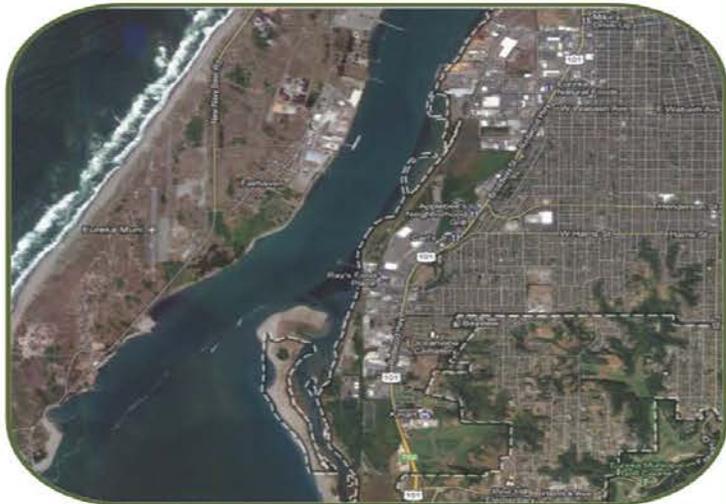


# Permitting Tool Kit for Food Waste Anaerobic Digesters



**Prepared By  
Humboldt Waste Management Authority  
March 2013**



# Permitting Toolkit for Food Waste Anaerobic Digesters

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The **Humboldt Waste Management Authority (HWMA)** is a California Joint Powers Authority formed in 1999 by five incorporated cities and the County of Humboldt to manage solid waste and assist with waste diversion programs. HWMA currently manages 70,000 tons of solid waste per year as part of an integrated waste management program that includes a comprehensive recyclable materials drop off, a green waste composting facility, and a permanent household hazardous waste facility and material-specific take-back programs. Additionally, HWMA manages the closure of the Cummings Road landfill.

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# Introduction / Background

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The Humboldt Waste Management Authority (HWMA) is a California Joint Powers Authority (JPA), formed in 1999 by five incorporated cities and the County of Humboldt (herein referred to as the Member Agencies), to manage solid waste programs within their combined jurisdictions. HWMA manages approximately 70,000 tons of solid waste annually, in addition to running an integrated waste management program which includes a green waste composting facility, a permanent household hazardous waste collection facility, a recyclable materials drop-off, and several material specific take-back programs. HWMA also oversees the closure of the local Cummings Road landfill.

In 2008, HWMA began to examine the potential of food waste diversion to further reduce landfilled waste and help Member Agencies attain compliance with the state 50% waste diversion mandate set forth in CA AB 939 (1989). As Humboldt County does not have an active landfill, solid waste is hauled an average distance of 185 miles to two out-of-county landfills. Food waste and food soiled paper comprise 30% of the county's waste stream and represent a good opportunity for increasing waste diversion in the county.

Based on the results of an internal feasibility study titled "Food Waste Diversion and Utilization in Humboldt County",<sup>1</sup> HWMA began pursuing a Regional Food Waste Digester. The goal of the digester project is to remove food waste from the waste stream and convert it into renewable energy and fertilizer via the anaerobic digestion process. The site selected for this facility is a parcel owned by the City of Eureka, directly adjacent to the City's wastewater treatment plant and the Humboldt Bay (see Figure 1). The site, known as the Crowley property, is in the Coastal-Dependent Industrial zone and was previously used as a bulk fuel storage facility. The bulk fuel storage facility was operated from the 1950's to 1989 when it was moved to another location in the county. Since then, the site has been the subject of several environmental studies and remediation actions which concluded in 2005 with a determination of "No Further Action" issued by the Regional Water Quality Control Board. This site was selected for the digester facility due to its proximity to the largest communities in the county, history as an industrial site, and its proximity to the wastewater treatment plant which has a demand for energy products and provides a convenient digested residual disposal option (if needed).

In order to pursue the development of this concept further, HWMA needed to understand the regulatory landscape with regards to building and operating a stand-alone food waste digester at this site. U.S. EPA Region 9 grant funds were used to hire PlanWest Partners and OurEvolution Energy and Engineering to assist HWMA in preparing a California Environmental Quality Act (CEQA) Initial Study. The project site evaluated in this study proved to be an interesting permitting test case as it is located in the California Coastal Zone, is adjacent to the Humboldt Bay, contains wetlands, has historic native use, and is in close proximity to a coastal recreational trail. The combination of these site aspects resulted in the involvement of several different regulatory agencies with unique requirements for project development.

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<sup>1</sup> The feasibility study can be accessed on the HWMA webpage via the following link:  
[http://www.hwma.net/sites/default/files/humboldt\\_regional\\_food\\_waste\\_digester\\_feasibility\\_study.pdf](http://www.hwma.net/sites/default/files/humboldt_regional_food_waste_digester_feasibility_study.pdf)

Locally, the pursuit of the initial permitting helped to further the HWMA Regional Organic Waste Digester project. Development of the Project Description and impact analysis allowed all regulatory agencies to comment on the concept of the project at the selected site. HWMA received no written objections to either the Project Description or the full CEQA Initial Study. HWMA therefore certified and adopted the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program in April 14, 2011.

Completing this permitting milestone provided the HWMA Board with the confidence to take the next key permitting and project steps. These steps included: 1.) Commissioning a geotechnical analysis<sup>2</sup> to assess the soil structure at the site, 2.) Preparation of a Wetland Mitigation Monitoring and Reporting Plan,<sup>3</sup> 3.) Preparation of a Waste Characterization Study<sup>4</sup> to quantify the food waste in the HWMA Member Agency's waste stream, and 4.) Use of the resultant information to develop a Request for Proposals for the design and installation of a food waste digester in Humboldt County.<sup>5</sup> The design is not only crucial for the next phase of project development, but is also needed to pursue the remaining permits.

When implemented, the HWMA Regional Food Waste Digester will divert food waste and convert it into renewable energy and fertilizer. This infrastructure will enable local jurisdictions to reduce greenhouse gas emissions associated with trucking and landfilling waste and return nutrients to local agriculture. Although there are over 100 digesters processing food waste in Europe, fewer than ten are currently operating in the United States. The slow pace of anaerobic digester development in the U.S. is partially due to the uncertainty of using a proven process for a new application, and the difficulty of securing source separated food waste as a feedstock. The goal of this project is to add to the current body of knowledge so as to facilitate the widespread adoption of the anaerobic digestion process in the U.S., and assist other communities in reducing greenhouse gas emissions and producing value-added products from the organic materials in their landfilled waste stream.

The information in this toolkit is based on HWMA's experience with the initial permitting steps and the California Environmental Quality Act (CEQA) environmental review process required to establish a food waste digester in Humboldt County. The Permitting Toolkit that follows contains the following information: a timeline of the key permitting steps taken, an overview of the current regulatory environment, a list of

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<sup>2</sup> The Geotechnical Engineering Report for the project site (Crowley Property) can be accessed here: <http://www.hwma.net/sites/default/files/ADSRFPAddendum2.pdf>.

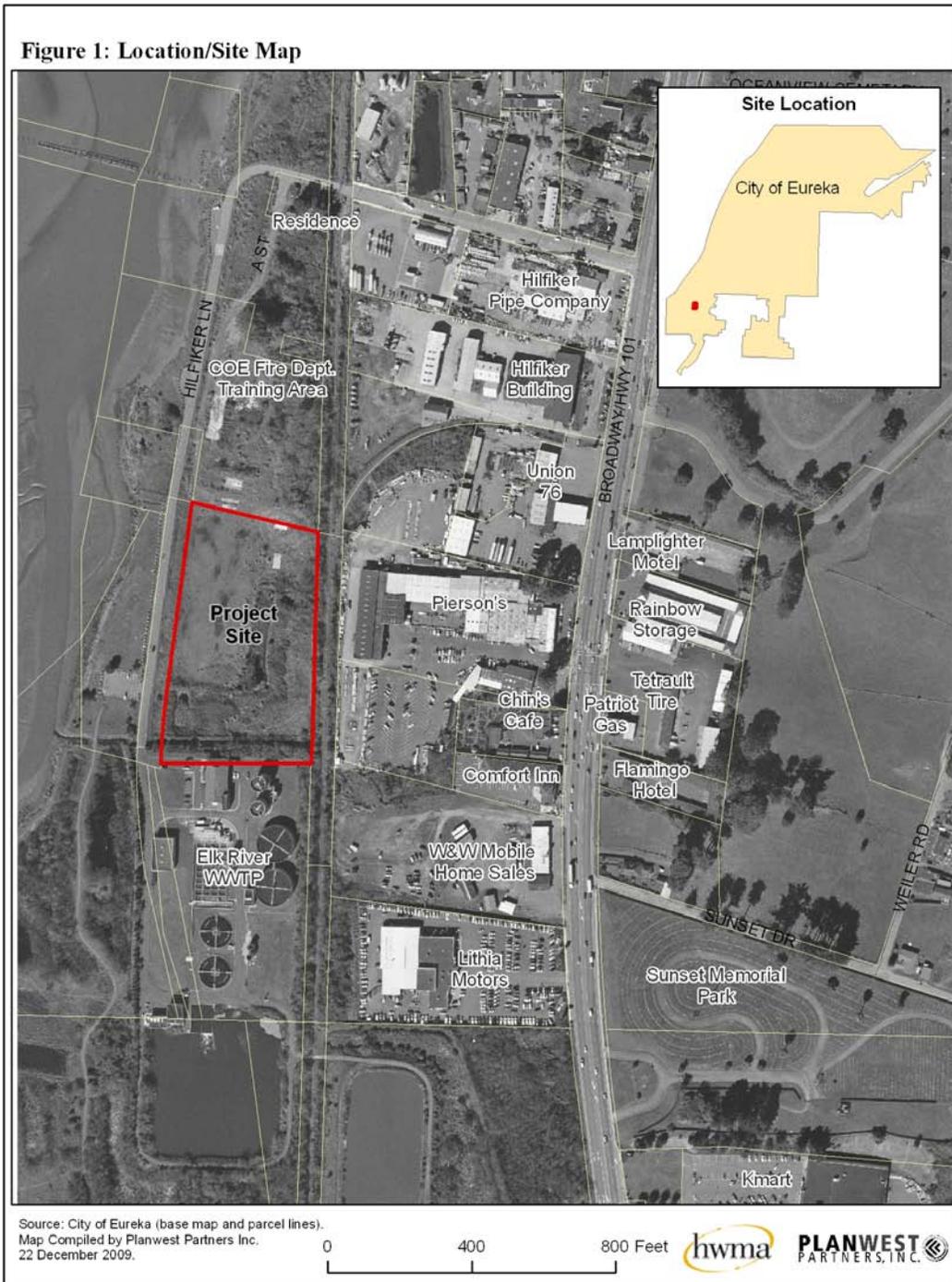
<sup>3</sup> The Wetland Mitigation and Monitoring plan is necessary to acquire the North Coast Regional Water Quality Control Board (NCRWQCB) Clean Water Act Section 401 Water Quality Certification permit as well as the Army Corps of Engineers (ACOE) Clean Water Act Section 404 permit.

<sup>4</sup> The Humboldt 2012 Waste Characterization Report can be found here: [http://www.hwma.net/sites/default/files/sara/FINAL\\_HWMA\\_waste%20characterization%20study1.pdf](http://www.hwma.net/sites/default/files/sara/FINAL_HWMA_waste%20characterization%20study1.pdf).

<sup>5</sup> The HWMA Digester Design and Installation RFP can be accessed here: <http://www.hwma.net/sites/default/files/HWMArfpADS.pdf>.

potential impacts and mitigation measures, and a description of the lessons learned during this process. The Humboldt Regional Food Waste Digester Initial Study / Mitigated Negative Declaration can be accessed via the Humboldt Waste Management Authority website: <http://www.hwma.net/ceqa>. This document contains a model Project Description and detailed impact analysis.

While every project will be unique in terms of materials targeted for digestion, project size, and site characteristics, it is hoped that other anaerobic digestion project developers can learn from HWMA’s experiences and move through the permitting process with more ease.



## Timeline of Key Permitting Steps

The following table presents the key initial permitting steps taken including the environmental analysis required to permit the HWMA Regional Food Waste Digester.

Steps Taken	Date Completed
<b>1) Request for Proposals (RFP) released to hire planning firm to assist in initial permitting of a stand-alone food waste digester in Humboldt County</b> <ul style="list-style-type: none"> <li>• HWMA receives three proposals from local planning firms</li> </ul>	September, 2009
<b>2) RFP evaluation panel selects Plan West Partners and subcontractor OurEvolution Energy and Engineering</b>	November, 2009
<b>3) HWMA, PlanWest Partners and OurEvolution Energy and Engineering (Project Team) meet with the City of Eureka (City) to begin initial project permitting discussions</b> <ul style="list-style-type: none"> <li>• It is determined that HWMA will be the Lead Agency               <ul style="list-style-type: none"> <li>○ Public agency which has the principal responsibility for carrying out or approving a project</li> </ul> </li> </ul>	January 6, 2010
<b>4) Draft Project Description complete</b>	January, 2010
<b>5) Project Team meets with City of Eureka Planning Department</b> <ul style="list-style-type: none"> <li>• Assess project concept consistency with local zoning</li> <li>• Develop information needs list</li> </ul>	January, 2010
<b>6) Project Team holds pre-application meeting with City Planning, Fire, and Public Works departments</b> <ul style="list-style-type: none"> <li>• Presented PowerPoint overview of project</li> <li>• Answered questions and noted concerns to be addressed in analysis</li> </ul>	February 1, 2010
<b>7) City notifies Team that Project does not appear to fit California Coastal Act permissible development in Coastal Industrial Zone</b>	February, 2010
<b>8) Team notifies City that digester fits “Energy Facility” permitted use</b> <ul style="list-style-type: none"> <li>• HWMA staff prepared a position paper for the City and Coastal Commission describing why food waste digesters should be considered “Energy Facilities” under the California Coastal Act requirements for filling wetlands [California Coastal Act Article 4, Section 30233]. This distinction is important because it enables the development of these facilities in coastal zones, and allows for wetland mitigation and/or a wetland buffer zone reduction if needed.</li> </ul>	February, 2010
<b>9) Project Team meets with CA Coastal Commission and City to discuss Project as “Energy Facility”</b> <ul style="list-style-type: none"> <li>• Discussed development plan and reduced wetland buffer zones</li> </ul>	February 11, 2010
<b>10) Local Coastal Commission office indicates verbally to Project Team that Digester Project is considered an “Energy Facility”</b> <ul style="list-style-type: none"> <li>• Project Team moves forward with permitting Digester Project</li> </ul>	March 19, 2011

<p><b>11) Team Contacts City Traffic Department and Caltrans</b></p> <ul style="list-style-type: none"> <li>• Determination of need for Traffic Study</li> </ul>	<p><b>March, 2010</b></p>
<p><b>12) Biological Resources records search</b></p> <ul style="list-style-type: none"> <li>• Found 2007 wetland delineation commissioned by City</li> <li>• Determined updated Wetland Delineation needed</li> </ul>	<p><b>March, 2010</b></p>
<p><b>13) Cultural Resources Records search</b></p> <ul style="list-style-type: none"> <li>• Determined Archaeological Resources analysis needed</li> </ul>	<p><b>March, 2010</b></p>
<p><b>14) Mad River Biologists hired to update Wetland Delineation</b></p>	<p><b>April, 2010</b></p>
<p><b>15) Humboldt State University’s Cultural Resources Facility hired to prepare an Archaeological Resources report</b></p> <ul style="list-style-type: none"> <li>• On-site survey methods included manual excavation of 20 samples on a systematic grid measuring 20 meters apart covering the entire area that could be used for the digester facility infrastructure</li> <li>• Samples were excavated to a target depth of 120cm and the soil was passed through a ¼ inch hardware mesh.</li> </ul>	<p><b>April, 2010</b></p>
<p><b>16) HWMA visits North Coast Regional Water Quality Control Board (NCRWQCB) Santa Rosa office for historical site information records search</b></p> <ul style="list-style-type: none"> <li>• Purpose: assess site clean-up status from previous bulk fuel storage facility use; determine whether the City is at risk of liability if they allow a previously contaminated site to be developed</li> <li>• Site was found to have been cleaned to the NCRWQCB’s satisfaction and HWMA acquired the letter of “No Further Action” for the permitting records (Dated: May 17, 2005)</li> </ul>	<p><b>May, 2010</b></p>
<p><b>17) Obtained tsunami flood area maps</b></p> <ul style="list-style-type: none"> <li>• Determined that project site could be impacted by a tsunami <ul style="list-style-type: none"> <li>○ 200ft from Humboldt Bay, 10ft above sea level</li> <li>○ Close proximity to Cascadia Subduction Zone</li> </ul> </li> <li>• Investigated magnitude and nature of flooding risk <ul style="list-style-type: none"> <li>○ Consulted Humboldt County Tsunami Hazard Map (2004) <ul style="list-style-type: none"> <li>▪ Shows intensity of flood risk in area around Humboldt Bay</li> </ul> </li> <li>○ Examined tsunami records <ul style="list-style-type: none"> <li>▪ 796 tsunamis recorded in the Pacific Ocean during years of 1900 – 2001</li> </ul> </li> <li>○ Found majority of historic and projected tsunami impact borne by stable coastal dunes along the North and South spit of the Humboldt Bay</li> <li>○ Shallowness of Humboldt Bay further dissipates the wave energy reducing the flooding risk on the eastern side of the bay</li> <li>○ Flood risk can be mitigated by coastal floodwater facility design</li> </ul> </li> </ul>	<p><b>May, 2010</b></p>

<p><b>18) Calculated flooding potential due to sea level rise</b></p> <ul style="list-style-type: none"> <li>• Evaluated sea level rise over 40yr period vs. 100yr period to match a 20 year initial digester design life, with a re-tooling as design and technology improves leading to an additional 20 years design life</li> <li>• Sea level rise estimated to be 0.62m in 2050</li> <li>• At this level the mean higher high water level will still be below the adjacent road and the average elevation of site</li> </ul>	<p><b>May, 2010</b></p>
<p><b>19) Hazardous materials records search</b></p>	<p><b>May, 2010</b></p>
<p><b>20) Calculated project air emissions using the California Air Resources Board Urban Emissions model (URBEMIS2007)</b></p>	<p><b>June, 2010</b></p>
<p><b>21) City Traffic Department notifies Project Team that a traffic study will not be needed</b></p>	<p><b>June, 2010</b></p>
<p><b>22) Project Team finalizes digester facility conceptual site plan</b></p>	<p><b>June, 2010</b></p>
<p><b>23) Administrative draft Project Description distributed to Responsible Agencies for initial comments</b></p>	<p><b>June 30, 2010</b></p>
<p><b>24) HWMA receives responses to draft Project Description from City Planning Department</b></p>	<p><b>July 15, 2010</b></p>
<p><b>25) Project Team analyzes Project as the “Least Environmentally Damaging Feasible Alternative” as required by CEQA</b></p>	<p><b>July 30, 2010</b></p>
<p><b>26) Archaeological Resources report complete</b></p>	<p><b>July 30, 2010</b></p>
<p><b>27) Wetland Delineation complete</b></p>	<p><b>August 15, 2010</b></p>
<p><b>28) HWMA receives three additional responses to draft Project Description</b></p> <ul style="list-style-type: none"> <li>• Army Corps of Engineers</li> <li>• Bear River Band of Rohnerville Rancheria</li> <li>• Blue Lake Rancheria</li> </ul>	<p><b>August, 2010</b></p>
<p><b>29) Project Team revises Project Description</b></p>	<p><b>September, 2010</b></p>
<p><b>30) Draft CEQA Initial Study Complete</b></p> <ul style="list-style-type: none"> <li>• Determination of Mitigated Negative Declaration of Impact</li> </ul>	<p><b>November, 2010</b></p>
<p><b>31) HWMA Board approves release of Draft CEQA Initial Study</b></p>	<p><b>November, 2010</b></p>
<p><b>32) Project Team revises Draft Initial Study to include on-site composting and additional City comments</b></p>	<p><b>December, 2010</b></p>
<p><b>33) HWMA releases Notice of Completion (NOC) and Draft Initial Study / Mitigated Negative Declaration to State Clearinghouse</b></p> <ul style="list-style-type: none"> <li>• Copies of CEQA IS/MND sent to all responsible agencies</li> </ul>	<p><b>January 23, 2011</b></p>

<p><b>34) HWMA places notices in local newspaper for two weeks and places copies CEQA IS/MND document in public domain</b></p> <ul style="list-style-type: none"> <li>• Humboldt County Clerk's Office</li> <li>• Humboldt County Library</li> <li>• HWMA Business Office</li> <li>• HWMA website</li> </ul>	<p><b>January 23, 2011</b></p>
<p><b>35) Responsible Agency and public review period ends</b></p> <ul style="list-style-type: none"> <li>• CalTrans notifies HWMA they will not be submitting any comments</li> <li>• CalRecycle sends comments that approve of the project as described and state the need for a Full Solid Waste Facility permit <ul style="list-style-type: none"> <li>○ At this point in time CalRecycle is uncertain as to whether the digester project will require both a Compostable Materials Handling permit and a Transfer/Processing Facility permit or one of the two</li> </ul> </li> </ul>	<p><b>February 24, 2011</b></p>
<p><b>36) HWMA develops Mitigation, Monitoring and Reporting Program (MMRP)</b></p>	<p><b>March, 2011</b></p>
<p><b>37) HWMA Board certifies and adopts CEQA IS/MND and MMRP</b></p>	<p><b>April 14, 2011</b></p>
<p><b>38) Notice of Determination (NOD) sent to State Clearinghouse</b></p>	<p><b>April 15, 2011</b></p>
<p><b>39) HWMA commissions Wetland Mitigation and Monitoring Plan</b></p> <ul style="list-style-type: none"> <li>• SHN Geologists and Engineers Inc. hired to develop plan</li> <li>• Purpose: Begin lengthy process / complete plan needed to apply for Clean Water Act sections 401 and 404 permits</li> <li>• Reduces unknown costs of project development</li> </ul>	<p><b>August, 2011</b></p>
<p><b>40) HWMA commissions Geotechnical Analysis</b></p> <ul style="list-style-type: none"> <li>• Purpose: provide information needed to reduce uncertainty in site development cost estimates</li> </ul>	<p><b>November, 2011</b></p>
<p><b>41) HWMA meets with U.S. Army Corps of Engineers at Project site</b></p> <ul style="list-style-type: none"> <li>• Purpose: to confirm jurisdictional wetlands and obtain concurrence with preliminary wetland enhancement / mitigation plans</li> </ul>	<p><b>March, 2012 &amp; June, 2012</b></p>
<p><b>42) HWMA procures GIS data for additional wetlands areas identified by U.S. Army Corps of Engineers</b></p>	<p><b>July, 2012</b></p>
<p><b>43) Geotechnical analysis complete</b></p>	<p><b>August, 2012</b></p>
<p><b>44) HWMA releases a Request for Proposals for the Design and Installation of an Organic Waste Digester System</b></p>	<p><b>September, 2012</b></p>

# Regulatory Agencies

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The list of permitting agencies with potential oversight is included in the outline below. This list was generated based on the HWMA investigation of possible permits during the CEQA Initial Study investigation and should not be seen as exhaustive for every state or every digester project. It should, however provide a sense of the levels of regulatory oversight governing the development of anaerobic digesters.

## *Federal Agencies:*

- U.S. Environmental Protection Agency
  - Clean Water Act, Section 401 Certification
  - Clean Water Act, Section 404 Permit
  - Clean Air Act, Ambient Air Quality Standards
- U.S. Army Corps of Engineers
  - Lead agency for U.S. EPA regulating the discharge of dredge or fill material into waters of the U.S. including wetlands
  - Investigates wetlands to determine U.S. EPA jurisdiction, wetland location/size (delineation), and approves wetland mitigation plans

## *State Regulatory Agencies:*

State agencies that oversee waste management activities vary across the United States. Some states have created separate departments for the purpose of managing waste handling and disposal facilities, while others place these duties under other existing environmental agencies.

- State Department of Resources, Recycling, and Recovery; Environmental Protection Agencies, Departments of Environmental Quality, Departments of Natural Resources and/or Pollution Control Agencies
  - Regulate waste management and waste disposal activities
  - In California: The Department of Resources, Recycling, and Recovery (CalRecycle) directly regulates anaerobic digesters processing organic material from the municipal waste stream (Title 14, Chapter 3.2)
    - In-Vessel Digester Operations and Facilities regulations
- Department of Fish and Wildlife
  - Review Authority for projects that could impact wetlands, watercourses, and sensitive species
- State Transportation agency
  - Review authority for projects that could impact State highways
- Coastal Commission
  - Local Coastal Plan Amendment certification
  - Coastal Development Permit review

### ***Regional Regulatory Agencies:***

- Regional Water Quality Control Boards
  - Enforce provisions of the federal Clean Water Act
  - Establish and enforce state water quality requirements
  - Possible permits required for anaerobic digester systems include:
    - Clean Water Act Section 402: National Pollutant Discharge Elimination System Permit (NPDES)
    - Clean Water Act Section 401 Water Quality Certification
    - Clean Water Act Section 404 Permit regulating Dredge / Fill activities into U.S. waterways and wetlands
  
- Air Quality Management Districts
  - Enforce federal Ambient Air Quality Standards
  - Establish and enforce state Ambient Air Quality Standards
  - Possible permits required for anaerobic digester systems include:
    - Pollutant-specific air discharge permits
      - Internal combustion engine emissions permits
      - CNG fueling station permits
      - Boiler / flare combustion emissions permits
    - Authority to Construct
    - Permit to Operate
    - Federal Title V Permit to Operate

### ***Local Agencies:***

- County Department of Health and Human Services or Local Enforcement Agency
  - Full Solid Waste Facility Permit (SWFP) implementation and enforcement
  
- City Planning Department
  - Zoning and land use compliance
  - Local Coastal Plan Amendment
  - Coastal Development Permit
  - Design Review, Building, and Grading permits

### ***Other Stakeholders:***

- Community members
- Local and historic Tribal entities
- Local waste water treatment plant(s)
- Fire department(s)
- County board of supervisors / commissioners and city council(s)
- Utility companies

## **Regulatory Environment for Anaerobic Digestion**

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As evidenced by the list of state, local, and federal regulatory agencies listed in the last section, the current regulatory environment for operation of anaerobic digesters can be multi-layered and time consuming. Different aspects of anaerobic digester facilities fall under separate regulatory authorities requiring several permitting processes and fees. Digesters can be regulated as waste transfer/processing facilities, composting materials handling facilities, energy facilities, and potential point sources of pollution. The following section briefly describes the permits that may be required at the federal, state and local levels. Primary permits pertain to water and air quality as well as solid waste management.

Permits required at the federal level are associated with the Clean Water Act (CWA) and the Clean Air Act (CAA). The CWA regulates discharges into waters of the United States – including wetlands adjacent to navigable waters. In the case of the Humboldt County facility, the project site contains wetlands adjacent to the Humboldt Bay, thus requiring compliance with the CWA. This includes obtaining a CWA Section 404 permit from the United States Army Corps of Engineers (ACOE) prior to excavation or fill activities within a Waters of the United States. Additionally, the development of this facility will require a CWA Section 401 Water Quality Certification stating that any discharge to the wetlands will comply with provisions 301-303 and 306-307 of the CWA.

During construction of the digester facility, compliance with CWA Section 402 National Pollutant Elimination System is necessary if more than one acre is disturbed. While these are federal regulations, the permits are administered by the Regional Water Quality Control Boards (RWQCBs), which are further described below. The RWQCBs regulate storm water discharges associated with the proposed project under the general permit for stormwater discharges associated with construction and land disturbance activities [NPDES Permit No. CAS000002, Order No. 2009-0009-DWQ]. Construction and land disturbance activities are defined as clearing, grading, or excavating activities that disturb one or more acres of land, or activities that result in soil disturbances of less than one acre but are part of a larger common plan of development that encompasses one or more acres of land disturbance.

To pursue the CWA permits, HWMA commissioned SHN Engineers & Geologists, Inc. to prepare a Wetland Mitigation and Monitoring Program (WMMP). The WMMP is a requirement of the Humboldt Regional Food Waste Digester Initial Study / Mitigated Negative Declaration and includes a quantitative hydrological analysis. ACOE was asked to visit the project site in advance of developing the WMMP in order to obtain an official ACOE jurisdictional determination about the location and size of the wetlands on the site. Without this step, the hydrological analysis and/or WMMP could be rejected during the ACOE review process resulting in a new evaluation and planning, lengthy delays, and additional costs. In the case of the Humboldt project, this part of the permitting process was lengthy, requiring six months for the first ACOE site visit, and another four months for the follow-up visit to reach concurrence on the delineation and mitigation plan. As a result of this lengthy regulatory review process, the WMMP document is still under

development. This entire step can be avoided if a given site does not contain wetlands or is not in the immediate proximity of a navigable waterway.

Regional Air Quality Management Districts (AQMDs) are responsible for enforcing federal (CAA) and state ambient air quality regulations (set by the California Air Resources Board). Regulations may vary in each district relative to the local air quality and the policies needed to achieve the federal and state ambient air quality standards. For example, Humboldt County is “in attainment” or meeting federal and state ambient air quality standards with the exception of particulate matter with particle sizes less than 10 micrometers (PM<sub>10</sub>). Therefore the North Coast Unified AQMD regulations pertain to reducing this pollutant. On contrast, the South Coast AQMD is a more heavily impacted air basin and is in non-attainment for ozone, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. The regulations in the South Coast air district are therefore more stringent. Digester system choices must take into account the emissions requirements of the local air districts and may alter the viability of anaerobic digestion in certain districts.

Other permits issued by the AQMDs are Authority to Construct, Permits to Operate, and permits pertaining to combustion. The latter regulations can negatively impact the development of anaerobic digestion facilities by making electricity generation via internal combustion engines at digester facilities challenging to permit. As internal combustions are cost-effective and proven to be robust when burning biogas, they are often the most useful technology for generating revenues from electricity production. As this energy is also a source of renewable energy (thus offsetting other criteria pollutant emissions from stationary power plants), these regulations can often conflict with the very goals of the broader ambient air quality standards themselves. In order to determine what level of permitting is required for a digester facility, project developers should contact the state or regional AQMD.

State water boards are responsible for developing water quality regulations which are implemented and enforced by the regional environmental or water quality boards. In California, the Regional Water Quality Control Boards (RWQCBs) are responsible for enforcing both federal and state water quality regulations to protect surface water, ground water and coastal waters. The RWQCBs regulate any discharges from the digester as well as any dredge and fill activities during construction or operation. RWQCBs also issue General Permits for facilities with common operations and effluents, and issue Waste Discharge Requirements (WDRs) for all discharges to surface waters including storm water run-off during operation. As previously stated, the RWQCBs are responsible for construction activities that disturb more than one acre. The WDRs also serve as the National Pollution Discharge Elimination System permits (NPDES). The RWQCB recommends methods to minimize or eliminate any discharges and implementation of low impact development, such as on-site storm water filtration (e.g., bioswales).

Projects located in coastal areas may fall within the jurisdiction of the state Coastal Commission or other authorized permitting agency. In California, projects in coastal areas are subject to the California Coastal Act, which is regulated by the California Coastal Commission. The California Coastal Commission has certification authority over

Local Coastal Plan amendments due to new construction, as well as review authority over local Coastal Development permits. The Coastal Commission may also determine what activities are allowable in the Coastal Zone in order to prioritize the use of coastal areas for activities directly related to the ocean (i.e., fishing, shipping, and recreation). In the case of the Humboldt facility, the site is zoned Coastal-Dependent Industrial and although the California Coastal Commission has agreed that the digester facility as an energy facility is an allowable development, the City intends to re-zone this property as “Public” and amend the General Plan accordingly. Once again, this project review and additional regulatory oversight can be avoided if the proposed digester site is not in the coastal zone.

State agencies that oversee waste management or dairy activities may regulate organic solid waste digesters. Currently in the state of California, CalRecycle, the state agency that regulates waste management activities, has begun to establish organic waste digester regulations. Other states with established regulations for co-digestion of organic wastes with manure include: Connecticut, Idaho, Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Ohio, Oregon, Pennsylvania, Texas, Vermont, Washington and Wisconsin.<sup>6</sup> These regulations do not yet include stand-alone organic waste digestion facilities. Regulations for digesters treating the organic fraction of solid waste are in the formative stages in Massachusetts. In California, CalRecycle has developed draft regulations for “In-Vessel Digestion Operations and Facilities” in order to address the regulatory gaps revealed by the increase in organic waste digesters in California.

The draft CalRecycle regulations for In-Vessel Digester Operations and Facilities are part of the California Code of Regulations Title 14 and establish permitting requirements and minimum operating standards for in-vessel processing of organic waste. These regulations are drawn from the Transfer/Processing and Compostable Materials Handling permit categories. The anaerobic digester-specific regulations establish tiers of regulatory scrutiny based on facility location and throughput of organic waste materials. The regulations are enforced and overseen by the Local Enforcement Agencies (LEA); in Humboldt County, the LEA is the County of Humboldt Department of Health and Human Services. In the current CalRecycle Draft In-Vessel Digester regulations, the different anticipated digester facility variations are structured as follows:<sup>7</sup>

1. Excluded Tier

- a. The activities and sites listed in this tier are not subject to the in-vessel digester requirements or LEA inspections
  - i. Organic materials digested at wastewater treatment plants
  - ii. Ag materials derived from and returned to the same site
  - iii. In-vessel digestion activities with less than 50yd<sup>3</sup> capacity

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<sup>6</sup> The complete list of digester regulations required in these states can be found at the U.S. EPA AgSTAR program website: <http://www.epa.gov/agstar/tools/permitting.html>.

<sup>7</sup> The full CalRecycle draft In-Vessel Digestion regulations can be accessed via the CalRecycle website: <http://www.calrecycle.ca.gov/laws/Rulemaking/Compost/1stDiscDraft/Issue7.pdf> .

2. Enforcement Agency Notification Tier
  - a. Limited volume in-vessel digester operations
    - i. Facilities that receive 60yd<sup>3</sup> and/or 15tons of organic solid waste per operating day
  - b. Research digester operations
  - c. Inspected every three months by LEA
  - d. Exempt status re-evaluated every two years
3. Registration Permit Tier
  - a. Medium volume in-vessel digestion facility
    - i. Facility that receives between 15 and 100 tons of solid waste per operating day
    - ii. Operator must submit an In-Vessel Digester Facility Operating Plan to the LEA and amend as necessary to maintain accuracy of the plan.
    - iii. Inspected monthly by the LEA
4. Full Solid Waste Facility Permit
  - a. Large volume in-vessel digestion facilities
    - i. Facilities that receive 100 tons or more solid waste per operating day
    - ii. Must develop an In-Vessel Digester Report, or site-specific operations document that is approved by the LEA
    - iii. Inspected monthly by the LEA

The proposed CalRecycle In-Vessel Digester regulations further stipulate design, operations, record keeping, and impact mitigation measures equivalent to standard requirements at other California solid waste handling facilities. Additional requirements are stipulated for the post-digestion solids removal and testing.

Local government and planning department requirements vary by city and county. In general, the two most common types of permits that may be required include Conditional Use Permits and Building Permits. Other local permits include permits for Grading, Design Review, Re-zoning, General Plan amendment, Coastal Development, and utility interconnection. If a project is funded by state and local funds, or subject to discretionary review, it may be subject to environmental analysis by the California Environmental Quality Act (CEQA). If federal funds are secured, there may be a requirement to conduct a National Environmental Policy Act (NEPA) analysis.

Other entities that may influence permitting requirements include community members, neighbors, local fire departments, local city councils, county board of supervisors (or commissioners), tribal entities, wastewater treatment plants, businesses, and utility companies. Other state and local agencies that have singular missions such as maintaining the state highways or protecting certain species of plant and wildlife may also play a role in the permitting of a project depending on location and geographic features. The benefit of the CEQA process is that agencies who might have interest in or authority over a project will have a chance to review the project early enough to include design modifications that mitigate or avoid negative impacts.

## **Impacts and Mitigation Measures**

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Under CEQA, Lead Agencies are the public agencies responsible for carrying out an environmental analysis and approving a project. Lead Agencies choose one of three pathways based on findings of “Significance”. These pathways are summarized as follows:

1. Categorically Exempt – The project does not need to go through the CEQA process [Public Resources Code §21084]
2. Negative Declaration – No significant impacts will occur
3. Mitigated Negative Declaration – There could be significant impacts, but the project can be revised to mitigate those impacts
4. Environmental Impact Report – Required when potential significant impacts are identified and further environmental review is needed

If a project does not qualify as Categorically Exempt, a Lead Agency can conduct an Initial Study to perform a preliminary assessment project impacts and determine whether the project will have a Negative Declaration, a Mitigated Negative Declaration, or require a more thorough Environmental Impact Report.

Once an environmental impact determination has been made, the Lead Agency is responsible for creating a Mitigation Monitoring and Reporting Program (MMRP). This Document is used as a guide during the design and construction phases to ensure all mitigation measures are executed and that the significant impacts have been addressed. The following MMRP was created based on the Humboldt Regional Food Waste Digester Initial Study / Mitigated Negative Declaration of Impact. Other MMRPs that can be used as a reference can be found in the California Statewide Environmental Impact Report for Digester Treatment of Organic Wastes<sup>8</sup> and the Central Valley Regional Water Quality Control Board’s Programmatic EIR for dairy and manure co-digesters.<sup>9</sup> The following MMRP was taken directly from the CEQA IS/MND, which contains full descriptions of significance thresholds for each impact area well as detailed explanations of each impact determination and the data supporting the finding. For more details, please see the full CEQA IS/MND.<sup>10</sup>

The following table shows the potential significant impacts identified in the CEQA IS/MND and the proposed mitigation measures required to reduce or eliminate the potential impacts.

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<sup>8</sup> The CalRecycle Programmatic Environmental Impact Report for Statewide Anaerobic Digester Facilities for the Treatment of Municipal Solid Waste can be accessed via the CalRecycle website:

<http://www.calrecycle.ca.gov/SWFacilities/Compostables/AnaerobicDig/PropFnlPEIR.pdf>

<sup>9</sup> The Central Valley Regional Water Quality Control Board’s Programmatic Environmental Impact Report for Dairy Manure and Co-digester Facilities can be accessed via the California Environmental Protection Agency website:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/dairies/dairy\\_program\\_regs\\_requirements/dairy\\_peir\\_final\\_cert.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/dairy_program_regs_requirements/dairy_peir_final_cert.pdf)

<sup>10</sup> The Humboldt Regional Food Waste Digester Initial Study / Mitigated Negative Declaration can be accessed via the Humboldt Waste Management Authority website: <http://www.hwma.net/ceqa>

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Aesthetics</b>				
d) Create a new source of substantial light or glare	<b>AESTH-1:</b> Exterior lighting will be designed such that no light or glare extends beyond the property line.	HWMA/ HWMA's Site Planner-Architect/ City of Eureka Design Review Committee	Site planning/ Building Permit	City of Eureka - Building Permit
<b>Agricultural Resources</b>				
No significant impacts				
<b>Air Quality</b>				
a) Conflict with implementation of the applicable air quality plan	<p><b>AIR-1:</b> Spray exposed soils with water during grading on a daily basis. Apply soil stabilizers to inactive exposed soils.</p> <ul style="list-style-type: none"> <li>• Suspend earth moving and trenching activities when winds exceed 20 mph.</li> <li>• Plant ground cover in disturbed areas immediately after grading.</li> <li>• Cover haul truck loads.</li> <li>• Use only low VOC asphalt, coatings, paints and building materials.</li> <li>• Ensure that all construction vehicles/equipment possess EPA and/or NCUAQMD-approved exhaust systems and are kept tuned and in good working order.</li> </ul> <p><b>AIR-2:</b> Provide employees with incentives for ridesharing, biking and transit use.</p> <ul style="list-style-type: none"> <li>• Provide bicycle racks at the digester facility.</li> <li>• Cover drying beds and out-of-vessel compost pile when winds exceed 20 mph.</li> </ul>	HWMA/ HWMA's Contractors	Construction	City of Eureka – Grading Permit;  North Coast Unified Air Quality Management District (NCUAQMD) - Permit to Construct
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment				

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Biological Resources</b>				
<p>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species</p>	<p><b>BIO-1:</b> Pre-construction nesting surveys for migratory bird species shall be conducted by a qualified biologist within two days of any planned ground disturbing or brush clearing activities during the nesting season (February through August). If bird nests are discovered within the path of construction, either: (1) work shall be postponed until the young have fledged; or (2) it has been determined, through consultation with DFG, that construction can continue without adverse effects to the young birds.</p> <p><b>BIO-2:</b> Pre-construction wildlife surveys shall be conducted by a qualified biologist for northern red-legged frogs within the 0.09-acres of seasonal wetlands to be filled prior to filling wetlands. If frogs and/or turtles are discovered, either permission shall be obtained from DFG to relocate the frogs and/or turtles to freshwater habitats nearby but outside the limits of constructions, or filling of the wetlands shall be delayed until such time as it is confirmed that any frogs and turtles that were present have vacated the wetlands. The methods and reception sites of any relocation would be determined in consultation with DFG. A take permit would not be required since red-legged frog and northwestern pond turtle are species of special concern rather than formally listed species.</p>	<p align="center">HWMA/ HWMA's Biologist</p>	<p align="center">Pre- construction</p>	<p align="center">California Department of Fish and Game (CDFG)</p>
<p>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community</p>	<p><b>BIO-3:</b> The 0.09 acres of wetlands to be filled in the central portion of the project site shall be replaced at a 3:1 ratio within the upland areas (e.g., the berms) between ponds in the eastern or southern portion of the project site. These berms, although currently not in a topographic position to support wetland species, consist of hydric Bayside soils. The berms shall be lowered in elevation to sufficiently encourage the development of a wetland plant community. A quantitative hydrological analysis of the ponds shall be conducted, and recommendations followed, so that constructed wetland does not significantly alter pond integrity.</p>			<p align="center">CDFG; City of Eureka Coastal - Development Permit (CDP) and Local Coastal Plan (LCP) Amendment;</p>
<p>c) Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act</p>	<p><b>BIO-4:</b> Invasive exotic species, such as pampas grass and Scotch broom in the proposed 25 ft. buffer between the development envelope and on-site ponds/wetlands shall be replaced with native shrubs and trees to provide additional wildlife habitat and visual screening from the waste digester facility.</p>	<p align="center">HWMA / Contractor</p>	<p align="center">Construction</p>	<p align="center">California Coastal Commission - review of CDP and LCP Amendment Certification;</p>
<p>e) Conflict with any local policies or ordinances protecting biological resources</p>	<p><b>BIO-5:</b> Implement Mitigation Measures BIO-1, -2, -3 and -4 for regulatory and policy compliance.</p>			<p align="center">Army Corps of Engineers and NCAQMD 401 / 404 permits</p>

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Cultural Resources</b>				
a) Cause a substantial adverse change in the significance of a historical resource?	<b>CULT-1:</b> Archaeological monitoring shall be conducted by a qualified archaeologist and tribal representatives during construction-related ground disturbing activities at or below the minimum depth of fill at the project site (e.g., 35 cm below the ground surface) and at grade within the proposed pipeline alignment from the project site to the Elk River WWTP.			
b) Cause a substantial adverse change in the significance of an archaeological resource?	<b>CULT-2:</b> If cultural resources, such as lithic materials or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 ft) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f) and 43 CFR 10.4 and 36 CFR 800.13(b)(2), as applicable. Work near the archaeological finds shall not resume until a professional archaeologist, hired by HWMA, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Such recommendations shall be implemented by HWMA prior to resuming construction activities within 20 meters of the discovery.	HWMA / HWMA's Archaeologist / Tribal Representatives	Construction	HWMA
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Cultural Resources</b>				
<p>d) Disturb any human remains, including those interred outside of formal cemeteries?</p>	<p><b>CULT-3:</b> If human remains are discovered during ground-disturbing activities, work shall stop at the discovery location, within 20 meters (66 ft), and any nearby area reasonable suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner shall be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it shall be necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner shall contact the NAHC. The descendants or most likely descendants (MLD) of the deceased shall be contacted, and work shall not resume until they have made a recommendation to HWMA or the person responsible for the excavation work for mean of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98. Work may resume if NAHC is unable to identify a descendant or the descendant failed to make a recommendation.</p> <p><b>CULT-4:</b> Within 24 hours of their notification by the NAHC of finding humane remains, the MLD shall recommend to HWWM a means for treating or disposing of the remains and any associated grave goods. The Recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials.</p> <p><b>CULT-5:</b> Whenever the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation concerning any find of human remains, or HWMA rejects the recommendation of the MLD and mediation between the parties by the NAHC fails to provide measures acceptable to HWMA, HWMA shall re-inter the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance.</p> <p><b>CULT-6:</b> Following final treatment measures for any human remains found, HWMA shall ensure that a report is prepared by a qualified archaeologist that describes the circumstances, nature and location of the discovery, its treatment, including results of analysis (if permitted), and final disposition, including a confidential map showing the reburial location. Appended to the report shall be a formal record about the discovery site prepared to current California standards on DPR 523 form(s). HWMA shall ensure that report copies are distributed to the NCIC, NAHC and MLD.</p>	<p align="center">HWMA</p>	<p align="center">Construction</p>	<p align="center">California Native American Heritage Commission (NAHC); Native American Most Likely Descendents (MLD); North Coast Information Center (NCIC)</p>

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Geology and Soils</b>				
<p>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>i) Rupture of a known earthquake fault?</p> <p>ii) Strong seismic ground shaking?</p> <p>iii) Seismic-related ground failure, including liquefaction?</p> <p>iv) Landslides?</p>	<p><b>GEOL-1:</b> A design-level geotechnical report shall be completed for the proposed project that examines and assesses the site-specific soils, geologic and seismic conditions (including ground maximum credible ground shaking , liquefaction and expansive soils potential) at the project site to a level of the deepest proposed foundations. The report shall also recommend footing design and other measures required to support proposed development given these conditions. Project design and construction shall adhere to the IBC and to all the recommendations made in the report</p>	<p>HWMA / HWMA's Geologist</p>	<p>Pre-construction</p>	<p>City of Eureka - Building Permit;  NCRWQCB</p>
<p>b) Result in substantial soil erosion or the loss of topsoil?</p>	<p><b>GEOL-2:</b> Implement Mitigation Measure HYDRO-1.</p>	<p>HWMA</p>	<p>Pre-construction</p>	<p>City of Eureka;  NCRWQCB</p>
<p>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</p>	<p><b>GEOL-3:</b> Implementation Mitigation Measures GEOL-1 and -2.</p>	<p>HWMA</p>	<p>Pre-construction</p>	<p>City of Eureka Building Permit;  NCRWQB</p>
<p>d) Be located on expansive soil</p>	<p><b>GEOL-4:</b> Implementation Mitigation Measure GEOL-1.</p>	<p>HWMA</p>	<p>Pre-construction</p>	

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Green House Gas Emissions</b>				
No significant impacts				
<b>Hazards and Hazardous Materials</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<p><b>HAZ-1:</b> A Hazardous Materials Business Plan shall be prepared and implemented for the project by HWMA. The plan shall be submitted to the Humboldt County Department of Environmental Health.</p> <p><b>HAZ-2:</b> HWMA shall prepare a spill containment and clean-up plan, to be included as part of the SWPPP. Construction activities shall be regularly inspected to insure equipment is free of leaks and in good working order.</p>	HWMA	Pre-construction / Pre-operation / Operation	Humboldt County Department of Environmental Health;  NCRWQCB
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<p><b>HAZ-3:</b> A site-specific health and safety plan shall be prepared by HWMA that meets the requirements of the RWQCB or other overseeing agency and shall comply with all federal and state regulations, including Occupational Safety and Health Administration (OSHA) requirements for worker safety. Applicable regulations and methods of compliance shall depend upon the level of contamination discovered.</p> <p><b>HAZ-4:</b> An Emergency Response Plan shall be developed by HWMA for review and approval by the RWQCB and County Department of Environmental Health, HazMat Division, and shall be implemented by HWMA. All potentially hazardous or regulated materials that are used at the project site during construction activities shall be appropriately covered, handled, stored, and secured in accordance with local and state laws. The Plan shall also include an accidental methane release component that outlines response procedures in case of an accidental methane release.</p>			
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<p><b>HAZ-5:</b> HWMA shall prepare a Soil and Groundwater Management Contingency Plan that details the processes that will be employed to address any subsurface soil or groundwater contamination that may be encountered during construction. If contaminated soils or groundwater are encountered during construction activities, at a minimum, this plan would require that the North Coast Regional Water Quality Control Board (RWQCB) and the City be notified immediately, and work in the specific area would cease. Sampling and remediation would proceed pursuant to State law and best management practices under the direction of the Regional Board, the County Health Department and/or the Department of Toxic Substances Control.</p>	HWMA	Pre-construction	HWMA

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Hydrology and Water Quality</b>				
<p>a) Violate any water quality standards or waste discharge requirements?</p>	<p><b>HYDRO-1:</b> HWMA shall prepare a RWQCB and City of Eureka approved Storm Water Pollution Prevention Plan (SWPPP) and City approved Grading and Erosion Control Plan for the proposed project. The plans shall outline erosion and sediment control, non-storm water management, water and waste management, and pollution prevention BMPs to be implemented during construction in accordance with the California Stormwater Best Management Practices Handbook and City requirements to control pollutants in stormwater runoff from the construction site.</p> <p><b>HYDRO-2:</b> Prior to project clearing, grading, excavating or filling within 50 feet of delineated wetlands, or prior to project construction activities that would disturb more than 2,500 square feet, HWMA shall obtain the required Erosion Control Permit (ECP) from the City of Eureka.</p> <p><b>HYDRO-3:</b> HWMA shall prepare a City of Eureka approved Drainage Plan for the project prior to the issuance of building permits. The plan shall:</p> <ol style="list-style-type: none"> <li>(1) Demonstrate that all runoff from the impervious portions of the proposed project will be diverted to proposed oil/water clarifiers and vegetated bioswales before being discharged to the existing drainage ditch along the southern boundary of the project site;</li> <li>(2) Include design drawings and capacities of all proposed drainage facilities, as well as a maintenance plan for these facilities;</li> <li>(3) Demonstrate that the culverts are adequately sized and configured to accommodate peak runoff from the project site during the 10-year storm event;</li> <li>(4) Ensure that any increase in stormwater runoff from the site during a 10-year storm event is limited to a maximum of 1 cfs, or alternatively provide a retention/siltation basin that limits stormwater runoff to pre-project flows;</li> <li>(5) Outline BMPs and good housekeeping measures to be implemented to minimize project pollutants in stormwater runoff; and</li> <li>(6) Include prohibitions on locating debris, soil, silt, sand, bard, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from project operations where they could enter the on-site wetlands-ESHAs in stormwater runoff.</li> </ol>	<p align="center">HWMA</p>	<p align="center">Pre-construction</p>	<p align="center">NCRWQCB; City of Eureka</p>

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Hydrology and Water Quality</b>				
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<b>HYDRO-4:</b> Implement Mitigation Measure HYDRO-3.	HWMA	Pre-Construction	NCRWQCB; City of Eureka
f) Otherwise substantially degrade water quality?	<b>HYDRO-1, HYDRO-2, HYDRO-3</b>	HWMA	Pre-Construction	NCRWQCB; City of Eureka
j) Result in inundation by seiche, tsunami, mudflow?	<p><b>HYDRO-5:</b> The project applicant shall prepare and submit a tsunami Evacuation and Response Plan for the City's approval prior to issuing Building Permits. The plan shall include, at a minimum, a tsunami warning or alarm system integrated into the building designs, specific routes for egress in the event of a tsunami warning (including vertical routes of egress and safe haven as appropriate), identified locations of safe haven, educational materials for residents and business owners, and a list of emergency response agencies, contact numbers, and other methods of communication in the event of a tsunami warning.</p> <p><b>HYDRO-6:</b> Proposed structures shall be designed to resist the effects of coastal floodwaters due to tsunamis. A licensed architect or structural engineer shall approve project design plans with expertise in building in areas subject to coastal flooding to ensure that proposed structures are designed and built to withstand coastal flooding.</p> <p><b>HYDRO-7:</b> Landscaping and streetscaping shall be designed to reduce the potential for large objects to mobilize in a tsunami event.</p>	HWMA / HWMA's Site Planner-Architect	Pre-Building Permit	City of Eureka

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Land Use and Planning</b>				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?	<p><b>LU-1:</b> HWMA shall not develop the proposed project without first obtaining the required approvals (e.g., LCP Amendment, including Zone Reclassification/LCP Amendment from MC to P); Design Review; Grading Permit; Building Permit; and Encroachment Permit) from the City of Eureka.</p> <p><b>LU-2:</b> Implement Mitigation Measures BIO 1-5.</p>	HWMA	Pre-construction	City of Eureka
<b>Mineral Resources</b>				
No significant impacts				
<b>Noise</b>				
No significant impacts				
<b>Population and Housing</b>				
No significant impacts				
<b>Public Services</b>				
No significant impacts				
<b>Recreation</b>				
No significant impacts				

**MITIGATION MONITORING AND REPORTING PROGRAM**

Impact	Mitigation	Responsibility for Implementation	Schedule	Responsibility for Oversight / Permits
<b>Transportation and Traffic</b>				
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<b>TRAFFIC-1:</b> In addition to implementing Mitigation Measure AIR-2 which requires HWMA to provide incentives to digester employees for transit use and ridesharing, HWMA shall provide sidewalk and gutter meeting City of Eureka design standards along the project site's Hillfiker Lane frontage.	HWMA	Construction and post construction	City of Eureka
<b>Utilities and Service Systems</b>				
g) Violate any federal, state, and local statutes and regulations related to solid waste?	<b>UTIL-1:</b> HWMA shall submit a Construction, Demolition, and Inert (CD&I) Waste Disposal Plan to the City of Eureka for review and approval. HWMA and its contractors shall implement the approved plan.	HWMA	Pre-construction	City of Eureka

# Lessons Learned

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The following is a short list of lessons HWMA learned through the preliminary permitting process for a stand-alone anaerobic digester processing organic waste.

- Multiply the time you think permits will take by three for internal scheduling.
- Evaluate impacts based on the full potential size and throughput of your facility to prepare for future growth.
- Get key agency staff to the table early! Some take a long time to process requests, review materials, and visit the site.
- For agencies with permit review authority, work to secure strong support for the project concept before going through expense of pursuing initial environmental analyses and permits.
- Permitting involves maintaining relationships and communicating effectively with regulators, agency legal departments, project partners, local decision makers, and community members.
- Identify where there may be opportunities for streamlined permitting if regulations and regulators are flexible so as to allow for new technology and facility design solutions and the advance of scientific understanding.
- In the ideal world, choose a site that has as minimal overlapping regulatory jurisdictions as possible.
- Look for industrial-zoned sites with existing impacts.
- If CEQA (or equivalent) documentation is required, hire a planning firm to assist in development of the environmental analysis.
- Get comments and regulatory approvals in writing.
- Additional studies may be necessary to provide adequate environmental analysis to obtain permits.