Agenda Review

i. Welcome and Agenda Overview
ii. Presentation – Draft ISWMP
iii. Question and Answer Session – Draft ISWMP
iv. Public Comments – Draft ISWMP
v. Next Steps
vi. Thank you and adjourn
Presentation - Draft ISWMP
ISWMP Background

• **What it is:** a comprehensive waste reduction, recycling, composting, and disposal program

• **What it includes:**
  – Documentation of existing conditions
  – An evaluation of needs and opportunities for improving ways to manage solid waste
  – Establishing an implementation schedule for those improvements

• **Hawaii Revised Statutes Requirements (HRS, Section 342G)**
  – County submittal of ISWMP revision every ten years
  – Interim status reports every five years
  – Establishes the structure of the ISWMP, and outlines the state review process
History of the City and County of Honolulu ISWMP

• Provided a road map for managing the island’s waste
• Public and stakeholder input during the ISWMP update process
• 30-Year Enhancements
  – Many initiatives to reduce, reuse, and recycle waste
  – Residential curbside collection of green waste and mixed recyclables
  – Conversion to fully-automated cart collection
  – Two major transfer stations and six convenience centers
  – H-POWER – in 28 years converted 17 million tons of refuse to 8.5 MWh or electricity
Current Solid Waste Management System

• Solid waste collection
• Convenience centers
• Transfer stations
• Energy recovery
• Landfilling
• Recycling and bioconversion (green waste)
• Source reduction
• Special waste management
• Household hazardous waste (HHW)
• Public education
# Projected MSW and Recycled Material

<table>
<thead>
<tr>
<th>Year</th>
<th>Total MSW Generated (tons)</th>
<th>Recycled Material (tons)</th>
<th>Total MSW Received (tons)</th>
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<tbody>
<tr>
<td>2005</td>
<td>1,358,983</td>
<td>417,669</td>
<td>941,314</td>
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<tr>
<td>2010</td>
<td>1,208,542</td>
<td>448,639</td>
<td>759,903</td>
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<tr>
<td>2015</td>
<td>1,261,555</td>
<td>478,934</td>
<td>782,621</td>
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<tr>
<td>2016</td>
<td>1,261,729</td>
<td>488,394</td>
<td>773,335</td>
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<tr>
<td>2017</td>
<td>1,240,044</td>
<td>434,934</td>
<td>805,110</td>
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<tr>
<td>2020</td>
<td>1,288,340</td>
<td>504,591</td>
<td>783,749</td>
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<td>2025</td>
<td>1,315,924</td>
<td>521,508</td>
<td>794,417</td>
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<tr>
<td>2030</td>
<td>1,339,175</td>
<td>535,864</td>
<td>803,311</td>
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<tr>
<td>2035</td>
<td>1,359,331</td>
<td>548,380</td>
<td>810,951</td>
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<tr>
<td>2040</td>
<td>1,377,157</td>
<td>559,503</td>
<td>817,654</td>
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</tbody>
</table>

Note:

Data excludes C&D disposal and about 763,000 tons of C&D recycling done mainly at private facilities.

Waste Composition Results Summary

- Organics: 35.5%
- Inerts and C&D: 14.7%
- Glass: 1.5%
- Metal: 4.6%
- Plastic: 9.8%
- HHW: 0.6%
- Other Materials: 10.4%
- Paper: 22.7%
<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Kickoff</td>
<td>Nov 2017</td>
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<tr>
<td>7 Advisory Committee Meetings</td>
<td>Nov 2017 – Oct 2018</td>
</tr>
<tr>
<td>AC Review Draft</td>
<td>Oct 2018</td>
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<tr>
<td>120 day AC Review</td>
<td>Oct 2019 – Feb 2019</td>
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<tr>
<td>90 day HDOH Review</td>
<td>Mar 2019 – May 2019</td>
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<tr>
<td>Public Review</td>
<td>Jun 2019 – Aug 2019</td>
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<tr>
<td>Final Plan</td>
<td>Sep 2019</td>
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Plan Contents

1. Existing System
2. Solid Waste Generation
3. Source Reduction
4. Recycling and Bioconversion
5. Special Wastes
6. Household Hazardous Waste
7. Public Education
8. Facility Capacity and Siting
9. Marketing and Procurement
10. Energy Balance
11. Cost Analysis
12. Implementation Plan
Implementation Plan – 3. Source Reduction

• Source Reduction Working Group
• Home composting workshops
• Residential user fees
• Food waste reduction monitoring and strategies
• Ongoing support of source reduction activities
Implementation Plan – 4. Recycling and Bioconversion

• Evaluation of recycling versus waste-to-energy
• Legal changes to provide flexibility for sending hard-to-recycle items to H-POWER
• Residential curbside collection optimization to increase efficiency
• Recycling containers in public locations
• Beneficial use of non-deposit glass and ash
• Pilot appointment system for bulky item collection
Implementation Plan – 5. Special Waste

- WWTP sludge to biosolids rather than landfill
- Balance solid waste and ash locations at WGS landfill
- Beneficial use of metal recycling residue
- Sharp diversion strategies
- Select agricultural wastes to H-POWER
Implementation Plan –
6. Household Hazardous Waste and E-Waste

• Expanded number of HHW collection events

• State legislature engagement to address E-waste
  – Encourage Advanced Disposal Fee

• Promote opportunities for E-waste collection and recycling
Implementation Plan – 7. Public Education

• Opala.org improvements
• Public education material updates
• Tour de Trash event increases
• Community event expansion
• Cart inspection and compliance enforcement increases
• Promotional partnerships with major retailers
• Public education coordinator position if funding available
• Collaborations for waste reduction advertisements (NRDC, HPR)
Implementation Plan –
8. Facility Capacity and Siting

• Pilot test metals bin for convenience centers
• Potential partnership with nonprofits
• **Keehi Transfer Station**: Open-top loading, bulky waste acceptance, review other materials, assess expanded hours and accepting Honolulu and household green waste
• **Kapaa Transfer Station**: Green waste loadout, repairs, structural improvements
• **Kawailoa Transfer Station**: Additional load-out area
Implementation Plan – 8. Facility Capacity and Siting (continued)

• H-POWER Waste processing and baling project
• Annual landfill life assessments
• Landfill site selection 10 years prior to depletion of capacity at WGSL
• Leeward Base Yard
• Campbell Industrial Park facility assessment and development: Convenience center, white goods processing, glass processing, ash and auto-shredder residue, materials recovery facility
Implementation Plan –
9. Materials Marketing and Procurement

• HI-5 redemption center location identification
• Tire collection optimization for processing at H-POWER
• Solicit proposals for beneficial use of glass, auto-shredder residue, and white goods
FY 2019 Expenses ($000)

- Collection
- Landfill
- H-POWER
- Transfer Stations
- Recycling
- Vehicle Maint. & Fuel
- Debt Service
- Other Costs

Total = $255.4 million
## System Cost Analysis
### Required Revenue Projections ($000)

<table>
<thead>
<tr>
<th>Revenues</th>
<th>Budgeted</th>
<th>Projected</th>
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<tr>
<td></td>
<td>FY 2019</td>
<td>FY 2020</td>
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<tr>
<td><strong>Refuse Division</strong></td>
<td></td>
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<tr>
<td>Refuse General Operating Account</td>
<td>$2,751</td>
<td>$2,757</td>
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<tr>
<td>Solid Waste Disposal Facility Account</td>
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<tr>
<td>H-POWER Electricity</td>
<td>$73,500</td>
<td>$73,669</td>
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<td>Tip Fees</td>
<td>$53,536</td>
<td>$53,659</td>
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<tr>
<td>Glass Incentive Account</td>
<td>$500</td>
<td>$501</td>
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<td>Recycling</td>
<td>$6,500</td>
<td>$6,515</td>
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<tr>
<td><strong>Refuse Division Total</strong></td>
<td><strong>$136,787</strong></td>
<td><strong>$137,101</strong></td>
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<td><strong>Other Sources</strong></td>
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<tr>
<td>Miscellaneous Revenue</td>
<td>$889</td>
<td>$889</td>
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<tr>
<td>General Fund Subsidy</td>
<td>$117,760</td>
<td>$123,868</td>
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<td><strong>Other Sources Total</strong></td>
<td><strong>$118,648</strong></td>
<td><strong>$124,757</strong></td>
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<tr>
<td><strong>Total Revenue</strong></td>
<td><strong>$255,435</strong></td>
<td><strong>$261,858</strong></td>
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Question and Answer Session – Draft
ISWMP