

City of Vancouver Transportation System Safety Analysis

VANCOUVER
CITY HALL

CITY OF
Vancouver
WASHINGTON

July 9, 2018

Vancouver City Council Workshop

Rebecca Kennedy, Long Range Planning Manager

Beth Wemple, HDR, Senior Trans. Safety Engineer

Jennifer Campos, Principal Planner

Presentation Overview

- Project Purpose
- Existing Safety Conditions
- Segment Safety Analysis
- Intersection Safety Analysis
- Next Steps

Project Need

- City has never completed a system wide collision safety analysis
- Nationwide collisions and related fatalities continue to increase, with a recent spike in fatalities being the most in 50 years
- WSDOT identified the City has having the highest pedestrian fatality and serious injury rate in the state
- Analysis will start to set the policy foundation for the update of the Transportation System Plan

Project Objectives and Outcomes

Complete a baseline collision analysis in preparation for the Transportation System Plan update and development of the Complete Streets policy performance measures



- **Existing Safety Trends**
- **High Priority Locations**
- **Countermeasure Toolbox**
- **Ranked Sites for Improvement**
- **Safety Improvement Implementation Plan**

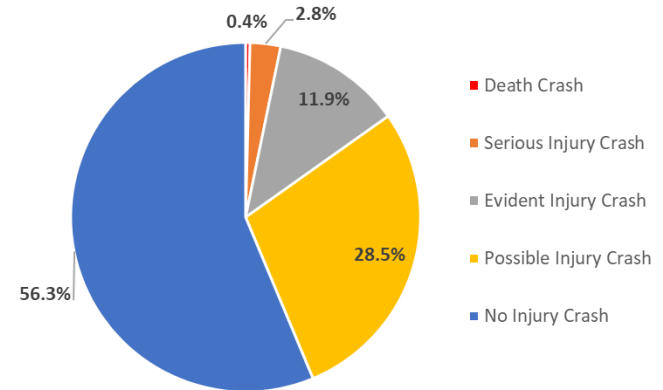
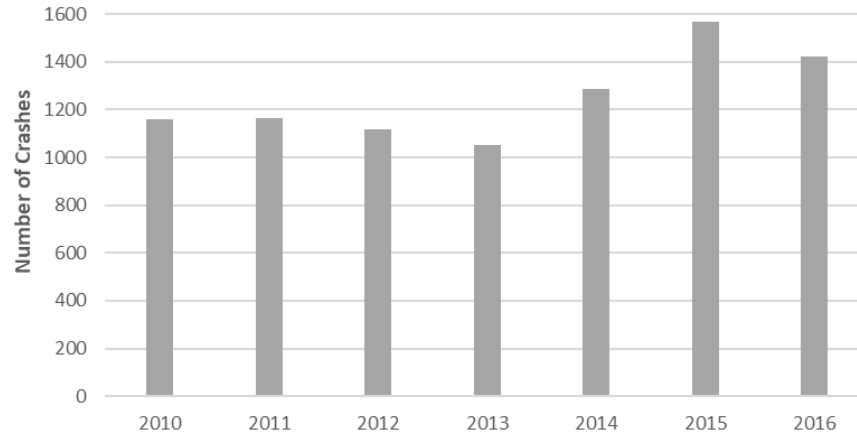
Key Findings

- Speeding, four and five lane roads, and intersections are the most common characteristics associated with collisions
- Young drivers were most frequently involved in collisions
- Distraction/Inattention led to the most collisions
- Distraction, speeding, alcohol and unrestrained occupants led to the most fatalities and serious injuries
- Collisions that involved a pedestrian most frequently resulted in fatalities or serious injuries

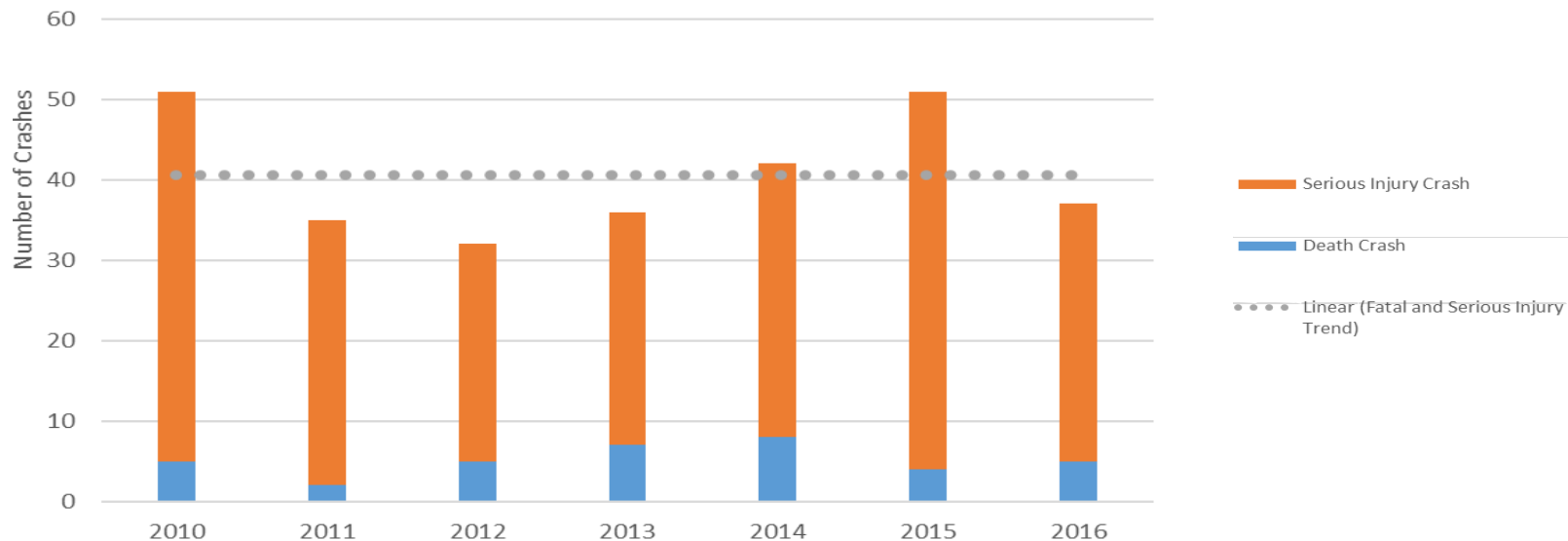
Existing Safety Conditions 2010-2016

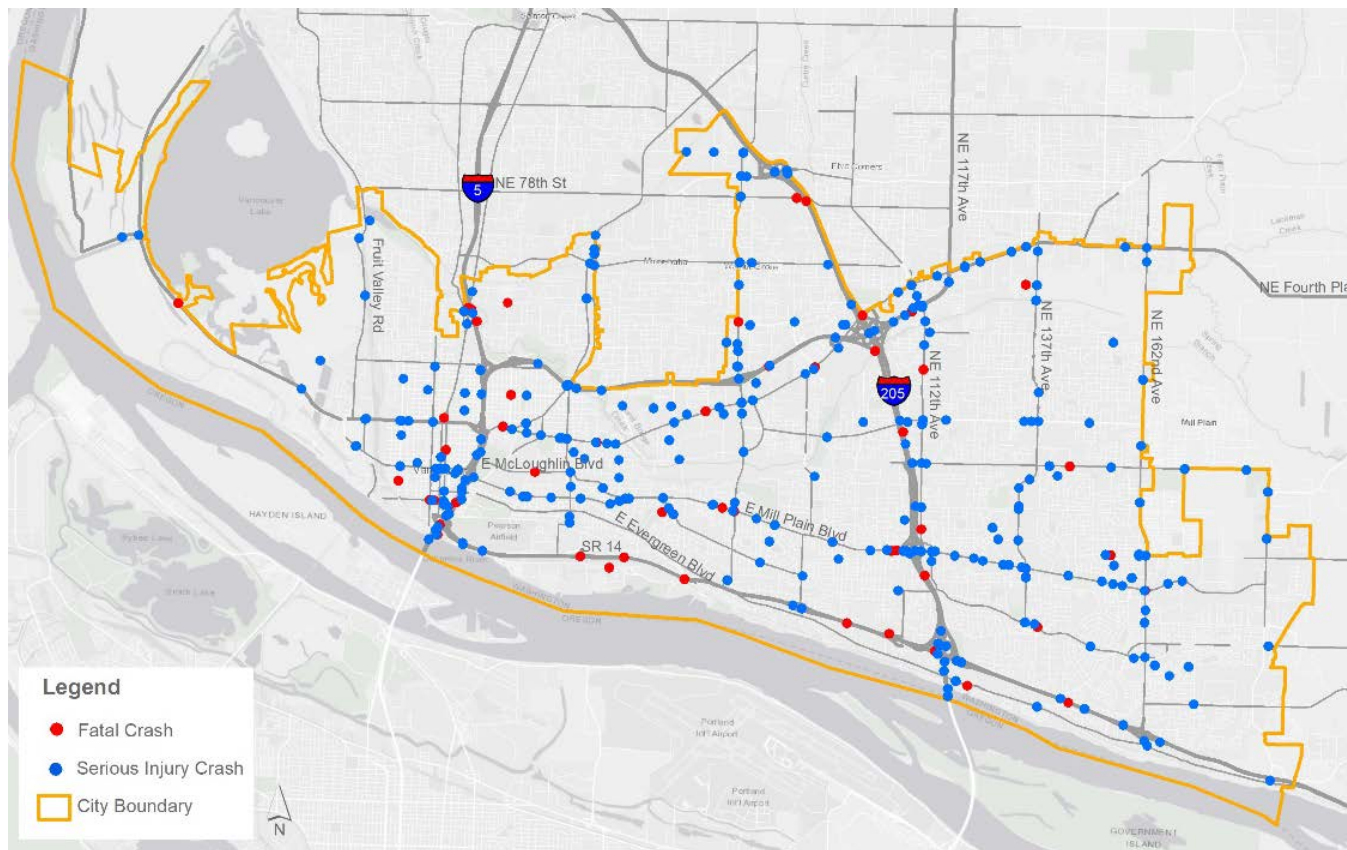
- Analysis based on WSDOT crash data which only includes collisions that a police officer responded to
- Used trend data to compare Vancouver crash factors to the State Strategic Highway Safety Plan to prioritize crash factors
- Priority crash factors were then further analyzed at intersections and segments

Total Number of Crashes



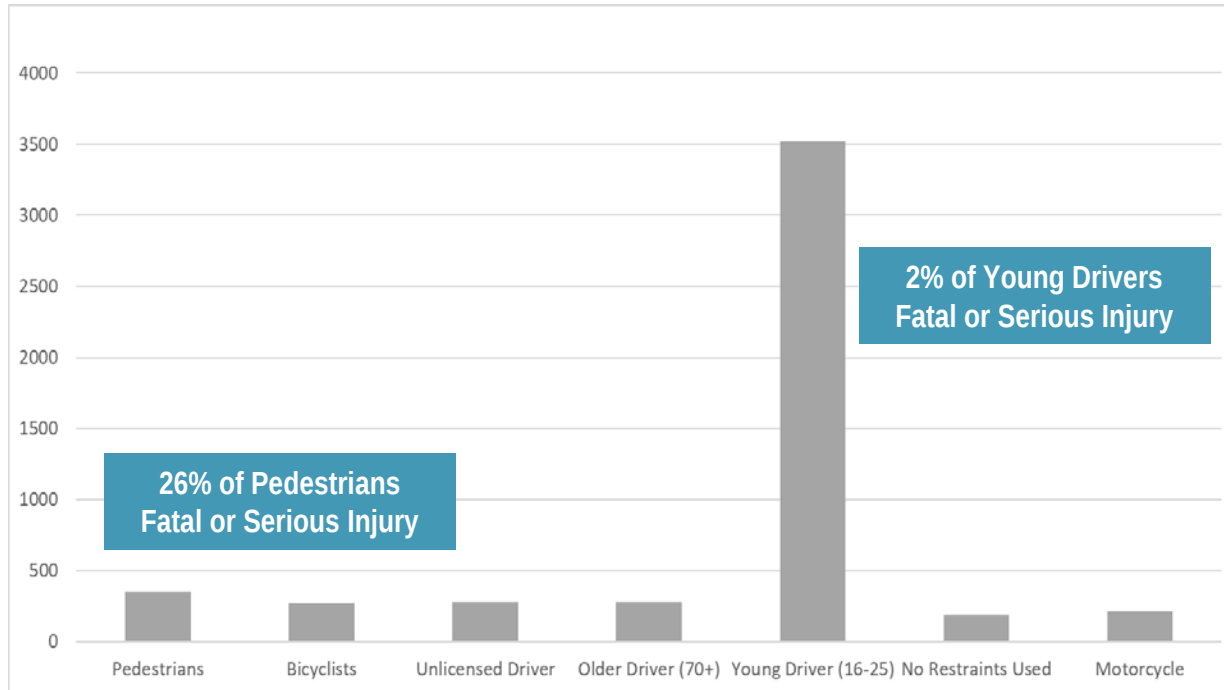
Fatal and Serious Injury Crashes by Year



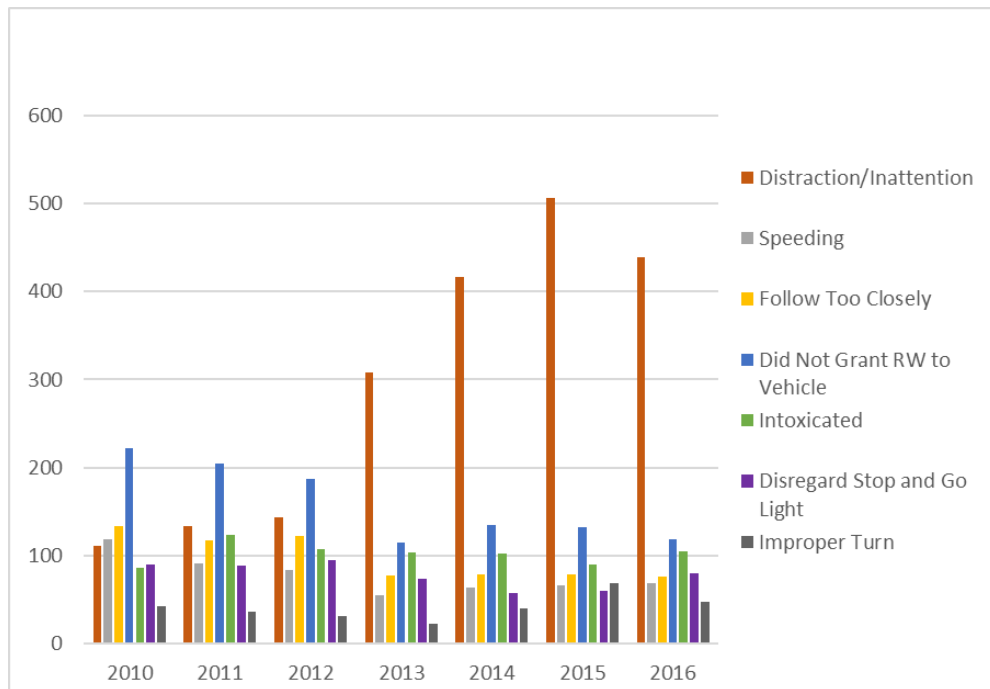


City of Vancouver Transportation System Safety Analysis - 9

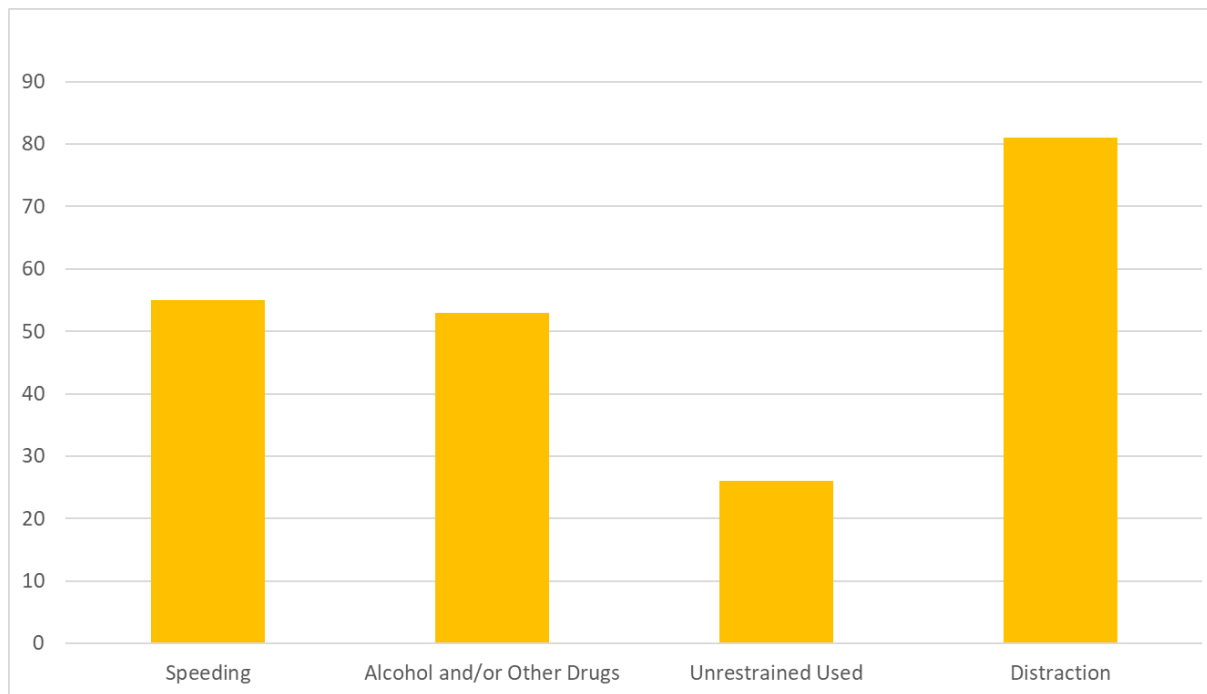
Total Crashes by Road User



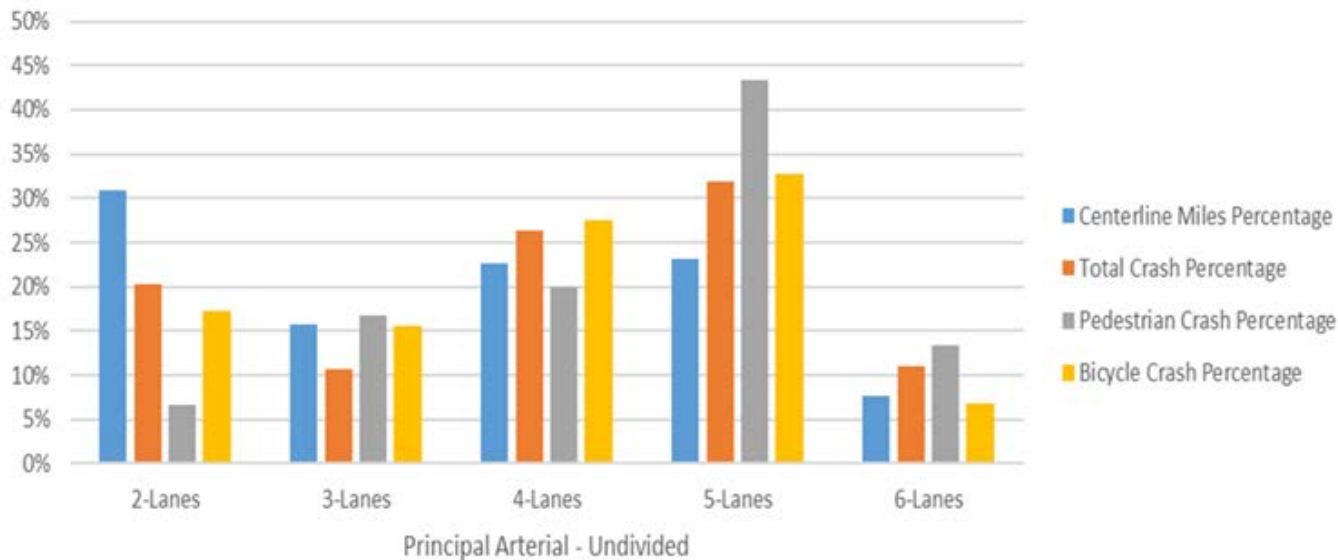
Top Crash Causes by Behavior



Fatal and Serious Injury Crashes by Behavior



Distribution of Crashes by Centerline Mile of Road



Priority Crash Factors

Priority Level One Crash Factors:

Were involved in at least **30%** of the traffic fatalities

Priority Level Two Crash Factors:

Seen in at least **10%** of traffic fatalities or serious injuries in the study

Priority Level Three Crash Factors:

Associated with less than **10%** of fatalities and serious injuries

Behavior	Vancouver Priority	Statewide Priority
Crash Type		
Lane Departure	1	1
Intersection Related	1	1
Road Users		
Pedestrians	1	2
Young Driver (16-25) Involved	1	1
Motorcyclists	2	2
Older Driver 70+ Involved	2	2
Heavy Truck Involved	3	3
Bicyclists	3	3

Crash Analysis for 2012-2016

Systemic

- Evaluate Conditions to Identify Common Risk Factors
- Refined Analysis of Crashes with the Risk Factors
- Consider Physical Locations

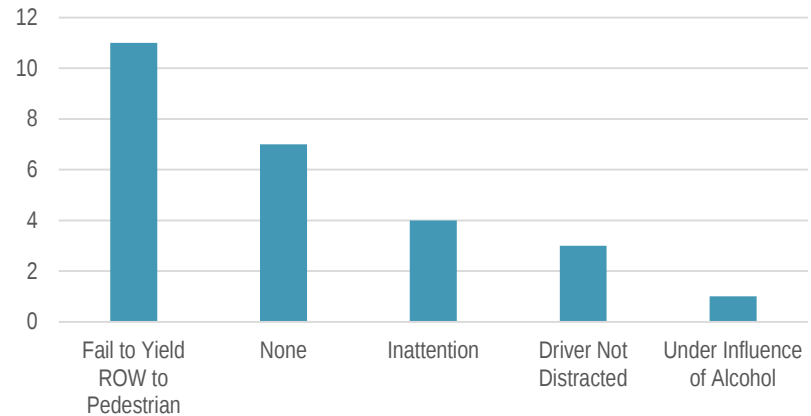
Critical Intersection

- Total Crashes
- Fatal and Serious Injury Crashes
- Pedestrian and Bicycle Crashes

Bicycle and Pedestrian

Analysis showed the primary factors leading to crashes were:

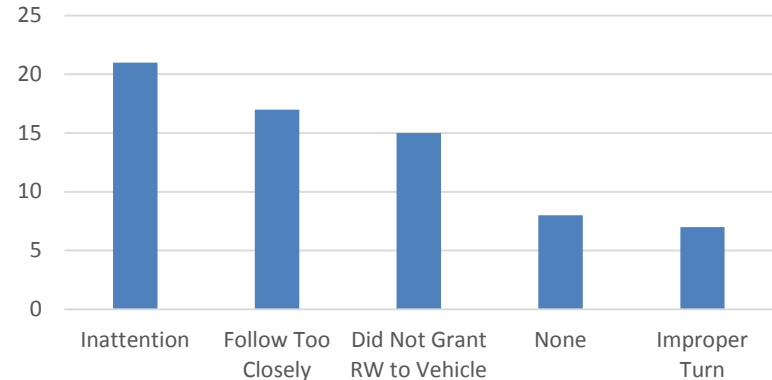
- Failure to yield by drivers, typically when turning
- 4-5 lane principal arterial roadways
- Intersections with a posted speed of 35-40 MPH

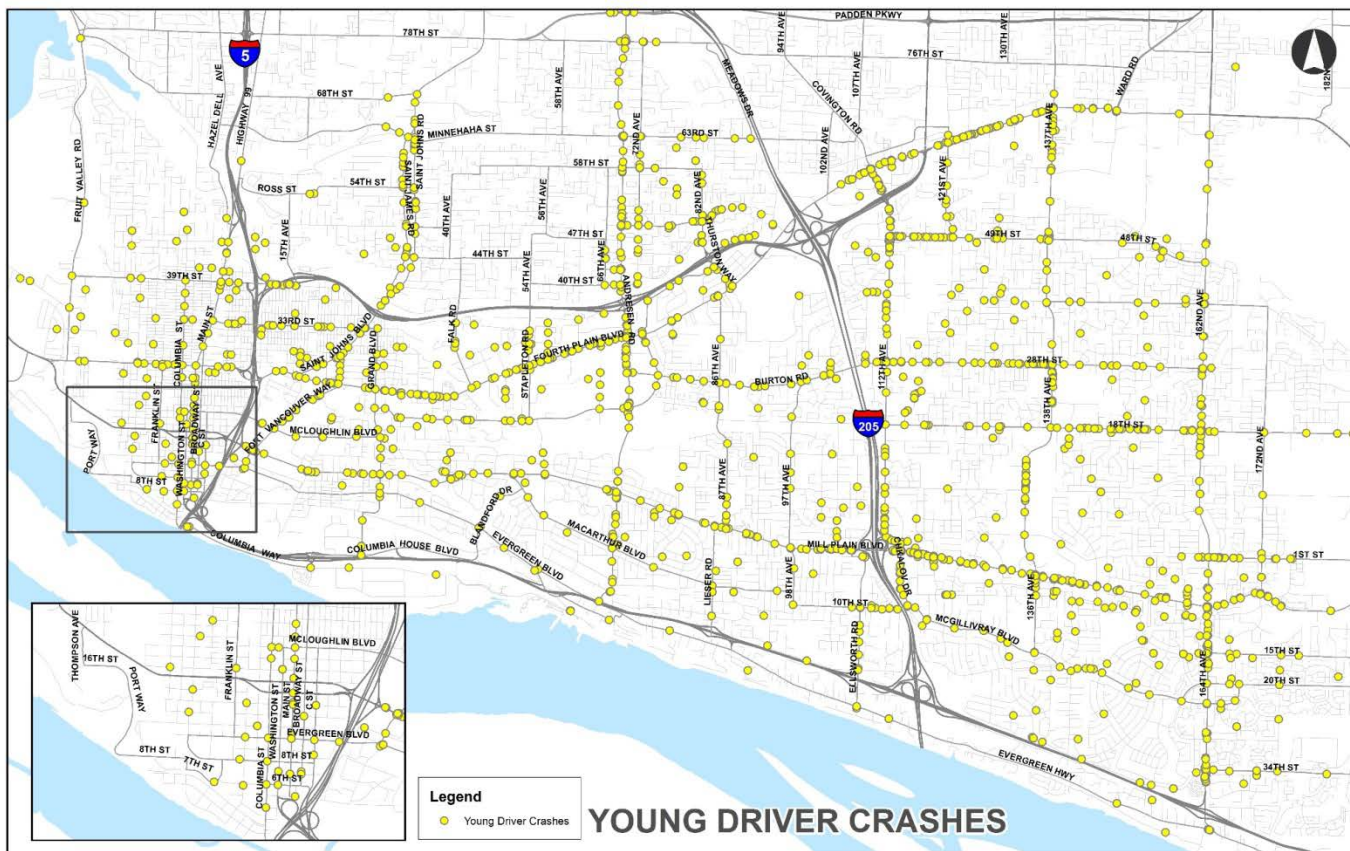


Young Drivers

Analysis showed the primary factors leading to crashes were:

- Failure to yield by drivers, typically when turning
- Signalized intersections during the daytime
- 4-5 lane principal arterial roadways

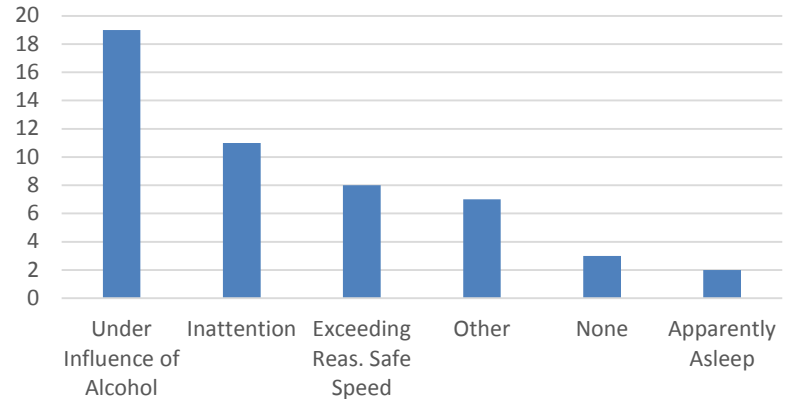




Road Lane/Departure

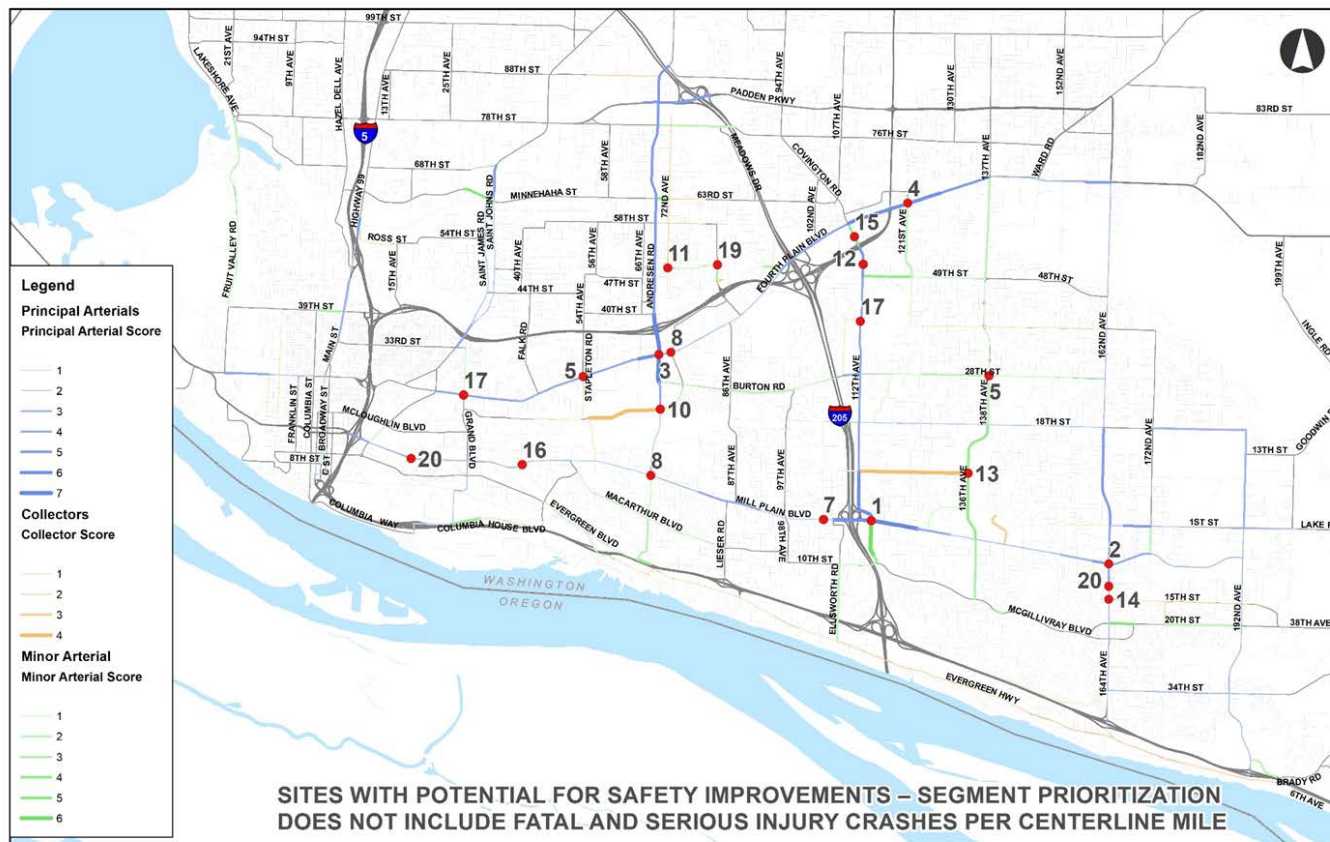
Analysis showed the primary factors leading to crashes were:

- Intersection crashes on 4-5 lane principal arterial roadways
- Segment crashes on undivided collectors with 2 lanes and posted speeds of 20 or 25 miles per hour



Safety Performance Index Top 10 Intersections

	Frequency		Fatal and Serious		Pedestrian and Bike		Combined Index Score	Combined Index Rank
Intersection Name	Crashes	Rank (A)	Crashes	Rank (B)	Crashes	Rank (C)	(A+B+C)	
Mill Plain Blvd / Chkalov Dr	80	1	5	2	7	1	4	1
Mill Plain Blvd / SE 164th Ave	52	3	3	5	7	1	9	2
Fourth Plain Blvd / Andresen Rd	78	2	3	5	6	3	10	3
Fourth Plain Blvd / 121st Ave	41	8	3	5	2	24	37	4
NE 28th St / NE 138th Ave	41	8	1	27	3	11	46	5
Fourth Plain Blvd / Stapleton Rd	27	21	2	14	3	11	46	5
Mill Plain Blvd / SE 104th/105th Ave	40	10	1	27	3	11	48	7
Mill Plain Blvd / Andresen Rd	28	18	1	27	4	8	53	8
Fourth Plain Blvd / Burton Rd	24	28	2	14	3	11	53	8
NE 18th St / Andresen Rd	30	16	1	27	3	11	54	10



Evaluation

Intersections

- Mill Plain and Chkalov
- Fourth Plain Blvd and NE 121st Avenue
- NE 28th Street and NE 138th Avenue
- SE 164th Avenue and SE 15th Street
- Stapleton and Fourth Plain
- Mill Plain and 164th

Segments

- Fourth Plain Blvd - Ft. Vancouver Way to Falk
- Andresen Road (Burton to 47th)
- NE 9th Street (NE 112th Avenue to NE 136th Avenue)
- E 18th Devine to Andresen

Draft Countermeasures

Improve bicycle and pedestrian facilities	Modify intersection controls and features
Improve corridor access management	Improve safety of children who walk/bike to school
Manage roadway speeds through facility design	Increase enforcement of pedestrian laws
Improve young driver education and intervention	Align roadway speeds with adjacent land use
Modify existing yellow flashing arrows	Improve driver compliance with traffic control devices
Reduce speeding through enforcement	Set appropriate speed limits
Enforce compliance with drinking laws	Improve data and performance measures

Policy Questions

Upcoming Transportation Plan update will allow for broader community discussion regarding potential policy changes such as:

- Should the design of our streets change to reflect trends we are seeing in the collision analysis
- How can we retrofit existing streets to improve safety for all system users
- Should we prioritize more vulnerable system users to provide safer mobility and accessibility

Next Steps

- July/August – Finalize report including recommendations for priority crash locations
- August/September – Initiate Transportation System Plan update
- September 10th – Complete Streets City Council workshop

Questions and Discussion

Jennifer Campos, Principal Planner
Jennifer.Campos@cityofvancouver.us
Phone: (360) 487-7728



Improvement Areas in Washington

Typical Functions:

- Cleaning Services
- Safety Services & Coordination
- Marketing & Events
- Business Development
- Beautification & Design
- Parking & Transportation
- Community Organizing
- Leadership



What is an Improvement Area?

Improvement Areas are self-help funding mechanisms for business district revitalization and management. They are special assessments on properties and/or businesses within defined boundaries. They include programs and services for the mutual benefit of the ratepayers being assessed, such as security, public area maintenance, marketing, and beautification. The legal authority for the establishment and management of improvement areas is set forth in the Revised Code of Washington (RCW) Chapter 35.87A and the City legislation passed to form a specific improvement area.

Improvement areas are also known as business improvement areas/districts or “Parking and Business Improvement Areas” in the RCW. An improvement area can be established by requesting City Council to do so, as long as there is support of enough ratepayers to meet a goal of 60% of the total assessment. After receiving the request, the City Council adopts a resolution of intent to form an improvement area and sets a public hearing date. Following the public hearing, the City Council adopts either an ordinance or resolution to form the improvement area. Once an ordinance or resolution is passed, all properties and/or businesses within the improvement area boundary will be assessed.

Each improvement area is governed by a ratepayer advisory board that is comprised of a representative mix of ratepayers in good standing within the improvement area. The City invoices all ratepayers, collects the assessments, and reimburses improvement area expenses.

There are about twenty improvement areas in Washington State. Of the state’s largest cities, Seattle has ten (see map to the left), Spokane has two, and Tacoma has one.

For more information on improvement areas refer to RCW Chapter 35.87A or to the City of Seattle’s BIA Handbook at: https://www.seattle.gov/Documents/Departments/economicDevelopment/OISI/Handbook-042112_WebCopy.pdf

Downtown Improvement Area Tool

VANCOUVER
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July 9, 2018

Vancouver City Council Workshop

Teresa Brum, Economic Development Division Manager
John Collum, Economic Development Principal Planner

Presentation Overview

- Improvement Area Details
 - What is an Improvement Area?
 - Legal authority
 - Components
 - Governance and operations
 - Potential services and activities
- Potential Improvement Area in Downtown Vancouver
 - Steps taken to date
 - Next steps

Downtown is Growing



Downtown Improvement Area - 3



Funding
mechanisms for
business district
revitalization &
management



Assessment-
based; provide
programs and
services for
ratepayers



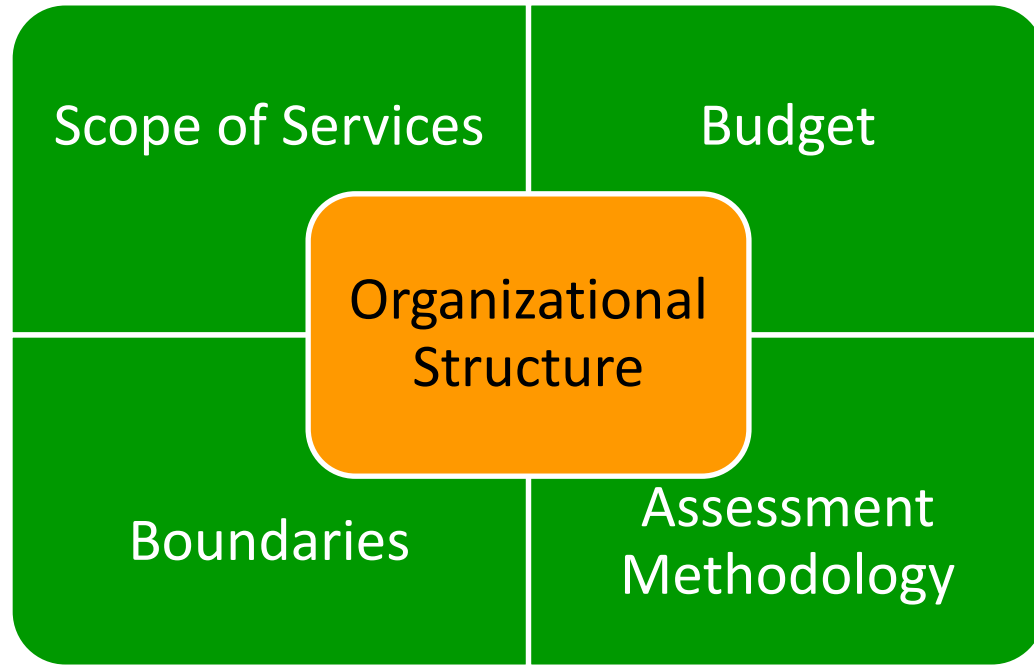
Legal authority:
RCW Chapter
35.87A & local
legislative
action



25 areas
formed in
Washington

IMPROVEMENT AREAS

Improvement Areas: Components



Improvement Areas: Governance and Operations

Ratepayer Advisory Board

- Governs Improvement Area
- Approves annual scope of work and budget

Managing Organization

- Handles day-to-day operations
- Hires/contracts for services
- Typically a downtown association

City

- Invoices/collects assessments
- Reimburses managing organization expenses

Improvement Areas: Potential Services and Activities

Professional management

Cleaning & maintenance

Safety & security

Homeless outreach

Business development



Marketing, promotions & events



Beautification, landscaping & design



Parking & transportation

Downtown Improvement Area - 7

Vancouver City Center



Source: Clark County Assessor's Office & Clark County GIS

Date: June 2018

Potential Improvement Area in Downtown Vancouver

Steps Taken to Date:

- Project Support Team formed
 - o Vancouver's Downtown Association staff
 - o City Economic Development staff
 - o Consultant: BDS Planning & Urban Design
- One-on-one meetings with key property and business owners
- Interviews with staff of WA and OR improvement areas
- Local steering committee ("Committee") formed: 16 downtown property and business owners (large and small; private and public)

Potential Improvement Area in Downtown Vancouver

Next Steps	Target Dates
• Support Team develops conceptual improvement area framework based upon Committee input	Mid-July
• Committee reviews/revises concept into draft proposal; develops outreach marketing strategy	Late July
• Support Team/Committee implement outreach strategy; use input to create final proposal; continue outreach strategy to a broader audience to gain support	Aug-Sept
• Ratepayers sign petition if supportive of final proposal; Goal: obtain ratepayer signatures making up 60% of total proposed assessment	TBD
• Support Team briefs Council on proposal details and progress on petition gathering	TBD
• Coordination with Vancouver Strong	TBD

Questions and Discussion

Teresa Brum, Economic Development Division Manager
teresa.brum@cityofvancouver.us

John Collum, Economic Development Principal Planner
john.collum@cityofvancouver.us





Staff Report 102-18

TO: Mayor and City Council

FROM: Eric Holmes, City Manager

DATE: 7/9/2018

SUBJECT Approval of Purchasing Authority for Waterborne Traffic Line Paint from Alpine Products, Inc.

Key Points

- The City has greatly benefited from using the Pierce County Contract #1832 and would like to continue to utilize this contract with Alpine Products Inc. for waterborne traffic line paint as part of the annual pavement striping program.
- Utilizing this contract will enable City departments to purchase striping paint and materials at a competitive price.
- Purchases from this contract are approaching the City's \$300,000 threshold and staff is requesting approval to exceed the threshold to allow for future purchases.

Strategic Plan Alignment

Goal 1: Ensure our built urban environment is one of the safest, most environmentally responsible and well maintained in the Pacific Northwest.

Present Situation

The City currently purchases paint for maintenance striping from Alpine Products, Inc. through their contract with Pierce County (#1832). In 2018, the total purchases from this contract will exceed the \$300,000 threshold requiring approval of Council. This will enable the Public Works department to continue to utilize this contract to purchase waterborne traffic line paint and materials to take advantage of this competitive price.

Public works has ongoing, annual needs for traffic line paint of approximately \$175,000-\$200,000 per year and is requesting Council approve the increased spending with Alpine Products, Inc. up to an \$800,000 threshold against this contract, which is currently good through March 10, 2019, with eligible yearly extensions through March 10, 2022.

Advantage(s)

1. Utilizes an existing contract through Pierce County with eligible annual extensions through March 10, 2022.
2. Utilizing an existing contract through cooperative purchasing saves the City time and money in going out for a separate bid process.

Disadvantage(s)

None

Budget Impact

The additional purchasing authority is already budgeted within the current adopted biennial budget appropriation. This contract authority change will not impact annual spending and will not require any change in budget authorization.

Prior Council Review

None

Action Requested

Approve purchasing authority related to the Pierce County Contract #1832 with Alpine Products, Inc. in an amount not to exceed \$800,000 through March 10, 2022.

Ryan Miles, Operations Superintendent, 487-7708

ATTACHMENTS:

- ▢ Commodities Agreement
- ▢ Pierce County Waterborne Paint Bid Documents and Contract
- ▢ Pierce County Waterborne Paint Bid Results

This staff report references the terms and conditions of the request for approval. Any document referred to herein and that is not attached may be reviewed prior to the City Council meeting in the office of the City Manager, or online at www.cityofvancouver.us/council. Documents may be reviewed following scheduled Council meetings in the office of Central Records, 415 West 6th Street, Vancouver, WA. Office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday.

COMMODITIES AGREEMENT # _____

This Agreement made and entered into, by and between the City of Vancouver, a municipal corporation, under the laws of the State of Washington, hereinafter referred to as "City" and Alpine Products, hereinafter referred to as "Contractor," whose address is 550 3rd Street SW Bldg C, Auburn, WA 98001.

WHEREAS, the City desires to engage the Contractor to supply and deliver Acrylic Waterborne Traffic Line Paint and associated products and services, in accordance with the terms of this Agreement. Contractor has agreed to provide afore-mentioned products per its response to Pierce County Contract No. SC-104806.

WHEREAS, the Contractor has represented by entering into this Agreement that it is fully qualified to provide and deliver quality products, to the standards set forth herein.

NOW, THEREFORE, IT IS MUTUALLY AGREED BETWEEN THE PARTIES:

The City hereby agrees to engage the Contractor and the Contractor hereby agrees to supply and deliver manhole repair materials and associated products and services in accordance with the specifications hereafter set forth in connection with this Agreement.

During the fulfillment of this Contract, the City may allow the Contractor to provide substitute product/s, upon confirmation that the ordered product has been discontinued. Pricing for such a product replacement or substitute shall not exceed the current price of substituted item.

The City of Vancouver reserves its right to seek alternative products if the project managers deem such action is in the City's best interest. This may include, but is not limited to special circumstances or needs of the City Public Works Department.

1. General Requirement:

The Contractor, at its sole cost and expense, shall perform and comply with all applicable laws of the United States and the State of Washington; the Vancouver City Charter, the Vancouver Municipal Code ("VMC"), and ordinances of the City of Vancouver; and rules, regulations, orders, and directives of their respective administrative agencies and officers.

2. Order or Precedence:

Where there is a conflict among or between any of these documents, the controlling documents shall be the first listed in the following sequence: Amendments to this Agreement; this Agreement; Purchase Orders; Contractor's submitted response to Pierce County's Bid No. 1832, Pierce County Bid No. 1832.

3. Purchase Order:

Purchases will be authorized via valid Purchase Orders. Purchases shall correspond with the Purchase Order; any unauthorized advance or excess order is returnable at Contractor's expense.

4. Schedule:

Unless the City requests a change in schedule, the Contractor shall deliver the products and render the services by the "Delivery Date" stated on the signed purchase order.

In the event that the products are not delivered and accepted in the timelines specified in the Purchase Order, the City of Vancouver reserves the right to reject the products and cancel the Purchase Order in its entirety. The City shall bear zero expense due to this breach.

5. Delivery:

All costs referenced must be F.O.B. Vancouver, Washington, Prepaid and Allowed (freight included in the unit cost), prepaid with all transportation and handling charges paid by the Contractor. Responsibility and risk of loss or damage shall remain with the Contractor until final inspection and acceptance when responsibility shall pass to the City except as to latent defects, fraud, and the Contractor's warranty obligations (including without limitation latent defects).

6. Payment:

Invoices will be paid at net thirty (30) days after the City's receipt and acceptance of the goods or completion and acceptance of the services, provided that all appropriate information has been listed on the invoice and necessary forms have been submitted. No payment shall be due prior to the City's receipt and acceptance of the items identified in the invoice thereof.

7. Adjustments:

The City at any time may make reasonable changes in the place of delivery, installation or inspection; the method of shipment or packing; labeling and identification; and ancillary matters that Contractor may accommodate without substantial additional expense to the City.

8. Assignment:

This Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any circumstances, be assigned or transferred by either party without express written authorization.

9. Waiver:

The City's failure to insist on performance of any of the terms or conditions herein or to exercise any right or privilege or the City's waiver of any breach hereunder shall not thereafter waive any other term, condition, or privilege, whether of the same or similar type.

10. Binding Effect:

The provisions, covenants, and conditions in this Agreement apply to bind the parties, their legal heirs, representatives, successors, and assigns. It will be at the City's sole discretion as to which terms may or may not apply to the Agreement.

11. Remedies Cumulative:

Remedies under this Agreement are cumulative; the use of one remedy shall not be taken to exclude or waive the right to use another.

12. Severability:

Any invalidity, in whole or in part, of any provision of this Agreement shall not affect the validity of any other of its provisions, unless the result of same would clearly be contrary to the overall intent of the parties in entering into this Agreement.

13. Taxes:

The Contractor shall pay, before delinquency, all taxes, levies, and assessments arising from its activities and undertakings under this Agreement; taxes levied on its property, equipment and improvements; and taxes on the Contractor's interest in this Agreement, provided, however, that any taxes that apply directly to the sale, such as a state or local sales tax, shall be added to the purchase price set forth in the Purchase Order.

14. Relation of Parties:

The Contractors, its subcontractors, agents, and employees are independent Contractors performing services for City and are not employees of City. The Contractor, its subcontractors, agents and employees, shall not, as a result of this Agreement, accrue leave, retirement, insurance, bonding or any other benefits afforded to City employees. The Contractor, subcontractors, agents and employees shall not have the authority to bind City any way except as may be specifically provided herein.

15. Ownership of Materials, Writings and Products:

All materials, writings, and products produced by Contractor in the course of performing this Agreement shall immediately become the property of the City. In consideration of the compensation provided for by this Agreement, the Contractor hereby further assigns all copyright interests in such materials, writing and products to the City; provided, however, that this clause does not apply to materials, writings, or products in which Contractor has a copyright interest prior to the date of this Agreement. A copy may be retained by the Contractor.

16. Proprietary and Confidential Information:

The parties acknowledge that the City is an "agency" within the meaning of the Washington Public Records Act, Chapter 42.56 of the Revised Code of Washington ("RCW"), and that materials submitted by the Contractor to the City become public record. Such records may be subject to public disclosure, in whole or part and may be required to be released by the City in the event of a request for disclosure. In the event the City receives a public record request for information that Contractor has marked as "Proprietary and Confidential," the City shall notify the Contractor of such request and withhold disclosure of such information for not less than FIVE (5) business days, to permit the Contractor to seek judicial protection of such information, provided that the Contractor shall be responsible for attorney fees and costs in such action and shall save and hold harmless the City from any costs, attorney fees or penalty assessment under Ch.42.56 RCW for withholding or delaying public disclosure of such information.

17. Warranties:

All products shall be warranted against defects or faulty workmanship and materials by the Contractor for one (1) year following inspection and acceptance of the products by the City. Warranty shall include all costs incurred, including shipping, for repair or replacement except that which is damaged by misuse or abuse. This one-(1) year warranty shall in no way affect normal extended or manufacturer's warranty exceeding this one (1) year period. Contractor warrants that all goods and services furnished under this Agreement are new, conform strictly to the specifications herein, are merchantable, good workmanship, free from defect, comply with all applicable safety and health standards established for such products, all goods are properly packaged, and all appropriate instructions or warnings are supplied. If a defect is found, a component failure occurs, or workmanship is found to cause failure, the Vendor shall replace the

product at their own expense, including shipping charges. Any replacement product will be warranted for one (1) year from the date it is delivered. All implied and expressed warranty provisions of the Uniform Commercial Code are incorporated into this Agreement.

18. Non-Discrimination and Equal Employment Opportunity:

During the term of this Agreement, the Contractor agrees as follows: The Contractor will not discriminate against any employee or applicant for employment because of creed, religion, race, color, sex, marital status, sexual orientation, political ideology, ancestry, national origin, or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their creed, religion, race, color, sex, national origin, or the presence of any sensory, mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

19. Indemnification:

Contractor agrees to indemnify, defend, save and hold harmless the City, its officials, employees and agents from any and all liability, demands, claims, causes of action, suits or judgments, including costs, attorney fees and expenses incurred in connection therewith, or whatsoever kind or nature (including patent infringement or copyright claims) arising out of, or in connection with, or incident to, the performance of services pursuant to this Agreement. This indemnity and hold harmless shall include any claim made against the City by an employee of Contractor or subcontractor or agent even if Contractor is thus otherwise immune from liability pursuant to the workers' compensation statute, Title 51 RCW, except to the extent that such liability arises from the sole negligence of the City. Contractor specifically acknowledges that the provisions contained herein have been mutually negotiated by the parties and it is the intent of the parties that Contractor provide the broadest scope of indemnity permitted by law. Contractor is an independent Contractor and responsible for the safety of employees.

20. Order Quantity:

This is an as-needed Agreement; orders will be placed with Contractor via signed Purchase Orders on an as-needed basis. The City is not obligated to any minimum or maximum quantities under this Agreement. This Agreement will not exceed the following sum as indicated, including 8.4% Washington State Sales Tax (if applicable), unless agreed to by the Parties in a written Amendment.

\$800,000.00

Eight Hundred Thousand Dollars 00/100

21. Termination:

The City intends to award this contract for an initial period of four (4) years.

The City, at its sole discretion, may terminate this Agreement for convenience at any time for any reason deemed appropriate. Termination is effective immediately upon notice of termination given by the City.

22. Prices:

Proposed prices outlined below must be valid for one year from the effective date of this Agreement. Price adjustments may be requested for consideration each year thereafter; the City, at its sole discretion, may approve that request. Request for price increases shall be supported by the applicable Consumer Price Index- All Urban Consumers (Portland-Salem, OR_WA) area for the immediate, previous four (4) quarters.

Contractor warrants that prices of materials set forth herein do not exceed those charged by the Contractor to any other customer purchasing the same under similar conditions and in like or similar quantities.

Unless otherwise specified herein, no additional charges by the Contractor will be allowed including, but not limited to: handling charges such as packing, wrapping, bags, containers; return and re-stocking fees due to vendor error.

23. Commercial and General Liability Insurance:

The Contractor agrees to furnish the City with a current Certificate of Insurance on the standard "ACORD" with the coverage's listed below:

\$1,000,000.00 minimum/general liability per occurrence

\$2,000,000.00 minimum/general aggregate

\$1,000,000.00 minimum/automobile combined single limit (each accident)

City of Vancouver named as additional insured on the commercial general liability policy and an "additional insured" policy endorsement CG2012, CG2026 or equivalent must be included with the certificate of insurance

The certificate shall be made out to the City and be an original; no photocopies shall be accepted. The Certificate of Insurance shall provide the City be given 30 days advance notice of cancellation, non-renewal, or material change in coverage.

24. Other Liabilities:

Contractor agrees to indemnify, defend, save, and hold harmless the City, its officials, employees and agents from all claims, suits, and actions of any nature arising out of or related to the products and activities of the Contractor, its officers, subcontractors, agents, or employers under this Agreement. Contractor will not indemnify any action that arises out of the control application or operation of their software that was created by a third party vendor.

25. Worker's Compensation:

The Contractor shall comply with the State Washington, Department of Labor and Industries Industrial Insurance program, for all of its employees who are required to be so covered by the laws of the State of Washington and in case any work is subcontracted, the Contractor shall require the subcontractor to provide worker's compensation insurance for all of its employees unless or to the extent that such employees are covered by the protection provided by the Contractor.

26. Employment Security:

The Contractor shall comply with all employment security laws of the State of Washington, and shall timely make all required payments in connection therewith.

27. Compliance with the Law:

The Contractor shall have the authority to control and direct the performance and details of the work described herein. The Contractor agrees to comply with all relevant, federal, state and municipal laws, rules and regulations.

28. Licenses and Similar Authorizations:

The Contractor, at no expense to the City, shall be responsible to obtain all necessary licenses, permits, and similar legal authorizations required to perform the work associated with this Agreement.

In most cases, contractors will be required to get a business license when contracting with the City of Vancouver, unless allowable exemptions apply. Businesses/contractors shall contact the State of Washington Business License Service (BLS) at: <http://bls.dor.wa.gov/file.aspx>, telephone 800-451-7985, or www.cityofvancouver.us/businesslicense, to determine whether a business license is required pursuant to VMC Ch. 5.04.

29. Notices:

All notices which are given or required to be given pursuant to this Agreement shall be hand delivered or mailed postage paid as follows:

City of Vancouver

Contractor:

City of Vancouver
P O Box 1995
Vancouver WA 98668-1995

Alpine Products
550 3rd Street SW Bldg C
Auburn, WA 98001

30. Amendments:

This Agreement shall not be altered, changed, or amended except by an instrument in writing executed by the parties hereto. Any changes in the scope of work or compensation shall be mutually agreed upon between City and the Contractor and shall be incorporated in written amendments to this Agreement.

31. Entire Agreement:

This Agreement incorporates all the agreements, covenants, and understanding between the parties hereto and are merged into this written agreement. No prior agreement or prior understanding, verbal or otherwise, of the parties or their agents shall be valid or enforceable unless set forth in this Agreement.

32. Cooperative Purchasing:

The Washington State Inter-local Cooperation Act, Ch. 39.34 RCW, authorizes public agencies to cooperatively purchase goods and services if all parties agree. By having executed this Agreement, the Contractor agrees that other public agencies may purchase goods and services under this solicitation or Agreement at their own cost and without the City of Vancouver incurring any financial or legal liability for such purchases. The City of Vancouver Agreement, provided that the City of Vancouver is not held financially or legally liable for purchases and that any public agency purchasing under such solicitation or Agreement file a copy of this invitation and such agreement in accordance with RCW 39.34.040.

33. Ratification:

Acts taken pursuant to this Agreement but prior to its effective date are hereby ratified and confirmed.

34. Governing Law/Venue:

This Agreement shall be deemed to have been executed and delivered within the State of Washington, and the rights and obligations of the parties hereunder shall be construed and enforced in accordance with, and governed by, the laws of the State of Washington without regard to the principles of conflict of laws. Any action or suit brought in connection with this Agreement shall be brought in the Superior Court of Clark County, Washington.

35. Authority to Execute:

The Contractor warrants that it has legal authority to enter into this agreement and the signatory below is authorized to execute this Agreement on behalf of the Contractor and is at least 18 years of age.

DATED this ____ day of _____, 2018.

CITY OF VANCOUVER,
A municipal corporation

CONTRACTOR:

Eric Holmes, City Manager

By:

Attest:

Natasha Ramras, City Clerk

By: Carrie Lewellen, Deputy City Clerk

Approved as to form:

E. Bronson Potter, City Attorney



Pierce County

PIERCE COUNTY
INVITATION TO BID NO. 1832
ACRYLIC WATERBORNE TRAFFIC LINE PAINT

BIDS MUST BE SUBMITTED TO:
CLERK OF THE COUNCIL
930 TACOMA AVE S RM 1046
TACOMA WA 98402-2176

BIDS WILL BE RECEIVED UNTIL **1:00 P.M., Friday, February 24, 2017**
AT WHICH TIME THEY WILL BE PUBLICLY OPENED AND READ ALOUD IN THE
COUNCIL CHAMBERS

PIERCE COUNTY PURCHASING
950 FAWCETT AVENUE SUITE 100
TACOMA WASHINGTON 98402
253-798-7456
pcpurchasing@co.pierce.wa.us

ACTING FOR:
PUBLIC WORKS / TRAFFIC OPERATIONS

TABLE OF CONTENTS

INVITATION TO BID AND BID REQUIREMENTS.....	9 PAGES
BID FORM	3 PAGES
CONTRACT COMPLIANCE	3 PAGES
GENERAL CONDITIONS	7 PAGES

THE FOLLOWING FORMS MUST BE RETURNED WITH THE BID:

- Bid Form including Certification of Non-Segregated Facilities and Non-Collusion & Debarment Affidavit
- Subcontractor's Participation Form (Page 2 of Contract Compliance)
- Personnel Workforce Data Form (Page 3 of Contract Compliance)

**BID REQUIREMENTS
PIERCE COUNTY**

ACRYLIC WATERBORNE TRAFFIC LINE PAINT- BID NO. 1832

BID SPECIFICATIONS

GENERAL

Successful Bidder to furnish Pierce County with 100% Acrylic Waterborne Traffic Line Paint, in both white and yellow colors, in the following three types: 1) Rapid Dry; 2) High Build; and 3) Cold Weather. The Traffic Line Paint shall be consistent with the specifications provided in this Bid.

Pavement marking traffic paints shall meet or exceed Technical Specifications for waterborne traffic paint, consistent with these provisions. The paints incorporate 100% acrylic waterborne emulsion technology known to give superior durability and bead binding capability. Applied at ambient temperature (77°F/50% RH), a 15 mil wet line shall dry track-free in 30 to 90 seconds when applied to either asphalt or Portland Cement Concrete. The paints can be applied hot or cold with waterborne compatible striping equipment.

- Quality Assurance: The bidder may be required to provide manufacturer certification in writing that the materials offered have been tested in accordance with the standards listed in this Bid. Pierce County reserves the right to request this additional product information prior to or after award and will be the sole judge for approving products offered.

This Bid covers three types of low volatile organic compound (VOC), ready-mixed, one component, 100% acrylic waterborne traffic line paint.

Type 1: Rapid Dry Waterborne Traffic Line Paint

Type 2: High Build Waterborne Traffic Line Paint

Type 3: Cold Weather Waterborne Traffic Line Paint

Each paint type may be applied to either asphaltic or Portland Cement Concrete pavements. Each paint type shall be available in two colors, white and yellow, and shall be furnished as specified in this Bid.

Descriptions and Technical Specifications:

Type 1: Rapid Dry Waterborne Traffic Line Paint

This paint dries fast under marginal conditions of humidity and airflow. The paint shall possess early washout resistance and durability in terms of retention of glass beads for night visibility and wear resistance.

Type 1 Rapid Dry paint shall also be available in an optional "Spring/Fall" formula. The spring/fall paint formulation is designed for equivalent performance but applied at lower ambient temperatures; this is accomplished by a higher allowable VOC limit, as described in the Type 1 technical specifications below. This formula is typically used at temperatures between 45° and 65° F with similar track free drying characteristics as the standard rapid dry paint. The spring/fall rapid dry formulation shall be provided upon request at the time of order placement, with no increase in the cost per gallon as the standard rapid dry paint.

Type-1; Required Technical Specifications
(100% ACRYLIC POLYMER EMULSION)
White and Lead Free Yellow

	<u>White</u>	<u>Yellow</u>	<u>Test</u>
Pigment Solids % by weight	60-65	60-65	ASTM D3723
Nonvolatile Vehicle % by weight	36min	36min	ASTM D2369
Total nonvolatile Solids % by weight	75 min	75 min	ASTM D2369
Total Solids % by volume	60 min	60 min	ASTM D2697
PH min	9.5	9.5	ASTM E70
Contrast Ratio @ 15 mils wet	98 min	96 min	ASTM D2805
Color Reflectance	84% min	50% min	
Bleed ratio	#8 no bleed	#8 no bleed	ASTM D969/D868
Density in pounds per gallon	13.8 min	13.6 min	ASTM D1475
Viscosity, K.U. @ 10°C	105 max	105 max	ASTM D562
Viscosity, K.U. @ 25°C	80-90	80-90	ASTM D562
Viscosity, K.U. @ 50°C	75 min	75 min	ASTM D562
Fineness of grind, Hegman	3 min	3 min	ASTM D1210
Laboratory dry time, Minutes @ 12 mils	6 max	6 max	ASTM D711
No tracking time, actual @ 77°F, 50% RH, 15 mils wet in seconds	90 max	90 max	Spec Section 6.0
Dry through time in minutes	130 max	130 max	Spec Section 9.0
Freeze / thaw, cycles	5	5	ASTM D2243
Standard VOC max.	100 g/l	100 g/l	EPA Meth 24
Spring/Fall VOC, max.	150 g/l	150 g/l	EPA Meth 24
Flashpoint (min)	150 °F	150 °F	ASTM D93
Vehicle composition	Dow 2706 or 3427, Arkema 211 or 250		

Meets performance of TTP1952E, Type II

Type 2: High Build Waterborne Traffic Line Paint

This paint is formulated for transverse lines such as crosswalks and legend markings. The High Build traffic line paint shall dry fast, retain durability, color retention, and bead retention when applied at thicker applications, of up to 30 mils. When applied at these thicker application the paint shall resist cracking.

Type-2; Required Technical Specifications
(100% ACRYLIC POLYMER EMULSION)
White and Lead Free Yellow

	<u>White</u>	<u>Yellow</u>	<u>Test</u>
Pigment Solids % by weight	60 – 64	60 – 64	ASTM D3723
Nonvolatile Vehicle % by weight	42min	42min	ASTM D2369
Total nonvolatile Solids % by weight	78 min	78 min	ASTM D2369
Total Solids % by volume	60 min	60 min	ASTM D2697
Vehicle composition-	Dow HD-21a only		
TiO2 (% per gal by wt.)	6 min	0.5 min	ASTM D4563
PH min	9.5	9.5	ASTM E70
Contrast Ratio @ 15 mils wet	92 min	88 min	ASTM D2805
Color Reflectance	82% min	50 min	
Bleed ratio	95 min	95 min	ASTM D969/D868
Density in pounds per gallon	14.5 +/-	14.3 +/-	ASTM D1475
Viscosity, K.U. @ 10°C	105 max	105 max	ASTM D562
Viscosity, K.U. @ 25°C	80-95	80-95	ASTM D562
Viscosity, K.U. @ 50°C	75 min	75 min	ASTM D562
Fineness of grind, Hegman	3 min	3 min	ASTM D1210
Laboratory dry time, Minutes @ 12 mils	10 max	10 max	ASTM D711
No tracking time, seconds @ 77°F	120 max	120 max	Spec Section 6.0
50% RH, 15 mils wet			
Dry through time in minutes	130 max	130 max	Spec Section 9.0
Freeze / thaw, cycles	5	5	ASTM D2243
VOC, maximum	150 g/l	150 g/l	EPA Meth 24
Flashpoint (min)	150 °F	150 °F	ASTM D93

Meets performance of TTP 1952E, TYPE III
 No cracking when applied at 30 mils wet film

Type 3: Cold Weather Waterborne Traffic Line Paint

This paint is intended for low temperature applications. The Cold Weather traffic paint shall provide good performance, good durability, and good drying speed at temperatures between 30° and 45° F. The Cold Weather traffic paint is typically used for applications not exceeding a wet application of 15 mils.

Type-3; Required Technical Specifications

(100% ACRYLIC POLYMER EMULSION)

White and Lead Free Yellow

	<u>White</u>	<u>Yellow</u>	<u>Test</u>
Pigment Solids % by weight max	58-64	58-64	ASTM D3723
Nonvolatile Vehicle % by weight	41 min	41 min	ASTM D2369
Nonvolatile Solids % by weight	76 min	76 min	ASTM D2369
Total Solids % by volume	60 min	60 min	ASTM D2697
PH min	9.5	9.5	ASTM E70
Contrast Ratio @ 15 mils wet	98 min	96 min	ASTM D2805
Color Reflectance	84% min	50% min	
Density in pounds per gallon	13.7 +/-	13.3 +/-	ASTM D1475
Viscosity, K.U. @ 10°C	105 max	105 max	ASTM D562
Viscosity, K.U. @ 25°C	80-90	80-90	ASTM D562
Viscosity, K.U. @ 50°C	75 min	75 min	ASTM D562
Fineness of grind, Hegman	3 min	3 min	ASTM D1210
Laboratory dry time, Minutes @ 12 mils	10 max	10 max	ASTMD711
VOC, max	150 g/l	150 g/l	EPA Meth 24
No tracking time, seconds @ 40°F	180 max	180 max	Spec Section 6.0
50% RH, 15 mils wet in seconds			
Flashpoint, min	150°F	150 °F	ASTM D93
Vehicle composition	Dow only	XSR	

Thinning is not recommended for this product

Meets performance of TTP 1952E, TYPE II

APPLICABLE AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) STANDARDS

All paint must comply with the following applicable standards:

- D93 – Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester
- D562 – Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer
- D711 – Standard Test Method for No-Pick-Up Time of Traffic Paint
- D868 – Standard Practice for Determination of Degree of Bleeding of Traffic Paint
- D1210 – Standard Test Method for Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage
- D1475 – Standard Test Method For Density of Liquid Coatings, Inks, and Related Products
- D1640 – Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings
- D2243 – Standard Test Method for Freeze-Thaw Resistance of Water-Borne Coatings

- D2369 – Standard Test Method for Volatile Content of Coatings
- D2486 – Standard Test Methods for Scrub Resistance of Wall Paints
- D2697 – Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings
- D2805 – Standard Test Method for Hiding Power of Paints by Reflectometry
- D3723 – Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing
- D3960 – Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
- D4060 – Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
- D4366 – Standard Test Methods for Hardness of Organic Coatings by Pendulum Damping Tests
- E70 – Standard Test Method for pH of Aqueous Solutions With the Glass Electrode

TESTING METHODS

All paint supplied must also pass the following testing methods:

- No Tracking Time

“No Tracking Time” shall be the time required for the line to withstand the running of a standard automobile over the line at a speed of approximately 40 mph without tracking of the reflectorized line when viewed from a distance of 50 feet.
- Water Resistance

The paint shall show no softening, blistering, loss of adhesion, or other evidence of deterioration when tested as follows:

Apply a wet film thickness of 15 mils with a Bird Film Applicator to a clean glass plate. Let dry in a horizontal position at room temperature (70 to 80°F) for 24 hours. Immerse one-half the painted plate in distilled water at room temperature for 10 minutes. Remove plate and dry with paper towel. Apply tape to cover 1½ inches of “wet” area. Pull tape from dry to wet. This completes one cycle. Repeat procedure until failure; 8 cycles minimum is required for a pass in this test.
- Static Heat Stability

The paint shall show no change in consistency greater than +/-5 KU nor coagulation, lumps or coarse particles when tested as follows:

Put 450 ml of paint in a 473 ml (1 pint) lined container, close the container, seal it with tape, and put in an oven maintained at 135°F +/-1° for 7 days. Equilibrate the paint at standard conditions and mix thoroughly with gentle stirring. Examine paint for livering and hard settling and determine viscosity.
- Dry Through/Early Washout

The paint shall show acceptable drying and curing characteristics when tested as follows:

Draw down the paint on a glass panel to a wet film thickness of 15 mils. Immediately place in a humidity chamber maintained at 72° F ± 3° F and 90% ± 3% relative humidity. Test in accordance with ASTM D1640 except that the pressure exerted will be the minimum needed to maintain contact with the thumb and film.

PACKAGING REQUIREMENTS

Stainless Steel Totes: Paint in this class of packaging shall be supplied in intermediate bulk containers known as totes. Delivery of paint shall not be contingent on return of empty totes. Empty totes must be picked up by the successful bidder in a timely manner, the cost of return is included in the delivered purchase price of the paint. Within thirty (30) days notice of completion of the traffic painting operations by Pierce County, the successful bidder is required to pick up all remaining empty paint containers. Pickup location will be the same location as delivery.

All totes shall be new or reconditioned 250 gallon capacity with stainless steel construction, conforming to the Code of Federal Regulation Title 49 and all other appropriate local rules and regulations. Non stainless steel totes are not acceptable.

The standard of construction shall be of equivalent quality to the TranStore 250 brand of stainless steel IBC. The County may request the bidder to supply shop drawings and/or a sample tote to be sent in prior to award to ensure compliance.

Minimum specifications for totes shall include but not be limited to:

- Outside dimensions of 42-48 inches whether square, rectangular or cylindrical in design.
- Four-way forklift skids with retaining plate/bar on the bottom to prevent tipping.
- Stackable a minimum of two high when filled with paint.
- Have two way lifting lugs.
- Have either a hinged or bolted hatch and/or screw top.
- Have a 2-inch ball valve fitted with a male quick disconnect. The valves and fittings must be 100% compatible with waterborne paint (no galvanized, copper, chrome or brass allowed).
- No portion of the valve assembly including the connections and cap shall extend beyond the vertical plane of the side and must be clean with no paint or skins remaining.
- The valve handle shall be protected from being opened by accident and shall not require special tools to operate.
- Be plainly labeled with type, color, batch number, manufacture date, tare weight of empty tote, and quantity of paint contained.
- Have proper venting of the tank. Supplier shall be responsible for imploded tanks due to improper or plugged tank venting.
- Be UN/DOT certified.
- Be constructed such that the bottom of the tote is sloped toward the valve fitting.

Upon delivery and/or during use, totes will be inspected and subject to rejection if:

- Valve assembly appears dirty or plugged.
- Valve will not open or does not release paint from tote.
- Relief valves or top hatches will not open to allow paint to flow freely and prevent implosion of tote.
- Paint is dripping from loose or broken fittings.

Failure to meet any of the above minimum specifications or inspection criteria will be cause for rejection of bid or delivered materials.

Unless otherwise requested, the paint in the stainless steel totes will be filled in a heavy duty waterborne paint compatible liner of the type that pulls through and extends beyond the lid when said lid is bolted or screwed shut. Twist tie closures will not be allowed.

DELIVERY REQUIREMENTS

Pierce County will require the successful bidder to deliver traffic paint to the Pierce County Sewer and Traffic Operations Facility located at 9200 122nd St E Puyallup, WA 98373 in the amounts ordered within fourteen (14) calendar days of the order date. All paint shall be delivered in open flatbed trailers to allow for removal by forklift (no vans or box trailers). In the event that any order is placed by Pierce County of less than a cumulative total of 2,500 gallons, or orders that require partial packaging (units less than full totes), it is understood that Pierce County may incur a freight cost adjustment, as determined by the successful bidder. Any freight cost must be approved by Pierce County in advance of shipping.

Except as noted above, the unit bid shall be full payment for all labor, equipment, materials and supplies necessary to produce, load, haul, and deliver the materials to the location designated and as specified in these specifications. Your unit bid prices shall also include your costs to pickup empty totes. No further compensation will be allowed.

REBATE

Pierce County shall receive a 2% rebate from the successful bidder for all purchases made under this contract. This rebate shall be paid annually by check to the Pierce County Public Works Department. The rebate will be provided to the County on the anniversary of the contract, to reflect total expenditures for the previous 12 month period. The successful bidder will calculate the amount due and provide supporting documentation with the payment. All monies expended by the County (and all subsequent agencies and organizations purchasing materials using this contract bid) to the successful bidder are to be considered in the calculation of the rebate, unless the successful bidder can differentiate a spend category that is clearly not associated with the contract. Sales conducted within this contract authority to other jurisdictions shall also incur the 2% rebate, which shall be calculated by the successful bidder and paid to the Pierce County Public Works Department, unless the County instructs the successful bidder otherwise through written notice.

QUESTIONS: Questions regarding the specifications should be directed to Rick Butner, Pierce County Traffic Operations no later than **4:00 PM, Friday, February 17, 2017** at rbutner@co.pierce.wa.us

Please note: Any oral interpretation is not binding on the County, unless confirmed by Addendum.

All documents, reports, proposals, submittals, working papers, or other materials prepared by the contractor pursuant to this proposal shall be printed on recycled paper whenever practicable.

AWARD OF BID: Bid will be awarded to the lowest responsive, responsible bidder.

NOTES: Other Pierce County Departments will be allowed to purchase from this contract, at their option.

When required delivery cannot be met by the awarded vendor, Pierce County reserves the right to purchase from an alternate source

Pierce County reserves the right to reject any and all bids, to waive any informality in bids and to accept any item in the bid.

This contract shall be renewable. Please see renewal terms in paragraph 2.2 of the attached General Provisions.

**BID FORM
PIERCE COUNTY**

ACRYLIC WATERBORNE TRAFFIC LINE PAINT- BID NO. 1832

VENDER'S REGISTERED NAME: _____

To furnish Pierce County with

Item	Description	Qty	UOM	Unit Price	Total Price
1	Type 1: Rapid Dry Traffic Line Paint, White	20,000	GAL	\$	\$
2	Type 1: Rapid Dry Traffic Line Paint, Yellow	30,000	GAL	\$	\$
3	Type 2: High Build Traffic Line Paint, White	500	GAL	\$	\$
4	Type 2: High Build Traffic Line Paint, Yellow	500	GAL	\$	\$
5	Type 3: Cold Weather Traffic Line Paint, White	500	GAL	\$	\$
6	Type 3: Cold Weather Traffic Line Paint, Yellow	500	GAL	\$	\$
SUBTOTAL				\$	
WASHINGTON STATE SALES TAX @ 9.4%					
TOTAL BID AMOUNT					

*Quantities listed are the estimated requirements for Pierce County. Pierce County reserves the right to order more or less based on actual need. Orders will be placed on an as needed basis

TIME IS OF THE ESSENCE: DELIVERY IS GUARANTEED WITHIN **14 CALENDAR DAYS** OF RECEIPT OF ORDER FOB PUYALLUP, WA

QUALITY ASSURANCE: The bidder may be required to provide manufacturer certification in writing that the materials offered have been tested in accordance with the standards listed in this Bid. Pierce County reserves the right to request this additional product information prior to award and will be the sole judge for approving products offered.

PAYMENT TERMS: Prompt Payment Discount: _____ % / _____ Days, Net 30

This bid is subject to the attached General Provisions.

Bid security is not required for this project. Please delete paragraph 1.4 of the attached General Provisions.

Pierce County is required to pay State sales tax (or use tax if vendor does not collect sales tax), but is exempt from Federal excise tax.

All questions and blanks in this bid must be completed in full for valid bid response.

****THE REST OF THIS PAGE IS LEFT PURPOSELY BLANK****

VENDOR INFORMATION & SIGNATURE:

Signature

Date

Printed Name and Title

Address

Phone Number: _____ Email Address: _____

UBI No: _____

Complete the tax status information for one of the following business entity types. **Individual or Corporate name must match exactly as registered with either Social Security Administration or Internal Revenue Service.**

Identification of Vendor as a sole proprietor, a partnership, a joint venture, a corporation or another described form of legal entity:

Federal Tax ID# (EIN or SSN – as applicable): _____

PLEASE NOTE: Proposals shall be signed by the person or persons having authority to sign them. If a bidder is a corporation the proposal shall be signed on behalf of the corporation by such an authorized person. If a bidder is a copartnership, the proposal shall be signed by an authorized member of the copartnership. When the bidder is a joint venture, the proposal shall be signed by one or more individuals as authorized by the Joint Venture. Pierce County may require bidders to furnish duly authenticated copies of resolutions, or minutes or power-of-attorney from each person or entity to be bound, evidencing that authority.

CERTIFICATION OF NONSEGREGATED FACILITIES

The contractor certifies that no segregated facilities are maintained and will not be maintained during the execution of this contract at any of contractor's establishments.

The contractor further certifies that none of the contractor's employees are permitted to perform their services at any location under the contractor's control during the life of this contract where segregated facilities are maintained. The contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained.

The contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work area, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color or national origin, because of habit, local custom, or otherwise.

The contractor agrees that identical certifications from proposed contractors will be obtained prior to the award of any subcontracts. Contractor will retain a copy of any subcontractor's certification and will send original to Contract Compliance Division.

NON-COLLUSION & DEBARMENT AFFIDAVIT

I, the undersigned, having carefully examined the Invitation to Bid, propose to furnish materials, equipment, supplies and/or services as set forth herein.

Being first duly sworn, on my oath, I hereby certify that this proposal is genuine and not a sham or collusive proposal, or made in the interests or on behalf of any person not therein named; and I have not directly or indirectly induced or solicited any contractor or supplier on the above work to put in a sham proposal or any person or corporation to refrain from submitting a proposal; and that I have not in any manner sought by collusion to secure to myself an advantage over any other contractor(s) or person(s).

I further certify that, except as noted below, the firm, association or corporation or any person in a controlling capacity associated therewith or any position involving the administration of federal funds; is not currently under suspension, debarment, voluntary exclusion, or determination of eligibility by any federal agency; has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past three years; does not have a proposed debarment pending; and has not been indicted, convicted or had a civil judgement rendered against said person, firm, association or corporation by a court of competent jurisdiction in any matter involving fraud or official misconduct within the last three years. Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate above to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

"A suspending or debarring official may grant an exception permitting a debarred, suspended, or excluded person to participate in a particular transaction upon a written determination by such official stating the reason(s) for deviating from the Presidential policy established by Executive Order 12549..." (49CFR Part 29 Section 29.215).

Signature: _____

Printed Name and Title: _____

EXHIBIT "C"

CONTRACT COMPLIANCE FOR PROFESSIONAL, TECHNICAL, SUPPLY OR SERVICES

It is the policy of Pierce County to foster an environment that encourages economic growth and diversification, business development and retention, increases competition and reduces unemployment. In support of that policy, Pierce County reaffirms its commitment to maximize opportunities in public contracting for all contractors including minority and women owned business enterprises.

Vendors are encouraged to utilize qualified, local businesses in Pierce County and Washington State where cost effectiveness is deemed competitive. In addition, Vendors are encouraged to subcontract with firms certified by the Washington State Office of Minority and Women's Business Enterprises (MWBE).

A. MWBE DIRECTORY ASSISTANCE

A directory of MWBE firms is published quarterly by the Washington State Office of Minority and Women's Business Enterprises (OMWBE). Copies of the directory are available from the State OMWBE (360-753-9693) or may be viewed at the Public Works Department, 2702 S 42nd St Suite 201, Tacoma 98409, and the Tacoma Public Library, 1102 Tacoma Avenue South, Tacoma, 98405. Contact the Contract Compliance Office for additional information at (253) 798-7250.

B. EQUAL EMPLOYMENT OPPORTUNITY:

Upon execution of this contract, the Contractor shall comply with the Equal Employment Opportunity requirements set forth below. The Contractor shall not violate any of the terms of Chapter 49.60 of the Revised Code of Washington, Title VII of the Civil Rights Act of 1964, or any other applicable federal, state, or local law or regulation regarding nondiscrimination.

1. No person or firm employed by the Contractor shall be subject to retaliation for opposing any practice made unlawful by Title VII of the Civil Rights Act, the Age Discrimination in Employment Act (29 U.S.C. 621 et seq.), the Equal Pay Act (29 U.S.C. 206(d), the Rehabilitation Act (29 U.S.C. 791 et seq.), the Americans with Disabilities Act of 1990, or for participating in any stage of administrative or judicial proceedings under those statutes.
2. The Contractor shall take all reasonable steps to ensure that qualified applicants and employees shall have an equal opportunity to compete for advertised or in-house positions for employment. Applicants and employees shall be treated fairly without regard to race, color, religion, sex, age, disability, or national origin. Equitable treatment shall include, but not be limited to employment, upgrading or promotion, rates of pay increases or other forms of compensation, and selection for training or enrollment in apprenticeship programs.

C. CERTIFICATION OF NONSEGREGATED FACILITIES

The Contractor shall submit with its proposal a Certification of Nonsegregated Facilities. All requests to sublet or assign any portion of this contract, at any level, shall be accompanied by evidence of this certification in all subcontract agreements.

D. SUBMITTAL REQUIREMENTS

1. Certificate of non-segregated facilities: Contractor shall submit with proposal, each subcontractor shall submit when work is sublet. Submit this form with the bid (attached to bid form)
2. Professional and Technical Workforce Data Form: The awarded Vendor shall submit this form attached with the bid, each Subcontractor is encouraged to submit the form when work is sublet.
3. Subcontractors Participation Form: Check the appropriate box indicating the firm who will perform the work of the contract. The awarded Vendor shall submit the completed form attached with the bid.

SUBCONTRACTORS PARTICIPATION FORM FOR PROFESSIONAL, TECHNICAL, SUPPLY OR
SERVICE

Check appropriate statement below:

- [] Our firm will perform all contracted scope of work tasks.
- [] Our firm will subcontract a portion of the work tasks. The following firms were contacted and will be utilized in the performance of the work as indicated below.

List all potential subcontracting firms. Do not mark "N/A" unless the Bidder will perform all work or provide all supplies or services for this contract.

Firm Name / Address / Phone	Work Item(s) Solicited	Proposal Amount	Awarded? (Yes / No)
		\$	
		\$	
		\$	
		\$	

1. List full name, address, and phone number of each firm listed to be utilized.
2. List specific work to be accomplished, supplies to be furnished and the amount proposed for each subcontract.
3. Contact the Pierce County Contract Compliance Officer at (253) 798-7250 if you have questions.

BY: _____ DATE: _____

TITLE: _____ PHONE: _____

PERSONNEL WORKFORCE DATA FORM

Vendor Name: _____ Bid Title: _____

Address: _____

Phone No. _____ Email: _____

Type of Service Provided: _____

Contract Work Hours (if applicable) _____

CONTRACTOR'S AGGREGATE WORK FORCE –
if you need additional space, photo copy this section and attach it to this form.

	Total Employed		Total Minority		Native American		Asian		Black		Hispanic		Apprentice / Trainee	
OCCUPATION	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Management														
Professionals														
Technicians														
Administrative														
Other Classifications														
TOTALS:														

1. **BIDDING REQUIREMENTS**

1.1 **USE AND COMPLETION OF COUNTY PROPOSAL SHEETS**

A. Bidder's Proposal

Each Bidder must bid exactly as specified on the Invitation to Bid (hereinafter referred to as bid) sheets. All bids must remain open for acceptance by the County for a period of at least 60 calendar days from the date of opening of the bids.

B. Alterations of Proposals Not Allowed

Proposals that are incomplete or conditioned in any way, contain alternatives or items not called for in the General Provisions and Specifications, or not in conformity with law may be rejected as being nonresponsive. The County cannot legally accept any proposal containing a substantial deviation from these Specifications.

C. Filling Out County Bid Forms

All proposals must be made upon blanks furnished by the Purchasing Department of Pierce County and the prices must be stated in figures either written in ink or typewritten. No proposal having erasures or interlineations will be accepted unless initialed by the Bidder in ink.

1.2 **CLARIFICATION OF PROPOSAL FOR BIDDER**

If a prospective Bidder has any questions concerning any part of the Bid/Proposal, he/she may submit a written request to the Pierce County Purchasing Office for answer of his/her questions. Any interpretation of the Bid will be made by an Addendum duly issued and mailed or delivered to each prospective Bidder. Such addendum must be acknowledged (a) by signing and returning the addendum or (b) by letter. Such acknowledgement must be received by the County prior to the bid opening. Pierce County will not be responsible for any other explanation or interpretation of the bid documents.

1.3 **BLANK**

1.4 **BID SECURITY (When specifically required by the Invitation to Bid)**

Each bid must be accompanied either by a certified or cashier's check for 5% of the total amount bid, payable to the Pierce County Treasurer, or an approved Bid Bond, by a surety company authorized to do business in the State of Washington, for 5% of the total amount bid. The check or Bid Bond is security that the bidder will, if awarded the bid, enter into a contract with the County for this activity within the time set forth in these

requirements. Any bidder who refuses to enter into a Contract after it has been awarded to the Bidder will be in breach of the agreement to enter the Contract and the Bidder's certified or cashier's check or Bid Bond shall be forfeited.

If a Bid Bond is used, the 5% may be shown either in dollars and cents, or the Bid Bond may be filled in as follows, "5% of the total amount of the accompanying proposal".

Upon award and signing of the Contract the bid security will be returned if a check or will automatically expire if a Bid Bond. The bid securities of all other bidders will be processed in the same manner immediately upon the award of the Contract.

1.5 **DELIVERY OF PROPOSALS TO PIERCE COUNTY**

All bid proposals and documents must be delivered to the Clerk, Pierce County Council, 930 Tacoma Ave So, Room 1046, Tacoma, WA 98402-2176, in a sealed, properly addressed envelope with the name of the Bidder and bid number and description of the project plainly written on the outside of the envelope, prior to the scheduled time and date stated in the Invitation to Bid. County offices are not open for special mail or other delivery on weekends and County holidays. Pierce County shall assume no responsibility for delay in U.S. mail service or for bids delivered to County offices other than the specified Council Office.

Telecopy bid proposals will be accepted by the County provided that the original signed bid proposal is mailed to the Chief Clerk and postmarked prior to the time designated for the bid opening. Also, telecopy proposals shall not be sent to the County's telecopy machine but must be sent to the Bidder's agent and delivered to the Chief Clerk in a sealed envelope, as stated above, before the time stated in the Bid.

Bids received after the time stated in the bid will not be accepted and will be returned, unopened, to the Bidder. There will be no exceptions or waivers of this requirement.

1.6 **CONTRACTOR'S STATE REGISTRATION NO. (NOT APPLICABLE TO SUPPLY ONLY CONTRACTS)**

Contractors are required to be registered by the State per Chapter 18.27 of the Revised Code of Washington and their registration number must be listed on the bid.

1.7 BID IS NONCOLLUSIVE

The Bidder represents by the submission of the Proposal that the prices in this Bid are neither directly nor indirectly the result of any formal or informal agreement with another bidder.

1.8 EVALUATION OF BID

A. Experience, Delivery Time and Responsibility

In the evaluation of otherwise responsive bids, the Bidder's experience, delivery time and responsibility in performing other contracts will be considered. In addition to price, the following may be considered:

- I. The ability, capacity and skill of the bidder to perform the contract, provide the services required.
- II. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference.
- III. The character, integrity, reputation, judgment, experience and efficiency of the bidder.
- IV. The quality of performance of previous contracts or service.
- V. The previous and existing compliance by the bidder with laws and ordinances relating to contracts or services.
- VI. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service.
- VII. The quality, availability and adaptability of the supplies or contractual services to the particular use required.
- VIII. The ability of the bidder to provide future maintenance and service for the use of the subject of the contract.
- IX. Compliance with all affirmative action requirements, minority business enterprise and women's business enterprise subcontracting and contracting requirements.

B. Insertions of Material Conflicting with Specifications

Only material inserted by the Bidder to meet requirements of the Specifications will be considered. Any other material inserted by the Bidder will be disregarded as being nonresponsive and may be grounds for rejection of the Bidder's Bid/Proposal.

C. Correction of Ambiguities and Obvious Errors

The County reserves the right to correct obvious ambiguities and errors in the Bidder's proposal and to waive non-material irregularities and/or omissions. In this regard, if the unit price does not compute to the extended total price, the unit price

shall govern. Written prices will govern over numeric prices.

1.9 WITHDRAWAL OF BID

A. Prior to Bid Opening

Any Bidder may withdraw his/her Bid prior to the scheduled bid opening time by delivering a written notice to the Chief Clerk, Pierce County Council Office. The notice may be submitted in person or by mail; however, it must be received by the County Council Office prior to the time for bid opening.

B. After Bid Opening

No bidder will be permitted to withdraw his/her Bid/Proposal after the time of bid opening, as set forth in the Invitation To Bid, and before the actual award of the Contract, unless the award of Contract is delayed more than sixty (60) calendar days after the date set for bid opening. If a delay of more than 60 calendar days does occur, then the Bidder must submit written notice withdrawing his/her Bid to the Pierce County Purchasing Agent.

1.10 OPENING OF BIDS

At the time and place set for the opening of bids, all Proposals, unless previously withdrawn, will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Proposal.

1.11 TAXES

The County will pay sales and use taxes imposed on goods or services acquired hereunder as required by law. The Vendor must pay all other taxes including, but not limited to: Business and Occupation Tax, taxes based on the Vendor's gross or net income, or personal property to which the County does not hold title. The County is exempt from Federal Excise Tax. Where applicable the County shall furnish a Federal Excise Tax Exemption certificate.

1.12 APPROVED EQUAL

The brand names listed indicate the standard of quality required. Brands of equal quality, performance and use will be considered provided the offeror specifies the brand, model and other data for comparison with their bid. Pierce County will be the sole judge for approving other brands offered as equals to the brand specified. Bidders shall indicate if they are offering alternate brands in the space below each item and must provide descriptive specifications explaining the merits of the substitute item.

1.13 FAILURE TO SUBMIT BIDS

If the recipient of this Bid does not submit an offer for the goods or services requested, they shall return it and/or a written notice stating whether they wish to continue to receive future solicitations for the type of supplies or services specified. Failure to do so may result in removal of the recipient's name from the bidders' mailing list.

1.14 APPROXIMATE QUANTITY REQUIREMENTS

The quantities listed are the County's current approximate requirements. Pierce County will neither be obligated by nor restricted to these quantities and may increase or decrease any item(s) ordered under this contract and pay according to the unit prices quoted in the Bid.

1.15 COOPERATIVE PURCHASING

The Washington State Interlocal Cooperative Act RCW 39.34 provides that other governmental agencies may purchase goods and services on this solicitation or contract in accordance with the terms and prices indicated therein if all parties are willing. The Contract maximum for this contract per annual term, or for any renewal period, is for Pierce County's use only. Other agencies may use this contract up to their contract limits, if any, exclusive of and in addition to the County's contract maximum.

1.16 DELIVERY

Quotation shall cover delivery F.O.B. Pierce County, Tacoma, Washington, (unless otherwise stated in this Invitation to Bid at the designated address set forth in the proposal given to each bidder).

1.17 AWARD

The County reserves the right to award a contract for any or all items to one or more Bidders, to reject any and all Bids or any item(s) within the Bids, to waive any informality in the Bids, and to call for new Bids as best meets the needs of the County.

2. CONTRACT REQUIREMENTS

2.1 AWARD OF CONTRACT

Written notification will be mailed or otherwise furnished to the successful offeror (lowest responsive bidder). Within 20 calendar days after the notice of proposed award, the apparent successful bidder shall return the signed contract or other specified award documents prepared by the County, insurance certification as required and any other pre-award information the County requires.

Until the County executes said contract or award/acceptance documents, no proposal shall bind the County to execute a contract, nor obligate it to bear any expense pursuant to the Invitation for Bids. Neither shall any work begin within the project limits or within the County furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency, and the Contractor is given written Notice To Proceed.

Pierce County is prohibited by RCW 39.06.010 from executing a contract with a Contractor who is not registered or licensed as required by the laws of the state. In addition, Pierce County may require persons doing business with the County to possess a business license prior to award.

When the Proposal Form provides spaces for a business license number, a Washington State Contractor's registration number, or both, the bidder shall insert such information in the spaces provided. The County may at its option, require legible copies of the Contractor's Registration and/or business license be submitted to the Architect/Engineer as part of the County's pre-award information and evaluation activities.

2.2 CONTRACT RENEWAL PERIODS (When specifically allowed by the Invitation to Bid)

This proposed agreement shall remain in effect for a period of one year from and after its effective date and shall automatically be renewed on a year-to-year basis thereafter unless either party hereto serves notice upon the other party of its intention to cancel at least 30 days in advance of the termination of the first year, or during any yearly renewal thereof. Notice during each renewal term may occur at any time during the course of such term. Prices will be considered firm for at least the first 12 months of the contract. No change in services or prices will be allowed without written consent of both parties, pursuant to the following conditions:

"Prices will be subject to increase or decrease in the same proportion as changes occur in the vendor's certified costs, providing the vendor requests an adjustment from the Purchasing Department 30 days prior to the effective date. The written request shall be accompanied by written proof of said changes in cost to vendor and is subject to acceptance by the Purchasing Department. The County shall have the option of accepting the price change or canceling the balance of the contract. All price decreases must be offered to the County."

Total contract period not to exceed 5 years.

2.3 CONFLICTS IN SPECIFICATIONS

Anything mentioned in the Specifications and not shown on the Drawings and anything on the Drawings and not mentioned in the Specifications shall be of like effect and shall be understood to be shown and/or mentioned in both. In case of differences between Drawings and Specifications, the Specifications shall govern. In addition, in the event of any conflict between these General Provisions, the Technical Provisions and/or the Proposal pages, the following order of precedence shall control:

- a) Preprinted portions of the Proposal pages prevail if they conflict with the General or Technical Provisions.
- b) Technical Provisions prevail if they are in conflict with the General Provisions.
- c) Unit prices will prevail when an error in extending total amounts occurs. In case of discrepancy of figures between Drawings, Specifications or both, the matter shall immediately be submitted to the Pierce County Purchasing Agent for determination. Failure to submit the discrepancy issue to the Purchasing Agent shall result in the Vendor's actions being at his/her own risk and expense.

2.4 INSPECTION

A. Of the Work

All materials furnished and work done shall be subject to inspection.

The Inspector administering the Contract shall at all times have access to the work wherever it is in progress or being performed, and the Vendor shall provide proper facilities for such access and inspection. Such inspection shall not relieve the Vendor of the responsibility of performing the work correctly, utilizing the best labor and materials in strict accordance with the Specifications of the Contract. All material or work approved and later found to be defective shall be replaced without cost to Pierce County.

B. Inspector's Authority

The Inspector shall have power to reject materials or workmanship which do not fulfill the requirements of these Specifications, but in case of dispute the Vendor may appeal to the Pierce County Purchasing Agent, whose decision shall be final.

The Contract shall be carried out under the general control of the representative of the particular

Department administering the Contract, who may exercise such control over the conduct of the work as may be necessary, in his or her opinion, to safeguard the interest of Pierce County. The Vendor shall comply with any and all orders and instructions given by the representative of the particular Department administering the Contract in accordance with the terms of the Contract.

Nothing herein contained, however, shall be taken to relieve the Vendor of his/her obligations or responsibilities under the Contract.

2.5 FEDERAL, STATE AND MUNICIPAL REGULATIONS

This Agreement shall be subject to all laws, rules, and regulations of the United States of America, the State of Washington, and political subdivisions of the State of Washington.

2.6 GUARANTEE

The supplier and/or manufacturer of the supplies, material and/or equipment furnished pursuant to this Contract agrees to correct any defect or failure of the supplies, materials and/or equipment which occurs within one year from the date of: (1) test energization if electrical or mechanical equipment; (2) commencement of use if supplies or materials, provided, however, said guarantee period shall not extend beyond eighteen months after date of receipt by the County. All of the costs (including shipping, dismantling and reinstallation) of repairs and/or corrections of defective or failed equipment, supplies and/or material is the responsibility of the supplier and/or manufacturer.

When the supplier is not the manufacturer of the item or equipment, supplier agrees to be responsible for this guarantee and supplier is not relieved by a manufacturer's guarantee. The supplier hereby assigns to the County the contractor's right to enforce all manufacturer's warranties for materials or systems incorporated into the work, to the extent defects which are not corrected by the supplier under their guarantee. The supplier shall provide evidence of all manufacturers' warranties prior to acceptance.

The Contract guarantee period shall be suspended from the time a significant defect is first documented by the County until the work or equipment is repaired or replaced by Vendor and accepted by the County. In addition, in the event less than ninety (90) days remain on the guarantee period (after deducting the period of suspension), the guarantee period shall be extended to allow for at least ninety (90) days from the date the work or equipment is repaired or replaced and accepted by the County.

governed by the law of the State of Washington.

2.7 PIERCE COUNTY'S RIGHT TO TERMINATE CONTRACT

A. Termination for Default

If the Vendor defaults by failing to perform any of the obligations of the contract or becomes insolvent or is declared bankrupt or commits any act of bankruptcy or insolvency or makes an assignment for the benefit of creditors, the County may, by depositing written notice to the Vendor in the U.S. mail, postage prepaid, terminate the contract, and at the County's option, obtain performance of the work elsewhere. If the contract is terminated for default, the Vendor shall not be entitled to receive any further payments under the contract until all work called for has been fully performed. Any extra cost or damage to the County resulting from such default(s) shall be deducted from any money due or coming due to the Vendor. The Vendor shall bear any extra expenses incurred by the County in completing the work, including all increased costs for completing the work, and all damage sustained, or which may be sustained by the County by reason of such default.

If a notice of termination for default has been issued and it is later determined for any reason that the Vendor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the Termination for Public Convenience paragraph hereof.

B. Termination for Public Convenience

The County may terminate the contract in whole or in part whenever the County determines, in its sole discretion, that such termination is in the best interests of the County. Whenever the contract is terminated in accordance with this paragraph, the Vendor shall be entitled to payment for actual work performed at unit contract prices for completed items of work. An equitable adjustment in the contract price for partially completed items of work will be made, but such adjustment shall not include provision for loss of anticipated profit on deleted or uncompleted work. Termination of this contract by the County at any time during the term, whether for default or convenience, shall not constitute a breach of contract by the County.

2.8 VENUE AND CHOICE OF LAW

In the event that any litigation should arise concerning the construction or interpretation of any of the terms of this Agreement, the venue of such action of litigation shall be in the Courts of the State of Washington in and for the County of Pierce. This Agreement shall be

2.9 PAYMENT

Payment discount periods of twenty (20) calendar days or more offered by the Contractor will be considered in determining the apparent lowest responsible bid. Invoices will not be processed for payment, nor will the period of cash discount commence, until receipt of a properly completed invoice, all invoice items are received, and satisfactory performance of Contractor has been attained. If an adjustment in payment is necessary due to damage or dispute, the cash discount period shall commence on the date final approval for payment is authorized. Payment will not be considered late if the payment is mailed within the time specified. If no terms are specified, net 30 days will automatically apply. Payment(s) made in accordance with contract terms shall fully compensate the Contractor for all risk, loss, damages, or expense of whatever nature and acceptance of payment shall constitute a waiver of all claims submitted by Contractor.

2.10 WITHHOLDING PAYMENT

In the event the Contracting Officer determines that the Contractor has failed to perform any obligation under this Agreement within the times set forth in this Agreement, then the County may withhold from amounts otherwise due and payable to Contractor the amount determined by the County as necessary to cure the default, until the Contracting Officer determines that such failure to perform has been cured. Withholding under this clause shall not be deemed a breach entitling Contractor to termination or damages, provided that the County promptly gives notice in writing to the Contractor of the nature of the default or failure to perform, and in no case more than 8 days after it determines to withhold amounts otherwise due. A determination of the Contracting Officer set forth in a notice to the Contractor of the action required and/or the amount required to cure any alleged failure to perform shall be deemed conclusive, except to the extent that the Contractor acts within the times and in strict accord with the provisions of the Disputes clause of this Agreement. The County may act in accordance with any determination of the Contracting Officer which has become conclusive under this clause, without prejudice to any other remedy under the Agreement, to take all or any of the following actions: (1) cure any failure or default, (2) to pay any amount so required to be paid and to charge the same to the account of the Contractor, (3) to set off any amount so paid or incurred from amounts due to become due the Contractor. In the event the Contractor obtains relief upon a claim under the Disputes clause, no penalty or damages shall accrue to

Contractor by reason of good faith withholding by the County under this clause.

2.11 DEFENSE AND INDEMNITY AGREEMENT

The Contractor agrees to defend, indemnify and save harmless the County, its appointed and elected officers and employees, from and against all loss or expense, including but not limited to judgments, settlements, attorney's fees and costs by reason of any and all claims and demands upon the County, its elected or appointed officials or employees for damages because of personal or bodily injury, including death at any time resulting therefrom, sustained by any person or persons and for damage to property including loss of use thereof, whether such injury to persons or damage to property is due to the negligence of the Contractor, his/her Subcontractors, its successor or assigns, or its or their agent, servants, or employees, the County, its appointed or elected officers, employees or their agents, except only such injury or damage as shall have been occasioned by the sole negligence of the County, its appointed or elected officials or employees.

The preceding paragraph is valid and enforceable only to the extent of the Contractor's negligence where the damages arise out of services or work in connection with or collateral to, a contract or agreement relative to construction, alteration, repair, addition to, subtraction from, improvement to, or maintenance of, any building, highway, road, railroad, excavation, or other structure, project, development, or improvement attached to real estate, including moving and demolition in connection therewith, a contract or agreement for architectural, landscape architectural, engineering, or land surveying services, or a motor carrier transportation contract and where the damages are caused by or result from the concurrent negligence of (i) the County or its agents or employees, and (ii) the Contractor or the Contractor's agents or employees."

2.12 INDUSTRIAL INSURANCE WAIVER

With respect to the performance of this agreement and as to claims against the County, its officers, agents and employees, the Contractor expressly waives its immunity under Title 51 of the Revised Code of Washington, the Industrial Insurance Act, for injuries to its employees and agrees that the obligations to indemnify, defend and hold harmless provided in this agreement extend to any claim brought by or on behalf of any employee of the Contractor. This waiver is mutually negotiated by the parties to this agreement.

2.13 BIDDER'S DUTY TO EXAMINE

The Bidder agrees to be responsible for examining the drawings, specifications, delivery schedules, delivery locations and all instructions. Failure to do so will be at the Bidder's risk.

2.14 PERMITS

The Vendor shall procure and pay for all permits and licenses necessary for the completion of this Contract including those permits required by Pierce County. In the event a necessary permit is not obtained the Vendor will not be permitted to work on items subject to said permit and any delays caused thereby will not be subject to extra compensation or extension.

2.15 FUTURE NON-ALLOCATION OF FUNDS

If sufficient funds are not appropriated or allocated for payment under this contract for any future fiscal period, the County will not be obligated to make payments for services or amounts incurred after the end of the current fiscal period. No penalty or expense shall accrue to the County in the event this provision applies.

2.16 DISPUTES

A. General

Differences between the Vendor and the County, arising under and by virtue of the Contract Documents shall be brought to the attention of the County at the earliest possible time in order that such matters may be settled or other appropriate action promptly taken. Except for such objections as are made of record in the manner hereinafter specified and within the time limits stated, the records, orders, rulings, instructions, and decisions of the Pierce County Purchasing Agent, shall be final and conclusive.

B. Notice of Potential Claims

The Vendor shall not be entitled to additional compensation which otherwise may be payable, or to extension of time for (1) any act or failure to act by the Purchasing Agent or the County, or (2) the happening of any event or occurrence, unless the Vendor has given the County a written Notice of Potential Claim within 10 days of the commencement of the act, failure, or event giving rise to the claim, and before final payment by the County. The written Notice of Potential Claim shall set forth the reasons for which the Vendor believes additional compensation or extension of time is due, the nature of the cost involved, and insofar as possible, the amount of the potential claim. Vendor shall keep full and complete daily records of the Work performed, labor and material used, and all costs and additional time claimed to be additional.

C. Detailed Claim

The Vendor shall not be entitled to claim any such additional compensation, or extension of time, unless within 30 days of the accomplishment of the portion of the work from which the claim arose, and before final payment by the County, the Vendor has given the County a detailed written statement of each element of cost or other compensation requested and of all elements of additional time required, and copies of any supporting documents evidencing the amount or the extension of time claimed to be due.

2.17 FORCE MAJEURE

Definition: Except for payment of sums due, neither party shall be liable to the other or deemed in default under this contract if and to the extent that such party's performance of this contract is prevented by reason of force majeure. The term "force majeure" means an occurrence that is beyond the control of the party affected and could not have been avoided by exercising reasonable diligence. Force majeure shall include acts of God, war, riots, strikes, fire, floods, epidemics, or other similar occurrences.

Notification: If either party is delayed by force majeure, said party shall provide written notification within forty-eight (48) hours. The notification shall provide evidence of the force majeure to the satisfaction of the other party. Such delay shall cease as soon as practicable and written notification of same shall be provided. The time of completion shall be extended by contract modification for a period of time equal to the time that the results or effects of such delay prevented the delayed party from performing in accordance with this contract.

Rights Reserved: The County reserves the right to cancel the contract and/or purchase materials, equipment or services from the best available source during the time of force majeure, and Contractor shall have no recourse against the County.

2.18 NOTICE

Except as set forth elsewhere in the Agreement, for all purposes under this Agreement, except service of process, notice shall be given by the Vendor to the department head of the department for whom services are rendered, and to the County Purchasing Agent, 615 South 9th Street, Suite 100, Tacoma, WA 98405-4673.

Notice to the Vendor for all purposes under this Agreement shall be given to the address reflected on the Invitation to Bid. Notice may be given by delivery or by depositing in the US Mail, first class, postage prepaid.

2.19 SEVERABILITY

If any term or condition of this contract or the application thereof to any person(s) or circumstances is held invalid, such invalidity shall not affect other terms, conditions or applications which can be given effect without the invalid term, condition or application. To this end, the terms and conditions of this contract are declared severable.

2.20 WAIVER

Waiver of any breach or condition of this contract shall not be deemed a waiver of any prior or subsequent breach. No term or condition of this contract shall be held to be waived, modified or deleted except by an instrument, in writing, signed by the parties hereto.

2.21 SURVIVAL

The provisions of the following paragraphs, the provisions of the non-collusion affidavit, and the liability of the Vendor for default during the term of the Agreement shall survive, notwithstanding the termination or invalidity of this Agreement for any reason:

Taxes
Guarantee
Pierce County's Right to Terminate Contract
Venue and Choice of Law
Hold Harmless & Indemnity Agreement
Waiver
Future Non-Allocation of Funds

2.22 ENTIRE AGREEMENT

This written contract represents the entire Agreement between the parties and supersedes any prior oral statements, discussions or understandings between the parties.

gpsupply.doc rev 11/05/12

ACRYLIC WATERBORNE TRAFFIC LINE PAINT - BID NO. 1832
BID RESULTS

				Alpine Products, Inc.		Ennis Paint, Inc.		The Sherwin-Williams Company	
Item	Description	Qty	UOM	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	Type 1: Rapid Dry Traffic Line Paint, White	20,000	GAL	\$8.80	\$176,000.00	\$9.23	\$184,600.00	-	NO BID
2	Type 1: Rapid Dry Traffic Line Paint, Yellow	30,000	GAL	\$8.80	\$264,000.00	\$9.42	\$282,600.00	-	NO BID
3	Type 2: High Build Traffic Line Paint, White	500	GAL	\$11.77	\$5,883.50	\$13.20	\$6,600.00	-	NO BID
4	Type 2: High Build Traffic Line Paint, Yellow	500	GAL	\$11.57	\$5,786.00	\$12.15	\$6,075.00	-	NO BID
5	Type 3: Cold Weather Traffic Line Paint, White	500	GAL	\$10.96	\$5,480.00	\$13.00	\$6,500.00	-	NO BID
6	Type 3: Cold Weather Traffic Line Paint, Yellow	500	GAL	\$10.88	\$5,440.00	\$13.50	\$6,750.00	-	NO BID
SUBTOTAL BID PRICE (WITHOUT WSST)				\$462,589.50		\$493,125.00		NO BID	
BID SIGNED				YES		YES		YES	
PAYMENT TERMS				0%		0%		NA	
CONTRACT COMPLIANCE DOCUMENTS ATTACHED				YES		YES		NA	



Staff Report 103-18

TO: Mayor and City Council

FROM: Eric Holmes, City Manager

DATE: 7/9/2018

SUBJECT Bid Award for Tractor-Drawn Aerial Ladder Truck Refurbishment per Bid # 9-18

Key Points

- A 2002 tractor-drawn aerial ladder truck is due for replacement
- Refurbishment of an existing aerial will minimize cost and ensure consistent design and operations with other Vancouver Fire aerials.

Strategic Plan Alignment

Goal 2: Provide effective, innovative and well-resourced police, fire and emergency medical services.

- **Goal 2, Objective 2.1:** Provide reliable and responsive police, fire and EMS service.
- **Goal 2, Objective 2.2:** Increase the level of emergency preparedness in the City as an organization and in the community.

Present Situation

Vancouver Fire Department's 2002 aerial ladder truck is due for replacement. The tractor portion is difficult to obtain parts for causing service delays. Only the tractor portion is in need of replacement. The trailer and aerial ladder, along with some of the equipment, can be refurbished and recertified.

On May 16, 2018, the City received one (1) bid for the subject project. The bids are as follows:

SUMMARY OF BIDS

BIDDER

KME (Kovatch Mobile Equipment Corp.), Nesquehoning, PA
represented by Cascade Fire Equipment, Yakima, WA

AMOUNT

\$941,908.33

Engineer's Estimate

\$800,000

Advantage(s)

1. The refurbishment is cost effective at less cost than purchasing a new apparatus.
2. The refurbishment of an existing aerial ensures all Vancouver Fire aerials are of the same design and operate similarly, reducing training time and cost.
3. The fire department has had favorable results from previously refurbished aerial ladder trucks.

Disadvantage(s)

1. The Vancouver Fire Department will operate without a reserve aerial for a period of 5 months.
2. The refurbished apparatus may have a slightly reduced service life vs. a new apparatus. The predicted life expectancy is 7-8 years instead of 9-10 years.

Budget Impact

None. Funding is available in the Emergency Equipment Replacement Fund.

Prior Council Review

None

Action Requested

Award a contract for the Tractor-Drawn Aerial Ladder Truck Refurbishment project to the lowest responsive and responsible bidder, KME of Nesquehoning, PA, represented by Cascade Fire Equipment, Yakima, WA, at their bid price of \$ 941,908.33, which includes Washington State sales tax, and authorize the City Manager or designee to execute the same.

Doug Koellermeier, Deputy Fire Chief, 487-7218; Dan Zenger, Equipment Services Superintendent, 487-8205

ATTACHMENTS:

- ▣ Contract
- ▣ Attachment B
- ▣ Attachment C

This staff report references the terms and conditions of the request for approval. Any document referred to herein and that is not attached may be reviewed prior to the City Council meeting in the office of the City Manager, or online at www.cityofvancouver.us/council. Documents may be reviewed following scheduled Council meetings in the office of Central Records, 415 West 6th Street, Vancouver, WA. Office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday.

AGREEMENT # _____

2018 TRACTOR-DRAWN AERIAL LADDER TRUCK REFURBISHMENT

This Agreement made and entered into this ____ day of _____, _____, by and between the City of Vancouver, a municipal corporation, under the laws of the State of Washington, hereinafter referred to as "City" and CASCADE Fire and Safety, hereinafter referred to as "Contractor," whose address is 123 South Front St, Yakima WA 98901.

WHEREAS, the City desires to engage the Contractor to provide for the refurbishment and delivery of one (1) fully functioning truck-drawn aerial ladder truck in accordance with the terms of this Agreement. Contractor has agreed to provide afore-mentioned service and associated products and services per its proposal in response to City issued RFP #9-18 and City Council's approval on _____ 2018 of Staff Report No. _____; and

WHEREAS, the Contractor has represented by entering into this Agreement that it is fully qualified to provide and deliver quality product and services to the standards set forth herein.

NOW, THEREFORE, IT IS MUTUALLY AGREED BETWEEN THE PARTIES:

The City hereby agrees to engage the Contractor and the Contractor hereby agrees to refurbish and deliver one fully functioning tractor-drawn aerial in accordance with the specifications hereafter set forth in connection with this Agreement:

1. Refurbishment and Delivery:

Contractor agrees to provide the City of Vancouver refurbishment and delivery of one (1) fully functioning tractor-drawn aerial ladder truck and other associated products and services as set forth in this Agreement, and in accordance with RFP#9-18, any addenda and herein attached and by reference made part of this Agreement ATTACHMENT A -Technical Specifications and addenda). The Contractor's submitted Proposal and herein attached and by reference made part of this Agreement ATTACHMENT B – Clarifications/Exceptions under RFP#9-18, and City Purchase Orders issued under this Agreement are hereby incorporated into this Agreement as if fully set forth herein.

2. General Requirement:

The Contractor, at its sole cost and expense, shall perform and comply with all applicable laws of the United States and the State of Washington; the Vancouver City Charter, the Vancouver Municipal Code ("VMC"), and ordinances of the City of Vancouver; and rules, regulations, orders, and directives of their respective administrative agencies and officers.

3. Order or Precedence:

Where there is a conflict among or between any of these documents, the controlling documents shall be the first listed in the following sequence: amendments to this Agreement; this Agreement; Purchase Orders; Contractor's submitted response to RFP #9-18, and RFP #9-18.

4. Purchase Order:

Purchases will be authorized via valid Purchase Orders. Purchases shall correspond with the Purchase Order; any unauthorized advance or excess order is returnable at Contractor's expense.

5. Schedule:

Unless the City requests a change in schedule, the Contractor shall deliver the refurbished apparatus and associated services by the "Delivery Date" stated on the signed purchase order.

It is understood and agreed that time is of the essence in delivery of a fully functioning, reliable apparatus in conformance with the specs set forth in this Agreement. Accordingly, the parties agree that failure to meet the delivery date of not to exceed 360 calendar days from contract award will result in an automatic penalty of \$500.00 per day commencing the day after the agreed delivery date and continuing until the product has been delivered and accepted as fully functioning and reliable within the discretion of the City of Vancouver.

In the event that the equipment and related services are not delivered and accepted in the timelines specified in the Purchase Order, the City of Vancouver reserves the right to reject the product and service and cancel the Purchase Order in its entirety. The City shall bear zero expense due to this breach.

6. Delivery:

All costs referenced must be F.O.B. Vancouver, Washington, Prepaid and Allowed (freight included in the unit cost), prepaid with all transportation and handling charges paid by the Contractor. Responsibility and risk of loss or damage shall remain with the Contractor until final inspection and acceptance when responsibility shall pass to the City except as to latent defects, fraud, and the Contractor's warranty obligations.

Apparatus shall be delivered under its own power. Rail or truck freight shall not be acceptable. A qualified delivery engineer representing the contractor shall deliver the apparatus. The item must be delivered to the City of Vancouver, Fire Station 5, located at 7110 NE 63rd Street, Vancouver, Washington 98661.

7. Payment:

This agreement is for the refurbishment of a Tractor-Drawn Aerial Ladder Truck at a mutually agreed upon cost. Payment for these services shall not exceed \$941,908.33 including Washington State Sales Tax unless authorized in writing by the City, according to Section 31 of this Agreement. A written amendment must be attached.

Invoices will be paid at net thirty (30) days after the City's receipt and acceptance of the completed apparatus and associated services, provided that all appropriate information has been listed on the invoice and necessary forms have been submitted. Payment periods may be computed from either the date of delivery of all materials ordered, the completion of all services, or the date of receipt of a correct invoice, or the date the invoice is received in the Accounts Payable department, whichever date is later. No payment shall be due prior to the City's receipt and acceptance of the materials identified in the invoice thereof.

8. Adjustments:

The City at any time may make reasonable changes in the place of delivery, installation or inspection; the method of shipment or packing; labeling and identification; and ancillary matters that Contractor may accommodate without substantial additional expense to the City.

9. Assignment:

This Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any circumstances, be assigned or transferred by either party.

10. Waiver:

The City's failure to insist on performance of any of the terms or conditions herein or to exercise any right or privilege or the City's waiver of any breach hereunder shall not thereafter waive any other term, condition, or privilege, whether of the same or similar type.

11. Binding Effect:

The provisions, covenants, and conditions in this Agreement apply to bind the parties, their legal heirs, representatives, successors, and assigns. It will be at the City's sole discretion as to which terms may or may not apply to the Agreement.

12. Remedies Cumulative:

Remedies under this Agreement are cumulative; the use of one remedy shall not be taken to exclude or waive the right to use another.

13. Severability:

Any invalidity, in whole or in part, of any provision of this Agreement shall not affect the validity of any other of its provisions, unless the result of same would clearly be contrary to the overall intent of the parties in entering into this Agreement.

14. Taxes:

The Contractor shall pay, before delinquency, all taxes, levies, and assessments arising from its activities and undertakings under this Agreement; taxes levied on its property, equipment and improvements; and taxes on the Contractor's interest in this Agreement, provided, however, that any taxes that apply directly to the sale, such as a state or local sales tax, shall be added to the purchase price set forth in the Purchase Order.

15. Relation of Parties:

The Contractors, its subcontractors, agents, and employees are independent Contractors performing services for City and are not employees

of City. The Contractor, its subcontractors, agents and employees, shall not, as a result of this Agreement, accrue leave, retirement, insurance, bonding or any other benefits afforded to City employees. The Contractor, subcontractors, agents and employees shall not have the authority to bind City any way except as may be specifically provided herein.

16. Ownership of Materials, Writings and Products:

All materials, writings, and products produced by Contractor in the course of performing this Agreement shall immediately become the property of the City. In consideration of the compensation provided for by this Agreement, the Contractor hereby further assigns all copyright interests in such materials, writing and products to the City; provided, however, that this clause does not apply to materials, writings, or products in which Contractor has a copyright interest prior to the date of this Agreement. A copy may be retained by the Contractor.

17. Proprietary and Confidential Information:

The parties acknowledge that the City is an "agency" within the meaning of the Washington Public Records Act, Ch 42.56 RCW, and that materials submitted by the CONTRACTOR to the City become public record. Such records may be subject to public disclosure, in whole or part and may be required to be released by the City in the event of a request for disclosure. In the event the City receives a public record request for information that CONTRACTOR has marked as "Proprietary and Confidential," the City shall notify the CONTRACTOR of such request and withhold disclosure of such information for not less than FIVE (5) business days, to permit the CONTRACTOR to seek judicial protection of such information, provided that the CONTRACTOR shall be responsible for attorney fees and costs in such action and shall save and hold harmless the City from any costs, attorney fees or penalty assessment under Ch.42.17 RCW for withholding or delaying public disclosure of such information.

18. Warranties:

All products and related services, except as specified below, shall be warranted against faulty workmanship and materials by the Contractor for a minimum period of one (1) year from the date of acceptance by the City. Warranty shall include all costs incurred for repair or replacement except that which is damaged by misuse or abuse. This one (1) year warranty shall in no way affect normal extended or manufacturer's warranty exceeding this one (1) year period. Contractor warrants that all goods and services

furnished under this Agreement are new, conform strictly to the specifications herein, are merchantable, good workmanship, free from defect, comply with all applicable safety and health standards established for such products, all goods are properly packaged, and all appropriate instructions or warnings are supplied. All implied and expressed warranty provisions of the Uniform Commercial Code are incorporated into this Agreement.

There will be a delayed warranty of two (2) months after delivery and acceptance to allow VFD to prepare unit before going into service.

The warranty period will begin two (2) months after the apparatus is accepted or goes into service if less than two (2) months. All other warranties as outlined in these specifications will be provided in writing as part of the proposal package.

Warranty - Engine

The proposed unit will be equipped with a Fire Service rated engine, which will come furnished with a five (5) year Engine Manufacturer's warranty. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

Warranty - Transmission

The proposed Allison transmission will be provided with a five (5) year warranty. A copy of the Allison transmission warranty will be supplied to the purchaser to define additional details of the warranty provisions.

Warranty - Cooling system - Custom Chassis

The Contractor shall warrant all Cooling System Equipment components used in the construction of - Fire Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of three (3) years from the date of delivery / acceptance to the original user-purchaser, whichever occurs first.

This warranty applies to both purchased and fabricated, manufacturer-supplied, coolant system components, and is not provided in lieu of any Vendor provided warranties. All coolant system components provided by the engine manufacturer are covered by the engine manufacturer's warranty only.

Warranty - Custom Chassis Frame Rails

The proposed - custom chassis frame and cross members will be warranted to the original purchaser for the life of the vehicle. A copy of Contractor's

frame rail warranty will be supplied to define additional details of the warranty provisions.

Warranty - Steering Unit (Chassis)

The proposed Sheppard steering gear will be warranted for a period of three (3) years from the first date of service or 150,000 miles (241,401 kilometers), whichever occurs first. The product will be free from defects in material and workmanship under normal use in applications approved in advance by Sheppard.

Warranty - Front Axle (Chassis)

The Meritor axle will be provided with a two (2) year parts and labor warranty. The wheel seals, gaskets and wheel bearings will have a one (1) year warranty. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions.

Warranty - Rear Axle (Chassis)

The Meritor axle will be provided with a two (2) year parts and labor warranty. The wheel seals, gaskets and wheel bearings will have a one (1) year warranty. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions.

Warranty - ABS(Chassis)

The Meritor ABS will be provided with a three (3) year warranty, parts and labor. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions. Vehicles that operate full or part time outside the United States and Canada will have a one (1) year, parts only warranty.

Warranty - Cab Structure (cChassis)

The proposed cab will be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

Warranty - Paint (Chassis & Trailer)

The proposed paint finish will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

19. Non-Discrimination and Equal Employment Opportunity:

During the term of this Agreement, the Contractor agrees as follows: The Contractor will not discriminate against any employee or applicant for employment because of creed, religion, race, color, sex, marital status, sexual orientation, political ideology, ancestry, national origin, or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their creed, religion, race, color, sex, national origin, or the presence of any sensory, mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

20. Indemnification:

Contractor agrees to indemnify, defend, save and hold harmless the City, its officials, employees and agents from any and all liability, demands, claims, causes of action, suits or judgments, including costs, attorney fees and expenses incurred in connection therewith, or whatsoever kind or nature (including patent infringement or copyright claims) arising out of, or in connection with, or incident to, the performance of services pursuant to this Agreement. This indemnity and hold harmless shall include any claim made against the City by an employee of Contractor or subcontractor or agent even if Contractor is thus otherwise immune from liability pursuant to the workers' compensation statute, Title 51 RCW, except to the extent that such liability arises from the sole negligence of the City. Contractor specifically acknowledges that the provisions contained herein have been mutually negotiated by the parties and it is the intent of the parties that Contractor provide the broadest scope of indemnity permitted by law. Contractor is an independent Contractor and responsible for the safety of employees.

21. Order Quantity:

This is an as-needed Agreement; orders will be placed with Contractor via signed Purchase Orders on an as-needed basis. The City is not obligated to any minimum or maximum quantities under this Agreement.

22. Termination:

The City, at its sole discretion, may terminate this Agreement for convenience at any time for any reason deemed appropriate. Termination is effective immediately upon notice of termination given by the City.

23. Commercial and General Liability Insurance:

The Contractor shall obtain and keep in force during the entire term of this agreement, liability insurance against any and all claims for damages to person or property which may arise out of the performance of this Contract whether such work shall be by the Contractor, subcontractor or anyone directly or indirectly employed by either the Contractor or a subcontractor. The amount of coverage provided by such insurance shall be not less than the minimum identified:

- \$2,000,000.00 minimum/general liability per occurrence
- \$1,000,000.00 minimum/general aggregate occurrence
- \$1,000,000.00 minimum/automobile combined single limit (each accident)
- City of Vancouver named as additional insured on the commercial general liability policy and an "additional insured" policy endorsement CG2012, CG2026 or equivalent must be included with the certificate of insurance. The "additional insured" endorsement should include "completed operations"; and that the insurance required include a "Waiver of Subrogation" and must be Primary and Non-contributory".
- Current compliance with the State of Washington Industrial Insurance Program

Contractor shall provide evidence of all insurance required, at the City's request, by submitting an insurance certificate to the City on a standard "ACORD" or comparable form.

24. Performance Bond

The Contractor shall furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 10 days of the notice of award. Such Bond shall be in a form acceptable to the City and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Contractor and Contractor's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the manufacturer's products' warranty period included within this

proposal. Owner agrees that the penal amount of this bond shall be simultaneously amended to 100 percent of the total contract amount upon satisfactory delivery and acceptance of the refurbished apparatus included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type shall not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual product warranty period, whichever is shorter.

The Performance Bond shall be executed by the successful bidder and a surety company, licensed to do business within the State of Washington on the approved City of Vancouver form (ATTACHMENT C).

25. Other Liabilities:

Contractor agrees to indemnify, defend, save, and hold harmless the City, its officials, employees and agents from all claims, suits, and actions of any nature arising out of or related to the products and activities of the Contractor, its officers, subcontractors, agents, or employers under this Agreement.

26. Worker's Compensation:

The Contractor shall comply with the State Washington, Department of Labor and Industries Industrial Insurance program, for all of its employees who are required to be so covered by the laws of the State of Washington and in case any work is subcontracted, the Contractor shall require the subcontractor to provide worker's compensation insurance for all of its employees unless or to the extent that such employees are covered by the protection provided by the Contractor.

27. Employment Security:

The Contractor shall comply with all employment security laws of the State of Washington, and shall timely make all required payments in connection therewith.

28. Compliance with the Law:

The Contractor shall have the authority to control and direct the performance and details of the work described herein. The Contractor agrees to comply with all relevant, federal, state and municipal laws, rules and regulations.

29. Licenses and Similar Authorizations:

The Contractor, at no expense to the City, shall be responsible to obtain all necessary licenses, permits, and similar legal authorizations required to perform the work associated with this Agreement, including, but not limited to a City of Vancouver Business License and all associated requirements under Ch. 5.04 VMC and Ordinance M-3774, and conform to VMC 5.04.095 (tax per employee ordinance).

30. Notices:

All notices which are given or required to be given pursuant to this Agreement shall be hand delivered or mailed postage paid as follows:

City:

Contractor:

Natasha Ramras
City of Vancouver
P O Box 1995
415 W 6th Street
Vancouver WA 98668-1995

Mark Merritt
Cascade Fire and Safety
123 South Front St
Yakima WA 98901

31. Amendments:

This Agreement shall not be altered, changed, or amended except by an instrument in writing executed by the parties hereto. Any changes in the scope of work or compensation shall be mutually agreed upon between City and the Contractor and shall be incorporated in written amendments to this Agreement.

32. Entire Agreement:

This Agreement incorporates all the agreements, covenants, and understanding between the parties hereto and are merged into this written agreement. No prior agreement or prior understanding, verbal or otherwise, of the parties or their agents shall be valid or enforceable unless set forth in this Agreement.

33. Cooperative Purchasing:

The Washington State Inter-local Cooperation Act, Ch. 39.34 RCW, authorizes public agencies to cooperatively purchase goods and services if all

parties agree. By having responded to RFP #9-18 and executing this Agreement, the Contractor agrees that other public agencies may purchase goods and services under this solicitation or Agreement at their own cost and without the City of Vancouver incurring any financial or legal liability for such purchases. The City of Vancouver agrees to allow other public agencies to purchase goods and services under this solicitation or Agreement, provided that the City of Vancouver is not held financially or legally liable for purchases and that any public agency purchasing under such solicitation or Agreement file a copy of this invitation and such agreement in accordance with RCW 39.34.040.

34. Ratification:

Acts taken pursuant to this Agreement but prior to its effective date are hereby ratified and confirmed.

35. Governing Law/Venue:

This Agreement shall be deemed to have been executed and delivered within the State of Washington, and the rights and obligations of the parties hereunder shall be construed and enforced in accordance with, and governed by, the laws of the State of Washington without regard to the principles of conflict of laws. Any action or suit brought in connection with this Agreement shall be brought in the Superior Court of Clark County, Washington.

36. Authority to Execute:

The Contractor warrants that it has legal authority to enter into this agreement and the signatory below is authorized to execute this Agreement on behalf of the Contractor and is at least 18 years of age.

ALL SIGNATURES ON NEXT PAGE

CITY OF VANCOUVER,
A municipal corporation

CONTRACTOR:
Cascade Fire and Safety

Eric Holmes, City Manager

Signature:

Attest:

By: Printed Name / Title

Natasha Ramras, City Clerk
By: Carrie Lewellen, Deputy City Clerk

Approved as to form:

E. Bronson Potter, City Attorney

ATTACHMENT A

TECHNICAL SPECIFICATIONS

GENERAL CONSTRUCTION

The proposed apparatus, assemblies, subassemblies, component parts, etc., will be designed and constructed with the due consideration to the nature and distribution of the load to be sustained and to the general character of the service to which the apparatus is subjected to when placed in service. All parts of the apparatus will be designed with a factor of safety, which is equal to or greater than that which is considered standard and acceptable for this class of equipment in firefighting service. All parts of the proposed apparatus will be strong enough to withstand general service under full load. The apparatus will be so designed that the various parts are readily accessible for lubrication, inspection, adjustment and repair.

The apparatus shall be designed with due consideration to distribution of load between the front and rear axles. Weight balance and distribution shall be in accordance with the recommendations of the National Fire Protection Association and in compliance with Washington State Law.

GENERAL APPARATUS DESCRIPTION "AERIAL"

The unit shall be designed to conform fully to the "Aerial Fire Apparatus" requirements as stated in the NFPA 1901 Standard (2016 Revision).

Proposals received from bidders who do not manufacture the chassis will be rejected.

Wheelbase

The wheelbase of the tractor will be 155".

CAB SAFETY SIGNS

The following safety signs shall be provided in the cab:

- A label displaying the maximum number of personnel the vehicle is designed to carry shall be visible to the driver.
- "Occupants will be seated and belted when apparatus is in motion" signs shall be visible from each seat.
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).
- A label displaying the height, length, and GVWR of the vehicle shall be visible to driver.
- This label shall indicate that the fire department will revise the dimension if vehicle height changes while vehicle is in service.

CHASSIS DATA LABELS

The following information shall be on labels affixed to the vehicle:

Fluid Data

- Engine Oil
- Engine Coolant
- Chassis Transmission Fluid
- Pump Transmission Lubrication Fluid
- Pump Primer Fluid (if applicable)
- Drive Axle(s) Lubrication Fluid
- Air Conditioning Refrigerant
- Air Conditioning Lubrication Oil
- Power Steering Fluid
- Cab Tilt Mechanism Fluid
- Transfer Case Fluid (if applicable)
- Front Tire Cold Pressure
- Rear Tire Cold Pressure
- Maximum Tire Speed Rating

Chassis Data

- Chassis Manufacturer
- Production Number
- Year Built
- Month Manufactured
- Vehicle Identification Number

Manufacturers weight certification:

- Gross Vehicle (or Combination) Weight Rating (GVWR or GCWR)
- Gross Axle Weight Rating, Front
- Gross Axle Weight Rating, Rear

ROLLOVER STABILITY

The apparatus shall meet the criteria defined in 4.13.1 for rollover stability as defined in the 2016 NFPA Standard for Automotive Fire Apparatus.

The axle and total weight ratings of the cab chassis will not be less than the following minimum acceptable weight ratings: Does not include trailer.

MINIMUM FRONT G.A.W.R.: 20,000 lbs.
MINIMUM REAR G.A.W.R.: 24,000 lbs.
MINIMUM TOTAL G.V.W.R.: 44,000 lbs.

Contractor shall include the principal dimensions, front G.A.W.R., rear G.A.W.R., and total G.V.W.R. of the proposed apparatus. (Includes trailer) Additionally, VENDOR will provide a weight distribution of the fully loaded, completed vehicle; this will include a miscellaneous

equipment allowance in accordance with NFPA-1901 requirements, and an equivalent personnel load of 250 lbs. per seating position.

SEAT BELT ANCHOR TESTING

Each seat belt anchor shall be tested to withstand 3,000lbs of pull on both the lap and shoulder belt in accordance with FMVSS 210 section 4.2.

SEAT MOUNTING TESTING

Each seat mounting position shall be tested to withstand 20G's of force in accordance with FMVSS 207 section 4.2(c).

Both tests shall be performed and verified at a third party testing and evaluation center.

****** CAB AND CHASSIS ******

CAB TYPE

- **FULL TILT**
- **CONTOUR WINDSHIELD**

The cab shall be a custom tilt style, built specifically for fire service. The cab shall be a cab over engine design, with integral tilt mechanism and engine access from inside the cab.

Cab shall be designed, fabricated, assembled in its entirety, and installed on the frame rails in the manufacturer's factory. This requirement will eliminate any split responsibility in warranty and service.

OPEN SPACE DESIGN

The cab interior shall be the "Open-Space" design with no wall, window or vertical support posts between the front and rear crew areas to allow direct communication, better visibility and air circulation in the cab.

CAB MATERIAL - ALUMINUM

The cab shall be fabricated from 5052-H 32 aluminum alloy, utilizing the minimum material thickness as follows:

Cab side panels	0.125 thick (1/8")
Cab roof	0.125 thick (1/8")
Forward cab front sheet	0.125 thick (1/8")
Interior cab panels	0.125 thick (1/8")
Other panels	0.125 thick (1/8")
Cab doors	0.1875 thick (3/16")

Engine enclosure side panels

0.250 thick (1/4")

CAB - BASE CONSTRUCTION

Cab sub-frame shall be a welded assembly fabricated of 6063 structural aluminum alloy. This frame shall extend the full length and width of the cab and be secured to the chassis frame through two (2) rear urethane self-centering load cushions, two (2) forward pivot brackets, and two (2) cab locks. The cab shall be of entirely welded construction.

The front cab wall shall be of double wall type construction, featuring an inner and outer panel.

CRASH TESTING CERTIFICATION

To ensure the safety of the cab occupants and cab integrity, proof of third party testing shall be provided. The cab shall be certified for SAEJ2422 side impact, SAEJ2420 with ECER29 cab front impact, and ECER29 cab roof strength.

Furthermore, proof of testing and certification shall be provided that the cab, in accordance to SAE J2420 was front impact tested at 2.1 times the standard energy required in SAE J2420, thus exceeding the NFPA requirement.

This test shall be performed with no support immediately behind the cab, thus providing an authentic test result.

ROOF AND SIDE LOAD TESTING

The cab design will include additional third party testing to ensure the safety of the cab occupants and cab integrity, proof of third party testing shall be provided. The cab shall be certified for SAEJ2422 side impact, SAEJ2420 with ECER29 cab front impact, and ECER29 cab roof strength.

The manufacturer shall provide proof that third party testing has been conducted to prove a static roof and a static side-load test has been completed. In these tests, a 120,000 pound static load was first applied to the roof. This test was followed by applying the same 120,000 pound static load to the side of the cab.

These tests will be conducted per the SAE J2422, Cab Roof Strength Evaluation, protocol and the ECE R29, Uniform provisions concerning the approval of vehicles with regard to the protection of occupants of the cab of a commercial vehicle, protocol.

During both tests, the cab will withstand these loads without encroachment into the occupant survivable space and all doors remained closed during the test. The tests will be documented with photographs and real-time video in a report provided to the manufacturer.

DIMENSIONS - MEDIUM FOUR DOOR STYLE CAB

The cab shall be fully enclosed, capable of comfortably seating six (6) fire fighters in full firefighting turnout gear, cab over engine design, with integral tilt mechanism and engine access on top of doghouse.

Minimum Cab Dimensions:

- Overall width 100"
- Inside width across ceiling 92"
- Front area floor to ceiling 63"
- Crew seat area width 92"
- Outer crew seat risers to rear wall 42"
- Centerline front axle to back of cab 62-1/2"
- Centerline axle to front of cab 74"

- Top of front seat to ceiling 44" (depending upon seat type)
- Seat back to steering wheel 22" (depending upon seat type)
- Inside width (door to engine enclosure) 27" (driver's side, at floor)
- Inside width (door to engine enclosure) 24" (officer's side, at floor)
- Floor to top of engine enclosure 27"
- Front cab floor to top of center dash 34-3/4"

Glass Area Dimensions:

- Windshield (Contour) 3,422 sq. in.
- Front door window, retractable 743 sq. in. each
- Rear door window, retractable 875 sq. in. each
- Fixed side windows 620 sq. in. each

Cab Entry Door Width Dimensions

- Forward door opening 40" wide
- Rear door opening 37" wide

Cab Entry Step Dimensions

- Forward door recessed step 32" wide x 9" deep
- Rear door recessed step 32" wide x 9" deep

DIMENSIONS - MEDIUM FOUR DOOR STYLE CAB CONT'D

Cab Entry Door Height Dimensions

- Forward door opening 76-1/4" high
- Rear door opening 76-1/4" high

CAB ROOF

The roof will be of a flat level design with radius edges for an aesthetic, streamline appearance. The roof shall be constructed the same material as the main structure and shall be internally reinforced using framing which shall span the entire width and length of the cab for maximum

structural integrity. This shall allow the roof to support personnel and roof mounted equipment without the need for additional reinforcement.

The cab roof over the rear crew area shall be the same as front of cab.

Approximate dimensions:

- Crew area floor to ceiling 64"
- Top of crew seat to ceiling 46" (depending upon seat type)

CAB ROOF OVERLAY

A bright finish aluminum tread plate overlay shall be placed on the cab roof, starting at a point rearward of the light bar location and extending back to the end of the cab roof. This tread plate overlay shall be sealed with caulking around the edges to prevent moisture from entering the area between the cab roof and the overlay.

CAB ROOF DRIP RAIL

For enhanced protection from inclement weather, an integral drip rail shall be furnished on each side of the cab roof. The drip rail shall extend the full length of the cab roof.

STEPWELL BATTERY ACCESS DOORS

The battery access door(s) shall be 1/8" aluminum tread plate, drop down doors with thumb latches at each side rear cab step well.

BARRIER HEIGHT CAB DOORS

Four (4) side-opening doors shall be provided. The cab doors shall be shortened to the floorboard level, thus leaving an exposed step well area at each cab entrance. The cab doors shall be totally aluminum construction with an extruded aluminum frame and an aluminum outer door skin.

The forward cab door opening shall be a minimum of 40" wide, and the rear cab door opening shall be a minimum of 37" wide. The rearward cab doors shall have a radius cutout allowing the door opening to protrude forward over the cab wheel well, while providing full access to the rear crew area.

There shall be a heavy duty piano type stainless steel hinge on each door of a minimum pin diameter of 5/16". Hinges shall be slotted for ease of horizontal and vertical adjustment. There shall be a cab door seal and the doors shall close flush with the side of the cab. A heavy-duty 6" wide belting material shall be utilized to prevent the cab doors from opening greater than 90 degrees.

CAST OPEN GRATE STEPS

The front entrance steps shall be a minimum of 9" deep. Each step shall be cast aluminum, open grate style step with a polished aluminum outer surface. The cab step risers shall be overlaid with .063" polished aluminum tread plate. There will be only (1) one step from the ground to cab floor for office and driver. **NO EXCEPTION**

The rear entrance steps shall be a minimum of 9" deep. Each step shall be cast aluminum, open grate style with a polished aluminum outer surface. The cab step risers shall be overlaid with .063" polished aluminum tread plate.

BOLT ON WEATHER STRIP

The cab doors shall be equipped with a weather strip, seal track on the lower portion of the door. Bolt-on tracks shall be provided to allow for a snap-on, replaceable weather stripping to be changed easily, and shall be fastened in place with neuters to ensure longevity.

DOOR LATCHES

A semi-recessed chrome plated pull handle, capable of operating with a gloved hand, shall be provided on the exterior of each cab door. Heavy-duty, bright finish cast paddle latches shall be provided on the interior of each cab door. Door latch mechanisms which utilize spring steel clamps shall not be considered due to their tendency to both rust and break. The interior door latch cables are to be designed to reduce adjustment or possible wear at the adjustment turnbuckles.

LOCKING CAB DOORS

Each exterior cab door shall be equipped with keyed locks. The cab doors shall be capable of being locked from the outside with a key and from the inside with a control in each interior paddle latch.

DOOR WINDOWS

Each side cab door shall have a tinted retractable window operated by a hand crank mechanism. The window track shall be designed into the door frame extrusion, which shall be extruded with a track groove to house a window track and seal. The window shall be capable of being removed from an access slot designed in the bottom of the door frame.

DOOR WINDOW TRIM

Each side cab door window shall be designed with a custom extruded trim plate, which shall conform to the perimeter of the window opening in each door. The trim plate shall extend from the edge of the door skin to the window and shall have a silver anodized finish.

INNER DOOR PANELS

The cab door interior panels shall be covered with a one piece, brushed stainless steel panel, full height. The panel shall be 16 gauge stainless steel with a brushed finish and shall be designed to allow easy access to the inner door.

DOOR WARNING - CHEVRON

Four (4) Chevron reflective signs shall be installed on the lowest portion of the inner door panels, one (1) on each door. These chevrons shall cover at least 96 in².

Color to match the rear of the body chevron colors

CAB DOOR FRAME AND JAMB SCUFF PLATES

A polished stainless steel trim plate shall be provided rearward of each cab door opening to protect the vertical cab corner rearward of the door opening and on the cab door striker posts to protect the cab paint when exiting and entering the cab.

CAB SCUFF PANEL

A polished stainless steel scuff plate shall be installed on the rear cab corners. The scuff plate shall extend the full height of the cab rear corner panel.

EXTERIOR CAB WALL OVERLAY

A bright finish aluminum tread plate overlay shall be provided over the entire exterior rear cab wall. The tread plate overlay shall be sealed with caulking around the edges to prevent moisture from getting between the cab and the overlay.

WINDSHIELD/GLASS

A two piece, symmetrical, safety glass windshield shall be provided on the cab for the driver and officer providing a clear viewing area. The windshields shall be full width to the center of the front cab support for each side and provide the occupants with a panoramic view. To provide enhanced peripheral vision on each side of the cab, the windshield and cab structure shall be designed with radius corners, which provide a minimum of 8" of glass area, measured from the glass face to the side edge near the door post. The windshield shall consist of three (3) layers; the outer light, the middle safety laminate and the inner light. The thick outer light layer shall provide superior chip resistance, the middle safety laminate layer shall prevent the windshield glass pieces from detaching in the event of breakage and the inner light shall provide yet another chip resistant layer.

The windshield will be a contour design with 3422 sq. in. of area for improved visibility and style. The windshield glass shall be designed so it can be used on either the driver or officer side. Single piece windshields that utilize epoxy or that are bonded to the cab structure shall not be acceptable.

The windows provided on each side of the cab behind the forward cab doors shall be deleted.

WINDSHIELD WIPERS AND WASHER

Dual, electric operated, pantographic type windshield wipers shall be provided. One (1) electric drive motor shall be provided for each wiper.

Wipers shall have "HI/LO" and "INTERMITTENT" operating speeds. "HI/LO" speeds shall be controlled by a steering column control, within the turn signal control stem. "INTERMITTENT" operation shall be controlled by a twist switch within the control on the steering column. The wipers shall be of the self-parking type.

Windshield washers shall be electric operated wet-arm type with a 3/4 gallon washer fluid reservoir, mounted inside the engine enclosure and readily accessible through the engine hatch at the rear of the engine enclosure. The washer control shall be integral with the intermittent wiper control switch.

There shall be individual removable panels on the front face of the cab for access to the wiper motor assemblies.

WINDSHIELD WIPER DURABILITY CERTIFICATION

Windshield wipers shall survive testing in excess of 3 million cycles in accordance with section 6.2 of SAE J198 "Windshield Wiper Systems – Trucks, Buses and Multipurpose Vehicles". The bidder shall certify that the wiper system design has been "Third party tested" and that the wiper system has met this criteria.

DARK TINTED REAR WINDOW GLASS

The windshield and the forward cab door glass shall be provided with standard DOT green automotive tint. The side cab windows to the rear of the front doors, the rear cab door windows and any rear viewing windows shall be equipped with a dark automotive tint.

GRAB HANDLES

Four (4) 1-1/4" diameter x 28" long, knurled bright anodized aluminum handrails shall be provided, one (1) at each cab door entrance. Grab rail stanchions shall be chrome plated and offset when necessary to prevent "hand-pinching" when opening or closing the doors. Formed rubber gaskets shall be provided between each stanchion base and the cab surface.

INTERIOR GRAB RAILS

Grab rails shall be provided to assist in entry and exiting of the cab. Each grab rail shall be a cast aluminum "D" style handle that shall have a wheelabrated finish and shall be located in the following locations:

- Four (4) 12" long, vertically mounted, one (1) on the officer's and drivers side of the cab interior "A" post and one (1) on each side of the cab interior on the "C" post in the crew area
- One (1) 11" long, horizontally mounted, on each front cab door on the interior door panel
- One (1) 11" long, horizontally mounted, on each rear cab door on the interior door panel
- One (1) 30" long, horizontally mounted, on each rear cab door, located approximately 8" above the bottom of the window opening.

INTERIOR GRAB RAIL

One (1) Hansen 1-1/4" diameter x 14" long, knurled stainless steel grab rail will be installed on the vertical surface of the dash under the MDT tray. It will be constructed from knurled aluminum tubing.

STAINLESS STEEL FRONT CAB GRILL

There shall be a mirror finished stainless steel, custom formed grille assembly for maximum air flow to the charge air cooler and the radiator. The grille shall be designed with an aesthetic look, with large horizontal louvers that will be reinforced to provide integrity.

The grill shall be a modular design to allow the sides or the individual louvers to be replaced if damaged.

A mesh bug screen shall be provided behind the front grill assembly to protect the radiator from bugs and other debris. The screen shall be secured to the front of the cab by button snaps, behind the main grill.

AIR INTAKE/OUTLET

Two (2) shaped, mirror finished stainless steel air inlets/outlets shall be provided horizontally above the wheel well opening, one on each side of the cab. The grilles shall be equipped with a mesh screen to serve as a secondary ember separator. The design shall permit proper ducting of air through the engine compartment and cooling system.

ENGINE AIR INTAKE SYSTEM

The left side inlet, used for the air intake to the air cleaner, shall be equipped with dual ember separators for separating burning embers from the air intake system. This system shall be such that particles larger than .039 inches (1 mm) in diameter cannot reach the air filter element.

No part of the air intake system for the engine shall be lower than the top of the frame rails to ensure the vehicle can navigate pooled water without any part of the air intake system being exposed to water when the vehicle is stopped or in motion. Chassis designs, which the engine air intake system is lower than the frame rails shall not be acceptable!

CAB WHEEL WELL LINERS

The front cab wheel wells shall be equipped with fully removable, bolt-in, aluminum inner wheel well liners. The liners shall extend full depth into the truck frame. The completely washable wheel well liners shall be designed to protect the cab substructure, inner panels, and other miscellaneous installed components from road salts, debris, dirt accumulation and corrosion.

CAB FENDERETTES

The cab wheel well openings shall be trimmed with replaceable, bolt-in, polished stainless steel fenderettes. The fenderettes shall be secured to the cab with stainless steel threaded fasteners along the internal perimeter of the wheel well. Dissimilar metal tape and black vinyl trim molding shall be used where the cab and fender meet.

FRONT MUD FLAPS

Heavy duty, black rubber type mud flaps shall be provided behind the front wheels.

CAB RADIUS MOUNTED MIRROR

Two (2) Ramco model 6001 FFHR-750HR polished aluminum, full face, heated, remote operated, 13 inches high X 9 3/4 wide mirrors, with a 750 top add-on heated / remote convex mirror, on a standard arm length of 15 inches shall be provided and installed. The flat glass and top mirror head shall be remote operated. The mirror head shall be attached to a polished aluminum arm mounted on the cab radius panel.

*****A 4" extension will be provided on each Ramco mirror arms (RAMCO# PRO364-4) to raise the mirror heads. *****

MIRROR CONTROL/S

Mirror position and heat (if applicable) controls for the door mirrors shall be provided on the center lower dash panel in easy reach of the driver. The control switches shall be as provided by the mirror manufacturer.

INTERIOR CAB TRIM

The cab interior shall be constructed to create an ergonomically designed interior to be user friendly and functional for the driver and officer.

The forward overhead panel shall be covered with a three (3) piece custom formed ABS vinyl overlay, which shall have integrated windshield defroster/heat vents and four (4) comfort vents.

All ABS formed material panels, as well as all of the interior upholstery panels shall be medium gray in color. The upholstered cab overhead shall utilize gray Durawear upholstery with padding underneath to provide additional insulation. The side walls will utilize gray vinyl.

The side wall portions shall be upholstered with grey vinyl.

****The center overhead panel, rear cab wall and ceiling will be upholstered with grey Durawear. All other cab upholstery shall be grey vinyl material.**

****The center overhead panel will be fabricated from 3/16" aluminum. ****

The interior metal surfaces of the cab shall be finish painted with a textured gray paint.

HEADLINER FASTENERS

The headliner will be fastened to the cab sub-structure utilizing threaded nut-serts ASE threaded fasteners where possible.

INTERIOR REAR WALL

The interior rear wall of the cab shall be covered with gray Durawear for durability and shall match the other upholstered areas of the cab.

A twelve (12) inch high bright finish aluminum tread plate scuff plate shall be provided on the lower portion of the rear interior cab wall.

UNDER SEAT STORAGE COMPARTMENTS

There shall be a compartment provided under each front seat. Each compartment shall be accessible from the front of the seat riser when the door is opened.

BARYFOL FLOORING

The floor of the driver's compartment and the floor of the crew area shall be lined with BARYFOL vinyl composite flooring to comply with NFPA noise and heat requirements.

ADDITIONAL FLOOR INSULATION

Beneath the officer side front floor, additional insulation shall be provided. The insulation shall be covered by an aluminum panel.

CAB ACOUSTICAL INSULATION

One (1) inch thick acoustical insulation shall be provided on the cab roof and rear and side walls of the cab. This material shall be fitted between the cab structural members and secured with adhesive to provide an insulation barrier for noise and heat.

ENGINE ENCLOSURE

The forward portion of the engine enclosure shall be covered with **GRAY VINYL** formed overlay to match the balance of the cab interior. To allow maximum "elbow room" for the driver and officer, the forward portion of the engine enclosure shall feature a contour shape. The engine enclosure shall not significantly obstruct the driver's vision in any direction. The enclosure shall be an integral part of the cab structure, which shall be constructed from material providing adequate strength to support radio, map boxes, etc. The engine enclosure shall be insulated to protect from heat and sound. The noise insulation shall keep the DBA level within the limits stated in the current NFPA series 1901 pamphlet.

A padded, hinged access door shall be provided in the top rearward portion of the engine enclosure. The door shall allow access to the engine oil, transmission fluid, power steering fluid level dipsticks and the windshield washer fluid reservoir. The access door shall be provided with two (2) flush mounted latches and gas shock holders. There shall be a **VINYL** material cover over the access door to give a cleaner look to the top of the engine enclosure and doghouse area.

The enclosure shall be an integral part of the cab structure, which shall be constructed from a minimum of .25" 5052-H32 aluminum. This material shall be welded to the floor sub frame on each side of the cab and shall extend from the very front of the cab to the rear of the engine enclosure.

SUN VISORS

To provide maximum protection for the driver and officer, two (2) padded vinyl sun visors shall be mounted in the cab overhead on each side.

******* CAB SEATING & ACCESSORIES *******

RIVERS SEAT

The driver's seat shall be a H. O. Bostrom Sierra EX8 high back bucket ABTS LH seat. The seat shall have a tapered and padded seat cushion with lumbar support. The seat shall have an eight inch fore and aft adjustment, a 2 inch height adjustment, front of seat tilt, rear of seat tilt and a reclining seat back. All seat movements shall be electrically controlled from a control panel on the forward lower edge of the seat.

The seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly.

OFFICERS SEAT

The officer's seat shall be a H. O. Bostrom Tanker 450 EX6, 6 Way Electric, ABTS RH. The seat shall have a tapered and padded seat cushion with lumbar support. The seat shall include a SCBA storage area with integral headrest.

A Power 6" fore/aft adjustment and Power 2" height adjustment shall be provided.

The seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly.

The officer's seat shall include a Zico ULLH bottle bracket and restraint strap assembly.

DELETE REAR FACING, OUTBOARD, DRIVER SIDE SEAT

There shall not be a crew seat provided in the rear facing driver's side position to allow for mounting of compartments and/or other specified equipment.

DELETE REAR FACING, OUTBOARD, OFFICER SIDE SEAT

There shall not be a crew seat provided in the rear facing officer's side position to allow for mounting of compartments and/or other specified equipment.

FORWARD FACING, OUTBOARD, DRIVER SIDE SEAT

The driver's side outboard forward facing crew seat position shall be provided. The inner rear cab wall of the cab will serve for back support.

The seating position shall be equipped with a red 3-point shoulder harness with lap belt.

REAR WALL BACK CUSHION

Add two (2) back cushions on the rear interior cab wall for each flip down outboard seating positions. The seat back cushion will be mounted to aluminum tread plate overlay.

The cushions shall extend from the seat bottom to the top of the cab rear wall.

The driver's side outboard forward facing crew seat position shall have a flip-up style seat.

FORWARD FACING, OUTBOARD, OFFICER SIDE SEAT

The officer's side outboard forward facing crew seat position shall be provided. The inner rear cab wall of the cab will serve for back support.

The seating position shall be equipped with a red 3-point shoulder harness with lap belt.

The officer's side outboard forward facing crew seat shall have a flip-up style seat.

CENTER FORWARD FACING CREW SEATS

Two (2) center inboard forward facing crew seats shall be provided. Each seat shall be H. O. Bostrom Tanker 450 ABTS series fixed SCBA seat and shall have a tapered and padded seat cushion with lumbar support.

Each seat shall include an SCBA storage area with integral headrest.

Each seat shall be equipped with a red integrated 3-point shoulder harness with lap belt and an automatic retractor built into the seat assembly.

The two (2) center inboard forward facing crew seats shall have standard seat.

Each center forward facing seat shall include a Zico ULLH bottle bracket and restraint strap assembly.

FORWARD FACING CREW SEAT RISER

The center forward facing seats shall be mounted on an aluminum riser that shall be mounted in the center of the cab. The riser shall match the interior of the cab and shall have an individual, painted compartment door with latch to provide additional storage space in the cab. The door will be located on the front of the riser. An IOTA DLS-55IQ4 shoreline charger will be mounted on the back center wall inside the seat riser. The riser shall be enclosed on the sides with ventilated panels.

SEAT UPHOLSTERY MATERIAL

The seats shall be upholstered with heavy duty gray Duracoat vinyl material as provided by Bostrom.

SEAT BELT CUSHION SENSORS AND BELT SENSORS

The apparatus shall be equipped with a Class 1 seat belt warning system. The system shall consist of a Seat Belt module, dash mounted Icon style display and an audible alarm.

Seat belt and seat cushion sensors shall be provided on the six (6) specified seating positions.

VEHICLE DATA RECORDER

A Class 1 Vehicle Data Recorder (VDR) system shall be provided. The system shall include an NFPA compliant "Black Box" with reporting software that shall be capable of data storage to coincide with the NFPA requirements.

Data storage capabilities shall include interfaces with the following systems:

- Display module (Master Optical Warning Device)
- VDR, date & time stamp
- Max Vehicle speed (MPH)
- Vehicle acceleration / deceleration (MPH/Sec.)
- Engine Speed (RPM)
- ABS event
- Data password protected
- Data sampled once per second, in 48-hour loop
- Data sampled min by min for 100 engine hours
- Throttle position (% of Throttle)
- Data software
- PC / Mac Compatible
- Data summary reports

The VDR data shall be downloadable by USB cable to a computer using either Microsoft or Apple operating systems.

EXTERNAL CAB STORAGE COMPARTMENT WITH HINGED DOOR + INTERNAL ACCESS DOOR

A storage compartment will be mounted in the cab in lieu of the driver's side rearward facing crew seat. The compartment will be approximately 23 7/8" deep (**to match existing VFD units**) x 22 3/4" wide. The top of the compartment will match the height of VFD units. The external door opening will be approximately 8" high x 20" wide. The compartment will be constructed of aluminum, painted with textured paint matching the interior color of the cab and will be equipped with a hinged flush mount door on the exterior. The exterior door will be held in the open position by a gas shock stay arm. The inner panel of the door shall be unpainted brushed aluminum. An internal compartment door will be provided with a vertical hinge toward the engine enclosure.

The interior of the aluminum body compartments shall have an unpainted "DA" finish inside. All seams shall be caulked with a clear silicone type caulking.

The compartment shall be equipped with one (1) Amdor LED interior light(s). The lighting shall be wired to automatically activate when the compartment door is open and the master battery switch is in the "on" position.

EXTERNAL CAB STORAGE COMPARTMENT WITH A HINGED DOOR + INTERNAL ACCESS DOOR

A storage compartment shall be mounted in the cab in lieu of the officer's side rearward facing crew seat. The compartment shall be approximately 23 7/8" deep in the front and the rear corner shall be at a 45-degree angle to the depth of 18". The front of the compartment shall be 27-1/2" high and slope at 10-degrees to the inside wall with a depth of 23-7/8". The door opening shall be approximately 27-1/2" high x 21-1/2" wide.

The compartment shall be constructed of aluminum, painted with textured paint matching the interior color of the cab and shall be equipped with a hinged flush mount door with a painted finish and an internal access door, latched and painted. The exterior door shall be held in the open position by a gas shock stay arm.

The interior of the aluminum body compartments shall have an unpainted "DA" finish inside. All seams shall be caulked with a clear silicone type caulking.

The compartment shall be equipped with one (1) Amdor LED interior light(s). The lighting shall be wired to automatically activate when the compartment door is open and the master battery switch is in the "on" position.

One (1) adjustable shelf(s) shall be provided in the compartment. The shelf(s) shall be constructed from 3/16" brush aluminum mounted to uni-strut tracking material.

ANTENNA INSTALLATION

One (1) antenna mounting base(s) model #NMO with 17' of coaxial cable shall be provided and installed on the lower cab roof, behind the light bar. The attached antenna wire(s) shall be run to the upper forward overhead console area with a pigtail for hookup.

The Fire Department is responsible to have the correct antenna whip installed once the apparatus is delivered.

ANTENNA INSTALLATION

One (1) Dual Band antenna mounting base and antenna model #345146 with 17' of coaxial cable shall be provided and installed on the lower cab roof, behind the light bar. The attached antenna wire(s) shall be run to the right side cab dash area.

RETAINING LIP, DRIVER SIDE DOGHOUSE

On the driver side of the doghouse, a 1" high lip will be installed that will be set in from the driver side outside edge 3-1/2", will go from the forward control panel and run rearward to within 2-

1/2" of the inspection door, turn 90-degrees and run parallel to the inspection for 12-1/2" and then turn 90-degrees to run toward the control panel for approximately 4".

REAR DOGHOUSE EXTENSION LIP

A 1" lip will be installed around the rear extension on the doghouse. The lip shall extend the width of the doghouse and will extend to within 3" of the rear of the extension.

MAP BOOK PEDESTAL, SLIDING

One (1) map book pedestal, mounted on slides, shall be installed on the forward officer side of the doghouse. The mounting base shall be able to slide out to allow access to the map book. A butterfly style latch shall be provided to hold the tray in the desired position.

The pedestal shall be of a 3-angled configuration.

BOOK SHELF, DRIVER SIDE

A book shelf shall be constructed and installed on the driver side of the cab, aft of the driver seat. The shelf shall measure 24" wide X 26" high X 14" deep.

The book shelf shall be divided into upper and lower sections. Each section shall be 13" high. The upper section shall have four (4) dividers located from rear to front, dividing the area into the following sections: 4", 4", 5", 5" and 6". The 6" slot shall have a half depth shelf located in the center of the slot.

The lower half of the book shelf shall have four (4) dividers separating the shelf into the following sections: 4-1/2", 3-1/2", 4", 3-1/2" and 8-1/2". The 8-1/2" slot shall have a half depth shelf located 9" up from the bottom.

A 1" lip shall be installed around the top rear edge, going forward approximately 9-1/2".

Cabinet shall be painted to match interior of cab.

UPPER CAB SHELVES, LEFT AND RIGHT

Two (2) shelves shall be installed after of the center cab roof support and in the area between the outside wall of the cab and the A/C unit covering.

The shelves shall be approximately 25" wide and 13" front to rear.

MAP BOOK HOLDER BOX

One (1) map book holder box will be installed on the engine dog house, aft of the map book pedestal.

The box shall measure 8" long X 8" high X 5" wide. It will be enclosed on the left, right, rear and bottom. The front will be open. The front upper corners shall be cut at a 45-degree angle. The holder shall be painted to match the cab interior.

Map book holder to be shipped loose.

LAPTOP COMPUTER SLIDE OUT TRAY

A slide out tray shall be installed for the officer to provide an area for laptop computer usage. In the closed position this area will be nest forward to allow access in and out of the vehicle.

MOBILE TERMINAL AREA

There shall be a flat surface area in front of the officer for placement of a laptop computer.

MOBILE RADIO MOUNTING

One (1) customer supplied mobile radio, Motorola APX 8500, shall be mounted and wired. The location of the radio equipment shall be determined by the fire department.

Wiring taps will be supplied by VENDOR and are specified in the electrical section of the specification. Radio shall be wired to be hot at all times.

PRE-WIRING FOR SPEAKERS

The department supplied Motorola speakers shall be installed left and right in the headliner, aft of the cab center. VENDOR will provide and install speaker cable, 1320 series. Wiring shall be installed by VENDOR.

******* CAB INSTRUMENTATION & CONTROLS *******

DASH & CENTER CONSOLE

The dash shall be a custom formed, vinyl overlaid aluminum housing to create an ergonomically designed interior that will be user friendly and functional for the driver and officer.

The instrument cluster shall be centered in front of the driver and all gauges shall be installed in a non-glare, pewter finish panel.

All warning lights and indicators shall be located in either the gauge itself or in the lower center portion. Each gauge shall be equipped with an international symbol that is easily recognizable; denoting the system being monitored. Instrumentation shall be backlit for easy identification when activated.

The transmission gear selector shall be located on the left side of the center dash assembly, toward the driver for easy access.

DRIVER'S DASHBOARD PANEL

The main instrument panel shall be centered in front of the driver and shall have a hinged bottom with two ¼ turn latches at the top. The panel shall be made of 1/8" aluminum with an anti-glare,

pewter brushed surface and shall contain the primary gauges, an instrument warning light cluster and the ignition and engine start switches.

The lower portion of this panel can be used for the installation of up to five (5) guarded type rocker switches. Examples of the switches that shall be installed in this area are automatic chains, fan clutch over-ride, ATC mud-snow, inter-axle diff lock, electric fuel pump, all-wheel drive, etc.

The main instrument panel shall contain the primary gauges. An ignition and engine start switch shall be located on a panel to the left upper portion of the driver's side dash panel.

Each gauge shall have a raised glass lens with a black matte finish trim ring and be backlit by integral white LEDs. Each gauge shall also possess an integral red warning light with a pre-programmed warning point. Each gauge warning indicator shall be capable of activating an audible alarm inside the dashboard.

The primary gauges shall consist of:

- Vehicle speedometer, (0-80 mph)
- Engine tachometer, (0-3000 rpm)
- Engine oil pressure, (0-100 psi); low oil warning
- Engine coolant temperature (100-280 °F); high engine temp warning
- Transmission oil temperature (100-350 °F); high transmission fluid temp warning
- Vehicle battery voltage (9-18 VDC); low voltage warning
- Front air system gauge (0-150 psi); low air pressure warning at 65 psi
- Rear air system gauge (0-150 psi); low oil pressure warning at 65 psi
- Fuel level (E - 1/2 - F); low fuel level warning
- Air cleaner restriction gauge (0-40), warning at 25"

Additional auxiliary control switches and instruments (if applicable) shall be located within the dash panel and overhead panel located near the driver's position.

- Diesel Exhaust Fluid level (E-1/2-F); low fuel level warning @ 1/8 tank
- Air application gauge

INDICATOR CLUSTER

The driver's dashboard panel shall consist of Ametek gauges, an 18 item instrument warning light cluster and a 16 item, dead front type alarm panel.

This display shall contain the system control unit that collects data from the vehicle data bus (J1939), analog sensors, and switches throughout the vehicle. This data shall be presented using gauges, telltales and the two (2) display panels. The warning light display shall include a 2 x 20 dot matrix display, 18 telltales and 2 buttons to navigate through the screen menus.

The LCD dot matrix display shall be a 2 line by 20-character display with each character being 7 dot by 5 dot configuration. FSTN technology shall be used on the display for wide viewing capability. The module shall be backlit with amber LEDs. The unit shall also be supplied with a heater to ensure proper operation over the entire 40 to +85 deg. C.

This display contains a series of two (2) screens to provide information about the vehicle. To control the display of that information, the screens are divided into two (2) menus; one that can be displayed while the vehicle is in motion and one that can only be accessed when the parking brake is set.

On the Road displays include:

Two (2) configurable displays that can show any of the parameters the unit collects. This includes odometer, trip information, fuel economy information; all gauge data, and virtually any other data available on the vehicle that the display has access to, either through the data bus or via analog inputs.

- Two (2) trip displays for miles and hours that are capable of being reset.
- Two (2) fuel data screens: shall be provided; one for fuel remaining until empty and one for fuel economy. The fuel economy display shall be capable of being reset so that average economy over a predetermined period can be displayed.

The displays that can be accessed when the parking brake is set include:

- Engine hours as maintained by the engine ECU
- Service Alarm screens to report miles to next service or miles past required service. These screens shall allow the operator to choose the length of the service interval and shall have the ability to reset it.
- Message screens with warning messages the display has collected during the current ignition cycle. These screens shall be divided into configured warnings such as “Low Air Pressure” and the data bus faults reported by ECU's on the vehicle. Both lists shall allow the operator to review the last 12 events that occurred on the vehicle for maintenance and troubleshooting purposes.
- Diagnostic screens shall test the instrumentation system to verify it is working correctly. Setup screens shall be used to select either English or metric display. They shall also allow the operator to choose the data that shall be displayed by the configurable on-the-road screens.

The system shall be configured with user defined warning messages such as Low Air Pressure or High Coolant Temperature. When these events occur the warning message shall come up on the screen and can be accompanied by a buzzer. The messages shall be prioritized so the most important messages are always displayed. Whether the message can be dismissed by pressing a button shall be configurable. Messages that have been dismissed but are still active shall be

retained in the message screens for review until the ignition is turned off. Listed below are the defined telltales and their indicators.

- "Right And Left Directional" arrows (green in color)
- "Ignition ON" Indicator (amber in color)
- "Hi Beam" indicator (blue in color)
- "Battery ON" indicator (green in color)
- "Parking Brake ON" indicator (red in color)
- "Check Transmission" indicator (amber in color)
- "Cab Not Latched" indicator (red in color)
- "Stop Engine" indicator (red in color)
- "Check Engine" indicator (amber in color)
- "ABS Warning" indicator (red in color)
- "Low Coolant Level" (red in color)
- "Fuel Restriction" indicator (amber in color)
- "Water In Fuel" indicator (amber in color)
- "Fasten Seat Belts" indicator (red in color)
- "Fast Idle" Indicator (amber in color)
- "Do Not Move Truck" indicator (red in color)
- "DPF Regeneration" (amber in color)
- "Exhaust High Temperature" (amber in color)
- "Engine Diagnostic Fault" (amber in color)
- "Retarder On" (green in color)

Listed below are indicators that may be included, depending upon the vehicle configuration:

- "Wait To Start" indicator (amber in color)
- "Exhaust System Fault" (amber in color)
- "Topps System Fault" (amber in color)
- "Lube System Active" (amber in color)
- "Jacks Not Stowed" (red in color)
- "PTO Engaged" (green in color)
- "Inter Axle Lock" (amber in color)
- "Driver Controlled Diff Lock" (green in color)
- "Ok to Pump" (green in color)
- "Auto Traction Control" (amber in color)
- "Retarder Active" (amber in color)
- "Auxiliary Brake Active" (amber in color).
- "Retarder Active" indicator (yellow in color)
- "Retarder On" indicator (yellow in color)

AUXILIARY SWITCH PANEL - LOWER DASH AREA

An auxiliary lower dash panel shall be capable of housing five (5) guarded type rocker switches. Examples of the switches that shall be installed in this area are automatic chains, fan clutch override, ATC, inter-axle diff lock, electric fuel pump, all-wheel drive, etc.

This panel location shall take the ladder power panel location into consideration for optimum location of both.

CENTER OVERHEAD PANEL

An overhead console with a removable pewter panel shall be provided on the cab interior overhead between the driver and officer to permit installation of cab stereo, intercom systems, arrow stick controls, etc. The overhead console shall be approximately 27" wide x 4" high x 13" deep and shall be integrated into the ABS overhead center panel. The overhead console shall not obstruct the driver's vision through the officer's side window.

OVERHEAD ACCESS PANEL

The upholstered overhead, overhead access panel on the ceiling between the driver and officer shall be fabricated from 3/16" aluminum in lieu of 1/4" plywood.

CLIMATE CONTROL SYSTEM

A climate-control system shall be provided for total cab environmental comfort. This system shall provide heat, cooling and defrost capabilities to various areas in the cab. The system shall consist of a single evaporator unit, mounted in the center overhead of the cab.

The ceiling mounted evaporator/heater unit shall include the following:

- Heavy-duty, high output blower.
- High efficiency coil that includes "rifled" tubing and oversized header tubes for maximum refrigerant distribution.
- Four (4) 3" diameter, adjustable louvers; two (2) each side of the cab overhead, facing the driver and officer seat positions.
- Two (2) larger louvers located in the center of the overhead assembly, facing the windshield.
- A large center mounted multi-vent defroster louver positioned above the windshield to provide adequate airflow for windshield defrost.
- Four (4) vents shall be provided, one (1) below the driver and officer seat positions and one (1) under each outboard rear facing crew seat.
- Damper controls shall be pneumatically operated to provide air discharge to the windshield, front overhead air discharge louvers or the seat riser/floor outlets as required.
- An adjustable electric water valve to control the amount of heat.
- Housing shall be fully insulated and enclosed.
- BTU: 71,000 A/C
- BTU: 85,000 Heat

- CFM: 680 Heat as mounted in the cab
- CFM: 680 A/C as mounted in the cab

The ceiling mounted evaporator unit/s shall be designed to include a deep well condensate collection pan, which shall be drained by a gravity drain system.

The ceiling mounted evaporator unit shall be enclosed with an ergonomically designed, custom padded ABS panel to provide maximum headroom and a pleasing appearance.

A serviceable foam intake filter shall be installed on the rear of the evaporator.

The controls panel shall actuate the air-distribution system with air cylinders, which are to be separated from the brake system by an 85-90 psi pressure protection valve.

All defrost/heating systems will be plumbed with one (1) seasonal shut-off valve mounted near the engine.

ROOF MOUNT CONDENSER

A 12-volt roof top dual condenser shall be strategically positioned on the cab roof so as not to interfere with any emergency lighting systems. The condenser shall be designed with high performance, long life fan assemblies. The fan motors are to be equipped with sealed housings and shaft.

The condenser and coil design shall include rifled tubing for maximum efficiency. Each coil shall be painted black. The condenser unit must include a receiver drier with a high and low pressure switch. The wire harness shall include necessary wiring for the clutch circuit as well as a separate power relay circuit.

Mounting design shall enable easy servicing of all components and unit replacement if necessary.

The roof mounted air conditioning condenser housing(s) shall be painted to match the cab roof color.

CLIMATE CONTROL SWITCHES

The **LOWER CENTER DASH** panel shall contain all controls for the cab climate control system. The following controls shall be provided: mode selector switch, front fan speed switch, rear fan speed switch, air conditioning on/off switch, and temperature control dial. All controls shall be clearly labeled, adequately backlit, and installed in an easily removable panel.

AUXILIARY HEATERS UNDER REAR FACING OUTER SEAT RISERS

Two (2) 15,000 BTU Red Dot R-270 auxiliary heaters shall be provided, located one (1) under each rear facing outboard seat riser. Heater controls for each shall be provided **and will be located on the outboard side of the seat riser as close to the door frame as is practical.**

A mechanical shut off valve shall be installed on each heater to manually shut down the coolant flow.

CAB TILT ASSEMBLY

A hydraulic cab lift system shall be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves.

The cab tilt mechanism shall be custom designed for ease of maintenance and consist of two (2) hydraulic cylinders. Hydraulic lines shall be rated at 20,000 PSI burst pressure. The hydraulic cylinders shall be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.

Hydraulic cylinders shall be detachable to allow removal of the engine for major service. A remote electric operated stay bar release system shall be provided. No manual stay bar release system will be accepted.

The two (2) rear outboard cab latches shall be of the hydraulic pressure release, automatic re-latching type, and provide an automatic positive lock when the cab is lowered. The latch shall not disengage or experience any damage when subjected to a pull apart tensile load of 6,000 lbs. The hydraulic pressure required to unlock the latch shall not exceed 550 PSI. The latch shall withstand 5,000 PSI without leaks or damage and withstand 1,000 continuous cycles of operation under a load of 1,000 lbs. at liftoff. The tilt pump shall be electric over hydraulic type, with a pressure rating of not less than 4,000 PSI. Additionally, the cab tilt device shall be both electrically and hydraulically interlocked to prevent inadvertent activation of the cab tilt system.

- A "CAB NOT LATCHED" indicator shall be provided in the cab dash-warning cluster.
- A dual switch control system shall be provided for the cab tilt, located on the passenger side of the vehicle or on the optional tether control. System shall consist of a three (3) position toggle switch along with a rubber covered push button switch.

AUXILIARY MANUAL CAB LIFT

An auxiliary manual cab lift backup system shall be furnished inside the passenger side of the pump enclosure or front compartment for use in the event of total electrical shutdown.

The cab tilt control shall be equipped with an interlock that shall disable the cab tilt system in the event the parking brake is not applied.

CHASSIS FRAME ASSEMBLY

The chassis frame shall be fabricated in its entirety at the manufacturer's facility. This will prevent any split responsibility in warranty or service.

The frame shall consist of two (2) channels fastened together by cross members. All structural fasteners used in the frame shall be Grade 8 hardware. Hardened steel washers shall be used under all bolt heads and nuts to avoid stress concentrations. Top flange shall be free of bolt heads. All spring hangers shall be machined steel castings. Frame assemblies that are welded or assembled with "Huck" type fasteners are not acceptable."

Each main frame rail shall be 10-1/4" x 4" x 3/8", fabricated from Domex™ 110,000 PSI minimum yield steel, with a minimum section modulus of 18.396 cu in and a resisting bending moment (RBM) of 2,023,560 inch pounds. The frame rails shall be drilled "together" (back to back) on a frame drilling machine with an internally cooled drill bit in order to minimize the deviation in hole diameter or location. Frames are built for the specific apparatus under construction so that no unnecessary holes or modifications are made to the frame assembly.

A full length inner frame liner 9.44" X 3.63" X 3/8" shall be installed. Total section modulus of each rail, with liner, shall be 33.56 cu in and the total resisting bending moment (RBM) shall be a minimum of 3,691,050 in-lbs., per rail.

The chassis frame assembly, consisting of frame rails, cross members, axles and steering gear(s), shall be finish painted before installation of any electrical wiring, fuel system components, or air system components. All components or brackets fastened to the frame rails shall be cleaned, primed and painted prior to being attached to the frame rails.

FRAME RAIL WARRANTY

The frame rails will be guaranteed for the life of the vehicle against defects in design, material or workmanship, excluding accident or abuse. A copy of the fire apparatus manufacturer's warranty will be included with the proposal.

BUMPER

A one (1) piece, ten (10) gauge 304-2B polished stainless steel bumper, a minimum of 10" high will be attached to the front of the chassis frame. A 9" formed steel channel will be mounted directly behind the bumper for additional strength.

TOW FORK TOWEYE PROVISION

Two (2) heavy duty tubular steel towing forks shall be bolted to the underside of the frame drop at the front of the chassis. Incorporated into the forks shall be two (2) painted steel tow eyes. The forks shall be shaped like an upside down "U" to act as a designated hookup point to accept a tow bar from a service vehicle. The robust design shall allow a disabled vehicle to be lifted and towed without doing damage to the bumper or bumper mounted options.

FRONT AXLE

Front axle shall be a Meritor MFS-20-133 A-N, reversed Elliott "I" beam type and include low friction "Easy Steer" bushing technology for maximum steering ease and longer life.

The front axle shall be rated at 20,000 lbs.

FRONT BRAKES

Brakes shall be "S" Cam 16.5" x 6" and shall be full air actuated with automatic slack adjusters.

Premium Stemco oil seals with viewer glass shall be provided on the front axle.

PARABOLIC FRONT SUSPENSION

Front suspension shall be parabolic type front leaf springs. The spring shall be permanently pinned at the front and have a shackle double pinned mounting at the rear. The front leaf springs shall have a minimum of 3 leaves, a minimum length of 54", and a minimum width of 4". The capacity at ground shall be 21,500 lbs. All springs shall be of center bolt design. All spring pin joints shall be maintenance free, rubber bushed for vibration reduction and positively restrained from rotating in brackets and shackles.

FRONT SHOCK ABSORBERS

The front suspension system shall be equipped with Monroe, model "Magnum - 70", double acting hydraulic shock absorbers. Shock absorbers to have a minimum bore of 1.38" and an outside diameter of approximately 3-1/4".

REAR AXLE

Rear axle shall be a single, Meritor RS-24-160 with a capacity of 24,000 lbs. (Minimum). Axle shall be a single reduction type and have a gear ratio as required. Oil seals shall be provided as standard equipment.

REAR BRAKES

Brakes shall be "S" Cam, 16-1/2" x 7" size and shall be full air actuated with automatic slack adjusters.

REAR AXLE TOP SPEED

The rear axle/s shall be geared for a vehicle top speed in accordance with NFPA sections 4.15.2 and 4.15.3.

Units with GVWR over 26,000 pounds shall be limited to 68 mph.

REAR SUSPENSION

The rear suspension shall be leaf type, variable rate with a 24,000 lb. rating. The main spring assembly shall consist of 14 leaves with the main spring measuring 60.5" L x 3" W.

There shall be a rubber block helper mounted above the leaf springs, rated at 4,500 lbs. Two (2) fully wrapped leaves shall transmit driving and braking torque. Rating shall be designed to match or exceed the rear axle weight rating.

REAR SHOCK ABSORBERS

The rear suspension system shall be equipped with Monroe, model "Magnum" model #74001, double acting hydraulic shock absorbers. Shock absorbers to have a minimum bore of 1.38" and an outside diameter of approximately 3-1/4"

Steering Cramp Angle Certification

The fire apparatus manufacturer will provide at the time of bid, a letter from an independent third party testing agency stating they approve the steering cramp angle.

Turning Radius Report

A turning radius analysis of the proposed chassis will be included with this proposal. The analysis will provide information on the inside turning radius, the outside turning radius, the curb to curb turning radius and the wall to wall turning radius.

Fender Panels

The chassis behind the cab will be assembled with fender panels over the rear wheels and steps for access to the turntable and decking over the frame rails. The fender panels will be fabricated of .125"-5052 aluminum with a 38,000 psi tensile strength. The area over the frame rails between the cab and fifth wheel will be covered with aluminum tread plate to serve as a walkway area. The walkway area will be properly reinforced with a steel substructure attached to the frame rails. Running boards will be installed on each side directly behind the cab for access to the walkway area behind the cab and turntable. The running boards will be covered with aluminum tread plate. The design shall match existing apparatus and shall be discussed at pre-construction.

******* AIR & BRAKE SYSTEM *******

BRAKE SYSTEM

A dual circuit, air operated braking system, meeting the design and performance requirements of FMVSS -121 and the operating test requirements of NFPA 1901 current edition shall be installed. It shall be direct air type with dual air treadle in the cab. The system shall be powered by an engine mounted, gear driven air compressor protected by a heated air dryer.

The air system shall be plumbed with reinforced, air brake tubing/hose in conformance to SAE J 844-94, Type B and U.S.D.O.T. standards. The compressor discharge shall be plumbed with stainless steel braided hose lines with a Teflon lining. Eaton Synflex Eclipse Air Brake tubing shall be run along the inside frame rails. All air fitting will be compression type fittings. **NO PUSHON TYPE AIR FITTINGS WILL BE USED. NO EXCEPTION.** All Synflex tubing shall be secured with non-conductive, corrosion resistant strapping mounted with standoff fasteners.

Cord reinforced rubber hose lines with brass fittings shall be installed from the frame rails to axle mounted air connections.

The air system shall provide a rapid air build-up feature and low-pressure protection valve with light and buzzer, designed to meet the requirements of NFPA 1901, current edition.

At final inspection the air system shall not drop more than 20 psi in a ten- (10) hour period, including wet tank.

ABS SYSTEM

An Anti-Skid Braking System (ABS) shall be provided to improve braking control and reduce stopping distance. This braking system shall be fitted to all of the axles. All electrical connections shall be environmentally sealed, water, weatherproof, and vibration resistant.

The system shall constantly monitor wheel behavior during braking. Sensors on each wheel shall transmit wheel speed data to an electronic processor which shall sense approaching wheel lock causing instant brake pressure modulation up to 5 times per second in order to prevent wheel lockup. Each wheel shall be individually controlled.

To improve service trouble shooting, provisions in the system for an optional diagnostic tester shall be provided. The system shall test itself each time the vehicle is started. A dash-mounted light shall go out once the vehicle has attained 4 mph after successful ABS start-up. To improve field performance; the system shall be equipped with a dual circuit design. The system circuits shall be configured in a diagonal pattern. Should a malfunction occur, the defective circuit shall revert to normal braking action. A warning light shall signal malfunction to the operator. The system shall consist of a wheel mounted toothed ring, sensor, sensor clip, electronic control unit and solenoid control valve.

The sensor clip shall hold the sensor in close proximity to the toothed ring. An inductive sensor consisting of a permanent magnet with a round pole pin and coil shall produce an alternating current with a frequency proportional to wheel speed. The unit shall be sealed, corrosion resistant and protected from electromagnetic interference. The electronic control unit shall monitor the speed of each wheel. A deviation shall be corrected by cyclical brake application and release. If a malfunction occurs, the defective circuit shall signal the operator and the malfunctioning portion of the system shall shut down. The system shall be installed in a diagonal pattern for side-to-side control. The system shall insure that each wheel is braking to optimum efficiency up to 5 times a second.

The system shall also control application of the auxiliary engine exhaust or drive line brakes to prevent wheel lock.

This system shall have a three (3) year or 300,000 mile parts and labor warranty as provided by Meritor Wabco Vehicle Control Systems.

BRAKE AIR RESERVOIRS

There shall be a minimum of three (3) air reservoirs installed in conformance with best automotive practices. Reservoir capacity total shall be a minimum of 4693 cubic inches.

The air reservoirs shall be color coded to match the air lines for easy identification, ease of maintenance and troubleshooting. The reservoirs shall be painted the following colors:

- Wet Tank Black
- Wet Tank Pressure Gauge. Vendor shall install an air pressure gauge for wet tank. Location will be decided at pre-construction meeting.
- Primary Tank Green
- Secondary Tank Blue

STAINLESS STEEL AIR TANK BRACKETS

Stainless steel air tank brackets shall be provided to secure the air tanks to the chassis frame.

For ease of daily maintenance, each air system reservoir shall be equipped with a brass 1/4 turn drain valve.

An automatic moisture ejector on the primary tank shall also be furnished.

AIR DRYER SYSTEM

A Meritor/Wabco System Saver 1200 heated air dryer with an automatic moisture ejector shall be furnished. The air dryer will be mounted where it can be easily serviced.

AIR LINES

The entire chassis air system shall be plumbed utilizing reinforced, Synflex air lines, which shall be equipped with compression type fittings. **NO PUSH ON TYPE AIR FITTINGS WILL BE USED. NO EXCEPTION.** All of the airlines shall be color coded to correspond with an air system schematic and shall be adequately protected from heat and chafing.

AIR COMPRESSOR

Air compressor shall be a Wabco brand, minimum of 18.7 cubic feet per minute capacity. Air brake system shall be the quick build up type. The air compressor discharge line shall be stainless steel braid reinforced Teflon hose. The stainless steel hose will terminate at the inlet to air dryer.

A pressure protection valve shall be installed to prevent the use of air horns or other air operated devices should the air system pressure drop below 80 psi (552 kPa).

The chassis air system shall meet NFPA 1901, latest edition for rapid air pressure build-up within sixty (60) seconds from a completely discharged air system. This system shall provide sufficient air pressure so that the apparatus has no brake drag and is able to stop under the intended operating conditions following the sixty (60) seconds build-up time.

BRAKE TREADLE VALVE

A Bendix dual brake treadle valve shall be mounted on the floor in front of the driver. The brake control shall be positioned to provide unobstructed access and comfort for the driver.

PARKING BRAKE

Parking brake shall be of the spring-actuated type, mounted on the rear axle brake chambers. The parking brake control shall be mounted on the cab center instrument panel, offset toward the driver. A red indicator light shall be provided in the driver dash panel that shall illuminate when the parking brake is applied.

BRAKING SYSTEM

A positive braking system shall be provided to prevent vehicle movement during aerial operations. The air brakes furnished must satisfy this requirement.

AUXILIARY AIR INLET

One (1) air inlet with male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located in the driver side lower step well of cab. A check valve shall be provided to prevent reverse flow of air. The inlet shall discharge into the "wet" tank of the brake system. A mating female coupling shall also be provided with the loose equipment.

Auxiliary air inlet will be plumbed using Synflex air lines.

This inlet shall allow a purchaser furnished external air supply to be connected to the chassis air system.

FRONT WHEELS & TIRES

The front wheels shall be 22.5" x 12.25" ten stud, hub piloted polished aluminum disc type.

The front wheels shall be provided with bright nut covers and hub caps.

The front tires shall be Michelin 385/65R22.5 "20 Ply" tubeless radial XFE wide base highway tread. The tires shall be fire service rated up to 21,228 lbs. and shall have a top speed of 65 mph when inflated to 130 psi.

REAR WHEELS & TIRES

The single rear axle wheels shall be 22.5" x 8.25" ten stud, hub piloted polished aluminum disc type.

The single rear axle aluminum disc wheels shall be provided with bright nut covers and axle hubs will be body color.

The rear tires shall be Michelin 11R22.5 "16 Ply" tubeless radial XDN2 traction tread. The tires shall be fire service rated up to 25,700 lbs. and shall have a top speed of 75 mph when inflated to 120 psi.

TIRE PRESSURE MONITORING DEVICES

Each tire shall be equipped with an air pressure indicator cap on the valve stem. **Provide mechanical valve stem indicator caps that will not include lighted indicator.**

******* ENGINE, TRANSMISSION & ACCESSORIES *******

ENGINE

Engine shall be a 12 liter or more, diesel, turbo-charged, per the following specifications.

- | | |
|---------------------|-------------------------|
| • Max. Horsepower | 475 HP @ 1800 RPM |
| • Governed Speed | 2100 RPM |
| • Peak Torque | 1550 lb. ft. @ 1100 RPM |
| • Cylinders | Six (6) |
| • Operating Cycles | Four (4) |
| • Bore & Stroke | 5.11 x 5.91 in. |
| • Displacement | 729 cu. in. |
| • Compression Ratio | 16.6:1 |
| • Governor Type | Limiting Speed |
| • Drive line Size | 1810 Series. |

Engine oil filters shall be engine manufacturers branded or approved equal. Engine oil filters shall be accessible for ease of service and replacement.

DAVCO FUEL PRO 382 FUEL HEATER/WATER SEPARATOR

A Davco Fuel Pro 382 combination fuel heater/water separator and fuel filter shall be provided. The fuel heater / water separator shall replace the secondary fuel filter on the engine. The separator shall be installed between the fuel tank and the inlet of the fuel pump, the see through isoplast cover allows instant visual checking of the fuel filters condition. A "water in fuel" indicator shall be provided on the dash.

ENGINE CHASSIS CERTIFICATION

The engine shall be installed in accordance with engine manufacturer's instructions. VENDOR shall be able to furnish proof of engine installation approval by the engine manufacturer.

COOLING/RADIATOR

Radiator shall be brass with bolted steel top and bottom tanks. The cooling system shall be designed for a maximum of fifteen (15) PSI operation. There shall be a sight glass in the radiator to check the coolant level without removing the radiator cap. The core construction shall be tube and fin with three (3) tube rows, 273 total core tubes, and fourteen (14) fins per inch.

Extended life engine coolant shall provide anti-freeze protection to -30° F. The mixture shall be per the engine manufacture's specifications.

Core area shall be a minimum of 1375 square inches (39 H x 35.25W).

The engine cooling system shall have an inline coolant filter that shall have a shut off valve for ease of maintenance.

The engine cooling system shall be certified by the engine manufacturer to meet cooling index requirements for a minimum ambient temperature or 110-degrees Fahrenheit.

TRANSMISSION COOLER

A shell and tube transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature. The cooler shall have an aluminum shell and copper tubes. The cooler shall be assembled using pressed in rubber tube sheets to mechanically create a reliable seal between the coolant and the oil. No brazed, soldered, or welded connections shall be used to separate the coolant from the oil.

RADIATOR CROSSMEMBER

The radiator installation shall include a radiator cross member for additional strength and durability. This cross member shall be designed so the angle of approach is not affected.

HEAVY DUTY RADIATOR SKID PLATE

The radiator installation shall include a heavy-duty radiator skid plate to protect the radiator from debris or obstructions under the chassis. The skid plate shall be designed so the angle of approach is not affected. This skid plate design shall include wire cover wing plates for additional protection to wires and hoses on each side of the radiator assembly.

CHARGE AIR COOLER

The charge air cooler shall be constructed of aluminum with cast aluminum side tanks. The cooler shall have a frontal core size of 957 square inches, seven (7) fins per inch, and forty eight (48) core tubes.

The charge air cooler shall be mounted directly ahead of the radiator and to the radiator headers. Rubber isolators shall be used at the mounting points to reduce transmission of vibrations.

Where applicable, the charge air cooler pipes shall be constructed of appropriately sized aluminized steel tubing with 0.06" wall thickness and formed hose barbs. The connections between these pipes, the engine and charged air cooler, shall be made using high temperature silicone hoses rated for use in temperature up to 500°F, and heavy duty constant tension T-Bolt spring hose clamps. These connections shall adequately allow for movement of the engine relative to the charged air cooler.

COOLING SYSTEM FAN

The engine cooling system shall incorporate a heavy duty fan, installed on the engine and include a shroud.

The fan shall be equipped with an air operated clutch fan, which shall activate at a pre-determined temperature range.

Recirculation shields shall be installed to ensure that air which has passed through the radiator is not drawn through it again.

FAN SWITCHING

Engine coolant fan will automatically activate with ladder power engagement.

The override switch will be labeled "Engine Fan Override".

COOLANT HOSE AND PIPING

All coolant piping shall be constructed of appropriately sized powder coated steel tubing with 0.06" wall thickness and formed hose barbs. All connections between coolant pipes and chassis components shall be made using appropriately sized **HEAVY DUTY** silicone hoses or elbows, rated for use in temperatures ranging from -60°F to +350°F, and appropriately sized **HEAVY DUTY** constant torque hose clamps. These connections shall be minimal in number to reduce the number potential leak points, and shall adequately allow for movement of the engine relative to chassis mounted components. All integral hoses supplied with the engine shall be **HEAVY DUTY** silicone hoses and **HEAVY DUTY** constant torque hose clamps.

HEATER HOSES

Silicone heater hoses shall be furnished for the heater system within the interior structure of the cab. All heater hoses shall be equipped with constant torque **HEAVY DUTY** type hose clamps. All integral hoses supplied with the engine shall be **HEAVY DUTY** silicone hoses and **HEAVY DUTY** constant torque hose clamps.

LOW COOLANT INDICATOR LIGHT AND ALARM

A low engine coolant indicator light located in the dash instrument panel shall be provided. An audible alarm shall be provided to warn of the low coolant condition.

ENGINE FAST IDLE

A fast idle for the electronic controlled engine shall be provided. The fast idle shall be controlled by an ON/OFF switch on the dash.

An electronic interlock system shall prevent the fast idle from operating unless the transmission is in "Neutral" and the parking brake is fully engaged. If the fast idle control is used in conjunction with a specified engine/transmission driven component or accessory, the fast idle control shall be properly interlocked with the engagement of the specified component or accessory.

AIR CLEANER

An engine air cleaner shall be provided. The air cleaner shall include a dry type element and shall be installed in accordance with the engine manufacturer's recommendations. The air

cleaner shall be located to the rear of the engine, with streamline air pipes and hump hose connections from the inlet to the air cleaner and from the air cleaner to the turbo. The air cleaner shall be easily accessible when the cab is tilted. The air cleaner shall be plumbed to the air intake system that shall include a self-sealing connection between the cab and air cleaner assembly to allow the cab to be tilted.

To draw fresh clean air, the intake for the air cleaner shall be on the side of the cab on the driver's side. The inlet shall be a minimum of 41" above the ground to allow the vehicle to navigate through water without any part of the air intake system being below the frame rail, preventing any type of water intake.

SPARK ARRESTOR

A spark arrestor shall be installed in the chassis air intake system. This arrestor shall be mounted behind the intake grille to filter out airborne embers. The spark arrestor housing must be easily accessible when the cab is tilted.

ACCELERATOR CONTROL

A floor mount accelerator pedal shall be installed on the floor in front of the driver. The pedal shall be positioned for comfort with ample space for fire boots and adequate clearance from the brake pedal control.

ENGINE PROGRAMMING REMOTE THROTTLE

The engine ECM (Electronic Control Module) discreet wire remote throttle circuit shall be turned off for use with a J1939 based pump controller or when the discreet wire remote throttle controls are not required.

TRANSMISSION

An Allison World Transmission, Model 4000EVSR, electronically controlled, automatic transmission shall be provided. Transmission specifications shall be as follows:

- Max. Gross Input Power 600 HP
- Max. Gross Input Torque 1850 lb. ft.
- Input Speed (Range) 1700- 2300 RPM
- Direct Gear (Pumping) 4th (Lock-up)

Transmission installation shall be in accordance with the transmission manufacturer's specification. The transmission shall be readily and easily removable for repairs or replacement.

The transmission shall contain a built-in output retarder, controlled by an on/off switch on the dash, and actuated by utilizing the brake pedal.

One (1) PTO opening shall be provided on both the left and right side of the converter housing (positions one (1) o'clock and eight (8) o'clock).

The transmission shall be calibrated for five (5) forward gears and one (1) reverse gear. Each gear shall have the following ratios:

- First 3.51:1
- Second 1.91:1
- Third 1.43:1
- Fourth 1.00:1
- Fifth 0.74:1
- Reverse -4.80:1

TRANSMISSION SHIFT SELECTOR

An illuminated, touch-pad type shift control shall be mounted in the cab, convenient to the driver. Shift control shall be approved by the transmission manufacturer.

TRANSMISSION OIL LEVEL SENSOR

The transmission shall be equipped with the oil level sensor (OLS); this sensor shall allow the operator to obtain an indication of the fluid level from the shift selector. The sensor display shall provide the following checks, correct fluid level, low fluid level and high fluid level.

PARK TO NEUTRAL

The transmission, upon application of the parking brake, shall automatically shift into neutral.

RETARDER OPERATION W/BRAKE PEDAL

Retarder control shall be through a switch on the dash, with activation of the retarder in conjunction with the brakes via the brake pedal. A temperature gauge and indicator light shall be provided for retarder monitoring.

Allison transmission retarder will be programmed to activate 50% with throttle release and remaining 50% with brake pedal activation.

The power setting for the retarder shall be set on the maximum stopping power.

Transmission retarder will be provided with the most aggressive settings, since this unit will not be provided with additional secondary braking.

SYNTHETIC TRANSMISSION FLUID

TES 295 transmission fluid shall be utilized to fill the 4000 EVS transmission.

DRIVE LINES

Drive lines shall be Dana (Spicer) 1810 heavy duty series or equal, with "glide coat" splines on all slip shafts. The manufacturer shall utilize an electronic type balancing machine to statically and dynamically balance all drive shafts. The manufacturer shall provide proof of compliance with all drive shaft manufacturer's standards and specifications.

Where applicable, the universal joints shall be the half loop style joints.

DIESEL EXHAUST FLUID TANK

A five (5) gallon diesel exhaust fluid (DEF) tank shall be provided and installed. The tank shall be mounted in the area of the battery box and shall be accessible through a door in the crew area step well.

The tank shall include an internal heater that will be fed by engine coolant directly from the engine block to ensure it is always kept at the proper temperature per EPA requirements. The tank shall include a temperature sensor to control the flow of the engine coolant from the heater valve to the DEF tank.

A DEF fluid level sensor shall be provided with the DEF tank and connected to the level gauge on the dashboard.

EXHAUST SYSTEM

The exhaust system shall be installed in accordance with the engine manufacturer's requirements and meet all Environmental Protection Agency and State noise level requirements. Exhaust system components shall be securely mounted and easily removable.

The diesel particulate filter/muffler shall be fabricated from stainless steel and of a size compatible with the engine exhaust discharge.

Exhaust tubing shall be a minimum of 16 gauge stainless steel from the turbocharger on the engine to the inlet of the diesel particulate filter. Any flexible exhaust tubing shall be HDT stainless steel type. To minimize heat build-up, exhaust tubing within the engine compartment shall be wrapped with an insulating material. Exhaust shall be wrapped from the turbocharger to the entrance of the muffler. Material shall be held in place with worm gear type clamps.

An exhaust diffuser shall be provided to reduce the temperature of the exhaust as it exits the tailpipe.

Separate "regeneration" enable and prohibit switches shall be provided under the dash board on the driver's side. Each switch shall be provided with a spring loaded protective cover and shall be clearly marked as to function.

SELECTIVE CATALYTIC REDUCTION (SCR)

The vehicle shall be equipped with SCR technology that uses a urea based diesel exhaust fluid (DEF) and a catalytic converter to significantly reduce oxides of nitrogen (NOx) emissions.

The SCR system shall reduce levels of NOx (oxides of nitrogen emitted from engines) by injecting small quantities of diesel exhaust fluid (DEF) into the exhaust upstream of a catalyst, where it vaporizes and decomposes to form ammonia and carbon dioxide. The ammonia (NH₃), in conjunction to the SCR catalyst, converts the NOx to harmless nitrogen (N₂) and water (H₂O).

The exhaust tailpipe extending from the SCR catalyst to the side of the vehicle shall be constructed from 16-gauge aluminized steel tubing. The exhaust discharge shall be on the officer side of the apparatus forward of the rear axle.

****** FUEL SYSTEM ******

FUEL TANK

Fuel tank shall be a minimum of sixty-five (65) gallon capacity. It shall have two (2) fuel filler neck of 2" ID and 1/4 turn fill cap (one each side of vehicle). A 1/2" minimum diameter drain plug shall be provided. The tank shall be fabricated from hot rolled, pickled and oiled steel. Provisions for an additional feed line and fuel level float shall be provided for future use.

The fuel tank shall be installed behind the rear wheels between the frame rails.

The fuel tank shall meet all FHWA 393.67 requirements including a fill capacity of 95% of tank volume.

The fuel tank shall be able to withstand a longitudinal acceleration of -23.0g at 0.166 seconds in accordance to SAE J211 standards using a channel frequency class 600 filter. Testing shall be performed at and verified by a third party testing and evaluation center.

FUEL TANK STRAPS

The straps supporting the diesel fuel tank shall be made of Type 304L stainless steel with grade 8, zinc coated steel hardware.

The fuel tank mounting straps shall utilize dense rubber between the straps and the fuel tank to prevent chaffing.

All fuel lines shall be provided as recommended by the engine manufacturer. The lines shall be sized to meet engine manufacture's requirements, and shall be carefully routed and secured along the inside of the frame rails.

FUEL COOLING SYSTEM

A fuel cooling system shall be provided. The heat exchanger shall be a tube and fin type and shall be a separate unit. The cooler shall be mounted forward of the radiator and plumbed to the fuel return line.

SECONDARY ELECTRIC FUEL PUMP

In addition to the primary fuel pump, a secondary electric fuel pump for re-priming shall be furnished in the main fuel line. A labeled control switch shall be provided on the main dash panel.

FUEL POCKET

A fuel fill shall be provided in the left and right sides of rear wheel well area. A Cast Products heavy duty cast aluminum spring loaded hinged fill door shall be provided.

A label indicating "Ultra Low Sulfur Diesel Fuel Only" shall be provided *on the outside of the fuel fill doors*.

DUAL POWER STEERING

A dual power steering system shall be provided utilizing a Sheppard model #M110 main steering gear on the driver side of the chassis and a Sheppard model #M90 steering gear on the officer side of the chassis.

The power steering gear on the officer side of the chassis shall increase performance in turning the officer side wheel assembly, reducing loads and forces on the main gear and components.

The steering system shall be designed to maximize the turning capabilities of the front axle no matter the rating and tire size. The use of a power assist cylinder on the officer side of the chassis is NOT ACCEPTABLE on front axles of this capacity.

The system shall be designed utilizing an engine driven hydraulic pump, with a maximum operating pressure of 2000 PSI. Steering design shall permit a maximum of 5.6 turns from stop to stop. Steering system components shall be mounted in accordance with the steering gear manufacturer's instructions.

STEERING COLUMN

The steering column shall be a "Douglas Autotech" tilt and telescope column. A lever mounted on the side of the column shall control the tilt and telescope features.

The steering shaft from the column to the miter box shall have a rubber boot to cover the shaft slip and a second rubber boot to seal the passage hole in the floor.

There shall be a self-canceling lever that shall control the following functions:

- Left and right turn signals

- High beam activation
- Two speed with intermittent windshield wiper control
- Windshield washer control

STEERING WHEEL

The steering wheel shall be a two (2) spoke, vinyl padded, minimum 18" diameter, with a center hub mounted horn button.

******* CHASSIS/BODY ELECTRICAL & ACCESSORIES *******

CHASSIS ELECTRICAL SYSTEM

All electrical wiring in the chassis shall be GXL cross link insulated type. Wiring is to be color coded and include function codes every three (3) inches on both sides. Wiring harnesses shall be routed in protective, heat resistant loom, securely and neatly installed. Two (2) power distribution centers shall be provided in central locations for greater accessibility. The power distribution centers shall contain thermal automatic reset breakers, power control relays, flashers, diode modules, daytime driving light module, and engine and transmission data links. All breakers and relays shall have a capacity substantially greater than the expected load on the related circuit, thus ensuring long component life. Power distribution centers shall be composed of a system of interlocking plastic modules for ease of custom construction.

The power distribution centers shall be function oriented. The first is to control major truck function. The second control center shall enable overhead switching and interior operations. Each module shall be single function coded and labeled to aid in troubleshooting. The centers will also have accessory breakers and relays for future installations. All harnesses and power distribution centers shall be electrically tested prior to installation to ensure the highest system reliability.

All external harness interfaces shall be of a triple seal type connection to ensure a proper connection. The cab/chassis and the chassis/body connection points shall be mounted in accessible locations. Complete chassis wiring schematics shall be supplied with the apparatus.

WIRING HARNESS DESCRIPTION

The wiring harness contained on the chassis shall be designed to utilize wires of stranded copper or copper alloy of a gauge rated to carry 125% of maximum current for which the circuit is protected without exceeding 10% voltage drop across the circuit. Wiring will be uniquely identified by color code or circuit function code, labeled at a minimum of every three (3) inches. The identification of the wiring shall be referenced on a wiring diagram. All wires conform to SAEJ1127 (Battery Cable), SAEJ1128 (Low Tension Primary Cable), SAEJ1560 (Low Tension Thin Wall Primary Cable).

The covering of harnesses shall be moisture resistant loom with a minimum rating of 289 Degrees Fahrenheit and a flammability rating of VW-1 as defined in UL62. The covering of jacketed cable shall have a minimum rating of 289 degree Fahrenheit.

All harnesses will be securely installed in areas protected against heat, liquid contaminants and damage. The harness connections and terminations shall use a method that provides a positive mechanical and electrical connection and are in accordance with the device manufacturer's instructions. No connections within the harness may utilize wire nut, insulation displacement, or insulation piercing components.

All circuits shall conform to SAEJ1292. All circuits will be provided with low voltage over current protective devices. These devices shall be readily accessible and protected against heat in excess of component rating, mechanical damage, and water spray. Star washers shall not be used for ground connections.

DIRECT GROUNDING STRAPS

Direct grounding straps shall be mounted to the following areas; frame to cab, frame to body.

All exposed electrical connections shall be coated with "Z-Guard 8000" to prevent corrosion.

12 VOLT ELECTRICAL SYSTEM TESTING

The apparatus low voltage electrical system shall be tested and certified by the manufacturer. The certification shall be provided with the apparatus. All tests shall be performed with air temperature between 0°F and 100°F.

The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.

TEST #1-RESERVE CAPACITY TEST

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure.

TEST #2-ALTERNATOR PERFORMANCE TEST AT IDLE

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

TEST #3-ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated.

The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At time of delivery, documentation shall be provided with the following information:

- Documentation of the electrical system performance test
- A written load analysis of the following;
- Nameplate rating of the alternator
- Alternator rating at idle while meeting the minimum continuous electrical load
- Each component load comprising the minimum continuous electrical load.
- Additional loads that, when added to the minimum continuous load, determine the total connected load.
- Each individual intermittent load.

ELECTRICAL LOAD MANAGER

The apparatus shall be equipped with an Innovative Control Electrical Load Manager (ELM) for performing electrical load management. The ELM shall have 16 programmable outputs to supply warning and load switching requirements. Outputs 1-12 shall be independently programmable to activate during the scene mode, the response mode, or both. These outputs can also be programmed to activate with the ignition or master warning switch, or to sequence and shed along with the priority. Output 13 shall be designated to activate a fast idle system. Output 14 shall provide a low voltage warning for an isolated battery. Output 15 is a user configurable output and shall be programmable for activating between 10.5 and 15 volts. Output 16 shall provide a low voltage alarm that activates at the NFPA required 11.8 volts. The ELM shall have a digital display to indicate system voltage in normal operation mode and also indicate the output configuration during programming mode. The ELM shall be protected against reverse polarity and shorted outputs and be enclosed in a metal enclosure to enhance EMI/RFI protection. The ELM shall have an operating temperature range of -40C to +105C (-40F to +220F).

The Load manager will have the following features:

- Main Battery Monitoring meets NFPA-1901
- Auxiliary Battery Monitoring
- Battery Measurements Accurate to +/- 0.5%
- Electrical Load Shedding
- Electrical Load Sequencing
- Twelve Fully Programmable Load Outputs
- Four Alarm Outputs
- Low Main Battery Voltage Alarm
- Low Auxiliary Battery Alarm
- Fast Idle Output Function
- Variable User Trip Output
- Master Warning, Load Manager Enable, and Park Brake Inputs
- Load Output Polarities Selectable
- Control Input Polarities Selectable
- Load Output Priority, Scene or Response, Ignition or Warning Switch Logic all Selectable
- Easy to Read 0.56" High Digital Display
- Manual Override Switch for Troubleshooting
- -40C to +105C (-40F to +220F) AEC-Q100 Level 2 Operating Temperature
- All Outputs Protected from Over-Current, Reverse Polarity, Over-Temp and Transients
- All Outputs Rated for 1A Continuous Duty
- No Configuration Jumpers – All Parameters are Adjustable from the Front Panel
- Lockable Front Panel User Interface
- Default Configuration is Restorable from the Front Panel
- Remote Cab Display
- J1939 CAN Bus, RS-485, and USB Communication Options
- 12VDC or 24VDC Operation

CHASSIS DIAGNOSTICS SYSTEM

Diagnostic ports shall be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow engine and ABS systems to provide blink codes should a problem exist.

The diagnostic system shall include the following:

- A single port to monitor the engine, transmission and ABS system and diagnostics of the roll sensor (if applicable)
- Engine diagnostic switch (blink codes)
- ABS diagnostic switch (blink codes)
- Allison Transmission Codes (through touch pad shifter)

VOLTAGE MONITOR SYSTEM

A voltage monitoring system shall be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system shall provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm shall activate if the system falls below 11.8 volts DC for more than two (2) minutes.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM

A system shall be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

12 VOLT SEQUENCER

A sequencer shall be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation shall allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

Emergency light sequencing shall operate in conjunction with the emergency master light switch.

When the emergency master switch is activated, the emergency lights shall be activated one by one at half second intervals. Sequenced emergency light switch indicators shall flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer shall deactivate the warning light loads in the reverse order. Rear of cab Air-Conditioning and Heat shall be load managed.

ELECTRICAL HARNESS REQUIREMENT

To ensure dependability, all 12-volt wiring harnesses installed by the manufacturer shall conform to the following specifications:

- SAE J 1128 - Low tension primary cable
- SAE J 1292 - Automobile, truck, truck-tractor, trailer and motor coach wiring
- SAE J 163 - Low tension wiring and cable terminals and splice clips
- SAE J 2202 - Heavy duty wiring systems for on-highway trucks
- NFPA 1901 - Standard for automotive fire apparatus
- FMVSS 302 - Flammability of interior materials for passenger cars, multipurpose passenger vehicles, trucks and buses
- SAE J 1939 - Serial communications protocol
- SAE J 2030 - Heavy-duty electrical connector performance standard
- SAE J 2223 - Connections for on board vehicle electrical wiring harnesses
- NEC - National Electrical Code
- SAE J 561 - Electrical terminals - Eyelet and spade type
- SAE J 928 - Electrical terminals - Pin and receptacle type A.

For increased reliability and harness integrity, harnesses shall be routed throughout the cab and chassis in a manner which allows the harnessing to be laid into its mounting location. Routing of harnessing which requires pulling of wires through tubes is never allowed at the manufacturer.

Wiring shall be run in loom or conduit where exposed, and have grommets or other edge protection where wires pass through metal. Wire colors shall be integral to each wire insulator and run the entire length of each wire. Harnessing containing multiple wires and uses a single wire color for all wires shall not be allowed. Function and number codes shall be continuously imprinted on all wiring harness conductors at 3.00" intervals. All wiring installed between the cab and into doors shall be protected by a wire conduit to protect the wiring. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment shall be installed utilizing the following guidelines:

- All holes made in the roof shall be caulked with silicon. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body.
- For low cost of ownership, electrical components designed to be removed for maintenance shall be quickly accessible. For ease of use, a coil of wire shall be provided behind the appliance to allow them to be pulled away from the mounting area for inspection and service work.
- Corrosion preventative compound shall be applied to non-waterproof electrical connectors located outside of the cab or body. All non-waterproof connections shall require this compound in the plug to prevent corrosion and for easy separation of the plug.
- Any lights containing non-waterproof sockets in a weather-exposed area shall have corrosion preventative compound added to the socket terminal area.
- All electrical terminals in exposed areas shall have protective coating applied completely over the metal portion of the terminal.
- Rubber coated metal clamps shall be used to support wire harnessing and battery cables routed along the chassis frame rails.
- Heat shields shall be used to protect harnessing in areas where high temperatures exist. Harnessing passing near the engine exhaust shall be protected by a heat shield.
- Cab and crew cab harnessing shall not be routed through enclosed metal tubing. Dedicated wire routing channels shall be used to protect harnessing therefore improving the overall integrity of the vehicle electrical system. The design of the cab shall allow for easy routing of additional wiring and easy access to existing wiring.
- All standard wiring entering or exiting the cab shall be routed through sealed bulkhead connectors to protect against water intrusion into the cab.

BATTERY CABLE INSTALLATION

All 12-volt battery cables and battery cable harnessing installed by the apparatus manufacturer shall conform to the following requirements:

- SAE J 1127 - Battery Cable
- SAE J 561 - Electrical terminals, eyelets and spade type
- SAE J 562 - Nonmetallic loom
- SAE J 836 A - Automotive metallurgical joining
- SAE J 1292 - Automotive truck, truck-tractor, trailer and motor coach wiring
- NFPA 1901 - Standard for automotive fire apparatus.

Battery cables and battery cable harnessing shall be installed utilizing the following guidelines:

- Splices shall not be allowed on battery cables or battery cable harnesses.
- For ease of identification and simplified use, battery cables shall be color coded. All positive battery cables shall be marked red in color. All negative battery cables shall be black in color.
- For ease of identification, all positive battery cable isolated studs throughout the cab and chassis shall be red in color.
- For increased reliability and reduced maintenance, all electrical buss bars located on the exterior of the apparatus shall be coated to prevent corrosion.
- An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

ALTERNATOR

There shall be a Leece Neville Model 4949PA, 270 amp, serpentine belt driven alternator or equivalent. The installation shall include a brush less design with an integral self-diagnostic regulator and rectifier for compact installations.

The alternator installation shall be designed to provide maximum output at engine idle speed to meet the minimum continuous electrical load of the apparatus as required.

BATTERY SYSTEM

Six (6) Exide # EXP1200-31D, maintenance free batteries shall be provided. Each battery shall be rated at 1200 CCA and shall have a reserve capacity of 200 minutes.

Wiring for the batteries shall be 4/0 welding type dual path starting cables for SAEJ541.

BATTERY STORAGE

Batteries shall be securely mounted in fixed 3/16" GR50 steel trays located on each side of the chassis frame. Complete access shall be provided when the cab is fully tilted. Batteries shall be mounted on non-corrosive matting material.

The battery tray shall be able to withstand a longitudinal acceleration of -46.5g at 0.246 seconds in accordance to SAE J211 standards using a channel frequency class 600 filter. Testing shall be performed at and verified by a third party testing and evaluation center.

BATTERY DISCONNECT SWITCH

The chassis batteries shall be wired in parallel to a single 12 volt electrical system, controlled through a heavy duty master disconnect switch. The master disconnect switch shall be located within easy access of the driver, in **driver side seat riser**.

BATTERY JUMPER STUDS

A set of Cole Hersee battery jumper studs, model #46210-02 (red) and #46210-03 (black) shall be provided to allow the battery system to be jump started or charged from an external source. The studs shall be located on the bottom of the battery box on the driver's side of the chassis. Each stud shall be equipped with both a rubber protector cap and a 2" square non-conductive plate to prevent accidental shorting.

120 VOLT SHORELINE CONNECTION

A 120 volt shoreline connection with a weather tight cover shall be provided. The receptacle shall be a standard house-hold, recessed male plug in, which shall be wired to the specified on board battery charging system. A label shall be provided indicating voltage and amperage ratings.

SHORELINE POWER INLET PLATE

A shoreline power receptacle information plate shall be permanently affixed at or near the power inlet. The plate shall indicate the following:

- Type of Line Voltage
- Current Rating in Amps Power Inlet Type (DC or AC).

The shoreline receptacle shall be located in the driver's cab step well in a pre -determined location by **VENDOR**.

OPTIONAL DELUXE STATUS CENTER

A Kussmaul #091-194-IND deluxe status center with displays for battery condition, voltage, amperes and output current shall be installed adjacent to the 120 volt shoreline connection.

BATTERY CHARGER

A DLS-55 Power Converter/Battery Charger from IOTA Engineering shall be provided for maintaining the vehicle battery system. converts nominal 108-132 AC voltage, to 13.4 DC voltage for both DC load operation and 12V battery charging.

The unit shall maintain the battery, delivering its full-rated current of 55 amps when the battery capacity falls sufficiently low. The voltage is set to deliver its maximum current for the necessary period of time to minimize undue stress to the battery caused by heating of its cells. This helps to ensure the longest possible life of the battery. Over time, as the battery nears its full capacity, the DLS-55 shall automatically drop the current, providing a float-charge to the battery to prevent self-discharge of the cells.

Iota battery charger will be located in the rear forward facing seat riser towards the center.

EMERGENCY SWITCHES

The cab shall be designed with multiple areas for component switching within easy reach of the driver and or officer. This switch package shall separate the emergency / auxiliary electrical functions from the regular chassis functions. The electrical system will be designed using Carling Technologies fully sealed V-Series Contura switches, which provide cutting edge design, high quality, maximum performance and unmatched reliability. Switches shall provide maximum sealing protection with dual seals around lamps and rocker stem certified to IP66 & IP68.

Ten (10) of switches shall be located on the lower switch panel between the driver and officer for warning lights and auxiliary controls. A master warning switch shall be provided, which shall allow pre-setting of emergency light switches and shall have a red integral indicator light.

Three (3) additional switches shall be located on the lower switch panel between the driver and officer for auxiliary controls.

All switches, (other than the master switch), shall have switch function labeling and an integral indicator light.

"LED" CAB INTERIOR LIGHTING

Four (4) Weldon 8080-8001-13 interior LED combination red/white dome lights shall be furnished in the cab, two (2) in the forward section and two (2) in the rear crew section. Each dome light shall have an integral selector switch. Each dome light shall also activate when the respective, adjacent cab door is opened.

CAB SPOTLIGHT

One (1) Collins model # CD-MAGNUM, 1,250,000 CP peak candlepower, hand held, spot light shall be provided. A handle mounted, on/off rocker switch and a coil cord with up to nine (9) feet extension shall be furnished.

The hand light will be shipped loose with the completed apparatus.

"DO NOT MOVE APPARATUS" WARNING LIGHT WITH AUDIBLE ALARM

A 1" round, red flashing warning light with an integral audible alarm, shall be functionally located in the cab to signal when an unsafe condition is present such as an open cab door or body compartment door, an extended ladder rack, a deployed stabilizer, an extended light tower or any

other device which is opened, extended or deployed which may cause damage to the apparatus if it is moved.

This light shall be activated through the parking brake switch to signal when the parking brake is released. This light shall be labeled "DO NOT MOVE TRUCK".

ADDITIONAL DOOR OPEN INDICATOR

Two (2) Floyd Bell, Twin Turbo, audio/visual warning light/ audio alarm shall be provided and installed to indicate an open cab or body door. The warning light / audio alarm shall be installed on the cab dash, visible to the driver & officer. An ID tag shall be provided and labeled with "Door Indicator LEFT Side and RIGHT Side". This will include the refurbished trailer compartment doors also.

The rear compartments (Rear step and the ladder storage compartments) will be included with the RIGHT side indicator.

12 VOLT POWER PORT NEAR OFFICER

One (1) 12 volt power port accessory outlet(s) shall be installed in the cab of the truck for the fire departments accessory devices. The port(s) shall be located as directed near the officer's seating position for devices such as cellular phones.

12 VOLT ACCESSORY CIRCUIT - CAB DASH

One (1) dedicated circuit; 12 volt, 40 Amp, power and ground on 3/8 stud and fused at battery shall be provided in the cab dash. The circuit shall be for future installation of radios or accessories.

12 VOLT ACCESSORY CIRCUIT - BEHIND OFFICERS SEAT

One (1) dedicated circuit; 12 volt, 40 Amp, power and ground on 3/8 stud and fused at battery shall be behind the officer seat. The circuit shall be for future installation of radios or accessories.

12 VOLT ACCESSORY CIRCUIT – CENTER OVERHEAD CAB DASH

One (1) dedicated circuit; 12 volt, 40 amp, power and ground on 3/8 stud and fused at battery shall be provided One (1) dedicated circuit; 12 volt, 40 amp, power and ground on 3/8 stud and fused at battery shall be provided **within the center overhead cab dash.** .

An additional 12 volt, 20 amp, power stud shall be installed next to the studs above and shall be switched with the ignition circuit.

The circuit shall be for future installation of radios or accessories.

BLUE SEA FUSE BLOCK - 12 CIRCUIT IN REAR CREW AREA

A Blue Sea 5026B, 12 circuit fuse block, shall be installed behind the officers seat. This block has a maximum amperage of 60 Amps per block and 30 Amps per circuit.

ASA VOYAGER DUAL CAMERA SYSTEM

An ASA Voyager rear vision camera system model # OBS713PKG shall be provided to allow the driver to visually see the rear of the apparatus while in the cab. The system shall include an ASA model # VOM74WP flat panel LCD color monitor mounted adjacent to the driver and a ASA model # VCCS155 color camera that shall be mounted at the rear of the vehicle.

In addition to the rear vision camera, a ASA model# VCMS50RCM side mounted camera shall be mounted on the officer side of the cab.

The cameras shall be wired as follows:

- The side vision camera shall automatically activate when the officer side turn signal is activated.
- The rear vision camera shall automatically activate when the chassis transmission is placed in reverse.

The monitor for the rear vision system shall be mounted ceiling of the cab in easy view of the driver. Exact location will be determined at per-construction.

HEADLIGHTS CLUSTER

Two (2) dual, Peterson LED headlight modules with a bright finish bezel shall be furnished, one (1) each side, on the front of the cab. Each head light module shall incorporate an individual LED low beam and a LED high beam headlight. High beam actuation shall be controlled on the turn signal lever.

DAYTIME RUNNING LIGHTS

The chassis head lights shall have integrated circuitry to actuate the low beam headlights at a maximum of 80 percent of capacity whenever the chassis engine is running.

The daytime running lights shall be interlocked with the parking brake.

AUXILIARY CAB SIDE TURN SIGNALS

Two (2) Weldon 9186-8580-29 LED turn signals shall be installed on the left and right sides of the cab, forward of the front door hinges and at the height of the front headlights. **They will be wired to the turn signals only.**

UPPER LIGHT MODULE

Two (2) Code 3 65BZ* LED light heads shall be provided, one (1) in each side dual light module, above the headlights, in matching chrome plated bezels.

Each light head shall be equipped with red LEDs and a colored lens.

The lights noted above shall be provided in addition to the NFPA required, minimum optical warning light package and shall be wired through the load management system to prevent excessive amperage draw.

The NFPA required, Zone "A" lower warning lights shall be incorporated into each side dual light module noted above.

ARROW TURN SIGNALS

Two (2) Code 3 65STBZA arrow shaped, amber LED turn signals shall be provided in chrome plated housings, mounted one (1) each side between the windshield and the dual light modules.

DOT MARKER LIGHTS AND REFLECTORS

Five (5) DOT approved Whelen Light Emitting Diode (LED) cab marker lamps shall be mounted on the top front edge of the cab roof.

Optronics model MCL82RB red LED marker lights with integral reflectors shall be provided at the lower side rear, one (1) each side.

Optronics Model #STL71AMB yellow LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle, one (1) each side if the apparatus is 30' long or longer.

Amber LED marker lights with integral reflectors shall be provided on the side of the cab adjacent to the driver's door, one (1) each side.

TAIL, STOP, TURN AND BACK-UP LIGHTS

One (1) each Weldon # 3884-0000-18 and # 3884-0000-19 LED combination tail/stop, turn signal, and backup lights shall be mounted one each side at the rear of the body.

The three lights per side shall be mounted in one common bezel in the following order, from top to bottom: tail/stop, turn signal, backup light.

CAB STEP LIGHTS

Chrome plated Innovative Lighting, 3-LED surface mounted, chassis step lights shall be provided and controlled with marker light actuation. Step lights shall be located to properly illuminate all chassis access steps and walkway areas.

The cab step lights will be activated when the ground lights are activated.

BODY AND TRAILER STEP LIGHTS

Chrome plated Innovative Lighting, 3-LED surface mounted, body step lights shall be provided and controlled with marker light actuation. Step lights shall be located to properly illuminate all body and trailer access steps and walkway areas.

The body-trailer step lights will be activated when the ground lights are activated.

Step lights to be provided over each individual step and above the upper all stepping areas.

GROUND LIGHTS – CAB, BODY and TRAILER

One (1) Amdor Luma Bar H2O LED 20" ground light shall be provided under each side cab door entrance step, four (4) total, two (2) behind the cab each side, six (6) three each side of trailer and two (2) rear trailer each corner. The ground lights shall turn on automatically with each respective door jamb switch and also by a master ground light switch in the warning light switch console.

Each light shall illuminate an area at a minimum 30" outward from the edge of the vehicle.

GROUND LIGHT SWITCHING

The cab, body and trailer ground lights shall activate by engaging the parking brake.

GROUND LIGHT SWITCHING

The cab, body and trailer ground lights shall be equipped with an activation switch in the cab.

LED BROW LIGHTS - ABOVE WINDSHIELD

Two (2) Fire Tech, Hi-Viz LED scene lights, model **FT-MB-6-FT-W**, with FT-MWKIT-LPX brackets, shall be mounted on the top center forward edge of the cab, outboard of the center DOT lights. The lights shall be mounted approximately **31-1/2"** apart to allow room for the department installed lettering.

The lights shall be controlled by left and right individual switches in the cab switch panel. Pictures of the last unit will be provided for location of switches.

TWO (2) HI-VIZ BROW LIGHTS, LEFT AND RIGHT FRONT CORNERS

Two (2) Fire Tech, Hi-Viz LED scene lights, model FT-MB-12-TR, shall be mounted on the top of the cab, on the forward outer corners. The lights shall be mounted on a 45-degree angle.

LIGHTS ABOVE WINDSHIELD SWITCHING - CAB

Four(4) switches shall be provided in the cab to control the individual HiViz lights. One (1) switch will control the left light and one (1) switch will control the right light in the warning light switch console and also above the officer side switch pack.

45-DEGREE LIGHTS ON CAB ROOF SWITCHING - CAB

Four(4) switches shall be provided in the cab to control the individual HiViz lights mounted on 45 degree angles at the front cab corners. One (1) switch will control the left light and one (1) switch will control the right light in the warning light switch console and also above the officer side switch pack.

NOTE: These switches shall also operate the alley lights in the lightbar.

****** BODY ELECTRICAL SYSTEM ******

12 VOLT CAB BODY ELECTRICAL SYSTEM

All electrical lines in the body shall be protected by automatic circuit breakers, conveniently located to permit ease of service. Flashers, heavy solenoids and other major electrical controls shall be located in a central area near the circuit breakers.

All lines shall be color and function coded every 3", easy to identify, oversized for the intended loads and installed in accordance with a detailed diagram. A complete wiring diagram shall be supplied with the apparatus.

Wiring shall be carefully protected from weather elements and snagging. Heavy duty loom shall be used for the entire length. Grommets shall be utilized where wiring passes through panels.

In order to minimize the risk of heat damage, wires run in the engine compartment area shall be carefully installed and suitably protected by the installation of heat resistant shielded loom.

All electrical equipment shall be installed to conform to the latest federal standards as outlined in NFPA 1901.

ENGINE COMPARTMENT WORK LIGHTS

Two (2) Tecniq model #E18 LED lights shall be provided inside the engine enclosure that will provide 800 lumens each. Each light shall have their own independent switch incorporated into the light head.

NFPA AUDIBLE AND LIGHTING WARNING PACKAGE

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901 Fire Apparatus Standard. The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

LIGHT PACKAGE ACTUATION CONTROLS

The entire warning light package shall be actuated with a single warning light switch located on the cab switch panel. The wiring for the warning light package shall engage all of the lights required for "Clearing Right of Way" mode when the vehicle parking brake is not engaged. An automatic control system shall be provided to switch the warning lights to the "Blocking Right of Way" mode when the vehicle parking brake is engaged.

WARNING LIGHT FLASH PATTERN

All of the perimeter warning lights shall be set to a default NFPA compliant flash pattern as provided by the light manufacturer.

UPPER LEVEL LIGHTING - WHELEN

NFPA ZONE A, UPPER

A Whelen # FN72QLED "Edge Freedom", 72" cab roof warning light bar shall be furnished and rigidly mounted on top of the cab roof.

The light bar shall be equipped with the following:

- Clear Lenses
- Two Front Corner Red Linear LED's
- Three Red Forward Facing Linear LED's
- Two White Forward Facing Linear LED's
- Two Red End Linear LED's.

If equipped, the forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

Light bar approval before ordering

The Freedom light bar shall be equipped with # FXALF1D led alley lights.

NOTE: The light bar alley lights will be controlled by the same switches that control the 45-degree HiViz lights mounted on the cab roof.

The Freedom light bar shall be equipped with a # 795H Low Profile LED Opticom emitter. The Opticom emitter shall be disabled automatically for the "Blocking Right of Way" mode.

LOWER LEVEL LIGHTING - WHELEN

NFPA ZONE A, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LEDs and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

The lower Zone A warning lights shall be mounted in the custom chassis headlight bezels.

NFPA ZONES B & D FRONT, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LEDs and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

The lower Zone B & D warning lights shall be mounted on the sides of the custom chassis front bumper.

NFPA ZONES B & D MIDSHIP, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LEDs and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

Zone B/D” mid-ship warning light will be located rearward of the battery access doors in the driver and officer side rear step riser.

NFPA ZONES B & D REAR, LOWER

Two (2) Whelen 60*02F*R 600 super LED light heads shall be provided and installed one (1) each side.

Each light head shall be equipped with red LEDs and a colored lens.

The lights shall be installed with a chrome plated mounting flange.

Zone B/D” rear warning light will be located forward of the rear drive tires on the driver and officer side rear.

WARNING LIGHT SYSTEM CERTIFICATION

The warning light system(s) specified above shall not exceed a combined total amperage draw of 45 AMPS with all lights activated in either the "Clearing Right of Way" or the "Blocking Right of Way" mode.

The warning light system(s) shall be certified by the light system manufacturer(s), to meet all of the requirements in the current revision of the NFPA 1901 Fire Apparatus Standard as noted in the General Requirements section of these specifications. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

Any large truck as defined by NFPA shall have the lower zone warning lights mounted no higher than 62" to the optical center of the warning light from ground level.

ALTERNATING FLASHING HEADLIGHT SYSTEM

An alternating flashing wig-wag system, wired to the apparatus headlights, shall be installed. The wig-wag system shall be individually switched at the master light console. The alternating flashing system shall be automatically disabled during the "Blocking Right of Way" mode.

******* AUDIBLE WARNING EQUIPMENT *******

ELECTRIC HORN

A single electric horn activated by the steering wheel horn button shall be furnished.

A two (2) position rocker switch shall be installed on the cab dash to activate from the steering wheel horn button one of the following: DOT horn and air horn.

BACK-UP ALARM

A Preco # 1040, self-adjusting 87 thru 112dBA back-up alarm, shall be provided and installed at the rear of the apparatus under the tailboard. The back-up alarm shall activate and automatically adjust to ambient noise levels when the transmission is placed in reverse gear and the ignition is "on".

AIR HORNS

Two (2) **GROVER** chrome plated air horns shall be at the front of the vehicle. The air horns shall be mounted in full compliance with NFPA-1901. The supply lines shall be dual 1/4" lines with equal distance from each horn.

Both air horns shall be recessed in the front bumper.

The air horns will be mounting will be determined at pre-construction.

The air horn(s) shall be controlled by a push button located on the dash, on the officer's side and the steering horn button for the driver. An air horn/ electric DOT horn selector switch shall be furnished on the dash for the drivers steering horn button.

ELECTRONIC SIREN

A Federal EQ2B electronic siren amplifier/DSP with a digital output controller shall be mounted in the cab. The EQ2B siren not only recreates the traditional "Q" siren sound but it also able to Q-Wail, Yelp, Priority, Air Horn, PA, and radio rebroadcast. **A microphone will also be provided with the e-Q2B**

Two (2) floor mounted foot switches shall be provided, one (1) for the officer and one (1) for the driver. A siren brake button shall be provided near the driver's position.

A second push button siren brake switch shall be provided on the cab dash near the officers seating position.

One (1) Federal, model # BP200-EF siren speaker shall be provided, recessed in the front bumper and wired to the electronic siren.

FIRECOM MODEL #5100D DIGITAL INTERCOM SYSTEM

A Firecom model # 5100D digital intercom system shall be provided in the front of the cab. The system shall be capable of interfacing with a two-way radio system (note: an authorized two-way radio installer shall be responsible for interfacing the intercom system with the two-way radio).

The Firecom shall have the following features:

- Single radio monitor and transmit selector switch
- Touch-pad adjustable volume and squelch
- Advanced digital signal processing noise-reduction
- Single auxiliary input/output connection
- Nominal 12v power supply
- Six (6) jacks for wired headset connections; expandable up to twelve (12) daisy-chained wired headsets

DRIVERS AND OFFICERS HEADSETS FOR FIRECOM SYSTEM

Two (2) UH-51 single-plug under helmet radio transmit headsets shall be furnished for the driver and officer seating locations in the cab. The headsets shall have adjustable volume, noise-canceling electric microphone, adjustable head strap, and a flex-style boom which rotates for left or right dress. The sets shall also have ComLeather ear seals.

Two (2) HM-10 plug in modules shall be furnished at the drivers and officers locations in the forward area of the cab.

Two (2) 108-0678-00 yellow, NFPA compliant, rubber coated steel headset hanger hooks shall be furnished in the front section of the cab to hold the driver and offer intercom headsets while not in use.

FIRECOM REMOTE HEAD

A 5100DRH remote head shall be surface mounted in the cab as directed by the fire department. The remote head shall have the same controls as the master base station.

RADIO INTERFACE CABLE

One (1) radio interface cable, model # 110-5101-30 and one (1) extension cable model # 108-0086-00 shall be provided and installed from the firecom base unit to the area of where the mobile radio base station shall be mounted. The end of the cable that connects to the mobile radio shall be un-terminated and shall be the responsibility of the radio installer to provide and install the correct adapter to connect the cable to the mobile radio.

REAR JUMPSEAT HEADSETS

Two (2) UH-51 single-plug under helmet intercom/radio transmit headsets shall be furnished for two (2) rear jump seat locations. The intercom headsets shall have adjustable volume, noise-canceling electric microphone, adjustable head strap, and a flex-style boom which rotates for left or right dress. The sets shall also have comfortable ComLeather ear seals.

Two (2) HM-10 plug in modules shall be furnished in the rear crew area of the cab at the jump seat locations to accommodate the intercom headsets.

Two (2) 108-0678-00yellow, NFPA compliant, rubber coated steel headset hanger hooks shall be furnished to hold the intercom headsets while not in use.

ADDITIONAL ITEMS SUPPLIED WITH THE VEHICLE

- 1 - Pint of touch up paint for each color
- 1 -Bag of assorted stainless steel nuts and bolt.

WHEEL CHOCKS

Two (2) Zico model #SAC-44 folding wheel chocks shall be installed. The exact location will be determined at pre-construction.

****** PAINT SECTION ******

PAINT, PREPARATION AND FINISH

The apparatus body shall be painted Sikkens [#COL]. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically or horizontally hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where the material is penetrated after painting, for the purpose of mounting steps, hand rails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, hand rails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

BODY PRIMER & PREPARATION

All exposed welds shall be ground smooth for final finishing of areas to be painted. The compartments and doors are totally degreased and phosphatized. After final body work is completed, grinding (36 and 80 grit), and finish sanding shall be used in preparation for priming.

BODY FINISH PAINT

The body shall be finish sanded and prepared for final paint. Upon completion of final preparation, the body shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint. Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

The entire body shall be buffed and detailed.

BODY PAINT

The inside and underside areas of the complete body assembly shall be painted black using a Sikkens paint system, prior to the installation of the body on the chassis or torque box.

COMPARTMENT PAINT

The interior of the body compartments shall be painted with Line-X material.

The Line-X coating shall be light gray in color.

BODY and TRAILER PAINT

The body paint finish shall be Sikkens paint system in a single color, to match customer furnished paint codes and requirements.

CAB PRIMER & PREPARATION

The cab primer shall be a two (2) stage process. First stage shall be a coating with a two part component, self-etching, and corrosion resistant primer to chemically bond the surface of the metal for increased adhesion. Second stage shall be multiple coats of a catalyzed, two component, polyurethane primer applied for leveling of small imperfections and top coat sealing.

CAB FINISH PAINT

The entire cab with the exception of the exposed underside shall be finish sanded and prepared for final paint. Upon completion of final preparation, the cab shall be painted utilizing the highest quality, state of the art, low V.O.C., polyurethane base paint. Finish paint shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish.

CAB UNDERSIDE PAINT

The exposed areas under the cab shall be painted with a black urethane paint/primer.

The cab exterior shall be finish painted with Sikkens paint system, single color, to match purchaser's furnished paint code.

The roof mounted air conditioning condenser housing(s) shall be painted to match the cab roof color.

The entire exterior finish of the cab shall be buffed and detailed.

CAB INTERIOR PAINT

The interior metal surfaces of the cab shall be finish painted with a textured gray paint.

CHASSIS PAINT

The chassis frame rails, suspension, axles, and drivelines (with the exception of any PTO drivelines which shall be safety yellow) shall be painted black with a polyurethane base paint prior to installation of any air lines or electric systems to ensure proper serviceability.

WHEEL PAINT

The chassis wheels, (except aluminum wheels) shall be painted job color with silver trim around the perimeter. All outer wheels on the rear axle shall be job color with the inner being a color selected by the wheel manufacturer suitable for inner wheel use.

PAINT CODES - SIKKENS

The paint shall match customer furnished paint code and layout. The paint code shall be as indicated below:

- **PRIMARY PAINT COLOR**

Single Color: *Red* *Paint Code#* *FLNA32046*

NOTE: The above code is the cross to PPG Red - VENDOR 4217 ALT

TOUCH-UP PAINT

One (1) pint of each exterior color paint for touch-up purposes shall be supplied when the apparatus is delivered to the end user.

FINALIZATION & DETAILING

Prior to delivery, the vehicle, the interior and exterior be cleaned and detailed. The finalization process detailing shall include installation of NFPA required labels, checking fluid levels, sealing and caulking required areas of the cab and body, rust proofing, paint touch-up, etc.

RUST PROOFING

The entire unit shall be thoroughly rust proofed utilizing rustproof and sound deadening materials applied in manufacturer recommended application procedures. Rust proofing shall be applied during the assembly process and upon completion to insure proper coverage in all critical areas.

****** LETTERING AND STRIPING ******

LETTERING

Lettering shall not be provided anywhere on the apparatus.

****** NFPA REQUIRED SCOTCH-LITE STRIPING ******

SCOTCH-LITE STRIPE

A six (6) inch high "Scotch-Lite" stripe shall be provided. The stripe shall be applied on a minimum of 60 percent of each side of the unit, and 40 percent on the front of the unit. The Scotch-Lite stripe layout shall be determined by the Fire Department. The Scotch-Lite shall be white in color.

REAR CHEVRON STRIPING

The entire rear of the truck shall be covered with alternating strips of reflective striping.

The striping shall be 6" Scotch-Lite.

The Scotch-Lite shall be Ruby Red and Yellow in color.

Compartment Behind Cab (Generator and Hydraulic Tank)

A new generator and hydraulic tank compartment with lab style doors storage compartments each side will be provided. The design shall match existing aerial apparatus in use by the department. The generator will be repurposed.

This shall be discussed at the pre-construction meeting. The compartment will be approximately 56" high x 42" wide x 96" from side to side. The two (2) storage compartments one (1) each side will be approximately 21.5" deep.

The top area above the generator and hydraulic tank will be removable, vented and able to support the weight of a firefighter. The interior of the body compartments shall be painted with Line-X material. The Line-X coating shall be light gray in color.

Each compartment will have two (2) adjustable shelves provided, machine finished. A total of four (4) shelves will be provided. Rope LED lighting will be provided in each compartment. Strips will be mounted vertically along each side of the door framing. The total

combined length of the light strips will be within 6" to the top and bottom of the compartment door opening. Opening of the compartment door shall automatically turn on the compartment lighting. Door switches will be tied to open door alarm system in the cab.

Additional Rear Cab Lighting

RECESSED 75W PIONEER LED FLOODLIGHTS – REAR CAB

Two (2) Whelen Pioneer model # PFP1R recessed lights shall be installed on rear face of the cab body, one (1) each side, using the Whelen # PBA103 recessed bracket. Location will be determined at pre-construction.

Each lamp head shall have one (1) white LED module and shall draw 6.5 amps and generate 8100 lumens.

Both lights will illuminate when ladder PTO is engaged.

150W PIONEER LED FLOODLIGHTS – DRIVER SIDE

One (1) Whelen Pioneer model # PFP2 light shall be installed on the driver side top of rear cab using the Whelen # PBA206U bail mounted bracket. The exact location will be determined at pre-construction.

The lamp head shall have two (2) white LED modules and shall draw 13 amps and generate 16,000 lumens.

A switch shall be provided for officer and driver in the cab warning light switch console to turn the lights on and off.

150W PIONEER LED FLOODLIGHTS – OFFICER SIDE

One (1) Whelen Pioneer model # PFP2 light shall be installed on the officer side top of rear cab using the Whelen # PBA206U bail mounted bracket. The exact location will be determined at pre-construction.

The lamp head shall have two (2) white LED modules and shall draw 13 amps and generate 16,000 lumens.

A switch shall be provided for officer and driver in the cab warning light switch console to turn the lights on and off.

Additional Rear Tiller Cab Lighting

75W PIONEER LED FLOODLIGHTS – REAR

Two (2) Whelen Pioneer model # PFP1R lights shall be installed on rear of the body, one (1) each side. Mounting and location will be determined at pre-construction. The switches for the lights will be in the tiller cab only.

Each lamp head shall have one (1) white LED module and shall draw 6.5 amps and generate 8100 lumens.

Additional Side Trailer Lighting

150W PIONEER LED FLOODLIGHTS – OFFICER SIDE

Two (2) Whelen Pioneer model # PFP2 light one (1) each side shall be installed on the officer and driver sides mid-ship trailer using the Whelen # PBA206U bail mounted bracket. The exact location will be determined at pre-construction.

The lamp head shall have two (2) white LED modules and shall draw 13 amps and generate 16,000 lumens.

A switch shall be provided for officer and driver in the cab warning light switch console to turn the lights on and off. There will also be switches in the tiller cab to operate these lights.

Existing None Emergency Trailer Lights

All existing none emergency lights will be changed to LED. Lights and reflectors will comply with Federal Motor Vehicle Safety Standard #108 will be furnished. Exact make and model of all lights will be discussed at pre-construction.

LED Emergency Lights Tiller Body

Tiller body side emergency lights will be changed to LED. 6 (6) Whelen 60*02F*R 600 super LED light heads shall be provided and installed Three(3) each side.

- Each light head shall be equipped with red LEDs and a colored lens.
- The lights shall be installed with a chrome plated mounting flange.
- The location of these lights will be determined at pre-construction.

Rear FMVSS Lighting

A pair of Weldon, model 3884, three (3) lamp modules will be provided. Each module will include a stop-tail light, arrow directional light and backup light mounted in a polished aluminum housing. The lights will be mounted on the face of the rear tractor wall. Four (4) red reflectors will be provided.

A Weldon, model 23882-2600-00, license plate bracket will be mounted on the rear of body centered below the ladder bay doors. A Weldon, model 9186-23882-30, step lamp will illuminate the license plate.

Three (3) identification LED lights located at the rear will be installed per the following:

- As close as practical to vertical centerline.
- Centers spaced not less than six (6) inches or more than twelve (12) inches apart.
- Red in color.
- All at the same height.

The outside LED clearance lights located at the rear wall will be installed per the following:

- To indicate the overall width of the vehicle.
- At least one (1) each side of the vertical centerline.
- All at the same height.
- As near the top as practical.
- To be visible from the rear and the side.

Per FMVSS 108 and CMVSS 108 requirements.

License Plate

A license plate bracket will be mounted on the rear body wall, centered, below the ladder doors. A LED lamp will illuminate the license plate.

Marker Light

There will be a single amber Whelen LED Super 600 light mounted center rear of cab at the center line to assist the tillerman. The light will be mounted as high as possible so as to be easily seen from the tiller driving position. This light will be activated with the running lights on the vehicle.

Third Brake Light (REAR)

Replace the existing third brake light with a Whelen LED 700.

Warning Lights (Rear)

One (1) pair of Whelen 60*00F LED lights will be provided. These lights will be located at the rear of the tiller body, each side high on the rear bulkheads, and activated with the emergency master. The color of the lights will be amber LED/amber lens. These lights will be installed with a flange.

Flash Pattern

The lights in the rear lower zone and rear upper blocking zone will be connected to the same power supply. The lights will flash in an "X" pattern.

Rear Zone Lower Lighting

Two (2) Whelen, Model 60*02F*R flashing "Super" LED warning lights will be located at the rear of the apparatus, required to meet or exceed the lower level optical warning and optical power requirements of NFPA. The color of these lights will be Super LED/red lens. One (1) switch located in the cab on the switch panel will control these lights. These lights will be

installed with a flange.

Rear Warning Lights

Two (2) Whelen model B6TM rotators with Super LED flashing warning lights will be provided at the rear of the truck, one (1) each side. Each light will include a LED rotating reflector and model 70*02F*R Super LED flashing light mounted in a polished aluminum housing. The beacons will be provided with driver side dome amber and passenger side dome red. The color of the Super LED flashing lights will be red. The beacons will be controlled by a switch in the cab. The LED lights shall be activated with a separate switch in the cab.

Tiller Trailer Body Modification and Repaint

The complete tiller trailer body and tiller cab will be metal finished and repainted in the same manner as the tractor. All compartment doors will be repainted on the exterior. The interior of the body compartments shall be painted with Line-X material. The Line-X coating shall be light gray in color. All compartment doors will be removed and inspected for damage and all defects on doors and inside compartments will be repaired. All compartment door hardware will be inspected and replaced as needed this includes handles, linkage, hinges, and door stay arms and springs. All compartments will have new rubber door seals, new rope LED lighting, new door open switches installed. The rope lighting will illuminate when doors are opened and they will be tied to the open door alarm system in the cab.

NEW BRACKETS ON OUTSIDE FLY SECTION OF AERIAL LADDER

Drivers side bracket: A bracket will be installed between banner and outside aerial section of ladder to hold the parapet ladder that is located on lower deck below tillerman. The construction and exact location will be discussed at pre-construction.

Officers side bracket: A bracket will be installed between banner and outside aerial section of ladder to hold tools. The construction and exact location will be discussed at pre-construction.

DRIVER SIDE - FRONT SECTION OF TILLER FENDER

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices. This added compartment will eliminate the current tillerman driving light. A new LED tillerman driving light will be mounted on the deck over the tiller wheels for tillerman driving. The exact location and position will be discussed at pre-construction. The on/off switch for this light will remain in the tiller cab.

DRIVER SIDE - REAR SECTION OF TILLER FENDER

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an

angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices. The emergency light that is in this space will need to move and the exact location will be discussed at pre-construction.

OFFICER SIDE - FRONT SECTION OF TILLER FENDER

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices. This added compartment will eliminate the current tillerman driving light. A new LED tillerman driving light will be mounted on the deck over the tiller wheels for tillerman driving. The exact location and position will be discussed at pre-construction. The on/off switch for this light will remain in the tiller cab.

OFFICER SIDE - REAR SECTION OF TILLER FENDER

A storage compartment shall be inserted into the fender to provide a storage area for three (3) customer supplied SCBA cylinders (or fire extinguishers of similar size). The storage area shall be sized as tall and wide as possible in the fender (minimum of 14" wide x 15" tall with an angled floor by fender radius), and shall be 26" deep. The compartment shall have a non-abrasive lined cradle storage area for each of the three (3) devices.

FENDER STORAGE DOORS

The fender storage area(s) shall be enclosed by a hinged door fabricated from the same material as the primary body construction, and painted the primary body color. The back side of the door shall have a section of Nylatron installed to protect the door surface from the items stored in the compartment. Each door shall be tied into the compartment door ajar/do not move apparatus warning system.

WATER-VAC COMPARTMENT

Remove existing water-vac compartment under aerial ladder between electrical reels. Install a new water-vac compartment 13in high 45 in wide 28 in deep with doors opening to the outside from top to bottom. This compartment will be moved as far forward as possible from the existing compartment without hitting the bottom of the aerial ladder when bedded. The exact layout of this compartment will be decided at pre-construction.

Aerial Ladder Repaint

The entire four (4) piece ladder sections and turntable will be completely disassembled with the ladder sections being media blasted prior to repainting. The complete aerial device will be 3rd party visually inspected to include nondestructive magnetic particle testing of all welds. The test results shall be immediately forwarded to the fire department. Any issues will be documented and repaired accordingly after approval.

All aerial device structural components above the rotation point that are not chrome plated or stainless steel will be painted.

The ladder sections and all painted surfaces on the turntable and hydraulic cylinders will be repainted to match the original white color.

All areas to be painted will be sanded to remove any metal flakes and smooth any rough surfaces.

All ladder surfaces to be painted will be phosphatized to remove metal impurities, aid paint adhesion and inhibit rust.

The components will be prime-painted with epoxy primer and finish painted with a durable, high gloss polyurethane paint.

A yellow reflective stripe will be provided on the vertical and horizontal members of the stabilizers.

Any graphics removed from the ladder will be cleaned and reinstalled after the repaint.

LADDER TIP LIGHTS

Flood/spot LED will be mounted on both sides (left/right) of ladder. Lights shall not extend into the center section of the aerial ladder area. Lights shall be powered by the 12 volt system. This item shall be discussed at Pre-Construction Meeting. Two (2) chainsaw scabbards will be added on ladder tip.

LADDER BASE TO TIP SPEAKER

A new wireless communication system will be installed from ladder controls to ladder tip.

LADDER BASE LIGHT

A LED spot light will be mounted on the pedestal side (on side of ladder).

Ladder Repairs

At the time of reassembly all aerial ladder components will be inspected and replaced as necessary. All steel cables, chivs, electrical wiring and all pins and bushings will be replaced. Hard point D-rings will be added to trailer frame rails in 5th wheel area.

Ladder Testing

A complete UL aerial ladder test shall be conducted on the refurbished unit. The test shall be scheduled and completed prior to the final customer inspection. The results of the evaluation shall be immediately forwarded to the fire department.

Additional Component Inspection and Repair

If available the tiller heater/defroster will be changed to a 12 volt system. If 12 volt system is not available the existing tiller cab heater will be disassembled, thoroughly cleaned and reinstalled. The heater/defroster will be tested to assure proper performance.

Connection of Trailer To New Tractor

All existing 12 volt, 120 volt, and hydraulic connections will be reconnected to the new tractor chassis. All the electrical wiring, hoses, and connections will be inspected and replaced if needed. The existing 5th

wheel will be reused. It will be degreased and inspected. New pins and bushings shall be installed. It will be re-painted job color.

Collector Rings

The collector rings (center post) will be replaced. All existing function will be moved to the new system. A minimum of 3 spare rings will be provided.

PTO and Hydraulic Aerial Pump

New PTOs and hydraulic pump will match the existing chassis.

GROUND JACKS (OUTRIGGERS)

Outrigger jacks will be removed, and inspected for wear and cracks. Any defects will be repaired or replaced no matter how small. Lights Beams will be added that marks the path of the jack to the ground or a light that shines on the ground where the jack will land.

Tillerman Seat/Seat Belt

Replace the tillerman seat with a new stationary seat and seatbelt.

Tiller Cab Bubble Windows

The two (2) bubble side windows on the tiller cab will be replaced with new bubble windows.

Tiller Cab Doors

New door hardware will be installed. This will include slides,locks, and handles. The tiller cab doors seals will be replaced to assure a proper seal.

PTO and Hydraulic Aerial Pump

New PTOs and hydraulic pump will match the existing chassis.

Tiller Cab Bubble Windows

The two (2) bubble side windows on the tiller cab will be replaced with new bubble windows.

Tiller Cab Doors

New door hardware will be installed. This will include slides,locks, and handles. The tiller cab doors seals will be replaced to assure a proper seal.

WARRANTY - ENGINE

The proposed unit will be equipped with a Fire Service rated engine, which will come furnished with a five (5) year Engine Manufacturer's warranty. A copy of the manufacturer's warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - TRANSMISSION

The proposed Allison transmission will be provided with a five (5) year warranty. A copy of the Allison transmission warranty will be supplied to the purchaser to define additional details of the warranty provisions.

WARRANTY - COOLING SYSTEM – CAB CHASSIS

The Contractor shall warrant all Cooling System Equipment components used in the construction of - Fire Apparatus against defects and workmanship provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of three (3) years from the date of delivery / acceptance to the original user-purchaser, whichever occurs first.

This warranty applies to both purchased and fabricated, manufacturer supplied, coolant system components, and is not provided in lieu of any Vendor provided warranties. All coolant system components provided by the engine manufacturer are covered by the engine manufacturer's warranty only.

WARRANTY - CUSTOM CHASSIS FRAME RAILS

The proposed - custom chassis frame and cross members will be warranted to the original purchaser for the life of the vehicle. A copy of Contractor's frame rail warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - STEERING UNIT (CHASSIS)

The proposed Sheppard steering gear will be warranted for a period of three (3) years from the first date of service or 150,000 miles (241,401 kilometers), whichever occurs first. The product will be free from defects in material and workmanship under normal use in applications approved in advance by Sheppard.

WARRANTY - FRONT AXLE (CHASSIS)

The Meritor axle will be provided with a two (2) year parts and labor warranty. The wheel seals, gaskets and wheel bearings will have a one (1) year warranty. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - REAR AXLE (CHASSIS)

The Meritor axle will be provided with a two (2) year parts and labor warranty. The wheel seals, gaskets and wheel bearings will have a one (1) year warranty. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions.

WARRANTY - ABS (CHASSIS)

The Meritor ABS will be provided with a three (3) year warranty, parts and labor. A copy of Meritor's warranty will be supplied to define additional details of the warranty provisions. Vehicles that operate full or part time outside the United States and Canada will have a one (1) year, parts only warranty.

WARRANTY - CAB STRUCTURE (CHASSIS)

The proposed cab will be warranted against structural defects for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

WARRANTY - PAINT (CHASSIS & TRAILER)

The proposed paint finish will be warranted for a period of ten (10) years from the date of acceptance of the unit. Details of warranty coverage, limitations and exclusions are included in the specific warranty document.

OPTIONAL SUPPLEMENTAL MODIFICATIONS

The City of Vancouver Fire Department is seeking proposals for an optional supplemental modification which involves the adding of a hydraulic PTO-driven generator in the place of the current diesel-powered generator, if doable, without major re-engineering and prohibitive cost involved. This optional supplemental modification is not considered part of the core RFP solicitation but is included for flexibility for future purchases. Your proposal and cost for this supplemental modification will not be used to determine the highest scoring proposer.

Desired supplemental modification outcome as follow:

1. Hydraulic PTO driven generator. Generator unit under aerial ladder forward of electrical reels or current location.
2. RV HVAC for Tillerman cab (runs off PTO generator).
3. 120v outlets mounted in several rear compartments hooked to PTO generator.
4. Hose rack compartment in front of ladder on top of the tractor A compartment.
Approximate size: 48in long x 48 in wide 13 in deep. Door with forward face and top opening



CUSTOMIZING QUALITY SOLUTIONS AND RELIABLE SERVICE FOR YOUR FIRE AND SAFETY NEEDS

ATTACHMENT B

Clarifications/Exceptions

1. KME will be following NFPA 1912 standard for refurbishment, level II.
2. KME would like to state that large refurbishment projects such as what is specified is a partnership as many unknown concerns typically arise as the vehicle is disassembled. As these concerns arise, the manufacturer will have questions and may provide price option solutions to items not defined in the original scope of work. To maintain the quoted timeframe, timely answers will need to be provided.
3. KME will be utilizing a contractor familiar with the LTI product to perform the refurbishment on the aerial device of the vehicle. Their expertise in the original product will be significant toward the quality of the finished product.
4. Page 7 Aerial Test and inspection – The bearing will be inspected and tested upon arrival to verify its integrity. In the event the bearing is not within tolerance, KME will notify the Fire Department and provide options. The current bearing is of a welded design and not easily acquired. If required, this component may have an effect on the quoted delivery time.
5. Page 10 – Instruction manuals will be provided on the new build portion of the refurbishment.
6. Page 17 – Delivery Date – KME is quoting a delivery date of 330 – 360 calendar days. Our current build times do not allow us to meet the requested 300 days. Additionally, as noted above on the clarification of inspection upon arrival, unknown components which need to be replaced may have extended lead times.
 - *Delivery will be 330-360 calendar days on site in entirety on site at KME for the entire project. We cannot be held responsible for transportation and/or transportation delays between Vancouver and KME.
 - 150 calendar days for the actual TDA to be on site at KME for the work KME in Pennsylvania. We cannot be held responsible for transportation and/or transportation delays between Vancouver and KME.
 - *Delays caused by the non-availability of parts specific to this apparatus due to 3rd party sourcing beyond KME control shall not result in penalty charges being applied
7. Page 23 – GVWR – KME will be proposing a 31,000# rear axle and suspension.
8. Page 26-27 – Cab dimensions – KME will be proposing 73” high front and rear door openings as well as a crew floor to ceiling height of 54” and top of crew seat to ceiling height of 35”.
9. Page 43 – Climate control system – Capacities will be as noted in the KME proposal specification.
10. Page 66 – Batteries – the batteries specified will have a CCA rating of 1000.
11. Page 85-86 – Fender storage compartments – Fender areas are not large enough for storage of 3 cylinders. When the body is disassembled, KME will evaluate and note the total quantity of bottles which can be accommodated.
12. Any specific component not listed to be replaced in the specification is intended to be reused. This proposal does not cover any additional parts or labor which may be required after the work has started. Occasionally, worn or damaged parts are discovered which may not be evident on the first, check-in, inspection.

ATTACHMENT C - PERFORMANCE BOND

PERFORMANCE BOND

(NOTE: CONTRACTOR MUST USE THIS FORM, NOT A SURETY COMPANY FORM. MUST BE ACCOMPANIED BY A POWER OF ATTORNEY FOR THE SURETY'S OFFICER AUTHORIZED TO SIGN)

KNOW BY ALL MEN BY THESE PRESENTS:

We the undersigned _____ as
PRINCIPAL (hereinafter called CONTRACTOR), and _____
_____ a corporation organized and existing under and by virtue of the laws of the state of _____
_____ duly authorized to do surety business in the state of Washington
and named on the current list of approved surety companies acceptable on federal bonds and
conforming with the underwriting limitations as published in the Authorized Insurance List in the
State of Washington published by the Office of the Insurance Commissioner and which carries an
"A" rating and is of the appropriate class for the bond amount as determined by Best's Rating
System, as SURETY, hereby hold and firmly bind ourselves, our heirs, executors, administrators,
successors and assigns, jointly and severally, to pay to CITY OF VANCOUVER as OBLIGEE
(hereinafter called CITY OF VANCOUVER), the amount of _____
_____ Dollars (\$ _____) in lawful money of the United
States of America.

WHEREAS, the CONTRACTOR entered into a contract with CITY OF VANCOUVER
dated _____, 20____, which Contract is hereunto annexed and made a part
hereof, for accomplishment of the all contract terms for the project described as follows: _____
_____.

NOW, THEREFORE, the condition of this obligation is such that if the CONTRACTOR
shall promptly, truly and faithfully perform all the undertakings, covenants, terms, conditions,
and agreements of the aforesaid contract and having performed its obligations thereunder, then
this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever CONTRACTOR shall be declared by CITY OF VANCOUVER to be in
default under the Contract Documents for the project described herein, the SURETY shall
promptly remedy the default by completing the project in accordance with the Contract
Documents and the project Specifications with a contractor approved by the CITY OF
VANCOUVER. SURETY, for value received, further stipulates and agrees that all changes,
extensions of time, alterations, or additions to the terms of the Contract or Specifications for the
above described contract are within the scope of the SURETY's undertaking on this bond, and
SURETY hereby waives notice of any such change, extension of time, alteration or addition to
the terms of the contract or to the Work or to the Specifications. Any such change, extension of
time, alteration or addition to the terms of the contract or to the Work or to the Specifications
shall automatically increase the obligation of the Surety hereunder in a like amount, provided that
such increase shall not exceed twenty-five percent (25%) of the original amount of the obligation
without the consent of the Surety.

This obligation shall continue to bind the PRINCIPAL and SURETY, notwithstanding successive payments made hereunder, until the full amount of the obligation is exhausted.

SURETY shall indemnify, defend, and protect the CITY OF VANCOUVER against any claim of direct or indirect loss resulting from the failure of the CONTRACTOR (or any of the employees, subcontractors, or lower tier subcontractors of the CONTRACTOR) to faithfully perform the terms of the contract.

No right of action shall accrue on this bond to or for the use of any person or corporation other than CITY OF VANCOUVER or its heirs, executors, administrators, successors or assigns.

If more than one SURETY is on this bond, each SURETY hereby agrees that it is jointly and severally liable for obligations on this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20__.

SURETY

By: _____

Title: _____

Street Address

City State ZIP

Phone Number

CONTRACTOR

By*: _____

Title: _____

Street Address

City State ZIP

Phone Number

* Must be signed by president or vice-president of Contractor.



Staff Report 104-18

TO: Mayor and City Council

FROM: Eric Holmes, City Manager

DATE: 7/9/2018
7/16/2018

SUBJECT Proposed amendments to the City's Shoreline Master Program (SMP) Chapters 4, 6, and 8

Key Points

- Development along the waterfront that would help meet the goals of the City's Vancouver City Center Vision (VCCV) Subarea Plan is dependent on the ability to move and replace a pier and building due to the physical condition of the pier and the potential future alignment of the Interstate 5 bridge.
- Current SMP language does not allow for relocating the existing structures, so an amendment is needed that would allow existing over-water structures constructed prior to the adoption of the SMP and located from the Interstate 5 Bridge downstream to the railroad bridge (a portion of the Columbia River Shoreline Enhancement Plan District) be used for water-dependent, water related and/or water enjoyment uses.
- Washington Administrative Code (WAC) is one of the guiding documents for the SMP. WAC 173-26 regulations in regards to on-water residences were recently updated. Therefore, corresponding sections in the Vancouver SMP must be revised in order to be compliant with WAC updates.
- Current SMP language needs clarity in regards to joint-use docks and live-aboard boats to ensure compliance with SMP policies and regulations.

Strategic Plan Alignment

Goal 7: Build on our status as the largest city on the Columbia River by strengthening connections to the river and the waterfront.

Present Situation

Overwater Structures and Buildings

A key element of the City of Vancouver's City Center Vision (VCCV) Plan is the redevelopment of the Columbia West Renaissance District, which includes the Port of Vancouver's Terminal 1 site.

In order to complete the planned redevelopment of Terminal 1, the pier and subsequent building would have to be replaced due to the age and deterioration of the supporting piles affecting the long-term structural sufficiency of the pier. The pier and building are also in the identified right-of-way needed for an I-5 replacement bridge, which would mean the structures would need to be removed to accommodate a new bridge.

While replacement of the pier would likely qualify as normal repair per WAC 173-27-040(2)(b), the building on this site would need to be relocated. This building is a non-conforming building, and the relocation of this building would constitute a new overwater structure for water-enjoyment use. Current SMP language prohibits both the relocation of a non-conforming use and building a new overwater structure for water-enjoyment use in the Aquatic shoreline designation.

Joint-use Docks

Some requirements related to joint-use docks are vague or are not compatible with other provisions of the SMP. As currently written, the definition of Dock, Joint-Use does not specifically state if the parcels with access to the joint use dock have to be contiguous to each other, nor does it indicate the parcels must be residential, or if the lots are capable of being developed in compliance with zoning ordinance or SMP. This ambiguity has generated inquiries whether a joint-use dock would be allowed if the lots were separated, were in different zones, or were not on developable lots.

On-water Residences

Effective September 7, 2017, certain definitions were amended in WAC 173-26-020 relating to on-water residences/floating homes. The revisions added definitions of floating homes and floating on-water residences (PERMANENT RULES; Washington State Code Reviser's Office filing number 17-17-016; Order 15-06—Filed August 7, 2017, 2:58 p.m., effective September 7, 2017). The revisions are intended to clarify that certain floating structures are considered floating on-water residences and not vessels.

Live-aboard Boats

The Washington State Shoreline Management Act (SMA) and the Vancouver SMP do not allow on-water residences, but do allow live-aboard boats within marinas (up to 20% of the marina's slips if utilities and restroom facilities are provided). The intent of the state law and the City's SMP is to allow a limited number of live-aboard boats within marina areas and prohibit floating homes. The intent is to allow recreational boats within marinas to be used as live-aboard vessels while not allowing large, unseaworthy vessels.

Advantage(s)

1. Allows needed development in a very targeted and limited way that will still protect shorelines and their functions.
2. Ensures State compliance.
3. Improves clarity to ensure compliance with SMP policies and regulations.

Disadvantage(s)

None

Budget Impact

None

Prior Council Review

Workshop on July 2, 2018

Action Requested

On Monday, July 9, 2018, approve the ordinance with recommended amendments to the Shoreline Master Program on first reading, setting date of second reading and public hearing for Monday, July 16, 2018.

Jennifer Campos, Principal Planner, 487-7728

ATTACHMENTS:

- ▣ Ordinance
- ▣ Chapter 4
- ▣ Chapter 6
- ▣ Chapter 8

This staff report references the terms and conditions of the request for approval. Any document referred to herein and that is not attached may be reviewed prior to the City Council meeting in the office of the City Manager, or online at www.cityofvancouver.us/council. Documents may be reviewed following scheduled Council meetings in the office of Central Records, 415 West 6th Street, Vancouver, WA. Office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday.

07/09/18
07/16/18

ORDINANCE NO. _____

AN ORDINANCE relating to the City of Vancouver's implementation of shoreline management as required by Revised Code of Washington ("RCW") Chapter 90.58, the Shoreline Management Act; amending the City of Vancouver Shoreline Master Program (SMP) Chapter 4, Shoreline Designations Section 4.3.1.4; Chapter 6, Specific Shoreline Use Regulations Table 6-1; Section 6.3.3.4, Joint Use and Community Moorage Facilities; Section 6.3.4, Commercial Uses; Section 6.3.11, Residential Development; and Chapter 8, Definitions; subject to approval by the Washington State Department of Ecology (Ecology); providing for severability; and providing for an effective date.

WHEREAS, the State of Washington Shoreline Management Act, RCW Chapter 90.58, requires that counties and cities incur certain duties, obligations and responsibilities with regard to implementation of said Act; and

WHEREAS, in 2003 Ecology adopted revised Washington Administrative Code chapters containing state rules (commonly referred to as the "2003 Guidelines" or "Guidelines") for developing and approving local shoreline master programs; and

WHEREAS, pursuant to RCW 90.58.080, the City of Vancouver reviewed and updated its shoreline master program for consistency with the required elements of the 2003 Guidelines; and

ORDINANCE - 1

WHEREAS, on November 21, 2011, the Vancouver City Council adopted the updated Shoreline Master Program, which became a part of the City's development regulations and was implemented under Vancouver Municipal Code ("VMC") Chapter 20.760; and

WHEREAS, the Vancouver City Center Vision (VCCV) Plan includes the goal of redeveloping the waterfront; and

WHEREAS, the Port of Vancouver's Terminal No. 1 Waterfront Development Master Plan is located within the VCCV boundary and meets the waterfront development goals of the VCCV plan, but requires the replacement of an overwater structure; and

WHEREAS, the City of Vancouver's Shoreline Master Program ("SMP") does not currently allow replacement of overwater structures; therefore it is necessary to amend Section 4.3.1.4, Management Policies, Table 6-1, Shoreline Use, Modification and Development Standards, and Section 6.3.4.8, Commercial Uses; and

WHEREAS, Washington Administrative Code ("WAC") 173-26 was recently updated to prohibit on-water residences/floating homes; therefore the Vancouver Shoreline Master Program Section 6.3.11, Residential Development, and Chapter 8, Definitions, must be amended to ensure consistency with WAC 173-26-241(2)(j)(iv); and

WHEREAS, the City of Vancouver's Shoreline Master Program Section 6.3.3.4(6), Joint Use and Community Moorage Facilities, and Chapter 8, Definitions, should be amended to provide clarity concerning current regulations; and

WHEREAS, the City of Vancouver's Shoreline Master Program Chapter 8, Definitions, should be amended in regards to live-aboard boats to provide clarity on what constitutes a live-aboard boat; and

ORDINANCE - 2

WHEREAS, the proposed amendments are consistent with the Growth Management Act, the City's Comprehensive Plan and development regulations, and Ecology's 2003 Guidelines; and

WHEREAS, the proposed revisions would advance achievement of GMA Goal 10 by incorporating amendments to Shoreline Master Program Chapter 4, Shoreline Designations Section 4.3.1.4; Chapter 6, Specific Shoreline Use Regulations Table 6-1; Section 6.3.3.4, Joint Use and Community Moorage Facilities; Section 6.3.4, Commercial Uses; Section 6.3.11, Residential Development; and Chapter 8, Definitions; and

WHEREAS, the City council adopts this Ordinance as set forth below.

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY OF VANCOUVER:

Section 1. Findings. The recitals set forth above are adopted as the legislative findings of the City Council of the City of Vancouver in support of adoption of this ordinance to amend The Vancouver Shoreline Master Program.

Section 2. The City of Vancouver Shoreline Master Program, Chapter 4, Shoreline Designations, Section 4.3.1.4, Management Policies, adopted by Ordinance M-3995 and as amended, is hereby amended to read as follows:

4.3.1.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

ORDINANCE - 3

1. New over-water structures should be allowed only for water-dependent uses, public access, recreation, or ecological restoration.
2. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and natural hydrographic conditions.
3. In-water uses should be allowed where impacts can be mitigated to ensure no net loss of shoreline ecological functions. Permitted in-water uses must be managed to avoid impacts to shoreline ecological functions. Unavoidable impacts must be minimized and mitigated.
4. On navigable waters or their beds, all uses and developments should be located and designed to:
 - a. Minimize interference with surface navigation;
 - b. Consider impacts to public views; and
 - c. Allow for the safe, unobstructed passage of fish and wildlife, particularly species dependent on migration.
5. Multiple or shared use of over-water and water access facilities should be encouraged to reduce the impacts of shoreline development and increase effective use of water resources.
6. Structures and activities permitted should be related in size, form, design, and intensity of use to those permitted in the immediately adjacent upland area. The size of new over-

water structures should be limited to the minimum necessary to support the structure's intended use.

7. Natural light should be allowed to penetrate to the extent necessary to discourage salmonid predation and to support nearshore habitat unless other illumination is required by state or federal agencies.
8. Aquaculture practices should be encouraged in those waters and beds most suitable for such use. Aquaculture should be discouraged where it would adversely affect the strength or viability of native stocks or unreasonably interfere with navigation.
9. When shoreline uses, development, activities, and modifications in the Aquatic shoreline designation require use of adjacent landward property, that landward property should be in a shoreline designation that allows that use, development, activity or modification.
10. Over-water structures constructed prior to the adoption of this Program and located from the Interstate 5 Bridge downstream to the railroad bridge (a portion of the Columbia River Shoreline Enhancement Plan District) may be used for water-dependent, water related and/or water enjoyment commercial uses.
 - a. Permitted development should include designs that are reflective of the local history and/or prior structures on the site.
 - b. Shoreline uses and modifications should be consistent with the policies set forth in the Vancouver City Center Vision (VCCV) Subarea Plan, including providing public access to the shoreline.

Section 3. The City of Vancouver Shoreline Master Program, Chapter 6, Specific Shoreline Use Regulations, Table 6-1, adopted by Ordinance M-3995 and as amended, is hereby amended to read as follows:

Table 6-1. Shoreline Use, Modification and Development Standards

Table 6-1 is to be used and understood together with the related policies and regulations of this Program.

“Uses” refers to uses, structures, and/or developments as applicable.

Setbacks are landward from the OHWM in the NT, UC, MI, HI, RC-RD, & RC-RL shoreline designations and waterward of the OHWM in the AQ Shoreline Designation.

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
Shoreline Uses							
Agriculture							
Agriculture	X	X	C	P	P	P	P
• <i>Setback</i>	N/A	N/A	100'	100'	100'	100'	100'
• <i>Height</i>	N/A	N/A	35'	35'	35'	35'	35'
Aquaculture							
Aquaculture, General	P	X	C	C	C	C	C
• <i>Setback</i>	0'	N/A	50'	50'	50'	50'	50'
Boating Uses							
Motorized Boat Launches	P	X	C	C	P	P	P
• <i>Setback</i>	0'	N/A	0'	0'	0'	0'	0'
Non-motorized Boat Launches	P	C	P	P	P	P	P
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
Marinas	P	X	X	C	P	C	C
• <i>Setback</i>	0'	N/A	N/A	25'	25'	25'	25'
• <i>Height</i>							
• <i>- 0'-100' from OHWM</i>	20'	N/A	N/A	25'	35'	25'	35'
• <i>- >100' from OHWM</i>	20'	N/A	N/A	35'	45'	35'	45'
Docks, Piers, Mooring Buoys	P¹	X	P¹	P¹	P¹	P¹	P¹

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
• <i>Setback</i>	0'	NA	0'	0'	0'	0'	0'
Commercial Uses							
Water-dependent	C	X	X	P	P	C	C
• <i>Setback</i>	0'	N/A	N/A	0'	0'	0'	0'
• <i>Height</i>							
- 0'-100' from OHWM	45 ³ 35'	N/A	N/A	35'	35' ²³	35'	35'
- >100' from OHWM	45 ³ 35'	N/A	N/A	45'	60' ²³	45'	45'
Water-related, Water-enjoyment	X/C³	X	X	P	P	C	C
• <i>Setback</i>	N/A	N/A	N/A	25'	25' ²³	25'	25'
• <i>Height</i>							
- 0'-100' from OHWM	N/A35' ³	N/A	N/A	25'	35' ²³	35'	35'
- >100' from OHWM	N/A35' ³	N/A	N/A	35'	45' ²³	45'	45'
Non-water-oriented	X	X	X	C³⁴	C³⁴	X	X
• <i>Setback</i>	N/A	N/A	N/A	100'	100' ³	N/A	N/A
• <i>Height</i>	N/A	N/A	N/A	25'	25' ²³	N/A	N/A
Forestry							
Log Storage	C	X	X	X	P	X	P
• <i>Setback</i>	0'	N/A	N/A	N/A	50'	N/A	50'
Timber Harvest	X	X	C	P	P	P	P
• <i>Setback</i>	N/A	N/A	100'	100'	50'	100'	50'
Industrial Uses							
Water-dependent	P	X	X	X	P	X	X
• <i>Setback</i>	0'	N/A	N/A	N/A	0'	N/A	N/A
• <i>Height</i>							
- 0'-100' from OHWM	UNL	N/A	N/A	N/A	UNL	N/A	N/A
- >100' from OHWM	UNL	N/A	N/A	N/A	UNL	N/A	N/A
Water-related	X	X	X	X	P	X	X
• <i>Setback</i>	N/A	N/A	N/A	N/A	50'	N/A	N/A
• <i>Height</i>							
- 0'-100' from OHWM	N/A	N/A	N/A	N/A	UNL	N/A	N/A
- >100' from OHWM	N/A	N/A	N/A	N/A	UNL	N/A	N/A
Non-water-oriented	X	X	X	X	P	X	X
• <i>Setback</i>	N/A	N/A	N/A	N/A	100'	N/A	N/A
• <i>Height</i>	N/A	N/A	N/A	N/A	35'	N/A	N/A
Institutional Uses							
Water-dependent	C	X	C	P	P	C	C
• <i>Setback</i>	0'	N/A	0'	0'	0'	0'	0'
• <i>Height</i>							
- 0'-100' from OHWM	35'	N/A	25'	35'	35'	35'	35'
- >100' from OHWM	35'	N/A	35'	45'	35'	45'	45'

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
Water-related	X	X	X	P	P	C	X
• <i>Setback</i>	N/A	N/A	N/A	25'	25'	50'	NA
• <i>Height</i>							
• <i>- 0'-100' from OHWM</i>	N/A	N/A	N/A	35'	45'	35'	N/A
• <i>- >100' from OHWM</i>	N/A	N/A	N/A	45'	60'	35'	N/A
Non-water-oriented	X	X	X	C³⁴	C³⁴	X	X
• <i>Setback</i>	N/A	N/A	N/A	100'	100'	N/A	N/A
• <i>Height</i>	N/A	N/A	N/A	35'	35'	N/A	N/A
Mining							
Gravel Mining	C⁴⁵	X	X	X	C⁴⁵	C⁴⁵	C⁴⁵
• <i>Setback</i>	0'	N/A	N/A	N/A	200'	200'	200'
Hard Rock Mining	X	X	X	X	C⁴⁵	C⁴⁵	C⁴⁵
• <i>Setback</i>	N/A	N/A	N/A	N/A	100'	100'	50'
Parking							
Primary Use	X	X	X	X	X	X	X
• <i>Setback</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Accessory Use	X	X	P	P	P	P	P
• <i>Setback</i>	N/A	N/A	100'	100'	50'	100'	100'
• <i>Height</i>	N/A	N/A	35'	35'	35'	35'	35'
Recreational Uses							
Water-dependent	P	P⁵⁶	P	P	P	P	P
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
• <i>Height</i>	15'	15'	15'	35'	35'	35'	35'
Water-related/enjoyment (trails generally parallel to the shoreline, accessory bldgs)	C⁵⁶	C⁵⁶	P	P	P	P	P
• <i>Setback</i>	0'	50' ⁶⁷	50' ⁶⁷	50' ⁶⁷	20'	20'	20'
• <i>Height</i>	15'	15'	15'	35'	35'	35'	35'
Public access connections generally perpendicular to the shoreline to water- related/enjoyment features (viewpoints, fishing piers)							
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
Non-water-oriented (golf courses, sports fields)	X	X	C	C	C	C	X
• <i>Setback</i>	N/A	N/A	100'	100'	100'	200'	N/A
• <i>Height</i>	N/A	N/A	25'	25'	25'	15'	N/A
Residential Uses							
Single-family ⁷⁸	X	X	P	P	X	P	P
• <i>Setback</i>	N/A	N/A	100'	50'	N/A	100'	100'

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
• <i>Height</i>	N/A	N/A	35'	35'	N/A	35'	35'
• <i>Density</i>	N/A	N/A	In accordance with the underlying zoning				
Floating homes (new)	X	N/A	N/A	N/A	N/A	N/A	N/A
• <i>Height</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Floating homes (existing) ⁸⁹	P	N/A	N/A	N/A	N/A	N/A	N/A
• <i>Height</i>	Existing	N/A	N/A	N/A	N/A	N/A	N/A
Multifamily	X	X	X	P	P	X	X
• <i>Setback</i>	N/A	N/A	N/A	35'	35'	N/A	N/A
• <i>Height</i>	N/A	N/A	N/A	35'	35'	N/A	N/A
• <i>Density</i>	N/A	N/A	N/A	In accordance with the underlying zoning		N/A	N/A
Signs							
Sign heights are regulated in accordance with VMC 20.960 or VMC 20.450 as applicable. Free-standing informational signs in the Aquatic SD are limited to 15' ⁹¹⁰ .							
Agricultural	X	X	X	X	P	P	P
Fascia or Wall Signs	X	X	X	P	P	P	P
Free Standing Informational	P	P	P	P	P	P	P
High School Electronic Message	X	X	X	P	P	P	P
Monument	X	P	P	P	P	P	P
Navigation	P	P	P	P	P	P	P
Transportation Uses							
Highways, Arterials, Railroads (parallel to OHWM)	C¹⁰¹¹	X	P	P¹⁰¹¹	P¹⁰¹¹	P	P
• <i>Right-of-Way Setback</i>	0'	N/A	200'	100' ¹⁰¹¹	100' ¹⁰¹¹	200'	200'
Secondary/Public Access Roads (parallel to OHWM)	X	X	P	P	P	P	P
• <i>Right-of-Way Setback</i>	NA	N/A	100'	50'	50'	100'	100'
Secondary/Public Access Roads (perpendicular to OHWM)	X	X	P	P	P	P	P
• <i>Setback</i>	N/A	N/A	Limited to the setback for the use the road is serving ¹¹¹²				
Bridges (perpendicular to shoreline)	C	C	C	P	P	C	C
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
Utility Uses							
Above-ground Utilities (parallel to shoreline)	C	C	P	P	P	P	P
• <i>Right-of-Way Setback</i>	0'	200'	100'	50'	50'	100'	100'
• <i>Structure Height</i>	15'	15'	35'	35'	UNL	15'	15'
• <i>Distribution Pole Height</i>	0'	45'	45'	45'	UNL	45'	45'
Electrical Transmission Lines	C	C	C	C	C	C	C
• <i>Tower Height</i>	UNL	UNL	UNL	UNL	UNL	UNL	UNL
Underground Utilities (parallel to	C	C	P	P	P	P	P

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
shoreline)							
• <i>Right-of-Way Setback</i>	0'	200'	100'	50'	50'	50'	50'
Underground Utilities (perpendicular to shoreline)	C	C	C	C	C	C	C
• <i>Right-of-Way Setback</i>	0'	0'	0'	0'	0'	0'	0'
Unclassified Uses							
Unclassified Uses	C	C	C	C	C	C	C
• <i>Setback</i>	0'	200'	100'	100'	100'	100'	100'
• <i>Height</i>	15'	15'	35'	35'	35'	35'	35'
Shoreline Modification							
Dredging and Dredge Material Disposal							
Non-maintenance Dredging	C	N/A	N/A	N/A	N/A	N/A	N/A
Maintenance Dredging	P	N/A	N/A	N/A	N/A	N/A	N/A
Dredge Material Disposal	C	X	X	C⁴²¹³	C⁴²¹³	C	C
Dredging & Disposal as part of Ecological Restoration/ Enhancement	P	C	P	P	P	P	P
Fill							
Speculative	X	X	X	X	X	X	X
Other	C⁴³¹⁴	P⁴⁴¹⁵	P	P	P	P	P
Flood Control Works and In-stream Structures							
Dams, Dikes, & Levees	C	X	C	C	P	C	C
Instream structures	C	N/A	N/A	N/A	N/A	N/A	N/A
Shoreline Restoration							
Ecological Restoration / Enhancement / Mitigation	P	P	P	P	P	P	P
Shoreline Stabilization							
Bioengineered/Non-Structural	P	P	P	P	P	P	P
Structural	C	X	C	C	C	C	C
Breakwaters, Jetties, Rock Weirs, and Groins	C	X	C	C	C	C	C

¹ Private docks permitted as community or joint-use only. See Section 6.3.3.4.

² See Section 6.3.4(7).

³ See Section 6.3.4(8). Allowed conditionally only on dock or pier structures located on the Columbia River from the Interstate 5 Bridge, downstream to the BNSF railroad bridge. See related policy Section 4.3.1(4).

³⁴ As part of mixed-use development only. See Section 6.3.4(4), 6.3.7(2) and (4).

⁴⁵ In Surface Mining Overlay areas only

⁵⁶ Passive only

⁶⁷ See Section 6.3.10(12, 13, and 14). Water-related/enjoyment features such as viewpoints, gazebos, or fishing piers may have a 0' setback when connected to a public access trail.

⁷⁸ See Section 6.3.11(11) for information about existing residential development on land.

⁸⁹ See Section 6.3.11(4) for information about existing floating homes.

⁹¹⁰ Above Ordinary High Water Mark (OHWM)

⁴⁰¹¹ See 6.3.13(6).

⁴⁴¹² New roads may connect to existing roads within shoreline jurisdiction as long as the connection is landward of the existing road and the ordinary high water mark.

⁴²¹³ Permitted outside of channel migration zones.

⁴³¹⁴ See Section 5.6.2(11).

⁴⁴¹⁵ Permitted for restoration only; otherwise prohibited.

Section 4. The City of Vancouver Shoreline Master Program, Chapter 6, Specific Shoreline Use Regulations, Section 6.3.3.4, Joint Use and Community Moorage Facilities, adopted by Ordinance M-3995 and as amended, is hereby amended to read as follows:

6.3.3.4 Joint Use and Community Moorage Facilities

1. Community and joint use moorage facilities are defined (Chapter 8) and regulated as marinas (Section 6.3.3.3; defined in Chapter 8) if:
 - a. They provide commercial goods or services;
 - b. They have ten (10) or more slips;
 - c. Moorage is proposed to be leased to upland property owners; or
 - d. The proposal includes a boat launching facility other than a ramp.
2. Live-aboards are not allowed at joint-use or community moorages.
3. Covered moorage facilities associated with any residential development shall be prohibited.
4. Existing, legally-established, private recreational docks, piers, and floats for individual single-family developments are considered non-conforming uses and structures. If such dock or

float is abandoned, becomes hazardous, or is removed for any reason, it may be replaced with only one joint-use or community facility that complies with the policies and regulations of this Program. All required permits and approvals shall be obtained prior to commencing construction.

5. A new private dock or pier serving an individual lot is prohibited.
6. New joint-use docks and piers serving two or more contiguous residential lots each ~~with~~ having direct water frontage are allowed if no marina or public boat launch is located within ½-mile upstream or downstream of any property line and all applicable requirements of this Program are met. Each residential lot proposed to have access to the joint-use dock must show development of the lot is capable of meeting the minimum development standards for zoning and the applicable provisions of Vancouver Shoreline Master Program.
7. New residential land divisions with shoreline frontage shall provide for community docks if there is an appropriate location for future construction of a dock. Proposed docks and piers shall include no more than one mooring space per dwelling unit. Where a new moorage facility is proposed within a residential waterfront development, only one community moorage facility may be allowed, but only after demonstrating that such use is appropriate for the waterbody and that no public moorage facility is available to residents within ½-mile of the perimeter of the development. All conditions of approval related to required access easements and dedications shall be identified on the face of the plat. In addition, the community dock easement shall be recorded with the County Auditor.

8. Applicants for community or joint-use residential docks and piers shall demonstrate and document that adequate maintenance of the structure, activities, and associated landward area will be provided by identified responsible parties. The applicant shall file a legally enforceable joint use agreement or other legal instrument prior to the issuance of any building permits. The documents shall at minimum address the following:
 - a. Apportionment of construction and maintenance expenses;
 - b. Easements and liability agreements; and
 - c. Use restrictions.
9. Only a single, community moorage facility shall be permitted in association with hotels, motels, and multi-family residences. No more than one (1) mooring slip per unit shall be allowed.
10. The dimensions of a joint use or community moorage facility dock or pier shall be no greater than necessary, and shall meet the development standards listed below.
 - a. Fixed-piers shall not be permitted for residential use on rivers. Floating docks shall be required in rivers and streams unless it can be demonstrated that fixed docks will result in substantially less impact on geo-hydraulic processes and flood hazards can be minimized or mitigated. A fixed pier, landward of a floating dock, which connects to the shore at one end and to the floating dock by a gangway at the other is allowed.

- b. Piers/anchors and/or ramps shall extend waterward, perpendicular from the ordinary high water mark (OHWM), to a point where the water depth is sufficient to prevent damage to shallow-water habitat (-15 feet CRD on the Columbia River).
- c. The moorage facility may extend into the waterbody the minimum distance necessary to allow for moorage of the boats anticipated but in no instance more than 300' beyond the OHWM.
- d. The bottom of either the pier or landward edge of the ramp shall be elevated at least 2 feet above the plane of OHWM.
- e. Piers and ramps shall be no more than 8 feet in width. Finger piers shall be no more than 8 feet wide and 45 feet long. Piers, ramps and docks shall be constructed to allow a minimum of 60% light penetration over 60% of each structure.
- f. Skirting shall not be placed on piers, ramps, floating docks, or floats. Protective bumper material will be allowed along the outside edge of the float or floating dock as long as the material does not extend below the bottom edge of the float frame or impede light penetration.
- g. Shoreline concrete anchors must be placed at least 10 feet landward from the OHWM, and shall be sized no larger than 4-feet wide by 4-feet long, unless otherwise approved by National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), the US Army Corps of Engineers (Corps), and Washington Department of Fish and Wildlife (WDFW).
- h. Overwater structures shall be located in water sufficiently deep to prevent the structure from grounding out at the lowest low water.

ORDINANCE - 14

- i. Docks used for motor boats should be located where the water will be deeper than seven (7) feet at the lowest low water to avoid prop scour.
- j. All docks and floats shall include stops that serve to keep the floats off the lake bottom or river bed at low water levels. If a bulkhead-like base is proposed for a fixed pier or dock where there is net positive littoral drift, the base shall be built landward of the OHWM or protective berms. When plastics or other non-biodegradable materials are used in float, pier, or dock construction, precautions shall be taken to ensure their containment.
- k. Pilings must be structurally sound and cured prior to placement in the water. Pilings employed for docks, piers, or any other structure shall have a minimum vertical clearance of one foot above extreme high water. Pile spacing shall be the maximum feasible to minimize shading and avoid a “wall” effect that would block or baffle wave patterns, currents, littoral drift, or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.

Section 5. Ordinance M-3995 and as amended, Chapter 6, Specific Shoreline Use Regulations, Section 6.3.4, Commercial Uses, is hereby amended to read as follows:

6.3.4 Commercial Uses

- 1. Water-oriented commercial uses are preferred over nonwater-oriented commercial uses.
- 2. An applicant for a new commercial use or development shall demonstrate that the use or development will not cause a net loss of ecological function or adversely impact other shoreline resources or uses.

3. Loading, service areas, and other accessory uses shall be located landward of a commercial structure or underground whenever possible, but shall in no case be waterward of the structure. Loading and service areas shall be screened from view with native plants.
4. Where allowed, nonwater-oriented commercial uses may be permitted only as part of a mixed-use development that:
 - a. Has a formally-approved master plan that complies with this Program, including having demonstrated consistency with the policies of Section 3.2 if its proposed location is on a shoreline of statewide significance;
 - b. Includes water-oriented uses; and
 - c. Provides a significant public benefit such as public access and/or ecological restoration.
5. Nonwater-oriented commercial uses meeting the conditions of Section 6.3.4(4) and located in a High Intensity shoreline designation on the Columbia River between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District) may occupy:
 - a. Up to 85% of the total frontage length of all parcels in the master-planned development (regardless of ownership); or
 - b. Up to 85% of the project area within shoreline jurisdiction of all parcels in the development (regardless of ownership).

6. Nonwater-oriented commercial uses meeting the conditions of Section 6.3.4(4) and not located in a High Intensity shoreline designation on the Columbia River between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District) may occupy:
 - a. Up to 25% of the total frontage length of all parcels in the master-planned development (regardless of ownership); or
 - b. Up to 25% of the total project area within shoreline jurisdiction of all parcels in the master-planned development (regardless of ownership).
7. When a new, mixed-use commercial development meets all applicable provisions of Section 6.3.4, Section 5.8.1, and this Program and:
 - a. Is located in a High Intensity shoreline designation on the Columbia River between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District);
 - b. Has a formally-approved master plan that complies with this Program including having demonstrated consistency with the policies of Section 3.2;
 - c. Includes water-oriented uses;
 - d. Provides public access to the shoreline; and
 - e. Restores degraded shorelines.

8. Water oriented commercial use is allowed on a dock or pier as a conditional use only under the follow circumstances:
- a. The commercial dock or pier is located between the I-5 Bridge and the BNSF railroad bridge;
 - b. The commercial use of the dock or pier is included in a formally approved master plan that complies with this Program;
 - c. All uses shall be water-dependent, water-related or for water enjoyment;
 - d. There are design elements that link the site back to historic uses.
 - e. A dock or pier associated with an existing commercial building located on such dock or pier may be maintained, rebuilt, replaced and/or relocated as follows:
 - i. A rebuilt or replaced dock or pier shall not occupy a larger footprint than the dock or pier as it existed on March 15, 2018.
 - ii. A commercial building may be rebuilt, replaced or relocated on top of the dock or pier only when the applicant of a shoreline conditional use permit demonstrates the following:
 - 1. The development shall include design elements that are reflective of the local maritime history and structures on the site, and enhance the public's experience along the city's waterfront.
 - 2. The height of the structure shall not exceed 65 feet measured from ordinary high water mark.
 - 3. The building shall not occupy a footprint that is larger than the footprint of the building existing on March 15, 2018. The building footprint may shift from its current location on the

dock or pier as needed to comply with public access requirements of this program and/or existing or future state highway right-of-ways.

4. The building located on the dock or pier shall be positioned to maintain public access to the dock or pier and to the shoreline consistent with this Program and the policies set forth in the Vancouver City Center Vision (VCCV) Subarea Plan.

Section 6. The City of Vancouver Shoreline Master Program, Chapter 6, Specific Shoreline Use Regulations, Section 6.3.11, Residential Development, adopted by Ordinance M-3995 and as amended, is hereby amended to read as follows:

6.3.11 Residential Development

6.3.11.1 Residential Development

1. Residential developments shall include provisions to ensure preservation of native vegetation and control erosion during construction.
2. New residential construction shall be located so as not to require shoreline stabilization measures.
3. New residential development shall be located and designed to a density that minimizes view obstructions to and from the shoreline.
4. Clustering of residential units shall be allowed where appropriate and in compliance with VMC Title 20 to minimize physical and visual impacts on shorelines.

5. In those areas where only onsite sewage systems are available, density shall be limited to that which can demonstrably accommodate protection of surface and groundwater quality.
6. New residential development, including sewage disposal systems, shall be prohibited in floodways and channel migration zones.
7. Appurtenances, accessory uses, and facilities serving a residential structure shall be located outside setbacks, critical areas, and buffers unless otherwise allowed under this Program to promote community access and recreational opportunities.
8. New residential lots created through land division in shoreline jurisdiction and lot line adjustments shall only be permitted when configured such that the following standards are met:
 - a. Structural flood hazard reduction measures are not required and will not be necessary during the life of the development or use.
 - b. Shoreline stabilization measures will not be required for new development to occur.
 - c. There will be no net loss of shoreline ecological function.
9. Legally-established residential development located landward of the OHWM, including normal appurtenances, existing on the effective date of this Program that do not meet the standards of this Program are considered to be conforming and may be maintained, repaired, replaced, or expanded provided that any future development:
 - a. Does not exceed height limitations;
 - b. Does not encroach farther waterward than the existing primary structure;

ORDINANCE - 20

- c. Does not encroach farther into critical areas or buffers; and.
- d. Will result in no net loss of shoreline ecological functions.

10. New residential development shall be prohibited in, over, or floating on the water, except as provided in 6.3.11.2 (1-5). 6.3.11.2 Floating Home Development

~~1. New residential development shall be prohibited in, over, or floating on the water, except as provided in 6.3.11.2(1-6).~~

1. A floating on-water residence legally established prior to July 1, 2014, is considered a conforming use and may be maintained, repaired and remodeled provided there is no increase in the surface water area covered.

~~12.~~ The floating homes legally established prior to January 1, 2011, are conforming preferred uses under this Program.

~~23.~~ Floating homes legally established prior to January 1, 2011 may be remodeled, rebuilt (home torn down to the float and rebuilt in place), or replaced (existing home and float removed and a new home and float towed in) in situ, PROVIDED:

- a. There is no increase in the number of floating homes beyond the number existing on January 1, 2011;
- b. There is no increase in the surface water area covered by the floating homes existing on January 1, 2011 and accessory structures including cantilevered portions that extend beyond the float;
- c. There is no net loss of shoreline ecological function.

ORDINANCE - 21

34. Any proposal to replace, remodel, or rebuild a floating home shall be accompanied by an accurate, fully-dimensioned site plan along with details about the proposed changes, similar to that required for other land use approvals under VMC Title 20.
45. When remodeling, rebuilding, or replacing a floating home legally established prior to January 1, 2011 the following standards apply in addition to those of Section 6.3.11(1-4):
- a. The total height of the float and the structure from the water surface shall not exceed its existing height;
 - b. The minimum distance between existing adjacent floating home walls shall not be reduced, and if the floating home is being replaced shall not be less than 6 feet;
 - c. Floating homes shall not block views from the waterward end of any pier, more than any existing view blockage;
 - d. No new living or storage spaces shall be located below water level. Existing living or storage spaces below water level may be remodeled or replaced, but not expanded;
 - e. Unenclosed Styrofoam or similar material that has the potential to break apart is prohibited in floats;
 - f. Floats shall be maintained and repaired using the minimum amount of structure below the waterline necessary to maintain floatation. At the time of replacement of a float and/or floating home, any structure below waterline and outside the primary float structure that provides minimal or no floatation shall be removed;

- g. All utilities shall be repaired or replaced to current standards to ensure proper functioning and no net loss of shoreline ecological functions.

Section 7. The City of Vancouver Shoreline Master Program, Chapter 8, Definitions, adopted by Ordinance M-3995 and as amended, is hereby amended to read as follows:

CHAPTER 8 DEFINITIONS

A

1. **Accessory Structure** – a subordinate building or use incidental to the use of the main building or use.
2. **Accessory Use** – any use or activity incidental and subordinate to a primary use or development.
3. **Accretion** – the growth of a beach by the addition of material transported by wind and/or water. Included are such shoreforms as barrier beaches, points, spits, hooks, and tombolos.
4. **Act** - Washington State Shoreline Management Act of 1971, as amended, RCW 90.58.
5. **Adjacent** - having a common end point or border.
6. **Adjacent Lands** – lands adjacent to the shorelines of the state (outside of shoreline jurisdiction) (*RCW 90.58.340*).
7. **Agricultural Activities** - agricultural uses and practices including, but not limited to: producing, breeding or increasing agricultural products; rotating and changing agricultural crops; agricultural crops; allowing land used for agricultural activities to lie fallow in that it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie

dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation (*WAC 173-26-020(3)(a)*).

8. Agricultural Equipment and Agricultural Facilities – includes, but is not limited to:

- a. The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including, but not limited to, pumps, pipes, tapes, canals, ditches, and drains:
- b. Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands
- c. Farm residences and associated equipment, lands, and facilities; and
- d. Roadside stands and on-farm markets for marketing fruit or vegetables.

9. Agricultural Land – those specific land areas on which agricultural activities are conducted as of the date of adoption of this Program, as evidenced by aerial photography or other documentation. After the effective date of this Program, land converted to agricultural use shall comply with the requirements of this Program.

10. **Agricultural Products** – includes, but is not limited to, horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including, but not limited to, meat, upland finfish, poultry and poultry products, and dairy products.
11. **Aggrieved Person** – a person who is suffering from an infringement or denial of legal rights or claims.
12. **Amendment** - means a revision, update, addition, deletion, and/or reenactment to an existing shoreline master program.
13. **Anadromous fish** -Fish that migrate downstream in their juvenile lifestages; live their adult lives in the ocean; then migrate upstream from the ocean to breed in fresh water.
14. **Appurtenance** - A structure or development necessarily connected to a single-family residence. Normal appurtenances include a garage, a shop, a deck, a pool, a driveway, utilities, fences, grading which does not exceed 250 cubic yards and does not involve placement of fill in any wetland or waterward of the OHWM, and when allowed, installation of a septic tank and drainfield.
15. **Aquaculture** - The culture or farming of food fish, shellfish, or other aquatic plants and animals. Aquaculture does not include the harvest of wild geoduck associated with the state managed wildstock geoduck fishery. (*WAC 173-26-241(3)(b)*).

- 16. Area of Special Flood Hazard** - Land in the flood plain subject to a 1% or greater chance of flooding in any given year. Designations on Flood Insurance Rate Maps always include the letter A. Also referred to as “Frequently Flooded Areas.”
- 17. Associated Wetlands** - Those wetlands that are in proximity to and either influence or are influenced by tidal waters or a lake, river or stream subject to the Shoreline Management Act.
- 18. Average Grade Level** - the average of the natural or existing topography of the portion of the lot, parcel, or tract of real property that will be directly under the proposed building or structure: In the case of structures to be built over water, average grade level shall be the elevation of the ordinary high water mark. Calculation of the average grade level shall be made by averaging the ground elevations at the midpoint of all exterior walls of the proposed building or structure (*WAC 173-27-030(3)*).

B

- 19. Beach Enhancement/Restoration** – process of restoring a beach to a state more closely resembling a natural beach, using beach feeding, vegetation drift sills, and other non-intrusive means as applicable.
- 20. Bedlands** – means those submerged lands, including tidelands where appropriate, underlying navigable waters.
- 21. Berm** – a linear mound or series of mounds of earth, sand and/or gravel generally paralleling the water at or landward of the line of ordinary high water. Also a linear mound

used to screen an adjacent activity, such as a parking lot, from transmitting excess noise and glare.

22. **Best Available Science** – use of the most reliable and available scientific information, most often used in the context of local government compliance with the State Growth Management Act (RCW 36.70A.900) for developing policies and development regulations regarding critical areas (WAC 365-195).
23. **Best Available Technology (BAT)** – the most effective method, technique, or product available that is generally accepted in the field, and which is demonstrated to be reliable, effective, and preferably low maintenance.
24. **Best Management Practices (BMP)** - For the purposes of this Program, BMP means the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Washington State Department of Ecology and/or the City of Vancouver that, when used singly or in combination, control, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.
25. **Bioengineering** - means project designs or construction methods that use live woody vegetation or a combination of live woody vegetation and specially developed natural or synthetic materials to establish a complex root grid within the existing bank that is resistant to erosion, provides bank stability, and maintains a healthy riparian environment with habitat features important to fish life. Use of wood structures or limited use of clean angular rock may be allowable to provide stability for establishment of the vegetation (*WAC 220-110-020(12)*).

26. **Boat** - means any floating vessel or watercraft, including ships and barges, which is designed and used for navigation and which does not interfere with the normal public use of the water (*WAC 173-27-030(18)*).
27. **Boating Facility** – means any structure or group of structures including but not limited to ramps, marinas, docks, piers, floats, or mooring buoys providing access to or service for boats. Boating facilities may serve hotels, motels, multi-family residences, individual lots or subdivisions, or public recreation uses.
28. **Boathouse** – An over-water structure designed for storage of boats.
29. **Boat Launch Facility** - a facility or structure providing access in and out of the water for boats, such as ramps, rails, or lift stations.
30. **Bog** – A type of wetland where (1) organic (peat or muck) soil layers comprise at least 16 of the first 32 inches of the soil profile; or (2) there is more than 70% cover of mosses at ground level and more than 30% of the total shrub and herbaceous cover consists of species listed in Table 3 – Characteristic Bog Species in Washington State found in Hruby, 2004, Washington State Wetlands Rating System for Western Washington, Ecology publication #04-06-025, or as revised by Ecology. Many bogs have soils classified as peat or muck, are nutrient poor, have a low pH (acidic), and are fed largely by rainfall rather than streams or groundwater.
31. **Breakwater** - a structure aligned parallel to shore, sometimes shore-connected, that provides protection from waves.

32. **Buffer Area** – An area that is contiguous to and protects a critical area and which is required for the continued maintenance, functioning, and/or structural stability of a critical area.
33. **Bulkhead** - a solid, open-pile, or irregular wall of rock, rip-rap, concrete, steel, or timber or combination of these materials erected parallel to and near ordinary high water mark to provide a protective vertical wall resistant to water and wave action.

C

34. **Channel** – an open conduit for water either naturally or artificially created, but does not include artificially created irrigation, return flow, or stockwatering channels (*WAC 173-27-030(8b)*).
35. **Channel Migration Zone (CMZ)** - the area along a river within that the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.
36. **City** - means the City of Vancouver.
37. **Clean Water Act** – the primary federal law providing water pollution prevention and control, previously known as the Federal Water Pollution Control Act. See 33 USC 1251 et seq.
38. **Clearing** - the destruction or removal of vegetation from a site by physical, mechanical, chemical or other means. This does not include landscape maintenance or pruning consistent with accepted horticultural practices, such as those recommended by the

Washington State University Extension Service, which does not impair the health or survival of the trees or native vegetation.

- 39. **Commercial** - a business use or activity at a scale greater than a home business or cottage industry involving retail or wholesale marketing of goods and services. Examples of commercial uses include restaurants, offices, and retail shops.
- 40. **Commercial Fishing** - is the activity of capturing fish and other seafood under a commercial license.
- 41. **Conditional Use** – a use, development, or substantial development that is classified as a conditional use, or is not classified within the Master Program, and requires a conditional use permit (*WAC 173-27-030(4)*).
- 42. **Covered Moorage** – Boat moorage, with or without walls, that has a roof to protect a boat.
- 43. **Critical Aquifer Recharge Area** - Areas with a critical recharging effect on aquifers used for potable water as designated at VMC 14.26.
- 44. **Critical Areas** - include fish and wildlife habitat conservation areas, frequently flooded areas, geologic hazard areas, and wetlands as designated in Chapter 5A, and critical aquifer recharge areas as designated at VMC 14.26.
- 45. **Critical Habitat**- Specific geographical areas that possess physical or biological features that are essential to the conservation of federally listed species. These designated areas may require special management considerations or protection.

D

- 46. Date of Filing** – means the date of actual receipt by Ecology of the City’s decision. For a variance or conditional use permit, the date of filing is the date Ecology’s decision is transmitted to the City. For a variance or conditional use permit decision in conjunction with a shoreline substantial development permit decision, the date of filing is the date Ecology’s decision is transmitted to the City.
- 47. Development** - a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this Program at any state of water level.
- 48. Development Regulations** - the controls placed on development or land uses, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under RCW 90.58, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto (*WAC 173-26-020(8)*).
- 49. Dike** - is an artificial embankment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.
- 50. Dock** - a landing or moorage facility for watercraft and does not include recreational decks, storage facilities or other appurtenances.
- 51. Dock, Community** – a dock serving a subdivision, hotel, motel, or multi-family residential development.

52. **Dock, Joint-Use** – a dock serving two or more lots ~~each of which has water frontage,~~
providing a moorage for pleasure craft and/or landing for water sports for use in common
by shoreline residents on adjacent lots each with water frontage.
53. **Dolphin** – A cluster of piles bound together.
54. **Dredge Material** – the material removed by dredging.
55. **Dredging** - is the removal or displacement of earth or sediments such as gravel, sand, mud, silt, or debris from below the OHWM of any stream, river, lake, water body, or wetland.
56. **Dredging, Maintenance** - dredging for the purpose of maintaining a prescribed minimum depth previously authorized by a federal, state, and/or local permit as part of any specific waterway project. Maintenance dredging also includes dredging that maintains the previously authorized width of a channel, boat basin or berthing area.
57. **Drift Sector** - the extent of the littoral drift area downstream from and caused by a breakwater, jetty, rock weir or groin.

E

58. **Ecology** – the Washington State Department of Ecology.
59. **Ecosystem-wide Processes** - the suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions (*WAC 173-26-020(14)*).

- 60. Effective Date of Permit** – For Shoreline Substantial Development, Conditional Use and Variance Permits, the date of filing as provided in RCW 90.58.140(6). including completion of all appeals or legal actions.
- 61. Emergency-** is an unanticipated and imminent threat to public health, safety, or the environment that requires immediate action within a time too short to allow full compliance with this Program.
- 62. Emergency Construction** - Emergency construction does not include development of new permanent protective structures where none previously existed. As a general matter, flooding or other seasonal events that can be anticipated and may occur, but are not imminent, are not an emergency (*RCW 90.58.030(3)(e)(iii) and WAC 173-14-040(1)(d), (2), and (3)*).
- 63. Enhancement** - Alterations performed to improve the condition of an existing degraded area so that the functions provided are of a higher quality. Enhancements are to be distinguished from resource creation or restoration projects.
- 64. Erosion** – The general process or the group of processes whereby the material of the earth’s crust are loosened, dissolved, or worn away, and simultaneously moved from one place to another, by natural forces, that include weathering, solution, corrosion, and transportation, but usually exclude mass wasting (American Geological Institute, 1998).
- 65. Exempt/Exemption** - developments that are set forth in Section 2.3 (Exemptions from Substantial Development Permit) of this Program that are not required to obtain a Shoreline Substantial Development Permit, but which must otherwise comply with applicable

provisions of the act and this Program (*WAC 173-27-040; RCW 90.58.030(3)(e), 90.58.147, 90.58.355, and 90.58.515*).

F

- 66. Fair Market Value** - the open market bid price for conducting the work, using the equipment and facilities, and purchase of the goods, services and materials necessary to accomplish the development. This would normally equate to the cost of hiring a contractor to undertake the development from start to finish, including the cost of labor, materials, equipment and facility usage, transportation and contractor overhead and profit. The fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials (*WAC 173-27-030(8)*).
- 67. Feasible** - an action, such as a development project, mitigation, or preservation requirement, meets all of the following conditions:
- e. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
 - f. The action provides a reasonable likelihood of achieving its intended purpose; and
 - g. The action does not physically preclude achieving the project's primary intended legal use.

In cases where this Program requires certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant.

In determining an action's infeasibility, the city may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames. (*WAC 1713-26-020(15)*)

- 68. **Feeder Bluff** - any bluff (or cliff) experiencing periodic erosion from waves, sliding, slumping, whose eroded earth, sand, or gravel material is naturally transported (littoral drift) via a driftway to an accretion shoreform. Feeder bluff exceptional segments lack a backshore, old or rotten logs, and coniferous bluff vegetation.
- 69. **Fill** - means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land (*WAC 173-26-020(16)*).
- 70. **Fill, Speculative** - The placement of fill material not associated with an approved project.
- 71. **Fish and Wildlife Habitat Conservation Areas** - Fish and Wildlife Habitat Conservation Areas as designated at VMC 20.740.110.
- 72. **Float** - a fixed platform structure anchored in and floating upon a water body that does not connect to the shore, and that provides landing for water dependent recreation or moorage for vessels or watercraft.
- 73. **Floating Home** – a single-family dwelling unit constructed on a float, that is moored, anchored, or otherwise secured in waters, and is not a boat, even though it may be capable of being towed.
- 74. **Floating on-water residence** – any floating structure other than a floating home, as defined below:

- a. That is designed or used primarily as a residence on the water and has detachable utilities; and
- b. Whose owner or primary occupant has held an ownership interest in space in a marina, or has held a lease or sublease to use space in a marina, since a date prior to July 1, 2014.

7475. **Flood Hazard Reduction** - measures taken to reduce flood damage or hazards. Flood hazard reduction measures may consist of nonstructural or indirect measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, bioengineering measures, and storm water management programs; and of structural measures, such as dikes, levees, and floodwalls intended to contain flow within the channel, channel realignment, and elevation of structures consistent with the National Flood Insurance Program.

7576. **Floodplain** - synonymous with the one hundred-year floodplain and area of special flood hazard (frequently flooded areas) and refers to the land subject to a 1% or greater chance of flooding in any given year.

7677. **Floodway** - means the area, as identified in this Program, that has been established in Federal Emergency Management Agency flood insurance rate maps or floodway maps. The floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state (RCW 90.58.030(2)(b)).

7778. **Forb** - an herbaceous, non-woody plant other than grass.

7879. Forest Practices – any activity conducted on or directly related to forest land and relating to growing, harvesting, or processing timber. These activities include but are not limited to: road and trail construction, final and intermediate harvesting, pre-commercial thinning, reforestation, fertilization, prevention and suppression of disease and insects, salvage of trees, and brush control (*WAC 222-16-010(21)*).

7980. Frequently Flooded Areas - the areas of special flood hazard as designated at VMC 20.740.120.

8081. Frontage or Water Frontage – the portion of a parcel adjacent to the OHWM between property lines.

G

8182. Gabions – structures composed of masses of rocks, rubble, or masonry held tightly together usually by wire mesh so as to form blocks or walls.

8283. Geologic Hazard Areas - include areas of landslide, liquefaction and dynamic settlement, ground shaking amplification, fault rupture, soil erosion, and bank erosion hazard areas as designated at VMC 20.740.130.

8384. Grading - means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land (*WAC 173-26-020(20)*).

8485. Grassy Swale – a vegetated drainage channel that is designed to remove various pollutants from stormwater runoff through biofiltration.

8586. Groin - a barrier-type structure extending from the backshore or stream bank into a water body for the purpose of the protection of a shoreline and adjacent upland by influencing the movement of water and/or deposition of material.

8687. Groundwater - means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

H

8788. Harbor Area - the area of navigable waters between the inner and outer harbor lines identified by the Board of Natural Resources acting as the State Harbor Lines Commission and as established by Section 1 of Article XV of the Washington State Constitution.

8889. Harbor Line, Inner - the line established by the State of Washington in navigable tidal waters between the line of ordinary high tide and the outer harbor line and constituting the inner boundary of the harbor area. This line determines the seaward extent of private ownership in tidal or shoreland areas (often corresponds to the “bulkhead line”).

8990. Harbor Line, Outer - the line located and established by the Washington State Department of Natural Resources in navigable waters that delineates the extent of water area that may be leased to private interests.

9091. Hazard Tree - any tree with a combination of structural defect and/or disease and a proximity to persons or property which makes it subject to a high probability of failure, as recommended by a qualified arborist.

9192. Height - the distance measured from the average grade level to the highest point of a structure: Provided that television antennas, chimneys, and similar appurtenances shall not be used in calculating height, except where it obstructs the view of a substantial number of residences on areas adjoining such shorelines (or the master program provides otherwise): Provided further that temporary construction equipment is excluded in this calculation (WAC 173-27-030(9)).

9293. Hook – a spit or narrow cape of sand or gravel that turns landward at its outer end.

I

9394. Institutional Use – A use and related structure(s) for the provision of educational, medical, cultural, social, public safety, and/or recreational services to the community, including but not limited to schools, colleges, museums, community centers, and the relevant essential public facilities identified in WAC 365-196-550

9495. In-stream Structure - a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose. Outfalls are not in-stream structures.

9596. Interested Party – means all persons who have notified local government of their desire to receive a copy of the final order on a permit under WAC 173-27-030 (*WAC 173-27-030(12)*).

9697. **Invasive** – means a nonnative plant or animal species that:

- a. causes or may cause significant displacement in range, a reduction in abundance of native species;
- b. Threatens or may threaten natural resources or their use in the state;
- c. Causes or may cause economic damage to commercial or recreational activities that are dependent upon state waters; or
- d. Threatens or harms human health (RCW 77.08.010(28)).

J

9798. **Jetty**- a structure usually projecting out into the water for the purpose of protecting a navigation channel, a harbor, or to influence water currents.

L

9899. **Lakes** – all the surface water areas of the state, including reservoirs; except: (a) Lakes less than twenty acres in size; (b) Streams or rivers (as described in WAC 173-18-030); and (c) Shorelines of statewide significance (*WAC 173-20-030(1)*).

99100. **Lakes of Statewide Significance** - those lakes, whether natural, artificial or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high-water mark (*WAC 173-20-030(2)*).

100101. **Large Woody Debris** - Shrubs, trees, or their branches that have fallen and are on the ground or in, across, or dangling above streams, rivers, lakes, or ponds.

101102. Levee – a large dike or embankment, often having an access road along the top, that is designed as part of a system to protect land from floods.

102103. Limited Utility Extension – the extension of a utility service that is categorically exempt under RCW 43.21C for natural gas, electricity, telephone, water or sewer to service an existing use and will not extend more than twenty-five hundred (2500) linear feet within the shorelines of the state.

103104. Littoral – The area of the shore from the OHWM waterward to a depth of two meters below ordinary low water or to the maximum extent of non-persistent emergent plants.

104105. Littoral Drift –The mud, sand, or gravel material moved parallel to the shoreline in the nearshore zone by waves and current.

105106. Live-aboard boat – ~~a boat principally used as an over-water residence. Principal use as an over-water residence means that it is occupied in a single location for a period exceeding two months in any one calendar year. Live-aboards are licensed and designed for use as a mobile structure with detachable utilities or facilities, anchoring, and the presence of adequate self-propulsion and steering equipment to operate as a boat.~~ A licensed boat designed as a conventional recreational vessel with habitable cabin or quarters that is occupied in a single location for a period exceeding two months in any one calendar year. The live-aboard boat shall have self-propulsion and steering that is sufficient to move the vessel entirely under its own power and shall have detachable utilities or facilities and anchoring. The live-aboard boat must be of a design that is capable of safely navigating the waterway where it is located including being equipped to handle winds, waves, tides and currents. Typical terms for live-aboard

boats are sailboat, cabin cruiser, trawler yacht, tug, motor yacht cruiser, motorsailer, multi-hulled power boat, sport fishing boat or similar vessel.

~~106~~107. Local Government – any county, incorporated city, or town that contains within its boundaries shorelines of the state subject to chapter 90.58 RCW.

~~107~~108. Log Booming – includes the placement or removal of logs and log bundles into and from the water, and the assembly and disassembly of rafts for waterborne transportation.

M

~~108~~109. Marina - a water-dependent commercial use that consists of a system of piers, buoys, or floats which provides moorage for at least ten (10) boats. For the purposes of this Program, large community moorage facilities, yacht club facilities, and camp or resort moorage areas are also considered marinas. Boat launch facilities and supplies and services for small commercial or pleasure craft are often associated with marinas. Uses accessory to marinas may include fuel docks and storage, boating equipment sales and rental, repair services, public launching, bait and tackle shops, potable water, waste disposal, administration, parking, groceries, and dry goods.

“Foreshore marinas” are marinas located waterward of the ordinary high water mark.

“Backshore marinas” are marinas located landward of the ordinary high water mark.

There are two common types of backshore marinas: (1) a wet-moorage marina that is dredged out of the land artificially creating a basin; and (2) a dry-moorage marina that has upland storage with a hoist, marine travel lift, or ramp for water access.

- ~~140~~110. Marine Railway** – a set of steel rails running from the upland area into the water upon which a cart or dolly can carry a boat to be launched.
- ~~140~~111. Marine Travel Lift** – a mechanical device that can hoist vessels off trailers and transport them into the water. Often associated with dry land moorage.
- ~~141~~112. May** - means the action is acceptable, provided it conforms to the provisions of this Program.
- ~~142~~113. Merchantable Trees** - live trees, 6 inches in diameter at breast height (DBH) and larger, unless documentation of current, local market conditions are submitted and accepted by the local jurisdiction indicating non-marketability. "Merchantable trees" shall not include trees smaller than 4 inches DBH.
- ~~143~~114. Mining** - the removal of sand, gravel, soil, minerals, and other earth materials for commercial and other uses (*WAC 173-26-241*).
- ~~144~~115. Mitigation** – to avoid, then minimize and compensate for unavoidable adverse impacts to shoreline ecological functions and processes.
- ~~145~~116. Mitigation, Compensatory** – an action to reduce the severity of effects from an action that may cause potential impacts to functions and values of critical areas and their buffers.
- ~~146~~117. Mixed-use Project** - developments that include a combination of components, such as residential uses, hotels, marinas, habitat improvement actions, public access provisions, and other uses.

~~117~~118. Moorage - a pier, dock, buoy or float, either fixed or floating, to which boats may be secured.

~~118~~119. Moorage Facility, Community - a moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents of a certain subdivision, hotel, motel, or multi-family residential development within shoreline jurisdiction; or for use by patrons of a public park or quasi-public recreation area, including rental of non-powered craft. A community moorage facility is a marina (Definition #106) if:

- a. it provides commercial goods or services;
- b. it is of a large scale (more than ten slips);
- c. moorage is proposed to be leased to upland property owners; or
- d. the proposal includes a boat launching facility other than a ramp.

~~119~~120. Moorage Facility, Joint Use - a moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents on adjacent or neighboring lots each with water frontage. A joint-use moorage facility is a marina (Definition #106) if:

- a. it provides commercial goods or services;
- b. it is of a large scale (more than ten slips);
- c. moorage is proposed to be leased to upland property owners; or
- d. the proposal includes a boat launching facility other than a ramp.

~~120~~121. Mooring Buoy - a floating object anchored to the bottom of a water body that provides tie-up capabilities for boats or watercraft.

~~121~~122. Multi-Family Residence - a building containing two or more dwelling units including but not limited to duplexes, apartments, and condominiums.

~~122~~123. Must - means a mandate; the action is required.

N

~~123~~124. Natural/Existing Topography – the topography of the lot, parcel, or tract of real property immediately prior to any site preparation or grading including excavation and filling.

~~124~~125. Navigational Channels - are those routes on the waters of state beyond the outer harbor line, commonly used by ships for useful commerce.

~~125~~126. Navigable Waters - a body of water is capable or susceptible of having been or being used for the transport of useful commerce. The state of Washington considers all bodies of water meandered by government surveyors as navigable unless otherwise declared by a court (*WAC 332-30-106*).

~~126~~127. Non-conforming Structure – a structure that was lawfully constructed or established prior to the effective date of the applicable Act or Program provision, and which no longer conforms to the applicable shoreline provisions (*WAC 173-27-080(1)*).

~~127~~128. Non-conforming Use - use or activity that was lawfully established prior to the effective date of the applicable Act or Program provision, and which no longer conforms to the applicable shoreline provisions. (*WAC 173-27-080(1)*)

~~128~~129. Non-Water-Oriented Use or Activity - a use or activity that is not water-dependent, water-related, or water-enjoyment.

~~129~~130. Normal Maintenance - includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition (*WAC 173-27-040(2)(b)*). See also “normal repair”.

~~130~~131. Normal Repair - to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment (*WAC 173-27-040(2)(b)*). See also “normal maintenance”.

~~131~~132. Noxious Weeds - Non-native plants that are destructive, competitive, and difficult to control as defined by the Washington State Noxious Weed Control Board.

O

~~132~~133. Ordinary High Water Mark (OHWM) - that mark found by examining the bed and banks of a body of water and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that

condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or Ecology: Provided that in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the OHWM adjoining fresh water shall be the line of mean high water (*RCW 90.58.030(2)(b) and WAC 173-22-030(6)*).

~~133~~134. Over-water Structure - a structure or other construction located waterward of the Ordinary High Water Mark (OHWM) or a structure or other construction erected on piling above the surface of the water, or upon a float.

P

~~134~~135. Parking - the temporary storage of automobiles or other motorized vehicles.

Temporary storage of vehicles for import or export in port areas shall not be considered parking.

~~135~~136. Parking, Accessory - is that which directly serves an approved shoreline use.

~~136~~137. Parking, Primary - parking that is the principal use on the property, not accessory to another use.

~~137~~138. Party of Record - includes all persons, agencies or organizations who have submitted written comments in response to a public notice; presented testimony in a formal public hearing; or notified the city of their desire to receive a copy of the final decision; and who have provided a complete, accurate, and current address for delivery of such decision by mail.

~~138~~139. Permitted Use – a use that is allowed under the rules and regulations of this Program.

~~139~~140. Permit - any substantial development, variance, conditional use permit, or revision authorized under this Program (*WAC 173-27-030(13)*).

~~140~~141. Pier - a fixed platform structure supported by piles in a water body that abuts the shore to provide landing for water-dependent recreation or moorage for boats or watercraft or to provide access to a floating dock.

~~141~~142. Pierhead Line - the waterward limit to which open pile work may be constructed as designated by the Federal government.

~~142~~143. Point – a low profile shoreline promontory of more or less triangular shape, the top of which extends seaward. A point may be the wavecut shelf remnant of a headland bluff or a purely accretional deposit that began as a hooked spit and becomes a point by subsequently closing the lagoon gap between the headland and the tip of the hook. Points are characterized by converging berms that normally enclose a lagoon, marsh, or meadow, depending on the point's stage of development.

~~143~~144. Port – a municipal corporation that is a special purpose district of local government authorized by the Washington State Constitution and regulated by RCW Chapter 53.

~~144~~145. Potentially Harmful Materials - means hazardous materials as defined at VMC Section 14.26.110 as well as other materials including, but not limited to, the following which, if discharged or improperly disposed, may present a risk to water resources:

Petroleum products including but not limited to petroleum fuel and petroleum-based coating and preserving materials; oils containing PCBs; antifreeze and other liquid

automotive products; metals, either in particulate or dissolved form, in concentrations above established regulatory standards; flammable or explosive materials; radioactive material; used batteries; corrosives, acids, alkalis or bases; paints, stains, resins, lacquers or varnishes; degreasers; solvents; construction materials; drain cleaners and other toxic liquid household products; pesticides, herbicides, fungicides or fertilizers unless applied in accordance with local, state and federal standards; steam cleaning and carpet cleaning wastes; pressure cleaning wastes; car wash water; laundry wastewater; soaps, detergents, ammonia; swimming pool backwash; chlorine, bromine, and other disinfectants; heated water; domestic animal wastes; sewage; recreational vehicle waste; animal carcasses, excluding salmonids; food wastes; pharmaceuticals and personal care products; collected lawn clippings, leaves or branches; trash or debris; silt, sediment or gravel; dyes; and untreated or unapproved wastewater from industrial processes.

145146. Program - the Shoreline Master Program developed pursuant to the Shoreline Management Act (RCW 90.58), adopted by the city and approved by Ecology.

146147. Project Area – the area which will be directly physically affected by a proposed development.

147148. Provisions - policies, regulations, standards, guideline criteria or environment designations.

148149. Public Access - is the physical ability of the general public to reach, touch and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations (*WAC 173-26-221*).

ORDINANCE - 49

~~149~~150. Public Interest - the interest shared by the citizens of the state or community at large in the affairs of government, or some interest by which their rights or liabilities are affected including, but not limited to, an effect on public property or on health, safety, or general welfare resulting from a use or development (*WAC 173-27-030(14)*).

Q

~~150~~151. Qualified Professional - a person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905(4).

R

~~151~~152. Recreational Use – a use and related structures for the provision of recreational activities, as follows:

a. Active recreational uses/facilities or uses – involve indoor or outdoor activities with a large number of participants or viewers; require a moderate to high level of infrastructure and maintenance; generate high noise levels. Sports fields, golf courses, skate parks, and motorized boating are examples of active recreational uses or facilities.

b. Passive recreational uses/facilities - involve a small number of participants or viewers; require a low to moderate level of infrastructure development and maintenance; generate little noise; and are compatible with open space and natural resource protection. Wildlife viewing, non-vehicular trails, fishing, canoeing and picnicking are examples of passive recreational uses and facilities.

~~152~~153. Recreational Vehicle – A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light-duty truck, and designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

~~153~~154. Residential Development - is the development on shorelands of single-family and multi-family residences and their normal appurtenances, and the creation of new residential lots through land division.

~~154~~155. Restoration– means to reestablish or upgrade impaired ecological processes or functions. This may be accomplished through measures including, but not limited to, re-vegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions (*WAC 173-26-020(31)*).

~~155~~156. Revetment - a sloped wall constructed of riprap or other material placed on stream banks or other shorelines to retard bank erosion and minimize lateral stream movement. A revetment typically slopes waterward and has rough or jagged facing. The slope differentiates it from a bulkhead that is a vertical structure.

~~156~~157. Right-of-Way (ROW) - The property held by the city or other governmental jurisdiction for existing and/or future public access including land occupied or intended to be occupied by a street, crosswalk, pedestrian and bike paths, railroad, road, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, street trees or other special use. The usage of the term right-of-way for land division purposes

shall mean that every right-of-way hereafter established and shown on a plat or map is to be separate and distinct from the lots or parcels adjoining such right-of-way and not included within the dimensions or areas of such lots or parcels.

~~157~~158. Rip-Rap - is a foundation or retaining wall of stones or rock placed along the water's edge or on an embankment to prevent erosion.

~~158~~159. Rock Weir – See “Groin.”

S

~~159~~160. Setback –the distance an activity, building, or structure must be located from the Ordinary High Water Mark.

~~160~~161. Shall - a mandate; the action must be done.

~~161~~162. Shorelands - those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the OHWM; floodways and contiguous floodplain areas landward two hundred feet from such floodways (minimum extent) or to the outer extent of the floodplain (maximum extent); and all wetlands and river deltas associated with the streams, lakes and tidal waters that are subject to the provisions of this program, as may be amended; the same to be designated as to location by Ecology, as defined by RCW 90.58. (See Section 2.1.)

~~162~~163. Shoreline Administrator - is the city’s Planning Official or his/her designee responsible for administering this Program.

~~163~~164. Shoreline Designations - the categories of shorelines established by this Program in order to provide a uniform basis for applying policies and use regulations within distinctively different shoreline areas.

~~164~~165. Shoreline Ecological Functions - the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments which constitute the shoreline's natural ecosystem (*WAC 173-26-200 (2)(c)*).

~~165~~166. Shoreline Jurisdiction - all "shorelines of the state" and "shorelands" as defined in RCW 90.58.030.

~~166~~167. Shoreline Master Program or Program - means the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020. See Section 1.8 for complete details.

~~167~~168. Shoreline Modifications - those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, dredging or application of chemicals.

~~168~~169. Shoreline Restoration Project – a project designed to restore impaired ecological function of a shoreline.

~~169~~170. Shoreline Stabilization – includes actions taken to address erosion impacts to property and structures caused by processes such as current, flood, wind, or waves. These actions include structural and non-structural methods. Structural measures include but are not limited to bulkheads, revetments, and riprap. Non-structural measures include building setbacks, relocation of structures, and bioengineered methods that use vegetation or wood.

~~170~~171. Shoreline Substantial Development Permit - is the permit required by this Program for uses which meet the definition of substantial developments.

~~171~~172. Shorelines - means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them, except: (a) shorelines of statewide significance; (b) shorelines on segments of streams upstream of a point where the mean annual flow is twenty (20) cubic feet per second or less, and the wetlands associated with such upstream segments; and (c) shorelines on lakes less than twenty (20) acres in size and wetlands associated with such small lakes. See RCW 90.58.030(2)(d) and WAC 173-18, 173-26 and 173-22.

~~172~~173. Shorelines Hearing Board (SHB) – a quasi-judicial body established by the Shoreline Management Act of 1971 to hear appeals by any aggrieved party on the issuance of a substantial development permits, conditional uses, variance or, enforcement penalties.

~~173~~174. Shorelines of Statewide Significance –a select category of shorelines of the state, defined in RCW 90.58.030(2)(f), where special policies and regulations apply, and described below:

- a. Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of 1,000 acres or more, measured at the ordinary high water mark;
- b. Those natural rivers or segments thereof, downstream of a point where the mean annual flow is measured at 1,000 cubic feet per second, or more, and
- c. Their associated shorelands.

~~174~~175. Shorelines of the State – are the total of all “shorelines” and “shorelines of statewide significance” within the state.

~~175~~176. Should - the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and WAC 173-26, against taking the action.

~~176~~177. Sign - A sign is any structure, device, advertisement, advertising device, or visual representation intended to advertise, identify, or communicate information to attract the attention of the public for any reason. Informational signs are non-commercial and intended to communicate safety, directional, navigation, educational, or interpretive information.

~~177~~178. Significant Vegetation Removal – the removal or alteration of trees, shrubs, and /or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, where it does not affect ecological functions does not constitute significant vegetation removal (*WAC 173-26-020(33)*).

~~178~~179. Single-Family Residence - a detached dwelling designed for and occupied by one family including those structures and developments within a contiguous ownership which are a normal appurtenance.

~~179~~180. Solid Waste Facility - refers to any land or structure where solid waste is stored, collected, transported, or processed in any form, whether loose, baled or containerized, including but not limited to the following: transfer stations, landfills, or solid waste loading facilities. Solid waste handling and disposal facilities do not include the following: handling or disposal of solid waste as an incidental part of an otherwise permitted use; and solid waste recycling and reclamation activities not conducted on the same site as and accessory to the handling and disposal of garbage and refuse.

~~180~~181. Stormwater - runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

~~181~~182. Stream - Water contained within a channel, either perennial or intermittent, and classified according to WAC 222-16-030 or WAC 222-16-031. Streams also include natural watercourses modified by humans. Streams do not include drainage ditches which are not modifications of natural watercourses.

~~182~~183. Structure- a permanent or temporary edifice or building or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except for vessels (*WAC 173-27-030(15)*).

~~183~~184. Subdivision – the division or re-division of land, including short subdivision, for the purpose of sale, lease, or conveyance.

ORDINANCE - 56

~~184~~185. Substantial Development - "Substantial development" shall mean any development of that the total cost or fair market value exceeds five thousand seven hundred and eighteen dollars (\$5,718), or as adjusted by the State Office of Financial Management, or any development that materially interferes with the normal public use of the water or shorelines of the state, except as specifically exempted pursuant to RCW 90.58.030(3)(e).

~~185~~186. Substantially Degrade - to cause significant ecological impact (*WAC 173-26-020(35)*).

~~186~~187. Surface Water - water that flows across the land surface, in channels, or is contained in depressions in the land surface, including but not limited to ponds, lakes, rivers, and streams.

T

~~187~~188. Terrestrial – of or relating to land as distinct from air and water.

~~188~~189. Transfer Facility – See “Solid Waste Facility.”

~~189~~190. Transmit - to send from one person or place to another by mail or hand delivery. The date of transmittal for mailed items is the date that the document is certified for mailing or, for hand-delivered items, is the date of receipt at the destination (*WAC 173-27-030(16)*).

~~190~~191. Transportation Facility - a road, railway, bridge and related structures such as culverts, fills, embankments, causeways, and the relevant essential public facilities identified in WAC 365-196-550 for the purpose of moving people or freight using motorized or non-motorized means of transport.

U

~~191~~192. Upland – generally described as the dry land area above and landward of the OHWM.

~~192~~193. Utilities - services and facilities that produce, convey, store, or process power, water, wastewater, stormwater, gas, communications, oil, and the like, including the relevant essential public facilities identified in WAC 365-196-550.

~~193~~194. Utilities, Accessory - are on-site utility features serving a primary use, such as a water, sewer, or gas line to a residence, and shall be considered a part of the primary use.

V

~~194~~195. Variance - is a means to grant relief from the specific bulk, dimensional or performance standards set forth in the applicable master program and not a means to vary a use of a shoreline. See RCW 90.58.160. (*WAC 173-27-030(17)*).

~~195~~196. Vegetation Conservation - includes activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species (*WAC 173-26-221*).

~~196~~197. Vessel - See “Boat.”

~~197~~198. View Corridor - portion of a viewshed, often between structures or along thoroughfares. View corridors may or may not be specifically identified and reserved through development regulations for the purpose of retaining the ability of the public to

see a particular object (such as a mountain or body of water) or a landscape within a context that fosters appreciation of its aesthetic value.

W

198199. Water-dependent Use or Activity - a use or a portion of a use which requires direct contact with the water and cannot exist at a non-water location due to the intrinsic nature of its operations.

199200. Water-enjoyment Use or Activity - a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and that through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

200201. Water-oriented Use or Activity - a use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

201202. Water Quality - the characteristics of water within shoreline jurisdiction, including water quantity, hydrological, chemical, aesthetic, recreation-related, and biological characteristics.

202203. Water Quantity - For the purposes of this program, refers only to development and uses affecting water quantity, such as impermeable surfaces and storm water handling

practices. Water quantity, for purposes of this Program, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340 (WAC 173-26-020(42)).

203204. Water-related Use or Activity – a use or portion of use that is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

- a. of a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water or,
- b. the use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers make its services less expensive and/or more convenient.

204205. Water Resources – Means surface water, stormwater, and groundwater.

205206. Watershed Restoration Plan - a plan, developed or sponsored by WDFW, Ecology, DNR, the Washington Department of Transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, a special purpose agency such as the Lower Columbia Fish Recovery Board, or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, re-creation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter 43.21C RCW, the State Environmental Policy Act.

~~206~~207. Watershed Restoration Project - a public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of a the plan and consists of one or more of the following activities (RCW 89.08.460):

- a. A project that involves less than ten miles of stream reach, in which less than twenty-five (25) cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;
- b. A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or
- c. A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the ordinary high water mark of the stream.

~~207~~208. Weir - a structure in a stream or river for measuring or regulating stream flow.

~~208~~209. Wetlands - areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those

ORDINANCE - 61

artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. Wetlands are designated at VMC 20.740.140.

Section 8. Severability. If any clause, sentence, paragraph, section, or part of this ordinance or the application thereof to any person or circumstances shall be adjudged by any court of competent jurisdiction to be invalid, such order or judgment shall be confined in its operation to the controversy in which it was rendered and shall not affect or invalidate the remainder of any parts thereof to any other person or circumstances and to this end the provisions of each clause, sentence, paragraph, section or part of this law are hereby declared to be severable.

Section 9. Effective Date. This ordinance shall take effect fourteen days from the date of Ecology's approval and written notice of final action to the City, in accordance with RCW 90.58.090.

Read first time:

Ayes: Councilmembers

Nayes: Councilmembers

Absent: Councilmembers

Read second time:

PASSED by the following vote:

Ayes: Councilmembers

Nayes: Councilmembers

Absent: Councilmembers

SIGNED this _____ day of _____, 2018.

Anne McEnery-Ogle, Mayor

Attest:

Natasha Ramras, City Clerk
By Carrie Lewellen, Deputy City Clerk

Approved as to form:

E. Bronson Potter, City Attorney

ORDINANCE - 63

SUMMARY

ORDINANCE NO. _____

AN ORDINANCE relating to the City of Vancouver's implementation of shoreline management as required by Revised Code of Washington (RCW) Chapter 90.58, the Shoreline Management Act; amending the City of Vancouver Shoreline Master Program (SMP) Chapter 4, Shoreline Designations Section 4.3.1.4; Chapter 6, Specific Shoreline Use Regulations Table 6-1; Section 6.3.3.4, Joint Use and Community Moorage Facilities; Section 6.3.4, Commercial Uses; Section 6.3.11, Residential Development; and Chapter 8, Definitions; subject to approval by the Washington State Department of Ecology (Ecology); providing for severability; and providing for an effective date.

The full text of this ordinance will be mailed upon request. Contact Raelyn McJilton, Records Officer at 360-487-8799, or via www.cityofvancouver.us (Go to City Government and Public Records).

ORDINANCE - 64

CHAPTER 4 SHORELINE DESIGNATIONS

4.1 Introduction

The intent of assigning shoreline designations to specific geographies is to encourage development that will enhance the present or desired character of the shoreline. To accomplish this, segments of shoreline are given a shoreline designation based on existing development patterns, natural capabilities and limitations, and the vision of the City. The shoreline designations are intended to work in conjunction with the comprehensive plan and zoning.

Management policies are an integral part of the shoreline designations and are used for determining uses and activities that can be permitted in each shoreline designation. Development regulations specify how and where permitted development can take place within each shoreline designation and govern height and setback.

4.2 Authority

1. Local governments are required under the State Shoreline Management Act of 1971 (RCW 90.58) and the Shoreline Master Program Guidelines (WAC 173-26) to develop and assign a land use categorization system known as “shoreline environment designations” for shoreline areas as a basis for effective shoreline master programs. For purposes of this Program “shoreline designation” is used in place of the term “shoreline environment designation” referred to in WAC 173-26.
2. The method for local government to account for different shoreline conditions is to assign a shoreline designation to each distinct shoreline section in its jurisdiction. The shoreline designation assignments provide the framework for implementing shoreline policies and regulatory measures for environmental protection, use provisions, and other regulatory measures specific to each shoreline designation.

4.3 Shoreline Designations

The City classification system consists of shoreline designations that are consistent with and implement the Act (RCW 90.58), the Shoreline Master Program Guidelines (WAC 173-26) and the City of Vancouver Comprehensive Plan. These designations have been assigned consistent with the corresponding criteria provided for each shoreline designation. In delineating shoreline designations, the City aims to ensure that existing shoreline ecological functions are protected with the proposed pattern and intensity of development. Such designations should be consistent with the policies for restoration of degraded shorelines. All the shoreline designations, even if they are not applied within the City limits or urban growth area are listed here to maintain consistency countywide (See Sections 4.4.5 and 6.2), and are defined in the following sections:

1. Aquatic;

2. Natural;
3. Urban Conservancy;
4. Medium Intensity;
5. High Intensity;

The following shoreline designations are not applied within City limits or the urban growth area:

6. Rural Conservancy – Residential; and
7. Rural Conservancy – Resource Lands.

4.3.1 Aquatic Shoreline Designation

4.3.1.1 Purpose

The purpose of the “Aquatic” shoreline designation is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark (OHWM).

4.3.1.2 Designation Criteria

An Aquatic shoreline designation is assigned to lands and waters waterward of the ordinary high-water mark.

4.3.1.3 Areas Designated

The Aquatic shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.1.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. New over-water structures should be allowed only for water-dependent uses, public access, recreation, or ecological restoration.
2. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and natural hydrographic conditions.
3. In-water uses should be allowed where impacts can be mitigated to ensure no net loss of shoreline ecological functions. Permitted in-water uses must be managed to avoid impacts to shoreline ecological functions. Unavoidable impacts must be minimized and mitigated.

4. On navigable waters or their beds, all uses and developments should be located and designed to:
 - a. Minimize interference with surface navigation;
 - b. Consider impacts to public views; and
 - c. Allow for the safe, unobstructed passage of fish and wildlife, particularly species dependent on migration.
5. Multiple or shared use of over-water and water access facilities should be encouraged to reduce the impacts of shoreline development and increase effective use of water resources.
6. Structures and activities permitted should be related in size, form, design, and intensity of use to those permitted in the immediately adjacent upland area. The size of new over-water structures should be limited to the minimum necessary to support the structure's intended use.
7. Natural light should be allowed to penetrate to the extent necessary to discourage salmonid predation and to support nearshore habitat unless other illumination is required by state or federal agencies.
8. Aquaculture practices should be encouraged in those waters and beds most suitable for such use. Aquaculture should be discouraged where it would adversely affect the strength or viability of native stocks or unreasonably interfere with navigation.
9. When shoreline uses, development, activities, and modifications in the Aquatic shoreline designation require use of adjacent landward property, that landward property should be in a shoreline designation that allows that use, development, activity or modification.
10. Over-water structures constructed prior to the adoption of this Program and located from the Interstate 5 Bridge downstream to the railroad bridge (a portion of the Columbia River Shoreline Enhancement Plan District) may be used for water-dependent, water related and/or water enjoyment commercial uses.
 - a. Permitted development should include designs that are reflective of the local history and/or prior structures on the site.
 - b. Shoreline uses and modifications should be consistent with the policies set forth in the Vancouver City Center Vision (VCCV) Subarea Plan, including providing public access to the shoreline.

4.3.2 Natural Shoreline Designation

4.3.2.1 Purpose

The purpose of the “Natural” shoreline designation is to protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline ecological functions intolerant of human use. These systems require that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Consistent with the policies of the designation, restoration of degraded shorelines within this environment is appropriate.

4.3.2.2 Designation Criteria

The following criteria should be considered in assigning a Natural shoreline designation:

1. The shoreline’s ecological functions are substantially intact and have a high opportunity for preservation and low opportunity for restoration;
2. The shoreline is generally in public or conservancy ownership or under covenant, easement, or a conservation tax program.
3. The shoreline contains little or no development, or is planned for development that would have minimal adverse impacts to ecological functions or risk to human safety;
4. There are low-intensity agricultural uses, and no active forestry or mining uses;
5. The shoreline has a high potential for low-impact or passive or public recreation and is planned for park or open space uses as part of the comprehensive plan; or
6. The shoreline is considered to represent ecosystems and geologic types that have high scientific and educational value.

4.3.2.3 Areas Designated

The Natural shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.2.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Any use that would substantially degrade the shoreline ecological functions or natural character of the shoreline area should not be allowed.
2. Scientific, historical, cultural, educational research uses, and low-impact, passive recreational uses may be allowed provided that ecological functions remain intact.

3. Vegetation should remain undisturbed except for removal of noxious vegetation and invasive species. Proposed subdivision or lot line adjustments, new development or significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions should not be allowed.
4. Uses that would deplete physical or biological resources or impair views to or from the shoreline over time should be prohibited.
5. Only physical alterations that serve to protect a significant or unique physical, biological or visual shoreline feature that might otherwise be degraded or destroyed; or those alterations that are the minimum necessary to support a permitted use should be allowed.
6. Only the following types of signs should be considered for location in the shorelines: interpretive, directional, navigational, regulatory, and public safety.

4.3.3 Urban Conservancy Shoreline Designation

4.3.3.1 Purpose

The purpose of the “Urban Conservancy” shoreline designation is to protect and restore shoreline ecological functions of open space, floodplains, and other sensitive lands, where they exist in urban and developed settings, while allowing a variety of compatible uses.

4.3.3.2 Designation Criteria

The following criteria are used to consider an Urban Conservancy shoreline designation:

1. The shoreline is located within incorporated municipalities and designated urban growth areas;
2. The shoreline has moderate to high ecological function with moderate to high opportunity for preservation and low to moderate opportunity for restoration, or low to moderate ecological function with moderate to high opportunity for restoration;
3. The shoreline has open space or critical areas that should not be more intensively developed;
4. The shoreline is not highly developed and is likely in recreational use. The shoreline has the potential for development that is compatible with ecological restoration. The shoreline is planned for a park, as open space, or for a Master Planned Resort;
5. The shoreline has moderate to high potential for low-impact, passive or active water-oriented recreation where shoreline ecological functions can be maintained or restored.

4.3.3.3 Areas Designated

The Urban Conservancy shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.3.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Uses that preserve the natural character of the area or promote preservation of open space or critical areas either directly or over the long term should be the primary allowed uses. Uses that result in restoration of shoreline ecological functions should be allowed if the use is otherwise compatible with the purpose of the Urban Conservancy shoreline designation and the setting.
2. Single family residential development shall ensure no net loss of shoreline ecological functions and preserve the existing character of the shoreline consistent with the purpose of this designation.
3. Encourage regulations that limit lot coverage, provide adequate setbacks from the shoreline, promote vegetation conservation, reduce the need for shoreline stabilization and maintain or improve water quality to ensure no net loss of shoreline ecological functions.
4. Public access and public recreation objectives should be implemented whenever feasible and when significant ecological impacts can be mitigated.
5. Thinning or removal of vegetation should be limited to that necessary to
 - a. Remove noxious vegetation and invasive species;
 - b. Provide physical or visual access to the shoreline; or
 - c. Maintain or enhance an existing use consistent with critical areas protection and maintenance or enhancement of shoreline ecological functions.
6. Public access and public recreation facilities are a preferred use if they will not cause substantial ecological impacts and when restoration of ecological functions is incorporated.
7. Low intensity water-oriented commercial uses may be permitted if compatible with surrounding uses.

4.3.4 Medium Intensity Shoreline Designation

4.3.4.1 Purpose

The purpose of the “Medium Intensity” shoreline designation is to accommodate primarily residential development and appurtenant structures, but to also allow other types of development that are consistent with this chapter. An additional purpose is to provide appropriate public access and recreational uses.

4.3.4.2 Designation Criteria

The following criteria are used to consider a Medium Intensity shoreline:

1. The shoreline is located within incorporated municipalities and designated urban growth areas.
2. The shoreline has low to moderate ecological function with low to moderate opportunity for restoration;
3. The shoreline contains mostly residential development at urban densities and does not contain resource industries (agriculture, forestry, mining);
4. The shoreline is planned or platted for residential uses in the comprehensive plan; or
5. The shoreline has low to moderate potential for low-impact, passive or active water-oriented recreation where ecological functions can be restored.

4.3.4.3 Areas Designated

The Medium Intensity shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.4.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Encourage regulations that ensure no net loss of shoreline ecological functions as a result of new development such as limiting lot coverage, providing adequate setbacks from the shoreline, promoting vegetation conservation, reducing the need for shoreline stabilization and maintaining or improving water quality to ensure no net loss of ecological functions.
2. The scale and density of new uses and development should be compatible with sustaining shoreline ecological functions and processes, and the existing residential character of the area.

3. Public access and joint use (rather than individual) of recreational facilities should be promoted.
4. Access, utilities, and public services to serve proposed development within shorelines should be constructed outside shorelines to the extent feasible, and be the minimum necessary to adequately serve existing needs and planned future development.
5. Public or private outdoor recreation facilities should be provided with proposals for subdivision development and encouraged with all shoreline development if compatible with the character of the area. Priority should be given first to water-dependent and then to water-enjoyment recreation facilities.
6. Commercial development should be limited to water-oriented uses. Non-water-oriented commercial uses should only be allowed as part of mixed-use developments where the primary use is residential and where there is a substantial public benefit with respect to the goals and policies of this Program such as providing public access or restoring degraded shorelines.

4.3.5 High Intensity Shoreline Designation

4.3.5.1 Purpose

The purpose of the “High Intensity” shoreline designation is to provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing shoreline ecological functions and restoring ecological functions in areas that have been previously degraded.

4.3.5.2 Designation Criteria

The following criteria are used to consider a High Intensity shoreline designation:

1. The shoreline is located within incorporated municipalities and designated urban growth areas;
2. The shoreline has low to moderate ecological function with low to moderate opportunity for ecological restoration or preservation;
3. The shoreline contains mostly industrial, commercial, port facility, mixed-use, or multi-family residential development at high urban densities and may contain industries that are not designated agriculture, forestry, or mineral resource lands in the comprehensive plan;
4. The shoreline may be or have been identified as part of a state or federal environmental remediation program;
5. The shoreline is planned or platted for high intensity uses in the comprehensive plan; or

6. The shoreline may support public passive or active water-oriented recreation where ecological functions can be restored.

4.3.5.3 Areas Designated

The High Intensity shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.5.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Encourage regulations that ensure no net loss of shoreline ecological functions as a result of new development.
2. Promote infill and redevelopment in developed shoreline areas and encourage environmental remediation and restoration of the shoreline, where applicable with the goal of achieving full utilization of designated high-intensity shorelines.
3. Encourage the transition of uses from non-water-oriented to water-oriented uses.
4. Water-oriented uses are encouraged, however new non-water oriented uses may be allowed if that use has limited access to the shoreline and when included in a master plan or part of a mixed-use development.

The following shoreline designations are not applied within City limits or the urban growth area:

4.3.6 Rural Conservancy – Residential Shoreline Designation

4.3.6.1 Purpose

The purpose of the “Rural Conservancy – Residential” shoreline designation is to protect shoreline ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural floodplain processes, and provide recreational opportunities. Examples of uses that are appropriate in a Rural Conservancy - Residential shoreline designation include low-impact, passive recreation uses, water-oriented commercial development, and low-intensity residential development.

4.3.6.2 Designation Criteria

The following criteria are used to consider a Rural Conservancy – Residential shoreline designation:

1. The shoreline is located outside of incorporated municipalities and designated urban growth areas;

2. The shoreline has moderate to high ecological function with moderate to high opportunity for preservation and low to moderate opportunity for restoration or low to moderate ecological function with moderate to high opportunity for restoration;
3. The shoreline is not highly developed and most development is low-density residential;
4. The shoreline is planned or platted Rural Center, Rural, or Master Planned Resort;
5. The shoreline has moderate to high potential for public, water-oriented recreation where ecological functions can be maintained or restored; or
6. The shoreline has high scientific or educational value or unique historic or cultural resources value.

4.3.6.3 Areas Designated

The Rural Conservancy – Residential shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.6.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Uses in the Rural Conservancy – Residential shoreline designation should be limited to those that sustain the shoreline area's physical and biological resources and do not substantially degrade shoreline ecological functions or the rural or natural character of the shoreline area.
2. Residential development shall ensure no net loss of shoreline ecological functions and preserve the existing character of the shoreline consistent with the purpose of this designation.
3. Encourage regulations that limit lot coverage, provide adequate setbacks from the shoreline, promote vegetation conservation, reduce the need for shoreline stabilization and maintain or improve water quality to ensure no net loss of shoreline ecological functions.
4. Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time are preferred uses, provided significant adverse impacts to the shoreline are avoided and unavoidable impacts are minimized and mitigated.
5. Water-oriented commercial uses should be allowed in rural centers and Master Planned Resorts only.

6. Developments and uses that would substantially degrade or permanently deplete the biological resources of the area should not be allowed.

4.3.7 Rural Conservancy – Resource Lands Shoreline Designation

4.3.7.1 Purpose

The purpose of the “Rural Conservancy – Resource Lands” shoreline designation is to protect shoreline ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural floodplain processes, and provide recreational opportunities. Examples of uses that are appropriate in a Rural Conservancy – Resource Lands shoreline designation include low-impact outdoor recreation uses, timber harvesting on a sustained-yield basis, agricultural uses, and other natural resource-based uses.

4.3.7.2 Designation Criteria

The following criteria are used to consider a Rural Conservancy – Resource Lands shoreline designation:

1. The shoreline is located outside of incorporated municipalities and designated urban growth areas;
2. The shoreline has moderate to high ecological function with moderate to high opportunity for preservation and low to moderate opportunity for restoration or low to moderate ecological function with moderate to high opportunity for restoration;
3. The shoreline is not highly developed, but consists primarily of resource operations (agriculture, forestry, mining) and recreation, but may contain Master Planned Resorts;
4. The shoreline is planned or platted Rural Industrial, Forest, Agriculture, Agri-Wildlife, or has a surface mining overlay;
5. The shoreline has a moderate to high potential for low-intensity, passive water-oriented recreation where resource industry-related safety concerns are minimal or mitigated and ecological functions can be maintained or restored; or
6. The shoreline has moderate to high scientific or educational value or unique historic or cultural resources value.

4.3.7.3 Areas Designated

The Rural Conservancy – Resource Lands shoreline designation applies to areas as shown on a copy of the Unofficial Shoreline Map in Appendix A.

4.3.7.4 Management Policies

In addition to the other applicable policies and regulations of this Program the following management policies shall apply:

1. Agriculture, commercial forestry, and mining should be allowed in Rural Conservancy – Resource Lands provided they are allowed in the underlying zoning designation, and adverse impacts to the shoreline are avoided and unavoidable impacts are minimized and mitigated.
2. Encourage regulations that ensure new shoreline uses, development, and activities to sustain the shoreline area's physical and biological resources, do not substantially degrade shoreline ecological functions or the rural or natural character of the shoreline area, and achieve no net loss of shoreline ecological functions.
3. Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time are preferred uses, provided adverse impacts to the shoreline are avoided and unavoidable impacts are minimized and mitigated.
4. Allow open space and recreational uses consistent with protection of shoreline ecological functions and personal safety considerations.
5. Only water-oriented commercial uses that support permitted uses should be allowed.
6. Residential development shall ensure no net loss of shoreline ecological functions and preserve the existing character of the shoreline consistent with the purpose of this designation.

4.4 Official Shoreline Map

4.4.1 Map Established

1. The location and extent of areas under the jurisdiction of this Program, and the boundaries of various shoreline designations affecting the lands and waters of the City shall be as shown on the maps entitled, “Official Shoreline Designation Map (East), City of Vancouver, Washington” and “Official Shoreline Designation Map (West), City of Vancouver, Washington” which together comprise the “Official Shoreline Designation Map” for the City of Vancouver, Washington. All the notations, references, amendments, and other information shown on the “Official Shoreline Designation Map” are hereby made a part of this Program, as if such information set forth on the map were fully described herein.
2. In the event that new shoreline areas are discovered (including but not limited to, associated wetlands) that are not mapped and/or designated on the Official Shoreline Designation Map, these areas are automatically assigned an Urban Conservancy designation for lands within City limits and urban growth areas, or

Rural Conservancy – Residential if on lands outside urban growth areas until the shoreline can be re-designated through a Program amendment.

3. In the event of a mapping error, the City will rely upon common boundary descriptions and the criteria contained in RCW 90.58.030(2) and WAC 173-22 pertaining to determinations of shorelands, as amended, rather than the incorrect or outdated map.

4.4.2 File Copies

The Official Shoreline Designation Map is in electronic format and shall be kept on file in the office of the City Clerk, on the City website (www.cityofvancouver.us), and at Ecology. Unofficial copies of the Map may be prepared for administrative purposes. To facilitate use of this Program an “unofficial copy” of the Map has been attached in Appendix A.

4.4.3 Map Amendments

The Official Shoreline Designation Map is an integral part of this Program and may not be amended except upon approval by the City and Ecology, as provided under the Act.

4.4.4 Boundary Interpretation

If disagreement develops as to the exact location of a shoreline designation boundary line shown on the Official Shoreline Designation Map, the following rules shall apply:

1. Boundaries indicated as approximately following lot, tract, or section lines shall be so construed;
2. Boundaries indicated as approximately following roads or railways shall be respectively construed to follow their centerlines;
3. Boundaries indicated as approximately parallel to or extensions of features indicated in (1) or (2) above shall be so construed;
4. Whenever existing physical features are inconsistent with boundaries on the Official Shoreline Map, the Shoreline Administrator shall interpret the boundaries with deference to actual conditions. Appeals of such interpretation may be filed according to the applicable appeal procedures described in Chapter 7, Administration and Enforcement.

4.4.5 Shoreline Designation Changes and Urban Growth Boundary Revisions

When a portion of shoreline jurisdiction is brought into or removed from an urban growth area, a new shoreline designation may need to be assigned. Shoreline designations shall be assigned in accordance with Table 4-1, Shoreline Designations for Urban/Rural Boundary Revisions. Where more than one designation could be appropriate according to

Table 4-1, the shoreline designation criteria in this chapter shall be applied and the best-fitting shoreline designation assigned. Shoreline designation assignments shall occur concurrently with the annexation or other legislative action to remove a portion of shoreline jurisdiction from a City or urban growth area and to amend the Official Shoreline Designation Map and shall be effective upon approval by Ecology (see Section 4.4.3).

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Table 4-1. Shoreline Designations for Urban1/Rural2 Boundary Revisions

SENDING Jurisdiction Shoreline Designation	Transfer From/To	RECEIVING Jurisdiction Shoreline Designation(s)
Aquatic	Rural/Urban Urban/Rural	Aquatic Aquatic
Natural	Rural/Urban Urban/Rural	Natural Natural
Rural Conservancy – Residential	Rural/Urban	Urban Conservancy Medium Intensity
Rural Conservancy – Resource Lands	Rural/Urban	Urban Conservancy Medium Intensity High Intensity
Urban Conservancy	Urban/Rural	Rural Conservancy – Residential Rural Conservancy – Resource Lands
Medium Intensity	Urban/Rural	Rural Conservancy – Residential
High Intensity	Urban/Rural	Rural Conservancy – Resource Lands

¹Urban = City or Urban Growth Area

²Rural = Unincorporated Clark County outside Urban Growth Areas

CHAPTER 6 SPECIFIC SHORELINE USE REGULATIONS

6.1 General Provisions

1. This chapter contains the regulations that apply to specific uses, developments, and activities in the shoreline jurisdiction.
2. These regulations are intended to work in concert with all sections of this Program and in particular the Goals and Policies (Chapter 3) and General Use and Development Regulations (Chapters 5 and 5A).

6.2 Shoreline Use, Modification, and Standards Table

1. Each shoreline designation shall be managed in accordance with its designated purpose as described in this Program (Chapter 4). Table 6-1 identifies those uses that are prohibited, may be permitted or permitted with a conditional use approval in each shoreline designation. In the event conflicts exist between the Table 6-1 and the text in this chapter, the text shall apply.
2. Table 6-1 also summarizes general setbacks and building heights for uses within each shoreline designation. These setbacks apply in conjunction with the critical areas requirements established in Chapter 5A of this Program. In the event a conflict exists between Table 6-1 and the requirements of Chapter 5 or 5A, the most protective of shoreline ecological functions shall apply.
3. In Table 6-1, setbacks are measured landward from the ordinary high water mark (OHWM). For transportation facilities and utilities, the setback from OHWM pertains to the right of way and not just the structure or pipeline. Building heights landward of the OHWM are calculated according to WAC 173-27-030(9). In the Aquatic shoreline designation, the setback is waterward of the OHWM and building heights in the Aquatic shoreline designation are measured from the elevation of the OHWM.
4. All the shoreline designations, even if they are not applied within the City limits or urban growth area are included in Table 6-1 to maintain consistency countywide. (See Sections 4.3 and 4.4.5.) Rural Conservancy – Residential and Rural Conservancy – Resource Lands are not applied within the City limits or urban growth area.
5. Classification of a use or development as permitted does not necessarily mean the use/development is allowed. It means the use/development may be allowed subject to review and approval by the City and/or Ecology. The City may attach conditions of approval to any permitted use via a permit or statement of exemption as necessary to assure consistency of a project with the Act and this Program.

Table 6-1. Shoreline Use, Modification and Development Standards

Table 6-1 is to be used and understood together with the related policies and regulations of this Program.

“Uses” refers to uses, structures, and/or developments as applicable.

Setbacks are landward from the OHWM in the NT, UC, MI, HI, RC-RD, & RC-RL shoreline designations and waterward of the OHWM in the AQ Shoreline Designation.

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
Shoreline Uses							
Agriculture							
Agriculture	X	X	C	P	P	P	P
• <i>Setback</i>	N/A	N/A	100'	100'	100'	100'	100'
• <i>Height</i>	N/A	N/A	35'	35'	35'	35'	35'
Aquaculture							
Aquaculture, General	P	X	C	C	C	C	C
• <i>Setback</i>	0'	N/A	50'	50'	50'	50'	50'
Boating Uses							
Motorized Boat Launches	P	X	C	C	P	P	P
• <i>Setback</i>	0'	N/A	0'	0'	0'	0'	0'
Non-motorized Boat Launches	P	C	P	P	P	P	P
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
Marinas	P	X	X	C	P	C	C
• <i>Setback</i>	0'	N/A	N/A	25'	25'	25'	25'
• <i>Height</i>							
- 0'-100' from OHWM	20'	N/A	N/A	25'	35'	25'	35'
- >100' from OHWM	20'	N/A	N/A	35'	45'	35'	45'
Docks, Piers, Mooring Buoys	P¹	X	P¹	P¹	P¹	P¹	P¹
• <i>Setback</i>	0'	NA	0'	0'	0'	0'	0'
Commercial Uses							
Water-dependent	C	X	X	P	P	C	C
• <i>Setback</i>	0'	N/A	N/A	0'	0'	0'	0'
• <i>Height</i>							
- 0'-100' from OHWM	15' 35' ³	N/A	N/A	35'	35' ²³	35'	35'
- >100' from OHWM	15' 35' ³	N/A	N/A	45'	60' ²³	45'	45'
Water-related, Water-enjoyment	X/C³	X	X	P	P	C	C
• <i>Setback</i>	N/A	N/A	N/A	25'	25' ²³	25'	25'
• <i>Height</i>							
- 0'-100' from OHWM	N/A 35' ³ A³	N/A	N/A	25'	35' ²³	35'	35'

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
- >100' from OHWM	N/A ^{35'} N/A ³ A	N/A	N/A	35'	45' ²³	45'	45'
Non-water-oriented	X	X	X	C ³⁴	C ³⁴	X	X
• Setback	N/A ³	N/A	N/A	100'	100' ³	N/A	N/A
• Height	N/A ³	N/A	N/A	25'	25' ²³	N/A	N/A
Forestry							
Log Storage	C	X	X	X	P	X	P
• Setback	0'	N/A	N/A	N/A	50'	N/A	50'
Timber Harvest	X	X	C	P	P	P	P
• Setback	N/A	N/A	100'	100'	50'	100'	50'
Industrial Uses							
Water-dependent	P	X	X	X	P	X	X
• Setback	0'	N/A	N/A	N/A	0'	N/A	N/A
• Height							
- 0'-100' from OHWM	UNL	N/A	N/A	N/A	UNL	N/A	N/A
- >100' from OHWM	UNL	N/A	N/A	N/A	UNL	N/A	N/A
Water-related	X	X	X	X	P	X	X
• Setback	N/A	N/A	N/A	N/A	50'	N/A	N/A
• Height							
- 0'-100' from OHWM	N/A	N/A	N/A	N/A	UNL	N/A	N/A
- >100' from OHWM	N/A	N/A	N/A	N/A	UNL	N/A	N/A
Non-water-oriented	X	X	X	X	P	X	X
• Setback	N/A	N/A	N/A	N/A	100'	N/A	N/A
• Height	N/A	N/A	N/A	N/A	35'	N/A	N/A
Institutional Uses							
Water-dependent	C	X	C	P	P	C	C
• Setback	0'	N/A	0'	0'	0'	0'	0'
• Height							
- 0'-100' from OHWM	35'	N/A	25'	35'	35'	35'	35'
- >100' from OHWM	35'	N/A	35'	45'	35'	45'	45'
Water-related	X	X	X	P	P	C	X
• Setback	N/A	N/A	N/A	25'	25'	50'	NA
• Height							
- 0'-100' from OHWM	N/A	N/A	N/A	35'	45'	35'	N/A
- >100' from OHWM	N/A	N/A	N/A	45'	60'	35'	N/A
Non-water-oriented	X	X	X	C ³⁴	C ³⁴	X	X
• Setback	N/A	N/A	N/A	100'	100'	N/A	N/A
• Height	N/A	N/A	N/A	35'	35'	N/A	N/A
Mining							
Gravel Mining	C ⁴⁵	X	X	X	C ⁴⁵	C ⁴⁵	C ⁴⁵
• Setback	0'	N/A	N/A	N/A	200'	200'	200'
Hard Rock Mining	X	X	X	X	C ⁴⁵	C ⁴⁵	C ⁴⁵

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
• Setback	N/A	N/A	N/A	N/A	100'	100'	50'
Parking							
Primary Use	X	X	X	X	X	X	X
• Setback	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Accessory Use	X	X	P	P	P	P	P
• Setback	N/A	N/A	100'	100'	50'	100'	100'
• Height	N/A	N/A	35'	35'	35'	35'	35'
Recreational Uses							
Water-dependent	P	P ⁵⁶	P	P	P	P	P
• Setback	0'	0'	0'	0'	0'	0'	0'
• Height	15'	15'	15'	35'	35'	35'	35'
Water-related/enjoyment (trails generally parallel to the shoreline, accessory bldgs)	C ⁵⁶	C ⁵⁶	P	P	P	P	P
• Setback	0'	50' ⁶⁷	50' ⁶⁷	50' ⁶⁷	20'	20'	20'
• Height	15'	15'	15'	35'	35'	35'	35'
Public access connections generally perpendicular to the shoreline to water- related/enjoyment features (viewpoints, fishing piers)							
• Setback	0'	0'	0'	0'	0'	0'	0'
Non-water-oriented (golf courses, sports fields)	X	X	C	C	C	C	X
• Setback	N/A	N/A	100'	100'	100'	200'	N/A
• Height	N/A	N/A	25'	25'	25'	15'	N/A
Residential Uses							
Single-family ⁷⁸	X	X	P	P	X	P	P
• Setback	N/A	N/A	100'	50'	N/A	100'	100'
• Height	N/A	N/A	35'	35'	N/A	35'	35'
• Density	N/A	N/A	In accordance with the underlying zoning				
Floating homes (new)	X	N/A	N/A	N/A	N/A	N/A	N/A
• Height	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Floating homes (existing) ⁸⁹	P	N/A	N/A	N/A	N/A	N/A	N/A
• Height	Existing	N/A	N/A	N/A	N/A	N/A	N/A
Multifamily	X	X	X	P	P	X	X
• Setback	N/A	N/A	N/A	35'	35'	N/A	N/A
• Height	N/A	N/A	N/A	35'	35'	N/A	N/A
• Density	N/A	N/A	N/A	In accordance with the underlying zoning		N/A	N/A
Signs							
Sign heights are regulated in accordance with VMC 20.960 or VMC 20.450 as applicable. Free-standing informational signs in the Aquatic SD are limited to 15' ⁹¹⁰ .							
Agricultural	X	X	X	X	P	P	P

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
Fascia or Wall Signs	X	X	X	P	P	P	P
Free Standing Informational	P	P	P	P	P	P	P
High School Electronic Message	X	X	X	P	P	P	P
Monument	X	P	P	P	P	P	P
Navigation	P	P	P	P	P	P	P
Transportation Uses							
Highways, Arterials, Railroads (parallel to OHWM)	C ¹⁰¹¹	X	P	P ¹⁰¹¹	P ¹⁰¹¹	P	P
• <i>Right-of-Way Setback</i>	0'	N/A	200'	100' ¹⁰¹¹	100' ¹⁰¹¹	200'	200'
Secondary/Public Access Roads (parallel to OHWM)	X	X	P	P	P	P	P
• <i>Right-of-Way Setback</i>	NA	N/A	100'	50'	50'	100'	100'
Secondary/Public Access Roads (perpendicular to OHWM)	X	X	P	P	P	P	P
• <i>Setback</i>	N/A	N/A	Limited to the setback for the use the road is serving ¹⁴¹²				
Bridges (perpendicular to shoreline)	C	C	C	P	P	C	C
• <i>Setback</i>	0'	0'	0'	0'	0'	0'	0'
Utility Uses							
Above-ground Utilities (parallel to shoreline)	C	C	P	P	P	P	P
• <i>Right-of-Way Setback</i>	0'	200'	100'	50'	50'	100'	100'
• <i>Structure Height</i>	15'	15'	35'	35'	UNL	15'	15'
• <i>Distribution Pole Height</i>	0'	45'	45'	45'	UNL	45'	45'
Electrical Transmission Lines	C	C	C	C	C	C	C
• <i>Tower Height</i>	UNL	UNL	UNL	UNL	UNL	UNL	UNL
Underground Utilities (parallel to shoreline)	C	C	P	P	P	P	P
• <i>Right-of-Way Setback</i>	0'	200'	100'	50'	50'	50'	50'
Underground Utilities (perpendicular to shoreline)	C	C	C	C	C	C	C
• <i>Right-of-Way Setback</i>	0'	0'	0'	0'	0'	0'	0'
Unclassified Uses							
Unclassified Uses	C	C	C	C	C	C	C
• <i>Setback</i>	0'	200'	100'	100'	100'	100'	100'
• <i>Height</i>	15'	15'	35'	35'	35'	35'	35'
Shoreline Modification							
Dredging and Dredge Material Disposal							
Non-maintenance Dredging	C	N/A	N/A	N/A	N/A	N/A	N/A
Maintenance Dredging	P	N/A	N/A	N/A	N/A	N/A	N/A
Dredge Material Disposal	C	X	X	C ¹²¹³	C ¹²¹³	C	C
Dredging & Disposal as part of Ecological Restoration/ Enhancement	P	C	P	P	P	P	P

Abbreviations P = Permitted; C = Conditional Use; X = Prohibited; N/A = Not Applicable; UNL = Unlimited.	AQ (Both)	NT (Both)	UC (Urban)	MI (Urban)	HI (Urban)	RC-RD (Rural)	RC-RL (Rural)
Shoreline Designation	Aquatic	Natural	Urban Conservancy	Medium Intensity	High Intensity	RC Residential	RC Resource Lands
Fill							
Speculative	X	X	X	X	X	X	X
Other	C ¹³¹⁴	P ¹⁴¹⁵	P	P	P	P	P
Flood Control Works and In-stream Structures							
Dams, Dikes, & Levees	C	X	C	C	P	C	C
Instream structures	C	N/A	N/A	N/A	N/A	N/A	N/A
Shoreline Restoration							
Ecological Restoration / Enhancement / Mitigation	P	P	P	P	P	P	P
Shoreline Stabilization							
Bioengineered/Non-Structural	P	P	P	P	P	P	P
Structural	C	X	C	C	C	C	C
Breakwaters, Jetties, Rock Weirs, and Groins	C	X	C	C	C	C	C

¹ Private docks permitted as community or joint-use only. See Section 6.3.3.4.

² See Section 6.3.4(7).

³ See Section 6.3.4(8). Allowed conditionally only on dock or pier structures located on the Columbia River from the Interstate 5 Bridge, downstream to the BNSF railroad bridge. See related policy Section 4.3.1(4).

³⁴ As part of mixed-use development only. See Section 6.3.4(4), 6.3.7(2) and (4).

⁴⁵ In Surface Mining Overlay areas only

⁵⁶ Passive only

⁶⁷ See Section 6.3.10(12, 13, and 14). Water-related/enjoyment features such as viewpoints, gazebos, or fishing piers may have a 0' setback when connected to a public access trail.

⁷⁸ See Section 6.3.11(11) for information about existing residential development on land.

⁸⁹ See Section 6.3.11(4) for information about existing floating homes.

⁹¹⁰ Above Ordinary High Water Mark (OHWM)

¹⁰¹¹ See 6.3.13(6).

¹¹¹² New roads may connect to existing roads within shoreline jurisdiction as long as the connection is landward of the existing road and the ordinary high water mark.

¹²¹³ Permitted outside of channel migration zones.

¹³¹⁴ See Section 5.6.2(11).

¹⁴¹⁵ Permitted for restoration only; otherwise prohibited.

6.3 Use-specific Development Regulations

6.3.1 Agriculture

1. Agricultural practices shall prevent erosion of soils and bank materials within shoreline areas and minimize siltation, turbidity, pollution, and other environmental degradation of watercourses and wetlands.
2. Stream banks and water bodies shall be protected from damage due to concentration and overgrazing of livestock by providing the following:
 - a. Suitable bridges, culverts or ramps for stock crossing;
 - b. Ample supplies of clean water in tanks on dry land for stock watering; and
 - c. Fencing or other grazing controls to prevent damage to riparian vegetation, bank compaction or bank erosion.
3. New confinement lots, feeding operations, lot wastes, stockpiles of manure solids, manure lagoons, and storage of noxious chemicals are prohibited.
4. The disposal of farm wastes, chemicals, fertilizers and associated containers and equipment within shoreline jurisdiction is prohibited. Composted organic wastes may be used for fertilization or soil improvement.
5. New uses proposed as part of a conversion of agricultural lands shall comply with the provisions of VMC Title 20 and this Program.

6.3.2 Aquaculture

1. No aquatic species shall be introduced into City waters without prior written approval of the appropriate state or federal regulatory agency for the species proposed for introduction. Such approval(s) shall be submitted in writing to the City as part of the shoreline permit application.
2. Aquaculture facilities shall only be permitted where impacts to existing water-dependent uses can be fully mitigated.
3. Fish net-pens shall not occupy more than one (1) surface acre of water, excluding booming and anchoring equipment and shall not be located within one (1) mile of any other aquaculture facility.
4. No processing of any aquaculture product, except for the sorting or culling of the cultured species and the washing or removal of surface materials or species after harvest, shall occur in or over the water. All other processing activities and facilities shall be located on land.

5. If uncertainty exists regarding potential impacts of a proposed aquaculture activity, baseline and periodic operational monitoring by a City-approved consultant (unless otherwise provided for) may be required, at the applicant's expense, and shall continue until adequate information is available to determine the success of the project and/or the magnitude of any probable significant adverse environmental impacts. Permits for such activities shall include specific performance measures and provisions for adjustment or termination of the project at any time if monitoring indicates significant, adverse environmental impacts that cannot be adequately mitigated.
6. Aquacultural uses and facilities not involving substantial substrate modification shall be located at least six hundred (600) feet from any wildlife refuge lands; those involving substantial substrate modification shall be located at least fifteen hundred (1,500) feet from such areas. Lesser distances may be authorized without a variance if (1) it is demonstrated by the applicant that the fish and wildlife habitat resources will be protected; and (2) if the change is supported by the reviewing resource agencies. Greater distances may be required if recommended by the reviewing resource agencies.
7. Aquacultural structures and activities that are not water-dependent (including but not limited to, warehouses for storage of products, parking and loading facilities) shall be located landward of the OHWM and landward of water dependent portions of the project, and shall minimize detrimental impacts to the shoreline.
8. For aquaculture projects using over-water structures, storage of necessary tools and apparatus waterward of the OHWM shall be limited to containers of not more than three (3) feet in height, as measured from the surface of the raft or dock. Materials, which are not necessary for the immediate and regular operation of the facility, shall not be stored waterward of the OHWM.
9. No garbage, wastes or debris shall be allowed to accumulate at the site of any aquaculture operation. All wastes shall be disposed of in a manner that will ensure strict compliance with all applicable waste disposal standards.
10. When feasible, the cleaning of nets and other apparatus shall be accomplished by air drying, spray washing or hand washing, rather than chemical treatment and application.
11. Prior to use of any agents such as antibiotics, vaccines, growth stimulants, or anti-fouling agents, approval must be obtained from all appropriate state and federal agencies, including but not limited to the U.S. Food and Drug Administration, Ecology, WDFW, and the Department of Agriculture, as required, and proof thereof is submitted to the City.
12. Only non-lethal, non-abusive predator control methods shall be used. Double netting for seals, overhead netting for birds, and three-foot high fencing or netting for otters are approved methods of predator control. The use of other nonlethal,

non-abusive predator control measures shall be contingent upon receipt of written approval from the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service, as required.

6.3.3 Boating Uses

6.3.3.1 General Requirements

1. All boating uses, development and facilities shall protect the rights of navigation.
2. Boating uses, developments, and facilities shall locate on stable shorelines in areas where:
 - a. There is adequate water mixing and flushing;
 - b. Such facilities will not adversely affect flood channel capacity or otherwise create a flood hazard;
 - c. Water depths are adequate to minimize spoil disposal, filling, beach enhancement, and other channel maintenance activities; and
 - d. Water depths are adequate to prevent the structure from grounding out at the lowest low water.
3. Boating uses, developments and facilities shall not be located:
 - a. Along braided or meandering river channels where the channel is subject to change in alignment;
 - b. On point bars or other accretion beaches; or
 - c. Where new or maintenance dredging will be required;
 - d. In areas with important bank margin habitat for all life stages of aquatic species; or
 - e. Where wave action caused by boating use would increase bank erosion rates.
4. Marinas shall be designed to:
 - a. Provide thorough flushing of all enclosed water areas;
 - b. Allow the free movement of aquatic life in shallow water areas; and
 - c. Avoid and minimize any interference with geo-hydraulic processes and disruption of existing shore forms.
 - d. All moorage facilities shall be constructed and maintained in a safe and sound condition. Those that are abandoned or unsafe shall be removed or repaired promptly by the owner or lessee.

5. Boating facilities shall be sited and designed to ensure no net loss of shoreline ecological functions, and shall meet DNR requirements and other state guidance if located in or over state-owned aquatic lands. On the Columbia River, boating facilities shall be sited waterward of -15 feet CRD to protect shallow water habitat unless shallow water habitat will be created as mitigation.
6. Boating facilities shall locate where access roads are adequate to handle the traffic generated by the facility and shall be designed so that lawfully existing or planned public shoreline access is not unnecessarily blocked, obstructed nor made dangerous.
7. Boating uses and facilities shall be located far enough from public swimming beaches, fishing, aquaculture harvest areas, and waterways used for commercial navigation to alleviate any adverse impacts, safety concerns and potential use conflicts.
8. Accessory uses at boating facilities shall be:
 - a. Limited to water-oriented uses, including uses that provide physical or visual shoreline access for substantial numbers of the general public; and
 - b. Located as far landward as possible while still serving their intended purposes.
9. Parking and storage areas shall be landscaped or screened to provide visual and noise buffering between adjacent dissimilar uses or scenic areas.
10. All marinas and public launch facilities shall provide restrooms/hand-sanitizing facilities for boaters' use that are designed, constructed and maintained to be clean, well lighted, safe and convenient for public use. One restroom and hand sanitizing facility shall be provided for every seventy-five (75) marina moorage slips or twenty (20) boat launch parking spaces.
11. Installation of boat waste discharge and disposal facilities such as pump-outs and portable dump stations shall be required at all marinas and public moorage facilities, and shall be provided at public boat launches to the extent possible. Such facilities shall include oil containment barriers when required by the US Coast Guard under provisions of the Clean Water Act. The locations of such facilities shall be considered on an individual basis in consultation with the Washington Departments of Health, Ecology, Natural Resources, Parks, and Fish and Wildlife, as necessary.
12. All utilities shall be placed at or below the dock surface, or below ground, as appropriate.
13. All signage shall adhere to the standards for signs in this chapter, VMC 20.960, and VMC 20.450, except that a marina or boat launch may have one advertising sign oriented towards the water that does not exceed twenty four (24) square feet in area and fifteen (15) feet in height above the OHWM.

14. Where appropriate, marinas and boat launch facilities shall install public safety signs, to include the locations of fueling facilities, pump-out facilities, and locations for proper waste disposal.
15. Boating facilities shall be constructed of materials that will not adversely affect water quality or aquatic plants and animals. Materials used for submerged portions, decking and other components that may come in contact with water shall be approved by applicable state agencies for use in water to avoid discharge of pollutants from wave splash, rain or runoff. Wood treated with creosote, copper chromium, arsenic, pentachlorophenol or other similarly toxic materials is prohibited.
16. Boats shall be restricted from extended mooring on waters of the state except as allowed by state regulations and provided that lease or permission is obtained from the state and impacts to navigation and public access are mitigated.
17. No more than one private community or joint-use boating facility (boat launch, float, dock, pier, dock/pier combination, or mooring buoy) is allowed on a parcel or lot when a public facility is unavailable within ½-mile upstream or downstream of any property line and all applicable requirements are met.

6.3.3.2 Boat Launch Facilities

1. Boat launch facilities shall be designed and constructed using methods/technology that have been recognized and approved by state and federal resource agencies as the best currently available.
2. A private boat launch shall be allowed on a parcel or lot only when public boat launches are unavailable within ½-mile upstream or downstream of any property line.
3. No more than one (1) private boat launch facility or structure shall be permitted on a single residential parcel or lot.
4. Boat launch and haul-out facilities, such as ramps, marine travel lifts and marine railways, and minor accessory buildings shall be designed and constructed in a manner that minimizes adverse impacts on fluvial processes, biological functions, aquatic and riparian habitats, water quality, navigation and neighboring uses.

6.3.3.3 Marinas

1. Open pile or floating breakwater designs shall be used unless it can be demonstrated that riprap or other solid construction would not result in any greater net impacts to shoreline ecological functions, processes, fish passage, or shore features.
2. Wet-moorage marinas shall locate a safe distance from domestic sewage or industrial waste outfalls.

3. To the maximum extent possible, marinas and accessory uses shall share parking facilities and those facilities shall be located landward of critical area buffers to the extent practicable.
4. New marina development shall provide public access amenities such as viewpoints, interpretive displays, and public access to accessory water-enjoyment uses such as restaurants.
5. If a marina is to include gas and oil handling facilities, such facilities shall be separate from main centers of activity in order to minimize the fire and water pollution hazard, and to facilitate fire and pollution control. Marinas shall have adequate facilities and procedures for fuel handling and storage, and the containment, recovery, and mitigation of spilled petroleum, sewage, and other potentially harmful or hazardous materials, and toxic products.
6. Live-aboards are restricted to marinas that provide potable water, waste handling, and other sanitary services. Live-aboards may occupy up to twenty (20) percent of the slips at such a marina and shall be connected to utilities that provide potable water and wastewater conveyance to an approved disposal facility.
7. The marina operator shall be responsible for the collection and proper disposal of sewage, solid waste, and petroleum waste.
8. No commercial or sport fish-processing discharge or discarding of unused bait, scrap fish, or viscera shall be permitted within any marina.
9. Bulk storage (non-portable storage in fixed tanks) for gasoline, oil and other petroleum products for any use or purpose is prohibited on docks and piers.
10. Covered moorage shall be limited to the number of covered moorage slips legally established prior to January 1, 2011 and to the amount of water surface area covered.
11. The restrictions in 6.3.3.3(10) shall not apply to over-water structures housing water-dependent emergency response equipment for public agency use to protect people, property, and the environment in and adjacent shoreline jurisdiction. However, such new, remodeled, rebuilt, or relocated structures shall be constructed to allow 60% light penetration over 60% of the structure whether enclosed or not.
12. Commercial covered moorage facilities may be permitted only where boat construction or repair work is to be the primary activity and covered work areas are demonstrated to be the minimum necessary over water, including a demonstration that adequate landside sites are not feasible. When permitted, commercial covered moorage facilities must be constructed to allow 60% light penetration over 60% of the structure, whether enclosed or not.
13. Marina development must also meet the standards of 6.3.3.4(10)(a-k).

6.3.3.4 Joint Use and Community Moorage Facilities

1. Community and joint use moorage facilities are defined (Chapter 8) and regulated as marinas (Section 6.3.3.3; defined in Chapter 8) if:
 - a. They provide commercial goods or services;
 - b. They have ten (10) or more slips;
 - c. Moorage is proposed to be leased to upland property owners; or
 - d. The proposal includes a boat launching facility other than a ramp.
2. Live-aboards are not allowed at joint-use or community moorages.
3. Covered moorage facilities associated with any residential development shall be prohibited.
4. Existing, legally-established, private recreational docks, piers, and floats for individual single-family developments are considered non-conforming uses and structures. If such dock or float is abandoned, becomes hazardous, or is removed for any reason, it may be replaced with only one joint-use or community facility that complies with the policies and regulations of this Program. All required permits and approvals shall be obtained prior to commencing construction.
5. A new private dock or pier serving an individual lot is prohibited.
6. New joint-use docks and piers serving two or more contiguous residential lots each with having direct water frontage are allowed if no marina or public boat launch is located within ½-mile upstream or downstream of any property line and all applicable requirements of this Program are met. Each residential lot proposed to have access to the joint-use dock must show development of the lot is capable of meeting the minimum development standards for zoning and the applicable provisions of Vancouver Shoreline Master Program.
7. New residential land divisions with shoreline frontage shall provide for community docks if there is an appropriate location for future construction of a dock. Proposed docks and piers shall include no more than one mooring space per dwelling unit. Where a new moorage facility is proposed within a residential waterfront development, only one community moorage facility may be allowed, but only after demonstrating that such use is appropriate for the waterbody and that no public moorage facility is available to residents within ½-mile of the perimeter of the development. All conditions of approval related to required access easements and dedications shall be identified on the face of the plat. In addition, the community dock easement shall be recorded with the County Auditor.

8. Applicants for community or joint-use residential docks and piers shall demonstrate and document that adequate maintenance of the structure, activities, and associated landward area will be provided by identified responsible parties. The applicant shall file a legally enforceable joint use agreement or other legal instrument prior to the issuance of any building permits. The documents shall at minimum address the following:
 - a. Apportionment of construction and maintenance expenses;
 - b. Easements and liability agreements; and
 - c. Use restrictions.
9. Only a single, community moorage facility shall be permitted in association with hotels, motels, and multi-family residences. No more than one (1) mooring slip per unit shall be allowed.
10. The dimensions of a joint use or community moorage facility dock or pier shall be no greater than necessary, and shall meet the development standards listed below.
 - a. Fixed-piers shall not be permitted for residential use on rivers. Floating docks shall be required in rivers and streams unless it can be demonstrated that fixed docks will result in substantially less impact on geo-hydraulic processes and flood hazards can be minimized or mitigated. A fixed pier, landward of a floating dock, which connects to the shore at one end and to the floating dock by a gangway at the other is allowed.
 - b. Piers/anchors and/or ramps shall extend waterward, perpendicular from the ordinary high water mark (OHWM), to a point where the water depth is sufficient to prevent damage to shallow-water habitat (-15 feet CRD on the Columbia River).
 - c. The moorage facility may extend into the waterbody the minimum distance necessary to allow for moorage of the boats anticipated but in no instance more than 300' beyond the OHWM.
 - d. The bottom of either the pier or landward edge of the ramp shall be elevated at least 2 feet above the plane of OHWM.
 - e. Piers and ramps shall be no more than 8 feet in width. Finger piers shall be no more than 8 feet wide and 45 feet long. Piers, ramps and docks shall be constructed to allow a minimum of 60% light penetration over 60% of each structure.
 - f. Skirting shall not be placed on piers, ramps, floating docks, or floats. Protective bumper material will be allowed along the outside edge of the float or floating dock as long as the material does not extend below the bottom edge of the float frame or impede light penetration.

- g. Shoreline concrete anchors must be placed at least 10 feet landward from the OHWM, and shall be sized no larger than 4-feet wide by 4-feet long, unless otherwise approved by National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), the US Army Corps of Engineers (Corps), and Washington Department of Fish and Wildlife (WDFW).
- h. Overwater structures shall be located in water sufficiently deep to prevent the structure from grounding out at the lowest low water.
- i. Docks used for motor boats should be located where the water will be deeper than seven (7) feet at the lowest low water to avoid prop scour.
- j. All docks and floats shall include stops that serve to keep the floats off the lake bottom or river bed at low water levels. If a bulkhead-like base is proposed for a fixed pier or dock where there is net positive littoral drift, the base shall be built landward of the OHWM or protective berms. When plastics or other non-biodegradable materials are used in float, pier, or dock construction, precautions shall be taken to ensure their containment.
- k. Pilings must be structurally sound and cured prior to placement in the water. Pilings employed for docks, piers, or any other structure shall have a minimum vertical clearance of one foot above extreme high water. Pile spacing shall be the maximum feasible to minimize shading and avoid a “wall” effect that would block or baffle wave patterns, currents, littoral drift, or movement of aquatic life forms, or result in structure damage from driftwood impact or entrapment.

6.3.3.5 Moorage Facilities: Docks, Piers, and Mooring Buoys

- 1. Mooring buoys shall be used instead of docks and piers whenever feasible.
- 2. Mooring buoys shall be placed as specified by WDFW, DNR, and the U.S. Coast Guard to balance the goals of protecting nearshore habitat and minimizing obstruction to navigation. Anchors and other design features shall meet WDFW standards.
- 3. Mooring buoys shall be discernible from a distance of at least one hundred (100) yards. One (1) mooring buoy for each waterfront lot shall be permitted unless greater need is demonstrated by the applicant and documented by the City. In cases such as those of a community park with recreational users or a residential development with lot owners both on and away from the shoreline needing moorage, community moorage facilities shall be used instead of mooring buoys.
- 4. Docks and piers for water-dependent commercial and industrial uses shall be allowed to the outer harbor line or combined U.S. Pierhead/Bulkhead line but no more than that required for the draft of the largest vessel expected to moor at the

facility. These provisions are also applicable to multiple-use facilities where the majority use is water-dependent and public access can safely be provided.

5. Bulk storage (non-portable storage in fixed tanks) for gasoline, oil and other petroleum products for any use or purpose is prohibited on docks and piers.
6. Recreational floats shall be designed and constructed to meet the following standards:
 - a. They shall be located as close to the shore as possible, and no farther waterward than any existing floats and established swimming areas.
 - b. They shall be constructed so that the deck surface is a minimum of one (1) foot above the water surface and with reflectors for night-time visibility.
 - c. Floats serving the public, a subdivision, a multi-family development, a hotel, motel, or multiple property owners shall not exceed one hundred sixty (160) square feet and shall be constructed to allow a minimum of 60% light penetration over 60% of the structure.

6.3.4 Commercial Uses

1. Water-oriented commercial uses are preferred over nonwater-oriented commercial uses.
2. An applicant for a new commercial use or development shall demonstrate that the use or development will not cause a net loss of ecological function or adversely impact other shoreline resources or uses.
3. Loading, service areas, and other accessory uses shall be located landward of a commercial structure or underground whenever possible, but shall in no case be waterward of the structure. Loading and service areas shall be screened from view with native plants.
4. Where allowed, nonwater-oriented commercial uses may be permitted only as part of a mixed-use development that:
 - a. Has a formally-approved master plan that complies with this Program, including having demonstrated consistency with the policies of Section 3.2 if its proposed location is on a shoreline of statewide significance;
 - b. Includes water-oriented uses; and
 - c. Provides a significant public benefit such as public access and/or ecological restoration.
5. Nonwater-oriented commercial uses meeting the conditions of Section 6.3.4(4) and located in a High Intensity shoreline designation on the Columbia River

between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District) may occupy:

- a. Up to 85% of the total frontage length of all parcels in the master-planned development (regardless of ownership); or
 - b. Up to 85% of the project area within shoreline jurisdiction of all parcels in the development (regardless of ownership).
6. Nonwater-oriented commercial uses meeting the conditions of Section 6.3.4(4) and not located in a High Intensity shoreline designation on the Columbia River between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District) may occupy:
- a. Up to 25% of the total frontage length of all parcels in the master-planned development (regardless of ownership); or
 - b. Up to 25% of the total project area within shoreline jurisdiction of all parcels in the master-planned development (regardless of ownership).
7. When a new, mixed-use commercial development meets all applicable provisions of Section 6.3.4, Section 5.8.1, and this Program and:
- a. Is located in a High Intensity shoreline designation on the Columbia River between the eastern boundary of Wintler Park and the railroad bridge (Columbia River Shoreline Enhancement Plan District);
 - b. Has a formally-approved master plan that complies with this Program including having demonstrated consistency with the policies of Section 3.2;
 - c. Includes water-oriented uses;
 - d. Provides public access to the shoreline; and
 - e. Restores degraded shorelines.
8. Water oriented commercial use is allowed on a dock or pier as a conditional use only under the follow circumstances:
- a. The commercial dock or pier is located between the I-5 Bridge and the BNSF railroad bridge;
 - b. The commercial use of the dock or pier is included in a formally approved master plan that complies with this Program;
 - c. All uses shall be water-dependent, water-related or water-enjoyment;
 - d. There are design elements that link the site back to historic uses.

- e. A dock or pier associated with an existing commercial building located on such dock or pier may be maintained, rebuilt, replaced and/or relocated as follows:
 - i. A rebuilt or replaced dock or pier shall not occupy a larger footprint than the dock or pier as it existed on March 15, 2018.
 - ii. A commercial building may be rebuilt, replaced or relocated on top of the dock or pier only when the applicant of a shoreline conditional use permit demonstrates the following:
 - 1. The development shall include design elements that are reflective of the local maritime history and structures on the site, and enhance the public's experience along the city's waterfront.
 - 2. The height of the structure shall not exceed 65 feet measured from ordinary high water mark.
 - 3. The building shall not occupy a footprint that is larger than the footprint of the building existing on March 15, 2018. The building footprint may shift from its current location on the dock or pier as needed to comply with public access requirements of this program and/or existing or future state highway right-of-ways.
 - 4. The building located on the dock or pier shall be positioned to maintain public access to the dock or pier and to the shoreline consistent with this Program and the policies set forth in the Vancouver City Center Vision (VCCV) Subarea Plan.

6.3.5 Forest Practices

- 1. Commercial harvest of timber undertaken on shorelines shall comply with the applicable policies and provisions of the Forests and Fish Report (U.S. Fish and Wildlife Service, et al., 1999) and the Forest Practices Act, RCW 76.09 as amended, and any regulations adopted pursuant thereto (WAC 222), as administered by the Department of Natural Resources.
- 2. When timberland is to be converted to another use, such conversion shall be clearly indicated on the Forest Practices application. Failure to indicate the intent to convert the timberland to another use on the application will result in subsequent conversion proposals being reviewed pursuant to Conversion Option Harvest Plan. Failure to declare intent to convert on the application shall provide adequate grounds for denial of subsequent conversion proposals for a period of six years from date of Forest Practices application approval per RCW 76.09.060(3)(d), (e) and (f), RCW 76.09.460, and RCW 76.09.470.

3. With respect to timber situated within two hundred (200) feet landward of the OHWM within shorelines of the statewide significance, Ecology or the City shall allow only selective commercial timber cutting, so that no more than thirty percent (30%) of the merchantable trees may be harvested in any ten- (10-) year period of time; provided that other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions, or silviculture practices necessary for regeneration render selective logging ecologically detrimental; and provided further, that clear cutting of timber which is solely incidental to the preparation of land for other uses authorized by this chapter may be permitted. Exceptions to this standard shall be allowed by conditional use only.
4. For the purposes of this Program, preparatory work associated with the conversion of land to non-forestry uses and/or developments shall not be considered forest practices and shall be reviewed in accordance with the provisions for the proposed non-forestry use, the general provisions of this Program, including vegetation conservation.

6.3.6 Industrial Uses

6.3.6.1 General Requirements

1. Water-oriented industrial uses and development are preferred over nonwater-oriented industrial uses and development.
2. Water-related uses shall not displace existing water-dependent uses or occupy space designated for water-dependent uses identified in a substantial development permit or other approval.
3. Water-enjoyment uses shall not displace existing water-dependent or water-related uses or occupy space designated for water-dependent or water-related uses identified in a substantial development permit or other approval.
4. Waterward expansion of existing non-water-oriented industry is prohibited.
5. Proposed developments shall maximize the use of legally-established existing industrial facilities and avoid duplication of dock or pier facilities before expanding into undeveloped areas or building new facilities. Proposals for new industrial and port developments shall demonstrate the need for expansion into an undeveloped area.
6. Proposed large-scale industrial developments or major expansions shall be consistent with an officially-adopted comprehensive scheme of harbor improvement and/or long-range port development plan.
7. New facilities for shallow-draft shipping shall not be allowed to preempt deep-draft industrial sites.

8. Ship, boat-building, and repair yards shall employ best management practices (BMPs) with regard to the various services and activities they perform and their impacts on surrounding water quality.
9. Industrial water treatment and water reclamation facilities may be permitted only as conditional uses and only upon demonstrating that they cannot be located outside of shoreline jurisdiction. They shall be designed and located to be compatible with recreational, residential, or other public uses of the water and shorelands.

6.3.6.2 Log Storage

1. Log booming, rafting and storage in the Aquatic shoreline designation shall comply with WAC 332-30-145 or its successor.
2. Log storage shall be permitted in public waters only where:
 - a. water quality standards can be met at all times;
 - b. grounding will not occur;
 - c. associated activities will not hinder other beneficial uses of the water, such as small craft navigation; and
 - d. fish and wildlife habitat conservation areas can be avoided.
3. No log raft shall remain in the Aquatic shoreline designation for more than one year, unless specifically authorized in writing by DNR.
4. Log storage facilities shall be sited to avoid and minimize the need for dredging in order to accommodate new barging and shall be located in existing developed areas to the greatest extent feasible. If a new log storage facility is proposed along an undeveloped shoreline, an alternatives analysis shall be required that demonstrates that it is not feasible to locate the facility within an existing developed area.
5. A Debris Management Plan describing the removal and disposal of wood waste must be approved by the City. Debris monitoring reports shall be provided, where stipulated. Positive control, collection, treatment, and disposal methods for keeping leachate, bark, and wood debris (both floating and sinking particles) out of surface water and groundwater shall be employed at log storage areas, log dumps, raft building areas, and mill-side handling zones. In the event that bark or wood debris accidentally enters the water, it shall be immediately removed. Surface runoff from log storage areas shall be collected and discharged at only one point, if possible.
6. Existing in-water log storage and log booming facilities in critical habitats utilized by threatened or endangered species classified under the Endangered Species Act

(ESA) shall be re-evaluated if use is discontinued for one (1) year, or if substantial repair or reconstruction is required. The evaluation shall include an alternatives analysis in order to determine if logs can be stored upland and out of the water, or if the site should be used for other purposes that would have lesser impacts on ESA-listed species. The alternatives analysis shall include evaluation of the potential for moving all, or portions of, log storage and booming to uplands.

7. Non-aquatic log storage areas shall meet the following requirements:
 - a. The ground surface of any unpaved log storage area underlain by permeable soils shall be separated from the highest seasonal water table by at least four (4) feet in order to reduce waste buildup and impacts on ground water and surface water;
 - b. Stormwater shall be managed consistent with VMC Chapter 14.25; and
 - c. A berm must be located around the outer edge of the upland sort surface using rocks, or other suitable materials to prevent loss of wood debris into the water.

6.3.7 Institutional Uses

1. Water-oriented institutional uses and developments are preferred.
2. Where allowed, nonwater-oriented institutional uses may be permitted as part of a mixed-use development provided that a significant public benefit such as public access and/or ecological restoration are provided.
3. Loading, service areas, and other accessory uses shall be located landward of a primary structure or underground whenever possible, but shall in no case be waterward of the structure. Loading and service areas shall be screened from view with native plants.
4. Where institutional uses are allowed as a conditional use, the following must be demonstrated:
 - a. A water dependent use is not reasonably expected to locate on the proposed site due to topography, surrounding land uses, physical features of the site, or due to the site's separation from the water;
 - b. The proposed use does not displace a current water-oriented use and will not interfere with adjacent water-oriented uses; and
 - c. The proposed use will be of substantial public benefit by increasing the public use, enjoyment, ecological function, and/or access to the shoreline.

5. Over-water structures housing public safety equipment for public agency use to protect people, property, and the environment may be allowed as a conditional use and may be increased in number or expanded. See Section 6.3.3.3(10) and (11).

6.3.8 Mining

1. An applicant for mining and associated activities within shoreline jurisdiction shall demonstrate that the proposed activities are dependent on a shoreline location consistent with this Program and WAC 173-26-201(2)(a).
2. Mining and associated activities shall be designed and conducted to result in no net loss of shoreline ecological functions and processes, and will only be allowed if they will not cause:
 - a. Damage to or potential weakening of the structural integrity of the shoreline zone that would change existing aquatic habitat or aquatic flow characteristics;
 - b. Changes in the water or exchange of water to or from adjacent water bodies that would damage aquatic or shoreline habitat; and
 - c. Changes in groundwater or surface water flow that would be detrimental to aquatic habitat, shoreline habitat, or ground water.
3. Mining within the active channel(s) or channel migration zone of a stream shall not be permitted unless:
 - a. Removal of specified quantities of sand and gravel or other materials at specific locations will not adversely affect instream habitat or the natural processes of gravel transport for the stream system as a whole.
 - b. The mining and any associated permitted activities, such as flood hazard reduction, will not have significant adverse impacts to habitat for priority species nor cause a net loss of shoreline ecological functions.
4. The applicant shall obtain and comply fully with all required local, state, and federal permits and approvals, including but not limited to, Hydraulic Project Approvals (HPA) from WDFW.
5. A reclamation plan that complies with the format and detailed minimum standards of RCW 78.44 and WAC 332-18 and that meets the provisions of this Program shall be included with any shoreline permit application for mining. The proposed subsequent use of mined property must be consistent with the provisions of the shoreline designation in which the property is located and the applicant shall obtain and fully comply with all required permits and approvals. Reclamation of disturbed shoreline areas shall provide appropriate ecological functions consistent with the setting.

6. Aggregate washing and ponding of waste water are prohibited in floodways.
7. Disposal of overburden or other mining spoil or non-organic solid wastes shall comply with fill policies and regulations of this Program and other applicable regulations.
8. In considering renewal, extension or reauthorization of gravel bar and other in-channel mining operations in locations where they have previously been conducted, the City shall require compliance with this Program.
9. Where a lawfully-established mining operation has resulted in the creation of a lake(s) greater than 20-acres and such lake(s) is subject to the provisions of the Shoreline Management Program and the Act, such lake(s) shall be given a shoreline designation of Rural Conservancy – Resource Lands or as otherwise adopted. Notwithstanding any other applicable regulations, such mining operations shall be permitted to continue and may be expanded subject to approval of a shoreline conditional use permit.
10. The provisions of this section do not apply to dredging of authorized navigation channels when conducted in accordance with WAC 173-26-231.

6.3.9 Parking

1. Parking as a primary use is prohibited in all shoreline areas.
2. Temporary storage of vehicles for import or export in port areas shall not be considered parking.
3. Temporary storage of vehicles for import or export in port areas is prohibited over water.
4. Where parking is allowed as accessory to a permitted use, it shall be located landward of the primary structure as far as possible or within the primary structure.

6.3.10 Recreational Uses

1. Recreational developments shall provide facilities for non-motorized access to the shoreline such as pedestrian and bicycle paths.
2. The minimum width of public access easements for trails shall be twenty (20) feet when a trail is not located within a public right-of-way, unless the Shoreline Administrator determines that undue hardship would result, or that it is impractical or environmentally unsound. In such cases, easement width may be reduced only by the minimum extent necessary to meet public access standards.

3. Recreation areas or facilities on the shoreline shall provide physical or visual public access to the shoreline. Trails or other facilities may traverse the setback to provide public access to the shoreline.
4. Parking areas shall be located upland away from the immediate shoreline, with pedestrian trails or walkways providing access to the water.
5. All permanent, substantial, recreational structures and facilities shall be located outside officially mapped floodways. The Shoreline Administrator may grant administrative exceptions for non-intensive minor accessory uses (including but not limited to, picnic tables, playground equipment).
6. Recreational sites with active uses shall be provided with restrooms and hand sanitizing facilities in accordance with public health standards and without adversely altering the natural features attractive for recreational uses.
7. Recreational facilities shall include features such as buffer strips, screening, fences, and signs to protect the value and enjoyment of adjacent or nearby private properties and natural areas from trespass, overflow and other possible adverse impacts.
8. Where fertilizers and pesticides are used in recreational developments, waters in and adjacent to such developments shall be protected from drainage and surface runoff.
9. Golf course structures (clubhouses and maintenance buildings) that are non water-oriented shall be located no closer than one hundred (100) feet from the OHWM of any shorelines of the state.
10. Tees, greens, fairways, golf cart routes, and other site development features shall be located no closer than one hundred (100) feet from the OHWM of any shorelines of the state to the extent practicable. Where unavoidable, such development shall be designed to minimize impacts to shoreline and critical areas and their buffers and mitigate impacts by including ecological restoration and enhancement.
11. Golf course water hazards and stormwater drainage basins shall be managed for wildlife through appropriate plantings and measures to maintain or enhance water quality.
12. The setback for water-related and water-enjoyment recreational development in Natural, Urban Conservancy, and Medium Intensity shoreline designations is 50 feet, except for trails which may meander between 20 and 50 feet landward of the OHWM to:
 - a. Respond to site characteristics such as natural topography and existing vegetation; or

- b. Take advantage of opportunities for visual or physical access to the shoreline;
or
 - c. Connect existing trail easements; or
 - d. Create an interesting experience for trail users.
13. A trail project, any portion of which encroaches closer than 50 feet, shall maintain no net loss, and include shoreline restoration where feasible.
14. The following trail types as described in the Vancouver-Clark Parks & Recreation Regional Trails and Bikeway Systems Plan (2006) and the Paths & Trails Element of the Vancouver Walking and Bicycling Master Plan (2004) are preferred in the Natural shoreline designation:
- a. Type A3: Primitive Trails or Paths
 - b. Type C2: Walking Trails or Paths
 - c. Type D1: Equestrian Trails or Paths
15. When regional or local shared-use or other impervious surface trails are proposed in the Natural or Urban Conservancy shoreline designations, to respond to Americans with Disabilities Act (ADA) requirements or other circumstances or conditions, the project shall maintain no net loss, and include shoreline restoration where feasible.

6.3.11 Residential Development

6.3.11.1 Residential Development

- 1. Residential developments shall include provisions to ensure preservation of native vegetation and control erosion during construction.
- 2. New residential construction shall be located so as not to require shoreline stabilization measures.
- 3. New residential development shall be located and designed to a density that minimizes view obstructions to and from the shoreline.
- 4. Clustering of residential units shall be allowed where appropriate and in compliance with VMC Title 20 to minimize physical and visual impacts on shorelines.
- 5. In those areas where only onsite sewage systems are available, density shall be limited to that which can demonstrably accommodate protection of surface and groundwater quality.

6. New residential development, including sewage disposal systems, shall be prohibited in floodways and channel migration zones.
7. Appurtenances, accessory uses, and facilities serving a residential structure shall be located outside setbacks, critical areas, and buffers unless otherwise allowed under this Program to promote community access and recreational opportunities.
8. New residential lots created through land division in shoreline jurisdiction and lot line adjustments shall only be permitted when configured such that the following standards are met:
 - a. Structural flood hazard reduction measures are not required and will not be necessary during the life of the development or use.
 - b. Shoreline stabilization measures will not be required for new development to occur.
 - c. There will be no net loss of shoreline ecological function.
9. Legally-established residential development located landward of the OHWM, including normal appurtenances, existing on the effective date of this Program that do not meet the standards of this Program are considered to be conforming and may be maintained, repaired, replaced, or expanded provided that any future development:
 - a. Does not exceed height limitations;
 - b. Does not encroach farther waterward than the existing primary structure;
 - c. Does not encroach farther into critical areas or buffers; and
 - d. Will result in no net loss of shoreline ecological functions.

~~10. New residential development shall be prohibited in, over, or floating on the water, except as provided in 6.3.11.2 (1-5).~~

6.3.11.2 Floating Home Development

~~1. New residential development shall be prohibited in, over, or floating on the water, except as provided in 6.3.11.2(1-6).~~

1. A floating on-water residence legally established prior to July 1, 2014, is considered a conforming use and may be maintained, repaired and remodeled provided there is no increase in the surface water area covered.

~~12.~~ The floating homes legally established prior to January 1, 2011, are conforming preferred uses under this Program.

23. Floating homes legally established prior to January 1, 2011 may be remodeled, rebuilt (home torn down to the float and rebuilt in place), or replaced (existing home and float removed and a new home and float towed in) in situ, PROVIDED:

- a. There is no increase in the number of floating homes beyond the number existing on January 1, 2011;
- b. There is no increase in the surface water area covered by the floating homes existing on January 1, 2011 and accessory structures including cantilevered portions that extend beyond the float;
- c. There is no net loss of shoreline ecological function.

34. Any proposal to replace, remodel, or rebuild a floating home shall be accompanied by an accurate, fully-dimensioned site plan along with details about the proposed changes, similar to that required for other land use approvals under VMC Title 20.

45. When remodeling, rebuilding, or replacing a floating home legally established prior to January 1, 2011 the following standards apply in addition to those of Section 6.3.11(1-4):

- a. The total height of the float and the structure from the water surface shall not exceed its existing height;
- b. The minimum distance between existing adjacent floating home walls shall not be reduced, and if the floating home is being replaced shall not be less than 6 feet;
- c. Floating homes shall not block views from the waterward end of any pier, more than any existing view blockage;
- d. No new living or storage spaces shall be located below water level. Existing living or storage spaces below water level may be remodeled or replaced, but not expanded;
- e. Unenclosed Styrofoam or similar material that has the potential to break apart is prohibited in floats;
- f. Floats shall be maintained and repaired using the minimum amount of structure below the waterline necessary to maintain floatation. At the time of replacement of a float and/or floating home, any structure below waterline and outside the primary float structure that provides minimal or no floatation shall be removed;
- g. All utilities shall be repaired or replaced to current standards to ensure proper functioning and no net loss of shoreline ecological functions.

6.3.12 Signs

1. Free-standing signs shall be for only informational purposes such as directional, navigational, educational/interpretive, and safety purposes, unless otherwise allowed under this Program and as specified in Table 6-1.
2. Signs for commercial purposes shall be limited to fascia or wall signs and as regulated by VMC Chapter 20.960, unless otherwise provided for in this chapter for specific uses.
3. All signs shall be located and designed to minimize interference with vistas, viewpoints, and visual access corridors to the shoreline.
4. Overwater signs or signs on floats or pilings shall be prohibited, except when related to navigation or a water-dependent use.
5. Illuminated signs shall be limited to informational, directional, navigational or safety purposes and shielded so as to eliminate glare when viewed from surrounding properties or watercourses.

6.3.13 Transportation Uses

1. All transportation facilities in shoreline areas shall be constructed and maintained to cause the least possible adverse impacts on the land and water environments, shall respect the natural character of the shoreline, and make every effort to preserve wildlife, aquatic life and their habitats.
2. New or expanded surface transportation facilities not related to and necessary for the support of shoreline activities shall be located outside the shoreline jurisdiction wherever possible, or set back from the ordinary high water mark far enough to make shoreline stabilization, such as rip rap, bulkheads or jetties, unnecessary.
3. Transportation facilities shall not adversely impact existing or planned water-dependent uses by impairing access to the shoreline.
4. All roads shall be set back from water bodies and shall provide buffer areas of compatible, self-sustaining native vegetation. Shoreline scenic drives and viewpoints may provide breaks in the vegetative buffer to allow open views of the water.
5. Transportation facilities that are allowed to cross over water bodies and associated wetlands shall utilize elevated, open pile or pier structures whenever feasible to reduce shade impacts. All bridges shall be built high enough to allow the passage of debris and anticipated high water flows.
6. Transportation facility development shall not be permitted in the Aquatic shoreline designation including associated wetlands or in the setbacks of adjacent

Medium Intensity or High Intensity shoreline designations except as a conditional use when:

- a. All structural or upland alternatives have proven infeasible; and
 - b. The transportation facility is necessary to support water-dependent uses or essential public facilities consistent with this program.
7. Transportation and utility facilities shall be required to make joint use of rights-of-way and to consolidate crossing of water bodies.

6.3.14 Utilities Uses

These provisions apply to services and facilities that produce, convey, store, or process power, gas, wastewater, communications, and similar services and functions. On-site utility features serving a primary use, such as a water, sewer or gas line to a residence or other approved use are “accessory utilities” and shall be considered a part of the primary use.

1. Whenever feasible, all utility facilities shall be located outside shoreline jurisdiction. Where distribution and transmission lines (except electrical transmission lines) must be located in the shoreline jurisdiction they shall be located underground.
2. Where overhead electrical transmission lines must parallel the shoreline, they shall be outside of the two hundred (200) foot shoreline environment unless topography or safety factors would make it unfeasible.
3. Utilities, including limited utility extensions shall be designed, located and installed in such a way as to preserve the natural landscape, minimize impacts to scenic views, and minimize conflicts with present and planned land and shoreline uses.
4. Transmission, distribution, and conveyance facilities shall be located in existing rights of way and corridors or shall cross shoreline jurisdictional areas by the shortest, most direct route feasible, unless such route would cause significant environmental damage.
5. Utility production and processing facilities, such as power plants and wastewater treatment facilities, or parts of those facilities that are nonwater-oriented shall not be allowed in the shoreline jurisdiction unless it can be demonstrated that no other feasible option is available.
6. Stormwater control facilities, limited to detention / retention / treatment ponds, media filtration facilities, and lagoons or infiltration basins, within the shoreline jurisdiction shall only be permitted when the stormwater facility is designed to mimic and resemble natural wetlands, ponds, or closed depressions, and meets the requirements of VMC 14.25, Stormwater Control.

7. New outfalls and modifications to existing outfalls shall be designed and constructed to avoid impacts to existing native aquatic vegetation attached to or rooted in substrate. Outfalls may require bank hardening to prevent failure of the outfall structure or erosion of the shoreline. Diffusers or discharge points must be located offshore at a distance beyond the nearshore area to avoid impacts to nearshore habitats.
8. Water reclamation discharge facilities such as injection wells or activities such as land application are prohibited in the shoreline jurisdiction, unless the discharge water meets State Department of Ecology Class A reclaimed water standards. An applicant for discharge of Class A reclaimed water in the shoreline jurisdiction shall demonstrate habitat benefits of such discharge.
9. Where allowed under this program, construction of underwater utilities or those within the wetland perimeter shall be scheduled to avoid major fish migratory runs or use construction methods that do not cause disturbance to the habitat or migration.
10. All underwater pipelines transporting liquids intrinsically harmful to aquatic life or potentially detrimental to water quality shall be equipped with automatic shut off valves.
11. Upon completion of utility installation/maintenance projects on shorelines, banks shall, at a minimum, be restored to pre-project configuration, replanted and provided with maintenance care until the newly planted vegetation is fully established. Plantings shall be native species and/or be similar to vegetation in the surrounding area.

6.4 Shoreline Modification Regulations

6.4.1 General Requirements

1. Structural shoreline modifications shall only be allowed where it can be demonstrated that the proposed activities are necessary to support or protect legally existing shoreline use or primary structure that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline or bedlands for an allowed water-dependent use or for shoreline mitigation or enhancement purposes.
2. Modifications shall only be allowed when impacts are avoided, minimized, and mitigated to assure no net loss of shoreline ecological functions.
3. In-water work shall be scheduled to protect biological productivity (including but not limited to fish runs, spawning, and benthic productivity). In-water work shall not occur in areas used for commercial fishing during a fishing season unless specifically addressed and mitigated for in the permit.
4. Public access shall be provided in accordance with public access policies and regulations of this Program (See Section 5.4(1-2)).

6.4.2 Dredging and Dredge Material Disposal

6.4.2.1 General

1. Dredging and dredge disposal shall be prohibited on or in archaeological sites that are listed on the National Register of Historic Places, the Washington Heritage Register, and/or the Clark County Historic Register until such time that they have been reviewed and approved by the appropriate agency.
2. Dredging and dredge disposal shall be scheduled to protect biological productivity (including but not limited to, fish runs, spawning, and benthic productivity) and to minimize interference with fishing activities. Dredging activities shall not occur in areas used for commercial fishing (including but not limited to, drift netting and crabbing) during a fishing season unless specifically addressed and mitigated for in the permit.

6.4.2.2 Dredging

1. Dredging shall be avoided where possible. Dredging shall be permitted only where it is demonstrated that the proposed water-dependent or water-related uses will not result in significant or ongoing adverse impacts to water quality, fish and wildlife habitat conservation areas and other critical areas, flood holding capacity, natural drainage and water circulation patterns, significant plant communities, prime agricultural land, and public access to shorelines unless one or more of these impacts cannot be avoided. When such impacts are unavoidable, they shall be minimized and mitigated such that they result in no net loss of shoreline ecological functions.
2. Maintenance dredging of established navigation channels and basins shall be restricted to managing previously dredged and/or existing authorized location, depth and width.
3. Dredging shall be prohibited between the OHWM and minus fifteen (-15) feet CRD, unless shallow water habitat will be created to mitigate for the dredging project.
4. Dredging activity is prohibited in the following locations:
 - a. Along net positive drift sectors and where geohydraulic-hydraulic processes are active and accretion shore forms would be damaged, altered, or irretrievably lost;
 - b. In shoreline areas with bottom materials that are prone to significant sloughing and refilling due to currents or tidal activity which result in the need for continual maintenance dredging;
 - c. In habitats identified as critical to the life cycle of officially designated or protected fish, shellfish, or wildlife.

5. Dredging techniques that cause minimum dispersal and broadcast of bottom material shall be used, and only the amount of dredging necessary shall be permitted.
6. Dredging shall be permitted only:
 - a. For navigation or navigational access;
 - b. In conjunction with a water-dependent use of water bodies or adjacent shorelands;
 - c. As part of an approved habitat improvement project;
 - d. To improve water flow or water quality, provided that all dredged material shall be contained and managed so as to prevent it from reentering the water;
 - e. In conjunction with a bridge, navigational structure or wastewater treatment facility for which there is a documented public need and where other feasible sites or routes do not exist; or
 - f. To acquire sand and gravel for commercial purposes from within the Columbia River.
7. Dredging for fill is prohibited except where the material is necessary for restoration of shoreline ecological functions.

6.4.2.3 Dredge Material Disposal

1. Dredge material disposal shall be avoided where possible. Dredge disposal shall be permitted only where it is demonstrated that the proposed water-dependent or water-related uses will not result in significant or ongoing adverse impacts to water quality, fish and wildlife habitat conservation areas and other critical areas, flood holding capacity, natural drainage and water circulation patterns, significant plant communities, prime agricultural land, and public access to shorelines. When such impacts are unavoidable, they shall be minimized and mitigated such that they result in no net loss of shoreline ecological functions.
2. Near shore or landside disposal of dredge materials shall not be located upon, adversely affect, or diminish:
 - a. Stream mouths, wetlands, or significant plant communities (approved mitigation plans may justify exceptions);
 - b. Prime agricultural land except as enhancement;
 - c. Natural resources including but not limited to sand and gravel deposits, timber, or natural recreational beaches and waters except for enhancement purposes;

- d. Designated or officially recognized wildlife habitat and concentration areas;
 - e. Water quality, quantity, and drainage characteristics; and
 - f. Public access to shorelines and water bodies.
3. Dredged material shall be disposed of on land only at sites reviewed and approved by the USACOE and the Shoreline Administrator. Applicants shall demonstrate that the proposed site will ultimately be suitable for a use permitted by this Program. Disposal shall be undertaken such that:
- a. The smallest possible land area is affected, unless dispersed disposal is authorized as a condition of permit approval for soil enhancement or other purposes;
 - b. Shoreline ecological functions and processes will be preserved, including protection of surface and ground water;
 - c. Erosion, sedimentation, floodwaters or runoff will not increase adverse impacts to shoreline ecological functions and processes or property; and
 - d. Sites will be adequately screened from view of local residents or passersby on public right-of-ways to the maximum extent practicable.
4. The following conditions shall apply to land disposal sites:
- a. Springs and aquifers shall be identified and protected.
 - b. Containment dikes and adequate settling basins shall be built and maintained so that the water discharged from the site carries a minimum of suspended sediment. Required basins shall be designed to maintain at least one foot of standing water at all times to encourage proper settling.
 - c. Proper diversion of surface discharge shall be provided to maintain the integrity of the natural streams, wetlands, and drainage ways.
 - d. There shall be a single point of ingress and egress for removal of the de-watered material.
 - e. Runoff shall be directed through grassy swales or other treatment features that assures protection of water quality and a location that maximizes circulation and fishing.
 - f. Sites shall be revegetated with appropriate native species as soon as possible to retard erosion and restore wildlife habitat and other critical areas functions;
 - g. Vegetation shall be maintained by the property owner;

- h. Dredge materials deposited upland and not part of a permitted dike or levee shall constitute fill, and when deposited within shoreline jurisdiction, shall comply with the fill regulations; and
 - i. The applicable requirements of VMC 14.24, 14.25, and 14.26 shall be met.
- 5. Dredged material shall be disposed of in water only at sites approved by the USACOE and the Shoreline Administrator. Disposal techniques that cause minimum dispersal and broadcast of bottom material shall be used, and only if:
 - a. Land disposal is infeasible, less consistent with this Program, or prohibited by law;
 - b. Nearshore disposal as part of a program to restore or enhance shoreline ecological functions and processes is not feasible;
 - c. Offshore habitat will be protected, restored, or enhanced;
 - d. Adverse effects on water quality or biologic resources from contaminated materials will be mitigated;
 - e. Shifting and dispersal of spoil will be minimal; and
 - f. Water quality will not be adversely affected.
- 6. The deposition of dredged materials in water or wetlands shall be permitted only in approved, open water disposal sites and:
 - a. To improve wildlife habitat;
 - b. To correct material distribution problems adversely affecting fish habitat;
 - c. To create, expand, rehabilitate, or enhance a beach when permitted under this Program and any required state or federal permit; or
 - d. When land deposition is demonstrated to be more detrimental to shoreline resources than water deposition.

6.4.3 Flood Control Works and In-stream Structures

6.4.3.1 Flood Control Works

- 1. Dikes and levees shall only be authorized by conditional use permit only when it can be demonstrated by a scientific and engineering analysis that:
 - a. They are necessary to protect existing development;
 - b. Nonstructural measures are not feasible;

- c. Impacts on ecological functions and critical areas can be successfully mitigated so as to assure no net loss; and
 - d. Appropriate vegetation conservation actions are undertaken.
2. Dikes and levees shall protect the natural processes and resource values associated with streamways and deltas including but not limited to wildlife habitat.
 3. Springs and aquifers shall be identified and protected.
 4. Public access shall be provided in accordance with public access policies and regulations of this Program (See Section 5.4(1-2)).
 5. Dikes and levees shall be limited in size to the minimum height required to protect adjacent lands from the protected flood stage as identified in the applicable comprehensive flood control management plan or as required by FEMA for dike recertification.
 6. Dikes and levees shall not be constructed with material dredged from the adjacent wetland or stream area unless part of a comprehensive flood and habitat enhancement plan, and the only by conditional use.
 7. Removal of gravel for flood management purposes shall be consistent with an adopted flood hazard reduction plan and with this Program, and allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of shoreline ecological functions, and is part of a comprehensive flood management solution.

6.4.3.2 Flood Control Works – Design

1. Dikes and levees shall be designed, constructed, and maintained in accordance with Hydraulic Project Approval, and in consideration of resource agency requirements and recommendations.
2. Dikes and levees shall be set back at convex (inside) bends to allow streams to maintain point bars and associated aquatic habitat through normal accretion. Where bank dikes have already cut off point bars from the edge of the floodway, consideration should be given to their relocation in order to lower flood stages and current velocities.
3. Where dikes are necessary in intermediate gradient floodways to protect fringe areas, tangent diking is preferred over bank levees. Dikes and levees shall be located near the tangent to outside meander bends so that the stream can maintain normal meander progression and utilize most of its natural flood water storage capacity.

4. Proper diversion of surface discharge shall be provided to maintain the integrity of the natural streams, wetlands, and drainages.
5. The outside face of dikes shall be sloped at 1.5:1 (horizontal to vertical) or flatter, and seeded with native grasses.
6. Structural flood hazard reduction measures shall be placed landward of associated wetlands and vegetation conservation areas unless there is no other feasible alternative to reduce flood hazard to existing development.

6.4.3.3 In-stream Structures

1. In-stream structures shall be constructed and maintained in a manner that does not degrade the quality of affected waters. The City may condition the permit to achieve this objective by requiring that the development include features such as setbacks, buffers, or storage basins.
2. Natural in-stream features such as snags, uprooted trees, or stumps should be left in place unless it can be demonstrated that they are not enhancing shoreline ecological function or are a threat to public safety.
3. In-stream structures shall provide for adequate upstream or downstream migration of anadromous fish, where applicable.
4. In-stream structures shall preserve valuable recreation resources and aesthetic values such as point and channel bars, islands, and braided banks.

6.4.3.4 In-stream Structures – Design & Placement

1. In-stream structures and their support facilities shall be located and designed to avoid the necessity for shoreline defense structures. Shoreline defense structures shall be minimized and any impacts mitigated. All diversion structures shall be designed to permit natural transport of bedload materials.
2. Materials adequate to immediately correct emergency erosion situations shall be maintained on-site.
3. All debris, overburden and other waste materials from construction shall be disposed of in such a manner so as to prevent their entry into a water body, including a wetland, by erosion, from drainage, high water, or other vectoring mechanisms.
4. All heavy construction equipment, and fuel storage, repair, and construction material staging areas shall be located as far landward as necessary to avoid and minimize impacts to shoreline ecological functions. Powerhouses, but not raceways, shall be located farther than one hundred (100) feet from the OHWM unless there is no feasible alternative and any unavoidable impacts are minimized and mitigated. Penstocks shall be located, designed, and constructed so as to

present as low a profile as possible. Powerhouses and penstocks shall be located and designed to return flow to the stream in as short a distance as possible.

5. A mitigation plan that details the objectives of the mitigation activities shall be prepared by the applicant, and be subject to approval by the appropriate authority.

6.4.4 Shoreline Restoration and Enhancement

1. Shoreline restoration and enhancement activities designed to restore shoreline ecological functions and processes and/or shoreline features should be targeted toward meeting the needs of sensitive and/or regionally important plant, fish, and wildlife species and shall be given priority. Implementation of restoration projects on shorelines of statewide significance take precedence over implementation of restoration projects on other shorelines of the state.
2. Shoreline restoration, enhancement, and mitigation activities designed to create dynamic and sustainable ecosystems to assist the city in achieving no net loss of shoreline ecological functions are preferred.
3. Restoration activities shall be carried out in accordance with an approved shoreline restoration plan, and in accordance with the provisions of this Program.
4. To the extent possible, restoration, enhancement, and mitigation activities shall be integrated and coordinated with other parallel natural resource management efforts. Implementation of restoration projects identified in the Shoreline Restoration Plan that are focused on restoring degraded habitat in shoreline jurisdiction take precedence over other restoration projects.
5. Habitat and beach creation, expansion, restoration, and enhancement projects may be permitted subject to required state or federal permits when the applicant has demonstrated that:
 - a. The project will not adversely impact spawning, nesting, or breeding fish and wildlife habitat conservation areas;
 - b. Upstream or downstream properties or fish and wildlife habitat conservation areas will not be adversely affected.
 - c. Water quality will not be degraded;
 - d. Flood storage capacity will not be degraded;
 - e. Streamflow will not be reduced;
 - f. Impacts to critical areas and buffers will be avoided and where unavoidable, minimized and mitigated; and

- g. The project will not interfere with the normal public use of the navigable waters of the state.

6.4.5 Shoreline Stabilization – General

1. New shoreline stabilization to protect new residential development is prohibited. For other types of new development new shoreline stabilization is prohibited unless it can be demonstrated through a geotechnical analysis by a qualified professional that:
 - a. The proposed use cannot be developed without shore protection; or
 - b. Shore protection is necessary to restore ecological functions; or
 - c. Shore protection is necessary for a hazardous substance remediation project.
2. New or expanded shore stabilization shall:
 - a. Be designed using best available science and in accordance with applicable Ecology and WDFW guidelines;
 - b. Not result in a net loss of shoreline ecological functions;
 - c. Not cause significant erosion or beach starvation;
 - d. Not be located where valuable geohydraulic, hydraulic, or biological processes are sensitive to interference and critical to shoreline conservation;
 - e. Document that alternative solutions (including relocation or reconstruction of existing structures) are not feasible or do not provide sufficient protection;
 - f. Demonstrate that future stabilization measures would not be required on the project site or adjacent properties; and
 - g. Be certified by a qualified professional.
3. New or expanded structural shoreline stabilization for existing primary structures, including roads, railroads, and public facilities is prohibited unless there is conclusive evidence documented by a geotechnical analysis that there is a significant possibility that the structure will be damaged within three years as a result of shoreline erosion caused by stream processor waves, and only when significant adverse impacts are mitigated to ensure no net loss of shoreline ecological functions and/or processes.
4. Where a geotechnical analysis confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as three years, the analysis may still be used to justify more immediate authorization for shoreline stabilization using bioengineering approaches.

5. Replacement of an existing shoreline stabilization structure with a similar structure is permitted if there is a demonstrated need to protect existing primary uses, structures or public facilities including roads, bridges, railways, and utility systems from erosion caused by stream undercutting or wave action; provided that, the existing shoreline stabilization structure is removed from the shoreline as part of the replacement activity. Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the structure is a residence that was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. New or expanded shore stabilization shall be designed in accordance with applicable Ecology and WDFW guidelines and certified by a qualified professional.
6. Shoreline stabilization projects that meet the criteria of Section 2.3.2(18) require a statement of exemption (Section 2.3.3) and if exempt will be regulated under RCW 77.55.181. Stabilization projects that do not meet these criteria will be regulated by this Program.
7. Small-scale or uncomplicated shoreline stabilization projects (for example, tree planting projects) shall be reviewed by a qualified professional to ensure that the project has been designed using best available science.
8. Large-scale or more complex shoreline stabilization projects (for example, projects requiring fill or excavation, placing objects in the water, or hardening the bank) shall be designed by a qualified professional using best available science. The applicant may be required to have a qualified professional oversee construction or construct the project.
9. Standards for new stabilization structures when found to be necessary include limiting the size to the minimum necessary to achieve the stabilization objective, using measures to assure no net loss of shoreline ecological functions, using soft approaches, and mitigating for impacts.

6.4.6 Bioengineered Stabilization

1. Naturally regenerating systems for the prevention and control of shoreline erosion shall be used instead of structural solutions where:
 - a. The length and configuration of shoreline will accommodate such systems;
 - b. Such protection is a reasonable solution to the needs of the specific site; and
 - c. The project will:
 - i. Recreate or enhance natural shoreline conditions;
 - ii. Create or enhance natural habitat;
 - iii. Reverse erosional conditions; or

- iv. Enhance access to the shoreline, especially to public shorelines.
- 2. All bioengineered projects shall be designed in accordance with best available science and use a diverse variety of native plant materials including but not limited to trees, shrubs, forbs, and grasses, unless demonstrated infeasible for the particular site.
- 3. All cleared areas shall be replanted following construction and irrigated (if necessary) to ensure that within three years time all vegetation is fully re-established. Areas that fail to adequately reestablish vegetation shall be replanted with approved plant materials until such time as the plantings are viable.
- 4. Bank protection in the form of a buffer zone shall be provided for a minimum of three (3) years. The buffer zone shall exclude livestock, vehicles, and/or other activities that could disturb the site.
- 5. All bioengineered projects shall be monitored and maintained as necessary. Areas damaged by pests and/or the elements shall be promptly repaired.
- 6. All construction and planting activities shall be scheduled to minimize impacts to water quality and fish and wildlife aquatic and upland habitat, and to optimize survival of new vegetation.

6.4.7 Structural Stabilization

- 1. Structural stabilization may be allowed when:
 - a. The requirements of Section 6.4.5 are met;
 - b. Alternative measures are demonstrated to be infeasible or insufficient through a geotechnical analysis by a qualified professional;
 - c. The structural stabilization is designed and installation overseen by a qualified professional;
 - d. The structural stabilization is designed so that future stabilization measures will not be necessary on the subject property or other properties;
 - e. The size of the shoreline stabilization structure is limited to the minimum necessary; and
 - f. Impacts are mitigated to result in no net loss of shoreline ecological functions.

6.4.8 Bulkheads

6.4.8.1 Bulkheads - General

- 1. All bulkheads must be in support of an allowable shoreline use that is in conformance with the provisions of this master program, unless it can be

demonstrated that such activities are necessary and in the public interest for the maintenance of shoreline environmental resources.

2. Bulkheads shall be allowed only when evidence is presented that conclusively demonstrates that one of the following conditions exists:
 - a. Serious wave erosion threatens an established primary use or existing primary building(s) on upland property;
 - b. Bulkheads are necessary to the operation and location of water-dependent and water-related activities consistent with this master program, provided that all alternatives have proven infeasible (i.e., use relocation, use design, nonstructural shore stabilization options), and that such bulkheads meet other policies and regulations of this chapter; or
 - c. Proposals for bulkheads have first demonstrated that use of natural materials and processes and nonstructural solutions to bank stabilization are unworkable in protecting existing development.
3. Use of a bulkhead to protect a platted lot where no structure presently exists is prohibited.
4. Natural materials and processes such as protective berms, drift logs, brush, beach feeding, or vegetative stabilization shall be utilized to the maximum extent possible.
5. The construction of a bulkhead for the primary purpose of retaining or creating dry land that is not specifically authorized as a part of the permit shall be prohibited.
6. Bulkheads are prohibited for any purpose if they will cause significant erosion or beach starvation.

6.4.8.2 Bulkhead Location

1. Bulkheads shall not be located on shores where valuable geohydraulic-hydraulic or biological processes are sensitive to interference and critical to shoreline conservation, such as feeder bluffs, marches, wetlands, or accretion shoreforms such as spits, hooks, bars, or barrier beaches.
2. Bulkheads are to be permitted only where local physical conditions such as foundation bearing material, surface, and subsurface drainage are suitable.
3. On all shorelines, bulkheads shall be located landward of the OHWM, landward of protective berms (artificial or natural), and generally parallel to the natural shoreline. In addition:

- a. On bluff or bank shorelines where no other bulkheads are adjacent, the construction of a bulkhead shall be as close to the bank as possible, and in no case shall it be more than three (3) feet waterward from the toe of the natural bank; and
 - b. Bulkheads may tie in flush with existing bulkheads on adjoining properties, provided that (1) the adjoining bulkheads were built at or near the OHWM, and (2) the new bulkhead does not extend more than three feet waterward of OHWM at any point. If there is an existing bulkhead on only one of the adjacent properties, the proposed bulkhead may tie in flush with the adjacent bulkhead at or landward of the OHWM, and shall be contoured to minimize the land area waterward of the required setback, that shall be met on the side not abutting an existing bulkhead.
4. Replacement bulkheads may be located immediately in front of and abutting (sharing a common surface) an existing bulkhead, provided that replacement bulkheads shall not be authorized abutting an abandoned or neglected bulkhead, or a bulkhead in serious disrepair that is located more than three feet waterward of OHWM. Replacement of such bulkheads shall be located at OHWM.

6.4.8.3 Bulkhead Design

1. Bulkhead design and development shall conform to all other applicable state agency policies and regulations, including the WDFW criteria governing the design of bulkheads.
2. When a bulkhead is required at a public access site, provision for safe access to the water shall be incorporated into bulkhead design.
3. Bulkheads shall be designed with the minimum dimensions necessary to adequately protect the development for the expected life of the development.
4. Bulkheads shall be designed to permit the passage of surface or ground water without causing ponding or saturation of retained soil/materials.
5. Adequate toe protection consisting of proper footings, a fine retention mesh, etc., shall be provided to ensure bulkhead stability without relying on additional riprap.
6. Stairs or other permitted structures may be built into a bulkhead, but shall not extend waterward of it.
7. Materials used in bulkhead construction shall meet the following standards:
 - a. Bulkheads shall utilize stable, non-erosional, homogeneous materials such as concrete, wood, rock riprap, or other suitable materials that will accomplish the desired end with the maximum preservation of natural shoreline characteristics.

- b. Beach materials shall not be used for fill behind bulkheads unless it is specifically authorized by the permit, and then only when it is demonstrated that leaving the material on the beach would be detrimental to shoreline resources.
8. Gabions (wire mesh filled with concrete or rocks) shall not be used in bulkhead construction where alternatives more consistent with this Program are feasible, because of their limited durability and the potential hazard to shore users and the shoreline environment.
9. Fill behind bulkheads shall meet the requirements of Section 5.6.2.

6.4.9 Revetments

6.4.9.1 Revetments - General

1. Revetments must be in support of an allowable shoreline use that is in conformance with the provisions of this Program, unless it can be demonstrated that such activities are necessary and in the public interest for the maintenance of shoreline environmental resources.
2. Design of revetments shall include and provide improved access to public shorelines whenever possible and appropriate. All forms of revetments shall be constructed and maintained in a manner that does not reduce water quality and/or fisheries habitat.
3. Design of the proposed revetment shall incorporate proper consideration of:
 - a. Data on local geophysical conditions;
 - b. Data on stream flow, velocity, and/or flood capacity; and
 - c. Effects on adjacent properties.
4. Bank revetments, where permitted, shall be placed at the extreme edge or bank of the shoreline.
5. Revetments shall only be used when habitat-friendly alternatives are not feasible.

6.4.9.2 Revetment - Design

1. When permitted, the siting and design of revetments shall be performed using appropriate engineering principles, including guidelines of the Natural Resources Conservation Service and the U. S. Army Corps of Engineers.
2. Revetment shall be constructed using techniques and materials that will enhance natural shoreline values and functions, including fish and wildlife habitat, water

quality, vegetation, and aesthetics. The following techniques and materials shall be used:

- a. Riprap material shall consist of clean quarried rock, free of loose dirt and any pollutants, and shall be of sufficient size and weight to prevent movement by wave or current action. Tires, automobile bodies, scrap metal paper products, and other inappropriate solid waste materials shall not be used for riprap.
 - b. Use of downed logs, snags, or rock-work to enhance habitat and to provide a more natural appearance to the shoreline shall be incorporated into the design where appropriate.
 - c. Where on-site environmental conditions allow, vegetation shall be integrated into the riprap design to reduce erosion, provide cover, shade and habitat, and improve the natural appearance of the shoreline, consistent with the applicable vegetation management provisions of this Program.
3. If an armored revetment is employed, the following design criteria shall be met.
 - a. The size and quantity of the material shall be limited to only that necessary to withstand the estimated energy intensity of the hydraulic system;
 - b. Filter cloth must be used to aid drainage and help prevent settling; and
 - c. The toe reinforcement or protection must be adequate to prevent a collapse of the system from river scouring or wave action for the anticipated life of the project.
 4. The area shall be restored as nearly as possible to pre-project condition, including replanting with native species and maintenance care until the newly planted vegetation is established.

6.4.10 Breakwaters, Jetties, Rock Weirs, and Groins

6.4.10.1 Breakwaters, Jetties, Rock Weirs, and Groins - General

1. All breakwaters, jetties, rock weirs, and groins are allowed only by conditional use and where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose.
2. Applicants proposing groins, jetties, and solid breakwaters shall notify all shoreline landowners within the same drift sector. If it is not possible to make a reasonable determination of the drift sector, all shoreline land owners within one mile of the project proposal shall be notified.
3. The effect of proposed breakwaters, jetties, rock weirs, and groins on sand movement shall be evaluated during permit review. The beneficiaries and/or owners of large-scale defense works that substantially alter, reduce, or block

littoral drift, and cause new erosion of downdrift shores shall be required to establish and maintain an adequate long term beach feeding program either by artificially transporting sand to the downdrift side of an inlet with jetties or by artificial beach feeding in the case of groins, breakwaters, and rock weirs.

4. The effect of proposed breakwaters, jetties, rock weirs, and groins on bank margin habitat, channel migration, and floodplain processes should be evaluated during permit review.

6.4.10.2 Breakwaters, Jetties, Rock Weirs, and Groins - Location

1. Breakwaters shall be prohibited in lakes.
2. Jetty, rock weir, or groin development that would result in a net adverse impact on adjacent and nearby properties and shorelines is prohibited.

6.4.10.3 Breakwaters, Jetties, Rock Weirs, and Groins – Design

1. Proposed designs for new or expanded breakwaters, jetties, rock weirs, and groins shall be designed and certified by a registered civil engineer.
2. The design of breakwaters, jetties, rock weirs, and groins shall conform to all applicable requirements established by the Washington Departments of Fish and Wildlife, and the U.S. Army Corps of Engineers. Breakwaters, jetties, rock weirs, and groins shall be designed and constructed in a manner that will prevent detrimental impacts on water circulation, sand movement, and aquatic life. The design shall also minimize impediments to navigation and to visual access from the shoreline.
3. The design of new breakwaters, groins, and jetties shall incorporate provisions for public access such as sightseeing and public fishing if it is determined such access is feasible and desirable. Open-pile or floating breakwaters shall be the only type allowed unless it can be shown that solid breakwaters will have no significant adverse effect on the aquatic biology and shore processes, or that such adverse effects can be adequately mitigated.
4. Materials used for the construction of breakwaters, jetties, rock weirs, and groins shall exhibit the qualities of long-term durability, ease of maintenance, and compatibility with local shore features, processes, and aesthetics. The use of solid waste, junk, or abandoned automobiles, asphalt, or any building demolition debris is prohibited.
5. Floating breakwaters shall be used in place of solid, rubble mound types wherever they can withstand anticipated wave action in order to maintain sand movement and protect fish and aquatic habitat.

CHAPTER 8 DEFINITIONS

A

1. **Accessory Structure** – a subordinate building or use incidental to the use of the main building or use.
2. **Accessory Use** – any use or activity incidental and subordinate to a primary use or development.
3. **Accretion** – the growth of a beach by the addition of material transported by wind and/or water. Included are such shoreforms as barrier beaches, points, spits, hooks, and tombolos.
4. **Act** - Washington State Shoreline Management Act of 1971, as amended, RCW 90.58.
5. **Adjacent** - having a common end point or border.
6. **Adjacent Lands** – lands adjacent to the shorelines of the state (outside of shoreline jurisdiction) (*RCW 90.58.340*).
7. **Agricultural Activities** - agricultural uses and practices including, but not limited to: producing, breeding or increasing agricultural products; rotating and changing agricultural crops; agricultural crops; allowing land used for agricultural activities to lie fallow in that it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation (*WAC 173-26-020(3)(a)*).
8. **Agricultural Equipment and Agricultural Facilities** – includes, but is not limited to:
 - a. The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including, but not limited to, pumps, pipes, tapes, canals, ditches, and drains;
 - b. Corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands
 - c. Farm residences and associated equipment, lands, and facilities; and
 - d. Roadside stands and on-farm markets for marketing fruit or vegetables.
9. **Agricultural Land** – those specific land areas on which agricultural activities are conducted as of the date of adoption of this Program, as evidenced by aerial

photography or other documentation. After the effective date of this Program, land converted to agricultural use shall comply with the requirements of this Program.

10. **Agricultural Products** – includes, but is not limited to, horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including, but not limited to, meat, upland finfish, poultry and poultry products, and dairy products.
11. **Aggrieved Person** – a person who is suffering from an infringement or denial of legal rights or claims.
12. **Amendment** - means a revision, update, addition, deletion, and/or reenactment to an existing shoreline master program.
13. **Anadromous fish** -Fish that migrate downstream in their juvenile lifestages; live their adult lives in the ocean; then migrate upstream from the ocean to breed in fresh water.
14. **Appurtenance** - A structure or development necessarily connected to a single-family residence. Normal appurtenances include a garage, a shop, a deck, a pool, a driveway, utilities, fences, grading which does not exceed 250 cubic yards and does not involve placement of fill in any wetland or waterward of the OHWM, and when allowed, installation of a septic tank and drainfield.
15. **Aquaculture** - The culture or farming of food fish, shellfish, or other aquatic plants and animals. Aquaculture does not include the harvest of wild geoduck associated with the state managed wildstock geoduck fishery. (WAC 173-26-241(3)(b)).
16. **Area of Special Flood Hazard** - Land in the flood plain subject to a 1% or greater chance of flooding in any given year. Designations on Flood Insurance Rate Maps always include the letter A. Also referred to as “Frequently Flooded Areas.”
17. **Associated Wetlands** - Those wetlands that are in proximity to and either influence or are influenced by tidal waters or a lake, river or stream subject to the Shoreline Management Act.
18. **Average Grade Level** - the average of the natural or existing topography of the portion of the lot, parcel, or tract of real property that will be directly under the proposed building or structure: In the case of structures to be built over water, average grade level shall be the elevation of the ordinary high water mark. Calculation of the average grade level shall be made by averaging the ground elevations at the midpoint of all exterior walls of the proposed building or structure (WAC 173-27-030(3)).

B

19. **Beach Enhancement/Restoration** – process of restoring a beach to a state more closely resembling a natural beach, using beach feeding, vegetation drift sills, and other non-intrusive means as applicable.

20. **Bedlands** – means those submerged lands, including tidelands where appropriate, underlying navigable waters.
21. **Berm** – a linear mound or series of mounds of earth, sand and/or gravel generally paralleling the water at or landward of the line of ordinary high water. Also a linear mound used to screen an adjacent activity, such as a parking lot, from transmitting excess noise and glare.
22. **Best Available Science** – use of the most reliable and available scientific information, most often used in the context of local government compliance with the State Growth Management Act (RCW 36.70A.900) for developing policies and development regulations regarding critical areas (WAC 365-195).
23. **Best Available Technology (BAT)** – the most effective method, technique, or product available that is generally accepted in the field, and which is demonstrated to be reliable, effective, and preferably low maintenance.
24. **Best Management Practices (BMP)** - For the purposes of this Program, BMP means the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Washington State Department of Ecology and/or the City of Vancouver that, when used singly or in combination, control, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.
25. **Bioengineering** - means project designs or construction methods that use live woody vegetation or a combination of live woody vegetation and specially developed natural or synthetic materials to establish a complex root grid within the existing bank that is resistant to erosion, provides bank stability, and maintains a healthy riparian environment with habitat features important to fish life. Use of wood structures or limited use of clean angular rock may be allowable to provide stability for establishment of the vegetation (WAC 220-110-020(12)).
26. **Boat** - means any floating vessel or watercraft, including ships and barges, which is designed and used for navigation and which does not interfere with the normal public use of the water (WAC 173-27-030(18)).
27. **Boating Facility** – means any structure or group of structures including but not limited to ramps, marinas, docks, piers, floats, or mooring buoys providing access to or service for boats. Boating facilities may serve hotels, motels, multi-family residences, individual lots or subdivisions, or public recreation uses.
28. **Boathouse** – An over-water structure designed for storage of boats.
29. **Boat Launch Facility** - a facility or structure providing access in and out of the water for boats, such as ramps, rails, or lift stations.
30. **Bog** – A type of wetland where (1) organic (peat or muck) soil layers comprise at least 16 of the first 32 inches of the soil profile; or (2) there is more than 70% cover of mosses at ground level and more than 30% of the total shrub and herbaceous cover consists of species listed in Table 3 – Characteristic Bog Species in Washington State found in Hruby, 2004, Washington State Wetlands Rating System for Western Washington, Ecology publication #04-06-025, or as revised by

Ecology. Many bogs have soils classified as peat or muck, are nutrient poor, have a low pH (acidic), and are fed largely by rainfall rather than streams or groundwater.

- 31. **Breakwater** - a structure aligned parallel to shore, sometimes shore-connected, that provides protection from waves.
- 32. **Buffer Area** – An area that is contiguous to and protects a critical area and which is required for the continued maintenance, functioning, and/or structural stability of a critical area.
- 33. **Bulkhead** - a solid, open-pile, or irregular wall of rock, rip-rap, concrete, steel, or timber or combination of these materials erected parallel to and near ordinary high water mark to provide a protective vertical wall resistant to water and wave action.

C

- 34. **Channel** – an open conduit for water either naturally or artificially created, but does not include artificially created irrigation, return flow, or stockwatering channels (WAC 173-27-030(8b)).
- 35. **Channel Migration Zone (CMZ)** - the area along a river within that the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.
- 36. **City** - means the City of Vancouver.
- 37. **Clean Water Act** – the primary federal law providing water pollution prevention and control, previously known as the Federal Water Pollution Control Act. See 33 USC 1251 et seq.
- 38. **Clearing** - the destruction or removal of vegetation from a site by physical, mechanical, chemical or other means. This does not include landscape maintenance or pruning consistent with accepted horticultural practices, such as those recommended by the Washington State University Extension Service, which does not impair the health or survival of the trees or native vegetation.
- 39. **Commercial** - a business use or activity at a scale greater than a home business or cottage industry involving retail or wholesale marketing of goods and services. Examples of commercial uses include restaurants, offices, and retail shops.
- 40. **Commercial Fishing** - is the activity of capturing fish and other seafood under a commercial license.
- 41. **Conditional Use** – a use, development, or substantial development that is classified as a conditional use, or is not classified within the Master Program, and requires a conditional use permit (WAC 173-27-030(4)).
- 42. **Covered Moorage** – Boat moorage, with or without walls, that has a roof to protect a boat.
- 43. **Critical Aquifer Recharge Area** - Areas with a critical recharging effect on aquifers used for potable water as designated at VMC 14.26.

- 44. **Critical Areas** - include fish and wildlife habitat conservation areas, frequently flooded areas, geologic hazard areas, and wetlands as designated in Chapter 5A, and critical aquifer recharge areas as designated at VMC 14.26.
- 45. **Critical Habitat**- Specific geographical areas that possess physical or biological features that are essential to the conservation of federally listed species. These designated areas may require special management considerations or protection.

D

- 46. **Date of Filing** – means the date of actual receipt by Ecology of the City’s decision. For a variance or conditional use permit, the date of filing is the date Ecology’s decision is transmitted to the City. For a variance or conditional use permit decision in conjunction with a shoreline substantial development permit decision, the date of filing is the date Ecology’s decision is transmitted to the City.
- 47. **Development** - a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this Program at any state of water level.
- 48. **Development Regulations** - the controls placed on development or land uses, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under RCW 90.58, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto (WAC 173-26-020(8)).
- 49. **Dike** - is an artificial embankment normally set back from the bank or channel in the floodplain for the purpose of keeping floodwaters from inundating adjacent land.
- 50. **Dock** - a landing or moorage facility for watercraft and does not include recreational decks, storage facilities or other appurtenances.
- 51. **Dock, Community** – a dock serving a subdivision, hotel, motel, or multi-family residential development.
- 52. **Dock, Joint-Use** – a dock serving two or more lots ~~each of which has water frontage, providing a moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents on adjacent lots each with water frontage.~~
- 53. **Dolphin** – A cluster of piles bound together.
- 54. **Dredge Material** – the material removed by dredging.
- 55. **Dredging** - is the removal or displacement of earth or sediments such as gravel, sand, mud, silt, or debris from below the OHWM of any stream, river, lake, water body, or wetland.
- 56. **Dredging, Maintenance** - dredging for the purpose of maintaining a prescribed minimum depth previously authorized by a federal, state, and/or local permit as part

of any specific waterway project. Maintenance dredging also includes dredging that maintains the previously authorized width of a channel, boat basin or berthing area.

57. **Drift Sector** - the extent of the littoral drift area downstream from and caused by a breakwater, jetty, rock weir or groin.

E

58. **Ecology** – the Washington State Department of Ecology.
59. **Ecosystem-wide Processes** - the suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions (*WAC 173-26-020(14)*).
60. **Effective Date of Permit** – For Shoreline Substantial Development, Conditional Use and Variance Permits, the date of filing as provided in RCW 90.58.140(6), including completion of all appeals or legal actions.
61. **Emergency**- is an unanticipated and imminent threat to public health, safety, or the environment that requires immediate action within a time too short to allow full compliance with this Program.
62. **Emergency Construction** - Emergency construction does not include development of new permanent protective structures where none previously existed. As a general matter, flooding or other seasonal events that can be anticipated and may occur, but are not imminent, are not an emergency (*RCW 90.58.030(3)(e)(iii)* and *WAC 173-14-040(1)(d), (2), and (3)*).
63. **Enhancement** - Alterations performed to improve the condition of an existing degraded area so that the functions provided are of a higher quality. Enhancements are to be distinguished from resource creation or restoration projects.
64. **Erosion** – The general process or the group of processes whereby the material of the earth's crust are loosened, dissolved, or worn away, and simultaneously moved from one place to another, by natural forces, that include weathering, solution, corrosion, and transportation, but usually exclude mass wasting (American Geological Institute, 1998).
65. **Exempt/Exemption** - developments that are set forth in Section 2.3 (Exemptions from Substantial Development Permit) of this Program that are not required to obtain a Shoreline Substantial Development Permit, but which must otherwise comply with applicable provisions of the act and this Program (*WAC 173-27-040; RCW 90.58.030(3)(e), 90.58.147, 90.58.355, and 90.58.515*).

F

66. **Fair Market Value** - the open market bid price for conducting the work, using the equipment and facilities, and purchase of the goods, services and materials necessary to accomplish the development. This would normally equate to the cost of hiring a contractor to undertake the development from start to finish, including

the cost of labor, materials, equipment and facility usage, transportation and contractor overhead and profit. The fair market value of the development shall include the fair market value of any donated, contributed or found labor, equipment or materials (WAC 173-27-030(8)).

- 67. Feasible** - an action, such as a development project, mitigation, or preservation requirement, meets all of the following conditions:
- e. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
 - f. The action provides a reasonable likelihood of achieving its intended purpose; and
 - g. The action does not physically preclude achieving the project's primary intended legal use.

In cases where this Program requires certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant.

In determining an action's infeasibility, the city may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames. (WAC 1713-26-020(15))

- 68. Feeder Bluff** - any bluff (or cliff) experiencing periodic erosion from waves, sliding, slumping, whose eroded earth, sand, or gravel material is naturally transported (littoral drift) via a driftway to an accretion shoreform. Feeder bluff exceptional segments lack a backshore, old or rotten logs, and coniferous bluff vegetation.
- 69. Fill** - means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the OHWM, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land (WAC 173-26-020(16)).
- 70. Fill, Speculative** - The placement of fill material not associated with an approved project.
- 71. Fish and Wildlife Habitat Conservation Areas** - Fish and Wildlife Habitat Conservation Areas as designated at VMC 20.740.110.
- 72. Float** - a fixed platform structure anchored in and floating upon a water body that does not connect to the shore, and that provides landing for water dependent recreation or moorage for vessels or watercraft.
- 73. Floating Home** – a single-family dwelling unit constructed on a float, that is moored, anchored, or otherwise secured in waters, and is not a boat, even though it may be capable of being towed.
- 74. Floating on-water residence** – any floating structure other than a floating home, as defined below:
- a. That is designed or used primarily as a residence on the water and has detachable utilities; and

- b. Whose owner or primary occupant has held an ownership interest in space in a marina, or has held a lease or sublease to use space in a marina, since a date prior to July 1, 2014.

- 7475. Flood Hazard Reduction** - measures taken to reduce flood damage or hazards. Flood hazard reduction measures may consist of nonstructural or indirect measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, bioengineering measures, and storm water management programs; and of structural measures, such as dikes, levees, and floodwalls intended to contain flow within the channel, channel realignment, and elevation of structures consistent with the National Flood Insurance Program.
- 7576. Floodplain** - synonymous with the one hundred-year floodplain and area of special flood hazard (frequently flooded areas) and refers to the land subject to a 1% or greater chance of flooding in any given year.
- 7677. Floodway** - means the area, as identified in this Program, that has been established in Federal Emergency Management Agency flood insurance rate maps or floodway maps. The floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state (RCW 90.58.030(2)(b)).
- 7778. Forb** - an herbaceous, non-woody plant other than grass.
- 7879. Forest Practices** – any activity conducted on or directly related to forest land and relating to growing, harvesting, or processing timber. These activities include but are not limited to: road and trail construction, final and intermediate harvesting, pre-commercial thinning, reforestation, fertilization, prevention and suppression of disease and insects, salvage of trees, and brush control (WAC 222-16-010(21)).
- 7980. Frequently Flooded Areas** - the areas of special flood hazard as designated at VMC 20.740.120.
- 8081. Frontage or Water Frontage** – the portion of a parcel adjacent to the OHWM between property lines.

G

- 8182. Gabions** – structures composed of masses of rocks, rubble, or masonry held tightly together usually by wire mesh so as to form blocks or walls.
- 8283. Geologic Hazard Areas** - include areas of landslide, liquefaction and dynamic settlement, ground shaking amplification, fault rupture, soil erosion, and bank erosion hazard areas as designated at VMC 20.740.130.
- 8384. Grading** - means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land (WAC 173-26-020(20)).
- 8485. Grassy Swale** – a vegetated drainage channel that is designed to remove various pollutants from stormwater runoff through biofiltration.

- 8586. Groin** - a barrier-type structure extending from the backshore or stream bank into a water body for the purpose of the protection of a shoreline and adjacent upland by influencing the movement of water and/or deposition of material.
- 8687. Groundwater** - means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

H

- 8788. Harbor Area** - the area of navigable waters between the inner and outer harbor lines identified by the Board of Natural Resources acting as the State Harbor Lines Commission and as established by Section 1 of Article XV of the Washington State Constitution.
- 8889. Harbor Line, Inner** - the line established by the State of Washington in navigable tidal waters between the line of ordinary high tide and the outer harbor line and constituting the inner boundary of the harbor area. This line determines the seaward extent of private ownership in tidal or shoreland areas (often corresponds to the “bulkhead line”).
- 8990. Harbor Line, Outer** - the line located and established by the Washington State Department of Natural Resources in navigable waters that delineates the extent of water area that may be leased to private interests.
- 9091. Hazard Tree** - any tree with a combination of structural defect and/or disease and a proximity to persons or property which makes it subject to a high probability of failure, as recommended by a qualified arborist.
- 9192. Height** - the distance measured from the average grade level to the highest point of a structure: Provided that television antennas, chimneys, and similar appurtenances shall not be used in calculating height, except where it obstructs the view of a substantial number of residences on areas adjoining such shorelines (or the master program provides otherwise): Provided further that temporary construction equipment is excluded in this calculation (WAC 173-27-030(9)).
- 9293. Hook** – a spit or narrow cape of sand or gravel that turns landward at its outer end.

I

- 9394. Institutional Use** – A use and related structure(s) for the provision of educational, medical, cultural, social, public safety, and/or recreational services to the community, including but not limited to schools, colleges, museums, community centers, and the relevant essential public facilities identified in WAC 365-196-550
- 9495. In-stream Structure** - a structure placed by humans within a stream or river waterward of the ordinary high-water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose. Outfalls are not in-stream structures.

9596. Interested Party – means all persons who have notified local government of their desire to receive a copy of the final order on a permit under WAC 173-27-030 (WAC 173-27-030(12)).

9697. Invasive – means a nonnative plant or animal species that:

- causes or may cause significant displacement in range, a reduction in abundance of native species;
- Threatens or may threaten natural resources or their use in the state;
- Causes or may cause economic damage to commercial or recreational activities that are dependent upon state waters; or
- Threatens or harms human health (RCW 77.08.010(28)).

J

9798. Jetty- a structure usually projecting out into the water for the purpose of protecting a navigation channel, a harbor, or to influence water currents.

L

9899. Lakes – all the surface water areas of the state, including reservoirs; except: (a) Lakes less than twenty acres in size; (b) Streams or rivers (as described in WAC 173-18-030); and (c) Shorelines of statewide significance (WAC 173-20-030(1)).

99100. Lakes of Statewide Significance - those lakes, whether natural, artificial or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high-water mark (WAC 173-20-030(2)).

100101. Large Woody Debris - Shrubs, trees, or their branches that have fallen and are on the ground or in, across, or dangling above streams, rivers, lakes, or ponds.

101102. Levee – a large dike or embankment, often having an access road along the top, that is designed as part of a system to protect land from floods.

102103. Limited Utility Extension – the extension of a utility service that is categorically exempt under RCW 43.21C for natural gas, electricity, telephone, water or sewer to service an existing use and will not extend more than twenty-five hundred (2500) linear feet within the shorelines of the state.

103104. Littoral – The area of the shore from the OHWM waterward to a depth of two meters below ordinary low water or to the maximum extent of non-persistent emergent plants.

104105. Littoral Drift –The mud, sand, or gravel material moved parallel to the shoreline in the nearshore zone by waves and current.

105106. Live-aboard boat – ~~a boat principally used as an over water residence. Principal use as an over water residence means that it is occupied in a single location for a period exceeding two months in any one calendar year. Live-aboards are licensed and designed for use as a mobile structure with detachable utilities or facilities, anchoring, and the presence of adequate self-propulsion and steering equipment to operate as a boat.~~ A licensed boat designed as a

conventional recreational vessel with habitable cabin or quarters that is occupied in a single location for a period exceeding two months in any one calendar year. The live-aboard boat shall have self-propulsion and steering that is sufficient to move the vessel entirely under its own power and shall have detachable utilities or facilities and anchoring. The live-aboard boat must be of a design that is capable of safely navigating the waterway where it is located including being equipped to handle winds, waves, tides and currents. Typical terms for live-aboard boats are sailboat, cabin cruiser, trawler yacht, tug, motor yacht cruiser, motorsailer, multi-hulled power boat, sport fishing boat or similar vessel.

- ~~106~~107. Local Government** – any county, incorporated city, or town that contains within its boundaries shorelines of the state subject to chapter 90.58 RCW.
- ~~107~~108. Log Booming** – includes the placement or removal of logs and log bundles into and from the water, and the assembly and disassembly of rafts for waterborne transportation.

M

- ~~108~~109. Marina** - a water-dependent commercial use that consists of a system of piers, buoys, or floats which provides moorage for at least ten (10) boats. For the purposes of this Program, large community moorage facilities, yacht club facilities, and camp or resort moorage areas are also considered marinas. Boat launch facilities and supplies and services for small commercial or pleasure craft are often associated with marinas. Uses accessory to marinas may include fuel docks and storage, boating equipment sales and rental, repair services, public launching, bait and tackle shops, potable water, waste disposal, administration, parking, groceries, and dry goods.
- “Foreshore marinas” are marinas located waterward of the ordinary high water mark.
- “Backshore marinas” are marinas located landward of the ordinary high water mark. There are two common types of backshore marinas: (1) a wet-moorage marina that is dredged out of the land artificially creating a basin; and (2) a dry-moorage marina that has upland storage with a hoist, marine travel lift, or ramp for water access.
- ~~109~~110. Marine Railway** – a set of steel rails running from the upland area into the water upon which a cart or dolly can carry a boat to be launched.
- ~~110~~111. Marine Travel Lift** – a mechanical device that can hoist vessels off trailers and transport them into the water. Often associated with dry land moorage.
- ~~111~~112. May** - means the action is acceptable, provided it conforms to the provisions of this Program.
- ~~112~~113. Merchantable Trees** - live trees, 6 inches in diameter at breast height (DBH) and larger, unless documentation of current, local market conditions are submitted and accepted by the local jurisdiction indicating non-marketability. "Merchantable trees" shall not include trees smaller than 4 inches DBH.

- ~~113~~114. Mining** - the removal of sand, gravel, soil, minerals, and other earth materials for commercial and other uses (*WAC 173-26-241*).
- ~~114~~115. Mitigation** – to avoid, then minimize and compensate for unavoidable adverse impacts to shoreline ecological functions and processes.
- ~~115~~116. Mitigation, Compensatory** – an action to reduce the severity of effects from an action that may cause potential impacts to functions and values of critical areas and their buffers.
- ~~116~~117. Mixed-use Project** - developments that include a combination of components, such as residential uses, hotels, marinas, habitat improvement actions, public access provisions, and other uses.
- ~~117~~118. Moorage** - a pier, dock, buoy or float, either fixed or floating, to which boats may be secured.
- ~~118~~119. Moorage Facility, Community** - a moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents of a certain subdivision, hotel, motel, or multi-family residential development within shoreline jurisdiction; or for use by patrons of a public park or quasi-public recreation area, including rental of non-powered craft. A community moorage facility is a marina (Definition #106) if:
- a. it provides commercial goods or services;
 - b. it is of a large scale (more than ten slips);
 - c. moorage is proposed to be leased to upland property owners; or
 - d. the proposal includes a boat launching facility other than a ramp.
- ~~119~~120. Moorage Facility, Joint Use** - a moorage for pleasure craft and/or landing for water sports for use in common by shoreline residents on adjacent or neighboring lots each with water frontage. A joint-use moorage facility is a marina (Definition #106) if:
- a. it provides commercial goods or services;
 - b. it is of a large scale (more than ten slips);
 - c. moorage is proposed to be leased to upland property owners; or
 - d. the proposal includes a boat launching facility other than a ramp.
- ~~120~~121. Mooring Buoy** - a floating object anchored to the bottom of a water body that provides tie-up capabilities for boats or watercraft.
- ~~121~~122. Multi-Family Residence** - a building containing two or more dwelling units including but not limited to duplexes, apartments, and condominiums.
- ~~122~~123. Must** - means a mandate; the action is required.

N

- ~~123~~124. Natural/Existing Topography** – the topography of the lot, parcel, or tract of real property immediately prior to any site preparation or grading including excavation and filling.

- 124125. Navigational Channels** - are those routes on the waters of state beyond the outer harbor line, commonly used by ships for useful commerce.
- 125126. Navigable Waters** - a body of water is capable or susceptible of having been or being used for the transport of useful commerce. The state of Washington considers all bodies of water meandered by government surveyors as navigable unless otherwise declared by a court (WAC 332-30-106).
- 126127. Non-conforming Structure** – a structure that was lawfully constructed or established prior to the effective date of the applicable Act or Program provision, and which no longer conforms to the applicable shoreline provisions (WAC 173-27-080(1)).
- 127128. Non-conforming Use** - use or activity that was lawfully established prior to the effective date of the applicable Act or Program provision, and which no longer conforms to the applicable shoreline provisions. (WAC 173-27-080(1))
- 128129. Non-Water-Oriented Use or Activity** - a use or activity that is not water-dependent, water-related, or water-enjoyment.
- 129130. Normal Maintenance** - includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition (WAC 173-27-040(2)(b)). See also “normal repair”.
- 130131. Normal Repair** - to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment (WAC 173-27-040(2)(b)). See also “normal maintenance”.
- 131132. Noxious Weeds** - Non-native plants that are destructive, competitive, and difficult to control as defined by the Washington State Noxious Weed Control Board.

O

- 132133. Ordinary High Water Mark (OHWM)** - that mark found by examining the bed and banks of a body of water and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or Ecology: Provided that in any area where the ordinary high water mark cannot be found, the ordinary high

water mark adjoining salt water shall be the line of mean higher high tide and the OHWM adjoining fresh water shall be the line of mean high water (*RCW 90.58.030(2)(b) and WAC 173-22-030(6)*).

133134. Over-water Structure - a structure or other construction located waterward of the Ordinary High Water Mark (OHWM) or a structure or other construction erected on piling above the surface of the water, or upon a float.

P

134135. Parking - the temporary storage of automobiles or other motorized vehicles. Temporary storage of vehicles for import or export in port areas shall not be considered parking.

135136. Parking, Accessory - is that which directly serves an approved shoreline use.

136137. Parking, Primary - parking that is the principal use on the property, not accessory to another use.

137138. Party of Record - includes all persons, agencies or organizations who have submitted written comments in response to a public notice; presented testimony in a formal public hearing; or notified the city of their desire to receive a copy of the final decision; and who have provided a complete, accurate, and current address for delivery of such decision by mail.

138139. Permitted Use – a use that is allowed under the rules and regulations of this Program.

139140. Permit - any substantial development, variance, conditional use permit, or revision authorized under this Program (*WAC 173-27-030(13)*).

140141. Pier - a fixed platform structure supported by piles in a water body that abuts the shore to provide landing for water-dependent recreation or moorage for boats or watercraft or to provide access to a floating dock.

141142. Pierhead Line - the waterward limit to which open pile work may be constructed as designated by the Federal government.

142143. Point – a low profile shoreline promontory of more or less triangular shape, the top of which extends seaward. A point may be the wavecut shelf remnant of a headland bluff or a purely accretional deposit that began as a hooked spit and becomes a point by subsequently closing the lagoon gap between the headland and the tip of the hook. Points are characterized by converging berms that normally enclose a lagoon, marsh, or meadow, depending on the point's stage of development.

143144. Port – a municipal corporation that is a special purpose district of local government authorized by the Washington State Constitution and regulated by RCW Chapter 53.

144145. Potentially Harmful Materials - means hazardous materials as defined at VMC Section 14.26.110 as well as other materials including, but not limited to, the following which, if discharged or improperly disposed, may present a risk to water resources:

Petroleum products including but not limited to petroleum fuel and petroleum-based coating and preserving materials; oils containing PCBs; antifreeze and other liquid automotive products; metals, either in particulate or dissolved form, in concentrations above established regulatory standards; flammable or explosive materials; radioactive material; used batteries; corrosives, acids, alkalis or bases; paints, stains, resins, lacquers or varnishes; degreasers; solvents; construction materials; drain cleaners and other toxic liquid household products; pesticides, herbicides, fungicides or fertilizers unless applied in accordance with local, state and federal standards; steam cleaning and carpet cleaning wastes; pressure cleaning wastes; car wash water; laundry wastewater; soaps, detergents, ammonia; swimming pool backwash; chlorine, bromine, and other disinfectants; heated water; domestic animal wastes; sewage; recreational vehicle waste; animal carcasses, excluding salmonids; food wastes; pharmaceuticals and personal care products; collected lawn clippings, leaves or branches; trash or debris; silt, sediment or gravel; dyes; and untreated or unapproved wastewater from industrial processes.

- 145146. Program** - the Shoreline Master Program developed pursuant to the Shoreline Management Act (RCW 90.58), adopted by the city and approved by Ecology.
- 146147. Project Area** – the area which will be directly physically affected by a proposed development.
- 147148. Provisions** - policies, regulations, standards, guideline criteria or environment designations.
- 148149. Public Access** - is the physical ability of the general public to reach, touch and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations (WAC 173-26-221).
- 149150. Public Interest** - the interest shared by the citizens of the state or community at large in the affairs of government, or some interest by which their rights or liabilities are affected including, but not limited to, an effect on public property or on health, safety, or general welfare resulting from a use or development (WAC 173-27-030(14)).

Q

- 150151. Qualified Professional** - a person with experience and training in the pertinent scientific discipline, and who is a qualified scientific expert with expertise appropriate for the relevant critical area subject in accordance with WAC 365-195-905(4).

R

- 151152. Recreational Use** – a use and related structures for the provision of recreational activities, as follows:
- a. Active recreational uses/facilities or uses** – involve indoor or outdoor activities with a large number of participants or viewers; require a moderate to high level of infrastructure and maintenance; generate high noise levels. Sports

fields, golf courses, skate parks, and motorized boating are examples of active recreational uses or facilities.

b. Passive recreational uses/facilities - involve a small number of participants or viewers; require a low to moderate level of infrastructure development and maintenance; generate little noise; and are compatible with open space and natural resource protection. Wildlife viewing, non-vehicular trails, fishing, canoeing and picnicking are examples of passive recreational uses and facilities.

152153. Recreational Vehicle – A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light-duty truck, and designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

153154. Residential Development - is the development on shorelands of single-family and multi-family residences and their normal appurtenances, and the creation of new residential lots through land division.

154155. Restoration– means to reestablish or upgrade impaired ecological processes or functions. This may be accomplished through measures including, but not limited to, re-vegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions (WAC 173-26-020(31)).

155156. Revetment - a sloped wall constructed of riprap or other material placed on stream banks or other shorelines to retard bank erosion and minimize lateral stream movement. A revetment typically slopes waterward and has rough or jagged facing. The slope differentiates it from a bulkhead that is a vertical structure.

156157. Right-of-Way (ROW) - The property held by the city or other governmental jurisdiction for existing and/or future public access including land occupied or intended to be occupied by a street, crosswalk, pedestrian and bike paths, railroad, road, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, street trees or other special use. The usage of the term right-of-way for land division purposes shall mean that every right-of-way hereafter established and shown on a plat or map is to be separate and distinct from the lots or parcels adjoining such right-of-way and not included within the dimensions or areas of such lots or parcels.

157158. Rip-Rap - is a foundation or retaining wall of stones or rock placed along the water's edge or on an embankment to prevent erosion.

158159. Rock Weir – See “Groin.”

S

159160. Setback –the distance an activity, building, or structure must be located from the Ordinary High Water Mark.

- ~~160~~161. Shall** - a mandate; the action must be done.
- ~~161~~162. Shorelands** - those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the OHWM; floodways and contiguous floodplain areas landward two hundred feet from such floodways (minimum extent) or to the outer extent of the floodplain (maximum extent); and all wetlands and river deltas associated with the streams, lakes and tidal waters that are subject to the provisions of this program, as may be amended; the same to be designated as to location by Ecology, as defined by RCW 90.58. (See Section 2.1.)
- ~~162~~163. Shoreline Administrator** - is the city's Planning Official or his/her designee responsible for administering this Program.
- ~~163~~164. Shoreline Designations** - the categories of shorelines established by this Program in order to provide a uniform basis for applying policies and use regulations within distinctively different shoreline areas.
- ~~164~~165. Shoreline Ecological Functions** - the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments which constitute the shoreline's natural ecosystem (*WAC 173-26-200 (2)(c)*).
- ~~165~~166. Shoreline Jurisdiction** - all "shorelines of the state" and "shorelands" as defined in RCW 90.58.030.
- ~~166~~167. Shoreline Master Program or Program** - means the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020. See Section 1.8 for complete details.
- ~~167~~168. Shoreline Modifications** - those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, dredging or application of chemicals.
- ~~168~~169. Shoreline Restoration Project** – a project designed to restore impaired ecological function of a shoreline.
- ~~169~~170. Shoreline Stabilization** – includes actions taken to address erosion impacts to property and structures caused by processes such as current, flood, wind, or waves. These actions include structural and non-structural methods. Structural measures include but are not limited to bulkheads, revetments, and riprap. Non-structural measures include building setbacks, relocation of structures, and bioengineered methods that use vegetation or wood.
- ~~170~~171. Shoreline Substantial Development Permit** - is the permit required by this Program for uses which meet the definition of substantial developments.
- ~~171~~172. Shorelines** - means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them, except: (a)

shorelines of statewide significance; (b) shorelines on segments of streams upstream of a point where the mean annual flow is twenty (20) cubic feet per second or less, and the wetlands associated with such upstream segments; and (c) shorelines on lakes less than twenty (20) acres in size and wetlands associated with such small lakes. See RCW 90.58.030(2)(d) and WAC 173-18, 173-26 and 173-22.

172173. Shorelines Hearing Board (SHB) – a quasi-judicial body established by the Shoreline Management Act of 1971 to hear appeals by any aggrieved party on the issuance of a substantial development permits, conditional uses, variance or, enforcement penalties.

173174. Shorelines of Statewide Significance – a select category of shorelines of the state, defined in RCW 90.58.030(2)(f), where special policies and regulations apply, and described below:

- a. Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of 1,000 acres or more, measured at the ordinary high water mark;
- b. Those natural rivers or segments thereof, downstream of a point where the mean annual flow is measured at 1,000 cubic feet per second, or more, and
- c. Their associated shorelands.

174175. Shorelines of the State – are the total of all “shorelines” and “shorelines of statewide significance” within the state.

175176. Should - the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and WAC 173-26, against taking the action.

176177. Sign - A sign is any structure, device, advertisement, advertising device, or visual representation intended to advertise, identify, or communicate information to attract the attention of the public for any reason. Informational signs are non-commercial and intended to communicate safety, directional, navigation, educational, or interpretive information.

177178. Significant Vegetation Removal – the removal or alteration of trees, shrubs, and /or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, where it does not affect ecological functions does not constitute significant vegetation removal (WAC 173-26-020(33)).

178179. Single-Family Residence - a detached dwelling designed for and occupied by one family including those structures and developments within a contiguous ownership which are a normal appurtenance.

179180. Solid Waste Facility - refers to any land or structure where solid waste is stored, collected, transported, or processed in any form, whether loose, baled or containerized, including but not limited to the following: transfer stations,

landfills, or solid waste loading facilities. Solid waste handling and disposal facilities do not include the following: handling or disposal of solid waste as an incidental part of an otherwise permitted use; and solid waste recycling and reclamation activities not conducted on the same site as and accessory to the handling and disposal of garbage and refuse.

- 180181**. **Stormwater** - runoff during and following precipitation and snowmelt events, including surface runoff and drainage.
- 181182**. **Stream** - Water contained within a channel, either perennial or intermittent, and classified according to WAC 222-16-030 or WAC 222-16-031. Streams also include natural watercourses modified by humans. Streams do not include drainage ditches which are not modifications of natural watercourses.
- 182183**. **Structure**- a permanent or temporary edifice or building or any piece of work artificially built or composed of parts joined together in some definite manner, whether installed on, above, or below the surface of the ground or water, except for vessels (WAC 173-27-030(15)).
- 183184**. **Subdivision** – the division or re-division of land, including short subdivision, for the purpose of sale, lease, or conveyance.
- 184185**. **Substantial Development** - "Substantial development" shall mean any development of that the total cost or fair market value exceeds five thousand seven hundred and eighteen dollars (\$5,718), or as adjusted by the State Office of Financial Management, or any development that materially interferes with the normal public use of the water or shorelines of the state, except as specifically exempted pursuant to RCW 90.58.030(3)(e).
- 185186**. **Substantially Degrade** - to cause significant ecological impact (WAC 173-26-020(35)).
- 186187**. **Surface Water** - water that flows across the land surface, in channels, or is contained in depressions in the land surface, including but not limited to ponds, lakes, rivers, and streams.

T

- 187188**. **Terrestrial** – of or relating to land as distinct from air and water.
- 188189**. **Transfer Facility** – See “Solid Waste Facility.”
- 189190**. **Transmit** - to send from one person or place to another by mail or hand delivery. The date of transmittal for mailed items is the date that the document is certified for mailing or, for hand-delivered items, is the date of receipt at the destination (WAC 173-27-030(16)).
- 190191**. **Transportation Facility** - a road, railway, bridge and related structures such as culverts, fills, embankments, causeways, and the relevant essential public facilities identified in WAC 365-196-550 for the purpose of moving people or freight using motorized or non-motorized means of transport.

U

- 191192. Upland** – generally described as the dry land area above and landward of the OHWM.
- 192193. Utilities** - services and facilities that produce, convey, store, or process power, water, wastewater, stormwater, gas, communications, oil, and the like, including the relevant essential public facilities identified in WAC 365-196-550.
- 193194. Utilities, Accessory** - are on-site utility features serving a primary use, such as a water, sewer, or gas line to a residence, and shall be considered a part of the primary use.

V

- 194195. Variance** - is a means to grant relief from the specific bulk, dimensional or performance standards set forth in the applicable master program and not a means to vary a use of a shoreline. See RCW 90.58.160. (WAC 173-27-030(17)).
- 195196. Vegetation Conservation** - includes activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species (WAC 173-26-221).
- 196197. Vessel** - See “Boat.”
- 197198. View Corridor** - portion of a viewshed, often between structures or along thoroughfares. View corridors may or may not be specifically identified and reserved through development regulations for the purpose of retaining the ability of the public to see a particular object (such as a mountain or body of water) or a landscape within a context that fosters appreciation of its aesthetic value.

W

- 198199. Water-dependent Use or Activity** - a use or a portion of a use which requires direct contact with the water and cannot exist at a non-water location due to the intrinsic nature of its operations.
- 199200. Water-enjoyment Use or Activity** - a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and that through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

- 200201. Water-oriented Use or Activity** - a use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.
- 201202. Water Quality** - the characteristics of water within shoreline jurisdiction, including water quantity, hydrological, chemical, aesthetic, recreation-related, and biological characteristics.
- 202203. Water Quantity** - For the purposes of this program, refers only to development and uses affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this Program, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340 (WAC 173-26-020(42)).
- 203204. Water-related Use or Activity** – a use or portion of use that is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:
- a. of a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water or,
 - b. the use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers make its services less expensive and/or more convenient.
- 204205. Water Resources** – Means surface water, stormwater, and groundwater.
- 205206. Watershed Restoration Plan** - a plan, developed or sponsored by WDFW, Ecology, DNR, the Washington Department of Transportation, a federally recognized Indian tribe acting within and pursuant to its authority, a city, a county, a special purpose agency such as the Lower Columbia Fish Recovery Board, or a conservation district that provides a general program and implementation measures or actions for the preservation, restoration, recreation, or enhancement of the natural resources, character, and ecology of a stream, stream segment, drainage area, or watershed for which agency and public review has been conducted pursuant to chapter 43.21C RCW, the State Environmental Policy Act.
- 206207. Watershed Restoration Project** - a public or private project authorized by the sponsor of a watershed restoration plan that implements the plan or a part of a the plan and consists of one or more of the following activities (RCW 89.08.460):
- a. A project that involves less than ten miles of stream reach, in which less than twenty-five (25) cubic yards of sand, gravel, or soil is removed, imported, disturbed or discharged, and in which no existing vegetation is removed except as minimally necessary to facilitate additional plantings;
 - b. A project for the restoration of an eroded or unstable stream bank that employs the principles of bioengineering, including limited use of rock as a stabilization only at the toe of the bank, and with primary emphasis on using native vegetation to control the erosive forces of flowing water; or

- c. A project primarily designed to improve fish and wildlife habitat, remove or reduce impediments to migration of fish, or enhance the fishery resource available for use by all of the citizens of the state, provided that any structure, other than a bridge or culvert or instream habitat enhancement structure associated with the project, is less than two hundred square feet in floor area and is located above the ordinary high water mark of the stream.

207208. **Weir** - a structure in a stream or river for measuring or regulating stream flow.

208209. **Wetlands** - areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands. Wetlands are designated at VMC 20.740.140.



Item #4.

TO: Mayor and City Council

FROM: Natasha Ramras, Chief Financial Officer

DATE: 7/9/2018

SUBJECT Approval of Claim Vouchers

Action Requested

Approve claim vouchers for July 9, 2018.

(Copy available upon request.)

ATTACHMENTS:

- ▢ Claims Report

VOUCHER APPROVAL

We, the undersigned council members of the City of Vancouver, Clark County, Washington, do hereby certify that the merchandise or services hereinafter specified have been received and that the vouchers listed below are approved for payment in the amount of:

\$ **4,504,432.25** this 9th day of July 2018.

MAYOR

COUNCILMEMBER



AUDITING OFFICER

COUNCILMEMBER

DATE	INCLUSIVE CHECK NUMBERS	CHECK TOTAL
June 26 - July 2	Accounts Payable Checks (see attached)	\$ 4,440,535.97
June 26 - July 2	Visa Refunds (see attached)	\$ 4,441.83
June 26 - July 2	Payroll Checks (see attached)	\$ 59,454.45
TOTAL		\$ 4,504,432.25

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
119620	26-Jun-2018	146.32	INTERNAL REVENUE SERVICE	***WIRE*** 12 2018 QP PAYROLL TAXES; FEDERAL W/H
119621	26-Jun-2018	116,402.93	BLUE CROSS BLUE SHIELD OF OR	***WIRE*** BLUE CROSS WEEKLY CLAIMS, WEEK 3 OF JUNE
119622	26-Jun-2018	781,672.28	INTERNAL REVENUE SERVICE	***WIRE*** 12 2018 PAYROLL TAXES; FEDERAL W/H
119623	26-Jun-2018	6,748.66	BANK OF AMERICA	***WIRE*** 12 2018 PAYROLL HSA
119624	26-Jun-2018	39,099.70	GALLAGHER BASSETT SERVICES INC	***WIRE*** WORKERS' COMP FUNDING / MESSAGE ID: 41250889
119625	27-Jun-2018	25,935.54	PNC BANK NATIONAL ASSOCIATION	***WIRE*** DIFFERENCE OF THE TOTAL STMT TO THE ACTUAL INV DUE TO AN UPLOAD ISSUE THAT IT IS WORKING ON
119626	27-Jun-2018	645,794.93	PNC BANK NATIONAL ASSOCIATION	***WIRE*** PNC PAYMENT TO COVER 06/20/18 STATMENT
119627	27-Jun-2018	274,375.06	WASHINGTON STATE DEPT REVENUE	***WIRE*** EXCISE/SALES TAX COMBINED RETURN ~ MAY 2018
119628	27-Jun-2018	27,996.50	WASHINGTON STATE DEPT REVENUE	***WIRE*** USE TAX FOR THE PERIOD OF MAY-2018
119629	27-Jun-2018	52,800.82	GALLAGHER BASSETT SERVICES INC	***WIRE*** WORKERS' COMP FUNDING / MESSAGE ID: 41272468
119630	27-Jun-2018	17,654.40	STATE OF OREGON	***WIRE*** 12 2018 PAYROLL TAXES; OREGON W/H
119631	27-Jun-2018	1,535.84	HEALTH SMART BENEFITS SOLUTIONS INC	***WIRE*** WEEKLY CLAIMS FROM HEALTH SMART, WEEK 3 OF JUNE
119632	28-Jun-2018	686,985.19	STATE OF WASHINGTON	***WIRE*** 12 2018 PERS/LEOFF
119633	29-Jun-2018	8,500.00	MARK BROWN	***WIRE*** 18JUN - MONTHLY INTERGOVERNMENTAL RELATIONS - CMO
119634	27-Jun-2018	(0.02)	WASHINGTON STATE DEPT REVENUE	***WIRE*** USE TAX FOR THE PERIOD OF MAY-2018
119634	02-Jul-2018	3,680.75	INTERNAL REVENUE SERVICE	***WIRE*** 6 2018 PENSION TAXES
119635	02-Jul-2018	220,693.87	US BANK TRUST	***WIRE*** TAX REVENUES - TREASURY
592218	27-Jun-2018	1,024.39	411 MEDIA GROUP LLC	MAGNETIC VEHICLE DOOR SIGNS - FIRE
592219	27-Jun-2018	900.78	A LINE ASPHALT MAINTENANCE INC	18MAY - MAINT RATED SWEEP - OP CENTER, VPD EAST/WEST, PARKING
592220	27-Jun-2018	62,817.79	ABM ON-SITE SERVICES WEST INC	JOB 31062242 - CUST 6631793 - MONTHLY JANITORIAL SERVICES - MULTIPLE CITY LOCATIONS - 18JUN - OP CENTER
592221	27-Jun-2018	4,290.00	ACCENT BUSINESS SERVICES INC	ALI ZULFI - W/E 05/26/18 - INFO TECH - RECEIPT 135096
592222	27-Jun-2018	64.00	ACCURATE CORPORATE SERVICES INC	04/14/18-05/15/18 - LONG TERM STORAGE - WINTER HOLIDAY PRODUCTS - FACILITIES - RECEIPT 135361 BY H VASKELIS PER E-MAIL
592223	27-Jun-2018	304,800.09	ADVANCED EXCAVATING SPECIALISTS, LLC	2018 PRESERVATION CURB RAMPS - EST 1 - THRU 05/20/18
592224	27-Jun-2018	2.98	AIRGAS NOR PAC INC	PAYER 2363679 - SHIP TO 2335879 - COMPRESSED GAS - 05/31/18 - FIRE STATION 5
592225	27-Jun-2018	4,423.40	AKS ENGINEERING & FORESTRY VANCOUVER LLC	PROJ 6012 - 2017 ON-CALL SURVEY SERVICES - THRU 04/30/18 - CONSTRUCTION
592226	27-Jun-2018	1,320.31	ALBINA FUEL	CUST 00-0076624 - CSS-1 TACK OIL - OPS CENTER
592227	27-Jun-2018	287.50	ALL ABOUT FUN INC	06/20/18 - BOUNCE SLIDE COMBO/STAFFING - "LITTLE CAMPERS" - FIRSTENBURG COMMUNITY CENTER - PARKS
592228	27-Jun-2018	(8.79)	ALLEGIANCE BENEFIT PLAN MANAGEMENT	MAY 2018 INTEREST FIRE
592228	27-Jun-2018	787.92	ALLEGIANCE BENEFIT PLAN MANAGEMENT	RETIRED LEOFF 1 FIRE
592229	27-Jun-2018	(0.06)	ALLEGIANCE BENEFIT PLAN MANAGEMENT	APRIL 2018 INTEREST POLICE - ADDITIONAL
592229	27-Jun-2018	(8.91)	ALLEGIANCE BENEFIT PLAN MANAGEMENT	MAY 2018 INTEREST POLICE
592229	27-Jun-2018	17,347.20	ALLEGIANCE BENEFIT PLAN MANAGEMENT	RETIRED LEOFF 1 POLICE MEDICAL CLAIMS
592230	27-Jun-2018	1,481.83	ALLIED UTILITY PRODUCTS	CUST 80905-01 - OPERATING SUPPLIES - OPS CENTER
592231	27-Jun-2018	135.66	ANNE CONSTANTINE	SETTLEMENT RE: ANNE CONSTANTINE - DOL: 11/201/17 - RISK
592232	27-Jun-2018	225.62	ARAMARK UNIFORM SERVICES INC	SUMMARY: MAT/TOWEL CLEANING MAY18
592233	27-Jun-2018	3,555.52	ARBORSCAPE LTD INC	05/15/18-05/17/18 - REMOVE/TRIM VARIOUS TREES FOR STREETS PAVING PROJECT - VARIOUS CITY LOCATIONS - OP CENTER
592234	27-Jun-2018	790.00	ASSOCIATION OF WASHINGTON CITIES	2018 LABOR RELATIONS INSTITUTE REGISTRATION - B POTTER/T BUCK - OP CENTER
592235	27-Jun-2018	1,632.51	AT&T MOBILITY II LLC	ACCT 287253610004 - CELL PHONE CHARGES - 05/05/18-06/04/18 - CONSTRUCTION
592236	27-Jun-2018	1,651.57	Barton, Kevin J	POLYGRAPH; FEB - MAY 2018

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
592237	27-Jun-2018	4,149.02	BDS PLANNING & URBAN DESIGN	18MAY - ASSIST WITH CREATION OF BUSINESS DEVELOPMENT AREA - CED - RECEIPT 135309 BY B THOMAS PER E-MAIL
592238	27-Jun-2018	50.00	Bray, Dean Alan	IAAI INTERNATIONAL TRAINING CONFERENCE
592239	27-Jun-2018	7,540.00	BRENDAN ADDIS & LORRAINE RAU	SUMMARY: 18APR/MAY - WREC HABITAT/WATER MONITORING PROGRAM/CONGRESS - WREC
592240	27-Jun-2018	2,960.00	BSK ASSOCIATES	SUMMARY: CLIENT VANC08428 - WO MULTIPLE - SAMPLE TESTING SERVICES - 18MAY - OP CENTER
592241	27-Jun-2018	686.00	CALE AMERICA INC	ACCT VANC000001 - SRO X000010055 - CALE WEB OFFICE SUPPORT FOR PAY STATIONS - 14 EA - 18MAY - PARKING
592242	27-Jun-2018	8,021.60	CELLEBRITE USA CORP	UNIVERSAL FORENSIC EXTRACTION DEVICE (UFED) ULTIMATE SOFTWARE SUPPORT RENEWAL - THRU 05/30/19 - 2 EA - INFO TECH - RECEIPT 135102
592243	27-Jun-2018	9,609.00	CFM STRATEGIC COMMUNICATIONS INC	SUMMARY: PROFESSIONAL SERVICES - THRU 05/31/18 - CMO
592244	27-Jun-2018	75.00	CITY OF VANCOUVER	CUST 100119 - SPECIAL FIRE INSPECTION - INSPECTION-18-2545 - LOC ID 2219-0268 - 2800 NE STAPLETON RD - 06/13/18 - OP CENTER
592245	27-Jun-2018	4,798.50	CITY OF VANCOUVER POLICE TRAVEL FUND	TO REIMB. CHECKS WRITTEN AGAINST POLICE TRAVEL ADVANCE FUNDS.
592246	27-Jun-2018	5,000.00	CITY OF VANCOUVER POLICE TRAVEL FUND	INCREASE IMPREST ACCT - VPD
592247	27-Jun-2018	2,829.81	CLARK COUNTY	CUST 1811 - 2016 Q2 & Q3 AGENCY CORRECTIONS FOR JAIL BED DAYS - BUDGET
592247	27-Jun-2018	35,030.00	CLARK COUNTY	CUST 1811 - CJC CONTRIBUTION - 18JUN - BUDGET
592247	27-Jun-2018	25,612.87	CLARK COUNTY	CUST 1814 - WHATLEY TIPPING FEE - 18JAN - OP CENTER
592247	27-Jun-2018	11,771.51	CLARK COUNTY	CUST 1828 - EXCESS LIQUOR PROFIT/EXCISE TAXES - 2018 QTR 1 - BUDGET
592248	27-Jun-2018	239.50	CLARK COUNTY TITLE CO	ORDER CL10106 - LENDERS POLICY - CDBG REHAB - K SNYDER - 4505 IDAHO ST - CDBG FUNDING
592249	27-Jun-2018	3,513.76	CLARK PUBLIC UTILITIES	SUMMARY: ELECTRICITY
592250	27-Jun-2018	9,024.30	COBBLESTONE HOMES LLC	SUMMARY: PROJ 414647 - REHAB LOAN PROGRAM - CDBG FUNDING
592251	27-Jun-2018	3,298.00	COLUMBIA CLAIMS SERVICE INC	FILE V118-995 - CLAIMS ADJUSTER SERVICES - THRU 06/12/18 - RISK
592252	27-Jun-2018	570.00	COLUMBIA INDUSTRIAL TRAINING & EDUCATION LLC	05/18/18 - BUCKET TRUCK TRAINING - 6 STUDENTS - OP CENTER
592253	27-Jun-2018	25,000.00	COLUMBIA RIVER ECONOMIC	2018 QTR 3 QUARTERLY INVESTMENT - CDD
592254	27-Jun-2018	484.92	COLUMBIA WEST ENGINEERING INC	WO 17159 - WATER STATION 1 - THRU 05/31/18 - CONSTRUCTION - RECEIPT 135538 BY L PETERSEN PER E-MAIL
592255	27-Jun-2018	154.00	COLUMBIAN PUBLISHING COMPANY	ACCT 263636 - ADVERTISING - 06/15/18-06/21/18 - URBAN FORESTRY
592256	27-Jun-2018	109.95	COMCAST CABLE COMMUNICATIONS INC	8778 10 101 3255970 - 06/24/18-07/23/18 - VPD WEST PRECINCT
592257	27-Jun-2018	18,343.97	COMMUNITY SERVICES NORTHWEST	PROJ 221201 - 18JUN - HOUSING REHABILITATION - AFFORDABLE HOUSE FUND - CDBG
592258	27-Jun-2018	876.57	CONSOLIDATED SUPPLY CO	CUST 23132 - OPERATING SUPPLIES - OPS CENTER
592259	27-Jun-2018	286.00	COURIER NORTHWEST INC	18JUN - MONTHLY COURIER SERVICES - MAILROOM - RECEIPT 135028 BY C ALLEMANG PER E-MAIL
592260	27-Jun-2018	4,291.01	DATABAR INC	ORDER 47103 - H2O REPLY ENVELOPES - UTILITIES
592261	27-Jun-2018	65.00	DAVID ICKERT	18JUN - PARKING STALL RENTAL - MEDIA SERVICES
592262	27-Jun-2018	33,000.00	DAVID UNDERHILL	18MAY - POWERFUL PRESENTATION/POWERPOINT TRAININGS - CMO
592263	27-Jun-2018	198.10	DEPT OF LABOR AND INDUSTRIES	2018 OPERATING PERMIT RENEWAL - 08/01/18-08/01/19 - MARSHALL COMM CENTER - 1009 E MCLOUGHLIN - OP CENTER
592264	27-Jun-2018	124,350.85	DLT SOLUTIONS LLC	ORDER 4615789-R01 - CUST VAN02 - SUPP RENEWAL-OTHER - FORMS DEVELOPER-NAMED USER - 12/01/17-12/31/18 - INFO TECH - PO 88584/ RECEIPT 135569 BY S COOLEY PER E-MAIL
592265	27-Jun-2018	7,535.38	EAGLE WEB PRESS	SUMMARY: MESSENGER INSERTS/MAIL PROCESSING - 18JUN - MEDIA SERVICES
592266	27-Jun-2018	9,086.01	ENVIROISSUES INC	PROJ 158-002-005 - VANCOUVER STRONG EXECUTIVE SPONSORS FAC - THRU 04/30/18 - CMO

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
592267	27-Jun-2018	22,216.81	EPIC LAND SOLUTIONS INC	SUMMARY: ON-CALL RIGHT-OF-WAY SERVICES - THRU 05/27/18 - TRANSPORTATION
592268	27-Jun-2018	90.00	ERIC ATWELL DBA ORCHARDS VETERINARY CLINIC LLC	SUMMARY: ACCT 25150 - VETERINARY SERVICES - CANINE OFFICER - VPD
592269	27-Jun-2018	3,588.80	ESIX SPORSTWEAR INC	PORT & COMPANY UNIFORMS/PROTECTIVE CLOTHING - OP CENTER
592269	27-Jun-2018	96.00	ESIX SPORSTWEAR INC	VANCOUVER PUBLIC WORKS UNIFORMS/CLOTHING - OPS CENTER
592270	27-Jun-2018	32,195.00	ESO SOLUTIONS INC	INCIDENT RECORD MANAGMENT SYSTEM - 06/30/18-06/29/18 - FIRE/INFO
592271	27-Jun-2018	249.96	Farra, John R	TECH - RECEIPT 135432 BY J SCHOESSLER
592272	27-Jun-2018	218.84	FAZIO BROTHERS SAND CO INC	ATTEND 2018 TRAFFIC SAFETY CONFERENCE
592273	27-Jun-2018	505.69	FIRE SYSTEMS WEST	CUST CIT VAN - MASON SAND - 21.25 TON - OPS CENTER
592274	27-Jun-2018	4,949.32	GALLS LLC	SUMMARY: SPRINKLER AND FIRE SYSTEM REPAIRS
				ACCT 1001096190 - FIRE UNIFORM - FIRE
592275	27-Jun-2018	4,915.57	GB MANCHESTER INC	WO 4783 - PROVIDE/INSTALL NEW OUTLETS - 6 EA - 04/16/18-04/28/18 - VPD/WEST - 2800 NE STAPLETON RD - INFO TECH - RECEIPT 135527
592276	27-Jun-2018	534.06	GENUINE PARTS COMPANY	CUST 7970 - 18MAY - PARTS FOR VEHICLE AND EQUIPMENT REPAIRS - EQUIP SERVICES
592277	27-Jun-2018	57.75	Gomez, Franklin Nelson	RILEA 2018
592278	27-Jun-2018	467.58	GORDON TRUCK CENTERS	CUST 96056 - 18MAY - PARTS FOR VEHICLE AND EQUIPMENT REPAIR - EQUIP SERVICES
592279	27-Jun-2018	16,646.72	GRAY & OSBORNE INC	SUMMARY: PROJ 16256.00 - WATER SYSTEM MAINTENANCE - THRU 05/26/18 - MP ENG
592280	27-Jun-2018	4,583.33	GREATER VANCOUVER CHAMBER OF	PROJ 2017 CDBG 414743 - SMALL BUSINESS ASSISTANCE PROGRAM - 18MAY - CDBG FUNDING
592281	27-Jun-2018	4,467.00	H&H WOOD RECYCLERS INC	ACCT 10-000006C - 05/16/18-05/31/18 - YARD DEBRIS DISPOSAL - MP ENG - RECEIPT 135473 BY L JONES
592282	27-Jun-2018	881.00	HALBERT CONSTRUCTION LLC	PERMIT NOT REQUIRED
592283	27-Jun-2018	6,928.93	HALBERT CONSTRUCTION LLC	JOB 18-456 - PROFESSIONAL SERVICES - THRU 05/31/18 - OP CENTER
592284	27-Jun-2018	4,828.14	HD FOWLER CO	ORDER 05932221 - OPERATING SUPPLIES - OPS CENTER
592285	27-Jun-2018	4,583.33	HISPANIC METROPOLITAN CHAMBER	PROJ 414744 - SMALL BUSINESS ASSISTANCE PROGRAM - 18MAY - CDBG FUNDING
592286	27-Jun-2018	126.46	Hoffman, Ronald Dale	CHECK FCC, ESP AND MCC
592287	27-Jun-2018	442.54	IRON MOUNTAIN SECURE SHREDDING	CUST 7121Y - ON-SITE DOCUMENT DESTRUCTION - 18MAY - VPD
592288	27-Jun-2018	1,310.78	J2 BLUEPRINT SUPPLY CO	SUMMARY: ACCT CO19 - CONTRACT CN10150-03 - CANON IPF765 COPIER/PLOTTER - SER AAGW4033
592289	27-Jun-2018	1,626.00	JAMESTOWN NETWORKS	1GB LGN ACCESS - 18JUN - INFO TECH - RECEIPT 135362
592290	27-Jun-2018	2,500.00	JANE JACOBSEN	FUNDRAISING CONSULTANT - VANCOUVER WATERFRONT PROJECT - THRU 05/31/18 - PARKS
592291	27-Jun-2018	57.75	JASON PERDUE	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592292	27-Jun-2018	3,750.00	JCI JONES CHEMICALS INC	ORDER 558676 - CHLORINE 150 LB CYLINDERS - 15 EA - OP CENTER
592293	27-Jun-2018	3,600.00	JD FULWILER & CO INSURANCE	POL SRPG-101-0716 - USS348287 - 2017 GENERAL/LIQUOR LIABILITY - 2017 QTR 4 - RISK
592294	27-Jun-2018	89,434.00	JEFFREY BARRAR PS AKA VANCOUVER DEFENDERS	18JUL PUBLIC DEFEND PRIMARY AND INVESTIGATOR - CMO
592295	27-Jun-2018	200.00	JOHN CANNON DBA SMOOTH COUNTRY BLUES	06/03/18 - SUNDAY DANCE - MUSICAL ENTERTAINMENT - PARKS
592296	27-Jun-2018	57.75	JON SHIELDS	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592297	27-Jun-2018	242.03	JUBITZ CORPORATION	ORDER 51797 - C-2 SAMPLE KIT - 20 EA - FIRE
592298	27-Jun-2018	189.00	JUDITH L BUFFORD	18MAY - WREC HABITAT/WATER MONITORING PROGRAM/CONGRESS - CITY - WREC

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
592298	27-Jun-2018	2,772.00	JUDITH L BUFFORD	18MAY - WREC HABITAT/WATER MONITORING PROGRAM/CONGRESS - COUNTY - WREC
592299	27-Jun-2018	537.99	K F JACOBSEN & CO INC	ACCT 13866 - FINE MIX ASPHALT - 7.09 TON - OPS CENTER
592300	27-Jun-2018	635.20	KELLY SERVICES INC	SCHMID, L - ORDER A2342 - W/E 06/17/18 - IT
592301	27-Jun-2018	57.75	KYLE DAY	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592302	27-Jun-2018	3,349.65	LAKESIDE INDUSTRIES	JOB 1 - ASPHALT - ORCHARDS ASPHALT SALES - 60.59 TON - THRU 05/30/18 - OPS CENTER
592303	27-Jun-2018	4,221.31	LAKEYLAND DBA NORTHWEST SAFETYCLEAN	NFPA ADVANCED CLEANING/REPAIRS/GENERAL REPAIRS - FIRE
592304	27-Jun-2018	928.30	LEE BERGER & ASSOCIATES INC	04/25/18-05/01/18 - DEPOSITION/TRANSCRIPTION/SCANNING SERVICES - RISK
592305	27-Jun-2018	16,999.66	LIFE INSURANCE CO OF NORTH AMERICA	JUNE LIFE INS PREMIUMS
592305	27-Jun-2018	13,670.53	LIFE INSURANCE CO OF NORTH AMERICA	JUNE LTD PREMIUMS
592306	27-Jun-2018	240.00	LUANNE L CONNER	01/09/18 - INTERPRETER SERVICES - DETECTIVE M DAY INTERVIEW WITH A MEDLOCK - PROSECUTORS OFFICE - VPD
592306	27-Jun-2018	120.00	LUANNE L CONNER	11/29/17 - INTERPRETER SERVICES - T WATSON INTERVIEW WITH OFFICER C BOSWELL - VPD/WEST
592307	27-Jun-2018	770.00	MAKHAN UPPAL	PARCEL 110291-032 - REAL PROPERTY VOUCHER - MILL PLAIN BLVD-104TH AVE TO CHKLOV DR - 10601 SE MILL PLAIN BLVD - PROTECTIVE RENT - 2 LOCATIONS @ \$385.00 PER MO - 18JUN - CONSTRUCTION
592308	27-Jun-2018	135.50	MARK IV ENTERPRISES DBA FOLIAGE SERVICES	CUST VANCO - LOCATION VAN-02 - PLANT SERVICE - 18JUN - MP ENG - RECEIPT 135158 BY H VASKELIS PER E-MAIL
592308	27-Jun-2018	151.76	MARK IV ENTERPRISES DBA FOLIAGE SERVICES	CUST VANCO - LOCATION VANCOU - MONTHLY PLANT MAINTENANCE - 18JUN - CITY HALL - RECEIPT 135154 BY J MCGEE
592309	27-Jun-2018	75.00	MARQUAM GROUP LTD	VPD SHAREPOINT SUPPORT - THRU 05/25/18 - INFO TECH - RECEIPT 135337
592310	27-Jun-2018	2,202.89	MASCOTT EQUIPMENT CO INC	ON-SITE VR PROGRAMMING CHECK - CSLD UPGRADE - EQUIP SERVICES
592311	27-Jun-2018	1,000.00	MESSAGE GEARS LLC	18JUN - USAGE FEE - INFO TECH
592312	27-Jun-2018	22,110.47	METEREADERS LLC	18MAY - MONTHLY METER READING SERVICES - UTILITIES - RECEIPT 135155 BY J JONES PER E-MAIL
592313	27-Jun-2018	20,486.14	MISCELLANEOUS	SUMMARY: CITY UTILITIES REFUNDS, PARKS REFUNDS & OTHER MISC REFUNDS
592401				
592402	27-Jun-2018	1,470.00	MOTUS RECRUITING & STAFFING INTL	MOORE ALAN - W/E 05/27/18 - PAYROLL WORK DAY PROJ
592403	27-Jun-2018	7,952.70	MUNICIPAL EMERGENCY SERVICES INC	CUST C63793 - POINT BLANK AXIAX AND ACCESSORIES - VPD
592404	27-Jun-2018	160.19	MUNNELL AND SHERRILL INC	CUST 3363 - DOC 005891 - SHOP SUPPLIES - EQUIP SERVICES
592405	27-Jun-2018	29,479.12	MURRAYSMITH INC	SUMMARY: SERVICES - PROJECTS THRU 04/30/18 - MP ENG
592406	27-Jun-2018	5,488.29	NATIONAL FIRE FIGHTER CORP	ACCT P3910 - 350 LB WHEELED EXTINGUISHER UNIT - FIRE - FIRE
592407	27-Jun-2018	1,485.00	NEW HORIZONS COMPUTER LEARNING CENTER OF PORTLAND INC	CSVs-OSAA - COMPUTER SOFTWARE TRAINING/RELATED SERVICES - EXCEL 2010-PART 1 - 05/30/18 - HR
592408	27-Jun-2018	29,928.22	NORTHWEST STAFFING RESOURCES	SUMMARY: CITY WIDE TEMPORARY SERVICES
592409	27-Jun-2018	998.20	NORTHWEST TESTING INC	18MAY - SPECIAL INSPECTION/MATERIALS TESTING - PROJ 033090 - WATERFRONT PARK-GRANT ST PIER - CONSTRUCTION - RECEIPT 135571 BY L PETERSEN PER E-MAIL
592410	27-Jun-2018	15.00	NW NATURAL	ACCT #2620143-4 - GAS USAGE 05/18/18-06/20/18 - ENGLISH PIT
592411	27-Jun-2018	311.00	Olivas, Derek James	CDL TESTING AND ENDORSEMENT REIMBURSEMENT
592412	27-Jun-2018	1,826.49	ONE CALL CONCEPTS INC	SUMMARY: ACCT 19-0000085 - EXCAVATION NOTIFICATIONS - 18MAY - OP CENTER
592413	27-Jun-2018	189.70	ORCHARDS TOWING	SUMMARY: TOWING SERVICES
592414	27-Jun-2018	5,260.00	PACIFIC LIFESTYLE HOMES	DUPLICATE PERMIT

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
592415	27-Jun-2018	117.49	PAPE MACHINERY	CUST 101272 - 18MAY - PARTS FOR VEHICLE REPAIR - EQUIP SERVICES
592416	27-Jun-2018	4,050.00	PARKEON	SUMMARY: PARKFOLIO LEVEL 3 FEES - 18MAY - PARKING
592417	27-Jun-2018	36.15	PARKMOBILE USA INC	CUST 832027 - 18MAY - END USER FEES - PARKING
592418	27-Jun-2018	100.00	PATRICK HILDRETH DBA PDH CREATIVE	WEB CARE/HOSTING - MARKETING OUTREACH - CDD
592419	27-Jun-2018	1,130.88	PC SPECIALISTS INC	CUST 29019 - CISCO EQUIPMENT/SUPPLIES - SHIPPED 03/02/18 - INFO TECH - RECEIPT 135528 BY J SCHOESSLER PER E-MAIL
592420	27-Jun-2018	7,599.29	PORTLAND MECHANICAL CONSTRUCTION INC	INV 266948 - TOWN PLAZA HVAC INSPECTIONS/REPAIR PROJECT - EST 10 - THRU 05/30/18 - RECEIPT 135203 BY J DENTON
592421	27-Jun-2018	19,631.14	PPC SOLUTIONS INC	SUMMARY: CUST 2409 - SECURITY SERVICES - 18MAY
592422	27-Jun-2018	55.10	PRAIRIE ELECTRIC INC	PERMIT WITHDRAWN
592423	27-Jun-2018	1,228.69	PRAXAIR DISTRIBUTION INC	SUMMARY: CUST 72155065 - CO2 LIQUID BULK TANK - PARKS & REC AQUATICS/FCC
592424	27-Jun-2018	1,603.06	PROFESSIONAL SERVICE INDUSTRIES	CUST 1104830 - PROJ 07021966 - VANC WATERFRONT PARK - THRU 05/15/18 - CONSTRUCTION
592425	27-Jun-2018	9,478.47	QWEST CORP DBA CENTURY LINK	CITYWIDE PHONE LINES
592426	27-Jun-2018	504.06	RENTOKIL NORTH AMERICA INC	SUMMARY: MONTHLY PEST CONTROL MAINTENANCE - 18JUN
592427	27-Jun-2018	3,608.10	RETAIL LOCKBOX INC	EPAY AND SUSPENSE - TRANSACTION FEES - THRU 05/31/18 - TREASURY
592428	27-Jun-2018	92.14	RIVERSIDE CONTAINERS LLC	JOB 49628 - RENTAL - 18JUN - CONSTRUCTION - RECEIPT 135163
592429	27-Jun-2018	4,696.50	ROBERT HALF INTERNATIONAL	CUST 03660-000152000 - SHICK DAVID - W/E 05/25/18 - FINANCE
592430	27-Jun-2018	300.00	RYAN GRADY DBA LIONEYE AERIALS	AERIAL PHOTOGRAPHY/RELATED SERVICES - 05/15/18 - CONSTRUCTION
592431	27-Jun-2018	57.75	RYAN PRESTON	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592432	27-Jun-2018	3,410.40	SECOND STEP HOUSING	PROJ 414737 - HOUSING SERVICES - 18MAY - CDBG FUNDING
592432	27-Jun-2018	6,871.00	SECOND STEP HOUSING	PROJ 601706 - RENT ASSISTANCE - 18MAY - HOME FUNDING
592433	27-Jun-2018	9,016.50	SEQUENCE GRAPHICS LLC	ADVERTISING SALES COMMISSION FOR SR MESSENGER - 18JUN - MEDIA SERVICES - RECEIPT 135180 BY T LOONEY
592434	27-Jun-2018	4.53	SHRED IT USA LLC	CUST 14978866 - DOCUMENT DESTRUCTION - 05/16/18 - UTILITIES
592435	27-Jun-2018	152,871.82	SIERRA-CEDAR INC	SUMMARY: CUST 109266 - PROJ CITYVNCW - 18MAY - INFO TECH
592436	27-Jun-2018	1,022.07	SOFTWARE HOUSE INTERNATIONAL SHI	SUMMARY: CUST 1072078 - ACROBAT PROFESSIONAL V2017 NEW LICENSE - AGREEMENT 4600014240 - IT
592437	27-Jun-2018	1,065.00	SOUTHWEST OFFICIALS SERVICES INC	05/17/18-05/31/18 - ADULT BASKETBALL OFFICIATING FEES - PARKS
592438	27-Jun-2018	127.15	STATE OF WASHINGTON	ACCT DOL K5418 - 2018 MAINTENANCE/INFORMATION SYSTEMS SUPPORT - 18JUN - PARKING
592439	27-Jun-2018	22.30	STERICYCLE INC	CUST 6068464 - 18MAY - MEDICAL WASTE REMOVAL - FIRSTENBURG COMM CTR
592440	27-Jun-2018	95.00	T2 SYSTEMS INC	CUST 1359 - ROVR SERVICE - 18MAY - MIN FEE - PARKING
592441	27-Jun-2018	173.43	Taylor, Denver Allen	BOOT REIMBURSEMENT
592442	27-Jun-2018	3,120.00	TEKSYSTEMS	BAKER MICHAEL - W/E 06/09/18 - INFO TECH - RECEIPT 135476
592442	27-Jun-2018	2,610.00	TEKSYSTEMS	BENSON ROBERT - W/E 06/09/18 - INFO TECH - RECEIPT 135475
592442	27-Jun-2018	3,800.00	TEKSYSTEMS	LAWSON COREY - W/E 06/09/18 - INFO TECH - RECEIPT 135477
592443	27-Jun-2018	1,165.50	TESTAMERICA LABORATORIES INC	SUMMARY: CLIENT 1411092 - SAMPLE TESTING SERVICES - MP ENG
592444	27-Jun-2018	57.75	THOMAS YODER	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592445	27-Jun-2018	4,150.00	TIMOTHY DIETZ DBA BEHAVIORAL WELLNESS RESOURCES	05/21/18-05/23/18 - PEER TEAM TRAINING - FIRE
592446	27-Jun-2018	809.28	TMG SERVICES INC	CUST 2203000 - REPLACE FLEXIBLE CONNECTION - STATION 1 - 2103 E RESERVE ST - OP CENTER
592447	27-Jun-2018	960.00	TODD CLARK	03/10/18-05/13/18 - VANCOUVER SCULPTURE GARDEN RELOCATION PROJECT - CMO
592448	27-Jun-2018	343.85	TRANSUNION RISK & ALTERNATIVE DATA SOLUTIONS INC	ACCT 230397 - DATABASE SEARCH FEES - 18MAY - VPD
592449	27-Jun-2018	870.00	TRIANGLE RESOURCES INC	18MAY - YARD DEBRIS COUPONS - 87 EA - SOLID WASTE

INVOICE PAYMENTS REPORT

Check Number	Check Date	Amount	Vendor Name	Description
592450	27-Jun-2018	8,697.81	TWO RIVERS TERMINAL LLC	CUST CITVAN - TICKET 288549 - CALCIUM NITRATE SOLUTION - 4073 GAL - 05/31/18 - OP CENTER
592450	27-Jun-2018	8,546.20	TWO RIVERS TERMINAL LLC	CUST CITVAN - TICKET 288550 - CALCIUM NITRATE SOLUTION - 4002 GAL - 06/01/18 - OP CENTER
592451	27-Jun-2018	57.75	TYLER TREND	REIMBURSE EMPLOYEE FOR OUT OF POCKET EXPENSES
592452	27-Jun-2018	8,754.63	UNIVERSAL FIELD SERVICES INC	JOB 1483 - CUST 159BF - SE MILL PLAIN BLVD-104TH AVE TO CHKLOV DR PROJECT - 18MAY - TRANSPORTATION/CONSTRUCTION
592452	27-Jun-2018	930.50	UNIVERSAL FIELD SERVICES INC	JOB 1927 - CUST 159BF - RIGHT OF WAY SERVICES-NE 112TH AVE PROJECT - 18MAY - TRANSPORTATION/CONSTRUCTION
592453	27-Jun-2018	1,084.00	US WATER SERVICES INC	SUMMARY - MONTHLY CHILLER/BOILER CHEM TESTING - 17JUN - OP CTR
592454	27-Jun-2018	15,893.92	VANCOUVER DOWNTOWN ASSOCIATION	2018 LODGING TAX GRANTS - SUPPORT REBRANDING PROJECT - CMO
592454	27-Jun-2018	6,126.36	VANCOUVER DOWNTOWN ASSOCIATION	2018 LODGING TAX GRANTS - SUPPORT VDA FLOWER BASKET PROG - CMO
592455	27-Jun-2018	3,980.00	VANCOUVER USA REGIONAL TOURISM OFFICE	2018 MARKETING GRANT PROGRAM - REGIONAL TOURISM MARKETING WATERFRONT - CMO
592456	27-Jun-2018	0.50	Viles, Brian Charles	K9 SELECTIONS IN PA; MAY 2018
592457	27-Jun-2018	1,686.84	WALLIS ENGINEERING PLLC	18MAY - PROJ VAN15ES:01 - 2018 VANCOUVER CURB RAMPS - THRU 05/31/18 - OP CENTER - RECEIPT 135465 BY P NEWTON PER E-MAIL
592458	27-Jun-2018	57.94	WALTER E NELSON CO	SUMMARY: CUST 21069 - JANITORIAL SUPPLIES - FIRE
592458	27-Jun-2018	582.37	WALTER E NELSON CO	CUST 21070 - ORDER 959058 - JANITORIAL SUPPLIES - OP CENTER
592459	27-Jun-2018	3,461.65	WAPITI NW LLC	2018 ANNUAL SERVICE AND INSPECTION - 1991 TRAILER W/ RAMP WOOD DECK - LIC 02649D - UNIT 506 - EQUIP SERVICES
592460	27-Jun-2018	300.00	WASHINGTON STATE CRIMINAL JUSTICE TRAINING COMMISSION	ACCT 20605-001 - TRAINING-DT MASTER INSTRUCTOR COURSE - G CATTON - 04/23/18-05/11/18 - VPD
592461	27-Jun-2018	46,450.56	WILCOX & FLEGEL	SUMMARY: FUEL FOR ENGLISH PIT, FIRE STATIONS, OPS - EQUIP SERVICES
592462	27-Jun-2018	5,071.73	WIRE WORKS LLC	LABOR/SUPPLIES TO INSTALL 911 CIRCUITS POWER DISTRIBUTION PANELS FOR VPD - UNIT 2288 - VIN ENDING IN 15728 - EQUIP SERVICES
592463	27-Jun-2018	67.59	XPO ENTERPRISE SERVICES INC	WEEKLY POSTAGE SERVICES - THRU 05/26/18 - FINANCE/MAILROOM
592464	27-Jun-2018	850.00	YAKIMA COUNTY	2018 INTERLOCAL AGREEMENT FOR TECHNOLOGY SERVICES - 18MAY - INFO TECH - APPROVED PER J SCHOESSLER PER E-MAIL
592465	28-Jun-2018	57.47	AMERICAN FAMILY LIFE ASSURANCE	PAYROLL
592466	28-Jun-2018	11.85	LIFE INSURANCE CO OF NORTH AMERICA	PAYROLL
20001435	02-Jul-2018	13,338.99	CITY OF VANCOUVER	SUMMARY: INFOR CITY PAYMENTS
	SUBTOTAL	4,440,535.97		
VISA	3-Jul-18	1,913.83	MISCELLANEOUS	PARKS CLASS REFUNDS - FCC 06/26/18 - 07/02/18
VISA	3-Jul-18	1,690.00	MISCELLANEOUS	PARKS CLASS REFUNDS - MCC 06/26/18 - 07/02/18
VISA	3-Jul-18	-	MISCELLANEOUS	PARKS CLASS REFUNDS - SPECIAL EVENTS 06/26/18 - 07/02/18
VISA	3-Jul-18	65.00	MISCELLANEOUS	PARKS CLASS REFUNDS - VTC 06/26/18 - 07/02/18
VISA	2-Jul-18	773.00	MISCELLANEOUS	PARKS CLASS REFUNDS - WREC 06/26/18 - 07/02/18
	SUBTOTAL	4,441.83		
	TOTAL	4,444,977.80		

**City of Vancouver
Payroll Council Report
June 26 2018 - July 2, 2018**

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\$ 59,454.45