is to reduce the generation of hazardous waste and to reduce illegal hazardous waste dumping, including the improper disposal of hazardous waste in public landfills, sewers, storm drains, and septic systems. This goal will be addressed through continuing the current level of service provided in the County, including HHW, SQG, and business education, and outreach; and through successful collection events and permanent collection facilities. Implementation of this goal will continue for the one- to five-year planning horizon and will be enforced according to the ordinances and rules provided in Sections 1 and 4.5 of this document. Additionally, the County intends to strive to improve its participation rate to 5% of households.

## 6.2 Public Involvement and Update Process

This MRW plan includes a public involvement process completed in accordance with RCW 70.105 as well as Ecology guidance for MRW planning. This process includes a review by the local Solid Waste Advisory Committee (SWAC), followed by a public comment period. Because the MRW plan will be included as an appendix to the SWMP, formal adoption by the Board of County Commissioners and local jurisdictions will occur after the final draft of the SWMP update is completed in 2011. Plan adoption will occur after first review and before final review by Ecology solid waste staff. Future updates to the plan will follow a similar review and public process where necessary to reflect significant changes in infrastructure, programming, or waste stream. As of the writing of this report, the County has not received any public comment on the proposed plan.

provide the County with the opportunity to pursue funding for those activities without requiring a plan update.

## LIMITATIONS

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The services undertaken in completing this plan were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This plan is solely for the use and information of our client unless otherwise noted. Any reliance on this plan by a third party is at such party's sole risk.

Opinions and recommendations contained in this plan apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this plan.

# TABLES



**Table 1-1  
Hazardous Household Substances List**

Substance or Class of Substance	Flammable	Toxic	Corrosive	Reactive
<b>GROUP 1: Repair and Remodeling</b>				
Adhesives, Glues Cements	•	•		
Roof Coatings, Sealants		•		
Caulking and Sealants		•		
Epoxy Resins	•	•		
Solvent Based Paints	•	•		
Solvents and Thinners	•	•	•	•
Paint Removers and Strippers		•	•	
<b>GROUP 2: Cleaning Agents</b>				
Oven Cleaners		•	•	
Degreasers and Spot Removers	•	•	•	
Toilet, Drain and Septic Cleaners		•	•	
Polishes, Waxes and Strippers	•	•	•	
Deck, Patio, and Chimney Cleaners	•	•	•	
Solvent Cleaning Fluid	•	•	•	•
Household Bleach (>8% solution)			•	
<b>GROUP 3: Pesticides</b>				
Insecticides	•	•		
Fungicides		•		
Rodenticides		•		
Molluscides		•		
Wood Preservatives		•		
Moss Retardants		•	•	
Herbicides		•		
Fertilizers		•	•	•
<b>GROUP 4: Auto, Boat, and Equipment Maintenance</b>				
Batteries		•	•	•
Waxes and Cleaners	•	•	•	
Paints, Solvents, and Cleaners	•	•	•	•
Additives	•	•	•	•
Gasoline	•	•	•	•
Flushes	•	•		
Auto Repair Materials	•	•		
Motor Oil		•		
Diesel Oil	•	•		
Antifreeze		•		
<b>GROUP 5: Hobby and Recreation</b>				
Paints, Thinners, and Solvents	•	•	•	•
Chemicals (including Photo and Pool)	•	•	•	•
Glues and Cements	•	•	•	
Inks and Dyes	•	•		
Glazes		•		
Chemistry Sets	•	•	•	•
Pressurized Bottled Gas	•	•		•
White Gas	•	•		•
Charcoal Lighter Fluid	•	•		
Batteries		•	•	•

**Table 2-1  
Moderate Risk Waste Disposal  
Cowlitz County**

Customers Served				Pounds Disposed Of	Disposal Cost	Disposal \$/customer	Disposal \$/pound
Year	Mobile	Fixed	Total				
2000	301	1151	1452	567,791	\$ 26,762.63	\$ 18.43	\$ 0.05
2001	107	1196	1303	473,741	\$ 30,481.59	\$ 23.39	\$ 0.06
2002	169	1421	1590	689,991	\$ 37,418.54	\$ 23.53	\$ 0.05
2003	301	1217	1518	675,475	\$ 54,933.51	\$ 36.19	\$ 0.08
2004	200	1551	1751	688,317	\$ 61,912.00	\$ 35.36	\$ 0.09
2005	114	1585	1699	695,542	\$ 50,025.00	\$ 29.44	\$ 0.07
2006	89	1628	1717	647,902	\$ 53,314.92	\$ 31.05	\$ 0.08
2007	105	1717	1822	557,059	\$ 52,317.12	\$ 28.71	\$ 0.09
2008	115	1752	1867	576,654	\$ 68,755.05	\$ 36.83	\$ 0.12
2009	119	1573	1692	598,294	\$ 45,633.98	\$ 26.97	\$ 0.08
2010							
<b>Total</b>	<b>1620</b>	<b>14791</b>	<b>16411</b>	<b>6,170,766</b>	<b>\$ 481,554.34</b>		
<b>Average</b>						<b>\$ 28.99</b>	<b>\$ 0.08</b>



**Table 2-2  
Moderate Risk Waste Disposal Material Breakdown  
Cowlitz County, Washington**

Material (volume in pounds) (D.O.T. Haz Class)	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Aerosols (2.1)	3,438	2,898	1,000	499	1,366	1,100	1,940	1,920	1,958	2,120	2,518
Antifreeze	24,220	15,320	20,400	20,180	27,384	28,700	40,080	29,060	37,080	26,703	31,800
Batteries, Dry Cell (8)	1,643	1,483	2,112	1,624	1,231	1,178	2,549	2,457	2,009	1,352	1,074
Batteries, Wet Cell (8)	14,105	14,420	18,680	40,811	77,840	81,210	78,620	77,220	75,660	51,980	67,040
Batteries Li, Ni-Cd	-	238									
Corrosive Acids (8)	3,054	860	1,150	400	1,485	194	233	195	584	520	743
Corrosive Bases (8)	592	278	1,334	200	1,886	986	645	455	432	531	473
Flammable Liquids(3)	12,672	17,111	27,700	15,605	30,731	20,814	19,849	47,433	47,882	35,924	30,684
Latex Paint—landfill	92,670	52,476	2,920	6,750	4,050	4,784	14,520	11,215	20,650	10,650	14,360
Latex Paint—recycle	-	47,320	81,920	80,520	83,280	89,740	89,700	59,920	58,360	38,940	29,200
Oil	265,860	300,240	311,023	305,840	324,420	364,740	357,380	371,240	407,440	276,840	340,360
Oil-Based Paint	13,597	24,104	21,758	14,674	35,420	22,264	25,806				
Oil Filters	10,225	8,670	4,780	5,240	5,160	4,820	7,460	3,180	7,600	2,500	2,580
Oxidizers (5.x)	-	65	75	200	235	150	54	187	103	60	46
PCBs/Ballasts (9)	2,889	1,825	1,299	-	704	651	714	755	1,088	514	3,499
Sharps	1,480	1,650	1,560	1,140	1,445	3,800	1,320	1,570	2,750	950	250
Toxic/Poison (6)	7,584	6,225	5,405	2,531	4,558	8,411	2,467	2,008	4,358	2,855	2,825
Other Wastes n.o.s.	2,068	191	2,140	1,586	887	1,980	1,300	5,860	1,437	102	1,939
CRT monitors	-	-	59,298	47,059	41,020	33,220	25,480	26,400	-	-	-
E-Waste	252,426	221,870	12,100	12,200	4,800	26,800	18,200	34,400	20,600	21,200	38,400
<b>TOTAL</b>	<b>708,523</b>	<b>717,244</b>	<b>576,654</b>	<b>557,059</b>	<b>647,902</b>	<b>695,542</b>	<b>688,317</b>	<b>675,475</b>	<b>689,991</b>	<b>473,741</b>	<b>567,791</b>

**Table 3-1  
Cowlitz County Moderate Risk Waste Program  
2010 Budget**

<b>REVENUES</b>	
SQG charges	5,000
State Grant	83,775
Tipping Fees	38,775
<b>TOTAL REVENUE</b>	<u>127,550</u>
<b>EXPENDITURES</b>	
Salary & Benefits	3,500
Contract Labor—Facility	46,700
HHW Disposal	40,000
Latex Paint Disposal	22,450
Supplies	9,000
Advertising	5,900
<b>TOTAL EXPENDITURES</b>	<u>127,550</u>

**Table 3-2**  
**Small-Quantity Generator Fee Schedule (2011)**  
**Cowlitz County, Washington**

Wastes	\$/gal	\$/pound	\$/each	Haz. Class
Aerosols (flammable or toxic)	N/A	\$1.20	\$0.55	2
Antifreeze	\$0.80	N/A*	N/A*	nr
Ballasts (PCBs)	N/A	\$0.87	N/A*	9
Batteries, Dry	N/A	\$0.75	N/A*	8
Batteries, Wet	n/c	n/c	n/c	8
Corrosive (acid or base)	\$7.00	\$0.88	N/A*	8
Flammable Liquid	\$2.35	\$0.34	N/A*	3
Latex Paint	\$2.30	\$0.25	N/A*	nr
Mercury (liquid, or contained in article)	N/A	\$2.75	N/A*	8
Mercury, Contaminated Debris	N/A	\$4.00	N/A*	8
Oil-Based Paint (and related material)	\$3.30	\$0.41	N/A*	3
Motor Oil	n/c	n/c	n/c	nr
Oil Filters	\$73.00 / 55-gal drum crushed or uncrushed			
Organic Peroxide	\$30.00	\$3.50	N/A*	5.2
Oxidizers	\$15.25	\$1.91	N/A*	5.1
Reactive	\$30.00	\$3.50	N/A*	4.X
Solvents / Flammable Liquid	\$2.35	\$0.34	N/A*	3
Toxic / Poison	\$7.00	\$0.88	N/A*	6
*Minimum \$2.00 charge on each line item.				

**Table 3-3  
Hazardous Waste Classification  
Cowlitz County, Washington**

Type	Class Number
Explosives	1
Compressed Gases	2
Flammable Liquids	3
Flammable Solids	4
Oxidizers	5
Poisons	6
Corrosives	7
Radioactive Material	8
Miscellaneous	9

**Table 4-1  
2010 Household Hazardous Waste Collection Schedule  
Cowlitz County, Washington**

Event Type	City	Date	Day	Time	Location
Stationary Events	Longview	All Year	Tues & Sat	9:30 a.m. - 1:30 a.m.	Waste Control Transfer Station, 1150 Third Ave., Longview
	Castle Rock	04/10/2010	Sunday	9:00 a.m.-1:00 p.m.	Cascade Select Grocery Store, 204 Cowlitz St.
Mobile Events	Kalama	05/08/2010	Monday	9:00 a.m.-1:00 p.m.	Parking lot behind Heritage Bank (corner of Fir and E. Frontage Rds)
	Cathlamet	06/05/2010	Tuesday	9:00 a.m.-1:00 p.m.	PUD parking lot in Cathlamet, Division Street behind County Courthouse
	Ryderwood	09/01/2010	Wednesday	10:00 a.m.-12:30 p.m.	On main road between library and fire station
	Woodland	10/23/2010	Saturday	9:00 a.m.-1:00 p.m.	Eastside parking lot of Safeway

**Table 4-2**  
**Residential Oil and Antifreeze Collection Sites**  
**Cowlitz County, Washington**

Castle Rock	110 SE Allen Avenue—Corner of Allen and Cowlitz
Cathlamet	276 E SR-4—Near Chevron Gas Station (on east side)
Kalama	6315 Old Pacific Highway South (1st)—Next to Kalama City Shop
Kelso East	250 Kelso Drive—Behind Super 8 Motel at recycling center
Kelso	807 South Pacific Avenue—behind convenience store near alley
Longview	1150 Third Avenue—Transfer Station
Longview East	1116 15th Avenue—In alley behind NAPA Auto Parts
Longview East	1165 15 <sup>th</sup> Avenue—O'Reilly Auto Parts
Longview West	3725 Ocean Beach Highway—Next to Schuck's Auto Supply
Ryderwood	In alley between library and fire station
Toutle	200 S. Toutle Road—On entrance to refuse disposal site
Woodland	1025 Pacific Avenue—Woodland Auto Supply (NAPA)

**Table 4-3**  
**Small-Quantity Generator Program**  
**Cowlitz County, Washington**  
 (accumulation of waste less than 2,200 lbs)

Year	No. of Customers	Pounds Waste	Revenue
1998	41	8,456	\$4,073
1999	42	10,807	\$5,607
2000	51	12,631	\$4,343
2001	63	14,497	\$3,550
2002	76	28,737	\$3,898
2003	72	28,343	\$7,629
2004	73	28,012	\$8,145
2005	97	49,661	\$13,948
2006	118	59,749	\$15,073
2007	135	50,510	\$12,897
2008	152	51,430	\$13,195
2009	76	19,177	\$5,908
2010	59	19,387	\$6,928

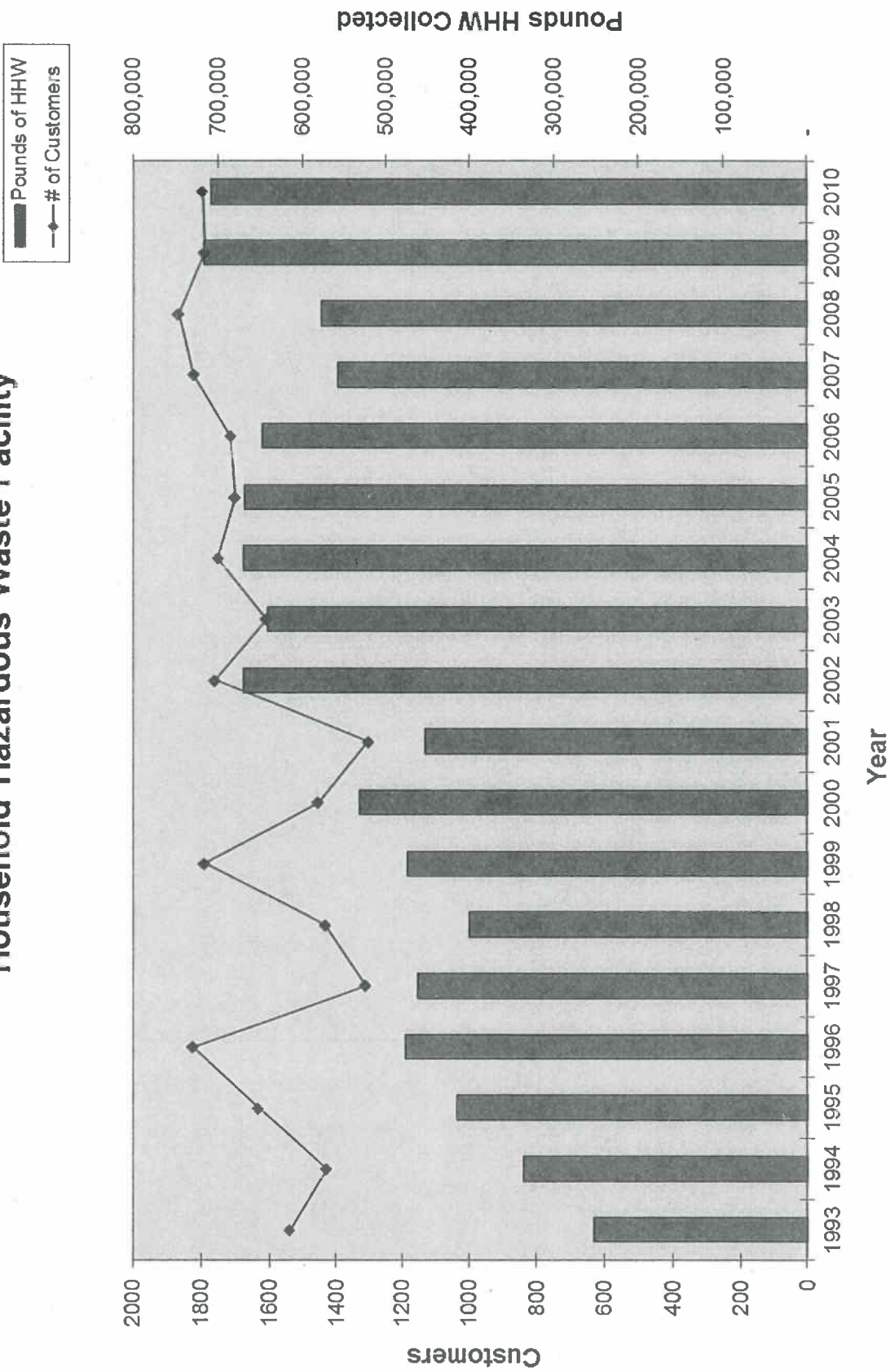
<sup>a</sup>Change in collection due to state-level electronic waste collection program.

FIGURE





# Household Hazardous Waste Facility



# APPENDIX A

HAZARDOUS WASTE GENERATORS



**Transportation, Storage and Disposal Facilities  
Cowlitz County, Washington**

RCRA Site ID	Name	Generator Status	City
WAD092899574	Emerald Kalama Chemical LLC	LQG	Kalama
<p>NOTES: LQG = large-quantity generator. RCRA = Resource Conservation and Recovery Act.</p>			

## Large-Quantity Generators Cowlitz County, Washington

RCRA Site ID	Name	City
WAD092899574	Emerald Kalama Chemical LLC	Kalama
WAH000000455	Steelscape Inc	Kalama
WAH000034769	PLAS2FUEL CORP	Kelso
WAD988472452	Columbia Analytical Services Inc Kelso	Kelso
WAD042482984	Stowe Woodward Co	Kelso
WAH000033959	Koppers Inc	Longview
WAD009041450	Weyerhaeuser NR Co Longview	Longview
WAD009041443	Longview Fibre Paper & Packaging Longview	Longview
WAH000020453	Cloverdale Paint Corp	Longview
WAD057068561	Chinook Ventures Inc.	Longview
WAH000030316	WA DOT Lewis & Clark Bridge	Longview
WAH000017665	Flexible Foam Products Inc	Longview
WAD010745917	INTERNATIONAL PAPER LONGVIEW	Longview
NOTES: RCRA = Resource Conservation and Recovery Act. WA DOT = Washington Department of Transportation.		

**Medium-Quantity Generators  
Cowlitz County, Washington**

RCRA Site ID	Name	City
WAD988471645	PacifiCorp Hydro Resources Merwin	Ariel
WAR000001149	Olympic Pipe Line Co Castle Rock Station	Castle Rock
WAD988496808	UPS Kelso	Kelso
WAH000027968	Target Store 0628	Kelso
WAD112678909	Steel Painters Inc	Kelso
WAH000013839	Wayron LLC	Longview
WAR000008185	Wal Mart Store 2469	Longview
WAD044110633	Kemira Water	Longview
WAH000024248	Home Depot 4725	Longview
WAH000034723	FIBRE FEDERAL CREDIT UNION	Longview
WAD981763790	Lamiglas Inc	Woodland
WAH000013300	Hayes Cabinets Inc	Woodland
NOTE: RCRA = Resource Conservation and Recovery Act.		

## Small-Quantity Generators Cowlitz County, Washington

RCRA Site ID	Name	City
WAH000018929	PacifiCorp Hydroresources Yale	Amboy
WAD988515151	Weyerhaeuser Regional Landfill	Castle Rock
WAD988479432	WA DNR Pacific Cascade Region	Castle Rock
WAH000019133	PacifiCorp Hydro Resources Swift Hydroel	Cougar
WAD982653313	Arch Wood Protection Inc	Kalama
WAH000008854	Penske Truck Leasing Co LP	Kelso
WAD981772221	KELSO SCHOOL DIST 458	Kelso
WAD071816060	PSC Industrial Outsourcing LP Kelso	Kelso
WAD050961762	Behrends Body Shop Inc.	Kelso
WAH000030860	Simpson Timber Company Longview	Longview
WAD988520631	JH Kelly LLC	Longview
WAD982654881	Solvay Chemicals Inc	Longview
WAD988515698	Macs Radiator Repair Inc	Longview
WAD988483293	Lower Columbia College	Longview
WAR000002485	Longview Kelso Medical Office	Longview
WA7891406343	US DOE BPA Longview Substation	Longview
WA0000932657	One Hour Photo Express Longview	Longview
WAD980981153	Cowlitz County PUD No. 1	Longview
WAH000021375	USFWS ABERNATHY FISH TECHNOLOGY CENTER	Longview
WAH000015750	Brusco Tug & Barge Inc 14th Ave	Longview
WA0000569343	Saint John Medical Center	Longview
WAD027344084	Bud Clary Chevrolet Inc	Longview
WAD988467197	Cowlitz Clean Sweep Inc	Longview
WAD988476545	USNR Woodland Division	Woodland
WAD988495115	Gary Loomis Inc	Woodland
WAR000004283	Landworks Northwest Inc	Woodland
WAH000007781	Columbia Colstar Woodland	Woodland
<p>NOTES:</p> <p>PUD = public utility district.</p> <p>RCRA = Resource Conservation and Recovery Act.</p> <p>US DOE BPA = U.S. Department of Energy, Bonneville Power Administration.</p> <p>USFWS = U.S. Fish and Wildlife Service.</p> <p>WA DNR = Washington State Department of Natural Resources.</p>		

**Conditionally Exempt Small-Quantity Generators  
Cowlitz County, Washington**

RCRA Site ID	Name	City
WAH000027094	US DA FS GPNF Coldwater Ridge VC	Castle Rock
WAH000015057	AIRLIQUIDE INDUSTRIAL US LP	Kalama
WAH000015255	KALAMA PORT	Kalama
WAH000014423	North Star Yachts Kalama	Kalama
WAR000002899	Interstate Wood Products Inc	Kelso
WAD988516076	Arco 4397	Kelso
WAD988485108	Chevron 96789	Kelso
WAR000004663	Sears Unit 2319/6121/7019	Kelso
WAH000005702	Sause Bros Ocean Towing Co Inc	Longview
WAH000014944	CCS	Longview
WAR000009928	WA AGR Cowlitz 1	Longview
WAD061486858	Port of Longview	Longview
WAD988516084	Arco 5300	Longview
WAD988516134	ARCO 5775	Longview
WAD098297831	LONGVIEW ALUMINUM LLC	Longview
WAH000034471	PSE MINT FARM GENERATION Facility	Longview
WAD988492187	COWLITZ COUNTY LANDFILL	Longview
WAD052214301	Waste Control Recycling	Longview
WAH000022628	Jammies Environmental Inc	Longview
WAD988481032	Columbia River Carbonates Woodland	Woodland
WAD087462503	Fuel Processors Inc	Woodland
WAD980986012	Oil Re Refining Co Woodland	Woodland
WAD988485728	WOODLAND CHEVRON 98829	Woodland
WAH000030745	NW TankCar Services LLC	Woodland
WAH000029272	Stellar J Corporation	Woodland
NOTE: RCRA = Resource Conservation and Recovery Act.		

# APPENDIX B

SWAC PARTICIPATION







**DEPARTMENT OF PUBLIC WORKS  
SOLID WASTE DIVISION**

1600 - 13<sup>th</sup> Avenue South  
Kelso, WA 98626  
TEL (360) 577-3030  
FAX (360) 636-0845

[www.co.cowlitz.wa.us/publicworks/](http://www.co.cowlitz.wa.us/publicworks/)

**Board of County Commissioners**  
Michael Karnofski      District 1  
George Raiter          District 2  
Axel Swanson          District 3

September 8, 2010

George Raiter, Chair  
Cowlitz County Board of Commissioners  
207 Fourth Avenue North  
Kelso, WA 98626

**SUBJECT: Cowlitz County Moderate Risk Hazardous Waste Management Plan**

Dear Commissioner Raiter:

At this time it is my pleasure, on behalf of the Cowlitz County Solid Waste Advisory Committee (SWAC), to convey to you the **final draft** of the Cowlitz County Moderate Risk Hazardous Waste Management Plan (MRWP). At the September 8, 2010 meeting the committee accepted the final draft plan as being complete and recommended that county staff submit the plan to the Washington State Department of Ecology (Ecology) as a plan amendment to the 2007 Solid Waste Management Plan (SWMP).

The Cowlitz County Public Works Department initiated the plans development in 2007 as part of the SWMP update. The Cowlitz County Solid Waste Advisory Committee has provided the forum for the plans development. During the development of the plan several events shaped the final outcome of the plan. Initial drafts of the plan were reviewed and approved by the SWAC in 2007. It was our intent to include the Moderate Risk Waste Plan as an appendix in the completed 2007 Solid Waste Management Plan, thus making a combined SWMP and MRWP. However, at that time Ecology advised that new planning guidelines were being developed for MRW planning and recommended Cowlitz County pull this element of our SWMP update. Revised planning guidelines were issued by Ecology in February 2010 and the plan was updated to meet the new planning criteria by the County's consultant, Maul Foster and Alongi. The committee has subsequently reviewed the new draft plan at recent Solid Waste Advisory Committee meetings and, as previously stated, recommend that county staff formally submit the final draft of the Cowlitz County Moderate Risk Hazardous Waste Management Plan as an amendment to the 2007 Cowlitz County Solid Waste Management Plan.

It is the intent of this correspondence to convey to you that the Solid Waste Advisory Committee has actively participated in a public forum for the development of the 2010 Cowlitz County Moderate Risk Hazardous Waste Management plan and to convey our desire to have the plan amended to the 2007 Cowlitz County Solid Waste Management Plan as Appendix D.

# APPENDIX E

## BEYOND WASTE RECOMMENDED ACTIONS



**1.1.1.1 Moving Toward Beyond Waste with Industries**

	<b>Recommended Action</b>	<b>Milestones</b>
<u>IND 1</u>	Modify the Pollution Prevention Planning program to dovetail with the Beyond Waste vision.	<b>Milestone IND A:</b> Most P2 plans comprehensively address hazardous substance use.
<u>IND 2</u>	Expand information on Ecology's Web site.	<b>Milestone IND B:</b> The Hazardous Waste and Toxics Reduction program Web site includes more information about best management practices, including alternatives for key wastes and substances.
<u>IND 3</u>	Put in place several Beyond Waste incentives.	<b>Milestone IND C:</b> Several incentives are in place to help implement Beyond Waste, including a possible low-interest loan program or possible changes to hazardous waste fees.
<u>IND 4</u>	Encourage new businesses to adopt sustainable practices.	<b>Milestone IND D:</b> Most of the major new businesses moving to Washington incorporate more sustainable practices.
<u>IND 5</u>	Encourage waste handlers (including businesses and other entities that generate waste) to become materials brokers.	<b>Milestone IND E:</b> Hazardous waste handlers including businesses and other entities in Washington have taken noticeable steps toward becoming brokers of materials.
<u>IND 6</u>	Support the U.S. Environmental Protection Agency's "Beyond Waste-type" efforts.	<b>Milestone IND F:</b> EPA and Ecology work together to implement Beyond Waste.
<u>IND 7</u>	Promote sustainability in product development.	<b>Milestone IND G:</b> A strategy has been developed and agreed to for moving forward and at least one project is underway to promote sustainable product design.

	recommended by the Governor's Climate Action Team.	products. <b>Milestone IND O:</b> Legislation is modified to support more environmentally preferable purchasing, a program to track EPP purchases is in place, and sales of EPP goods and services are increasing.
<u>IND 14</u>	Educate the public and businesses on prevention, proper use, storage, and disposal of hazardous products and wastes. Encourage safer alternatives to minimize toxic threats, especially to vulnerable populations.	<b>Milestone IND P:</b> Statewide education to minimize toxic threats is in place and complements local and regional efforts. (Same as MRW M) <b>Milestone IND Q:</b> Fewer toxic products are purchased, misused, and disposed of improperly. The public is more aware of which chemicals are in products.

**1.1.1.2 Reducing Small-Volume Hazardous Materials and Wastes**

	<b>Recommended Action</b>	<b>Milestones</b>
<u>MRW 1</u>	Eliminate or minimize groups of the most toxic chemicals as part of the agency's Reducing Toxic Threats work.	<b>Milestone MRW A:</b> Multiple states have agreed on a chemical assessment protocol to identify safer alternatives to priority chemicals. Safer alternatives are identified for 10 priority chemicals.
<u>MRW 2</u>	Reduce threats from mercury.	<b>Milestone MRW B:</b> Product stewardship systems for fluorescent and other mercury-containing lamps, mercury thermostats, and other mercury-containing devices are in place. Mercury in biosolids continues to diminish. <b>Milestone IND R:</b> The Washington State Mercury Plan has been fully implemented for hospitals, auto switches, and lamps. A national repository for mercury is in place, resulting in significantly less mercury in the environment.
<u>MRW 3</u>	Reduce threats from Persistent Bioaccumulative Toxins (PBTs).	<b>Milestone MRW C:</b> The Lead Chemical Action Plan (CAP) is implemented and additional work is being done on other PBTs.

		government's focus on preventing threats from MRW.
<u>MRW 9</u>	Support full implementation of local hazardous waste plans.	<b>Milestone MRW K:</b> Local hazardous waste plans are up to date and being fully implemented in accordance with Chapter 70.105 RCW and the new local hazardous waste planning guidelines.
<u>MRW10</u>	Ensure businesses and facilities handling MRW comply with environmental laws and regulations. Encourage as much reuse and recycling of MRW as possible.	<b>Milestone MRW L:</b> MRW facilities, including treatment, storage, and disposal facilities separately handling MRW, comply with Chapter 173-350 WAC. The facilities reuse or recycle an increasing proportion of MRW.
<u>MRW 11</u>	Educate the public and businesses on prevention, proper use, storage, and disposal of hazardous products and wastes. Encourage safer alternatives to minimize toxic threats, especially to vulnerable populations.	<b>Milestone MRW M:</b> Statewide education that minimizes toxic threats is in place and complements local and regional efforts. (Same as IND P.) <b>Milestone MRW N:</b> Fewer toxic products are purchased, misused, and disposed of improperly. The public is more aware of what chemicals are in products. (Same as IND Q.)
<u>MRW 12</u>	Develop and implement a strategy for a more regionally focused MRW program by evaluating the most significant threats and effective approaches, including safer alternatives, to reducing those threats.	<b>Milestone MRW O:</b> A regional MRW strategy, based on existing and new studies, is developed and being implemented.

**1.11.3 Increasing Recycling for Organic Materials**

	Recommended Action	Milestones
<u>ORG 1</u>	Lead by example in government.	<b>Milestone ORG E:</b> Most people (government, business, and the public) understand the benefits of healthy soils. <b>Milestone ORG J:</b> Organics recovery (including landscaping and food scraps)

		increased infrastructure. Large municipalities offer food waste collection programs to residential and commercial customers.
<u>ORG 3</u>	Improve quality of recycled organic products.	<p><b>Milestone ORG C:</b> Home composting programs are active and successful in every county.</p> <p><b>Milestone ORG D:</b> The quality of recycled organic products has improved.</p> <p><b>Milestone ORG E:</b> Most people (government, business, and the public) understand the benefits of healthy soils.</p> <p><b>Milestone ORG L:</b> Major retailers promote the use of natural yard care and pest control products, including compost.</p>
<u>ORG 4</u>	Develop a strategy to increase industrial and agricultural organics recovery.	<p><b>Milestone ORG A:</b> A strategy for increasing agricultural and industrial organics recycling is being implemented.</p> <p><b>Milestone ORG B:</b> Effective incentives for organics recycling are identified and pursued.</p> <p><b>Milestone ORG F:</b> Statutory and regulatory barriers to closed-loop organics recycling are addressed.</p> <p><b>Milestone ORG G:</b> A beneficial use hierarchy is created for residual organic material processing and uses.</p> <p><b>Milestone ORG H:</b> Soil carbon sequestration using recycled organic materials has increased based on research recommendations.</p> <p><b>Milestone ORG I:</b> Technical assistance, research, and/or capital expense funds support the development of at least two biomass-to-energy and biomass-to-fuel and co-products "organic refinery" projects.</p>

		<p><b>Milestone GB G:</b> At least five buildings are built to the Living Building standard in Washington.</p>
<u>GB 2</u>	Lead by example in government.	<p><b>Milestone GB A:</b> Washington continues to be a leader in green building.</p> <p><b>Milestone GB B:</b> All new state-funded buildings continue to meet or exceed green building requirements.</p> <p><b>Milestone GB C:</b> Government continues to identify and remove regulatory barriers to green building.</p> <p><b>Milestone GB H:</b> At least 50 percent of all local governments in Washington have adopted green building policies and/or incentives.</p> <p><b>Milestone GB J:</b> Authorities adopt policies that require low-impact development (LID) strategies to be included in building design and maintenance.</p> <p><b>Milestone GB K:</b> Energy use in public buildings meets or exceeds Architecture 2030 goals.</p>
<u>GB 3</u>	Provide incentives that encourage green design, construction, and deconstruction and begin removing disincentives.	<p><b>Milestone GB A:</b> Washington continues to be a leader in green building.</p> <p><b>Milestone GB C:</b> Government continues to identify and remove regulatory barriers to green building.</p> <p><b>Milestone GB G:</b> At least five buildings are built to the Living Building standard in Washington.</p> <p><b>Milestone GB H:</b> At least 50 percent of all local governments in Washington have adopted green building policies and/or incentives.</p> <p><b>Milestone GB J:</b> Authorities adopt policies that require low-impact (LID) strategies to be included in building design and maintenance.</p>
<u>GB 4</u>	Expand capacity and markets for reusing and recycling construction and demolition materials.	<p><b>Milestone GB D:</b> Ten percent of all certified green building projects achieve credits for using existing building stock or salvaged materials, and/or at least</p>

		<b>Milestone GB I:</b> A third-party certification system for green building materials effectively provides verification that products are manufactured in compliance with product stewardship and sustainability principles.
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<b>1.11.5 Measuring Progress Toward Beyond Waste</b>		
	<b>Recommended Action</b>	<b>Milestones</b>
<u>DATA 1</u>	Consolidate all related and useful data collection efforts and develop a comprehensive data tracking and evaluation system for Beyond Waste and other environmental activities.	<p><b>Milestone DATA A:</b> The majority of Waste 2 Resources and Hazardous Waste and Toxic Reduction staff work plan activities correspond to Beyond Waste indicators. The Agency understands how Beyond Waste indicators relate to Agency performance measures.</p> <p><b>Milestone DATA B:</b> A waste characterization study is completed every four years. State studies are coordinated with waste characterization studies done at the local level.</p>
<u>DATA 2</u>	Update and review existing indicators on an annual basis. Develop and implement an evaluation process for all working indicators. Eliminate non-useful, non-viable measures, and add potential new measures.	<b>Milestone DATA C:</b> An evaluation process and recommendations for existing indicators are in place.
<u>DATA 3</u>	Base policy decisions on analysis of trends and projections based on Beyond Waste indicators.	<b>Milestone DATA D:</b> Annual indicator reports include goals and are evaluated. Policy decisions are based on the trend analysis.
<u>DATA 4</u>	Continue to expand the communication strategy for the Beyond Waste Progress Report within Ecology and externally.	<b>Milestone DATA E:</b> The progress report receives publicity internally and externally.



APPENDIX F  
COWLITZ COUNTY SOLID WASTE ADVISORY  
COMMITTEE BY-LAWS



# COWLITZ COUNTY SOLID WASTE ADVISORY COMMITTEE

## BY-LAWS

### 1. Statement of Purpose

The Cowlitz County Solid Waste Advisory Committee (SWAC) has been appointed by the Board of County Commissioners (BOCC) in accordance with Chapter 70.95 (165) RCW. The statute requires the SWAC to “assist” in the development of solid waste handling programs and policies concerning solid waste handling and disposal, and review and comment on proposed rules, policies or ordinances prior to their adoption . . .” The scope and charge of the Cowlitz County Solid Waste Advisory Committee shall be:

- a. to advise, actively assist and participate in the update or revision of the county or regional Solid Waste Management Plan;
- b. to assist Cowlitz County in the development of programs and policies concerning solid waste handling and disposal, and;
- c. to review and comment on proposed solid waste management rules, fees, policies and/or ordinances prior to their adoption.

### 2. Composition

- A. **Members** – The SWAC shall be composed of nine (9) members, each having one vote, representing a balance of interest among the following groups: citizens, public interest groups, business, the waste management industry and local government.
- B. **Ex-Officio Members** – The BOCC may appoint non-voting ex-officio members to the SWAC, who will serve at the BOCC’s pleasure.
- C. **Appointment** – Members shall be appointed by the Board of County Commissioners.
- D. **Terms** – Members shall serve a term of two (2) years commencing from the March 15, 1988 appointment date. Members may be reappointed to serve consecutive terms. Reappointment shall be subject to confirmation by the Board of County Commissioners.
- E. **Chair** – The initial Chairperson shall be appointed for a two (2) year term by the Board of County Commissioners. Subsequent chairpersons shall be elected by the Committee sitting in regular, open public meetings. The Chair will preside over committee meetings and coordinate development of the agenda with staff representatives of Cowlitz County Public Works Department. The Chair will sign all correspondence originated by the Committee on behalf thereof.
- F. **Vice Chair** – A majority of the Committee shall elect one of its members as Vice Chair. The term of the Vice Chair shall be for two (2) years. The Vice Chair will preside over Committee meetings in the absence of the Chair.

4. **Recommendations**

The SWAC shall advise and make recommendation to the Board of County Commissioners on matters within their scope and charge as provided for in SWAC By-Laws. Written reports, recommendations and correspondence submitted to the Board of County Commissioners shall be forwarded on behalf of a majority of the members over the signature of the Chair. Minority reports, if any, shall be attached to, and forwarded with such reports, recommendations or correspondence without comment by the Chair.

5. **Waiver of the Rules**

Any of the above rules or procedures may be waived by a majority vote of the quorum provided further that the reason therefore be included in each motion for waiver.

6. **Amendments**

Any of these By-Laws may be amended or repealed, and new By-Laws may be adopted, by two-thirds majority vote of the quorum and approval by the BOCC. Prior notice of thirty (30) days shall be given to the SWAC before undertaking amendatory action.

ADOPTED July 20, 1988.