

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**

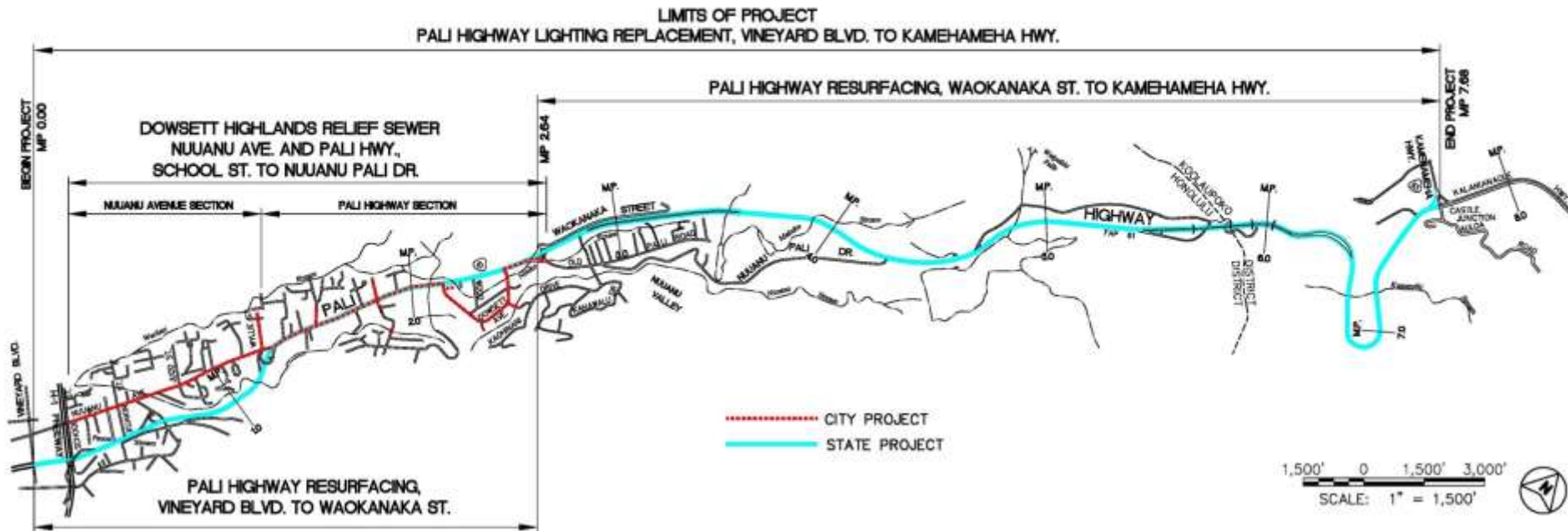
Agenda

- **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

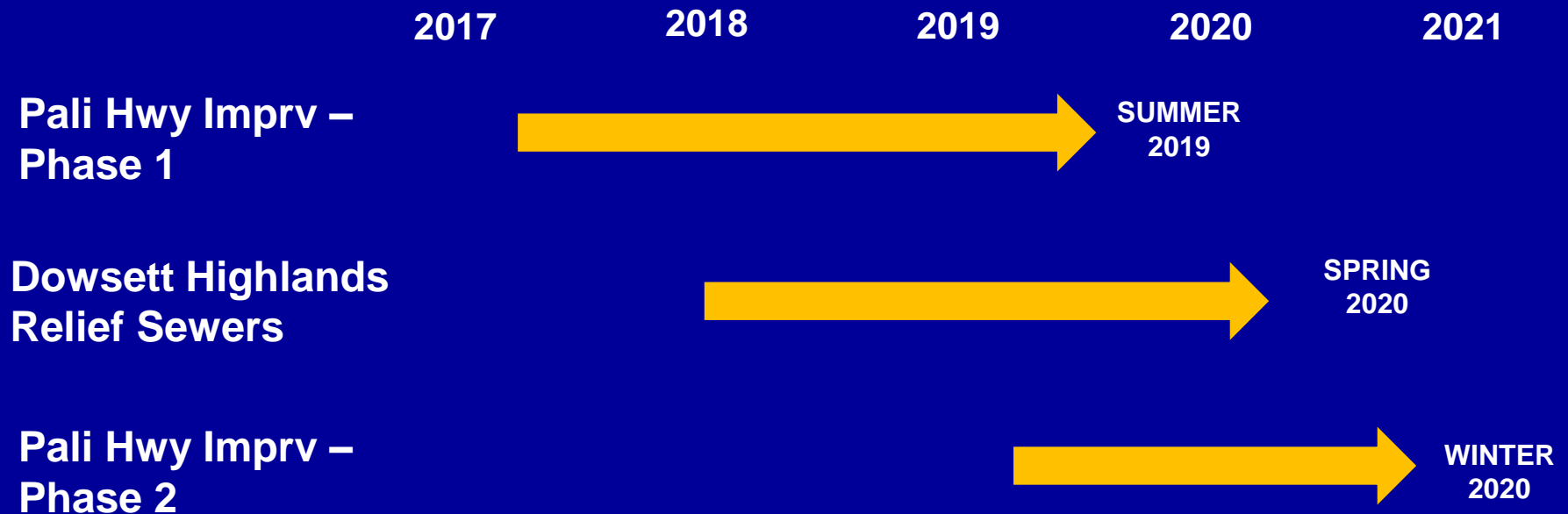
PALI HIGHWAY PROJECTS





Pali Highway Improvements Projects

Proposed Construction Schedules





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



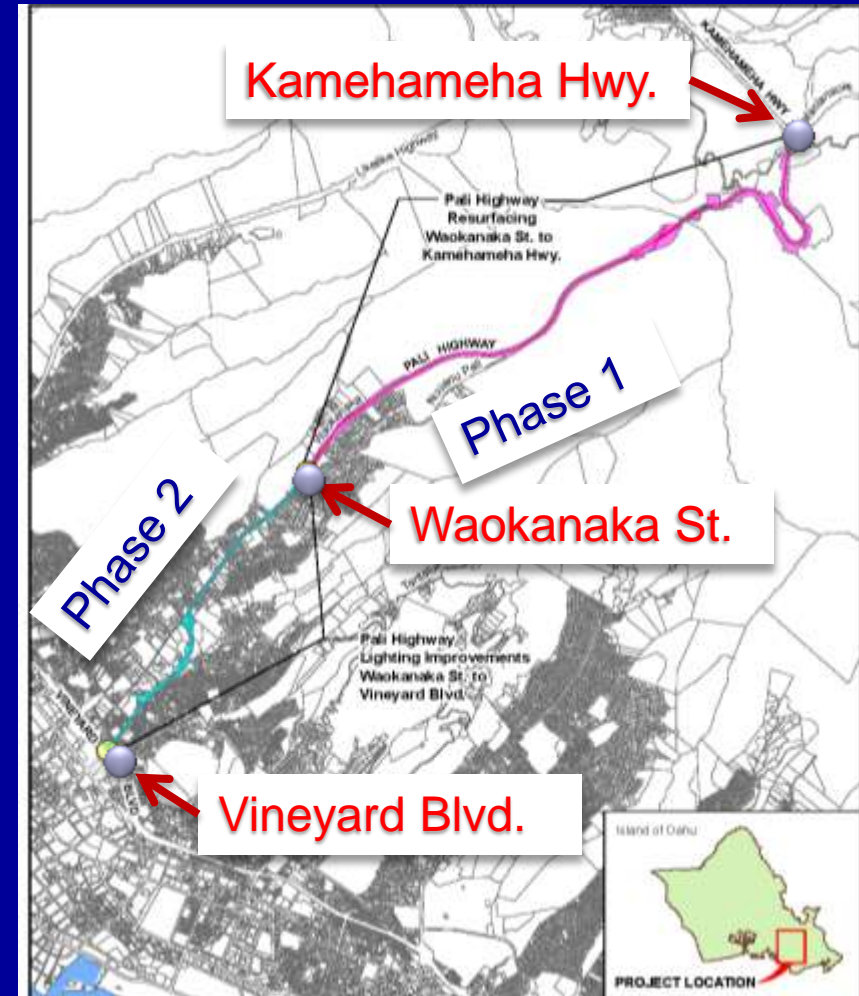
Pali Highway Improvements

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

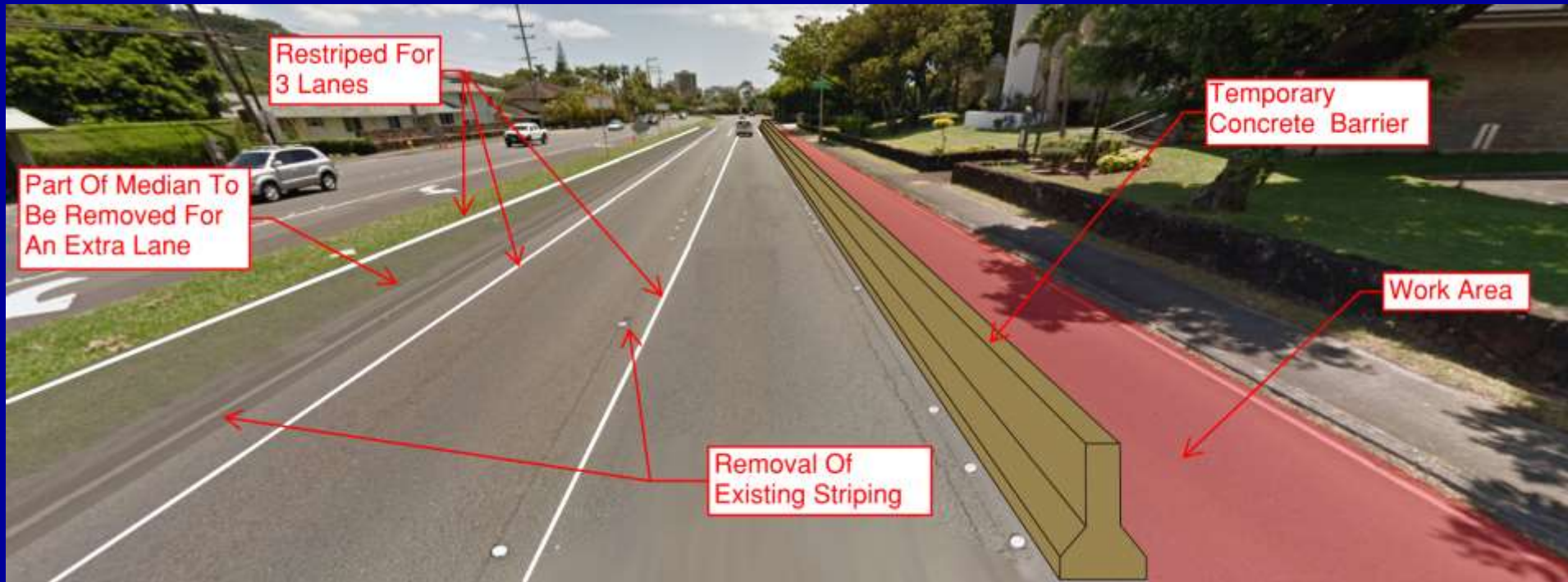
Traffic Control between Country Club Road and Nuuanu Avenue – Honolulu Bound



- 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



Pali Highway Improvements

Traffic Control



- 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
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Website: <http://palisewer.org>

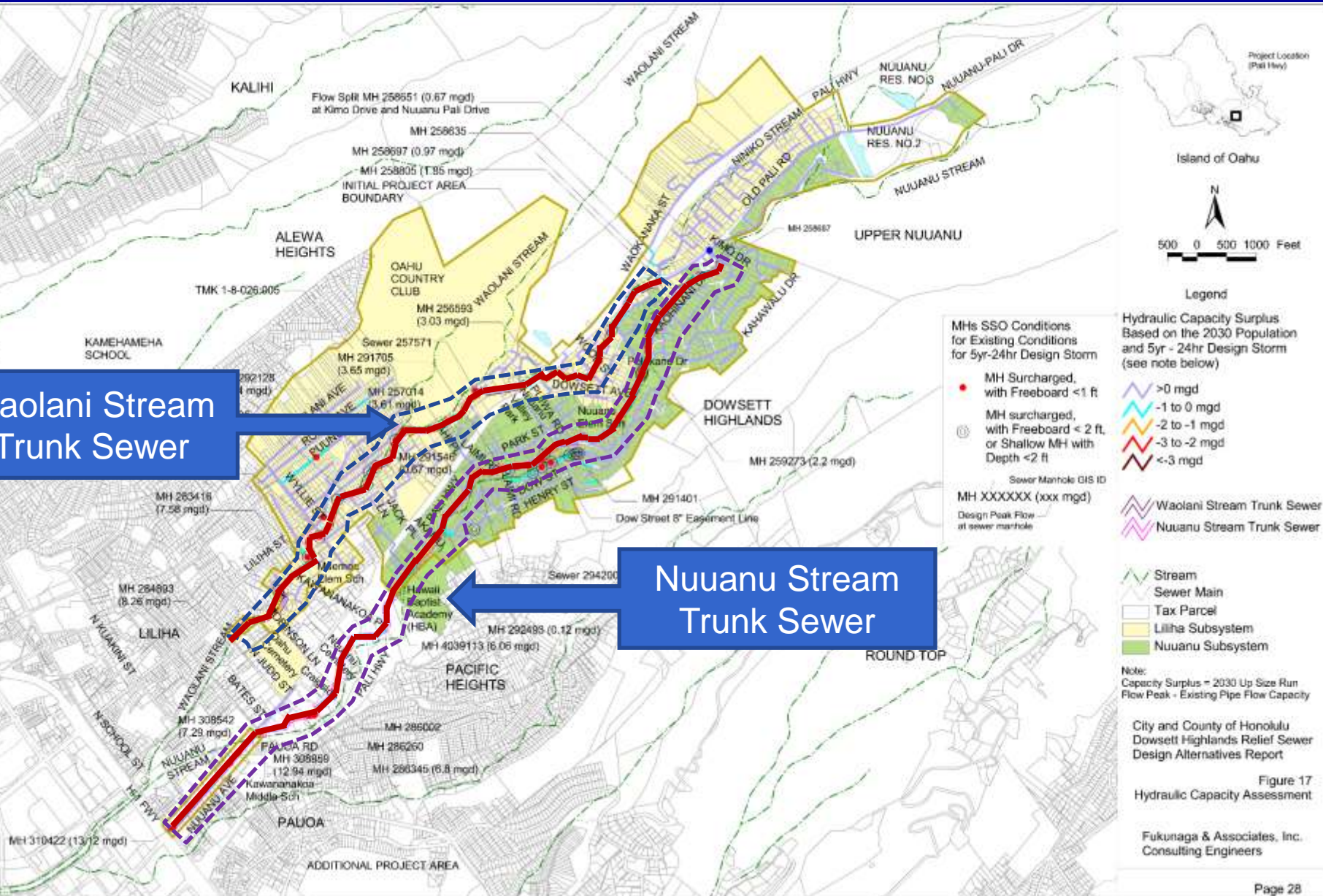
Project Background & Purpose

- 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
 - Completion Deadline: June 30, 2020.
- Projected Cost – \$80 M

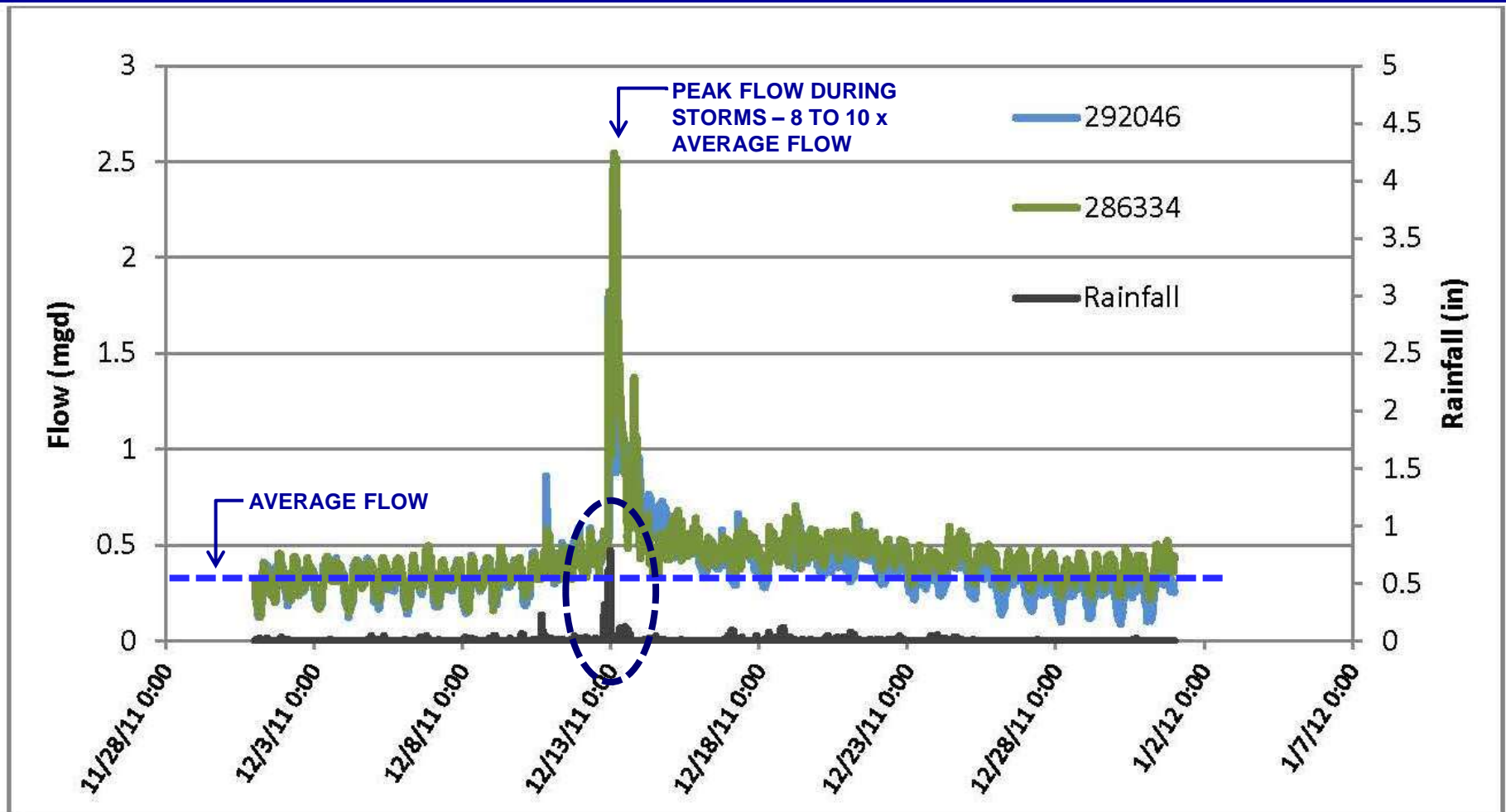
Hydraulic Deficiency – Insufficient Sewer Capacity

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 Sewer Alignment

Existing Trunk Sewer Alignment

Existing Trunk Sewer Alignment

Existing Sewer Alignment



Existing Trunk Sewer Alignment



Options Considered to Relieve Hydraulic Deficiencies

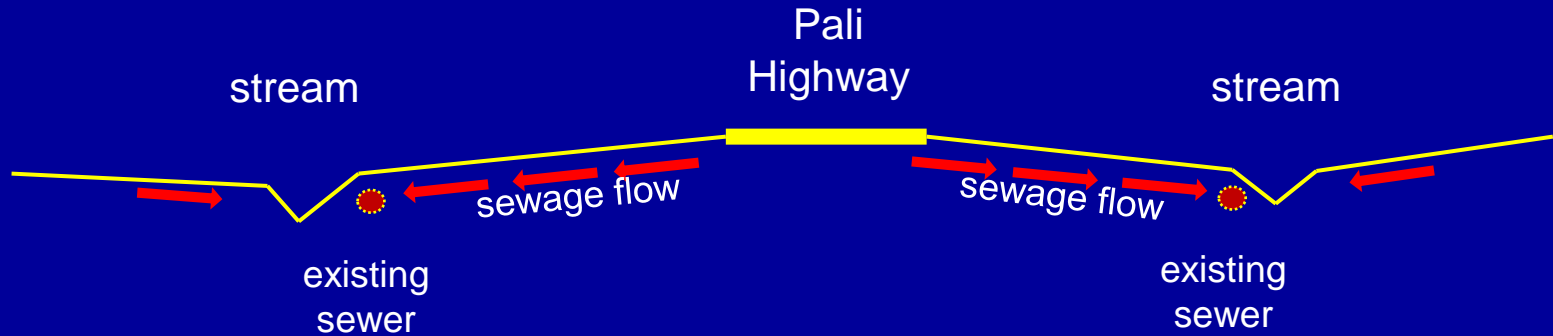
1. Reduce wet weather flows – eliminate extraneous flows from system – *primary source is stormwater entering through sewer laterals originating from private property*
2. Increase sewer capacity in current alignment – *construction in stream channels and private property*
3. **Install relief sewers in 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.

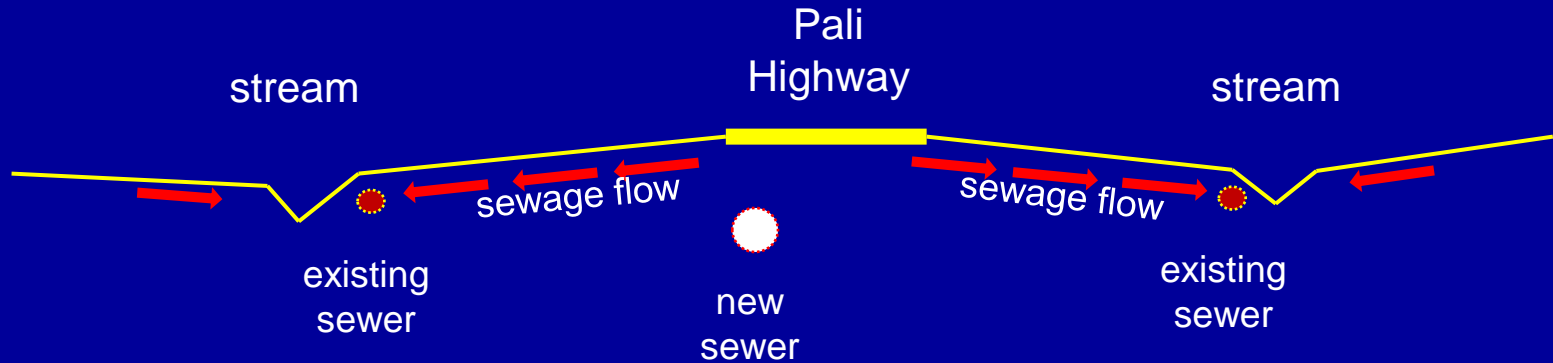
Proposed Relief Sewer Line

EXISTING CONDITION



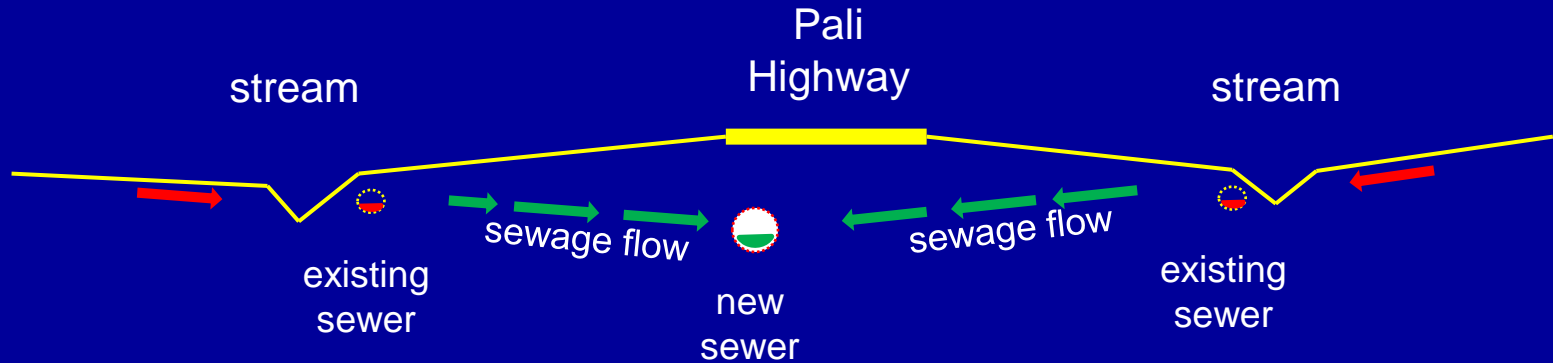
Proposed Relief Sewer Line

PROPOSED CONDITION

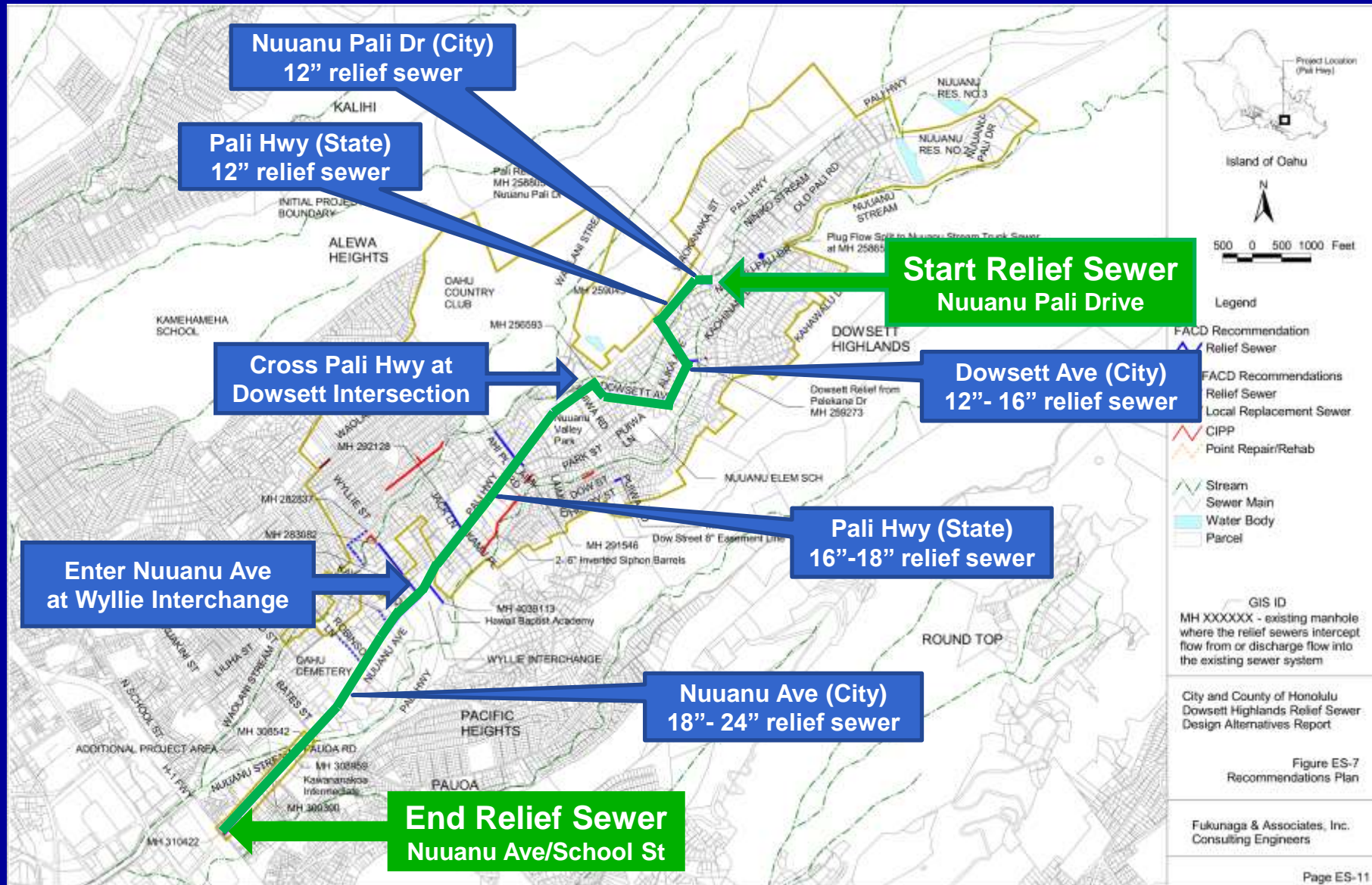


Proposed Relief Sewer Line

PROPOSED CONDITION



Proposed Relief Sewer Line





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>)
 - 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



Open Cut Excavation



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

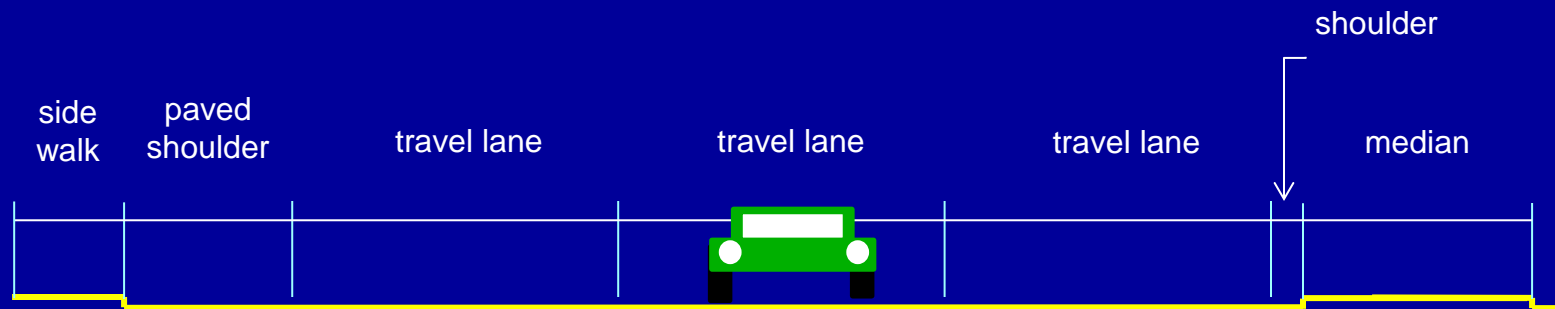


Pali Highway Construction Proposed Work Coordination





Pali Highway Construction Proposed Work Coordination Current Conditions

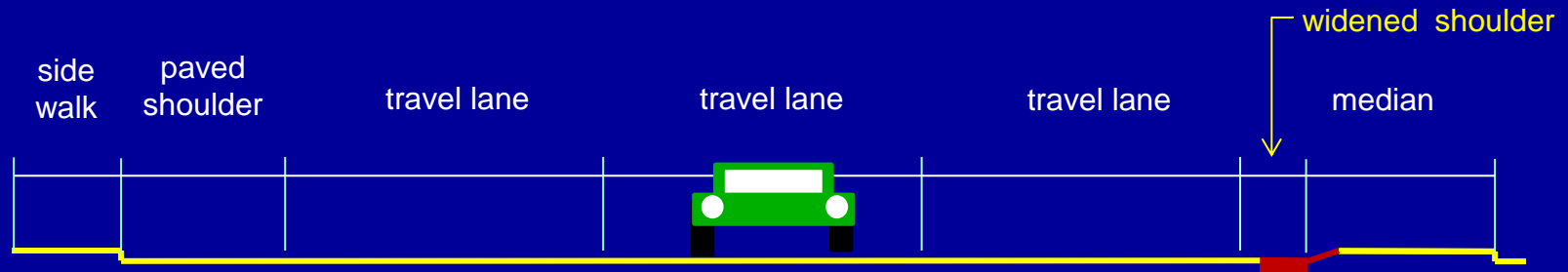


FALL 2017



Pali Highway Construction Proposed Work Coordination

Pali Highway Improvements – Phase 1 – Shoulder Widening

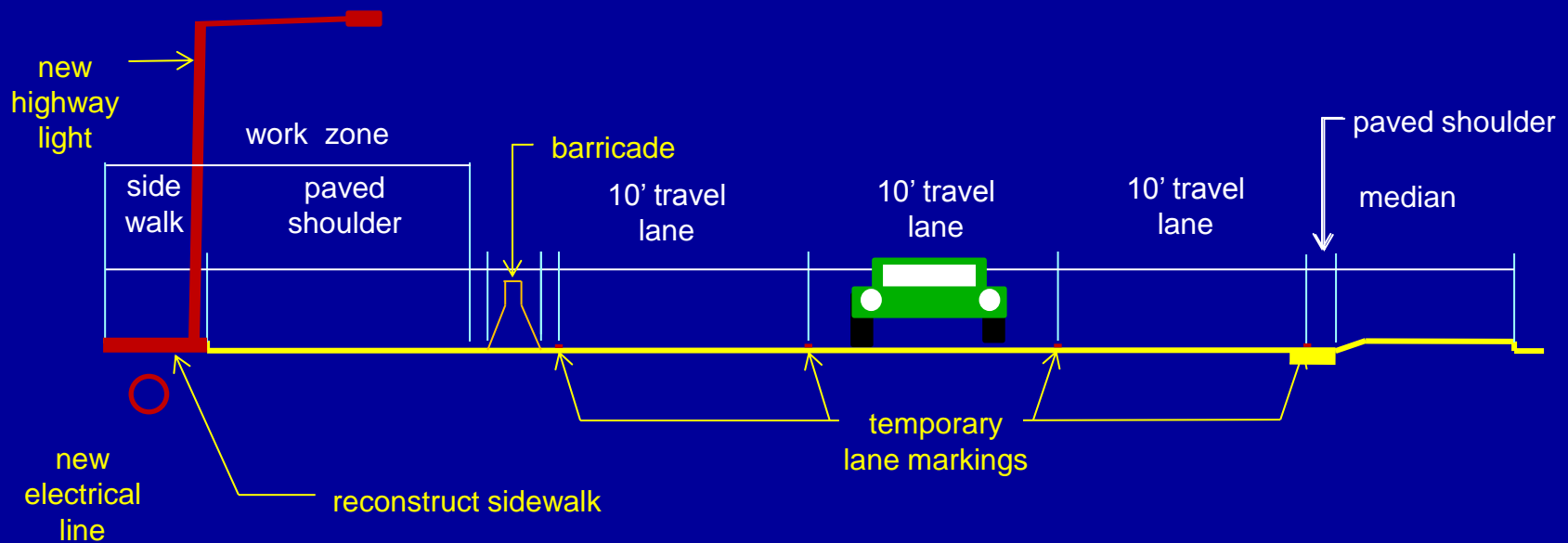


SPRING 2018



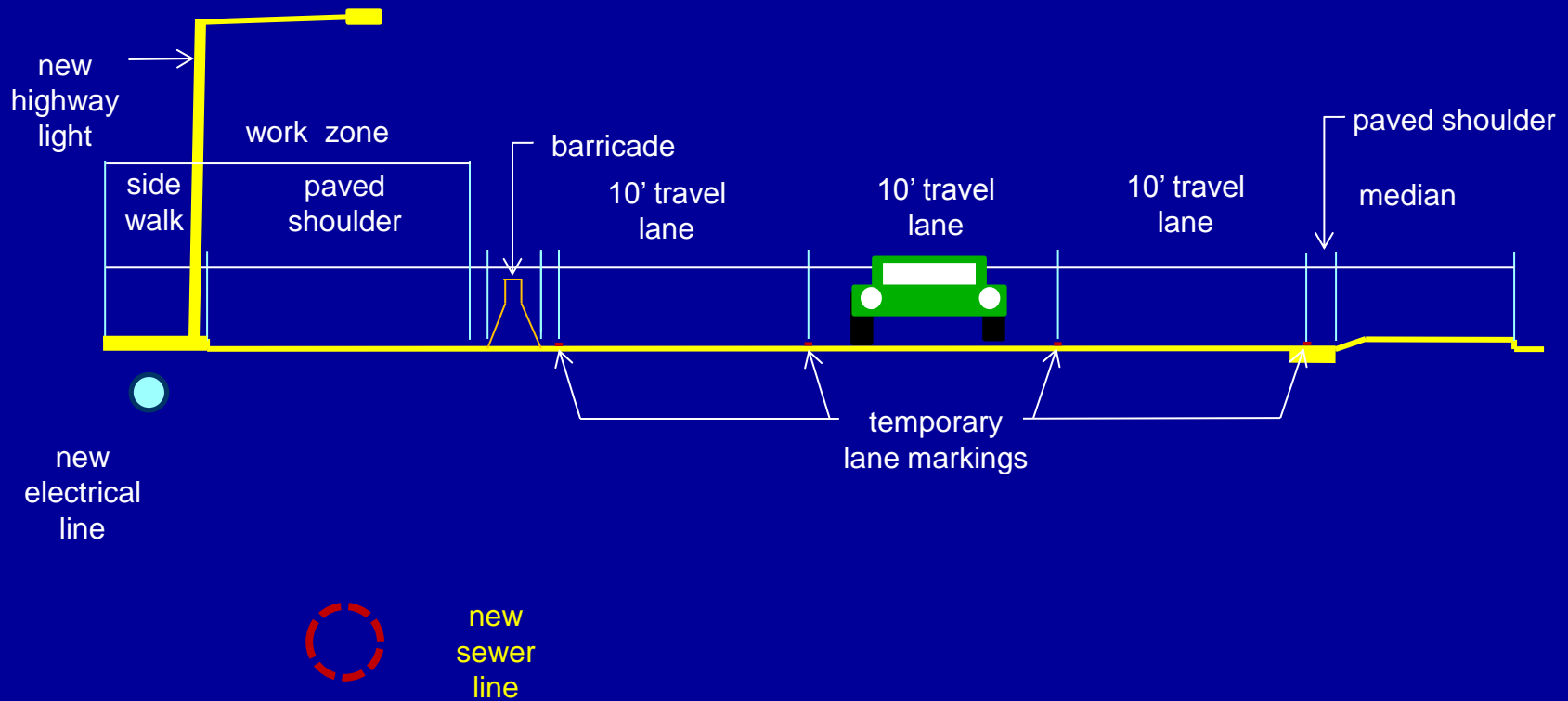
Pali Highway Construction Proposed Work Coordination

Pali Highway Improvements – Phase 1 – Lighting



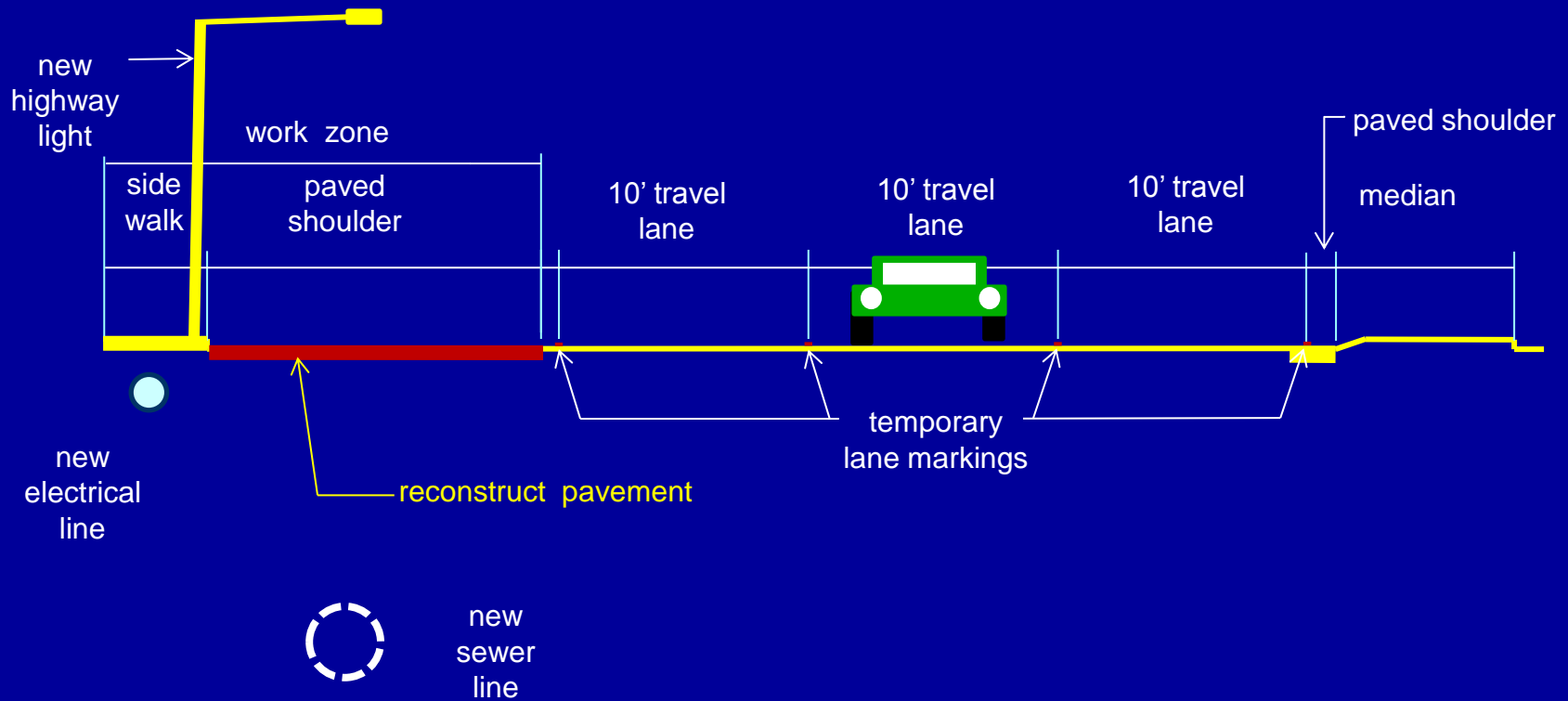
SUMMER 2018

Pali Highway Construction Proposed Work Coordination Dowsett Highlands Relief Sewer



SPRING 2019

Pali Highway Construction Proposed Work Coordination Dowsett Highlands Relief Sewer

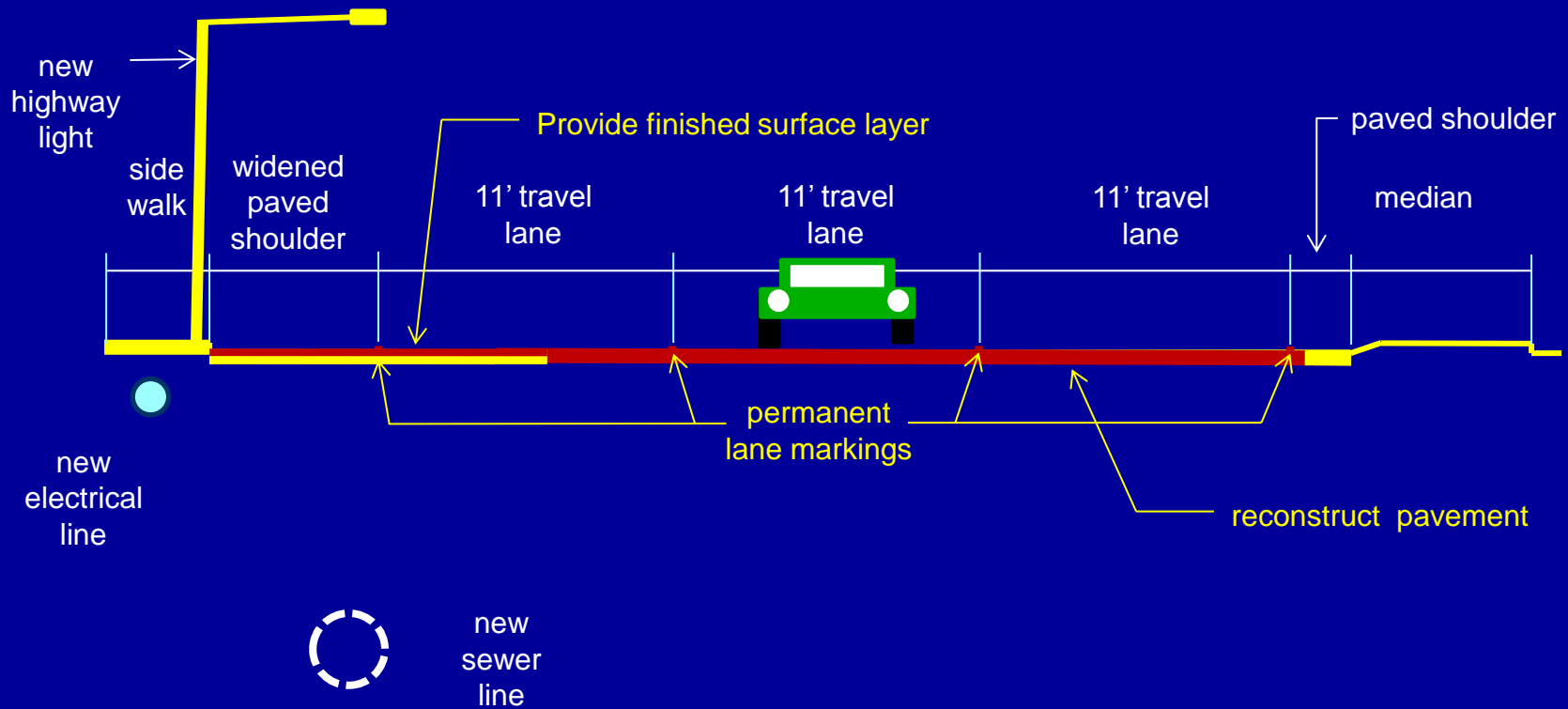


WINTER 2019



Pali Highway Construction Proposed Work Coordination

Pali Highway Improvements – Phase 2 – Repaving



SUMMER 2020

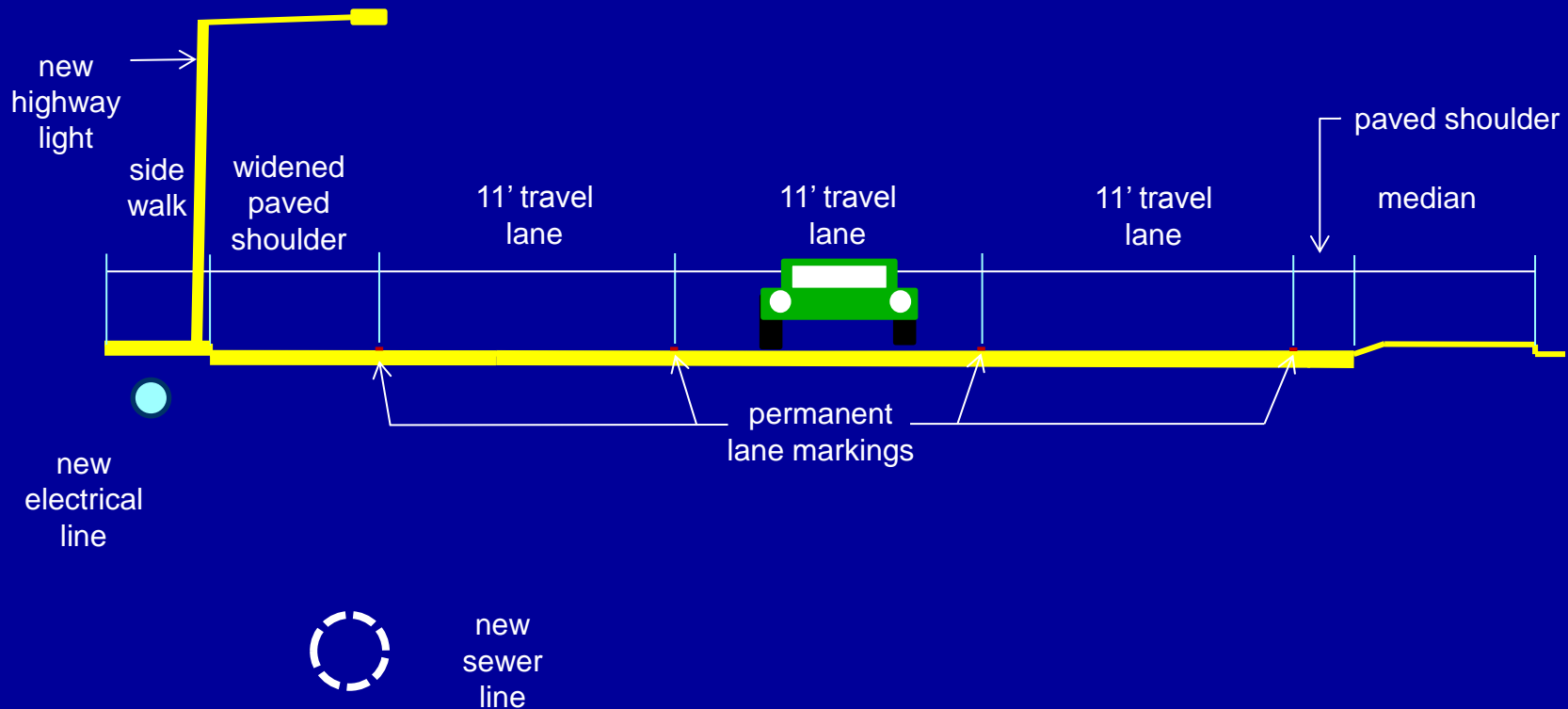


Pali Highway Construction Proposed Work Coordination



All Projects Completed

New Sewer, Lighting, Pavement & Markings



WINTER 2020



Questions?

Website: <http://palisewer.org>