

Emergency Support Function #3 (Public Works and Engineering) Annex

Thurston County Comprehensive Emergency Management Plan (CEMP)



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Primary Agency
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Supporting Agencies & Organizations:

Thurston PUD
LOTT Clean Water Alliance
Thurston County Community Planning and Economic Development
Thurston County Public Health and Social Services

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1. Introduction

1.1 Purpose

This document is a supporting annex of the Thurston County Comprehensive Emergency Management Plan (*base plan*) and serves to establish policies and procedures for the effective countywide coordination of necessary public works and engineering capabilities in the event of a human, technological or natural caused disaster. Primary and supporting agencies, their general responsibilities, and critical disaster response activities related to public works and engineering are identified herein and serve as a reference for executive officials, Emergency Coordination Center (ECC) staff, incident commanders and other private and public stakeholders to coordinate delivery of public works and engineering resources and capabilities during incident response.

1.2 Scope

Emergency Support Function (ESF) #3 (Public Works and Engineering) coordinates local capabilities and resources to facilitate delivery of public works services, technical assistance, engineering expertise, construction management, emergency water/wastewater utility repairs, and other support to respond to and recover from a disaster or other incident requiring a countywide coordinated response. Activities within the scope of ESF #3 include:

- Conducting pre-incident and post-incident assessments of public works and infrastructure, to include participation in rapid needs assessment activities immediately following an incident.
- Emergency contracting to support lifesaving and life-sustaining services.
- Coordinating emergency repair/restoration of damaged public infrastructure and critical facilities to include temporary restoration of water supply and wastewater treatment systems.
- Coordinating for the demolition or stabilization of damaged structures and facilities designated as immediate hazards to public health and safety, and/or as necessary to support response objectives.
- Coordinating for the clearance, removal, temporary storage, and/or reduction of debris in support of response and recovery objectives.
- Provide technical assistance to public and private stakeholders including structural inspection of government facilities, commercial buildings, private residences, and other structures within the authorities and resource limitations of ESF #3 primary and supporting agencies.
- Assisting in the preparation of project worksheets (PWs) and preliminary damage assessments (PDAs) in support of the DHS/Federal Emergency Management Agency (FEMA) Public Assistance Program and other disaster recovery programs.

In cases where there is population displacement and/or widespread loss of utility services, and local jurisdictions are overwhelmed, ESF #6 (Mass Care, Emergency Assistance, Housing and Human Services) addresses support for hydration, feeding, emergency sheltering and other life-sustaining services to affected populations. ESF #3 can provide coordination of any or all provisions of potable water, solid waste disposal, emergency power, and other life-sustaining activities to support mass care efforts.

ESF #3 is linked closely with the Infrastructure Systems Recovery Support Functions (RSF) under the Thurston County Disaster Recovery Framework. ESF #3 works closely with the Infrastructure Systems Recovery Support Function (RSF) to coordinate the transition from emergency repairs to longterm restoration activities.

As part of incident response operations at the Emergency Coordination Center, ESF #3 coordinates information and resources to directly support effective delivery of the following core capability: infrastructure systems. Through intersecting activities with other support functions, ESF #3 provides general support to the following additional core capabilities: operational coordination, critical transportation, environmental response/health and safety, logistics and supply chain management, mass care services, planning, and situational assessment. Core capabilities are derived from the *National Preparedness Goal* and further described in the base plan. Figure 1 shows a summary of the primary and supported core capabilities identified for ESF #3.

Figure 1: ESF #3 (Public Works and Engineering) Primary and Supporting Capabilities

Primary Response Core Capability	
Infrastructure Systems	Stabilize critical infrastructure functions, minimize health and safety threats, and efficiently restore and revitalize systems and services to support a viable, resilient community.
Supporting Core Capabilities	
Operational Coordination	Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.
Critical Transportation	Provide mobility (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.
Environmental Response/Health and Safety	Conduct appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all-hazards in support of responder operations and the affected communities.
Logistics and Supply Chain Management	Deliver essential commodities, equipment, and services in support of impacted communities and survivors, to include emergency power and fuel support, as well as the coordination of access to community staples. Synchronize logistics capabilities and enable the restoration of impacted supply chains.
Mass Care Services	Provide life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary housing, evacuee support, reunification, and distribution of emergency supplies.
Planning	Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical-level approaches to meet defined objectives
Situational Assessment	Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

1.3 Laws & Policy Guidelines

RCW 36.58 (Solid Waste Disposal) outlines county authorities for acquisition and operation of solid waste disposal sites.

RCW 36.94 (Sewerage, Water, And Drainage Systems) provides counties the power to adopt, provide for, accept, establish, condemn, purchase, construct, add to, operate, and maintain a system or systems of sanitary and storm sewers, including outfalls, interceptors, plans, and facilities and services necessary for sewerage treatment and disposal, and/or system or systems of water supply within all or a portion of the county.

RCW 36.94.480 (Assumption of substandard water system—Limited immunity from liability.) provides counties, and their agents and employees, with limited immunity from lawsuits and causes for action when assuming responsibility for a water system that is not in compliance with state or federal requirements for public drinking water systems.

RCW 43.21A.085/087 (Department of Ecology, Technical assistance officer and units) details coordination of voluntary compliance by wastewater facilities with regularity laws, also details the authority to issue orders and assess penalties to wastewater facilities.

RCW 43.70.195 (Department of Health, Public water systems—Receivership actions brought by secretary—Plan for disposition) Details Washington State Department of Health's protocol for distributing or transferring ownership of drinking water systems.

RCW 43.155.065 (Emergency public works projects) Establishes low-interest or interest-free loans to local governments for emergency public works projects.

RCW 77.55 (Department of Fish and Wildlife, Construction Projects in State Waters) Reviews laws and regulations pertinent to a construction project that affects state salt and fresh waterways.

RCW 86.12 (Flood Control by Counties) Outlines authorities for county flood control to include implementing taxes for river improvement funds, taking and/or damaging of land, property, or rights for flood control under eminent domain, and comprehensive flood control management planning.

RCW 86.16.035 (Department of Ecology – Control of dams and obstructions) Empowers ECY to supervise and control all dams and obstructions of streams, including regulation of these structures.

WAC 173-175-610 (Department of Ecology, Dam Safety Emergencies) Provides guidance to ECY for responding to dam emergencies.

WAC 246-290 (Group A Public Water Supplies) defines basic regulatory requirements to protect the health of consumers using public drinking water supplies to include design and operation of Group A public water systems.

Thurston County Code 8.24 (Solid Waste Management, Reduction and Recycling) governs collection and recycling of solid waste within the county.

Thurston County Code 14.17 (Building Code) & 14.18 (Residential Code) outlines adoption and administration of State Building Codes as amended and updated by the State Building Code Council pursuant to RCW 19.27.074, Chapter 51-50 WAC, as well as adoption and administration of any local county building codes. These codes apply even in cases of construction or repair performed post-disaster.

Thurston County Code 14.22 (Thurston County Code For The Abatement Of Dangerous Buildings) grants authority to the county health officer, fire marshal, and building official, and their authorized representatives to...

- Enter any premise within the county for purposes of inspection when there is reasonable belief that a condition exists in a building or on a premise contrary to or in violation of Thurston County Code which makes the building or premises unsafe, dangerous, or hazardous.
- Deem a building or premise dangerous after inspection and subsequently order the premise be repaired, vacated, or demolished.
- Recover costs from the property owner or other responsible party in cases of repair or demolition work performed at the county's expense.

Thurston County Code 15 (Public Works) establishes local rates and standards for public works to include storm and surface water, sewer systems, water systems, and solid waste.

Thurston County Code 15.05.030 (County to act in emergency—Property owner to compensate) provides the county, acting through the water resources manager, to perform necessary construction and remedial work in cases where immediate action is required to solve an erosion or drainage problem and bill the property owner, the property owners' association, or proponent for all costs.

Thurston County Code 15.09.330 (Access to premises for inspection) authorizes county public works officials to enter any premise connected to county owned sewer systems at all reasonable times whenever necessary to make inspections.

Thurston County Code 15.09.420 (Interruption of service) authorizes the county to interrupt individual sewer services whenever public health or safety is threatened, and emergency corrective work must be accomplished.

Thurston County Code 15.10.270 (Inspection—Right of entry) permits duly authorized county officials to enter all properties receiving water service from the county for purpose of inspection, observation, and testing.

Thurston County Development Standards for Water Sewer Systems, 2021 outlines standards set by Thurston County Public Works for all construction, development, re-development,

and/or modification of water, reclaimed water, and sewer infrastructure within the county. To include construction, development, re-development, or modification performed as part of emergency work following a disaster.

Article V – Rules and Regulations of the Thurston County Board of Health Governing Solid Waste Handling sets regulations and standards for solid waste handling, storage and disposal practices and facilities to protect public health, safety and welfare and prevent pollution of land, air, and water (including groundwater). Such standards and regulation apply even in instances of solid waste handling, storage, and disposal as part of disaster response and recovery.

1.4 Situation

1.4.1 General Overview

Communities within Thurston County rely on life-sustaining public works provided by a combination of Thurston County Public Works, special purpose districts, and privately owned utility providers. Life-sustaining public works within the scope of ESF #3 include solid waste, stormwater, drinking water, sewer, and wastewater treatment.

Solid waste services are provided by both the public and private sectors. Within its city limits, the City of Olympia collects municipal solid waste (MSW) and recyclables for approximately 52,770 customers. For all other cities, towns and unincorporated areas of the county, Waste Connections doing business as several subsidiary companies (Harold LeMay Enterprises, Pacific Disposal, Rural Refuse, Butler's Cover Refuse and Joe's Refuse) collects MSW and recyclables for approximately 233,030 customers. Thurston County Public Works operates MSW transfer at one transfer station facility (Waste and Recovery Center [WARC]) located within Lacey, and two rural drop-box facilities located in Rochester and Rainier. County MSW export is provided through contract with Republic Services to export waste out of the county to the Roosevelt Regional Landfill.¹

Stormwater runoff and pollution control is managed through the county's stormwater utility in all unincorporated areas of the county while municipal stormwater runoff and pollution control within municipal boundaries is handled by their respective city officials. The stormwater utility utilizes a combination of best management practices and county stormwater treatment and flow control facilities maintained by Public Works (storm drains, ditches, pipes, ponds, and other related systems across the county) to manage stormwater discharge into waterways.²

¹ Thurston County Solid Waste Management Plan, 2021-2026

² Thurston County Stormwater Management Program Plan, December 2021

Drinking water is provided throughout the county by a combination of public and private water purveyors, regulated by Washington State Department of Health, Thurston County Environmental Health, and managed by other local authorities to include cities and tribes. Major water purveyors in the County are, the City of Lacey with 32,928 connections serving a residential population of 77,902, the City of Olympia with 38,065 connections serving a residential population of 65,360, the City of Tumwater with 13,230 connections serving a residential population of 31,405, Public Utility District No 1 of Thurston County (Thurston PUD) with 7,835 connections serving a population of 20,371, and the City of Yelm with 4,270 connections serving a residential population of 11,500.³ Thurston County has a total of 537 Group A water systems with 116,883 connections and 1,048 Group B water systems with 4,345 connections. TCPW own, operates, and maintains three of the county's Group A water systems for approximately 800 residents in the following neighborhoods: Boston Harbor, Grand Mound, and Tamoshan.

Sewer and wastewater treatment services in the county are provided by a combination of county government, regional wastewater utility, and privately owned septic systems. TCPW provides wastewater services for approximately 800 county residents across four wastewater facility locations (Boston Harbor, Grand Mound, Olympic View, and Tamoshan). LOTT Clean Water Alliance provides wastewater management services for approximately 120,000 people in most of the county's urban areas utilizing a complex system of facilities. Treatment facilities include the Budd Inlet Treatment Plant, Budd Inlet Reclaimed Water Plant, and Martin Way Reclaimed Water Plant. The conveyance system includes a reclaimed water storage tank, three major pump stations, miles of sewer interceptor lines and reclaimed water pipelines, and the Hawks Prairie Reclaimed Water Ponds and Recharge Basins.⁴ In most rural areas of the county, residents rely on privately owned septic tanks and septic services for wastewater storage and disposal.

1.4.2 Hazard Impacts to Public Works & Engineering

Section 1.6.2 of the base plan contains a summary assessment of all significant hazards that threaten Thurston County. Figure 2 describes the have been identified and assessed to have the most significant impact requiring coordination of ESF #3 capabilities.

³ Washington State Department of Health, Office of Clean Drinking Water, *Water Systems Data*, accessed September 2024 URL: <https://doh.wa.gov/data-statistical-reports/environmental-health/drinking-water-system-data>

⁴ LOTT Clean Water Alliance website, accessed July 2024, URL: <https://www.lottcleanwater.org/treatment-facilities/>

Figure 2: EFS #3 Hazard Impacts Summary

Hazard	Impact Statement / Description
Earthquake & Landslide	• Damage to both public and private utilities infrastructure with estimated downtimes spanning days or weeks. • Damage to residential/commercial/government buildings creating hazardous conditions. • Debris requiring removal, storage, and disposal impeding response operations and public access to essential services
Wildfire	• Damage to utilities infrastructure, with increased vulnerability in locations interfacing and/or intermixing with wildland vegetation. • Damage to residential/commercial/government buildings creating hazardous conditions, with increased vulnerability in locations interfacing and/or intermixing with wildland vegetation. • Stress on stormwater management and erosion control infrastructure due to burn scar flash flood and debris flow. • Potential strains on water utilities due to emergency power shutoffs and water consumption needs of responders. • Structural debris requiring removal, storage, and disposal.
Flood, Dam Failure, & Lahar (Volcanic Activity)	• Damage to both public and private utilities infrastructure within flood and/or lahar hazard zones. • Damage to residential/commercial/government buildings within flood and/or lahar hazard zones creating hazardous conditions. • Contamination of ground water wells inundated by flood water, with greater vulnerability for smaller private well systems. • Stress and/or damage to stormwater management and erosion control infrastructure due to floodwater, heavy rainfall, and/or lahar debris flow. • Debris requiring removal, storage, and disposal impeding response operations and/or public access to essential services.
Severe Weather (Winter Storms / Extreme Heat)	• Stress on water utility systems from drought and increased water consumption. • Disruption and/or damage to water and wastewater utility systems due to limited access, pipe bursts, and/or loss of power during winter storms. • Disruption to solid waste collection systems and services due to limited access during winter storms.
Cyber-Attack on Infrastructure	• Damage and/or disruption to utility systems vulnerable to cyber-attack with estimated downtimes spanning days.
Hazardous Materials Release	• Chemical contamination to ground water, wastewater, and stormwater utility systems.

In addition to the significant threats listed above, aging infrastructure can significantly increase vulnerabilities caused by natural and/or manmade events. It could also cause cascading effects, disruptions of services and/or delivery of critical equipment, and a greater physiological impact to county residence. Outside the occurrence of a natural or manmade event, unexpected failure of critical infrastructure due to age or general degradation could have impacts significant enough to require ESF #3 support and coordination. Additionally, critical shortages of supplies necessary to operate and maintain public utilities (e.g. water treatment supplies) can have cascading impacts to the community.

1.4.3 Whole Community

Public Works and engineering services within the county take into consideration the whole community when developing operational plans, policies, and procedures; this includes compliance with provisions set forth in the Civil Rights Act of 1964 and other anti-discrimination laws and policies. ESF #3 primary and supporting agency policy is committed to providing equal access in its programs, services, and activities for person with disabilities. ADA compliance applies to all county platforms for communicating to and with the public, regions, divisions, services, public use facilities, pedestrian facilities, and programs regardless of the funding source. Section 1.7.2 – Whole Community of the base plan further describes considerations for the whole community across all county agencies to include those within ESF #3.

1.5 Planning Assumptions

In addition to the planning assumptions listed in section XXX of the base plan, the ESF 3 annex is based on the following additional assumptions:

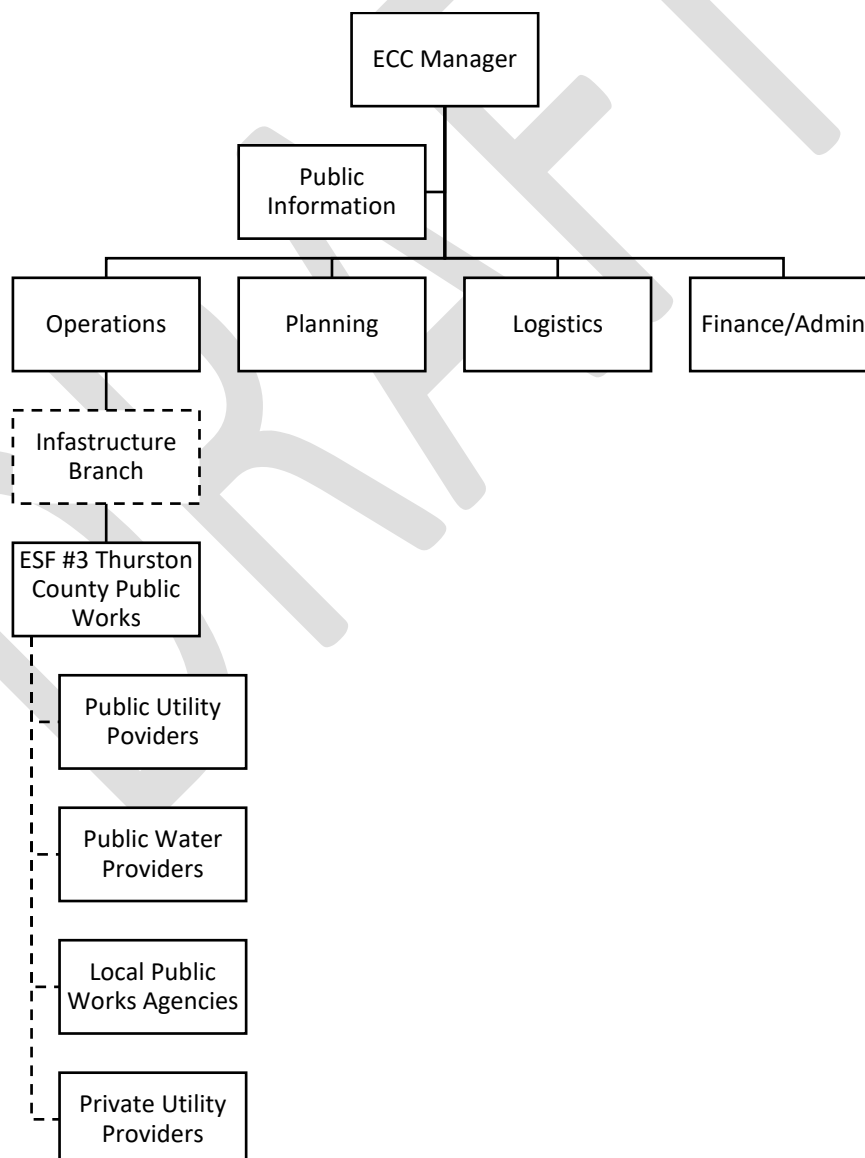
- A major emergency or disaster may cause extensive damage to property and infrastructure. Structures may be destroyed or severely weakened. Homes, public buildings, bridges, and other facilities may have to be reinforced or demolished to ensure safety. Debris may make streets and highways impassable. Public utilities may be damaged or be partially or fully inoperable.
- Access to disaster areas may be dependent upon the re-establishment of ground routes. In many locations, debris clearance and emergency road repairs will be given top priority to support immediate lifesaving emergency response activities.
- Public and private utility providers maintain adequate staffing and equipment to operate and maintain infrastructure they own and operate.
- Smaller utility providers, especially in the private sector, rely heavily on contracting with commercial sources and/or larger utility providers for emergency work for repair and restoration of damaged utility systems.
- An incident impacting multiple public and private utility providers will quickly overwhelm local resources, emergency work will have to be prioritized and requests for state and/or federal assistance will be required.
- Damage assessments and/or rapid needs assessments in impacted areas will be required to determine workload, resource needs, and prioritize emergency work.
- Emergency environmental waivers and legal clearances may be needed for disposal of materials from debris clearance and demolition activities for the protection of threatened public and private improvements.
- A severe natural disaster or other significant event may sever key supply chains, constraining supply in impacted areas, or in areas with supply links to impacted areas.
- County, state, and federal environmental regulations (air quality, solid waste handling, etc.) will heavily influence options for solid waste removal and disposal.
- Debris removal may have environmental consequences requiring mitigation including erosion or landslides, falling trees or structures, and the release of asbestos or other contaminants.
- State government will provide engineering services primarily to lands and facilities under its jurisdiction and will lend support to local government as requested and as circumstances allow.

2. Organization

2.1 ESF #3 Organizational Structure

During disaster operations requiring activation of the Emergency Coordination Center, ESF #3 is organized under the Operations Section of the ECC, reporting to the Infrastructure Branch Director, or directly to the Operations Section Chief if the Infrastructure Branch is not established. Through the Operations Section and Infrastructure Branch, ESF #3 coordinates with other ESFs activated within the ECC to synchronize countywide emergency support functions. Within ESF #3, the primary agency (Public Works) supports and coordinates with public utility districts, water purveyors, other local public works agencies, regional utility providers, and other organizations as necessary to support countywide public works and engineering response and recovery activities.

Figure 1: Emergency Support Function (ESF) 3 Organization



2.2 ESF #3 Agencies & Organizations

Local agencies that coordinate ESF #3 support are identified under one of two categories: primary or supporting. Definitions of each category can be found under section 2.3.2 of the base plan.

Primary Agency/Agencies		
Thurston County Public Works – Engineering, Solid Waste and Water Resources Divisions		
Supporting Agencies		
Thurston County Community Planning and Economic Development (CPED)	Thurston County Public Health and Social Services – Environmental Health Division (PHSS-EH)	Thurston County Central Services (Central Services)
Public Utility District No 1 of Thurston County (Thurston PUD)	LOTT Clean Water Alliance (LOTT)	Municipal and Tribal Public Works Agencies

3. Concept of Operations

3.1 General

Thurston County Public Works (TCWP) serves as the primary coordinator of public works and engineering functions and support in Thurston County during disasters causing significant impacts to life sustaining infrastructure and utilities, and immediate infrastructure threats to affected populations. During disasters, municipal governments, utility districts and private utility operators maintain authority and responsibility to stabilize and restore their respective infrastructure and systems in coordination with Thurston County ECC staff through TCPW as the ESF #3 primary agency.

- When activated, ESF #3 staff will establish contact with other local public works and engineering organizations and agencies in the county to coordinate critical ESF #3 response tasks outlined within this annex.
- Other county departments and/or ESFs may be contacted to provide manpower, equipment, or technical advice in support of ESF #3.
- Supplemental public works assistance may be coordinated through local-to-local mutual aid and/or through Emergency Coordination Center.
- All costs directly related ESF #3 operations during an incident will be documented and reported to ESF #3 to provide to ECC staff.
- In the event of State and/or Federal activation of ESF #3, county ESF #3 staff will coordinate for support with respective ESF #3 state and federal agencies.

3.2 Activation of ESF #3

ESF #3 may be activated at either the request of Public Works or at the request of the ECC Manager when the ECC is activated.

- When an incident exceeds the Public Works and/or Public Works EOC capability to stabilize the incident, or requires the support of other County Departments, Public Works may request the activation of ESF #3 through Emergency Management.
- When the County ECC is activated, ESF #3 may be activated as part of a full or partial activation.

When ESF #3 is activated, the TCPW Director or their designee will coordinate with the ECC Manager for staffing of ESF #3, which may require staffing for multiple operational periods, until demobilized. With assistance provided by ECC staff, the TCPW Director may coordinate with supporting ESF #3 agencies to help supplement and/or enhance ESF #3 staffing as needed. For incidents causing significant impact to structures under the regulatory authority of Thurston County building officials, TCPW will consult with CPED and the County Public Health Officer for additional ESF #3 staffing as needed.

3.3 Critical ESF #3 Response Tasks

To achieve effective disaster response, ESF #3 coordinates information and resources among primary and supporting agencies to support critical response tasks. The critical tasks identified below align with ESF #3's primary core capabilities and serve as a foundation to develop intermittent objectives during disaster response to establish or re-stabilize community lifelines.

#	Critical Task Description	Responsible Agencies
Infrastructure Systems		
1	Decrease and stabilize immediate infrastructure threats to the affected population to enable response objectives, protect the public, and meet basic human needs.	TCPW, Municipal and Tribal Public Works
2	Stabilize and/or reestablish impacted drinking water systems to meet immediate drinking water needs for the community.	TCPW, Public Water Providers, Private Water Providers.
3	Stabilize and/or reestablish impacted sewer and wastewater treatment systems to meet immediate health and sanitation needs of the community	TCPW, Wastewater Utility Providers, LOTT, Municipal & Tribal Sewer and Wastewater Utilities
4	Stabilize and/or reestablish impacted stormwater systems to meet immediate environmental and erosion control needs.	TCPW, CPED, Municipal Stormwater Utilities.
5	Stabilize and/or reestablish impacted solid waste facilities and systems to meet immediate debris and solid waste collection, transfer, and storage needs.	TCPW, Private Waste Collection Providers
6	Coordinate emergency temporary repairs of damaged county roadways and bridges necessary to support response priority objectives during an incident.	TCPW -Road Operations (ESF #1)
7	Coordinate emergency clearance and removal of debris and wreckage from buildings and other incident area(s) as necessary to enable responder access and achieve response priority objectives. (see Appendix 1, Debris Management Plan)	TCPW, Municipal and Tribal Public Works
Critical Transportation		
8	Coordinate emergency work to clear debris and wreckage from roads and bridges to establish priority to opening lifelines during an incident. (see Appendix 1, Debris Management Plan)	TCPW -Road Operations (ESF #1)
9	Coordinate snow and ice removal to reestablish lifelines after an incident	TCPW -Road Operations (ESF #1)

#	Critical Response Task Description	Responsible Agencies
Situational Assessment		
10	Coordinate assessment and reporting of damage to public infrastructure to inform prioritization of emergency work and disaster financial assistance.	TCPW, CPED, Central Services, TCEM (ESF #5)
11	Coordinate information collection and designation of useable roads and bridges to inform first responders, ECC staff, and other stakeholders.	TCPW-Road Operations (ESF #1), TCEM (ESF #5)
12	Coordinate information collection on status and estimated restoration time of water, wastewater, and solid waste facilities and systems to inform ECC staff and the public.	TCPW, Public Utility Providers, TCEM (ESF #5)
Environmental Response/Health and Safety		
13	Coordinate emergency collection, transfer, storage, and export of solid waste and/or debris to enable access and mitigate health and safety risks to responders and the public. (see Appendix 1, Debris Management Plan)	TCPW, PHSS-EH.
14	Coordinate structural inspection of damaged buildings for building safety and health issues to mitigate risk to responders and the public.	CPED, Central Services, Municipal Building Officials,
15	Provide water quality monitoring, sampling, and surveying to identify and mitigate contamination to drinking water sources in the county.	PHSS-EH
16	Coordinate with state and local officials to issue emergency legislation, alerts, and orders on water usage from disaster impacted and/or contaminated systems to protect public health.	PHSS-EH, Public Water Providers, Private Water Providers
Logistics and Supply Chain Management		
17	Support emergency provision of fuel and electricity as necessary to support ongoing emergency response operations.	TCEM (ESF #7), TCPW
Public Information and Warning		
18	Coordinate with public information officials the status of utility service interruptions and (if available) estimated restoration times to inform public decision-making during disasters.	Public Utility Providers, TCPW, County PIO (ESF #15)
19	Coordinate with public information officials issue of emergency alerts related to usage of impacted utilities (such as water contamination) to encourage the public to take protective actions.	Public Utility Providers, TCWP, PHSS, County PIO (ESF #15)

3.5 Supporting Activities

Outside of emergency response, ESF #3 conducts activities in support of mitigation, recovery, and preparedness

3.5.1 Mitigation

Public Works and other public utility providers participate in the Thurston County hazard mitigation planning process to identify and correct vulnerabilities in public utility facilities and infrastructure. Refer to the current Hazards Mitigation Plan for the Thurston Region for specific mitigation actions.

3.5.3 Recovery

Public Works, Public Health & Social Services - Environmental Health, and Emergency Management coordinate debris and solid waste management as part of recovery operations. Refer to the Thurston County Disaster Recovery Framework for long-term infrastructure recovery.

Community Planning and Economic Development is the lead agency for county permitting and inspection systems during disaster recovery operations to include identification, inspection, and demolition of abandoned buildings in unincorporated Thurston County.

3.5.4 Preparedness Activities

County departments and elected offices will identify their essential facilities in their Continuity of Operations Program (COOP) and Continuity of Government (COG) plans. The essential facility identification from their plans will be shared with Central Services-Facilities so that they can identify inspection priorities for post-disaster building inspections.

Emergency Management will seek training opportunities to build and sustain the capability of inspecting buildings post-disaster and mitigation screening for potential hazards.

Community Planning and Economic Development and Central Services will plan for augmentation of building inspection personnel to assist during an incident. Planning will consist of recruiting, vetting, and identifying personnel in advance of an incident; collecting data on potential volunteers for registration as temporary emergency workers in accordance with WAC 118-04; caching of equipment and supplies for inspectors; and integrating volunteer inspectors in training and exercises.

4. Responsibilities

4.1 Thurston County Public Works (Primary Agency)

As the lead for ESF #3 within the county, TCPW has responsibility and authority to assume, or delegate authority to, on-scene incident command to direct ESF #3 response activities and resources to decrease and/or stabilize immediate threats to county owned infrastructure, systems, and utilities. TCPW, in partnership with CPED and PHSS, also has direction over emergency work performed during incidents on structures in which Thurston County building officials have regulatory authority over. For incidents that impact multiple jurisdictions, TCPW may establish a unified command with impacted local public works agencies, public/private utility providers, and other ESF organizations as needed for multijurisdictional coordination of ESF #3 activities. Other responsibilities include, but are not limited to:

- Coordinating with local jurisdictions, local utility providers, and local building officials for assessment of damages to public works infrastructure within the jurisdictional boundaries of the county.
- Providing subject matter expertise and technical advice to the BoCC, ECC staff and policy groups to support decision-making on public safety issues related to reentry and access into disaster impacted areas.
- Assisting ESF #7 (Logistics) with resource requirements for logistics related tasks, such as emergency provision of fuel, generators, and/or heavy equipment and materials. Such assistance may take the form of coordinating mutual aid with local public works agencies and/or assistance with emergency procurement of services from private businesses.
- Directing restoration and recovery activities for county owned and operated public works infrastructure systems to include county roads, bridges, water systems, wastewater systems, and solid waste systems.
- Provide damage assessments of county owner public works infrastructure to include the WARC and transfer stations, county owned water and wastewater systems, equipment yards/pit sites, stormwater systems, county parks, and the Nisqually River levy.

4.2 Thurston County Community Planning and Economic Development

Under the authority of the Thurston County Director of Community Planning and Economic Development (CPED) as the county building official, CPED staff support ESF #3 with assessment, permitting, repair, and demolition of disaster impacted residential and commercial structures. Responsibilities may include but are not limited to:

- Coordinating damage assessment and post disaster safety inspections of buildings and facilities, to include residential and commercial properties. Coordinate post-earthquake ATC-20 inspections or post windstorm/flood ATC-45 inspections, depending on incident type.
- Coordinating private assessment and inspection resources. To include planning for augmentation by volunteers and registration as temporary emergency workers.
- Coordinating emergency permitting and inspection process for private cleanup work to ensure compliance with cleanup standards and procedures. Expedite permitting and required inspections as appropriate and feasible.
- Coordinating for the demolition of damaged and/or abandoned structures posing a threat to human safety.
- Providing damage assessment of disaster area regarding debris and wreckage. Coordinate expeditious removal of debris and other non-hazardous materials.
- Reviewing repair, reconstruction, and replacement of structures for compliance with building, land use, and environmental regulations.
- Documenting damages and costs for damage assessment reports and other disaster financial reports.
- Assessing and making recommendations for environmental damage to streams, bluffs, shorelines, and riverbanks.
- Coordinating stormwater and drainage needs and designs to ensure compliance with environmental regulations during repair, reconstruction and replacement of public and private infrastructure, businesses, and residences.

4.3 Thurston County Central Services

Thurston County Central Services supports ESF #3 with inspection, repair, restoration, and continued operation of county owned and leased buildings, equipment, and facilities impacted by an incident. Responsibilities may include but are not limited to:

- Coordinate damage assessment and post disaster safety inspections of county owned/leased buildings and facilities and Tilley campus water system.
- Prioritizing restoration of essential county facilities.
- Coordinating with ESF #7 (logistics) to provide staging area(s) for equipment, fuel and other ESF #3 resources as necessary for emergency operations.
- Prioritizing emergency repair, replacement, and maintenance of equipment necessary for emergency support objectives and continuity of county operations.

4.4 Thurston County Public Health and Social Services

The Environmental Health division of Thurston County Public Health and Social Services (TCPHSS-EH) monitors health compliance of Group B public water systems (systems that serve fewer than 15 connections and fewer than 25 people per day). TCPHSS-EH also provides water quality education and services to those with private single- and two-party systems, to include water sample testing services through the county's water lab.

TCPHSS-EH is also responsible for carrying out regulatory activities authorized by the solid waste handling regulations, known as Article V of the Thurston County Sanitary Code. These regulations grant TCPHSS-EH the authority to promote and enforcing proper disposal of residential and business waste and oversight of solid waste handling facilities.

During disasters, TCPHSS-EH may support ESF #3 with enhanced monitoring and inspection of impacted water systems and solid waste removal during response and recovery efforts, activities may include but are not limited to:

- Coordinating inspections of wastewater systems.
- Providing for testing of wells and water supplies.
- Providing permitting and monitoring of WARC and other solid waste sites.
- Monitoring unpermitted dumping.
- Advising on collection and disposal of household hazardous waste.
- Coordinating with the Thurston County Health Officer for issue of emergency health orders as necessary.
- Coordinating all public information releases through the Thurston County Public Information Officer.

4.5 Municipal and Tribal Public Works Agencies

Municipal and tribal public works retain authority and responsibility for public works and engineering operations within their jurisdictions with support and coordination provided through ESF #3 consistent with this annex and other local agreements, plans, and policies. Local public works agency responsibilities include but are not limited to:

- Providing the Thurston County ECC with assessments of impacts, damages, and resource requests through ESF #3, or their jurisdictions emergency operations center (EOC) if activated.
- Coordinating with ESF #3 during multi-jurisdictional incidents to direct ESF #3 activities such as public reentry procedures for disaster impacted areas and long-term closures and access restrictions to damaged areas.

If available resources permit, local public works agencies may enter into agreements with TCPW and other county agencies to support ESF #3 resource requests in the form of staff, equipment and/or facilities to assist with countywide efforts to stabilize and restore public works utility infrastructure and systems.

4.6 Public and private utility providers

Public utility providers (i.e. Thurston PUD and LOTT Clean Water Alliance) and private utility providers maintain direction and control of water, sewer, solid waste, and other life sustaining utilities within their jurisdiction and ownership. Utility providers maintain responsibility for stabilization, restoration, and continued operation of life-sustaining public utilities under their ownership during and after disasters.

Through coordination with ESF #3, utility providers should develop and maintain plans to perform disaster assessments on systems and identify damages to infrastructure and other impacts to operation of public utility services, and report those impacts to the ECC through ESF #3, or the ECC Operations Section if ESF #3 is not activated. When disaster impacts have exhausted or exceeded a utility providers capability to stabilize and restore their systems, requests for emergency assistance from county or other public agencies may be coordinated with the ECC through ESF #3.

When available resources permit, utility providers may enter into agreements with TCPW and other county agencies to support ESF #3 resource requests in the form of staff, equipment and/or facilities to assist with countywide efforts to stabilize and restore public works utility infrastructure and systems.

Any emergency assistance, whether received or provided, shall be in accordance with Thurston County policies and procedures on mutual aid and disaster assistance outlined in chapters 7 – *Logistics and Resource Management* and 8 – *Finance and Administration* of the base plan.

When disaster impacts necessitate the need to regulate water or other utility usage within any portion of the county population, utility providers may coordinate with ESF #3 and the Disaster Policy Advisory Group (DPAG) to direct emergency legislation, alerts, and orders such as boil water alerts, water usage restrictions, or interruption of sewer / waste collection services.

Classified as critical infrastructure, utility providers are responsible for incorporating critical infrastructure protection and long-term vulnerability reduction measures into their plans, policies, and procedures. Utility providers are encouraged to coordinate with TCEM and the Emergency Management Council (EMC) on countywide mitigation, protection, and preparedness activities.

5. Resource Requirements

5.1 Local Resources

TCPW employs a wide range of qualified personnel to maintain its public works infrastructure to include engineers, maintenance technicians, utilities operators, and environmental specialists. TCPW also maintains various equipment necessary for operation, maintenance and repair of public works utilities and facilities it maintains. Additionally, TCPW has the capacity to contract with local vendors for emergency public works projects and services for which it does not have sufficient personnel, equipment, and/or supplies for.

CPED employs a small team of permitting staff, community planners, and environmental planners trained to handle day-to-day building permitting and inspections and long-range planning initiatives within the county. During an emergency, permitting staff may be utilized to support damage assessments and safety inspections of damaged structures during response and recovery efforts. Community and environmental planners within CPED may be utilized to augment response and recovery planning by ECC staff.

Public and private utility providers maintain adequate staffing and equipment to operate and maintain infrastructure they own and operate. In many cases, smaller utility providers rely primarily on contracting with commercial sources for emergency repairs and restoration of their infrastructure. Depending on the scale and magnitude of an incident, larger public utilities (such as Thurston PUD and LOTT) may have additional capacity to support ESF #3 with countywide utilities restoration through interlocal agreements and/or contracts.

5.2 Resource/Capability Gaps

Based on estimated hazard impacts and the current ESF #3 capabilities of local agencies, local planners have identified the following additional resources that may be needed to fully support ESF #3 critical response tasks.

Resource Typing Definition	Critical Task(s) Supported	Justification
Damage Assessment Team – Public Works	10, 11, 14	Both TCPW and CPED maintain personnel qualified to conduct damage assessments of public infrastructure. However, these resources are limited to those needed during smaller emergencies and day-to-day functions. In a larger incident, currently qualified damage assessment personnel would be quickly overwhelmed and require additional damage assessment teams to augment county efforts.
Fuel and fuel storage	1, 2, 3, 4, 5, 6, 7, 17	Fuel has the potential to become another gap if reserves are depleted and/or fuel storage facilities have been damaged. Especially for smaller utility providers who do not possess the resources for storage of emergency fuel supply.
Chlorine & chlorine storage (for water treatment)	2, 3	Many utilities, especially smaller public and private water providers, rely on steady commercial supplies of chlorine. Incidents disrupting chlorine supply chains would create critical shortages for several local utilities.

5.3 Mutual Aid

Thurston County Public Works maintains interlocal agreements for public works activities with the cities of Lacey, Olympia, Rainier, Tenino, Tumwater, Yelm, the town of Bucoda, Mason County, Chehalis Tribe, and Washington State Department of Natural Resources. In accordance with chapter 39.34.040 of the Revised Code of Washington, all inter-governmental agreements between Thurston County Public Works and local jurisdictions are available for public inspection.

Mutual aid between water and wastewater utilities is primarily coordinated through the Washington Water/Wastewater Agency Response Network, a network of utility providers that allows water and wastewater systems to receive rapid mutual aid and assistance from other systems during an emergency. Utilities sign the WARN standard agreement, which allows them to share resources with other Washington systems that have signed the agreement.

5.4 State & Federal Aid

Washington State's Interlocal Cooperation Act, RCW 39.24, authorizes public agencies to contract with other public agencies via interlocal agreements that enable cooperation among the agencies to perform governmental activities and deliver public services. Emergency assistance may be provided by State agencies to local public works agencies and utilities for which there exists an interlocal agreement. Requests for emergency assistance require a scope of work agreed upon at the time of the emergency request unless specified otherwise in the provisions of the agreement.

Requests for resources that exceed the scope of interlocal and/or mutual aid agreements should be routed to the State Emergency Operations Center (SEOC) for support from ESF #3 at the state level.

External support may be requested through the SEOC for emergency public works and engineering support, coordination, state assets and requests for federal assistance to support local emergency debris removal, public works, and utility restoration efforts. Supplemental assistance shall be requested through local and state emergency management agency channels.

The National Response Framework, ESF #3 – Public Works and Engineering coordinates and organizes the resources of the Federal Government to facilitate the delivery of emergency support to include conducting pre- and post-incident assessments of public works and infrastructure; executing emergency contract support for life-saving and life-sustaining services; providing technical assistance to include engineering expertise and construction management; contracting and real estate services; and providing emergency repair of damaged public infrastructure and critical facilities. In the event of federal activation, ESF #3 will coordinate with other local, state, and federal agencies providing emergency public works and engineering support to the county.

6. Supporting Plans & Procedures

6.1 State & Regional

6.1.1 Emergency Support Function #3 Annex (Public Works and Engineering), Washington State Comprehensive Emergency Management Plan (CEMP)

The WA State CEMP ESF #3 annex outlines how the state facilitates the delivery of services, technical assistance, engineering expertise, construction management, and other support to response operations to include those operations in support of Thurston County.

6.2 Local

6.2.1 Thurston County Public Works Debris Management Plan (Appendix 1)

Provides information on how debris management operations, including response levels, organization, roles and responsibilities, communications strategies, and health and safety strategies, will be specifically carried out for unincorporated Thurston County areas. The Thurston County Public Works Debris Management Plan is included as Appendix 1 to this annex.

6.2.2 Thurston County Public Works – Solid Waste Division, Continuity of Operations Plan (COOP)

Provides guidelines on emergency management activities designed to maintain waste handling and disposal capacity in the event the WARC, Rainier or Rochester sites or the HazoHouse cannot accept waste due to a partial or total shutdown. The COOP address actions and coordination necessary between stakeholders within the County to help maintain waste disposal.

6.2.3 Thurston PUD Emergency Response Plan

Outlines the measures to consider for Thurston PUD and their stakeholders to effectively operate during an incident, both emergent and non-emergent. Measures in the plan include how Thurston PUD manages an emergency event process, and when to seek assistance and engage in collaborative efforts, and how to ensure that all incidents are communicated to the stakeholders.

6.3 References

Applied Technology Council (2009) ATC-20-1, *Field Manual: Post-Earthquake Safety Evaluation of Buildings*, 2nd Edition. <https://www.atccouncil.org/>

Applied Technology Council (2004) ATC 45, *Field Manual: Safety Evaluation of Buildings after Windstorms and Floods*. <https://www.atccouncil.org/>

7. Terms and Definitions

Critical Infrastructure – assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof. The Department of Homeland Security categorizes critical infrastructure under the following sectors:

- Agriculture and Food.
- Banking and Finance.
- Chemical.
- Commercial Facilities.
- Communications.
- Critical Manufacturing.
- Dams.
- Defense Industrial Base.
- Emergency Services.
- Energy.
- Government Facilities.
- Healthcare and Public Health.
- Information Technology.
- National Monuments and Icons.
- Nuclear Reactors, Materials and Waste.
- Postal and Shipping.
- Transportation Systems.
- Water

Group A Public System – a public water system having 15 or more service connections or serving 25 or more people 60 or more days per year.

Group B Public System – a public water system having fewer than 15 connections and serving fewer than 25 people per day.

Hazardous Waste – waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment.

Municipal Solid Waste – Municipal Solid Waste (MSW), commonly known as trash or garbage, refers to the everyday (non-hazardous) items discarded by the public. This includes:

- Household waste: Food scraps, packaging, clothing, appliances, and furniture.
- Commercial waste: Waste from offices, retail stores, schools, and hospitals.
- Industrial waste: Non-hazardous waste from manufacturing and production processes.

8. Attachments

Appendix 1 – Debris Management

Tab A – Debris Voucher System

Appendix 2 – Damage Assessment (To be developed)

Attachment 1 – Map, Official Zoning Map Thurston County, Washington (December 2023)

Attachment 2 – Map, Thurston County Water System Service Areas Group A Community Systems (April 2023)

Attachment 3 – Map, Thurston County PUD Commissioner Districts (December 2023)

Attachment 4 – Thurston County Public Works, Solid Waste Division Continuity of Operations Plan (COOP) (August 2022) **TLP:GREEN**

Attachment 5 – Thurston PUD Emergency Response Plan (Version 2.0, May 2023) **TLP:GREEN**

DEBRIS MANAGEMENT PLAN

Updated March 2023



THURSTON COUNTY PUBLIC WORKS

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Overview

The Thurston County Public Works Debris Management Plan provides information on how debris management operations, including response levels, organization, roles and responsibilities, communications strategies, and health and safety strategies, will be specifically carried out for unincorporated Thurston County areas.

The three key objectives are to (1) provide effective public services in an organized manner, (2) operate in an efficient and financially trackable methodology, and (3) be ready to assist other municipalities as necessary.

Situation: Natural and manmade disasters precipitate a variety of debris that include, but are not limited to, trees, soil, mud, sand, gravel, vehicles, vessels, construction and demolition material, vehicles, personal property, commercial and household hazardous materials, white goods, electronic waste, putrescents, infectious waste, and biological waste.

The quantity and type of debris generated from any disaster will be a function of the location and kind of event experienced as well as its magnitude, duration, and intensity.

The quantity, type, and location of debris generated, as well as the size of the area over which it is dispersed, will have a direct impact on the type of collection and disposal methods utilized to address the debris problem, associated costs incurred, and how quickly the problem can be addressed.

In a major or catastrophic disaster, Thurston County will have difficulty in locating staff, equipment, and funds to devote to debris removal, in the short-term as well as long-term.

Assumptions: A natural disaster that requires the removal of debris from public or private lands and waters could occur at any time. The volume of debris resulting from an event or disaster could exceed Thurston County Public Work's ability to dispose of it. If required, the Governor would declare a State of Emergency that authorizes the use of state resources to assist in the removal and disposal of debris. In the event federal resources are required, the Governor would request, through the Federal Emergency Management Agency (FEMA), a Presidential Disaster Declaration. Private contractors will play a significant role in the debris removal, collection, reduction, and disposal process. The debris management program implemented by the Thurston County will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration, and landfilling.

There are several types of emergencies Thurston County is vulnerable to that could require the activation of this incident operational procedure, including but not limited to:

- **Windstorms:** Characterized by vegetative waste and may also include construction/demolition materials from damaged or destroyed structures. Extended power outages may result in large amounts of putrescible waste from private residences and grocery stores.
- **Flooding:** Characterized by construction/demolition waste and solid waste including sediment, vegetation, animal carcasses, and hazardous materials.
- **Earthquake:** Characterized by construction/demolition waste and solid waste including sediment, vegetation, animal carcasses, and hazardous materials.

- Urban and Wild-Land Fires: Characterized by burnt vegetation, burnt construction/demolition waste and solid waste including ash, charred materials, and ash-covered debris.
- Ice Storms: Characterized primarily by vegetative waste from broken tree limbs and branches. May also include construction/demolition waste and putrescible waste from extended power outages.
- Volcano: Characterized by ash and ash-covered debris.
- Landslides: Characterized by sediments and construction/demolition waste.
- Nuclear, Chemical, or Biological Incident: Characterized by various amounts of contaminated soil, water, construction/demolition waste and solid waste that could require special handling.

Authorities:

- FEMA-325 Public Assistance Debris Management Guide.
- FEMA Appendix B Debris Management Plan Outline Example.
- If a disaster strikes the City, the City Council may proclaim a Declaration of Emergency if the disaster has the potential to affect life, property, or the public peace under the provisions and limitations of RCW 35.33.081, RCW 36.40.180, and RCW 38.52.070(2). They may also command the service and equipment of citizens under the provisions and limitations of RCW 38.52.110(2).

Health and Safety Strategy:

Debris operations involve the use of heavy equipment to move and process various types of debris. Many of these actions can pose safety hazards to emergency response and recovery personnel as well as the public. In addition to those safety hazards, exposure to certain types of debris, such as building materials that may contain asbestos and mixed debris that contains hazardous materials, can pose potential health risks to emergency workers.

All debris operations shall be done in compliance with the health and safety requirements found in the Thurston County Public Health and Safety Policies and Procedures

<https://www.thurstoncountywa.gov/departments/public-health-and-social-services/environmental-health/about-environmental-health>, and in the Washington State Occupational Safety and Health Administration Plan <https://www.osha.gov/dcsp/osp/stateprogs/washington.html>.

Compliance with Thurston County Public Health and Safety Policies and Procedures enables Thurston County employees and contractors to reduce or mitigate the incidence of accidents during debris management operations and to protect workers from exposure to hazardous materials.

Health and safety strategies establish minimum safety standards for Thurston County employees and contractors to adhere. In addition, the strategy provides emergency workers with information on how to identify hazardous conditions and specific guidelines on the appropriate and proper use of personal protective equipment.

To facilitate compliance, the health and safety strategy specifies how the safety information

will be disseminated to all emergency employees and contractors, and how compliance with minimum safety standards will be monitored. The strategy also includes specific corrective actions to be taken if workers do not comply with the minimum safety standards.

Concept of Operations

This section provides information on how Thurston County Public Works will carry out debris management operations for unincorporated Thurston County area only, including: response levels, organization, roles and responsibilities, communications strategies, and health and safety strategies.

Debris Management Response Levels

Debris management operations are categorized into three response levels. The current response level of Thurston County Public Works will be established by the Incident Commander or Debris Manager from ECC and is triggered by the geographic scope and impact of an actual or anticipated incident.

Level One: Routine Operations

A level one incident corresponds to day-to-day emergencies requiring minimal coordination and assistance. These include incidents such as small landslides, minor flooding, or a building collapse. The situation can be efficiently and effectively supported with existing resources and there is no foreseen need to proclaim a local emergency.

Level Two: Medium Impact Disaster

Level two incidents are situations requiring more than routine coordination and assistance, and generally involve multiple jurisdictions. These include incidents such as moderate earthquakes, minor or moderate flooding in multiple locations, and winter storms with snow, ice, or high winds. The situation may require mutual aid or contract resources and it may be necessary to proclaim a local emergency.

Level Three: High Impact Disaster

Level three incidents require a high degree of coordination and generally involve state and federal assistance. These include incidents such as large earthquakes, severe flooding, or severe winter storms. In most cases, a local emergency will be proclaimed.

Debris Management Operational Phases

Response to debris management events is characterized by the three phases described below and may overlap based on the incident.

Increased Readiness

Thurston County Public Works will move to the increased readiness phase when a natural or human-caused incident capable of creating disaster debris threatens the region. During this time, staff will complete the following tasks:

1. Review and update plans, standard operating procedures, generic contracts, MOUs with other agencies or jurisdictions, and checklists relating to debris removal, storage, reduction, and disposal operations.
2. Alert local departments that have debris removal responsibilities to ensure that personnel, facilities, and equipment are ready and available for emergency use.
3. Relocate personnel and resources out of harm's way and stage in areas where they can be effectively mobilized.
4. Review potential local, regional, and temporary debris storage and reduction sites that may be used in the response and recovery phases in the context of the impending threat.
5. Begin public information messaging regarding debris removal and collection per the County Public Information Office (PIO) procedure. The public should be kept informed of debris pick-up schedules, disposal methods, and ongoing actions to comply with state and federal Environmental Protection Agency (EPA) regulations, disposal procedures for self-help and independent contractors, and restrictions and penalties for creating illegal dumps. The Public Information Officer should be prepared to respond to questions pertaining to debris removal from the press and impacted residents. The following questions are likely to be asked:
 - What is the pick-up system?
 - When will the contractor be in my area?
 - Who are the contractors and how can I contact them?
 - Should I separate the different debris materials and how?
 - How do I handle Household Hazardous Waste?
 - What if I need assistance due to mobility limitations?

Notification: Thurston County will use all available and appropriate means of communication to inform the public including, but not limited to, press releases, social media, radio, local news and television, the county website, etc.

Household Hazardous Waste: The Public Information Officer will communicate to county residents HHW eligibility following an event. It is important that residents separate HHW from other disaster debris to ensure that HHW does not enter the debris stream at Solid Waste locations. HHW removal is eligible for FEMA reimbursement if the debris is a result of the disaster. If curbside collection of HHW, which helps ensure proper disposal of HHW, is established then measures should still be taken jointly by the certificated haulers, the county, and the monitoring departments to identify, segregate, and dispose of intermingled HHW at Solid Waste locations. Thurston County, Revised Code of Washington (RCW), and federal laws should be followed regarding the final disposal of removed refrigerants, mercury, or compressor oils.

Household Hazardous Waste Includes:

Lawn chemicals	Aerosol spray cans
Cleaning agents	Fluorescent lamps
Batteries	Fuel
Fire extinguishers	Paint

White Goods: The public information officer will communicate with residents regarding white goods' eligibility following an event. It is important that residents separate white goods from other disaster debris to ensure that white goods do not enter the debris stream at Solid Waste locations.

White goods debris removal is eligible for FEMA reimbursement if the debris is a result of the disaster and removed from publicly maintained property and roadways whose maintenance is the responsibility of the county. White goods debris that contains ozone depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. White goods collection will be determined based on input from county staff and certificated haulers. White goods must be properly disposed of at a licensed disposal facility.

White Goods Include:

Refrigerators	Heat pumps
Freezers	Ovens
Air conditioners	Ranges
Washing machines	Clothes dryers
Commercial chillers	Water heaters

Review resource listing of private contractors who may assist in debris removal process, making necessary arrangements to ensure their availability in the event of the disaster.

Response

Debris management response operations are designed to address immediate or short-term effects of a debris causing incident. Prior to deployment, staff will be briefed on the debris removal plan and all safety issues concerning it, to include issuing any personal protective equipment that may be needed. During the response phase, staff will initiate the following tasks:

1. Activate debris management plan and coordinate with damage assessment team.
2. Begin documenting costs.
3. Begin debris clearance from transportation routes, based on debris removal priorities.
4. Coordinate and track resources (public and private).
5. Establish priorities regarding allocation and use of available resources.
6. Identify and activate temporary debris storage and reduction sites (local and regional).
7. Address any legal, environmental, and health issues relating to the debris removal process.
8. Continue to keep public informed through the County Public Information Office (PIO) procedure.

Recovery

Debris management response operations are designed to return the community to normalcy following a debris causing incident. During the recovery phase, staff will initiate the following tasks:

1. Continue to collect, store, reduce, and dispose of debris generated from the event in a cost-effective and environmentally responsible manner.
2. Continue to document costs.
3. Upon completion of debris removal mission, close out debris sorting and reduction sites by developing and implementing the necessary site restoration actions.
4. Perform necessary audits of operation and submit claim for federal assistance.

Incident Command System (ICS)

Thurston County Public Works will use the Incident Command System to structure debris management response, as outlined in the County's Comprehensive Emergency Management Plan. Based on the size and scope of the incident, debris management staff may act in multiple roles. For instance, in an incident that predominantly entails debris operations, the Debris Manager may act as the Incident Commander or Operations Section Chief. During larger and more complex incidents, the Debris Manager may be assigned to the Operations Section as a branch director or group supervisor.

Roles and Responsibilities

This section identifies roles and responsibilities for internal and external agencies during a disaster debris incident.

Thurston County Departments

Supporting disaster debris management operations will involve multiple departments and divisions within Thurston County. This section outlines the roles and responsibilities for each involved agency.

Lead Agency, Thurston County Public Works: Public Works oversees both phases of debris management and coordinates activities with other departments, regional partners, and contractors when necessary.

- The Road Operations Division conducts emergency road clearing activities during the post-event response phase following a debris-generating event.
- The Administrative Services Division provides general administration support including contracts and record keeping.
- The Solid Waste Division manages all debris collection, storage, and reduction processes.
- The Parks and Trails Section provides general support for debris collection, storage, and reduction processes.

Public Works staff will provide debris operations support during response and recovery operations as directed by ECC Executive Planning Group. This staff, designated as Emergency Support Function (ESF#3), will be selected depending upon the type of emergency.

Debris operations staff members are responsible for directing debris operations during and after an

event. The number and type of staff needed to complete debris operations will be dependent upon the scope and magnitude of the disaster. Debris operations staff will likely be comprised of Thurston County full-time personnel, personnel from neighboring jurisdictions, and/or contractors. Some support roles may be filled by volunteer Registered Emergency Workers.

During an incident, staff may be needed to assume one or more roles as described below. The Debris Plan Manager will be responsible for appointing appropriate staff to fulfill the roles in the PW Debris Management Team.

Debris Removal Manager: The Debris Removal Manager coordinates all debris clearance and removal activities related to an incident. Activities include communication among other members of the Debris Management Team, communication of project status activity and reporting, and dissemination and implementation of policy directives to debris removal personnel. This function is performed by Road Operations Manager.

Debris Collection Supervisor: The Debris Collection Supervisor oversees collection (clearance and removal) activities on roads in unincorporated Thurston County prior to debris arrival at the disposal site, and coordinates debris routing, staffing and field reporting activities. This function is performed by the Road Operations Supervisor.

Debris Site Supervisor: The Debris Site Supervisor manages one or more Temporary Debris Collection Sites and is responsible for overseeing waste separation and environmental protection concerns as well as completing required reporting documentation. This function is performed by the Solid Waste Manager.

Debris Team Finance, Administration and Logistical Staff: These positions track time for personnel, equipment, and incident costs related to debris management within each department or division. These positions also assist with contracting and purchasing resources, completing documentation required for reimbursement of expenses, and coordinating the de-mobilization of resources.

Supporting Agencies: Thurston County Emergency Management: Emergency Management will coordinate activities and resource needs through the County ECC. This department will coordinate with the Auditor's Office – Financial Services, which is the applicant agent for FEMA reimbursement.

Additional specialized staff may be needed to act as technical specialists during all phases of a debris-generating event. These include the following:

Debris Management Subject Matter Expert (SME): A Debris Management SME provides information and guidance to command staff working in the operations and planning sections to help guide disaster operations.

Quality Assurance Personnel: Quality Assurance Personnel ensure the debris operations are cost effective and that the debris is collected, removed, and disposed of in compliance with federal, state, and local laws. This is accomplished through the monitoring of debris type and amount during collection, sorting, reduction, and disposal.

Diversion Program Staff / Debris Management Site Staff: Staffing is estimated to be 3 Full-Time Equivalents (FTEs) for Diversion Programs and 10 FTEs per Temporary Debris Sorting and Reduction Site for each hour of operation and each hour of set-up and clean-up during non-operating hours.

External Agencies

Washington State Department of Ecology (Ecology): The Department of Ecology is responsible for the protection of Washington's environment. The department provides statewide regulation of municipal solid and hazardous waste. During a disaster, Ecology may support and advise local health departments and solid waste agencies, regarding disaster debris operations. Ecology may also issue temporary permits or recommend certain regulations be suspended, to hasten response and recovery.

Washington State Department of Health (DOH): The DOH manages programs and creates regulations to protect citizens' health by limiting exposure to environmental hazards. During a debris-causing incident, DOH will assist local health authorities, as requested, to ensure appropriate steps are being taken to maintain the health of the state's citizens and workers.

Washington State Emergency Management Division (WAEMD): During state emergencies, WAEMD manages the State Emergency Operations Center (EOC) located on Camp Murray, near Tacoma, and coordinates the response to ensure quick and effective help is provided to those who need it. The EOC is designated as the central location for information gathering, disaster analysis, and response coordination. At the EOC, information gathered is used by executives to make decisions concerning emergency actions and to identify and prioritize the use of state resources needed to respond to the emergency. The EOC may issue emergency warnings or disseminate critical information and instructions to government personnel and the public who may need to take emergency protective actions.

Washington State Enterprise Services: Enterprise Services is the state agency responsible for coordinating Emergency Support Function (ESF#3): Public Works and Engineering under the Washington State Comprehensive Emergency Management Plan. During a debris-causing incident, Enterprise Services will support state agencies, provide coordination of logistical and engineering support for state facilities, and provide resources to local requests that are coordinated through the Washington State Emergency Management Division.

Washington National Guard: The Washington National Guard may provide equipment, personnel, and technical assistance to protect the State of Washington. During debris-causing incidents, National Guard resources provide security for equipment staging and debris sorting and reduction sites, limited electrical power and sheltering, traffic control, and aerial reconnaissance. After local resources have been exhausted, National Guard resources are available through a request to the State Emergency Management Division.

Washington State Patrol (WSP): WSP is the lead law enforcement agency within the State of Washington. During a debris-causing incident, WSP supports local law enforcement with evacuation of persons and property, coordination (along with the Washington Department of Natural Resources) of disaster firefighting and firefighting resources through the Washington State Fire Mobilization Plan, and augmentation of local law enforcement resources.

Olympic Regional Clean Air Agency (ORCAA): The ORCAA is responsible for regulating air quality in Puget Sound. During debris-causing disasters, the ORCAA provides advice on outdoor burning of debris and the removal and disposal of asbestos-containing debris. They also provide information and possible monitoring of air quality for debris operations that create large quantities of dust. Depending on the disaster severity, ORCAA can suspend all or part of the Washington Clean Air Act or Regulations I, II, and III.

Contractors and Vendors

Contractors and vendors are often used to augment local resources in support of debris management operations.

Solid Waste Collection Companies: Solid waste collection companies are private entities that provide daily municipal solid waste service through the transportation and/or disposal of solid waste. During debris-causing incidents, these companies can be tasked with maintaining existing municipal solid waste service, as well as potentially providing additional resources to assist with debris clearance, processing, and disposal activities.

Debris Management Contractors: Debris management contractors provide additional resources to assist with debris clearance, removal, separation, and disposal during debris-causing incidents. These contractors can be put under contract prior to an incident to ensure efficient response during or after an actual incident or event. Federal agencies, such as the United States Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA), may also have contract resources available to assist with debris management operations.

Debris Management Monitoring Contractors: Debris monitoring contractors provide oversight and documentation of debris management operations. This may include supervising other debris management contractors, documenting debris clearance and disposal operations for potential reimbursement, and operating temporary debris sorting and reduction sites.

Federal Resources

When an impacted state or local government does not have the regional capability required to respond to a presidentially declared disaster, a request for Technical or Direct Federal Assistance may be made. The approved request is called a Mission Assignment and can only be requested by state officials. A Mission Assignment is a work order issued by FEMA to another federal agency directing completion of a specific assignment in anticipation of, or response to, a Presidential declaration of a major disaster or emergency.

There are two Emergency Support Functions (ESFs) that perform debris-related activities under FEMA Mission Assignments:

ESF #3 – Public Works and Engineering is responsible for infrastructure protection, emergency repair, and restoration. Also provides engineering services and construction management, and serve as a critical infrastructure liaison. The United States Corps of Engineers is the lead agency for ESF #3.

ESF #10 – Oil and Hazardous Material Response is responsible for responding to oil and hazardous material issues, environmental safety, and short- and long-term cleanup. The two most commonly deployed agencies that deal with these debris-related activities are the United States Environmental Protection Agency (EPA) and the United States Coast Guard (USCG).

All Mission Assignments have the following requirements:

- The community must demonstrate that required disaster-related efforts exceed state and local resources

- The scope of work must include specific quantifiable measurable tasks
- FEMA must issue the Mission Assignment

Debris Collection and Hauling Operations

This section provides information on disaster debris response and recovery operations, including damage assessment, debris collection, and the establishment of temporary debris sorting and reduction (TDSR) sites.

Damage Assessment and Debris Estimates

Damage assessment is the systematic process of gathering preliminary estimates of disaster debris quantities and composition; damage costs; and general descriptions of the locale, type, and severity of damage sustained by both the public and private sectors. Initial damage assessments are usually completed within 36 hours of an incident by local, state, federal, and volunteer organizations and provide an indication of the loss and recovery needs. The initial damage assessment is the basis for determining the level of state and federal assistance needed, as well as the types of assistance necessary for recovery. The assessment may take longer depending on the County's ability to respond to life, safety, and property concerns. The damage assessment should accomplish the following.

The Damage Assessment Teams will determine the estimated quantity and mix of debris generated as soon as possible. Methods for debris estimation include:

The United States Army Corps of Engineers (USACE) Hurricanes Debris Estimating Model, which has a predicted accuracy of $\pm 30\%$. Although the likelihood of a hurricane or typhoon, when occurring in the Pacific Ocean, impacting the Thurston County is low this model is still viable as the primary factor is the number households in a developed urban/suburban area. Supporting factors include cubic yards generated per household per storm category, vegetative cover, commercial density, and precipitation.

For individual properties the following formula will be used to estimate the debris volume generated by a destroyed single-family home: $L \times W \times S \times 0.20 \times VCM$.

- L = Length of the building.
- W = Width of the building.
- S = Height expressed as number of stories.
- 0.20 = reduction factor due to airspace in a single-family dwelling.

- VCM = Vegetative cover multiplier.

Light	1.1 multiplier	Includes new home developments where more ground is visible than trees and canopy cover is sparse
Medium	1.3 multiplier	Generally, has a uniform pattern of open space and tree canopy cover and is the most common description for vegetative cover.

Heavy	1.5 multiplier	Found in mature neighborhoods and woodlots where the ground or houses cannot be seen due to the tree canopy cover
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Drive-through “windshield” damage assessments may also be conducted to estimate the amount of debris visually. If available, an aerial assessment by flying over the area using State Police and/or National Guard helicopters and Civil Air Patrol reconnaissance flights may be conducted. The damaged area can be assessed either visually or using aerial photography.

- Estimate damage costs
- Determine impact on critical facilities
- Identify impact on residential and commercial areas
- Identify what additional resources are needed for response and recovery

Once the area has been assessed, actions can be taken to implement Phase I debris clearing procedures and institute requests for additional state or federal assistance.

FEMA Preliminary Damage Assessment

A preliminary damage assessment (PDA) report is a more detailed assessment that is completed following the initial damage assessment if it is suspected that the incident has, or will, overwhelm local resources and require federal assistance. The PDA serves two purposes, as follows:

The PDA provides reliable damage estimates, which are used as a basis in applying for assistance and, where justified, the governor's request for a Presidential Disaster Declaration. The PDA provides for the effective implementation of state and federal disaster relief programs if a Declaration is made.

The PDA is completed by a team of county and local officials, Washington State Emergency Management Division personnel, with officials from FEMA and the U.S. Small Business Administration. The PDA usually takes approximately thirty days to complete and compile and route it through the Governor’s office to FEMA.

Debris Clearance and Removal Guidelines

Thurston County has developed the following guidance for prioritizing debris removal:

- Life Safety
- Situation Stabilization
- Property Protection
- Economic Stability and Environmental Protection

These guidelines will dictate planning, response, and recovery during disaster debris creating events.

Debris Removal

Natural disasters including severe storms and earthquakes can generate unprecedented amounts of debris in a few hours or a few minutes. The debris may be equally heavy in both urban and rural areas depending on the magnitude of the tree blow-down and associated structural damage such as homes, businesses, utilities, and signs. This section provides guidelines on debris removal issues, including emergency roadway clearance, public right-of-way removal, mobile home park removal, private property removal, navigation hazard removal, and Household Hazardous Waste (HHW) removal.

Debris removal, regardless of source, becomes a high priority following a disaster. A debris management strategy for a large-scale debris removal operation divides the operation into two phases.

Phase I: consists of the clearance of the debris that hinders immediate lifesaving actions being taken within the disaster area and that which poses an immediate threat to public health and safety.

Phase II: operations consist of the removal and disposal of that debris which is determined necessary to ensure the orderly recovery of the community and to eliminate less immediate threats to public health and safety.

Historic and Cultural Preservation: This plan incorporates guidance for compliance with Section 106 of the National Historic Preservation Act. If there is a Native American burial site in the vicinity of the site, the work will be performed under the guidance of an archeologist.

Archeological or historical objects such as ruins, sites, buildings, artifacts, fossils, or other objects of antiquity that may have significance from a historical or scientific standpoint, shall not be further disturbed. If any such object is encountered by contractors or Thurston County personnel, the contractor or Thurston County personnel shall immediately notify county engineers and the county engineer will notify an archeologist of any such findings.

Discovery of Human Remains and Personal Property: Debris material will be visually screened for remains, belongings, and hazardous materials. If human remains are discovered on a roadway or in debris, all work in that area will cease immediately. All efforts must be made to leave any potentially identifying items exactly where they are at the time of discovery. A medical examiner team will be assigned to the site to handle, collect, and remove the remains. The contractor and county personnel will attempt to return discovered private property to legal owners when ownership can be determined and if the owner is available to receive the property within Thurston County.

Thurston County has developed the following priorities for debris clearance and will use the snow routes protocol. Circumstances such as mutual aid, ECC Strategic Planning Group Priorities, crime scene preservation, and/or accident investigation may require a delay of debris clearing during disaster

operations until approval can be obtained from the lead ICS organization.

Clear Emergency Access Routes and Lifelines: Lifelines are those routes in a traffic network that provide access for emergency responders, alternate and evacuation routes, and damage assessment routes. Lifelines should include areas identified for potential staging, temporary shelters, and other resources available in the community that supports emergency response. Thurston County will work closely with neighboring jurisdictions to identify priorities for clearing transportation access routes.

Clear Access to Critical Facilities and Infrastructure: Assets, systems, and networks, whether physical or virtual, so vital that their incapacitation or destruction would have a debilitating effect on security, economic security, public health, or safety. These typically include hospitals, fire stations, police stations, and emergency operation centers as well as cellular and land-line telephone services, drinking water and power utilities, and sanitation facilities.

Clear Major Freeways or Arterial Routes: Major freeways and arterial routes are portions of the public transportation network that are needed to aid in response and recovery operations but may not have been cleared as an emergency access route.

Clear Areas Necessary for Movement of Goods and Services/Economic Restoration: These areas include the portions of the public transportation network necessary for effectively transporting goods and services throughout the region that are not included in one of the previous categories. These may include access to warehouses, airports, seaports, and major business districts.

Clear Minor Arterial Routes: These routes include those portions of the public transportation network that receive moderate traffic flows but are not included in one of the previous categories.

Clear Local Routes: These areas include those portions of the public transportation network in residential neighborhoods that are not included in one of the previous categories.

Debris Operations

Debris-clearing and removal operations predominately focus on public roads and other critical infrastructure; they should be prioritized based on the methodology described above.

Debris Clearance

Initial debris clearance will focus on removing debris from public property based on the County's identified priorities. Additional debris clearance from private or commercial property may be necessary if the debris presents a health or safety risk to the community. Private property debris removal is not common but may be necessary in extreme cases. Dangerous structures should be the responsibility of the owner to demolish to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will remain because of a lack of insurance or absentee landlords. Consequently, demolition of these structures may become the responsibility of Thurston County based upon determination of the Board of County Commissioners and/or Public Health Officer that they are a threat to public health, safety, or welfare.

Items to be considered during debris clearance and collection include the following:

Debris Composition: Commingling of debris creates problems with reduction and recycling techniques, which may impact future reimbursement. Whenever possible, immediate action should be taken to prevent or reduce commingling of debris during debris collection operations.

Location of Debris: In Washington State, debris removal is the legal responsibility of the property owner. Therefore, Thurston County's Debris Management Plan focuses on the removal and

disposal of disaster debris from county-operated roads and other county-owned or operated facilities. Debris clearance on private property is not allowed by state law without the written permission of the property owner and is usually not a reimbursable expense from the Federal Emergency Management Agency (FEMA). However, removal of disaster debris from private commercial or residential property may occur as determined on a case-by-case basis.

Collection Methods

Based on the types and distribution of debris, several collection methods are available during a debris causing incident:

Curbside: Residents may be asked to place their debris at the edge of the right of way for pickup. If curbside pickup is used, residents should be instructed to separate their debris into multiple categories including municipal solid waste, vegetative waste, construction and demolition debris, household hazardous waste, and putrescibles.

Permanent Solid Waste Handling Facilities: Thurston County Public Works will attempt to maximize the use of existing transfer facilities after an emergency using operational measures such as increased staffing or hours.

Existing Transfer and Recycling Center:

Thurston County Waste and Recovery Center
2420 Hogum Bay Rd NE
Lacey, WA 98516

Debris Disposal Voucher Program

Following debris causing disasters, authorized Thurston County personnel may issue Debris Disposal Vouchers to homeowners, tenants, and businesses with verified debris disposal needs. The Voucher will be usable for reduced cost or free disposal at specified disposal facilities for a fixed period. The Voucher can only be used to dispose of materials accepted at the facilities. The property owner, tenant, or business must take an online survey provided by the County to determine their eligibility for a Voucher. If eligible, they will be instructed where to get a Voucher. Unless special permission is granted, the property owner, tenant, or business receiving the Voucher will need to accompany the waste to the transfer station or landfill.

Program Initiation

The Thurston Disaster Policy Advisory Group recommends program initiation to the Board of County Commissioners. The Board of County Commissioners then chooses to initiate the program.

Emergency Services Program Responsibilities:

The Operations Section Chief and the Logistics Section Chief are responsible for coordinating Emergency Services responsibilities.

- Create and manage individual assistance online survey to determine voucher eligibility.
- Create color-coded Vouchers with unique identification numbers and Voucher tracking sheet.
- Distribute Vouchers to eligible members of the public.

Public Works Program Responsibilities:

The Solid Waste Manager is responsible for coordinating Public Works responsibilities

- Create a unique material code for debris disposal in the Paradigm scale software.
- Public Works communication team promotes voucher program to the public.
- Scale-house staff accept vouchers from the public for free disposal of debris.

TDSR Site or Drop Box: Residents may be asked to bring disaster debris to collection sites to temporarily store, segregate, and process debris before it is hauled to its final disposal site. If possible, the sites should remain at the same location for each debris-causing incident and should be included in the incident communication strategy. Facilities that can be used for drop-off's include debris drop boxes, TDSR sites, landfills, and transfer stations. If additional sites are needed, public property should be used first followed by private property.

Temporary Debris Sorting and Reduction Sites

Site Management

A map identifying the pre-designated TDSR sites in Thurston County can be found at the end of this document. TDSR site preparation and operation may be managed by Thurston County personnel or a contractor. To meet overall debris management strategy goals and to ensure that the site operates efficiently, a site manager, debris monitoring personnel, and safety personnel should be assigned to each site.

Site Manager: The Site Manager is responsible for supervising day-to-day operations, maintaining daily logs, preparing site progress reports, and enforcing safety and permitting requirements during site operations. The Site Manager is also responsible for scheduling the environmental monitoring and updating the site layout. The Site Manager has oversight of the activities of the debris removal contractors and the on-site debris processing contractors to ensure that they comply with the terms of their contracts.

Monitoring Staff and Assignments: Regional monitors (whether county employees or contractors) should be placed at ingress and egress points to quantify debris loads, issue load tickets, inspect and validate truck capacities, check loads for hazardous waste, and perform quality control checks. The specific duties of the monitors would depend on how debris is collected.

Safety Personnel: Safety personnel are responsible for traffic control and ensuring that site operations comply with local, state, and federal occupational safety regulations.

Establishment and Operations Planning

Whenever possible, TDSR sites will be identified and established prior to an incident to allow appropriate planning and permitting to be completed.

TDSR Site Locations

Thurston County PW has identified the Waste and Recovery Center, Rochester Drop Box and Rainier Drop Box, and several county gravel pits that meet the TDSR criteria. Attachment 1, *TDSR Site Map*, provides a list of TDSR sites currently identified.

Locating Additional TDSR Sites

Thurston County is working to identify additional TDSR sites in areas of unincorporated Thurston County where a higher level of disaster debris is expected to be generated.

When identifying additional TDSR sites, Thurston County staff will first consider sites that already have solid waste handling permits and, secondly, public lands. Existing disposal or recycling facilities close to lifelines and major access routes are ideal TDSR sites. County-owned sites that will not require extensive repair costs, such as parks, vacant lots, or sports fields, may be considered as well. State-to-state or county-to-county agreements may provide solutions for public land use; however, if these are not available, planning staff will develop criteria for identifying potential private property locations for the TDSR sites. County legal staff will review private land easements for suitability and possible use.

Additional selection considerations for TDSR sites include the following:

- Proximity to the sources of disaster debris (as close as possible)
- Large enough to accommodate a storage area, a sorting area, and volume reduction operation area
- Hard, preferably non-porous, surface such as a paved parking lot
- Accessible by main transportation routes with good ingress and egress to accommodate heavy truck traffic
- Outside of environmentally sensitive areas, such as wetlands or well-fields
- Reuse and recycling possibilities, including timber agreements, mulch and chip disposal in the agriculture community, and fuel sources for incinerators or heating. Recycling success will depend on the types of debris and the local recycling environment.

Site Preparation:

Site preparation may require the development of a Memorandum of Understanding, a Memorandum of Agreement, or lease/use agreement, if appropriate. The site will be prepared as directed by the Thurston County Health Department. All preparation and operation requirements will be included in the scope of work if TDSR Site preparation is to be contracted with an outside vendor. Site closure and restoration considerations will be included during preparation. Site preparation will identify responsibilities for gathering and documenting initial baseline data and developing an operational plan, including a closure plan. In extreme disaster situations, the appropriate regulating authority may grant exemptions to site preparation requirements.

Control of possible contaminants (including ash, household hazardous waste, fuels, and other materials) will be addressed during site preparation. This will be included as a requirement in the scope of work if the TDSR site preparation will be contracted out. Site topography and soil/substrate conditions will also be evaluated to determine the best site layout.

Site Layout

Significant accumulation of debris should not be allowed to occur at temporary storage sites because of environmental and safety concerns such as the risk of fire. Permits for such sites may specify maximum capacity restrictions.

Although FEMA recommends 100 acres as the minimum size for a TDSR site, Thurston County may be limited by facility availability. Additional debris management sites may be necessary if actual debris quantities are greater than the site storage and processing capacity.

Operational Boundaries

Operational boundaries are the boundaries or areas that clearly define the different use areas on the Debris Management Site. In establishing the operational boundaries, the TDRS site design staff will consider using earthen berms, temporary barriers, or other physical restrictions. This aids traffic circulation and keeps the backlog of debris to a minimum. Common operational areas may include the following:

- Reduction, e.g., chipping or grinding
- Recycling
- Tipping areas (unloading)
- Loading areas for processed debris to go to its final disposition
- Drop-off centers for the public (this may include vegetative, recycling, or construction and demolition debris)
- Household hazardous waste storage
- Monitoring tower and/or scale locations at both the ingress and egress points
- Equipment, fuel, and water storage

Separation of the areas listed above will be clearly delineated and defined. As operations proceed, these areas may change with the various types of debris. The reduction, recycling, tipping, and loading areas require adequate space for equipment operations. The site design will consider the possibility of multiple pieces of equipment engaging in the same activity at one time. Depending on the scale of operations, each debris stream may have its own tipping area and the site will be designed accordingly.

General public drop-off areas for recycling, reduction, and construction and demolition debris may be included within a TDSR site. These public use areas will be carefully designed for passenger vehicle traffic and public safety, as well as provide an accurate accounting for all weight or volume of materials received.

Household hazardous waste storage should be located in a safe, yet restricted, location close to the public drop-off center so that qualified personnel can process the waste appropriately. The design staff may consider installing impermeable lining and constructing earthen berms to contain spills and prevent surface water runoff from leaving the area.

Monitoring towers on large sites may be located at ingress and egress points; and will be constructed of durable structural materials, designed to withstand active and static loads. Thurston County notes that a ladder is not an acceptable monitoring tower.

Equipment and fuel will have a designated storage area with appropriate signage posted. These fuel storage areas will be designed to contain spills and will contain class B fire suppressant devices. For

dust and fire suppression (non-fuel material), water will always be readily available throughout the site.

Traffic Patterns

Traffic circulation will be well defined throughout the entire TDSR site. Vehicle traffic through the site will be managed by the utilization of signs, barricades, and flag personnel. The designed traffic pattern may allow trucks to enter and exit through different access points, providing an adequate number of monitors are employed. Monitors stationed at ingress and egress points ensure that every truck releases their entire load prior to leaving the site. If possible, empty trucks that enter the site to remove the processed (reduced) debris may enter and exit through an access point other than that of all other traffic.

Environmental Monitoring Program:

Environmental data will be collected during site operations to support site closeout and quality assurance. The data will be compared to the previously established information to determine any site remediation that may be necessary.

TDSR Site operations may expand, contract, or shift on the site. The locations of all hazardous materials and equipment storage will be tracked in order for soil and water samples to be tested for contaminants. If the site is also an equipment staging area, site operators will monitor fueling and equipment repair to prevent and mitigate spills (e.g., petroleum products and hydraulic fluids). Site management plans (and/or contracts) will require immediate cleanup of any spills by the site operators. Any areas of concern will be mapped and tracked to facilitate any required remediation.

Site Closure:

After the site operations are complete, the property (either county-owned or leased) must be restored to its pre-activity environmental state. Restoration activities include, but are not limited to, removal of all traces of the operations (e.g., debris, processing equipment, storage tanks, protection berms, and other structures) and any required remediation of any contamination that may have taken place during the operations. Thurston County Public Health and Social Services Department will review all closed TDSR sites.

Site Evaluation and Restoration

Final restoration of the landscape must be acceptable, within reasonable expectations, to the Health Department and the landowner. Site designers will address landscape restoration as early as possible, incorporating restoration provisions into the MOU, MOA, or lease as appropriate.

The final environmental site evaluation is an extension of the environmental monitoring program. Testing, similar to that which will be done for the baseline study, will be conducted to confirm that the site has been returned to its pre-activity state. Test samples will be taken at the same locations as those of the initial assessment and monitoring program. If warranted, additional test samples may be needed at other locations on or adjacent to the site.

Based on the results of the testing, additional remediation may be required before the owner takes final acceptance of the site. The MOU, MOA, or lease agreement will have provisions to release

Thurston County from future damages when the site is returned to its original condition or when final acceptance is received from the Health Department and the owner.

Neighborhood Collection Sites

In addition to TDSR sites, Thurston County may elect to establish neighborhood collection sites to support disaster debris operations. These sites are used to collect debris from a small area and transport the debris to an established TDSR site or a recycling or disposal facility.

Debris Reuse, Reduction, and Disposal Methods

Numerous methods are available that reduce the overall volume of disaster debris by diverting from disposal at a landfill.

Recycling and Reuse

Trained county or contractor staff will monitor disaster debris to identify items for diversion and recycling and to ensure that the disaster debris sent to the Thurston County solid waste system complies with established Thurston County waste acceptance requirements.

Trained county or contractor staff will collect data on the volumes of disaster debris diverted and disposed. This reporting and data collection will be designed under the direction of FEMA staff assigned to the specific disaster to ensure that this documentation complies with the current FEMA requirements and expectations.

The recycling and reuse of disaster debris may be limited to metals, soils, construction and demolition debris, and organic composting materials.

Metals: Most non-ferrous and ferrous metal debris is suitable for recycling. Metal maulers and shredders can be used to shred trailer frames, trailer parts, appliances, and other metal items. Ferrous and non-ferrous metals are separated using an electromagnet and then sold to metal recycling firms.

Soil: Soil can be combined with other organic materials that will decompose over time. This procedure produces significant amounts of material, which can be sold, recycled back into the agricultural community, or stored onsite to be used as cover when the site is returned to its pre-incident state. In agricultural areas where chemical fertilizers are used heavily, recovered soil may be too contaminated for use on residential or existing agricultural land. Public Works will consult with Thurston County Public Health and Social Services department to establish what monitoring and testing is necessary to ensure that soil is not contaminated with chemicals. If the soil is not suitable for agricultural or residential use, it may ultimately need to be disposed of at a permitted landfill.

Construction and Demolition: Building demolition materials will need to be sorted based on end materials uses and removal of contaminants such as asbestos. Concrete, asphalt, and masonry products can be crushed and used as base material for certain road construction products, or as trench backfill. Debris targeted for base materials needs to meet certain size specifications as

determined by the end user. Clean wood products used in construction can also be chipped or ground and used as mulch or hog fuel.

Composting: Composting is the controlled decomposition of organic materials, such as leaves, grass, wood, and food scraps, by microorganisms. The result of this decomposition process is compost, a crumbly, earthy smelling, soil-like material. Yard trimmings and food scraps make up about 25 percent of the waste generated in the average household; composting can greatly reduce the amount of waste that ends up in landfills or incinerators. A section of TDSR sites should be reserved to receive compost material after a disaster and monitored to mitigate vectors and spontaneous combustion. Composting can be used not only for backyard garden soil additives, farmlands, highways, and other landscaping projects, they can also be put to many innovative uses.

Volume Reduction Methods

The volume of disaster debris may be reduced using methods such as chipping or grinding wood for landscaping or hog fuel. Currently, incineration is not a viable volume reduction strategy in Thurston County.

Chipping and Grinding: Chipping and grinding reduces the volume of some debris types by as much as 75 percent. This method is commonly used to reduce the volume of disaster debris including vegetative debris, construction demolition debris, plastics, rubber, and metals. Clean wood can also be reduced and used for mulch, while other debris such as plastic and metals can be chipped to reduce the overall volume of the material prior to transportation or disposal. The benefit of using a reduction method can be increased by identifying alternate uses for the residual material. The ability to use recycled wood chips as mulch for agricultural purposes, fuel for industrial heating, or in a cogeneration power plant helps to offset the cost of the chipping and grinding operations. When using chipped and ground materials, they must be carefully monitored to ensure that contaminants such as plastics, soils, rocks, metals, and special wastes are not present in the vegetative debris to be processed.

Problem Waste Processing and Disposal

Problem waste such as pathogenic waste, white goods, household hazardous waste, or biological or nuclear waste requires additional handling before it can be processed or disposed of and will vary depending on the type and scope of the debris-causing incident. During debris processing, problem waste will be removed and stored in a secure location until it can be disposed of properly. Because of their prevalence during debris-causing incidents, several types of waste require particular attention:

Household Hazardous Waste (HHW): Thurston County Public Works will instruct county businesses and residents to dispose of their HHW using the County's established HHW program.

White Goods: White goods will be recycled. Refrigerators, freezers, air conditioners, and other appliances that contain refrigerants will be processed by a qualified recycler to remove the refrigerant before being recycled. Food waste must be removed before the appliance will be accepted for recycling.

Electronic Waste (E-waste): E-waste should be separated from other waste and recycled by an E-waste processor.

Treated Wood: Treated wood may be disposed at a construction and demolition debris receiving facility designated by Thurston County. Treated wood may not be chipped, shredded, mulched, composted, or incinerated.

Gypsum Drywall: Gypsum drywall may be recycled or disposed at a construction and demolition debris receiving facility designated by Thurston County.

Asbestos: Regulations for asbestos handling are well established by several different local, state, and federal agencies, including the Washington State Department of Ecology and the Olympic Regional Clean Air Agency. Asbestos-containing materials may be disposed of using proper waste handling procedures such as abatement permitting and dust containment.

Human Waste: Human waste cannot be included in the debris stream. The Health Department and wastewater personnel will work to properly collect and dispose of this waste.

To the extent possible, Thurston County will attempt to segregate hazardous substances from the waste stream as early in processing as possible to prevent contamination of larger amounts of waste. The county will consult with the local hazardous waste staff, public health officials, the Washington State Department of Ecology, and the U.S. Environmental Protection Agency to ensure the protection of public health.

Debris Sorting and Diversion

When establishing and operating Debris Management Sites and/or Neighborhood Collection Sites, the Site Manager is responsible for ensuring that appropriate staff are available to monitor debris and to ensure that debris is sorted into appropriate categories for recycling, reuse, special waste processing, and disposal.

Debris Management Operations Monitoring

Debris monitoring operations document the debris clearance and removal operations, including the location and volume of debris collected. Monitoring is needed to ensure that the any debris removal contractor(s) are performing the scope of work required by the contract and to determine eligibility for FEMA reimbursement.

Debris monitoring can be accomplished by Thurston County staff or by a debris monitoring contractor hired by Thurston County. The key elements to record when monitoring and documenting debris operations include:

- Type of debris collected
- Amount of debris collected
- Original collection location

Documentation and Reporting Requirements

During the operation of TDSR sites, any operations that will have a bearing on site closeout such as petroleum spills at fueling sites, hydraulic fluid spills at equipment breakdowns, discovery of household

hazardous waste, and commercial, agricultural, or industrial hazardous and toxic waste storage and disposal, need to be documented. This information will be used during site closeout operations.

Debris Management Contractor Monitoring

If Thurston County utilizes contractors for debris operations, the county will establish a contract monitoring plan. The purpose of a monitoring plan is to protect the county's financial interest. Monitoring debris removal operations achieves two objectives:

- Verifying that the work completed by the contractor is in the contract scope of work
- Document justification, as required, for FEMA reimbursement

Contractor monitoring can be accomplished by county staff or by a separate contract company. Failure to document eligible work and costs may jeopardize FEMA reimbursement. In federally declared disasters, FEMA periodically validates a region's monitoring efforts to ensure that eligible debris is being removed and processed efficiently.

Considerations for Unit Price Contracts

A unit price contract requires that all trucks be accurately weighed or measured and numbered and that all truckloads be documented. Full-time trained contract monitors are usually necessary for this type of contract to keep an accurate account of the actual quantities of debris transported (in either cubic yards or tons). Monitors must be available at debris pick-up locations to ensure the debris being picked up is eligible. In addition, this type of contract requires the contractor to provide or construct an observation stand at all reduction and disposal sites so the contract monitor can certify the load. If scales are used, monitors must also ensure that proper weights are registered before and after trucks have been emptied. The following conditions for unit price payments also apply:

- If unit price payments are based on weight, a truck scale must be available at the disposal site for weighing trucks. The weight of an empty truck must also be confirmed.
- If unit price payments are based on volume, monitors must verify truck capacities and inspect trucks for proper loading and compaction.

Load Tickets

The term "load ticket" refers to the primary debris-tracking document. A load ticket system tracks the debris from the original collection point to the TDSR site or landfill. By positioning debris monitors at each point of the operations (collection, TDSR site, and/or final disposition), the eligible scope of work can be properly documented. This process enables the jurisdiction to document and track debris from the initial collection location, to the TDSR, and to final disposal locations. Should Thurston County use contract haulers, these tickets will be used to verify hauling activities. Load tickets should be multi-copy and sequentially numbered. All copies of load tickets presented for payment must match for payments to be made.

Truck Certification and Periodic Recertification

Prior to beginning contract work, each truck must be certified. Certification includes a record of the following:

- Volume of the truck bed in cubic yards or empty truck weight
- Truck license and DOT number
- Any identification number assigned by the owner
- A brief description of the truck, including FEMA truck rental reimbursement rate.

Monitors may need to be trained to measure truck capacities for certification purposes. Recertification of the hauling trucks on a random and periodic basis should be implemented for contract compliance and reimbursement considerations. A listing of certified trucks will be maintained by debris monitors to ensure that truck identifications have not been altered.

Awareness of Improper Unit Price Contractor Strategies

Monitors must be aware of the following techniques, which have been used by contractors to take advantage of unit price contracts during the debris cleanup process:

- Reporting improper truck volumes
- Adding improper debris to a load to increase weight (i.e., steel, boulders, excess soil, or concrete)
- Soaking debris with water
- Tipping half of the load
- Switching a truck number
- Using large fuel tanks that are almost empty on initial weigh-in and full when delivering debris
- Adding steel plates or other weights to the bottom of the truck bed

Considerations for Time and Materials Contracts

If Thurston County opts to enter into time and materials contracts, the county will document the length of time that equipment and personnel is used and will endeavor to ensure that equipment and personnel are being used efficiently. FEMA does not reimburse for "down time" of equipment or personnel.

Considerations for Debris Monitoring Contracts

Thurston County may utilize debris monitoring contractors to monitor and document debris operations, or to manage other debris management contractors.

When developing scopes of work for debris management contractors or when evaluating their performance, the county will consider and evaluate following:

- Documentation of the type and amount of debris collected
- Documentation of the original collection location
- Measurement and certification of truck capacities (recertify on a regular basis)

- Completion and physical control of load tickets to ensure chain of custody (in monitoring towers and the field)
- Validation of hazardous trees, including hangers, leaners, and stumps (use appropriate documentation forms)
- Confirmation that trucks are accurately credited for their load
- Confirmation that trucks are not artificially loaded to maximize reimbursement (e.g., debris is wetted, or debris is fluffed instead of compacted)
- Confirmation that hazardous waste is not mixed in with loads
- Confirmation that all debris is removed from trucks at the DMS
- Notification to project manager if improper equipment is mobilized and used
- Notification to project manager if contractor personnel safety standards are not followed
- Notification to project manager if public safety standards are not followed
- Notification to project manager if completion schedules are not on target
- Confirmation that only debris specified in the scope of work is collected and identification of work as potentially eligible or ineligible
- Monitoring of site development and restoration of the TDSR
- Confirmation that daily loads meet permit requirements
- Confirmation that work stops immediately in an area where human remains or potential archeological deposits are discovered
- Notification to project manager if debris removal work does not comply with all local ordinances as well as state and federal regulations
- Completion of a pre- and post-event environmental assessment of each TDSR site

Contracted Resources

This section provides information on establishing and maintaining contracts for debris management services including debris clearance, removal, processing, and disposal.

During a debris-causing event, it may be necessary to contract with other resource providers to augment Thurston County's staff and equipment. These resources can be used to assist with specific tasks such as debris clearance or the management of Temporary Debris Sorting and Reduction (TDSR) sites.

LeMay, Inc. is the Waste and Recycling Center contracted manager responsible for most on-site operations and will be used as a Force Account during an emergency event.

Contract Debris Management Resource Needs

Thurston County has identified that additional resources may be needed to support disaster debris operations in these areas:

- Right-of-way (ROW) vegetative debris removal
- ROW construction and demolition debris removal
- ROW household hazardous waste collection and disposal
- ROW tree trimming and clearing
- General debris collection
- General debris hauling
- Debris processing and reduction
- Commercial and private property demolition and debris removal
- Commercial and private property sediment removal
- Temporary Debris Sorting and Reduction (TDSR) site management
- Debris monitoring and inspection

Emergency Contracting and Procurement Procedure

Thurston County's emergency contract implementation process will comply with the following Federal Emergency Management Agency (FEMA) stipulations:

- FEMA does not certify, credential, or recommend debris contractors.
- Thurston County will not execute debris removal or any other contracts until they have been reviewed by the Thurston County Prosecuting Attorney's Office and received written approval from that office.
- Contractors cannot be awarded pre-disaster/stand-by contracts with mobilization costs or unit costs that are significantly higher than what they would be if the contract was awarded post-disaster.

If emergency contracts for unanticipated emergency work had to be established during an event, the following general emergency contract rules apply:

- The contractor must be licensed and bonded.
- The contractor must have adequate insurance.
- The contract must comply with state and federal procurement standards including provisions of 44 CFR Part 13.
- The contractor cannot be on the Washington State Department of Labor and Industries Debarred Contractors list.

Types of Contracts

The type of contract used to supply debris management services will vary depending on the type of work to be performed and how soon after the incident the work is planned. When developing contracts for emergency work, Thurston County will utilize scope of work reference terms such as “eligible work,” “work eligible under FEMA Public Assistance regulations, policies, and guidance,” “work performed on public property and/or public rights-of-way,” or other similar elements if the performed work is to be potentially reimbursed by FEMA.

The three recommended contract vehicles for debris operations are:

Time and Materials Contract: Under a time and materials contract, the contractor is paid based on time spent and resources used in accomplishing debris management tasks. Time and materials contracts are extremely flexible and especially suitable for early debris right-of-way clearance jobs and hot spot cleanups. For reimbursement purposes, FEMA recommends that the use of time and materials contracts be limited to the first 70 work hours after a disaster.

Unit Price Contract: A unit price contract is based on weight (tons) or volume (cubic yards) of debris hauled. This kind of contract should only be used when the scope of work is not well defined. It requires close monitoring of debris collection, transportation, and disposal to ensure that quantities are accurate. A unit price contract may be complicated by the need to segregate debris for disposal.

Lump Sum Contract: A lump sum contract is used when the scope of work is clearly defined, and the areas of work are specifically quantified. Lump sum contracts require the least monitoring by the contracting Jurisdiction.

The following contract types should not be used because they do not meet FEMA contracting guidelines:

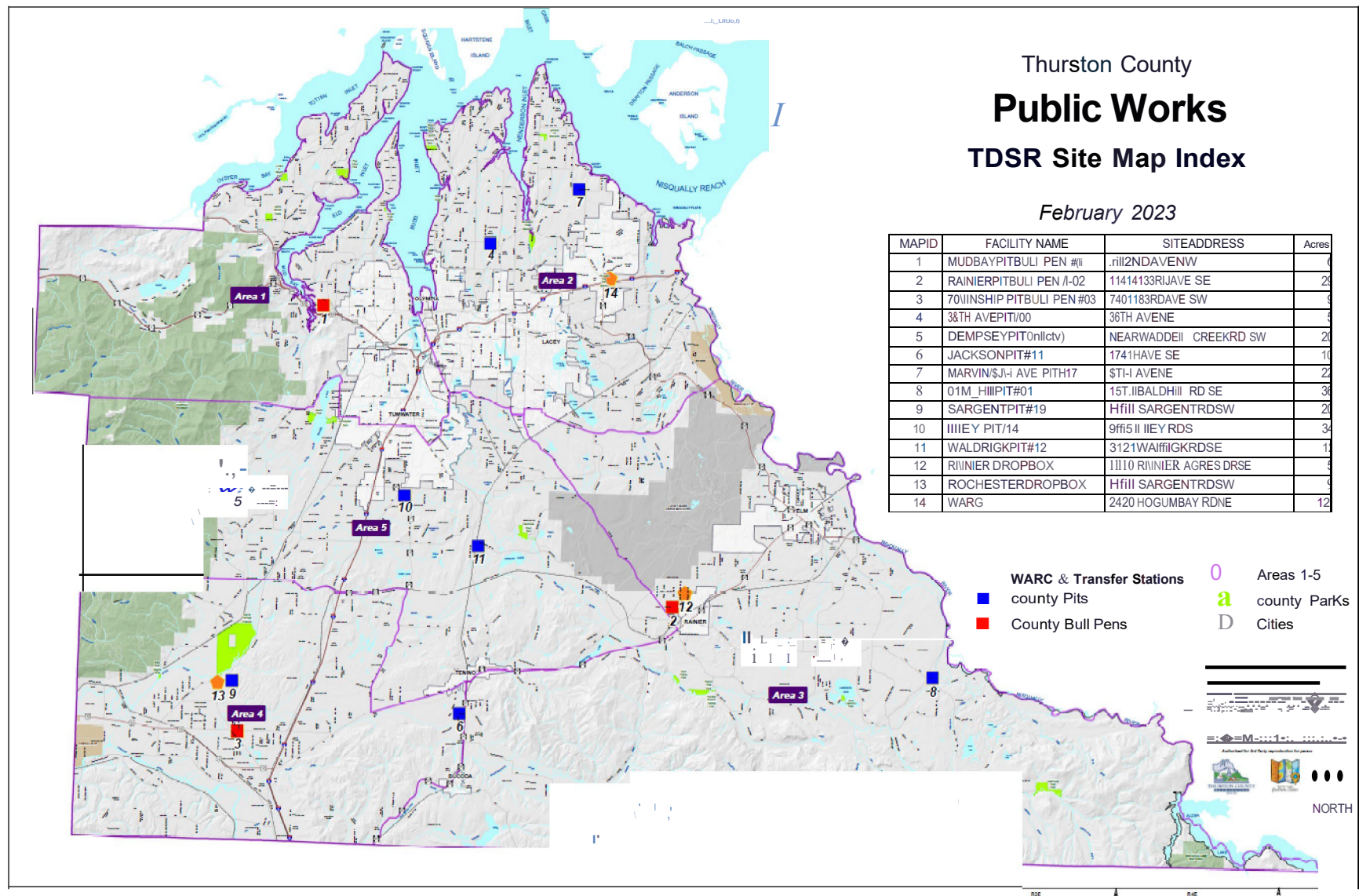
Cost plus Percentage of Cost: A cost-plus-percentage-of-cost contract is one whereby the contractor is compensated for work performed, such as a time and materials contract, but also compensated an additional percentage of that compensation.

Conditional upon Federal Reimbursement: This kind of contract only reimburses contractors if the region receives federal funding and is not an eligible contract under FEMA guidelines.

Piggyback Contracts: When a jurisdiction uses another jurisdiction’s contract it is referred to as “piggybacking” on their contract. Variables associated with scopes of work and costs generally make this an option to be avoided.

Competitive Bid Process

In some situations, such as clearing road for emergency access (moving debris off the driving surface to the shoulders or rights-of-way) or removal of debris at a specific site, FEMA allows for awarding a non-competitive contract for site-specific work “only if the emergency is such that the contract award cannot be delayed by the amount of time required to obtain competitive bidding. During an emergency, it is possible to develop an expedited process to competitively bid work. Should this situation arise, Thurston County may develop scopes-of-work, identify contractors that can do the work, make telephone invitations for bids, and receive competitive bids for the desired work.



Debris Voucher Process

Purpose: Procedural guidelines for implementing a debris voucher process, following a disaster, in which residents are issued debris vouchers that are valid for a specific length of time at any of the facilities in Thurston County, during their normal hours of operation.

All hazmat will need to go to the HazoHouse at the WARC

1. Create a color-coded debris voucher with unique identification number. Vouchers will be available to individuals and businesses that submit initial Individual Assistance information to Thurston County Emergency Management.
 - a. Geographic area affected by flooding is the entire county.
 - b. Individual Assistance applicants will be emailed to see if they have a need for debris voucher.
 - c. Voucher will have a set expiration date determined by PW-Solid Waste based incident impacts and length.
2. Issue cards to eligible residents that have a need and interest.
 - a. Coordination will be made with applicants for how they receive their voucher card. Cards will be delivered to ROOF and other locations for pickup as coordinated.
 - b. Media Release, social media (coordinate with PIO for PW-Solid Waste) and email to inform eligible public of process. [*“Eligible public” identified by Individual Assistance submission*]
3. Cards are presented at the WARC or dropbox facilities toll house operators for voucher credit immediately upon issuance of voucher and through end of operational day at a the specific end date of the voucher.
 - a. Solid Waste will charge account determined by PW and Financial Services; track by debris type and aggregate total at WARC and drop box locations (weight at WARC and cubic yards at drop box sites).
 - b. Solid Waste will set up account for vouchers. Certain types of debris that cannot be processed at dropbox locations will be directed to the WARC.
 - c. Voucher holders will be allowed to use the voucher for multiple trips.

Thurston County Debris Voucher Card Valid for: Flood Debris from Jan. 2022 Floods 2201-FL-001 ■■■■■■■■ ■■■■■■■■ ■■■■■■■■ Not Valid After Feb. 6, 2022

**EXAMPLE
VOUCHER**

Will be printed on a beige plastic card

Public Messaging Templates:

Initial Damage Assessment & Debris Messaging:

“Thurston County Emergency Management is in the process of collecting damage assessments from the [incident] in Thurston County. Damage information collected will be compiled and submitted to the state in hopes of meeting a threshold for direct assistance with disaster-caused unmet needs. If assistance becomes available, you will be contacted.

Qualified applicants may also have fees waived for disposal of [incident] debris at county solid waste facilities.

If your primary residence or business was affected by [incident] in Thurston County [Month, YYYY] please click the appropriate link below to complete a preliminary damage assessment form.

For individuals: [Insert individual IDA form link]

For businesses: [Inset business IDA form link]”

Debris Disposal Reimbursement:

“In an effort to support those residents that may have disposed of their [incident] waste prior to the start of the [incident] debris voucher program, Thurston County will be able to issue reimbursements to identified individuals that meet the following conditions:

1. This is available only to those residents who have submitted an Initial Damage Assessment (IDA) form through the following portal:
 - a. FOR INDIVIDUALS: [insert IDA link provided by Thurston County Emergency Management Staff]
 - b. FOR BUSINESSES: [insert IDA link provided by Thurston County Emergency Management Staff]
2. Debris disposal must have occurred between the start of the [incident] on [DD/MM/YYYY] and the start of the voucher program on [DD/MM/YYYY]
3. The resident must have a receipt or a credit card transaction from a Thurston County Public Works waste facility with a date meeting the criteria in #2 above
4. The resident must pick up their assigned voucher as described in emails issued following the IDA (please call 360-867-2800 for any questions regarding pickup of vouchers)
5. After completion of the above 4 steps, please reach out to Thurston County Public Works at 360-867-2314 to complete the reimbursement process.”

Voucher Extension:

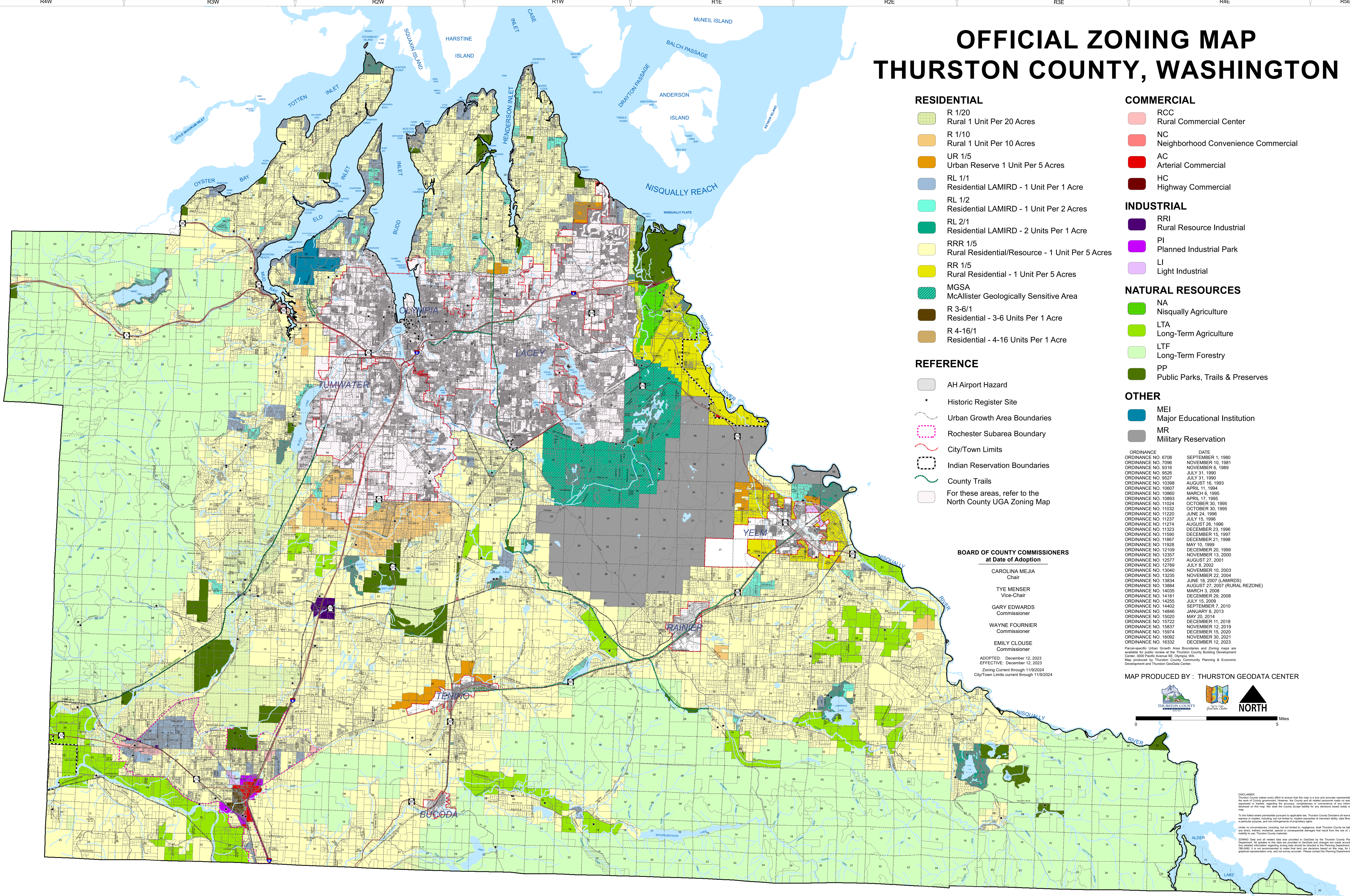
“After receiving feedback from those who have been affected by the most recent [incident], Thurston County has decided to extend the voucher expiration date from [Month, Day, Year] until [Month, Day, Year]. We understand that a number of you may not be able to complete debris disposal within the next couple of weeks, and have extended it to run an entire month from the start of the program. Even though your voucher reads that it expires on [Month, Day], it will continue to be active until facilities close on [Month, Day].”

Debris Voucher Card Example (Photo):



OFFICIAL ZONING MAP

THURSTON COUNTY, WASHINGTON



Thurston County

Water System Service Areas

Group A Community Systems

- Group A Community Water Service Area
- City of Tumwater
- City of Tenino
- City of Yelm

(OLE Frame)

Cities Urban Growth Areas

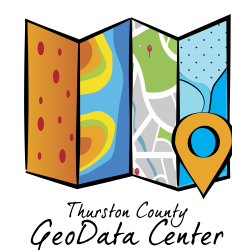
0 5 Miles

The information included on this map has been compiled by Thurston County staff from a variety of sources and is subject to change without notice. Additional elements may be present in reality that are not represented on the map. Ortho-photos and other data may not align. The boundaries depicted by these datasets are approximate. This document is not intended for use as a survey product.

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Updated on 4/24/2023

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Thurston County PUD Commissioner Districts

 District 1  District 2  District 3

