Pali Highway Improvement Projects

Dowsett Highlands Relief Sewer
Pali Highway Street Lighting
Pali Highway Resurfacing

Public Information & Noise Variance Consultation Meeting

Website:
http://palisewer.org

July 26, 2017

City & County of Honolulu
Department of Environmental Services
Department of Design & Construction

State of Hawaii
Department of Transportation
Highways Division
Agenda

• Welcome / Introduction
• Part 1 – Project Information Presentations
  – Overall Project Information & Proposed Schedule
  – Pali Highway Improvements Project
  – Dowsett Highlands Relief Sewer
  – Proposed Work Coordination
• Part 2 – Noise Variance Consultation
  – Pali Highway Improvements
  – Dowsett Highlands Relief Sewer
Pali Highway Improvement Projects
Pali Highway Improvements Projects

Proposed Construction Schedules

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State of Hawaii
Department of Transportation

Pali Highway Improvements Projects

Website: http://palisewer.org
Proposed Project Overview

Project Purpose and Need

Upgrade the condition and safety of the Pali Highway to meet current guidelines and policies.
Pali Highway Improvements
Scope of Work

- Resurface/Reconstruct highway surface (includes Waokanaka st.)
- Construct concrete median barrier in some locations
- Replace all guardrails and crash cushions
- Replace all regulatory and warning signs and pavement markings
- Upgrade highway lighting
- Improve pedestrian facilities
Pali Highway Improvements

**Proposed Phases**

**Phase 1:**
Resurfacing Waokanaka St. to Kamehameha Highway (includes Waokanaka St.) and Lighting Replacement, Vineyard Blvd. to Kamehameha Hwy.

**Phase 2:**
Resurfacing Vineyard Blvd. to Waokanaka St.
Pali Highway Improvements
Traffic Control between Country Club Road and Nuuanu Avenue – Honolulu Bound

- Widening Honolulu-bound roadway for lighting replacement and future Dowsett Highlands Relief Sewer project
- Shifting Honolulu-bound lanes between Country Club Road and Nuuanu Avenue
- One bus stop may be shut down at a time
Pali Highway Improvements
Traffic Control between Country Club Road and Nuuanu Avenue – Honolulu Bound
• All lanes will be open between 5 A.M. to 9 A.M. and 3 P.M. to 7 P.M.
• During day time hours, at least one lane will be open in both directions
• All turning movements at intersections will be maintained at all times
• Access to driveways will be maintained at all times
• One direction of highway may be closed overnight between Waokanaka Street and Kamehameha Highway. Public notice of highway closure will be given at least a week in advance.
Pali Highway Improvements
Proposed Project Schedule

Phase 1:
- Advertised: April 18, 2017
- Bid Opening: June 8, 2017
- Construction Cost: < 79 Million
- Anticipated Construction Start: Fall 2017
- Anticipated Construction End: Summer 2019

Phase 2:
- Anticipated Advertising: Winter 2018
- Anticipated Bid Opening: Winter 2018
- Anticipated Construction Cost: $20 million
- Anticipated Construction Start: Summer 2019
- Anticipated Construction End: Winter 2020
Proposed Dowsett Highlands Relief Sewer

City & County of Honolulu
Department of Environmental Services
Department of Design & Construction

Website: http://palisewer.org
Project Background & Purpose

• US EPA / City Consent Decree Projects
  – SI-CS-29  Nuuanu Relief Sewer
  – SI-CS-42  Dowsett Highlands Relief Sewer

• Address **hydraulic deficiencies** along the two stream trunk sewer lines – Waolani and Nuuanu Streams
  – *Sanitary Sewer Overflows (SSO’s) are Clean Water Act Violations (EPA and State DOH)*

• Project Deadlines
  – Construction Start Deadline: June 30, 2018

• Projected Cost – $80 M
Hydraulic Deficiency – Insufficient Sewer Capacity

Waolani Stream Trunk Sewer

Nuuanu Stream Trunk Sewer
Hydraulic Deficiencies – Primary Cause
Significant Increase in Wet Weather Flows

Sewer Flow Hydrograph – Nuuanu Subbasin – Storm DEC 2011
Existing Trunk Sewer Alignment
Existing Trunk Sewer Alignment
Options Considered to Relieve Hydraulic Deficiencies

1. Reduce wet weather flows – eliminate extraneous flows from system – primary source is stormwater entering through sewer laterals originating from private property

2. Increase sewer capacity in current alignment – construction in stream channels and private property

3. Install relief sewers in public corridors (roadways)
Proposed Relief Sewer Line

- Construct a new relief sewer that would initially relieve existing hydraulic capacity problems by intercepting flow from existing stream trunk sewers.
- Install new sewers in public corridors to facilitate maintenance operations and allow eventual elimination of sewers in private easements.
- Continue to pursue solutions to eliminate extraneous stormwater flows from the system and further reduce risk of spills.
Proposed Relief Sewer Line

EXISTING CONDITION

stream

Pali Highway

stream

existing sewer

sewage flow

existing sewer

sewage flow
Proposed Relief Sewer Line

PROPOSED CONDITION
Proposed Relief Sewer Line

PROPOSED CONDITION

stream

existing sewer

sewage flow

new sewer

Pali Highway

existing sewer

stream
Proposed Relief Sewer Line

- **Enter Nuuanu Ave at Wyllie Interchange**
- **Nuuanu Pali Dr (City) 12” relief sewer**
- **Pali Hwy (State) 12” relief sewer**
- **Cross Pali Hwy at Dowsett Intersection**
- **Nuuanu Ave (City) 18”-24” relief sewer**
- **End Relief Sewer Nuuanu Ave/School St**
- **Start Relief Sewer Nuuanu Pali Drive**
- **Dowsett Ave (City) 12”-16” relief sewer**
- **Pali Hwy (State) 16”-18” relief sewer**

**City and County of Honolulu Dowsett Highlands Relief Sewer Design Alternatives Report**

Fukunaga & Associates, Inc. Consulting Engineers
Proposed Relief Sewer Line
Public Impact Concerns during Construction

- Traffic Congestion
- Construction duration
- Noise associated with construction activity
- Pedestrian access
- Bus Stop access
- Driveway access
Minimizing Public Impacts
(Pertains to all projects)

• Minimize traffic congestion
  • Close coordination with State DOT Pali Highway repaving and street light improvement projects
  • Provide widened pavement to create additional traffic lane (3 lanes total during peak traffic hours)
  • 24-hour shoulder lane closure – barricaded work zone
  • Closing of one traffic lane only during non-peak traffic hours (2 traffic lanes available – 9:00 AM to 7:00 PM – Pali Highway town-bound direction only)

• Shorten duration of construction project(s)
  • Extended working days/hours – evenings, weekends & holidays
  • Noise Variance from State DOH – may allow longer non-peak work hours
Minimizing Public Impacts
(Pertains to all projects)

• Minimize disruption of local activities
  • Proactive construction management & public notification (“Smart Signs” and project website: [http://palisewer.org](http://palisewer.org))
  • Strict enforcement of traffic controls during construction
  • Provisions to accommodate pedestrian, private driveway and bus stop access
  • Maximize application of pilot-tube microtunneling in areas with deeper sewers situated in “softer” soils – intersection crossings
  • Open cut excavation generally for sewer construction at shallow depths – shorter construction periods
Pilot Tube Microtunneling

Access Shaft

Pilot Tube Drilling

Tunnel Boring & Pipe Jacking
Open Cut Excavation

Trench Excavation

Backfilling Trench

Pipe Laying
Dowsett Highlands Relief Sewer
Proposed Implementation Plan

- Anticipated Advertising to Bid: Winter 2017
- Anticipated Bid Opening: Spring 2018
- Anticipated Construction Start: Summer 2018
- Target Construction Completion: Spring 2020
- Award in two concurrent construction contracts
  - Section 1 – Nuuanu Avenue
  - Section 2 – Pali Highway / Dowsett Avenue
- Close coordination with State DOT Highways Projects – Pali Highway Improvement Projects – Phase 1 & 2
Pali Highway Construction
Proposed Work Coordination
Current Conditions

FALL 2017
Pali Highway Construction
Proposed Work Coordination
Pali Highway Improvements – Phase 1 – Shoulder Widening
Pali Highway Construction
Proposed Work Coordination
Pali Highway Improvements –
Phase 1 – Lighting

SUMMER 2018
Pali Highway Construction
Proposed Work Coordination
Dowsett Highlands Relief Sewer

new highway light
new electrical line
side walk
paved shoulder
work zone
barricade
10' travel lane
10' travel lane
10' travel lane
median
paved shoulder
temporary lane markings

SPRING 2019
Pali Highway Construction
Proposed Work Coordination
Dowsett Highlands Relief Sewer

- New highway light
- Work zone
- Side walk
- Paved shoulder
- 10' travel lane
- 10' travel lane
- 10' travel lane
- Median
- Paved shoulder
- Reconstruct pavement
- Temporary lane markings
- New sewer line
- New electrical line

WINTER 2019
Pali Highway Construction
Proposed Work Coordination
Pali Highway Improvements –
Phase 2 – Repaving

- Provide finished surface layer
- Permanent lane markings
- Reconstruclt pavement
- New highway light
- Sidewalk
- Widened paved shoulder
- 11' travel lane
- New electrical line
- New sewer line
- Paved shoulder
- Median
- New highway light

SUMMER 2020
Pali Highway Construction
Proposed Work Coordination
All Projects Completed
New Sewer, Lighting, Pavement & Markings

- New highway light
- Sidewalk
- New electrical line
- Widened paved shoulder
- 11’ travel lane
- 11’ travel lane
- 11’ travel lane
- Median
- Paved shoulder
- Permanent lane markings
- New sewer line

WINTER 2020
Questions?

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