

Lower Dungeness River Restoration 65% Design

**Community Meeting
June 27, 2018**

Clallam County - Cathy Lear, Ross Tyler

Consultants:

Dave Cline PE, Shannon & Wilson Inc.

Scott Johnson PE, HDR Inc.

Jenna Scholz, ICF International

Meeting Agenda

- Greetings from County Leadership
- Presenter Introductions / Roles
- Meeting Ground Rules
- Project General Update
- Site Design Plan Overview
- Levee Realignment, Flooding and Drainage
- Towne Road Relocation, Intersection
- Habitat Restoration
- Trails, Parking Areas
- Question & Answer

Greetings from County Leadership

- Mark Ozias – Clallam County Board of Commissioners
- Mary Ellen Windborn – Clallam County Dept. of Community Development

Presenters & Roles

- Cathy Lear – Project Manager Clallam County
- Ross Tyler, PE – Road Engineer Clallam County
- Dave Cline, PE – Project Manager Shannon & Wilson
- Scott Johnson, PE – Road Engineer, HDR Engineering Inc.
- Jenna Scholz – Outreach Coordinator, ICF International

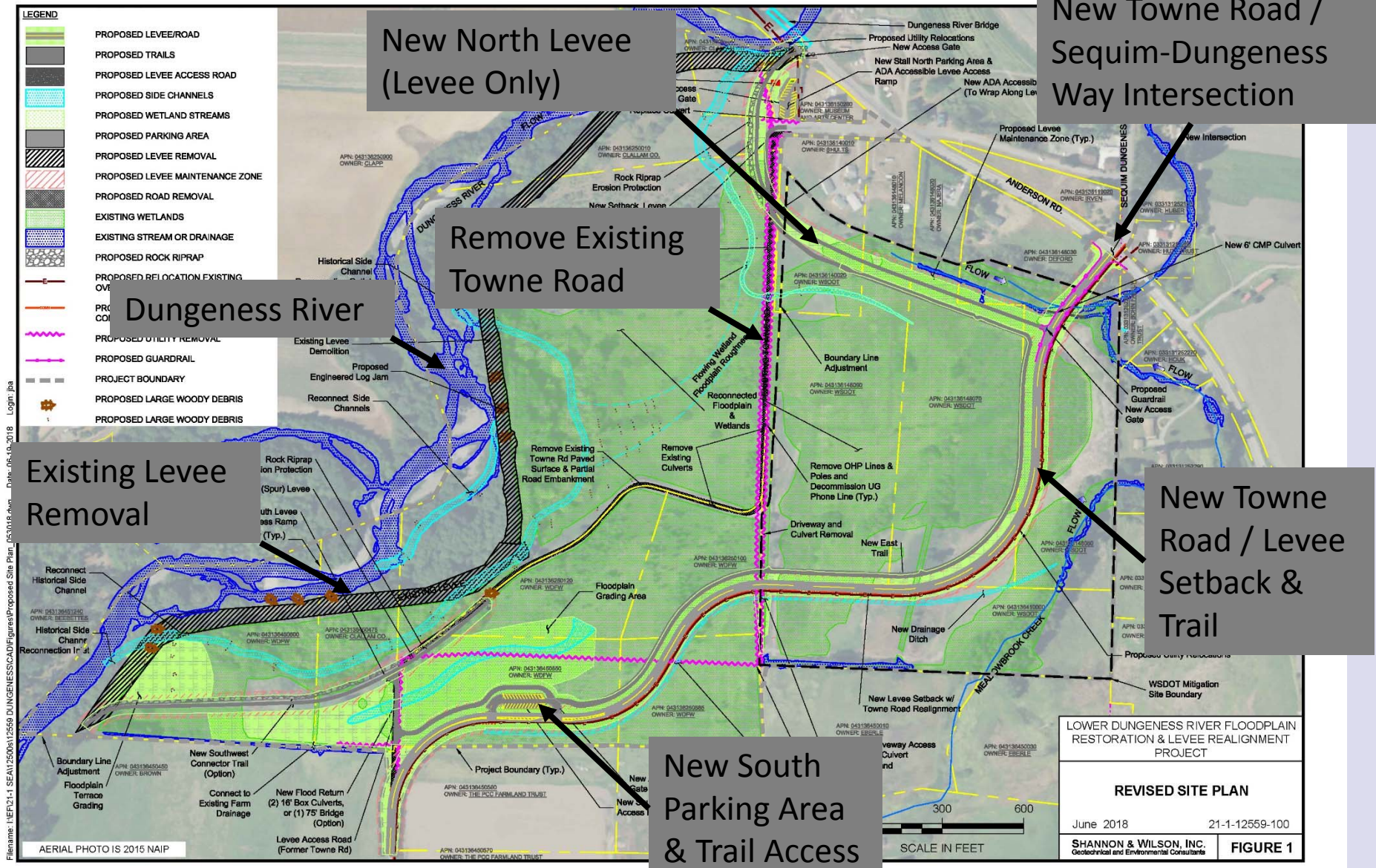
Meeting Ground Rules

- Be respectful
- Be factual
- Hold your questions to the end of the presentation
- State your name and question clearly
- Follow up with detailed or technical questions at the information stations after the presentation

Project General Update

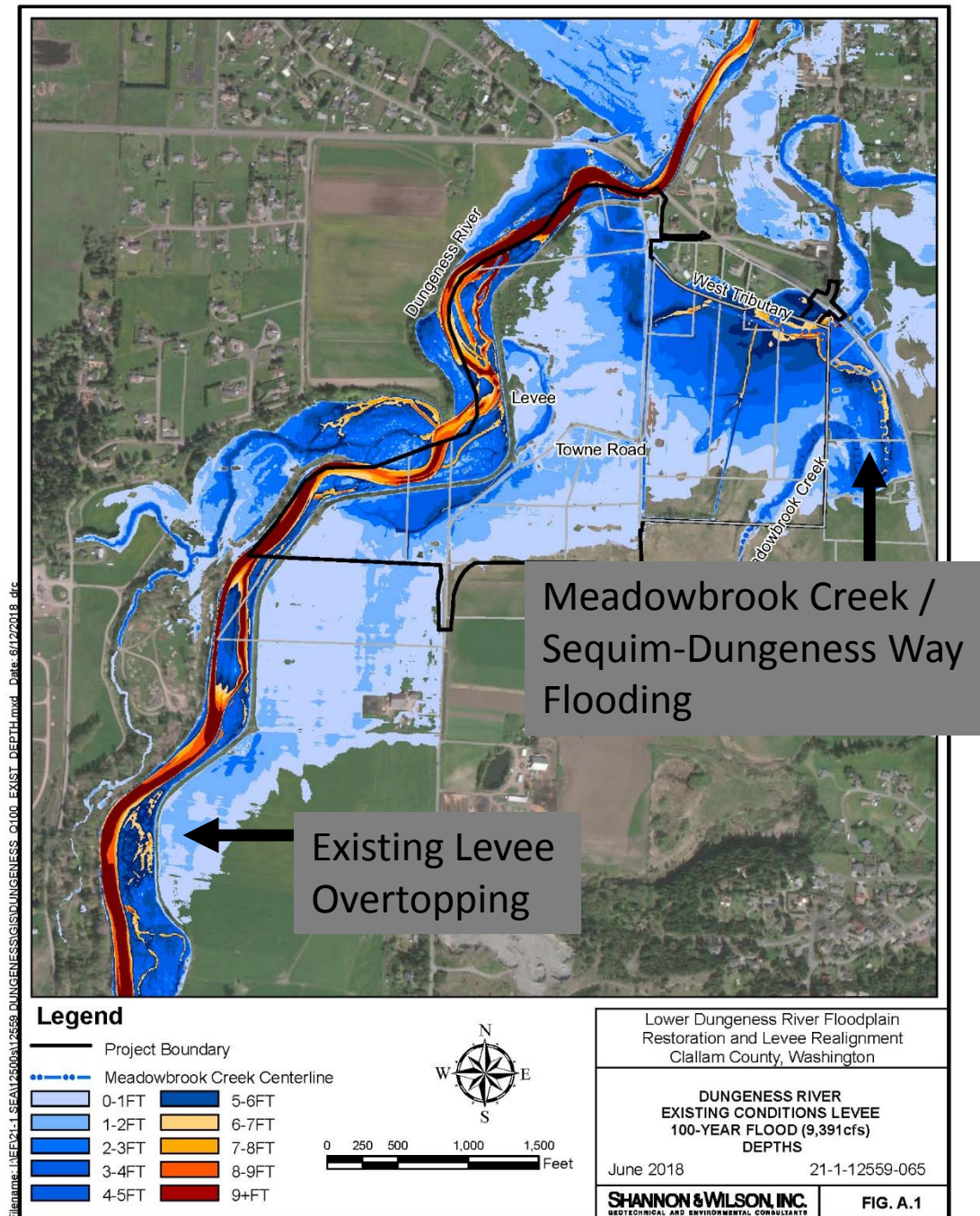
- Completed 65% Designs
- Submitted Federal, State and Local Permits
- Variety of Public Notices will be coming
- Final Design and Permit Awards – Winter 2019
- Construction Advertise – Spring 2019
- Construction Start – Summer 2019
- Construction Completion – Summer 2021

Current - Site 65% Design Plan



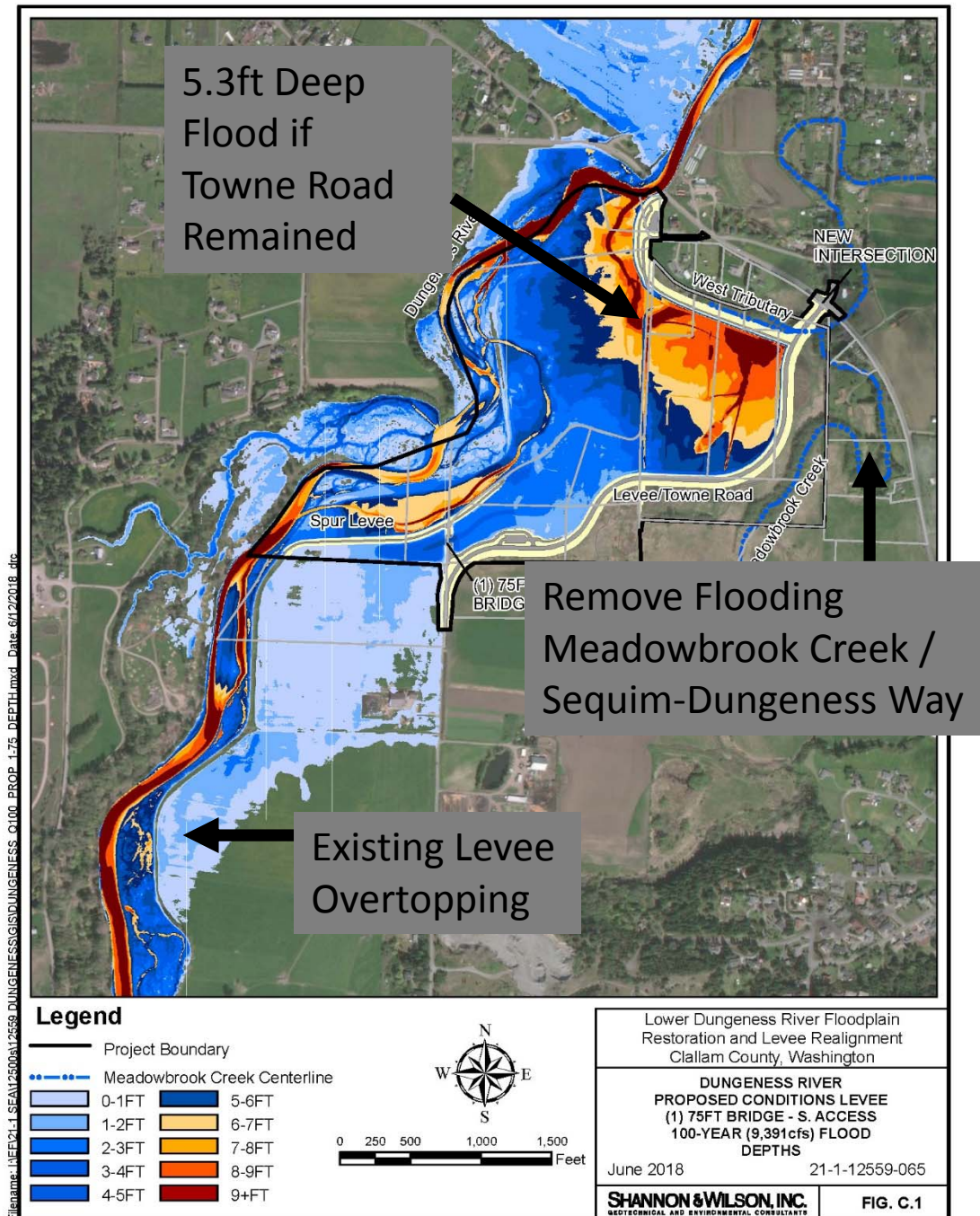
Existing Flood Conditions

- 100-YR flood depths
- Levee overtopping
- Flooding along Meadowbrook Creek, Sequim-Dungeness Way, 3-Crabs



Project Flood Conditions

- 100-YR flood depths
- Levee overtopping
- Removes flooding along Meadowbrook Creek, Sequim-Dungeness Way, 3-Crabs
- Levee contains 100-YR, 200-YR and 500-YR annual flood events



Project Plan Development

Road Flood Damage Nov. 2017 – Elwha River Dam Removal

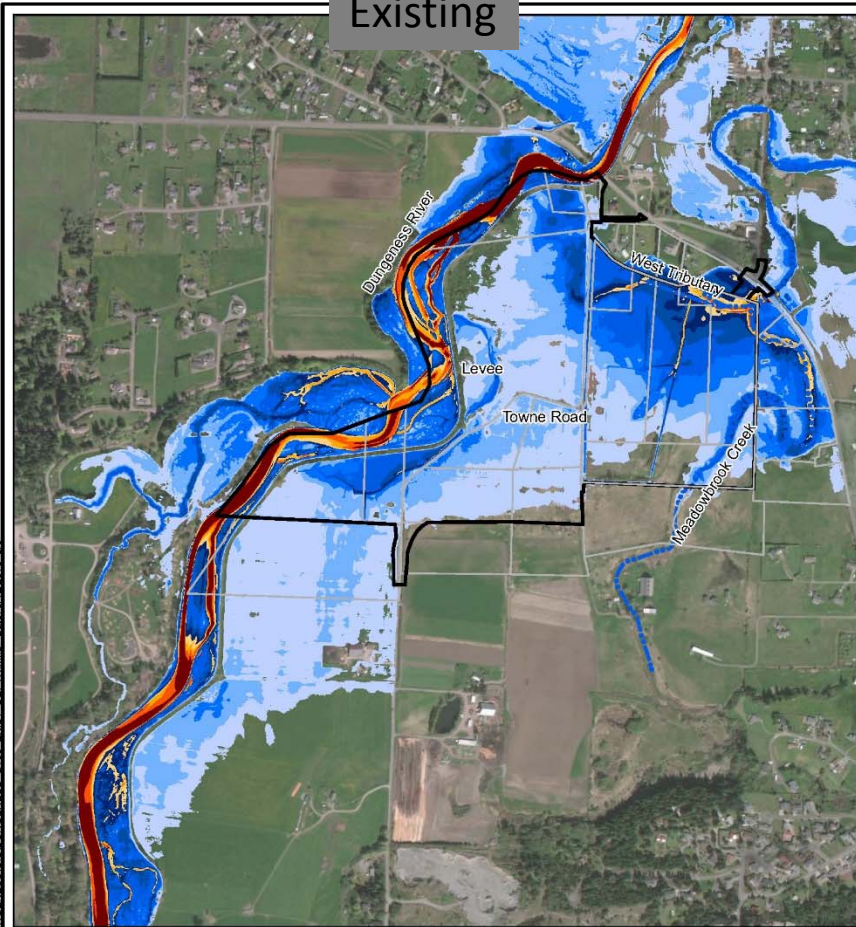


Hot Springs Road 12/2017

Cathy Lear

Existing & Proposed Flood Conditions

Existing



Legend

- Project Boundary
- Meadowbrook Creek Centerline
- 0-1FT
- 1-2FT
- 2-3FT
- 3-4FT
- 4-5FT
- 5-6FT
- 6-7FT
- 7-8FT
- 8-9FT
- 9+FT



0 250 500 1,000 1,500
Feet

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

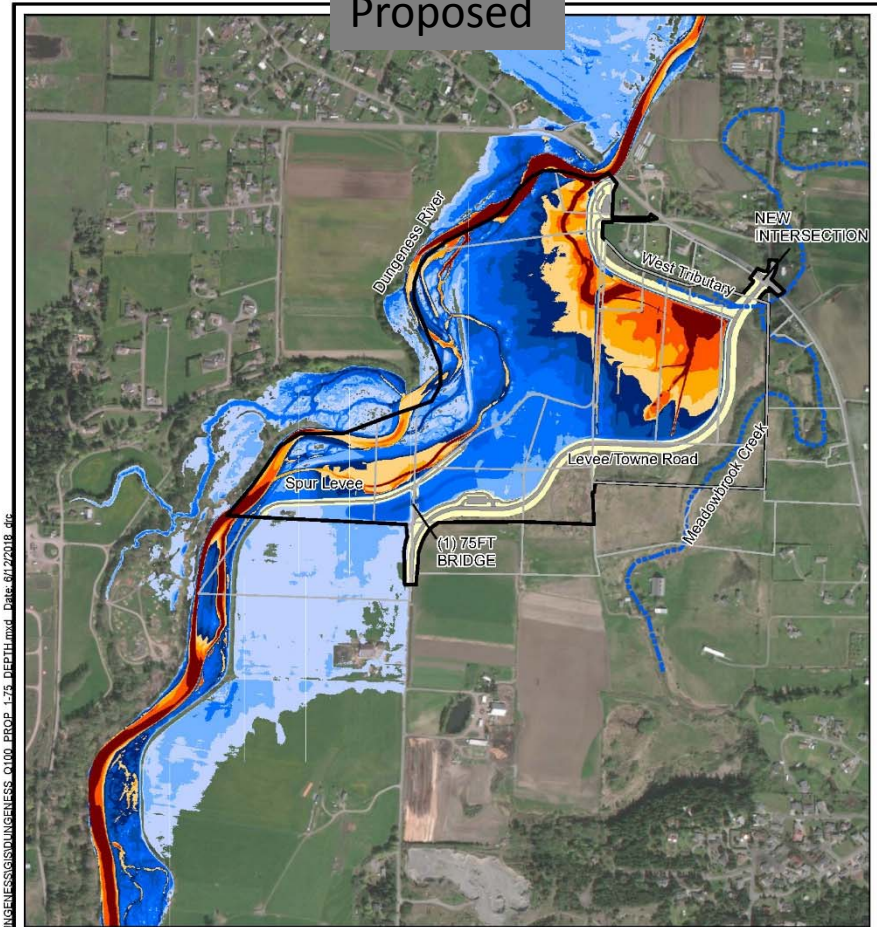
DUNGENESS RIVER
EXISTING CONDITIONS LEVEE
100-YEAR FLOOD (9,391cfs)
DEPTHS

June 2018 21-1-12559-065

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METEOROLOGICAL AND ENVIRONMENTAL CONSULTANTS

FIG. A.1

Proposed



Legend

- Project Boundary
- Meadowbrook Creek Centerline
- 0-1FT
- 1-2FT
- 2-3FT
- 3-4FT
- 4-5FT
- 5-6FT
- 6-7FT
- 7-8FT
- 8-9FT
- 9+FT



0 250 500 1,000 1,500
Feet

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

DUNGENESS RIVER
PROPOSED CONDITIONS LEVEE
(1) 75FT BRIDGE - S. ACCESS
100-YEAR (9,391cfs) FLOOD
DEPTHS

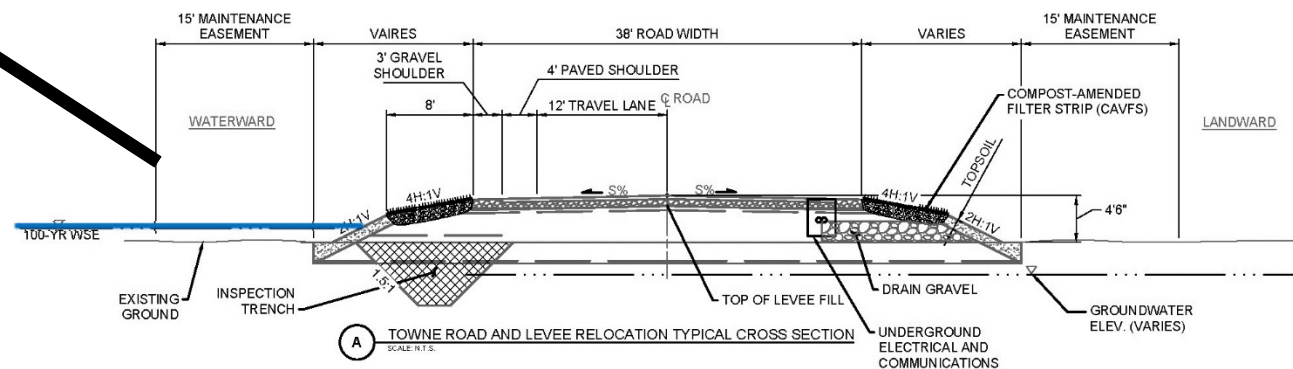
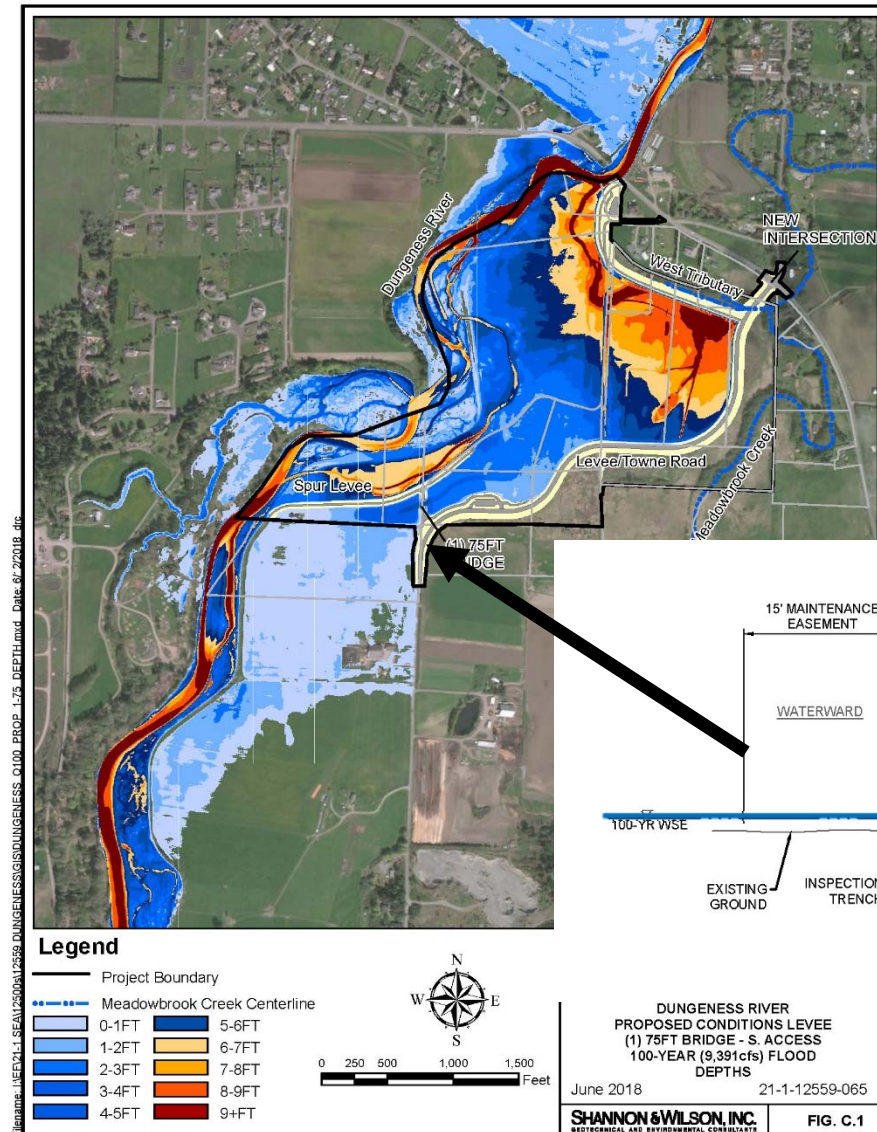
June 2018 21-1-12559-065

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FIG. C.1

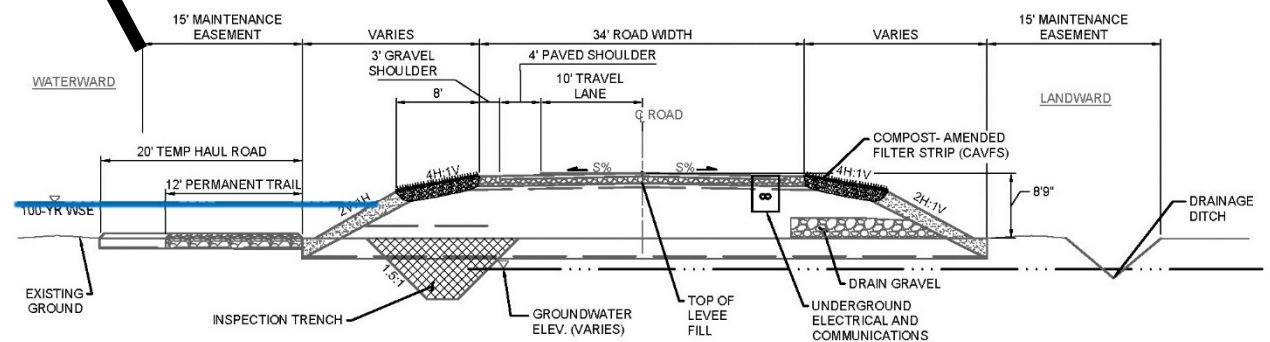
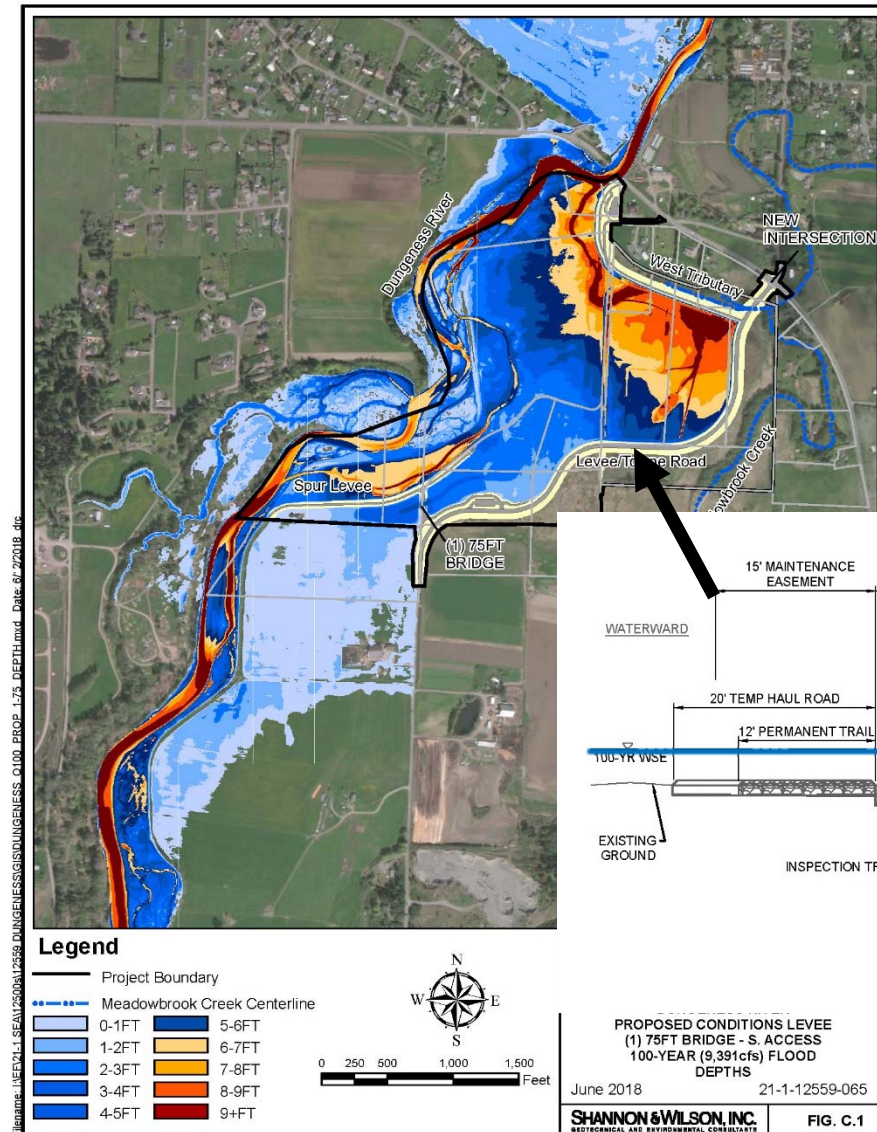
Levee Design Sections – Current 65% Design Plan

- 100-YR flood 2ft-3ft deep
- Levee / road height 4ft to 6ft above ground



Levee Design Sections – Current 65% Design Plan

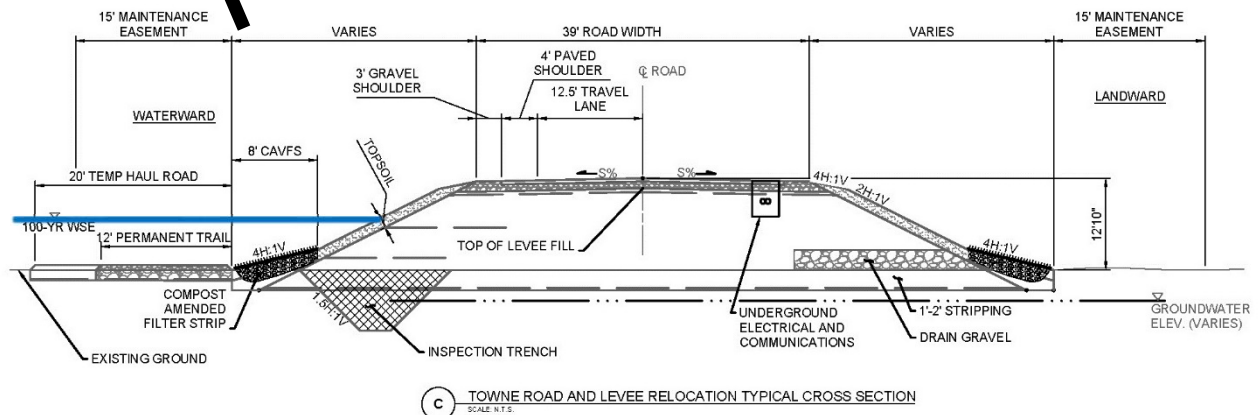
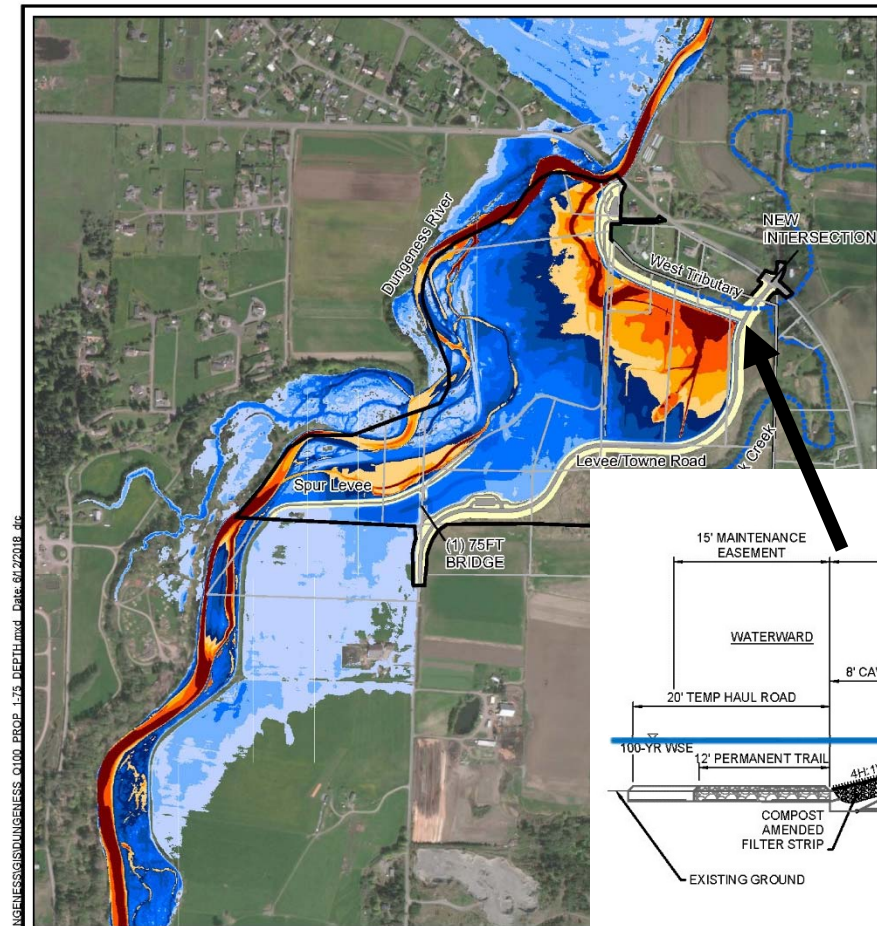
- 100-YR flood 5ft-6ft deep
- Levee / road height 8ft to 10ft above ground



(B) TOWN ROAD AND LEVEE RELOCATION TYPICAL CROSS SECTION
SCALE: N.T.S.

Levee Design Sections – Current 65% Design Plan

- 100-YR flood 8ft-10ft deep
- Levee / road height 12ft to 15ft above ground



DUNGENESS RIVER
PROPOSED CONDITIONS LEVEE
(1) 75FT BRIDGE - S. ACCESS
100-YEAR (9,391cfs) FLOOD
DEPTHS

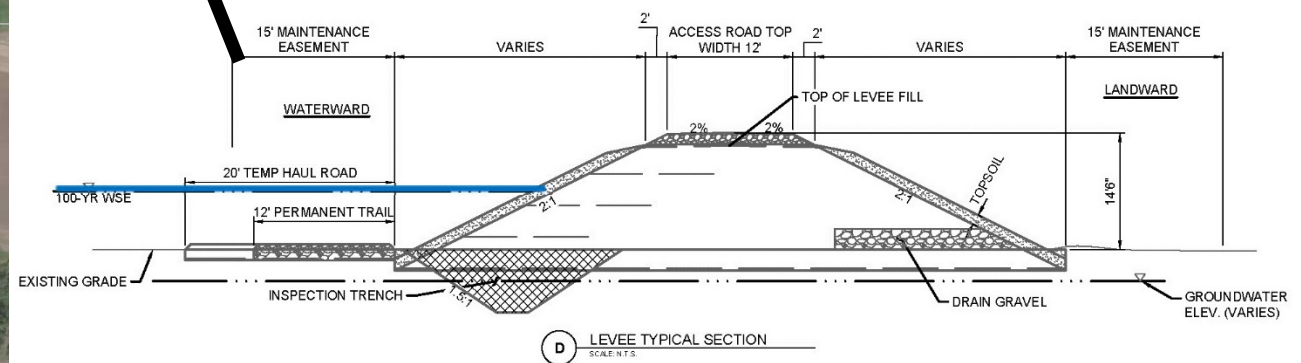
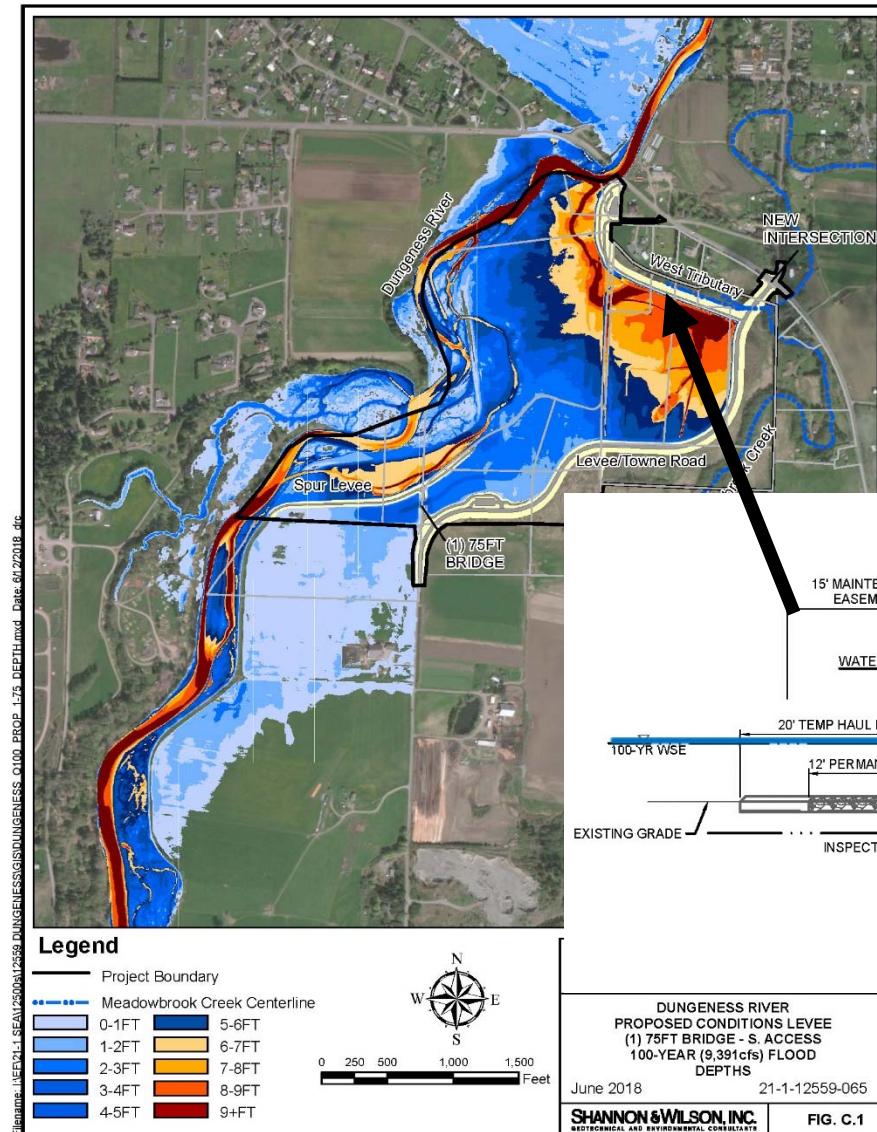
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FIG. C.1

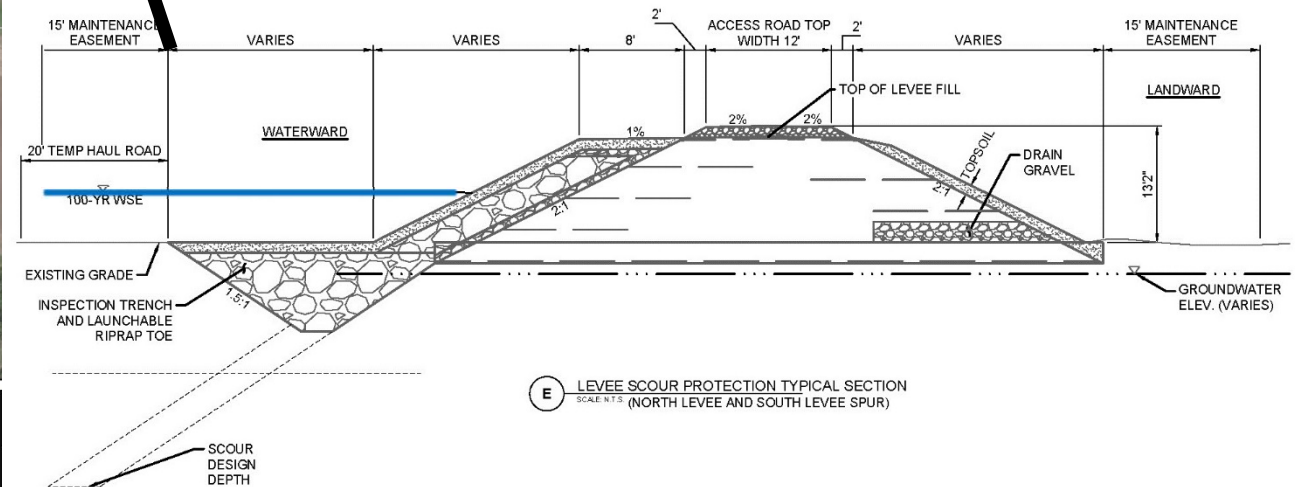
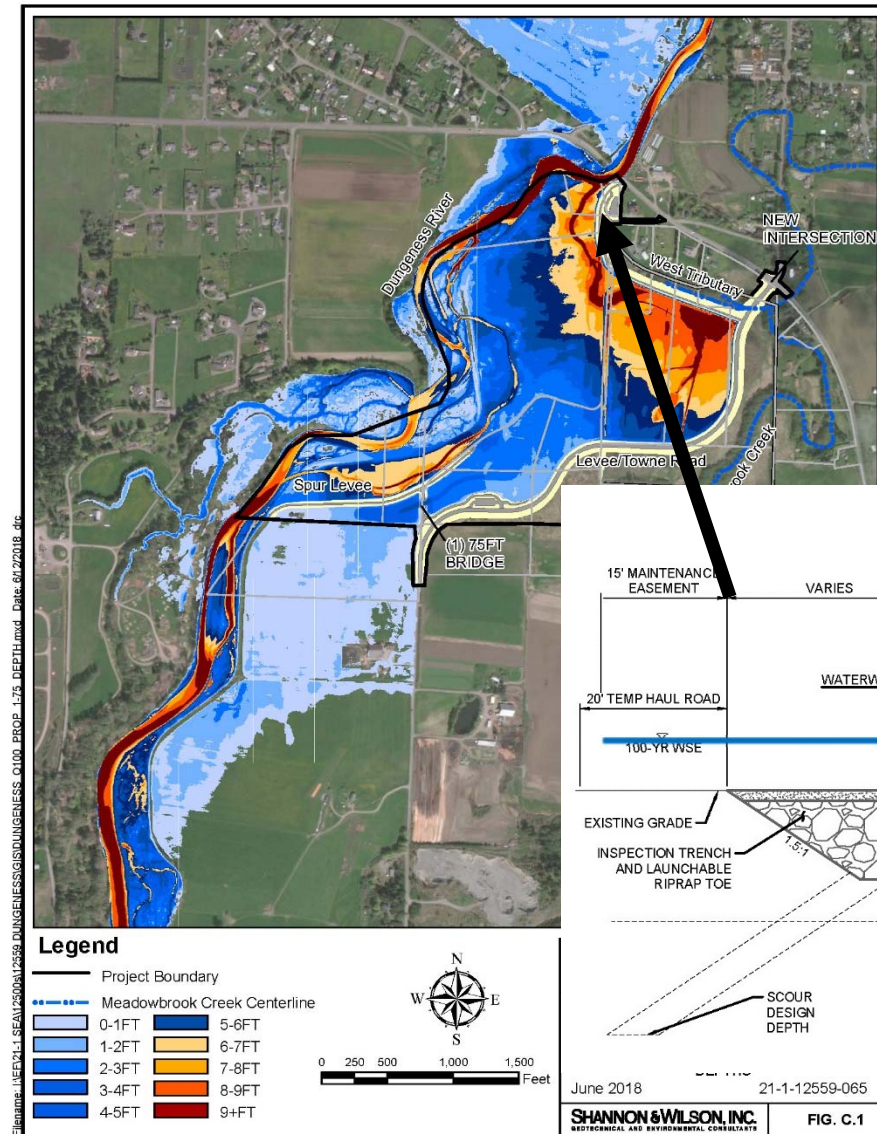
Levee Design Sections – Current 65% Design Plan

- 100-YR flood 8ft-10ft deep
- Levee / road height 12ft to 15ft above ground



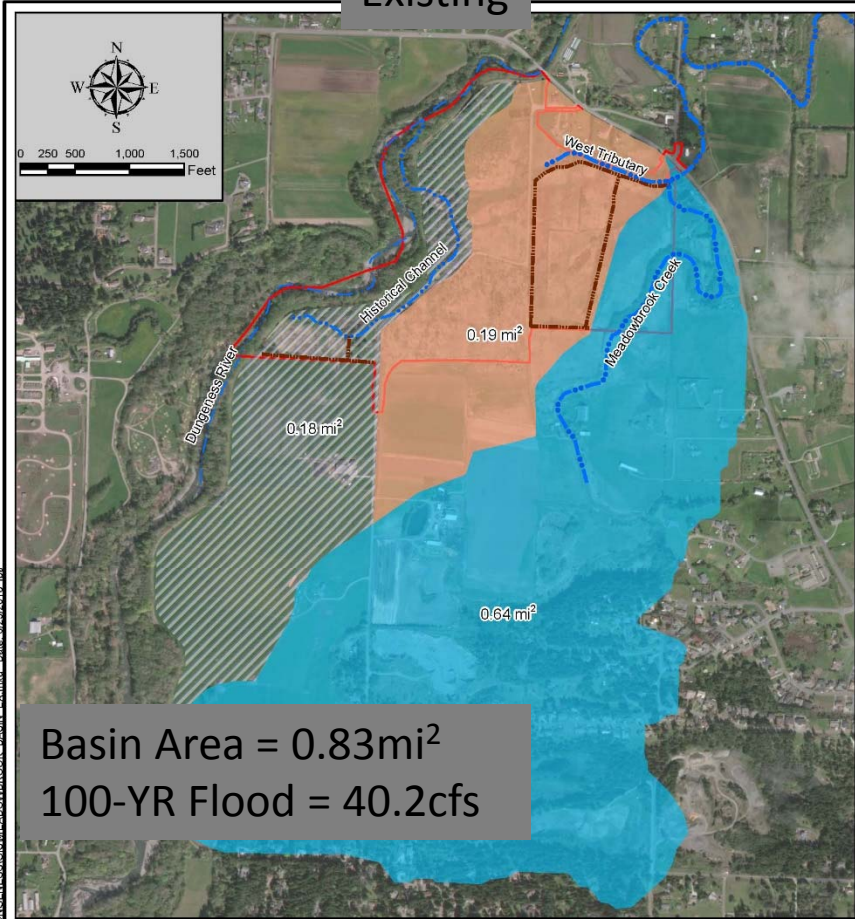
Levee Design Sections – Current 65% Design Plan

- 100-YR flood 8ft-10ft deep
- Levee / road height 12ft to 15ft above ground



Meadowbrook Drainage Conditions (Drainage Basins)

Existing



Legend

- Project Boundary
- Channel Centerline
- Drainage Ditch
- Culvert

Drainage Basins

- Meadowbrook Creek
- West Tributary
- Dungeness River

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

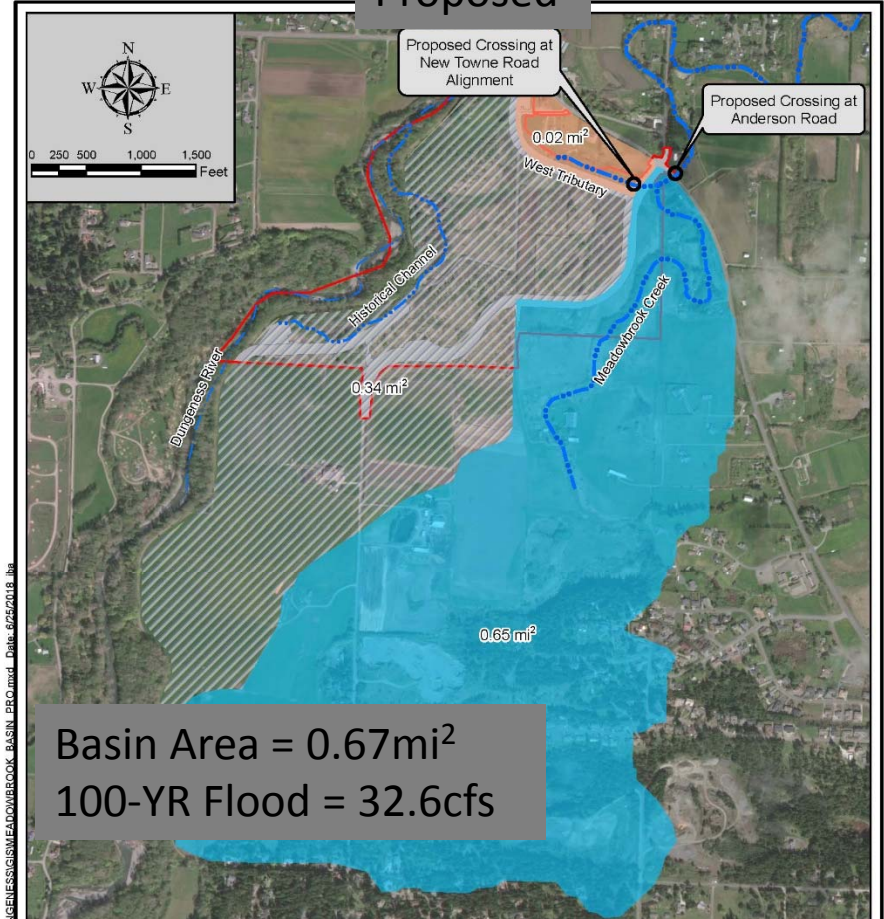
MEADOWBROOK CREEK & WEST TRIBUTARY DRAINAGE AREAS - EXISTING

June 2018 21-1-12559-701

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FIG. 1

Proposed



Legend

- Project Boundary
- Channel Centerline

Drainage Basins

- Dungeness River
- Meadowbrook Creek (0.65 mi²)
- West Tributary (0.02 mi²)
- Total to Anderson Road Crossing = 0.67 mi²

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

MEADOWBROOK CREEK & WEST TRIBUTARY DRAINAGE AREAS - PROPOSED

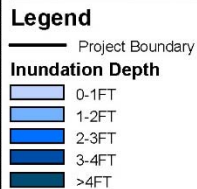
June 2018 21-1-12559-701

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FIG. 2

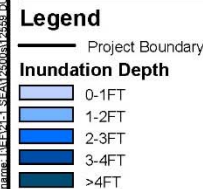
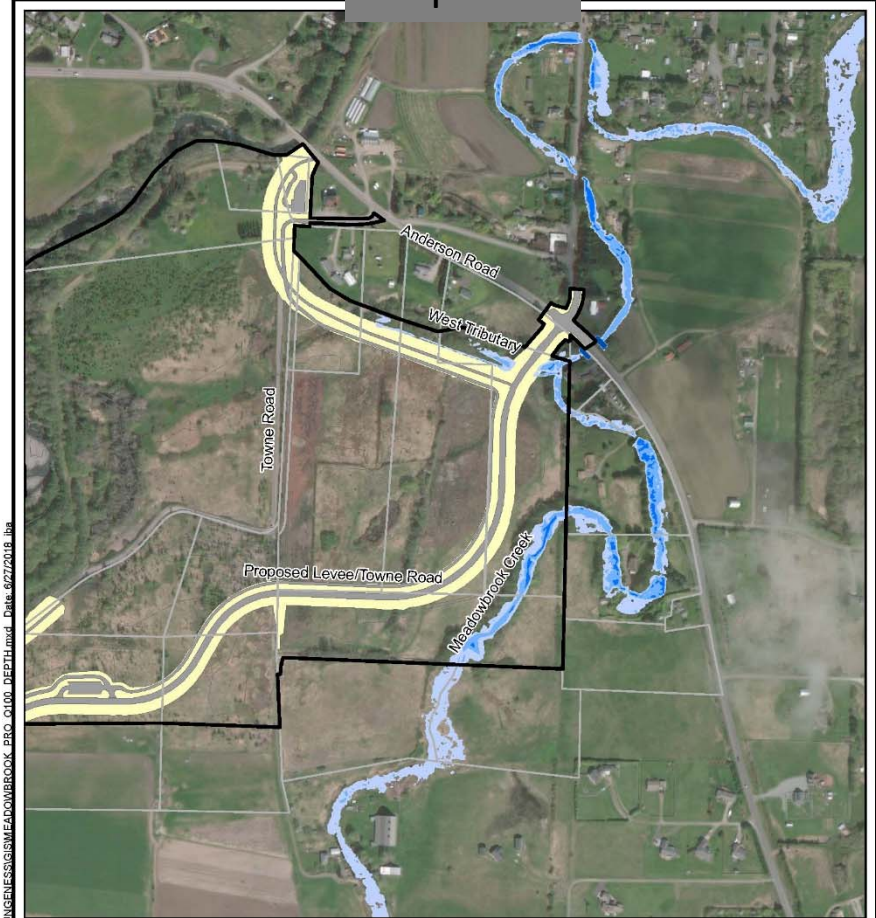
Meadowbrook Drainage Conditions (Flood Inundation)

Existing



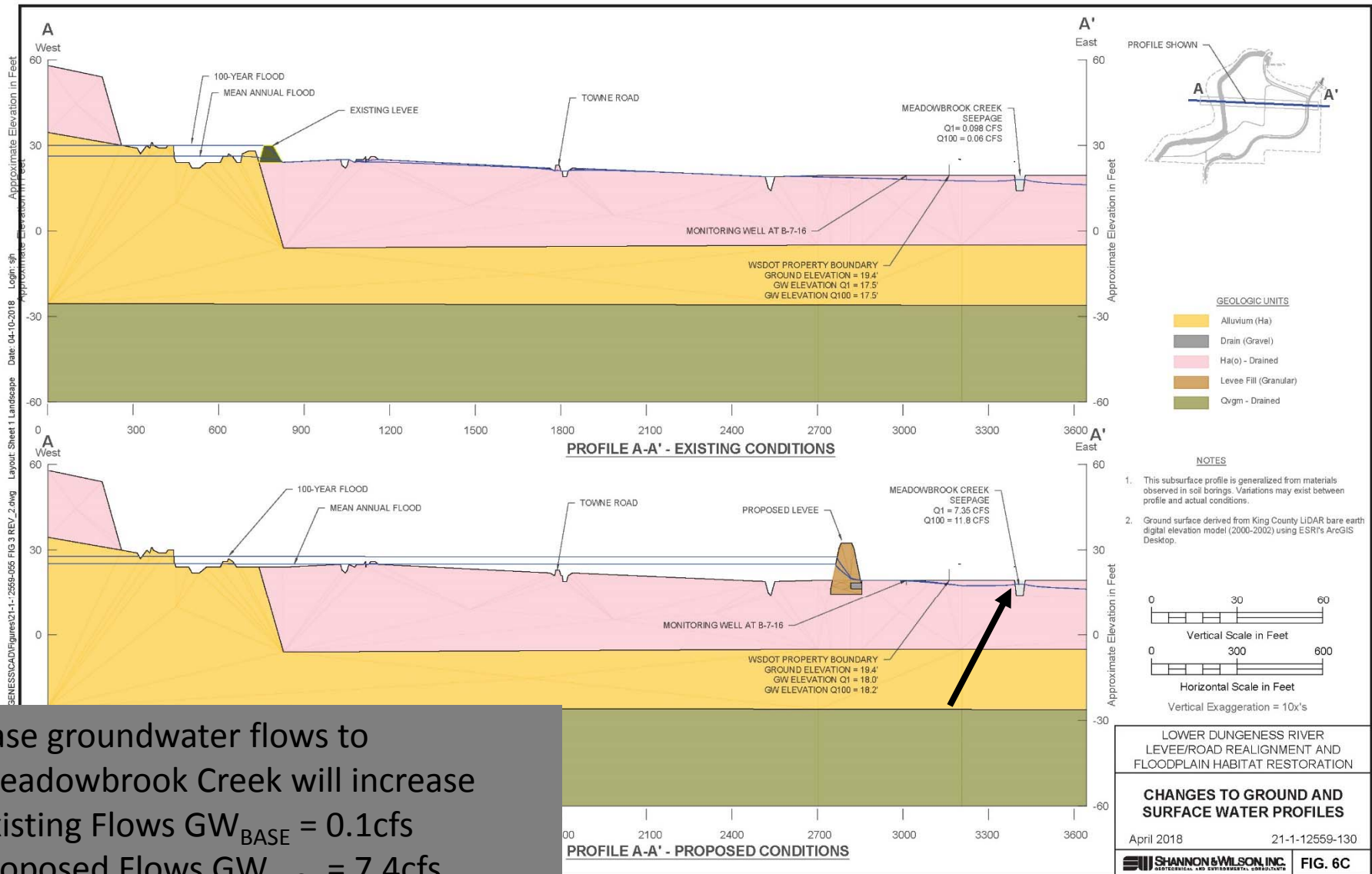
Basin Area = 0.83mi²
 100-YR Flood = 40.2cfs
 Seepage (Q_{100}) = 0.1cfs

Proposed



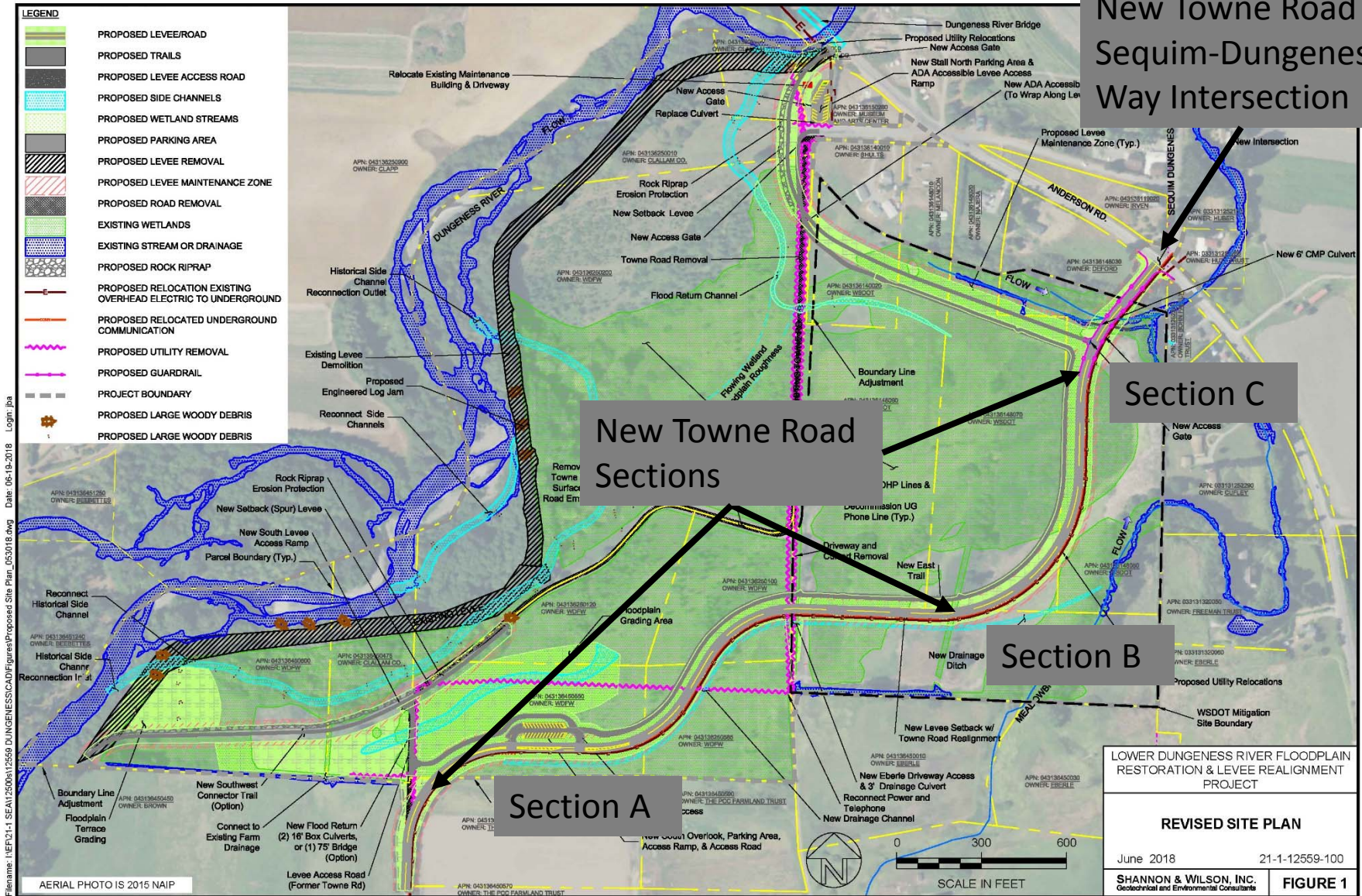
Basin Area = 0.67mi²
 100-YR Flood = 32.6cfs
 Seepage (Q_{100}) = 11.8cfs

Meadowbrook Creek Drainage (Groundwater Recharge / Seepage)

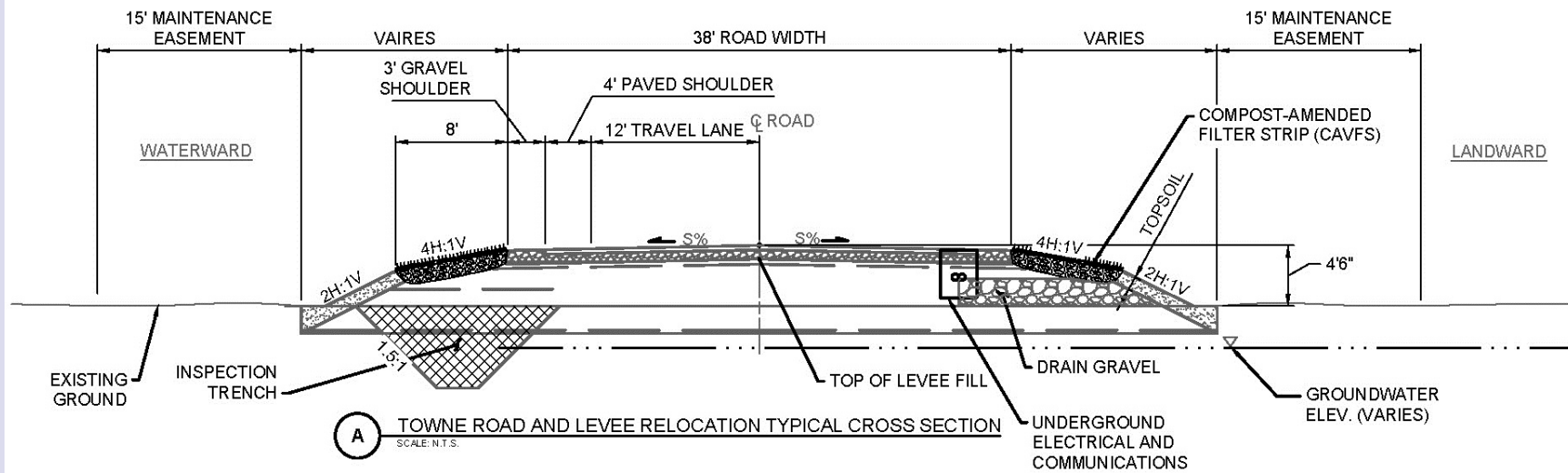


Current - Site 65% Design Plan New Towne Road & Intersection

New Towne Road / Sequim-Dungeness Way Intersection

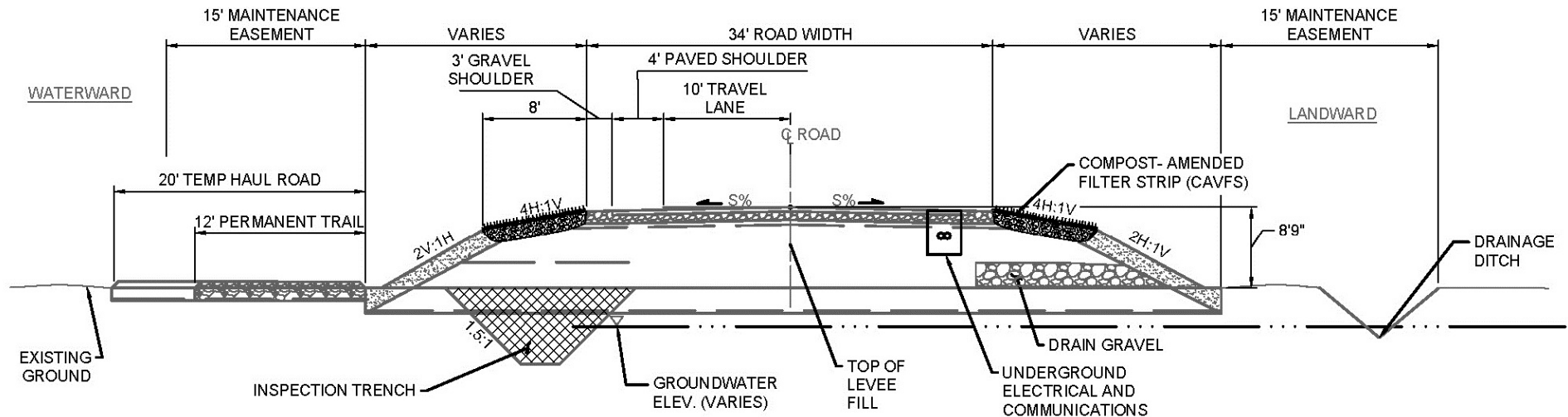


New Towne Road Section - A



- 38ft road width
- 4ft to 6ft height from ground
- 12ft Travel Lane (curve)
- 4ft paved shoulder w/ 3ft gravel shoulder
- 4H:1V sideslope transition to 2H:1V sideslope

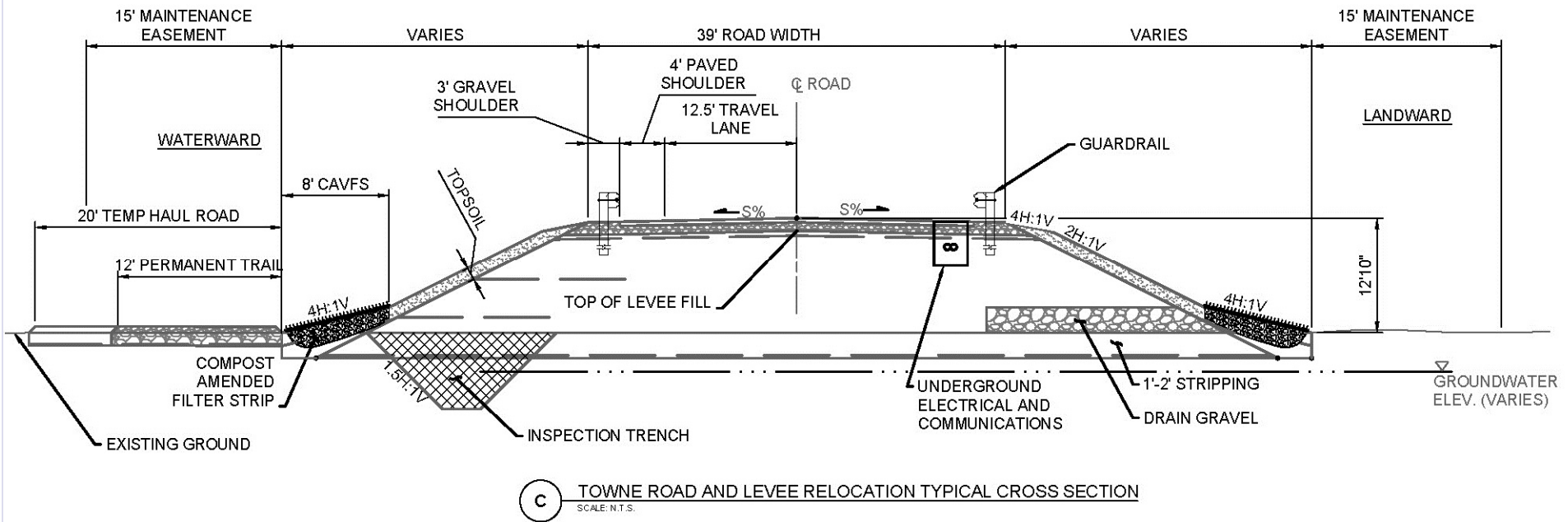
New Towne Road Section - B



B TOWNE ROAD AND LEVEE RELOCATION TYPICAL CROSS SECTION
SCALE: N.T.S.

- 34ft road width
- 8ft to 10ft height from ground
- 10ft Travel Lane (straight)
- 4ft paved shoulder w/ 3ft gravel shoulder
- 4H:1V sideslope transition to 2H:1V sideslope

New Towne Road Section - C



- 39ft road width, 33ft travel lane between guardrails
- 12ft to 15ft height from ground
- 12.5ft Travel Lane (straight)
- 4ft paved shoulder, 3ft gravel shoulder w/ guardrail
- 2H:1V sideslope

New Towne Road / Sequim Dungeness Way Intersection

- Three intersection options considered
- 2-way stop
- 2-way stop with left turn pockets
- Roundabout

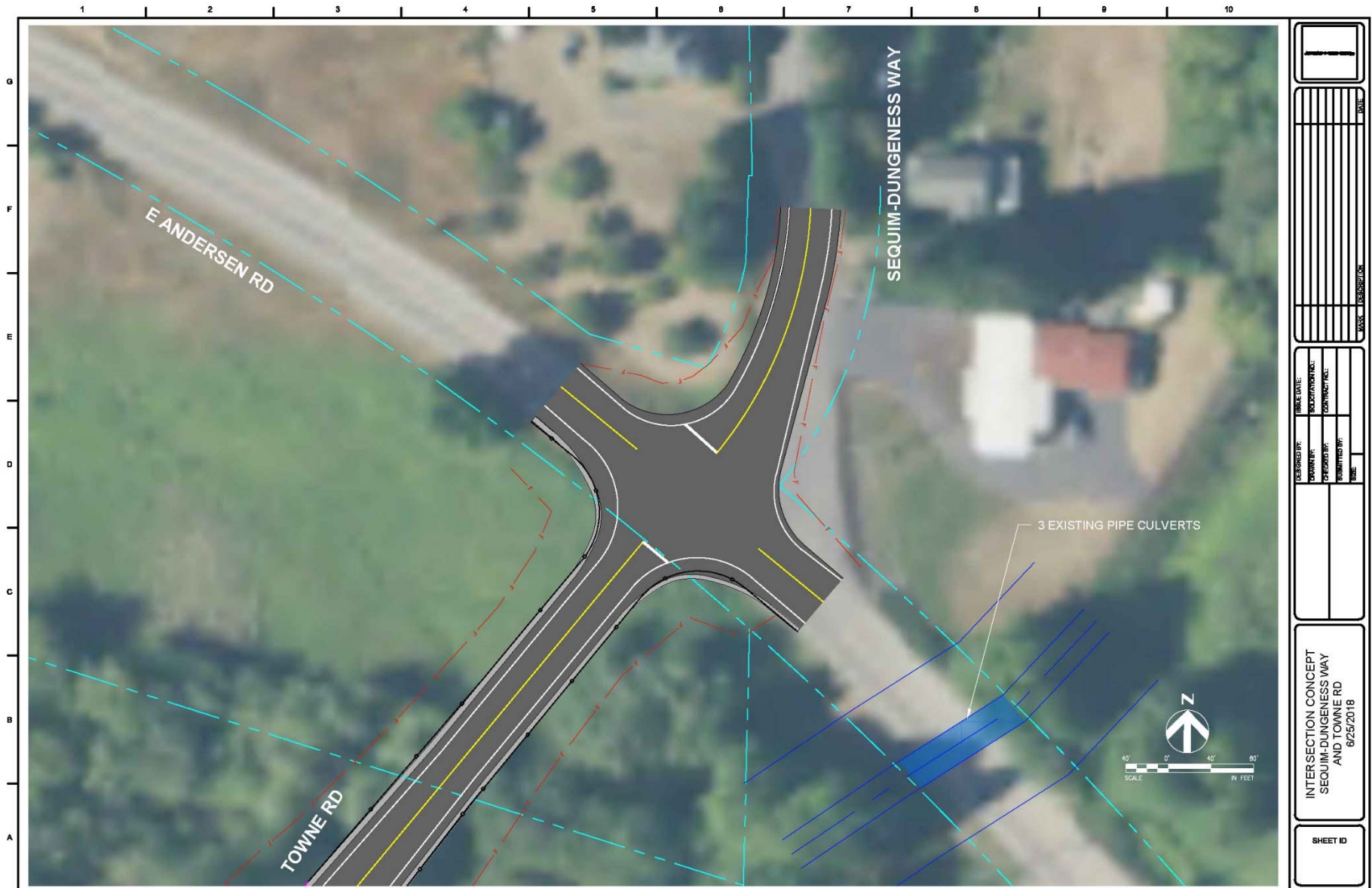
Existing Location



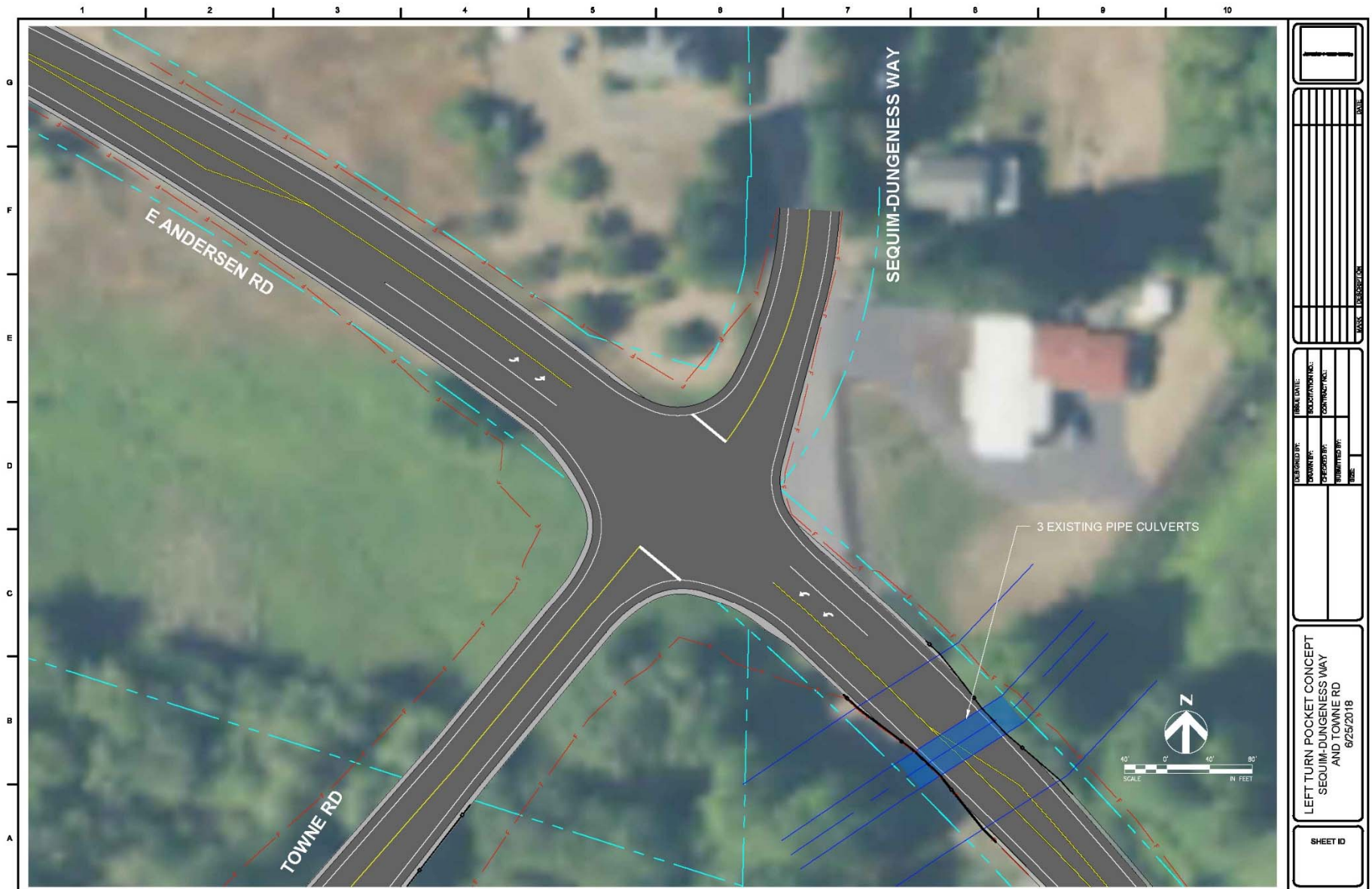
Proposed Location



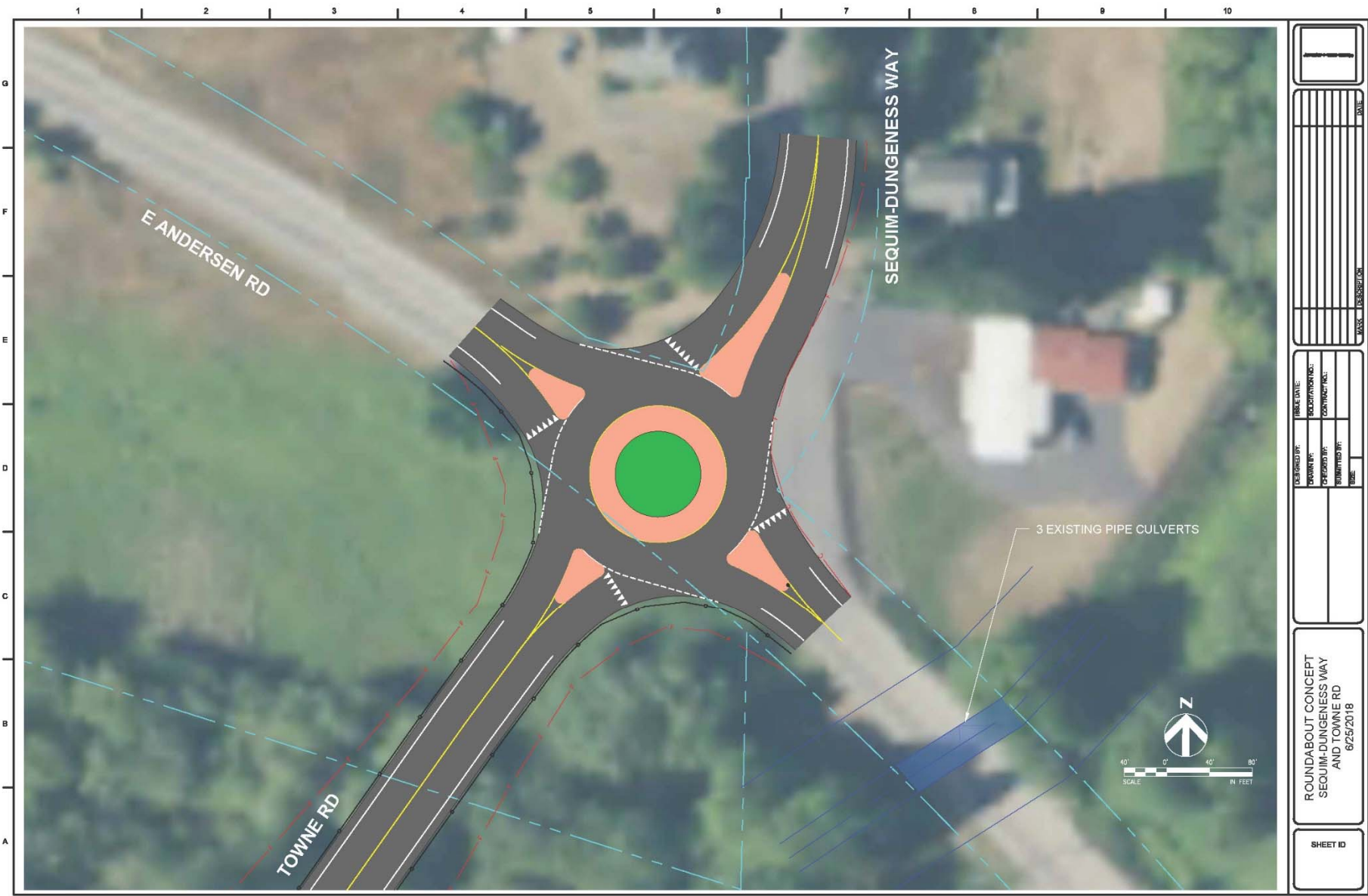
New Towne Road / Sequim Dungeness Way Intersection – 2-way Stop



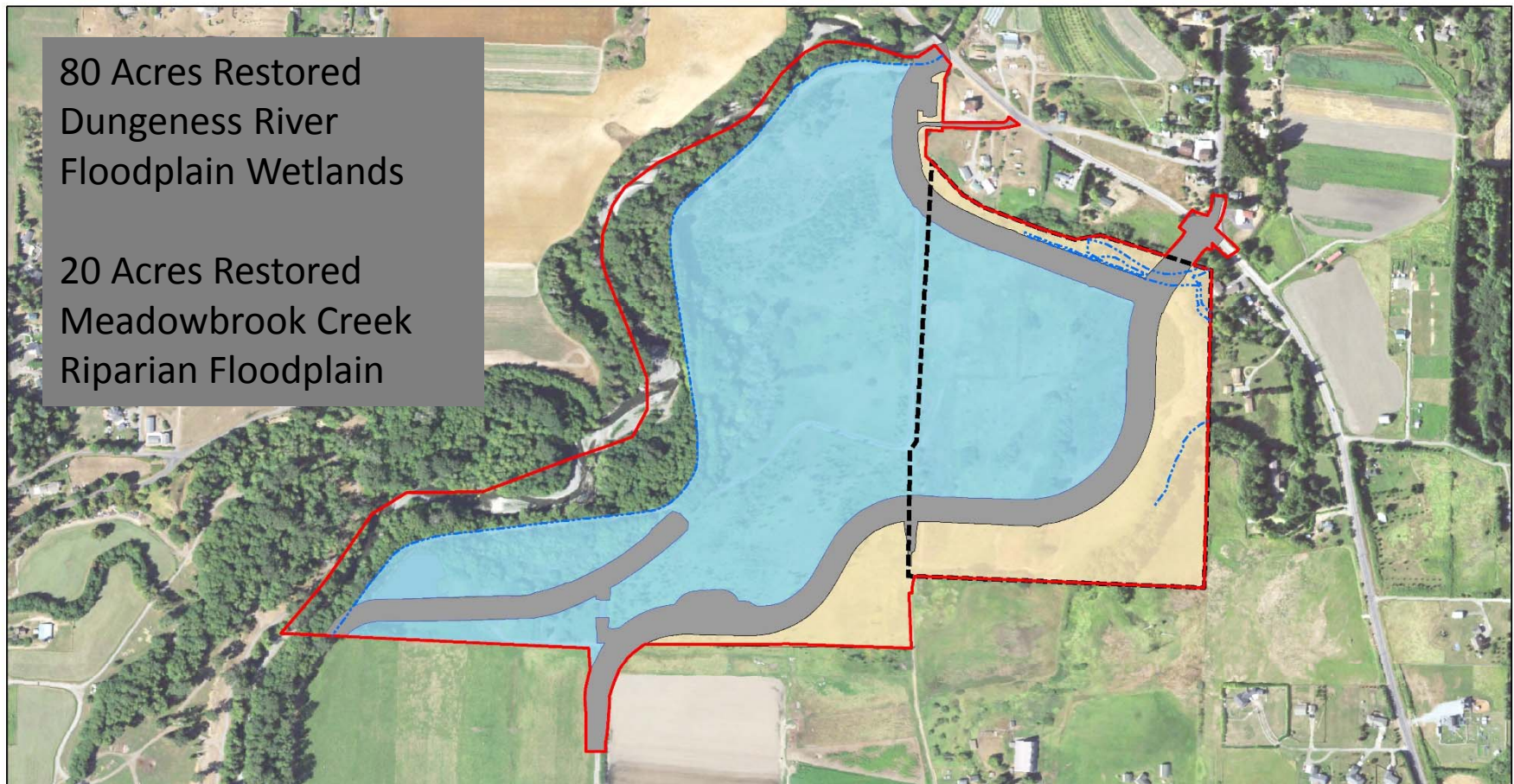
New Towne Road / Sequim Dungeness Way Intersection – 2-way Stop w/ Left Turn Pockets



New Towne Road / Sequim Dungeness Way Intersection – Roundabout



Future Floodplain Wetland Habitat Types



80 Acres Restored
Dungeness River
Floodplain Wetlands

20 Acres Restored
Meadowbrook Creek
Riparian Floodplain

Legend

- WSDOT Mitigation Boundary
- Project Boundary
- Proposed Permanent Fill
- Floodplain Restoration Area - 80 Acres
- Landward of Floodplain Restoration Area - 22 Acres



0 125 250 500 750 1,000
Feet

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

FLOODPLAIN RESTORATION AREA

June 2018

21-1-12559-130

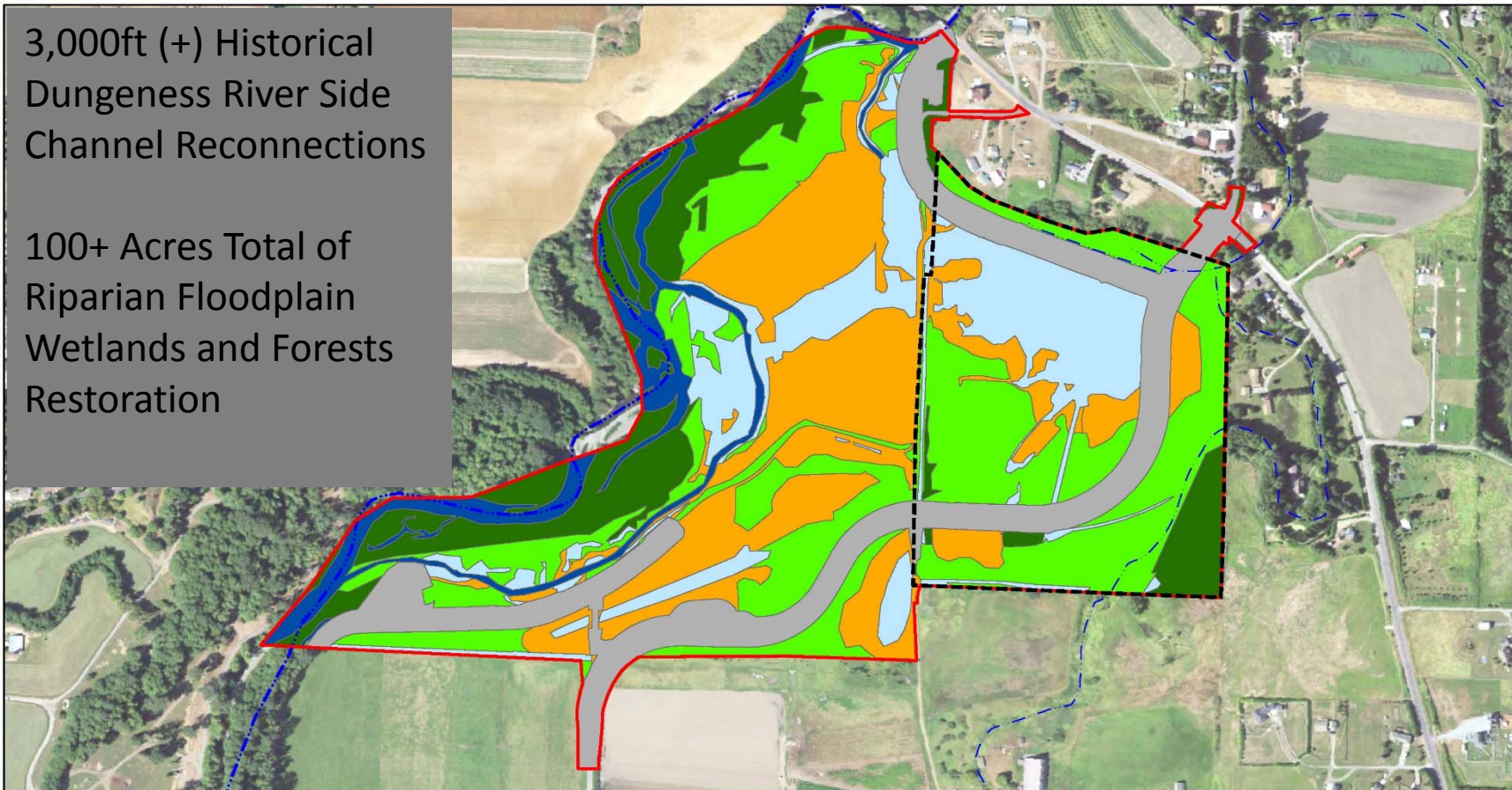
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FIG. X

Future Floodplain Wetland Habitat Types

3,000ft (+) Historical
Dungeness River Side
Channel Reconnections

100+ Acres Total of
Riparian Floodplain
Wetlands and Forests
Restoration



Legend

Future Habitat Area

- Upland Forest
- Wetland Forest
- Wetland Shrub
- Wetland Emergent
- Stream Channel Complex

Wetland Hydroperiod

- Upland
- Occasionally Flooded
- Seasonally Flooded
- Seasonally Flooded
- Stream

- Project Boundary
- WSDOT Mitigation Site Boundary
- Dungeness River Centerline
- Meadowbrook Creek Centerline
- Proposed Roads & Embankments



0 125 250 500 750 1,000
Feet

Lower Dungeness River Floodplain
Restoration and Levee Realignment
Clallam County, Washington

WETLAND HYDROPERIOD AND FUTURE HABITAT AREAS

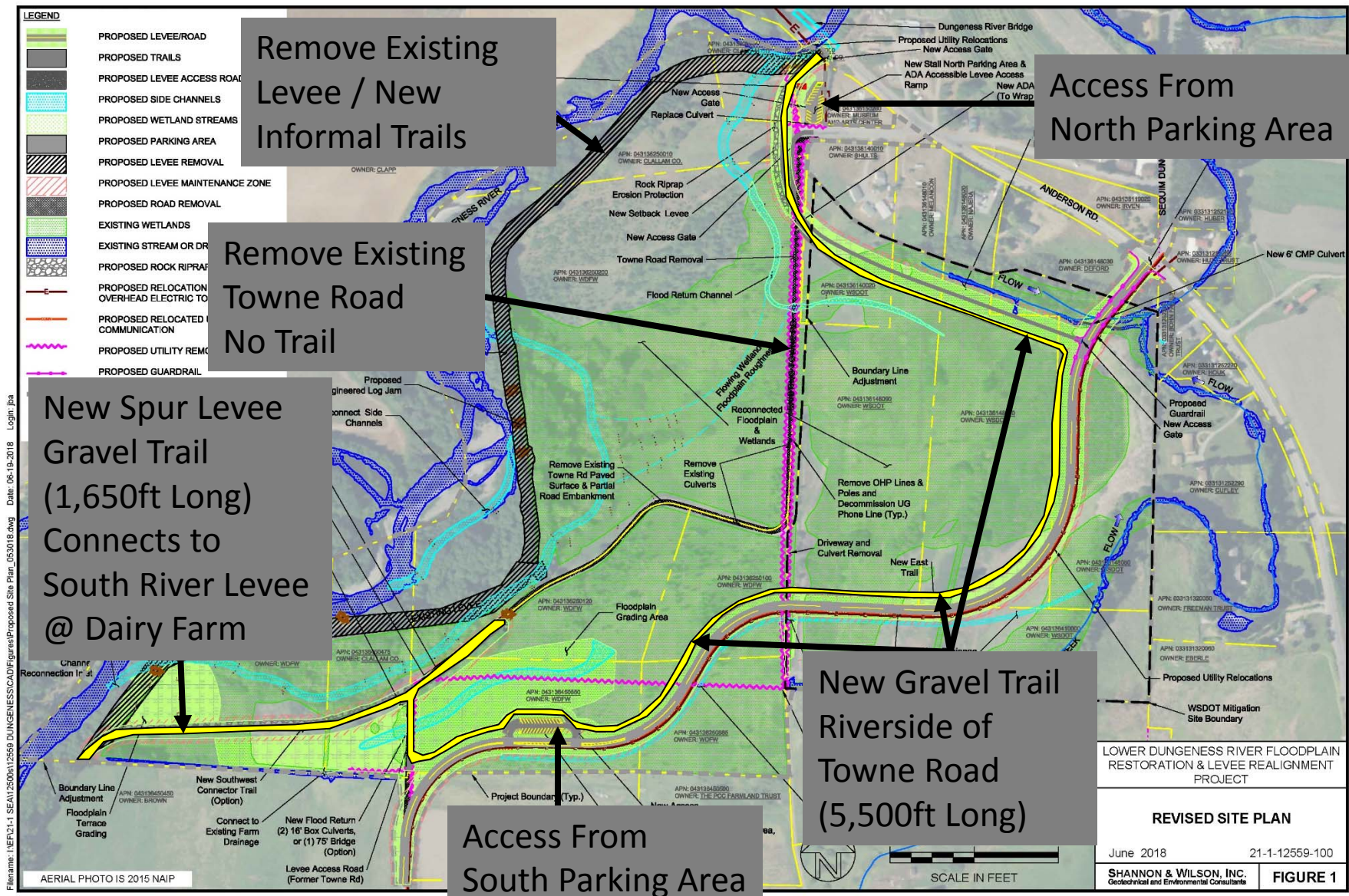
April 2018

21-1-12559-130

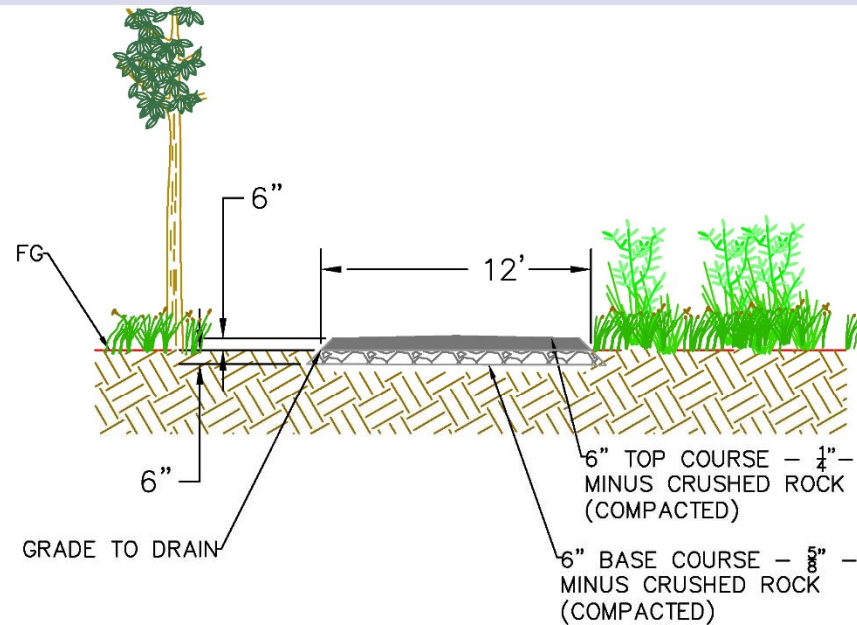
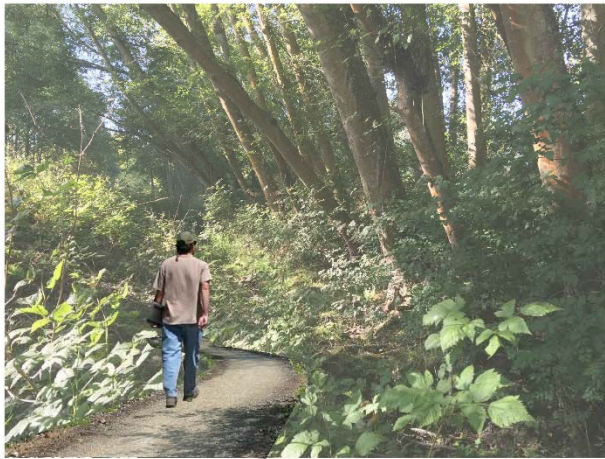
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FIG. 6C

Future Trails & Parking Areas



Future Trails



CRUSHED ROCK SURFACING

N.T.S

- 12ft Wide Trail
- Crushed Rock (Gravel) Surface
- Follows Towne Road

- Access from North and South Parking Areas
- Connects to Existing South Levee Near Dairy

Project Permit Information Sources

- Clallam County Permit No. SHR 2018-00004
- http://websrv2.clallam.net/tm_bin/tmw_cmd.pl?tmw_cmd=StatusViewCase&shl_caseno=SHR2018-00004&projectcasetag=Y

Questions & Answers – Thank You!

