

North Shore Levee

Cities of Aberdeen and Hoquiam



Funding:

- Chehalis River Basin Flood Authority

Design Team:

- KPF Consulting Engineers
- Watershed Science & Engineering
- GeoEngineers
- Maul, Foster, & Alongi



Existing Conditions – Flood Risk

(December 10, 2015 *high tide*)



F Street in Aberdeen



Riverside Avenue in Hoquiam

Existing Conditions – Flood Risk

(January 4-5, 2015 *rainfall event*)

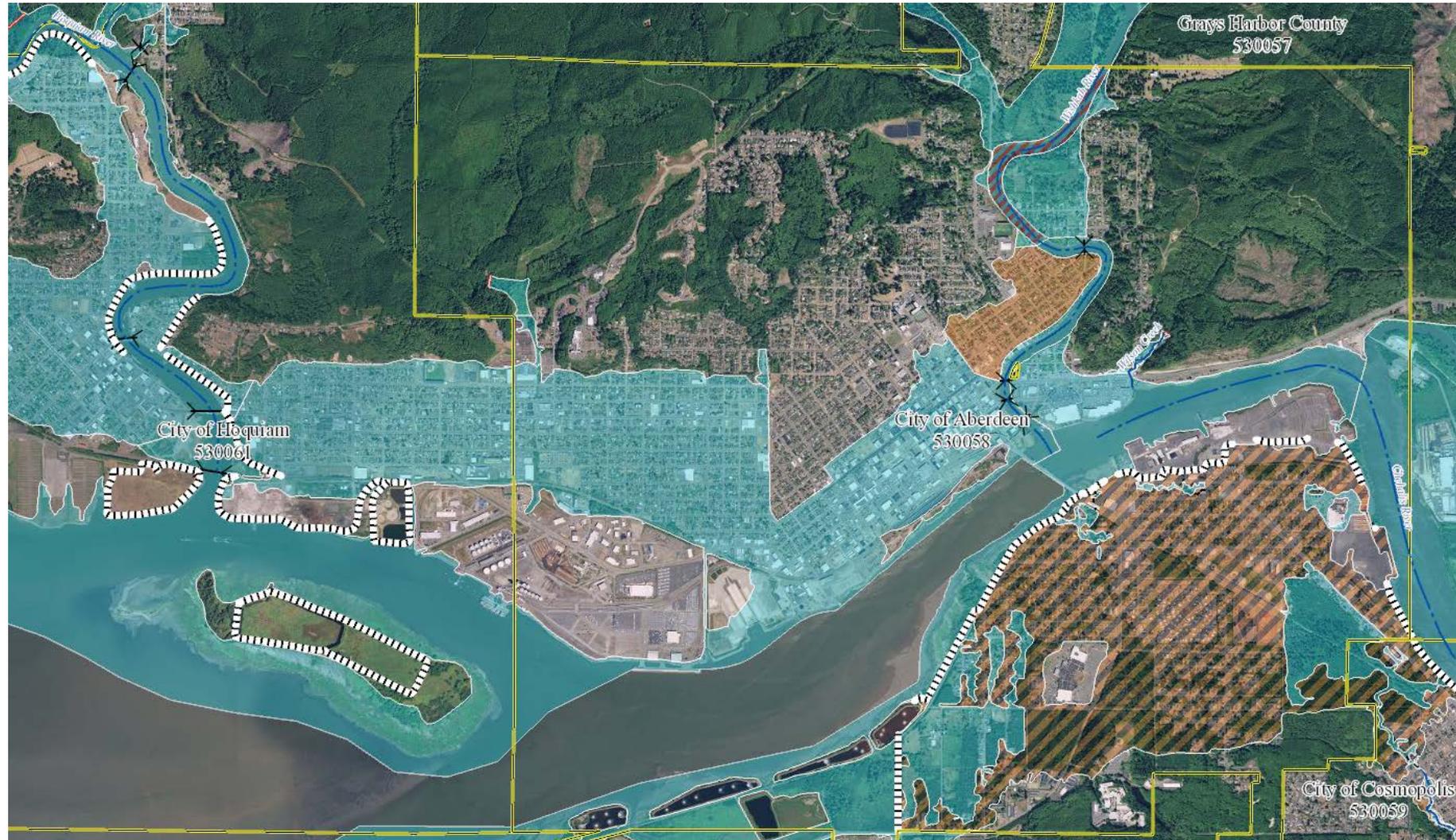


Conger Street in Aberdeen



Oak Street in Aberdeen

Existing Conditions – FEMA Mapping (Blue = Special Flood Hazard Area)



| NFIP Coverage as of 3/14/2018 | | | | | | |
|-------------------------------|-------------|--------|--------|--------|-------|----------------|
| Community | Premium | V Zone | A Zone | X Zone | Total | Coverage |
| ABERDEEN, CITY OF | \$ 809,378 | 0 | 472 | 71 | 543 | \$ 93,266,200 |
| BUCODA, TOWN OF | \$ 40,210 | 0 | 40 | 7 | 47 | \$ 7,590,100 |
| CENTRALIA, CITY OF | \$ 641,138 | 0 | 470 | 257 | 727 | \$ 167,272,200 |
| CHEHALIS, CITY OF | \$ 351,758 | 0 | 206 | 27 | 233 | \$ 66,348,300 |
| COSMOPOLIS, CITY OF | \$ 4,968 | 0 | 4 | 7 | 11 | \$ 1,898,800 |
| ELMA, CITY OF | \$ 3,414 | 0 | 0 | 8 | 8 | \$ 1,412,800 |
| GRAYS HARBOR COUNTY* | \$ 409,975 | 13 | 151 | 258 | 422 | \$ 95,629,100 |
| HOQUIAM, CITY OF | \$ 971,404 | 0 | 649 | 14 | 663 | \$ 85,003,200 |
| LEWIS COUNTY * | \$ 748,587 | 0 | 529 | 468 | 997 | \$ 236,337,800 |
| MONTESANO, CITY OF | \$ 10,538 | 0 | 4 | 2 | 6 | \$ 2,424,400 |
| NAPAVINE, TOWN OF | \$ 351 | 0 | 0 | 1 | 1 | \$ 280,000 |
| OAKVILLE, CITY OF | \$ 3,762 | 0 | 0 | 6 | 6 | \$ 1,648,100 |
| PE ELL, TOWN OF | \$ 3,497 | 0 | 2 | 2 | 4 | \$ 1,167,100 |
| THURSTON COUNTY * | \$ 403,966 | 6 | 255 | 435 | 696 | \$ 175,345,300 |
| Total | \$4,402,946 | 19 | 2,782 | 1,563 | 4,364 | \$935,623,400 |

Aberdeen and Hoquiam currently pay \$1.78 million in annual NFIP premiums (40.4% of premiums paid in Chehalis Basin).

| NFIP Claims 1978 - 2017 | | |
|-------------------------|--------|--------------|
| Community | Claims | Paid |
| ABERDEEN, CITY OF | 333 | \$2,824,657 |
| BUCODA, TOWN OF | 43 | \$257,008 |
| CENTRALIA, CITY OF | 735 | \$26,012,107 |
| CHEHALIS, CITY OF | 514 | \$28,128,923 |
| COSMOPOLIS, CITY OF | 4 | \$5,928 |
| ELMA, CITY OF | 18 | \$487,641 |
| GRAYS HARBOR COUNTY* | 225 | \$4,675,351 |
| HOQUIAM, CITY OF | 237 | \$3,658,789 |
| LEWIS COUNTY * | 749 | \$22,972,093 |
| MONTESANO, CITY OF | 15 | \$195,095 |
| NAPAVINE, TOWN OF | 0 | 0 |
| OAKVILLE, CITY OF | 8 | \$231,456 |
| PE ELL, TOWN OF | 1 | \$37,771 |
| THURSTON COUNTY * | 237 | \$3,580,011 |
| Total | 3,119 | \$93,066,830 |

Paid NFIP claims in Aberdeen and Hoquiam total \$6.5 million since 1978 (7% of claims paid in the Chehalis Basin since 1978).

Note: Trend shows ongoing loss of NFIP coverage and therefore less publicly available data.

| Loss of Coverage 2014 – 2018 | | | |
|------------------------------|-----------|-----------|------|
| Community | 5/31/2014 | 3/14/2018 | Loss |
| Aberdeen | 905 | 543 | 40% |
| Bucoda | 66 | 47 | 29% |
| Centralia | 910 | 727 | 20% |
| Chehalis | 252 | 233 | 8% |
| Cosmopolis | 15 | 11 | 27% |
| Elma | N/A | 8 | N/A |
| Grays Harbor County * | 545 | 422 | 23% |
| Hoquiam | 1,146 | 663 | 42% |
| Lewis County * | 1,233 | 997 | 19% |
| Montesano | 3 | 6 | N/A |
| Napavine | 0 | 1 | N/A |
| Oakville | 10 | 6 | 40% |
| Pe El | 6 | 4 | 33% |
| Thurston County * | 802 | 696 | 13% |
| Total | 5,893 | 4,364 | 26% |

Possible explanations for trend:

- Switch to private policies that are not backed by NFIP
- Low prices are enabling cash transactions without need for mortgage
- Sellers are acting as private lenders
- Low real estate activity (homes are paid off and few new mortgages)

Living in a Special Flood Hazard Area

- Properties are at risk for flooding. (\$\$\$)
- NFIP regulations add cost and complexity to development and redevelopment.
 - Redevelopment: If cumulative value of improvements made to a structure over past five years exceeds 50% of market value, structure must be brought into compliance with flood code. (\$\$\$)
- Flood insurance is mandatory with mortgages.
 - Rates are high and are increasing annually. (\$\$\$)



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ECONOMIC LOSS, STIFLED INVESTMENT, AND LOW PROPERTY VALUES

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ECONOMIC LOSS, STIFLED INVESTMENT, AND LOW PROPERTY VALUES

BUILD LEVEE AND DRAINAGE IMPROVEMENTS, GET OUT OF SFHA

North Shore Levee → Remove 3,100 properties from SFHA.



Design & Construction Process

1. Surveying, Modeling, & Analysis
 - Aerial photography and photogrammetry
 - On-ground topographic surveying
 - Bathymetric surveying
 - Hydrologic and hydraulic modeling
 - Geotechnical investigation
2. First Phase of Public Outreach, Government & Agency Coordination
3. Develop Preliminary Design & Science Package, Submit to FEMA
4. Receive Conditional Letter of Map Revision (CLOMR) – ***Important!***
5. Second Phase of Public Outreach, Government & Agency Coordination
6. Final Design, Permitting, & ROW Acquisition
7. Construction
8. Levee Certification & Letter of Map Revision (LOMR) → Protected Areas Change from SFHA to Zone X

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← **We are here.**

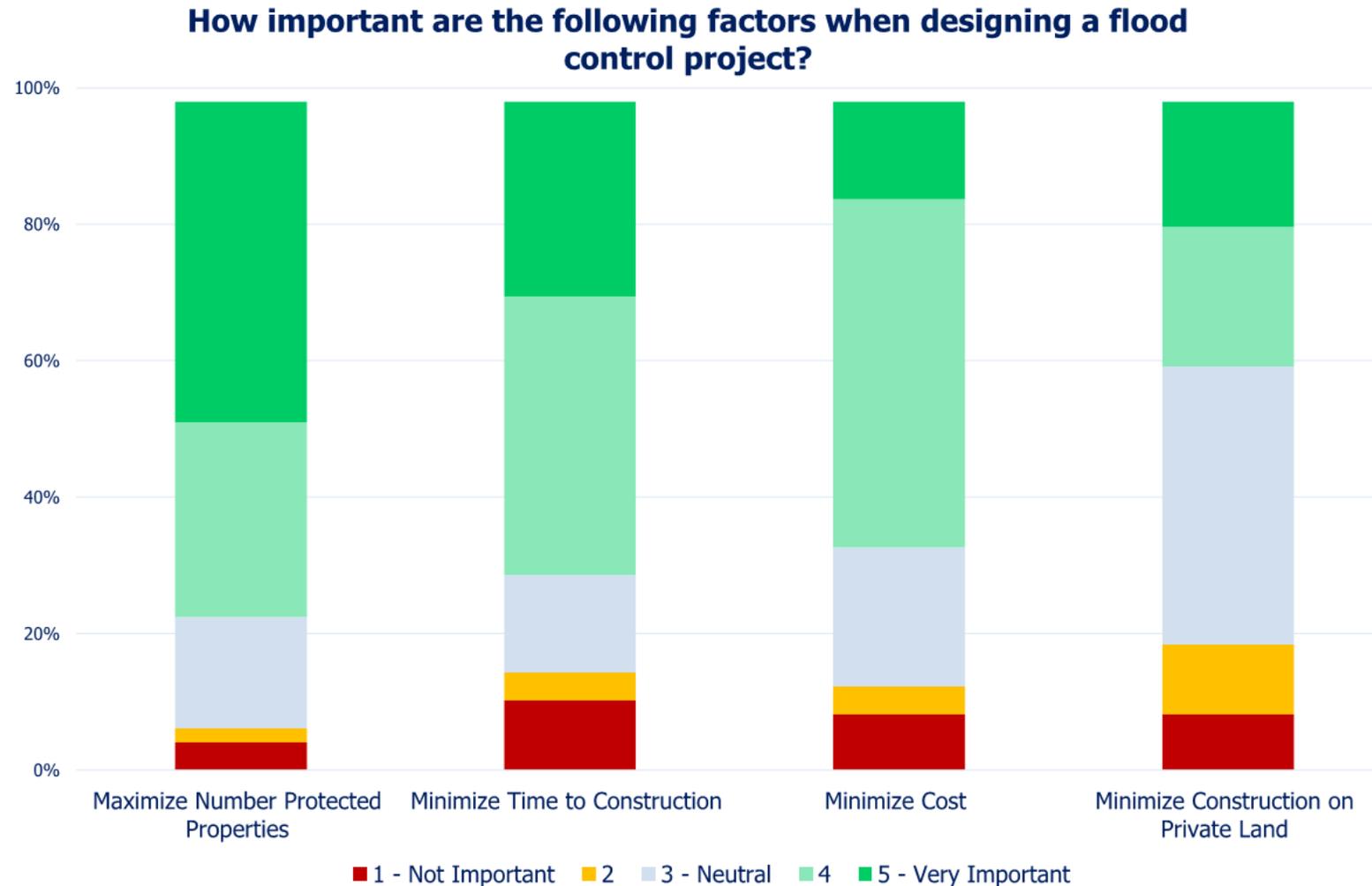
Work Completed

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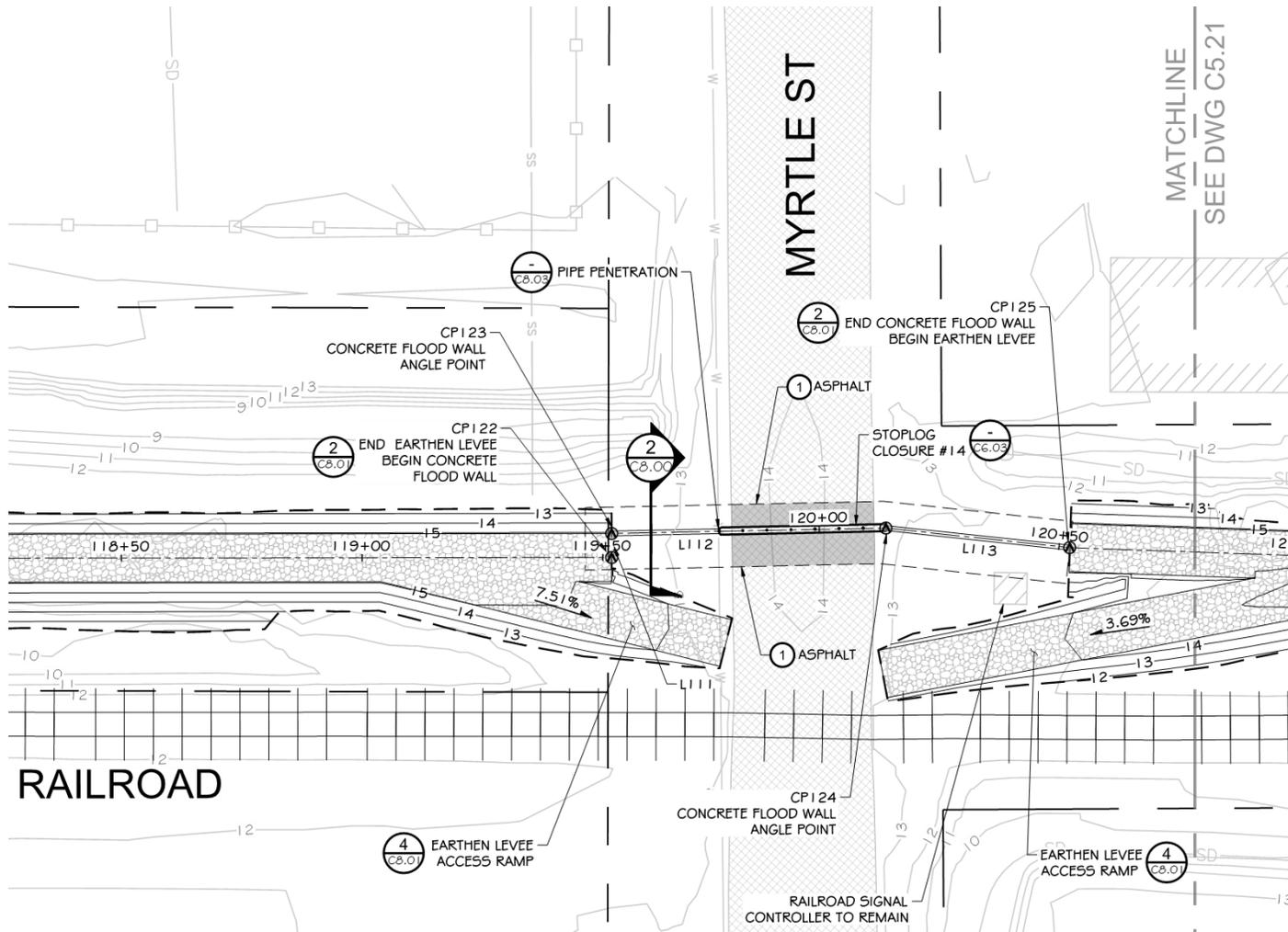
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Work Completed

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Work Completed

4. Receive Conditional Letter of Map Revision (CLOMR) ✓

 **Federal Emergency Management Agency**
Washington, D.C. 20472

October 5, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Erik Larson
Mayor, City of Aberdeen
Aberdeen City Hall
200 East Market Street
Aberdeen, WA 98520

IN REPLY REFER TO:
Case No.: 17-10-1610R
Community Name: City of Aberdeen, WA
Community No.: 530058

Dear Mayor Larson:

We are providing our comments with the enclosed Conditional Letter of Map Revision (CLOMR) on a proposed project within your community that, if constructed as proposed, could revise the effective Flood Insurance Study report and Flood Insurance Rate Map for your community.

If you have any questions regarding the floodplain management regulations for your community, the National Flood Insurance Program (NFIP) in general, or technical questions regarding this CLOMR, please contact the Director, Mitigation Division of the Federal Emergency Management Agency (FEMA) Regional Office in Bothell, WA, at (425) 487-4682, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,


Patrick "Rick" F. Sacbitt, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

List of Enclosures:
Conditional Letter of Map Revision Comment Document

cc: The Honorable Jasmine Dickhoff
Mayor, City of Hoquiam

Mr. David Radabaugh, CFM
Washington Department of Ecology

Mr. Kris Koski, P.E.
City Engineer
City of Aberdeen

Mr. Mark Steepy, P.E.
KPF Consulting Engineers

Mr. Brian Shay
City Administrator
City of Hoquiam

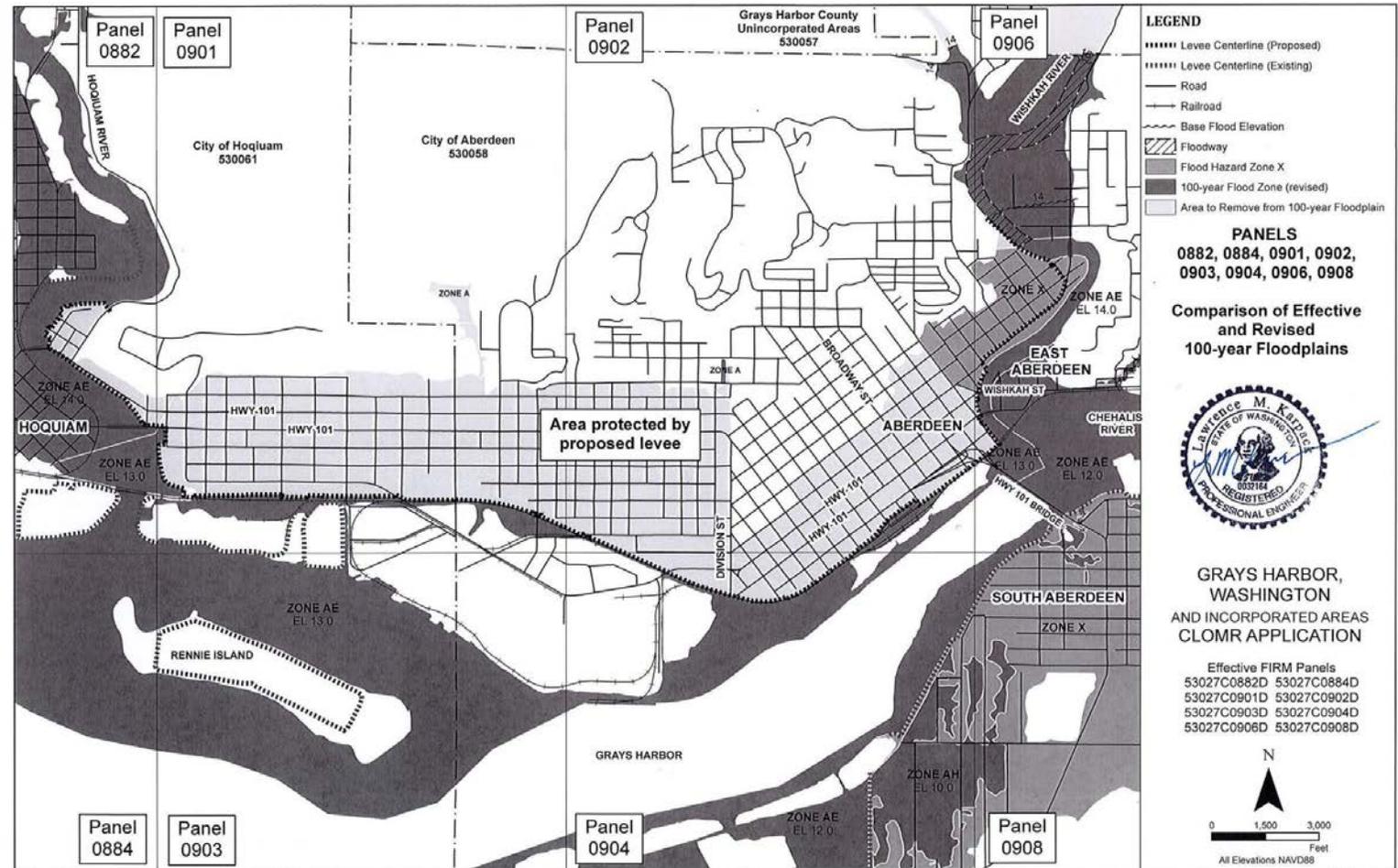


Figure 2

Upcoming Tasks

5. Second Phase of Public Outreach, Government & Agency Coordination
6. Final Design, Permitting, & ROW Acquisition
7. Construction
8. Levee Certification & Letter of Map Revision (LOMR) → Protected Areas Change from SFHA to Zone X

Upcoming Tasks

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- * *In progress, funded through Chehalis River Basin Flood Authority and State Supplemental Capital Budget (\$4.6 million).*

Upcoming Tasks

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7. Construction

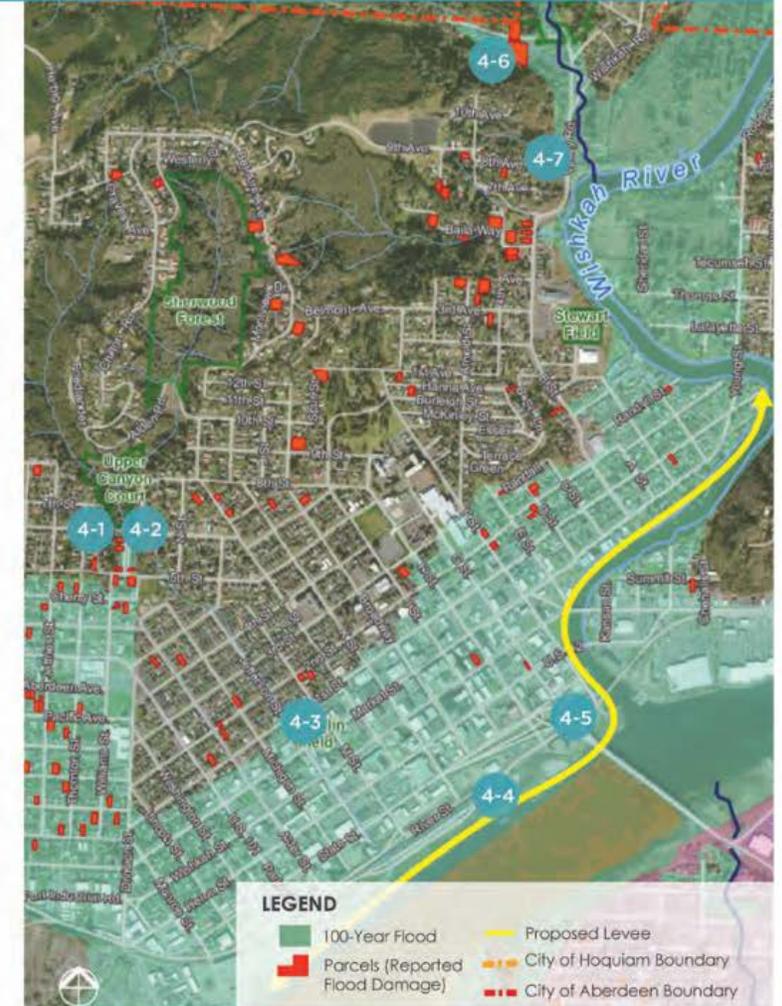
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** *\$75 million needed -- 2019-2021 Biennium State Capital Budget request*

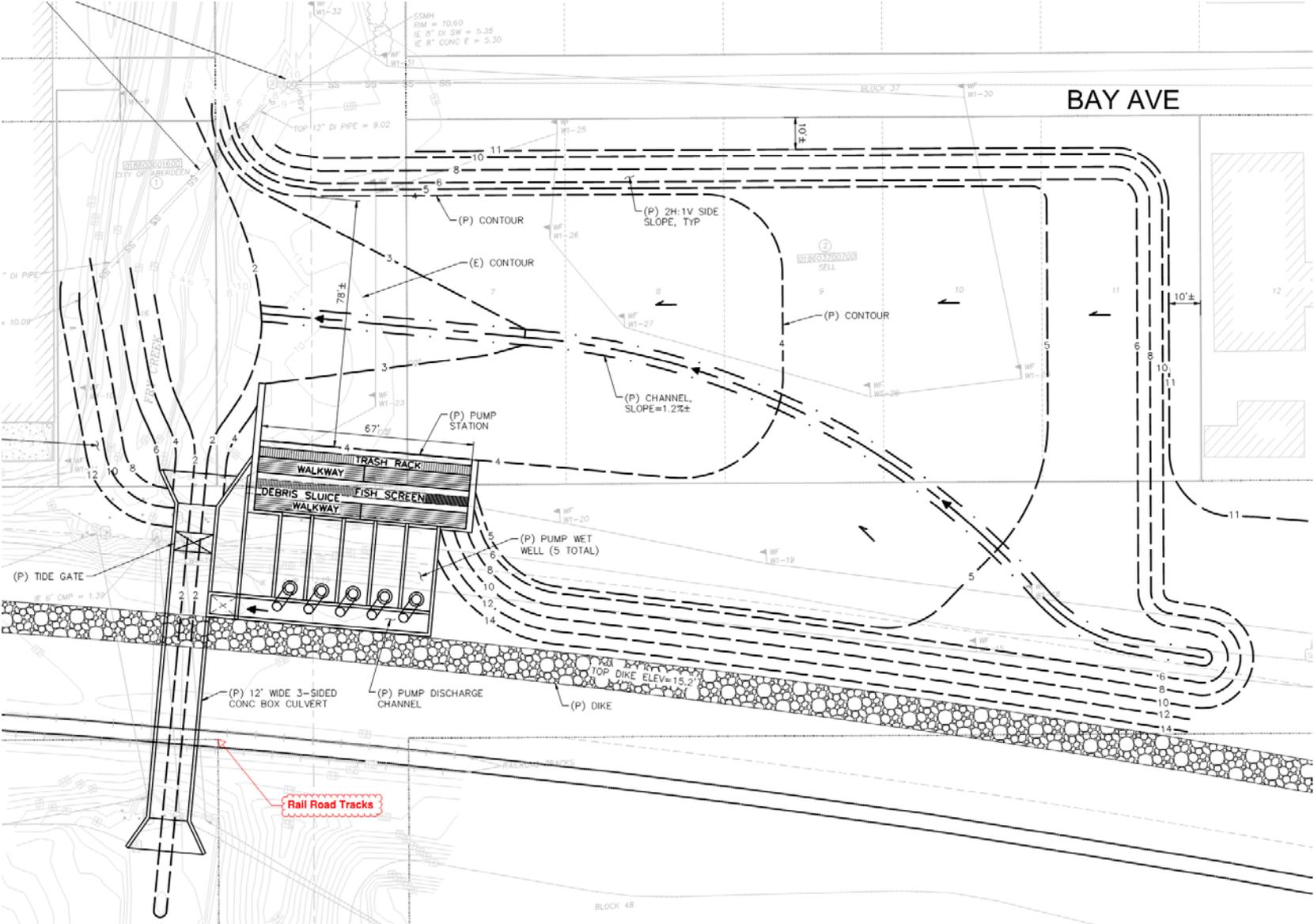
Focus Area 4: West Aberdeen

| Project | Cost |
|--|------|
| 4-1 Targeted Land Protection | LOW |
| 4-2 Finch Playfield Flood Control Park | MED |
| 4-3 Franklin Field Upgrade | MED |
| 4-4 Upgrade Outfall Pumps | HIGH |
| 4-5 North Shore Levee | HIGH |
| 4-6 Stewart Creek Culvert Replacement | LOW |
| 4-7 Stewart Creek Confluence Floodplain Reconnection | MED |



Part of the
TimberWorks
Master Plan

Fry Creek Project Coordination: Future Pump Station



Thank You

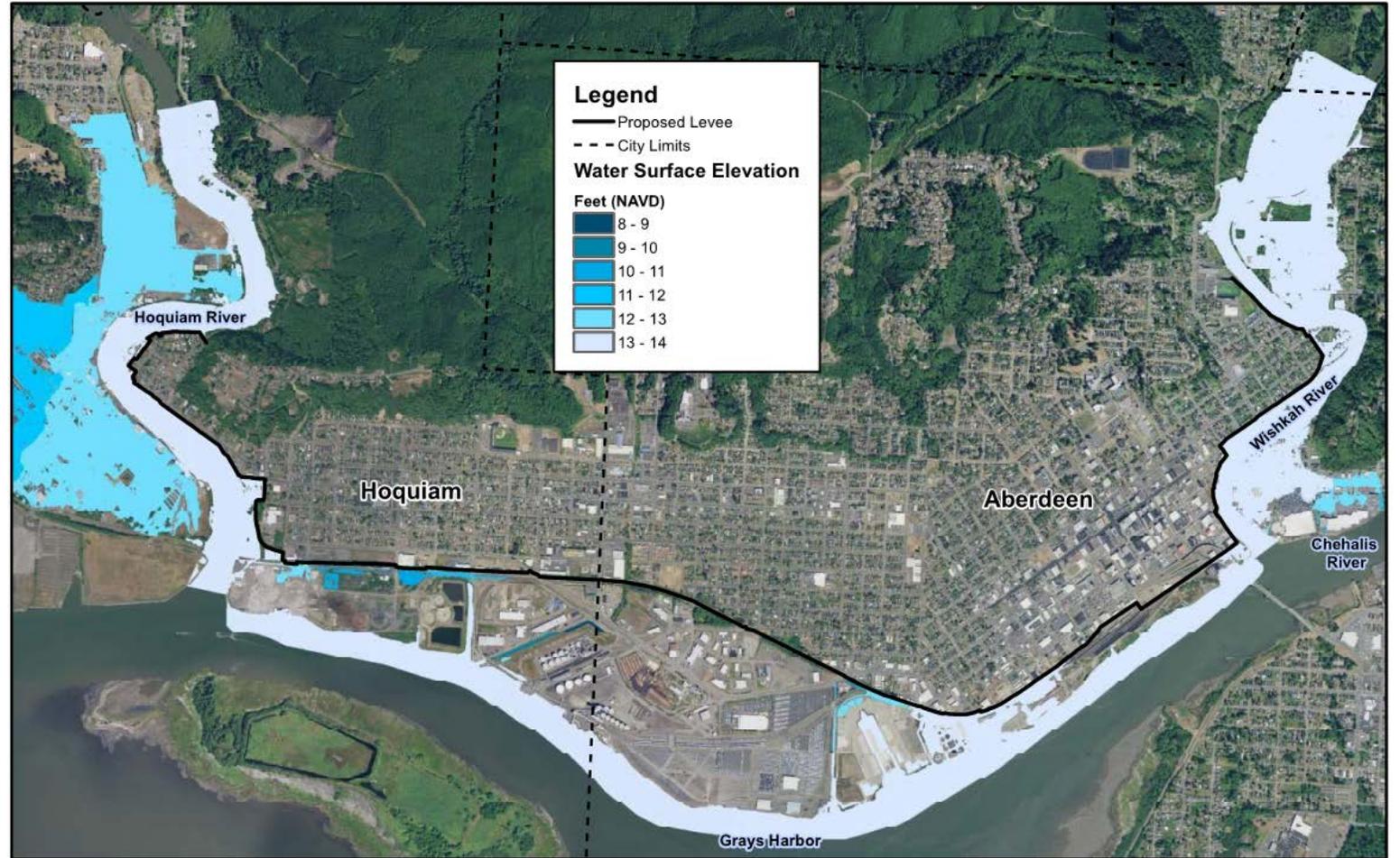
Kris Koski, PE

City Engineer

City of Aberdeen

(360) 537-3218

kkoski@aberdeenwa.gov



www.ezview.wa.gov/aberdeenfloodrelief

