Meetings are held at the
Ilwaco Community Building Meeting Room
158 First Ave North in Ilwaco, WA

CITY OF ILWACO
CITY COUNCIL MEETING
Tuesday, May 26 2015

6:00 p.m. REGULAR COUNCIL MEETING

AGENDA

A. Call to order

B. Flag Salute

C. Roll Call

D. Approval of Agenda

E. Consent Agenda

All matters, which are listed within the consent section of the agenda, have been distributed or made available for review to each member of the council prior to the meeting. Items listed are considered routine and will be enacted with one motion unless a council member specifically requests it to be removed from the Consent Agenda to be considered separately. The staff recommends the approval of the following items:

1. Approval of Minutes (TAB 1)
   a. May 11, 2015 Regular Meeting
   b. May 12, 2015 Special Meeting - DOH

2. Claims & Vouchers (TAB 2)

a.	Checks: 37846 to 37847 + electronic payments	$19,557.19
b.	Checks: 37848 to 37890	$189,290.41
	GRAND TOTAL:	$208,847.60

F. Reports

1. Staff Reports (TAB 3)
   a. Treasurer Report
2. Council Reports
3. Mayor's Report

G. Comments of Citizens and Guests Present

At this time, the mayor will call for any comments from the public on any subject not on the agenda. Please limit your comments to five (5) minutes. The City Council does not take any action or make any decisions during public comment. To request an item be added to a future agenda, please contact the city clerk for the council rules of procedure for agenda items.

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H. Public Hearing

1. 6 Year Transportation Plan

I. Business

1. Partnership with Invoice Cloud for Utility Billing Payment Options (TAB 4) – *Karnofski*
2. Water Treatment Plant Improvements – Rebid Change Order #1 (TAB 5) – *Cassinelli*

J. Discussion

1. Amend Title 15.16 of the IMC, Development in Flood Areas (TAB 9) – *Cassinelli*
2. 2015 First Budget Amendment (TAB 10) - *Cassinelli*
3. Pollution Liability Insurance Quote (TAB 11) – *Chambreau*
4. Six Year Transportation Improvement Program (TAB 12) - *Jensen/Forner*
5. Source Watershed Control Plan (TAB 13) – *Cassinelli*

A. Correspondence and Written Reports

L. Future Discussion/Agendas

1. Amendment of the Critical Areas Ordinance No. 614 – *City Planner*
2. Amend Ordinance No. 777 Parks and Recreation Commission - *Cassinelli*

M. Adjournment

N. Upcoming Meetings

COUNCIL/COMMISSION	PURPOSE	DAY	DATE	TIME	LOCATION
City Council	Regular Meeting	Monday	06/08/15 06/22/15	6:00 p.m.	Community Building
Planning Commission	Regular Meeting	Tuesday	06/02/15	6:00 p.m.	Community Building
Parks & Rec. Commission	Regular Meeting	Tuesday	06/09/15	6:00 p.m.	Ilwaco Fire Hall

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CITY OF ILWACO
CITY COUNCIL MEETING
Monday May 11, 2015

A. Call to Order

1. Mayor Cassinelli called the meeting to order at 6:01pm.

B. Flag Salute

1. The Pledge of Allegiance was recited.

C. Roll Call

1. Present: Mayor Cassinelli and Councilmembers Jensen, Marshall, Chambreau, and Forner. Absent: Councilmember Karnofski

D. Approval of Agenda

1. **ACTION: Motion to approve the agenda. (Chambreau/Forner) 4 Ayes 0 Nays 0 Abstain.**

E. Approval of Consent Agenda

1. Including Checks 37782 to 37788 + Electronic totaling $33,653.82 and Checks: 37789 to 37845 totaling $274,376.24 for a grand total of $308,030.06.
   ACTION: Motion to approve the consent agenda. (Chambreau/Jensen). 4 Ayes 0 Nays 0 Abstain.

F. Proclamation: The Mayor read the EMS Week Proclamation and declared May 17-23 EMS Week. Steven Samora then presented the Mayor with a plaque and gave a small speech.

G. Reports

1. **Staff Reports**
   i. **Chief of Police Report**
   Included in council packet.
   ii. **Treasurer**
   Reminded the Council of the DOH meeting on May 12th, 2015.
   iii. **Deputy City Clerk**
   Provided a written report stating that both planning and building permits are now done at Ilwaco City Hall. She also thanked City crewmember Austin Benson and Chief Wright for their participation at the Children's Loyalty Day's Parade.
2. **Council Reports**
   i. Councilmember Forner announced that he filed for Council seat #5 again.

3. **Mayor's Report**
    i. The Mayor reported that he will be attending the PCMRC science fair on Saturday the 16th at 8:00am located at the Cranberry Museum. He encouraged others to attend if they could, he noted that there will be a very controversial speaker this year.

H. Comments of Citizens and Guests Present

1. Richard Lather was in attendance he spoke about some concerns that he has out in Baker's Bay. His first comment was about the logging that took place about 8 months ago, he wanted to know if the logging company was going to repair the roads, if the city received any permit money from the loggers and how the city was planning on maintaining the roads. His next comment was in regards to the drainage out in Baker's Bay, that there were some neighbors of his who had altered a culvert and it was causing water to pool under his home. His last concern was about his neighbors who had apparently built a fence in the City's greenbelt. The Council then wanted to break down the issues, one by one and then address them.

I. Business

1. **Partnership with Invoice Cloud for Utility Billing Payments Options**
    i. This was presented once again, it was explained to the Treasurer what the council wanted to see for a break down in potential absorption fees. The Treasurer will provide that information during the next council meeting.
    ACTION: Leave as business for next meeting.

2. **Renewal of Goulter Sludge Disposal Site Contract and Option Agreement and Agreement of Purchase and Sale.**
    i. There was some discussion on the timeline of this contract and Councilmember Marshall provided some suggestions to the proposed motion.
    ACTION: Motion to amend the Goulter Sludge Disposal Site Contract dated July 24, 2012 as follows: Paragraph 11, Culverts shall read "City agrees to replace existing culverts that are not functioning properly, not to exceed $2000.00 in costs per year. If these funds are not used for culverts, they may be expended for fencing in addition to Section 9 above.", and Paragraph 14, Consideration shall read "The payment to Goulter shall be $1,300.00 per month beginning July 2015." (Forner/Jensen) 4 Ayes 0 Nays 0 Abstain

    ACTION: Motion to extend the option agreement for purchase and sale between the city and the owner and formally inform the owner on time per the option agreement terms (Marshall/Forner) 4 Ayes 0 Nays 0 Abstain

J. Discussion

1. **Renewal of Goulter Sludge Disposal Site Contract and Option Agreement and Agreement of Purchase and Sale.**

i. There was discussion on this item, Councilmember Marshall wanted to make sure that the owner of the property was formally informed that the city was choosing to renew the contract. There was also talk about the timeline, the council would have liked to see these documents earlier.
ACTION: Move to business at this meeting (Forner/Jensen) 4 Ayes 0 Nays 0 Abstain

2. **Amend Title 15.16 of the Ilwaco Municipal Code, Development in Flood Areas**
   i. This item was presented at the request of FEMA; FEMA wanted to make sure that the City of Ilwaco's ordinance on flood development was in line with their minimum requirements. Discussion ensued on the topic, more information was requested for the next meeting.
   ACTION: Leave as discussion for the next meeting.
3. **Water Treatment Plant Improvements-Rebid Change Order #1**
   There were two items presented in this change order, the Mayor described installing the turbidimeter and the replacement of the clearwell piping to 10" ductile iron. The Mayor reiterated the fact that these items are both small in comparison to the overall cost of this project.
   ACTION: Move to business at the next meeting.

K. Correspondence and Written Reports

1. None

L. Future Discussion/Agendas

1. Amended Procedures Ordinance
2. Pursuit of New Agreement with Seaview Sewer District

M. Motion to adjourn the meeting (Chambreau) Mayor Cassinelli adjourned the meeting at 7:16 p.m.

_____

Mike Cassinelli, Mayor

_____

Ariel Smith, Treasurer

CITY OF ILWACO
Water System Discussion
Tuesday, May 12, 2015

A. Call to Order
Mayor Pro Tem Jensen called the workshop to order at 11:07 p.m.

B. Present: Councilmembers: Gary Forner, Jon Chambreau and Fred Marshall, Mayor Pro Tem Jensen; Water Plant Supervisor: Rick Gray; City Engineer Nancy Lockett, Gray & Osborne; Department of Commerce: Cathi Read; Department of Health: Mark Mazeski, Teresa Walker; CREST: Garrett Phillips; Citizen: Gail Moore; Treasurer Ariel Smith

C. Discussion

Status of Current Projects:

Upflow Clarifier – Water Plant Supervisor Rick Gray gave a status report, the new filter is all ready to go just waiting on approval from DOH. Rick gave information to Teresa and she mentioned that she should have something back to him by Friday.

Backwash Basin – The project is closed out and the plant operators report that it is working fine.

Source Water Protection Grant – Garrett Phillips from CREST provided information and had discussion with DOH about submittal and the timeline. The council held a workshop on the Watershed plan and it should go before them with DOE comments at the end of the month. Once they formally adopt it, it will then go to DOH for review.

Water Distribution System:

Unaccounted for Water – The City hall staff has broken parts the City down into 5 zones, this should isolate where the lost water is coming from. Once the Pro Mag meters arrive then there should also be a more accurate reading up at Indian Creek. Rick and the City Hall staff have diligently been working to find solutions and reasoning to this problem. At the next meeting the staff will have adequate time to present actual numbers to the group. Rick also mentioned that when the City was getting water through the intertie the tanks in town were staying level, so he knows that the problem doesn't lie in that part of the distribution. His best guess is that is somewhere between Stringtown Rd and town. There was leak found out at Stringtown Rd that has since been fixed and might have contributed to the lost water consumption. This is something that has been going on for years and the city hopes to have it nailed down soon.

Clamp-on flow meter for leak detection on long stretches of line

Rick checked with Evergreen Rural Water and they could not provide the meters, so this idea was kind of let go. He believes that he can find the source of the lost water in others ways.

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Customer meter records in area of Spring St pump
Again this was an idea for isolating the lost and unaccounted for water, with the new pro mag meters and billing zones the city should be able to see where the water is going. Rick and the city staff believe they have an alternate way to find where the lost water is coming from. If in fact the city is even losing that water, the idea might have come from inaccurate meter readings.

Update on Stringtown pumps
Rick explained that pump 3 will need some maintenance in the near future. Other than that the other two pumps are working just fine at this point in time.

Other Topics Mentioned at Meeting: Rick mentioned that he hopes to flush hydrants in the fall and actually reverse the flow. Therefore, somewhat cleaning out the system. Councilmember Chambreau mentioned that he has a filtration system on his home and he is now changing the filter every 6 months whereas before it was every two months. So it seems that the water quality is improving.

Next meeting: Thursday, November 5th at 11:00am

D. Adjournment
Mayor Pro Tem Jensen adjourned the workshop at 12:58 p.m.

_____
Mike Cassinelli, Mayor

_____
Ariel Smith, Treasurer

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Register

Number	Name	Fiscal Description	Amount
37846	Gardner, Daryl W	2015 - May - Second meeting	$1,625.63
37847	AFLAC Remittance Processing	2015 - May - Second meeting	$515.46
Beller, Holly Celeste	ACH Pay - 1511	2015 - May - Second meeting	$1,270.14
Benson, Austin	ACH Pay - 1512	2015 - May - Second meeting	$1,174.69
Gray, Richard Roy	ACH Pay - 1514	2015 - May - Second meeting	$1,766.39
Gustafson, David M.	ACH Pay - 1515	2015 - May - Second meeting	$1,566.53
Hazen, Warren M.	ACH Pay - 1516	2015 - May - Second meeting	$1,806.32
Mc Kee, David A	ACH Pay - 1517	2015 - May - Second meeting	$1,776.08
Richardson, Troy	ACH Pay - 1518	2015 - May - Second meeting	$1,428.59
Smith, Ariel	ACH Pay - 1519	2015 - May - Second meeting	$1,620.49
Staples, Terri P	ACH Pay - 1520	2015 - May - Second meeting	$422.33
EFT 5-20-15	U.S. Treasury Department	2015 - May - Second meeting	$4,584.54
			$19,557.19

I, the undersigned, do hereby certify under penalty of perjury that the materials have been furnished, the services rendered or the labor performed as described herein, that any advance payment is due and payable pursuant to a contract or is available as an option for full or partial fulfillment of a contractual obligation, and that the claim is a just, due and unpaid obligation against the City of Ilwaco, and that I am authorized to authenticate and certify said claims.

Treasurer

37846 through 37847 and electronic payments totalling $19,557.19 are approved this 26th day of May, 2015.

Council member

Council member

Council member

Register

Fiscal: 2015
Deposit Period: 2015 - May
Check Period: 2015 - May - Second meeting

Number	Name	Print Date		Amount
Bank of the Pacific	**8023281**			
Check				
37848	WA State Dept. of License	5/25/2015		$1,429.25
37849	Active Enterprises/petro.	5/26/2015		$1,087.61
37850	Axiom-Northwest	5/26/2015		$433.86
37851	Beach Batteries, Inc	5/26/2015		$73.74
37852	Calvert Technical Services, Inc.	5/26/2015		$575.00
37853	Centurylink	5/26/2015		$1,718.03
37854	Charter Communications	5/26/2015		$80.00
37855	City of Long Beach	5/26/2015		$935.00
37856	Coast Garage Door Co.	5/26/2015		$282.98
37857	Code Publishing, Inc.	5/26/2015		$250.00
37858	Consolidated Supply Co.	5/26/2015		$744.23
37859	CREST	5/26/2015		$3,900.00
37860	Discovery Benefits	5/26/2015		$13.50
37861	Endress & Hauser, INC	5/26/2015		$9,462.70
37862	Evergreen Septic Service	5/26/2015		$235.00
37863	Ferguson Enterprises, Inc.	5/26/2015		$783.18
37864	Fire Extinguisher Service Center	5/26/2015		$1,076.85
37865	Furrow Pump	5/26/2015		$186.61
37866	Grainger	5/26/2015		- $89.54
37867	Gray & Osborne, Inc.	5/26/2015		$3,720.89
37868	Hach Company	5/26/2015		$517.81
37869	HD Fowler Company	5/26/2015		$713.54
37870	Heather Reynolds, Attorney	5/26/2015		$1,602.00
37871	IFOCUS Consulting Inc.	5/26/2015		$2,483.31
37872	IPFS Corporation	5/26/2015		$6,087.27
37873	L N Curtis & Sons	5/26/2015		$118.69
37874	Olde Towne Trading Post	5/26/2015		$136.22
37875	Oregon Wholesale Seed Co.	5/26/2015		$1,245.00
37876	Pacific Art & Office Supply	5/26/2015		$49.26
37877	Pacific County DCD	5/26/2015		$175.00
37878	Pitney Bowes	5/26/2015		$348.00
37879	Rotschy Inc	5/26/2015		$75,052.54
37880	Ryan Herco Products Corp	5/26/2015		$627.64
37881	Seawestern Fire Apparatus	5/26/2015		$1,480.00
37882	Taft Plumbing, Inc	5/26/2015		$106.79
37883	The Watershed Company	5/26/2015		$6,101.20
37884	USA Blue Book	5/26/2015		$6,083.73
37885	Vision Municipal Solutions, Llc	5/26/2015		$5,662.89
37886	WA Dept of Enterprise Services	5/26/2015		$17,000.00
37887	WA State Dept. of Ecology	5/26/2015		$32,676.33
37888	Wadsworth Electric	5/26/2015		$2,212.12
37889	Wilcox & Flegel Oil Co.	5/26/2015		$120.60
37890	Wirkalot Trucking	5/26/2015		$1,612.50
			Total Check	**$189,290.41**
			Total 8023281	**$189,290.41**
			Grand Total	**$189,290.41**

I, the undersigned, do hereby certify under penalty of perjury that the materials have been furnished, the services rendered or the labor performed as described herein, that any advance payment is due and payable pursuant to a contract or is available as an option for full or partial fulfillment of a contractual obligation, and that the claim is a just, due and unpaid obligation against the City of Ilwaco, and that I am authorized to authenticate and certify said claims.

Treasurer

37848 through 37890 totalling $189,290.41 are approved this 26th day of May, 2015.

Council member

Council member

Council member

Voucher Directory

Vendor	Number	Reference	Account Number	Description	Amount
Active Enterprises/petro.					
	37849		**2015 - May - Second meeting**		
		Invoice - 5/14/2015 11:29:34 AM			
		184901			
			001-000-000-575-50-40-01	Community Bldg Other-Mntc	$1,087.61
		Total Invoice - 5/14/2015 11:29:34 AM			**$1,087.61**
	Total 37849				**$1,087.61**
Total Active Enterprises/petro.					**$1,087.61**
Axiom-Northwest					
	37850		**2015 - May - Second meeting**		
		Invoice - 5/14/2015 11:00:26 AM			
		1504028			
			401-000-000-594-34-62-03	Plant Improvements	$433.86
		Total Invoice - 5/14/2015 11:00:26 AM			**$433.86**
	Total 37850				**$433.86**
Total Axiom-Northwest					**$433.86**
Beach Batteries, Inc					
	37851		**2015 - May - Second meeting**		
		Invoice - 5/14/2015 10:53:33 AM			
		33730			
			409-000-000-535-00-31-01	Operations And Maintenance	$73.74
		Total Invoice - 5/14/2015 10:53:33 AM			**$73.74**
	Total 37851				**$73.74**
Total Beach Batteries, Inc					**$73.74**
Calvert Technical Services, Inc.					
	37852		**2015 - May - Second meeting**		
		Invoice - 5/14/2015 11:20:29 AM			
		4207			
			409-000-000-535-00-41-02	Professional Services - Computer	$575.00
		Total Invoice - 5/14/2015 11:20:29 AM			**$575.00**
	Total 37852				**$575.00**
Total Calvert Technical Services, Inc.					**$575.00**
Centurylink					
	37853		**2015 - May - Second meeting**		
		Invoice - 5/15/2015 11:46:40 AM			
			001-000-000-514-20-42-00	Communication	$331.73
			001-000-000-522-10-42-00	Communication	$426.28
			401-000-000-534-00-42-00	Communications	$330.28
			401-000-000-534-00-42-00	Communications	$209.97
			one time charge for dedicated IP		
			409-000-000-535-00-42-00	Communications	$419.77
		Total Invoice - 5/15/2015 11:46:40 AM			**$1,718.03**
	Total 37853				**$1,718.03**
Total Centurylink					**$1,718.03**
Charter Communications					
	37854		**2015 - May - Second meeting**		
		Invoice - 5/14/2015 11:18:36 AM			
			001-000-000-514-20-42-00	Communication	$16.00
			001-000-000-576-80-31-00	Office & Operating Supplies	$12.80
			101-000-000-543-30-30-00	Office And Operating	$12.80
			401-000-000-534-00-42-00	Communications	$12.80
			408-000-000-531-38-31-01	Operations & Maintenance	$12.80
			409-000-000-535-00-42-00	Communications	$12.80
		Total Invoice - 5/14/2015 11:18:36 AM			**$80.00**
	Total 37854				**$80.00**
Total Charter Communications					**$80.00**
City of Long Beach					
	37855		**2015 - May - Second meeting**		
		Invoice - 5/19/2015 11:46:10 AM			
		Jail Charges			
			001-000-000-523-20-40-00	Correctional Institutions	$935.00
		Total Invoice - 5/19/2015 11:46:10 AM			**$935.00**
	Total 37855				**$935.00**
Total City of Long Beach					**$935.00**
Coast Garage Door Co.					
	37856		**2015 - May - Second meeting**		
		Invoice - 5/15/2015 11:30:37 AM			
		16807			
			001-000-000-522-50-48-00	Repair & Maintenance	$282.98
		Total Invoice - 5/15/2015 11:30:37 AM			**$282.98**

Total 37856			$282.98
Total Coast Garage Door Co.			$282.98
Code Publishing, Inc.			
37857	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:58:37 AM		
	49753		
	001-000-000-514-20-41-00	Professional Services	$250.00
	Total Invoice - 5/14/2015 10:58:37 AM		$250.00
Total 37857			$250.00
Total Code Publishing, Inc.			$250.00
Consolidated Supply Co.			
37858	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:09:10 AM		
	9675		
	401-000-000-534-00-31-00	Operation & Maintenance	$391.00
	Total Invoice - 5/14/2015 11:09:10 AM		$391.00
	Invoice - 5/15/2015 11:27:11 AM		
	6059		
	401-000-000-534-00-31-00	Operation & Maintenance	$353.23
	Total Invoice - 5/15/2015 11:27:11 AM		$353.23
Total 37858			$744.23
Total Consolidated Supply Co.			$744.23
CREST			
37859	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:16:05 AM		
	Watershed Plan		
	001-000-000-558-60-41-00	Planner Services	$1,110.00
	Total Invoice - 5/14/2015 11:16:05 AM		$1,110.00
	Invoice - 5/14/2015 11:26:29 AM		
	Crater		
	001-000-000-558-60-41-00	Planner Services	$2,790.00
	Total Invoice - 5/14/2015 11:26:29 AM		$2,790.00
Total 37859			$3,900.00
Total CREST			$3,900.00
Discovery Benefits			
37860	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:56:27 AM		
	539164-IN		
	001-000-000-514-20-20-00	Personnel Benefits	$1.50
	001-000-000-522-10-20-00	Personnel Benefits	$1.50
	101-000-000-542-30-20-00	Benefits	$3.00
	401-000-000-534-00-20-00	Benefits	$3.00
	408-000-000-531-38-20-00	Benefits	$1.50
	409-000-000-535-00-20-00	Employee Benefits	$3.00
	Total Invoice - 5/14/2015 10:56:27 AM		$13.50
Total 37860			$13.50
Total Discovery Benefits			$13.50
Endress & Hauser, INC			
37861	2015 - May - Second meeting		
	Invoice - 5/19/2015 11:33:13 AM		
	6001734330		
	401-000-000-594-34-64-01	Equipment	$9,462.70
	Total Invoice - 5/19/2015 11:33:13 AM		$9,462.70
Total 37861			$9,462.70
Total Endress & Hauser, INC			$9,462.70
Evergreen Septic Service			
37862	2015 - May - Second meeting		
	Invoice - 5/19/2015 11:34:14 AM		
	17742		
	001-000-000-576-80-31-00	Office & Operating Supplies	$235.00
	Total Invoice - 5/19/2015 11:34:14 AM		$235.00
Total 37862			$235.00
Total Evergreen Septic Service			$235.00
Ferguson Enterprises, Inc.			
37863	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:09:50 AM		
	140856		
	401-000-000-534-00-31-00	Operation & Maintenance	$783.18
	Total Invoice - 5/14/2015 11:09:50 AM		$783.18
Total 37863			$783.18
Total Ferguson Enterprises, Inc.			$783.18
Fire Extinguisher Service Center			
37864	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:21:58 AM		
	81462		
	001-000-000-514-20-31-00	Office & Operating Supplies	$59.35
	001-000-000-522-10-31-00	Office & Operating Supplies	$212.83
	001-000-000-575-50-40-01	Community Bldg Other-Mntc	$226.86
	001-000-000-576-80-31-00	Office & Operating Supplies	$188.15
	101-000-000-543-30-30-00	Office And Operating	$188.15
	401-000-000-534-00-31-00	Operation & Maintenance	$59.35
	409-000-000-535-00-31-01	Operations And Maintenance	$142.16

	Total Invoice - 5/14/2015 11:21:58 AM		$1,076.85
Total 37864			$1,076.85
Total Fire Extinguisher Service Center			$1,076.85
Furrow Pump			
37865	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:11:45 AM		
	30564-IN		
	401-000-000-534-00-31-00	Operation & Maintenance	$186.61
	Total Invoice - 5/14/2015 11:11:45 AM		$186.61
Total 37865			$186.61
Total Furrow Pump			$186.61
Grainger			
37866	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:12:50 AM		
	9728186702		
	401-000-000-534-00-31-00	Operation & Maintenance	$89.54
	Total Invoice - 5/14/2015 11:12:50 AM		$89.54
Total 37866			$89.54
Total Grainger			$89.54
Gray & Osborne, Inc.			
37867	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:14:03 AM		
	14476		
	001-000-000-514-20-31-00	Office & Operating Supplies	$681.03
	409-000-000-535-00-31-01	Operations And Maintenance	$681.03
	Total Invoice - 5/14/2015 10:14:03 AM		$1,362.06
	Invoice - 5/14/2015 11:25:40 AM		
	14637		
	409-000-000-535-00-31-05	Doe Annual Permit	$2,358.83
	Total Invoice - 5/14/2015 11:25:40 AM		$2,358.83
Total 37867			$3,720.89
Total Gray & Osborne, Inc.			$3,720.89
Hach Company			
37868	2015 - May - Second meeting		
	Invoice - 5/15/2015 11:28:19 AM		
	9363804		
	401-000-000-534-00-35-01	Small Tools & Equipment - Lab	$517.81
	Total Invoice - 5/15/2015 11:28:19 AM		$517.81
Total 37868			$517.81
Total Hach Company			$517.81
HD Fowler Company			
37869	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:52:35 AM		
	I3911541		
	401-000-000-594-34-62-03	Plant Improvements	$713.54
	Total Invoice - 5/14/2015 10:52:35 AM		$713.54
Total 37869			$713.54
Total HD Fowler Company			$713.54
Heather Reynolds, Attorney			
37870	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:55:13 AM		
	April		
	001-000-000-515-30-41-00	Legal Services	$1,602.00
	Total Invoice - 5/14/2015 10:55:13 AM		$1,602.00
Total 37870			$1,602.00
Total Heather Reynolds, Attorney			$1,602.00
IFOCUS Consulting Inc.			
37871	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:11:24 AM		
	8097		
	401-000-000-534-00-41-04	Professional Services - Computer	$50.00
	Total Invoice - 5/14/2015 11:11:24 AM		$50.00
	Invoice - 5/15/2015 11:27:45 AM		
	8117		
	401-000-000-594-34-62-03	Plant Improvements	$2,433.31
	Total Invoice - 5/15/2015 11:27:45 AM		$2,433.31
Total 37871			$2,483.31
Total IFOCUS Consulting Inc.			$2,483.31
IPFS Corporation			
37872	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:22:57 AM		
	June payment		
	001-000-000-511-60-46-00	Insurances	$636.73
	001-000-000-522-50-46-00	Insurance	$824.83
	001-000-000-572-50-46-00	Insurance	$942.31
	001-000-000-576-80-46-00	Insurance	$198.45
	101-000-000-543-30-40-01	Insurance	$121.75
	104-000-000-557-30-46-00	Heritage Museum - Insurance	$477.24
	401-000-000-534-00-46-00	Insurance	$1,626.52
	408-000-000-531-38-46-00	Insurance	$57.83
	409-000-000-535-00-46-00	Insurance	$1,201.61
	Total Invoice - 5/14/2015 10:22:57 AM		$6,087.27

Total 37872			$6,087.27
Total IPFS Corporation			$6,087.27
L N Curtis & Sons			
37873	2015 - May - Second meeting		
	Invoice - 5/15/2015 11:31:57 AM		
	7092717-00		
	001-000-000-522-50-48-00	Repair & Maintenance	$118.69
	Total Invoice - 5/15/2015 11:31:57 AM		$118.69
Total 37873			$118.69
Total L N Curtis & Sons			$118.69
Olde Towne Trading Post			
37874	2015 - May - Second meeting		
	Invoice - 5/15/2015 4:29:30 PM		
	401-000-000-534-00-31-06	Office & Customer Service	$136.22
	DOH 5-12-15		
	Total Invoice - 5/15/2015 4:29:30 PM		$136.22
Total 37874			$136.22
Total Olde Towne Trading Post			$136.22
Oregon Wholesale Seed Co.			
37875	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:18:58 AM		
	OR2303		
	409-000-000-535-00-45-00	Spray Sludge Disposal Site	$1,245.00
	Total Invoice - 5/14/2015 11:18:58 AM		$1,245.00
Total 37875			$1,245.00
Total Oregon Wholesale Seed Co.			$1,245.00
Pacific Art & Office Supply			
37876	2015 - May - Second meeting		
	Invoice - 5/14/2015 10:10:14 AM		
	001-000-000-514-20-31-00	Office & Operating Supplies	$45.85
	Holly's notary stamp		
	001-000-000-522-10-31-00	Office & Operating Supplies	$3.41
	Total Invoice - 5/14/2015 10:10:14 AM		$49.26
Total 37876			$49.26
Total Pacific Art & Office Supply			$49.26
Pacific County DCD			
37877	2015 - May - Second meeting		
	Invoice - 5/19/2015 11:30:04 AM		
	509		
	401-000-000-534-00-35-01	Small Tools & Equipment - Lab	$175.00
	Total Invoice - 5/19/2015 11:30:04 AM		$175.00
Total 37877			$175.00
Total Pacific County DCD			$175.00
Pitney Bowes			
37878	2015 - May - Second meeting		
	Invoice - 5/15/2015 11:23:59 AM		
	2429449-MY15		
	001-000-000-514-20-45-00	Postage Meter Rental	$348.00
	Total Invoice - 5/15/2015 11:23:59 AM		$348.00
Total 37878			$348.00
Total Pitney Bowes			$348.00
Rotschy Inc			
37879	2015 - May - Second meeting		
	Invoice - 5/19/2015 4:15:04 PM		
	Filter #4		
	401-000-000-594-34-62-01	Construction - Plant	$75,052.54
	Total Invoice - 5/19/2015 4:15:04 PM		$75,052.54
Total 37879			$75,052.54
Total Rotschy Inc			$75,052.54
Ryan Herco Products Corp			
37880	2015 - May - Second meeting		
	Invoice - 5/14/2015 11:08:22 AM		
	043250		
	401-000-000-594-34-62-03	Plant Improvements	$432.43
	Total Invoice - 5/14/2015 11:08:22 AM		$432.43
	Invoice - 5/19/2015 11:04:15 AM		
	8132493		
	401-000-000-594-34-62-03	Plant Improvements	$195.21
	Total Invoice - 5/19/2015 11:04:15 AM		$195.21
Total 37880			$627.64
Total Ryan Herco Products Corp			$627.64
Seawestern Fire Apparatus			
37881	2015 - May - Second meeting		
	Invoice - 5/15/2015 11:31:11 AM		
	183948		
	001-000-000-522-10-31-01	Training/Attendance	$1,480.00
	Total Invoice - 5/15/2015 11:31:11 AM		$1,480.00
Total 37881			$1,480.00
Total Seawestern Fire Apparatus			$1,480.00
Taft Plumbing, Inc			
37882	2015 - May - Second meeting		
	Invoice - 5/20/2015 12:33:25 PM		

	11694 & 11702		
	401-000-000-534-00-31-00	Operation & Maintenance	$106.79
	Total Invoice - 5/20/2015 12:33:25 PM		**$106.79**
Total 37882			**$106.79**
Total Taft Plumbing, Inc			**$106.79**
The Watershed Company			
37883	**2015 - May - Second meeting**		
	Invoice - 5/14/2015 10:54:16 AM		
	2015-0536		
	001-000-000-558-60-41-00	Planner Services	$6,101.20
	Total Invoice - 5/14/2015 10:54:16 AM		**$6,101.20**
Total 37883			**$6,101.20**
Total The Watershed Company			**$6,101.20**
USA Blue Book			
37884	**2015 - May - Second meeting**		
	Invoice - 5/14/2015 11:13:24 AM		
	624729		
	401-000-000-534-00-31-00	Operation & Maintenance	$597.61
	Total Invoice - 5/14/2015 11:13:24 AM		**$597.61**
	Invoice - 5/14/2015 11:19:50 AM		
	639724		
	409-000-000-535-00-31-07	Lab Supplies	$5,486.12
	Autoclave		
	Total Invoice - 5/14/2015 11:19:50 AM		**$5,486.12**
Total 37884			**$6,083.73**
Total USA Blue Book			**$6,083.73**
Vision Municipal Solutions, Llc			
37885	**2015 - May - Second meeting**		
	Invoice - 5/14/2015 11:15:04 AM		
	2962		
	401-000-000-534-00-31-00	Operation & Maintenance	$176.79
	408-000-000-531-38-31-01	Operations & Maintenance	$100.00
	409-000-000-535-00-31-08	Office Supplies & Customer Service	$176.79
	Total Invoice - 5/14/2015 11:15:04 AM		**$453.58**
	Invoice - 5/15/2015 11:21:21 AM		
	1144		
	001-000-000-511-60-41-01	IT/Software Services	$1,500.00
	401-000-000-534-00-41-04	Professional Services - Computer	$1,354.65
	408-000-000-531-38-31-01	Operations & Maintenance	$1,000.00
	409-000-000-535-00-41-02	Professional Services - Computer	$1,354.66
	Total Invoice - 5/15/2015 11:21:21 AM		**$5,209.31**
Total 37885			**$5,662.89**
Total Vision Municipal Solutions, Llc			**$5,662.89**
WA Dept of Enterprise Services			
37886	**2015 - May - Second meeting**		
	Invoice - 5/14/2015 10:23:49 AM		
	001-000-000-594-42-64-00	Templin Foundation	$14,000.00
	401-000-000-534-00-35-00	Small Tools & Equipment	$1,000.00
	408-000-000-594-31-64-00	Drainage Construction	$1,000.00
	409-000-000-594-64-35-04	Add'l Machinery & Equipment	$1,000.00
	Total Invoice - 5/14/2015 10:23:49 AM		**$17,000.00**
Total 37886			**$17,000.00**
Total WA Dept of Enterprise Services			**$17,000.00**
WA State Dept. of Ecology			
37887	**2015 - May - Second meeting**		
	Invoice - 5/14/2015 10:17:29 AM		
	L1300003		
	403-000-000-397-00-00-07	Transfer-Sewer DOE	($30,246.56)
	403-000-000-591-35-78-01	DOE SRF L1300003 -Principal	$18,118.96
	403-000-000-592-35-83-01	DOE SRF L1300003 - Interest	$12,127.60
	409-000-000-597-00-00-04	Wwtp - TO 403 Srf Redemption	$30,246.56
	Total Invoice - 5/14/2015 10:17:29 AM		**$30,246.56**
	Invoice - 5/14/2015 10:19:43 AM		
	L1300006		
	403-000-000-397-00-00-07	Transfer-Sewer DOE	($2,429.77)
	403-000-000-591-35-78-02	DOE SRF L1300006 - Principal	$2,297.52
	403-000-000-592-35-83-02	DOE SRF L1300006 - Interest	$132.25
	409-000-000-597-00-00-04	Wwtp - TO 403 Srf Redemption	$2,429.77
	Total Invoice - 5/14/2015 10:19:43 AM		**$2,429.77**
Total 37887			**$32,676.33**
Total WA State Dept. of Ecology			**$32,676.33**
WA State Dept. of License			
37848	**2015 - May - Second meeting**		
	Invoice - 5/15/2015 11:25:12 AM		
	DOL dumptruck		
	001-000-000-576-80-31-00	Office & Operating Supplies	$357.31
	401-000-000-534-00-49-00	Miscellaneous	$357.31
	408-000-000-594-31-64-00	Drainage Construction	$357.31
	409-000-000-535-00-48-03	Miscellaneous	$357.32
	Total Invoice - 5/15/2015 11:25:12 AM		**$1,429.25**
Total 37848			**$1,429.25**
Total WA State Dept. of License			**$1,429.25**

Wadsworth Electric				
37888		**2015 - May - Second meeting**		
	Invoice - 5/14/2015 10:55:32 AM			
	21412F			
		409-000-000-535-00-41-01	Professional Services - Electrician	$1,126.92
	Total Invoice - 5/14/2015 10:55:32 AM			**$1,126.92**
	Invoice - 5/14/2015 11:20:48 AM			
	21413F			
		409-000-000-535-00-41-01	Professional Services - Electrician	$1,085.20
	Total Invoice - 5/14/2015 11:20:48 AM			**$1,085.20**
Total 37888				**$2,212.12**
Total Wadsworth Electric				**$2,212.12**
Wilcox & Flegel Oil Co.				
37889		**2015 - May - Second meeting**		
	Invoice - 5/20/2015 12:32:51 PM			
	0667895-IN			
		409-000-000-535-00-32-00	Gas/oil Products	$120.60
	Total Invoice - 5/20/2015 12:32:51 PM			**$120.60**
Total 37889				**$120.60**
Total Wilcox & Flegel Oil Co.				**$120.60**
Wirkalot Trucking				
37890		**2015 - May - Second meeting**		
	Invoice - 5/14/2015 11:13:51 AM			
	581			
		401-000-000-534-00-31-00	Operation & Maintenance	$656.25
		401-000-000-534-00-31-00	Operation & Maintenance	$450.00
		408-000-000-594-31-64-00	Drainage Construction	$150.00
		408-000-000-594-31-64-00	Drainage Construction	$150.00
		408-000-000-594-31-64-00	Drainage Construction	$206.25
	Total Invoice - 5/14/2015 11:13:51 AM			**$1,612.50**
Total 37890				**$1,612.50**
Total Wirkalot Trucking				**$1,612.50**
Grand Total	**Vendor Count**	**43**		**$189,290.41**

TREASURER'S REPORT
Month ending April 30, 2015

The detailed revenue and expenditure reports attached reflect the activity for the first third of 2015. Activity appears to be following the budget. During the second third of 2015, the city will begin to establish plans for 2016. The 2016 budget will be developed during the final third of the year.

General Fund
Overall business and occupation tax revenues are approximately $4,000 higher than forecasted. An improving local economy has possibly boosted gross sales for the last two quarters, then resulting in a higher percentage for B&O tax. If this trend continues to grow it is a possibility that the city could look to use this money to pay down some debt or keep it in reserve for future capital costs.

Streets Fund
Currently there isn't much activity within this fund, tax revenues are on target. Hopefully there will be some future street improvement projects.

Water Fund
Receipts from water sales received for the first third of the year appear to be slightly lower than anticipated, but should bump up in the summer months. An additional $66,000 in DOH grant funds is anticipated, so that will lower the amount of city funds that are used for the completion of the water filter project. The new filter should be online before the month end of May, pending DOH approval.

Sewer Fund
Revenue is behind target, but it appears that this is a result of the lower water consumption of the major RV parks that will increase their occupancy over the next few months. Expenses are on target.

As in prior years, it would be helpful if the council identified goals or objectives prior to the development of the budget.

Current Overall Cash Position
The following are the account balances at the Bank of Pacific and Local Government Investment Pool:

Current Balances as of May 14, 2015	
Bank of Pacific	
xxx.3303 Main	$ 325,173
xxx.7413	28,341
LGIP	1,010,235
Total Cash	$1,363,749

Ariel Smith,
Treasurer

Revenue

Starting Account Number: 001-000-000-308-80-00-00 Beginning Cash & Investments: Unreserved
Ending Account Number: 999-000-000-384-00-00-00 Proceeds From Sales of Investments
Period: 2015 - April

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
General Fund Current Expense						
Revenue						
Taxes						
General Property Taxes						
001-000-000-311-10-00-00	General Property Taxes	$9,995.80	$20,923.80	$146,300.00	14.30%	$125,376.20
001-000-000-311-10-00-01	General Property-IVFD Truck	$0.00	$0.00	$0.00		$0.00
Total General Property Taxes		**$9,995.80**	**$20,923.80**	**$146,300.00**	**14.30%**	**$125,376.20**
Retail Sales and Use Taxes						
001-000-000-313-11-00-00	Local Sales & Use Taxes	$8,656.35	$35,476.33	$135,000.00	26.28%	$99,523.67
Total Retail Sales and Use Taxes		**$8,656.35**	**$35,476.33**	**$135,000.00**	**26.28%**	**$99,523.67**
Business and Occupation Taxes						
001-000-000-316-10-00-00	Business & Occupation Tax	$10,558.84	$28,332.65	$60,000.00	47.22%	$31,667.35
Business and Occupation Taxes on Private Utilites						
001-000-000-316-40-01-00	Garbage 6% Utility Tax	$0.00	$4,525.76	$15,000.00	30.17%	$10,474.24
001-000-000-316-40-02-00	Cable 6% Utility Tax	$849.48	$3,381.82	$12,000.00	28.18%	$8,618.18
001-000-000-316-40-03-00	Telephone 6% Utility Tax	$2,971.84	$10,216.71	$35,000.00	29.19%	$24,783.29
001-000-000-316-40-04-00	Electric 6% Utility Tax	$17,093.10	$34,505.01	$75,000.00	46.01%	$40,494.99
001-000-000-316-40-05-00	Water Utility Tax	$3,367.10	$14,789.75	$56,871.00	26.01%	$42,081.25
001-000-000-316-40-06-00	Sewer Utility Tax	$3,761.07	$14,684.63	$46,591.00	31.52%	$31,906.37
001-000-000-316-40-07-00	Storm Drainage Utility Tax	$339.36	$2,484.12	$5,192.00	47.85%	$2,707.88
001-000-000-316-40-08-00	Fire Hydrant Fee	$77.44	$77.44	$0.00		($77.44)
Total Business and Occupation Taxes on Private Utilites		**$28,459.39**	**$84,665.24**	**$245,654.00**	**34.47%**	**$160,988.76**
001-000-000-316-81-00-00	Gambling Tax	$0.00	$156.78	$0.00		($156.78)
Total Business and Occupation Taxes		**$39,018.23**	**$113,154.67**	**$305,654.00**	**37.02%**	**$192,499.33**
Excise Taxes						
001-000-000-317-20-00-00	Local Leasehold Excise Tax	$0.00	$9,220.07	$30,000.00	30.73%	$20,779.93
001-000-000-317-40-00-00	Timber Harvest Excise Tax	$0.00	$55.18	$0.00		($55.18)
Total Excise Taxes		**$0.00**	**$9,275.25**	**$30,000.00**	**30.92%**	**$20,724.75**
Total Taxes		**$57,670.38**	**$178,830.05**	**$616,954.00**	**28.99%**	**$438,123.95**
Licenses and Permits						
Business Licenses and Permits						
001-000-000-321-99-00-00	Other Business Licenses and Permits	$4,375.00	$14,395.83	$40,000.00	35.99%	$25,604.17
Total Business Licenses and Permits		**$4,375.00**	**$14,395.83**	**$40,000.00**	**35.99%**	**$25,604.17**
Non-Business Licenses and Permits						
Buildings, Structures and Equipment						
001-000-000-322-10-00-01	Building Permit Fees	$0.00	$0.00	$7,500.00	0.00%	$7,500.00
Total Buildings, Structures and Equipment		**$0.00**	**$0.00**	**$7,500.00**	**0.00%**	**$7,500.00**
001-000-000-322-90-00-01	Zoning Fees	$2,092.71	$3,496.73	$5,000.00	69.93%	$1,503.27
Total Non-Business Licenses and Permits		**$2,092.71**	**$3,496.73**	**$12,500.00**	**27.97%**	**$9,003.27**
Total Licenses and Permits		**$6,467.71**	**$17,892.56**	**$52,500.00**	**34.08%**	**$34,607.44**
Intergovernmental Revenues						
Direct Federal Grants						
001-000-000-331-97-03-60	Fema Grant	$0.00	$0.00	$0.00		$0.00
Total Direct Federal Grants		**$0.00**	**$0.00**	**$0.00**		**$0.00**
State Grants						
001-000-000-334-03-12-00	DOE Aquatic Weed Grant	$0.00	$0.00	$19,519.00	0.00%	$19,519.00
001-000-000-334-03-13-00	DOE Shoreline Master Program	$0.00	$10,833.58	$50,000.00	21.67%	$39,166.42
Total State Grants		**$0.00**	**$10,833.58**	**$69,519.00**	**15.58%**	**$58,685.42**
State Shared Revenues						
001-000-000-335-00-91-00	PUD Privilege Tax	$0.00	$0.00	$9,000.00	0.00%	$9,000.00
Total State Shared Revenues		**$0.00**	**$0.00**	**$9,000.00**	**0.00%**	**$9,000.00**
State Entitlements, Impact Payments and Taxes						
001-000-000-336-06-20-00	Criminal Justice - High Crime	$0.00	$0.00	$0.00		$0.00
001-000-000-336-06-21-00	Criminal Justice - Violent	$250.00	$500.00	$500.00	100.00%	$0.00
001-000-000-336-06-25-00	Criminal Justice - Contracted Services	$392.04	$784.08	$1,500.00	52.27%	$715.92
001-000-000-336-06-26-00	Criminal Justice - Special Programs	$226.59	$453.23	$795.00	57.01%	$341.77
001-000-000-336-06-51-00	DUI & Other Criminal Justice Assistance	$41.53	$83.07	$300.00	27.69%	$216.93
001-000-000-336-06-94-00	Liquor Excise Tax	$588.07	$1,058.15	$4,176.00	25.34%	$3,117.85
001-000-000-336-06-95-00	Liquor Board Profits	$0.00	$2,070.67	$8,244.00	25.12%	$6,173.33
Total State Entitlements, Impact Payments and Taxes		**$1,498.23**	**$4,949.20**	**$15,515.00**	**31.90%**	**$10,565.80**
Interlocal Grants, Entitlements, Payments, and Tax						
001-000-000-337-00-01-00	PCOG For Fire Station	$0.00	$25,000.00	$25,000.00	100.00%	$0.00
001-000-000-337-00-02-00	PCOG For Community Building	$0.00	$18,979.00	$18,979.00	100.00%	$0.00
001-000-000-337-00-03-00	Port of Ilwaco	$0.00	$0.00	$0.00		$0.00
Total Interlocal Grants, Entitlements, Payments, and Tax		**$0.00**	**$43,979.00**	**$43,979.00**	**100.00%**	**$0.00**
Total Intergovernmental Revenues		**$1,498.23**	**$59,761.78**	**$138,013.00**	**43.30%**	**$78,251.22**
Charges for Goods and Services						

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
General Government						
001-000-000-341-81-00-00	Photocopying	$32.33	$32.33	$100.00	32.33%	$67.67
Other General Government Services						
001-000-000-341-96-00-00	Other General Government Services	$0.00	$0.00	$0.00		$0.00
Total Other General Government Services		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total General Government		**$32.33**	**$32.33**	**$100.00**	**32.33%**	**$67.67**
Public Safety						
001-000-000-342-21-00-00	Fire Protection Services	$785.00	$785.00	$8,000.00	9.81%	$7,215.00
Total Public Safety		**$785.00**	**$785.00**	**$8,000.00**	**9.81%**	**$7,215.00**
Total Charges for Goods and Services		**$817.33**	**$817.33**	**$8,100.00**	**10.09%**	**$7,282.67**
Fines and Penalties						
Civil Infraction Penalties						
001-000-000-353-10-00-00	Traffic Infraction Penalties	$114.32	$114.32	$0.00		($114.32)
001-000-000-353-10-03-01	Municipal Court Fines	$1,448.61	$3,582.27	$5,000.00	71.65%	$1,417.73
001-000-000-353-70-00-00	Non-Traffic Infraction Penalties	$29.16	$37.63	$25.00	150.52%	($12.63)
Total Civil Infraction Penalties		**$1,592.09**	**$3,734.22**	**$5,025.00**	**74.31%**	**$1,290.78**
001-000-000-357-39-00-01	Misc Revenue-Court	$17.80	$17.80	$0.00		($17.80)
Total Fines and Penalties		**$1,609.89**	**$3,752.02**	**$5,025.00**	**74.67%**	**$1,272.98**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
001-000-000-361-11-00-00	Investment Interest	$16.51	$66.27	$500.00	13.25%	$433.73
Total Total Investment Interest		**$16.51**	**$66.27**	**$500.00**	**13.25%**	**$433.73**
001-000-000-361-40-00-00	Other Interest	$4.43	$12.67	$40.00	31.68%	$27.33
Total Interest and Other Earnings		**$20.94**	**$78.94**	**$540.00**	**14.62%**	**$461.06**
Rents, Leases and Concessions						
001-000-000-362-40-00-00	Space & Facility Rental	$0.00	$586.00	$0.00		($586.00)
001-000-000-362-50-00-04	Community Building - Rent	$530.00	$3,880.16	$3,250.00	119.39%	($630.16)
001-000-000-362-50-01-00	Community Building - Electricity	$0.00	$0.00	$11,500.00	0.00%	$11,500.00
001-000-000-362-50-03-00	Community Building - Insurance	$0.00	$0.00	$0.00		$0.00
001-000-000-362-90-00-00	Community Building - Other	$0.00	$0.00	$0.00		$0.00
Total Rents, Leases and Concessions		**$530.00**	**$4,466.16**	**$14,750.00**	**30.28%**	**$10,283.84**
Contributions and Donations From Private Sources						
001-000-000-367-00-00-01	Templin Foundation Grant	$0.00	$0.00	$0.00		$0.00
001-000-000-367-11-00-00	Fire Deptartment Donations	$0.00	$0.00	$0.00		$0.00
001-000-000-367-19-00-00	Black Lake Fish Derby Donations	$613.25	$5,373.25	$5,000.00	107.47%	($373.25)
001-000-000-367-19-00-01	Ilwaco Park Fund Donations	$0.00	$0.00	$0.00		$0.00
001-000-000-367-19-00-03	Fireworks Donation	$0.00	$0.00	$0.00		$0.00
Total Contributions and Donations From Private Sources		**$613.25**	**$5,373.25**	**$5,000.00**	**107.47%**	**($373.25)**
Other Miscellaneous Revenues						
001-000-000-369-10-00-00	Sale of Scrap And Junk	$0.00	$0.00	$0.00		$0.00
001-000-000-369-20-00-00	Unclaimed Property	$0.00	$0.00	$0.00		$0.00
001-000-000-369-30-00-00	Misc. Revenue	$0.00	$875.00	$0.00		($875.00)
001-000-000-369-80-00-00	Cash Adjustment	$0.00	$0.00	$0.00		$0.00
Total Other Miscellaneous Revenues		**$0.00**	**$875.00**	**$0.00**		**($875.00)**
Total Miscellaneous Revenues		**$1,164.19**	**$10,793.35**	**$20,290.00**	**53.20%**	**$9,496.65**
Nonrevenues						
State Remittances - Courts						
001-000-000-386-83-08-00	Trauma Care	$5.49	$17.10	$170.00	10.06%	$152.90
001-000-000-386-83-31-00	Auto Theft	$11.04	$33.91	$220.00	15.41%	$186.09
001-000-000-386-83-32-00	Brain Trauma	$2.00	$6.55	$40.00	16.38%	$33.45
001-000-000-386-88-00-00	ST Gen Fund 54	$13.79	$16.09	$0.00		($16.09)
Total State Remittances - Courts		**$32.32**	**$73.65**	**$430.00**	**17.13%**	**$356.35**
State Remittances-Courts						
001-000-000-386-91-00-00	ST Gen Fund 40	$130.03	$204.32	$1,300.00	15.72%	$1,095.68
001-000-000-386-92-00-00	ST Gen Fund 50	$54.46	$92.60	$700.00	13.23%	$607.40
001-000-000-386-96-00-00	Crime Lab Analysis Fee	$0.00	$0.00	$0.00		$0.00
001-000-000-386-97-00-00	JIS Account	$36.50	$75.61	$225.00	33.60%	$149.39
Total State Remittances-Courts		**$220.99**	**$372.53**	**$2,225.00**	**16.74%**	**$1,852.47**
Total Nonrevenues		**$253.31**	**$446.18**	**$2,655.00**	**16.81%**	**$2,208.82**
Other Financing Sources						
Proceeds of Long-Term Debt-Governmental Funds Only						
001-000-000-391-90-00-00	Proceeds from Other Debt	$0.00	$0.00	$0.00		$0.00
Total Proceeds of Long-Term Debt-Governmental Funds Only		**$0.00**	**$0.00**	**$0.00**		**$0.00**
001-000-000-397-00-00-01	Transfer From 101-Bldg. Rental	$0.00	$0.00	$11,500.00	0.00%	$11,500.00
001-000-000-397-00-00-02	Transfer From 401-Bldg. Rental	$0.00	$0.00	$12,375.00	0.00%	$12,375.00
001-000-000-397-00-00-03	Transfer From 409-Bldg. Rental	$0.00	$0.00	$20,275.00	0.00%	$20,275.00
001-000-000-397-00-00-06	Transfer From 104	$0.00	$0.00	$2,500.00	0.00%	$2,500.00
001-000-000-397-00-00-07	Transfer from 408	$0.00	$0.00	$5,500.00	0.00%	$5,500.00
001-000-000-397-00-00-08	Transfer from 301	$0.00	$0.00	$0.00		$0.00
001-000-000-398-00-00-00	Insurance Recoveries	$0.00	$0.00	$0.00		$0.00
Total Other Financing Sources		**$0.00**	**$0.00**	**$52,150.00**	**0.00%**	**$52,150.00**
Total Revenue		**$69,481.04**	**$272,293.27**	**$895,687.00**	**30.40%**	**$623,393.73**
Total General Fund Current Expense		**$69,481.04**	**$272,293.27**	**$895,687.00**	**30.40%**	**$623,393.73**
City Streets						
Revenue						
Taxes						
General Property Taxes						
101-000-000-311-10-00-00	General Property Tax	$4,283.92	$8,950.41	$62,700.00	14.27%	$53,749.59

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
Total General Property Taxes		**$4,283.92**	**$8,950.41**	**$62,700.00**	**14.27%**	**$53,749.59**
Total Taxes		**$4,283.92**	**$8,950.41**	**$62,700.00**	**14.27%**	**$53,749.59**
Intergovernmental Revenues						
State Grants						
101-000-000-334-03-82-00	TIB - School Street	$0.00	$0.00	$0.00		$0.00
101-000-000-334-03-83-00	TIB - Brumbach	$0.00	$0.00	$0.00		$0.00
101-000-000-334-03-84-00	TIB - Sidewalks	$0.00	$0.00	$0.00		$0.00
101-000-000-334-03-85-00	TIB - Elizabeth	$0.00	$0.00	$0.00		$0.00
Total State Grants		**$0.00**	**$0.00**	**$0.00**		**$0.00**
State Entitlements, Impact Payments and Taxes						
101-000-000-336-00-87-00	Motor Vehicle Fuel Tax	$1,447.51	$6,039.30	$19,073.00	31.66%	$13,033.70
Total State Entitlements, Impact Payments and Taxes		**$1,447.51**	**$6,039.30**	**$19,073.00**	**31.66%**	**$13,033.70**
101-000-000-337-00-00-00	MV Fuel Tax - County distribution	$0.00	$0.00	$0.00		$0.00
101-000-000-337-00-00-01	Other Local Distributions	$0.00	$0.00	$0.00		$0.00
101-000-000-337-00-03-00	Pcog .09 - (2008)	$0.00	$0.00	$0.00		$0.00
101-000-000-339-22-00-00	Arra Grant	$0.00	$0.00	$0.00		$0.00
Total Intergovernmental Revenues		**$1,447.51**	**$6,039.30**	**$19,073.00**	**31.66%**	**$13,033.70**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
101-000-000-361-11-00-00	Investment Interest	$7.57	$30.89	$0.00		($30.89)
Total Total Investment Interest		**$7.57**	**$30.89**	**$0.00**		**($30.89)**
Total Interest and Other Earnings		**$7.57**	**$30.89**	**$0.00**		**($30.89)**
Total Miscellaneous Revenues		**$7.57**	**$30.89**	**$0.00**		**($30.89)**
101-000-000-395-10-00-00	Proceeds From Sales of Capital Assets	$0.00	$0.00	$0.00		$0.00
Transfers-In						
101-000-000-397-00-00-01	Transfer from 301	$0.00	$0.00	$0.00		$0.00
101-000-000-397-00-41-00	Transfer IN -401	$0.00	$0.00	$0.00		$0.00
Total Transfers-In		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Revenue		**$5,739.00**	**$15,020.60**	**$81,773.00**	**18.37%**	**$66,752.40**
Total City Streets		**$5,739.00**	**$15,020.60**	**$81,773.00**	**18.37%**	**$66,752.40**
Tourism						
Revenue						
Taxes						
Retail Sales and Use Taxes						
104-000-000-313-31-00-00	Hotel-Motel Tax	$3,313.54	$7,028.98	$30,000.00	23.43%	$22,971.02
Total Retail Sales and Use Taxes		**$3,313.54**	**$7,028.98**	**$30,000.00**	**23.43%**	**$22,971.02**
Total Taxes		**$3,313.54**	**$7,028.98**	**$30,000.00**	**23.43%**	**$22,971.02**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
104-000-000-361-11-00-00	Investment Interest	$5.89	$22.18	$130.00	17.06%	$107.82
Total Total Investment Interest		**$5.89**	**$22.18**	**$130.00**	**17.06%**	**$107.82**
Total Interest and Other Earnings		**$5.89**	**$22.18**	**$130.00**	**17.06%**	**$107.82**
Total Miscellaneous Revenues		**$5.89**	**$22.18**	**$130.00**	**17.06%**	**$107.82**
Total Revenue		**$3,319.43**	**$7,051.16**	**$30,130.00**	**23.40%**	**$23,078.84**
Total Tourism		**$3,319.43**	**$7,051.16**	**$30,130.00**	**23.40%**	**$23,078.84**
Excise Reserve						
Revenue						
Taxes						
Other Taxes						
301-000-000-318-34-00-00	Real Estate Excise Tax -REET 1	$1,407.04	$3,670.44	$9,000.00	40.78%	$5,329.56
Total Other Taxes		**$1,407.04**	**$3,670.44**	**$9,000.00**	**40.78%**	**$5,329.56**
Total Taxes		**$1,407.04**	**$3,670.44**	**$9,000.00**	**40.78%**	**$5,329.56**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
301-000-000-361-11-00-00	Investment Interest	$1.35	$4.96	$0.00		($4.96)
Total Total Investment Interest		**$1.35**	**$4.96**	**$0.00**		**($4.96)**
Total Interest and Other Earnings		**$1.35**	**$4.96**	**$0.00**		**($4.96)**
Total Miscellaneous Revenues		**$1.35**	**$4.96**	**$0.00**		**($4.96)**
Total Revenue		**$1,408.39**	**$3,675.40**	**$9,000.00**	**40.84%**	**$5,324.60**
Total Excise Reserve		**$1,408.39**	**$3,675.40**	**$9,000.00**	**40.84%**	**$5,324.60**
Water						
Revenue						
Intergovernmental Revenues						
Indirect Federal Grants						
401-000-000-333-66-46-00	Indirect Federal Grant from EPA	$0.00	$0.00	$0.00		$0.00
Total Indirect Federal Grants		**$0.00**	**$0.00**	**$0.00**		**$0.00**
State Grants						
401-000-000-334-04-90-00	State Grant - Department of Health	$0.00	$556,233.43	$780,000.00	71.31%	$223,766.57
Total State Grants		**$0.00**	**$556,233.43**	**$780,000.00**	**71.31%**	**$223,766.57**
Total Intergovernmental Revenues		**$0.00**	**$556,233.43**	**$780,000.00**	**71.31%**	**$223,766.57**
Charges for Goods and Services						
Physical Environment						

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
401-000-000-343-40-00-00	Water Sales	$42,075.07	$183,341.22	$710,890.00	25.79%	$527,548.78
401-000-000-343-40-00-01	Other Utilities	$0.00	$0.00	$0.00		$0.00
401-000-000-343-40-00-02	Other Rev Sources	$1,797.77	$9,252.18	$5,000.00	185.04%	($4,252.18)
Total Physical Environment		**$43,872.84**	**$192,593.40**	**$715,890.00**	**26.90%**	**$523,296.60**
Total Charges for Goods and Services		**$43,872.84**	**$192,593.40**	**$715,890.00**	**26.90%**	**$523,296.60**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
401-000-000-361-11-00-00	Investment Interest	$30.47	$120.48	$200.00	60.24%	$79.52
Total Total Investment Interest		**$30.47**	**$120.48**	**$200.00**	**60.24%**	**$79.52**
Total Interest and Other Earnings		**$30.47**	**$120.48**	**$200.00**	**60.24%**	**$79.52**
Total Miscellaneous Revenues		**$30.47**	**$120.48**	**$200.00**	**60.24%**	**$79.52**
Proprietary Funds Revenues						
401-000-000-372-00-00-00	Insurance Recoveries	$726.67	$726.67	$0.00		($726.67)
Capital Contributions						
401-000-000-379-00-00-01	Water Connections	$0.00	$3,750.00	$7,500.00	50.00%	$3,750.00
Total Capital Contributions		**$0.00**	**$3,750.00**	**$7,500.00**	**50.00%**	**$3,750.00**
Total Proprietary Funds Revenues		**$726.67**	**$4,476.67**	**$7,500.00**	**59.69%**	**$3,023.33**
Other Financing Sources						
401-000-000-391-80-00-00	Intergovernmental Loan Proceeds	$0.00	$3,417.50	$0.00		($3,417.50)
Disposition of Capital Assets						
401-000-000-395-10-00-00	Proceeds From Sales of Capital Assets	$0.00	$0.00	$0.00	-	$0.00
Total Disposition of Capital Assets		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Other Financing Sources		**$0.00**	**$3,417.50**	**$0.00**		**($3,417.50)**
Total Revenue		**$44,629.98**	**$756,841.48**	**$1,503,590.00**	**50.34%**	**$746,748.52**
Total Water		**$44,629.98**	**$756,841.48**	**$1,503,590.00**	**50.34%**	**$746,748.52**
Water & Sewer Bond Redemption						
Revenue						
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
403-000-000-361-11-00-00	Investment Interest	$0.00	$0.00	$0.00		$0.00
Total Total Investment Interest		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Interest and Other Earnings		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Miscellaneous Revenues		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Other Financing Sources						
403-000-000-397-00-00-00	Intertie Loan Usda 91-01	$2,177.00	$2,177.00	$4,354.00	50.00%	$2,177.00
403-000-000-397-00-00-02	Transfer - Sewer Usda-Sbr #3	$0.00	$0.00	$0.00		$0.00
403-000-000-397-00-00-03	Transfer-Sewer Pwtf97-791-007	$0.00	$0.00	$14,299.00	0.00%	$14,299.00
403-000-000-397-00-00-05	Tranfer-Sewer Pwtf 04-691	$0.00	$0.00	$1,646.00	0.00%	$1,646.00
403-000-000-397-00-00-06	Transfer-Sewer Pwtf 05-691	$0.00	$0.00	$24,718.00	0.00%	$24,718.00
403-000-000-397-00-00-07	Transfer-Sewer DOE	$0.00	$107,833.35	$285,424.00	37.78%	$177,590.65
403-000-000-397-00-00-08	Transfer from Sewer PC13-961-054	$0.00	$0.00	$1,226.00	0.00%	$1,226.00
403-000-000-397-00-70-02	Transfer From Sewer Srf 94-08	$0.00	$52,153.94	$104,308.00	50.00%	$52,154.06
403-000-000-397-00-70-05	Tran From Wat Pwtf04-65104-013	$0.00	$0.00	$0.00		$0.00
403-000-000-397-00-72-04	Tran From Sewer Pwtf06-962-017	$0.00	$0.00	$13,326.00	0.00%	$13,326.00
403-000-000-397-00-72-06	Trans From Sewer-B of P 2008	$0.00	$14,823.40	$29,648.00	50.00%	$14,824.60
403-000-000-397-00-72-07	Trans From Sewer PWTF 09-951-050	$0.00	$0.00	$0.00		$0.00
Total Other Financing Sources		**$2,177.00**	**$176,987.69**	**$478,949.00**	**36.95%**	**$301,961.31**
Total Revenue		**$2,177.00**	**$176,987.69**	**$478,949.00**	**36.95%**	**$301,961.31**
Total Water & Sewer Bond Redemption		**$2,177.00**	**$176,987.69**	**$478,949.00**	**36.95%**	**$301,961.31**
Water & Sewer Bond Reserve						
Revenue						
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
404-000-000-361-11-00-00	Investment Interest	$0.00	$0.00	$0.00		$0.00
Total Total Investment Interest		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Interest and Other Earnings		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Miscellaneous Revenues		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Other Financing Sources						
Transfers-In						
404-000-000-397-35-70-01	Wwtp-SRF Reserve- Refinance of USDA	$0.00	$0.00	$4,668.00	0.00%	$4,668.00
404-000-000-397-35-70-02	Wwtp Srf Reserve- First Avenue	$0.00	$0.00	$12,920.00	0.00%	$12,920.00
404-000-000-397-35-70-03	Wwtp 2004-Usda Reserve	$0.00	$0.00	$0.00		$0.00
404-000-000-397-35-72-06	Wwtp 2008 Reserve-B of P	$0.00	$0.00	$2,965.00	0.00%	$2,965.00
Total Transfers-In		**$0.00**	**$0.00**	**$20,553.00**	**0.00%**	**$20,553.00**
Total Other Financing Sources		**$0.00**	**$0.00**	**$20,553.00**	**0.00%**	**$20,553.00**
Total Revenue		**$0.00**	**$0.00**	**$20,553.00**	**0.00%**	**$20,553.00**
Total Water & Sewer Bond Reserve		**$0.00**	**$0.00**	**$20,553.00**	**0.00%**	**$20,553.00**
Stormwater						
Revenue						
Charges for Goods and Services						
Physical Environment						
408-000-000-343-10-00-00	Storm Drainage	$5,671.79	$41,545.89	$86,538.00	48.01%	$44,992.11
Total Physical Environment		**$5,671.79**	**$41,545.89**	**$86,538.00**	**48.01%**	**$44,992.11**

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
Total Charges for Goods and Services		**$5,671.79**	**$41,545.89**	**$86,538.00**	**48.01%**	**$44,992.11**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
408-000-000-361-11-00-00	Investment Interest	$4.38	$13.63	$0.00		($13.63)
Total Total Investment Interest		**$4.38**	**$13.63**	**$0.00**		**($13.63)**
Total Interest and Other Earnings		**$4.38**	**$13.63**	**$0.00**		**($13.63)**
Total Miscellaneous Revenues		**$4.38**	**$13.63**	**$0.00**		**($13.63)**
408-000-000-397-00-00-01	Transfer from 301	$0.00	$0.00	$20,000.00	0.00%	$20,000.00
408-000-000-397-00-00-02	Transfer from 101	$0.00	$0.00	$8,000.00	0.00%	$8,000.00
Total Revenue		**$5,676.17**	**$41,559.52**	**$114,538.00**	**36.28%**	**$72,978.48**
Total Stormwater		**$5,676.17**	**$41,559.52**	**$114,538.00**	**36.28%**	**$72,978.48**
Sewer						
Revenue						
Charges for Goods and Services						
Physical Environment						
409-000-000-343-60-00-00	Sewer Service Charges	$62,288.82	$241,539.57	$776,518.00	31.11%	$534,978.43
409-000-000-343-61-00-00	Seaview Sewer District Fees	$11,053.90	$41,520.17	$285,982.00	14.52%	$244,461.83
409-000-000-343-62-00-00	Seaview - SRF Loan Match	$0.00	$28,247.65	$94,282.00	29.96%	$66,034.35
Total Physical Environment		**$73,342.72**	**$311,307.39**	**$1,156,782.00**	**26.91%**	**$845,474.61**
Total Charges for Goods and Services		**$73,342.72**	**$311,307.39**	**$1,156,782.00**	**26.91%**	**$845,474.61**
Miscellaneous Revenues						
Interest and Other Earnings						
Total Investment Interest						
409-000-000-361-11-00-00	Investment Income	$59.31	$238.28	$500.00	47.66%	$261.72
Total Total Investment Interest		**$59.31**	**$238.28**	**$500.00**	**47.66%**	**$261.72**
409-000-000-361-40-00-00	Other Revenue Sources	$372.00	$5,936.70	$10,000.00	59.37%	$4,063.30
Total Interest and Other Earnings		**$431.31**	**$6,174.98**	**$10,500.00**	**58.81%**	**$4,325.02**
Total Miscellaneous Revenues		**$431.31**	**$6,174.98**	**$10,500.00**	**58.81%**	**$4,325.02**
Proprietary Funds Revenues						
409-000-000-372-00-00-00	Insurance Recovery	$0.00	$0.00	$0.00		$0.00
409-000-000-379-00-00-00	Sewer Connections	$0.00	$0.00	$0.00		$0.00
Total Proprietary Funds Revenues		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Other Financing Sources						
409-000-000-391-80-00-00	Intergovernmental Loan Proceed	$0.00	$0.00	$0.00		$0.00
409-000-000-391-80-00-01	Loan Proceeds	$0.00	$0.00	$285,000.00	0.00%	$285,000.00
Disposition of Capital Assets						
409-000-000-395-10-00-00	Proceeds Surplus Property	$0.00	$0.00	$0.00		$0.00
Total Disposition of Capital Assets		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Other Financing Sources		**$0.00**	**$0.00**	**$285,000.00**	**0.00%**	**$285,000.00**
Total Revenue		**$73,774.03**	**$317,482.37**	**$1,452,282.00**	**21.86%**	**$1,134,799.63**
Total Sewer		**$73,774.03**	**$317,482.37**	**$1,452,282.00**	**21.86%**	**$1,134,799.63**
Grand Totals		**$206,205.04**	**$1,590,911.49**	**$4,586,502.00**	**34.69%**	**$2,995,590.51**

Expenditure

Starting Account Number: 001-000-000-508-80-00-00 Ending Cash & Investments
Ending Account Number: 999-000-000-584-00-00-00 Purchase of Investments
Period: 2015 - April

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
General Fund Current Expense						
Expenditure						
General Government Services						
Legislative						
Official Publication Services						
001-000-000-511-30-44-00	Official Publications	$174.36	$404.60	$2,000.00	20.23%	$1,595.40
Total Official Publication Services		**$174.36**	**$404.60**	**$2,000.00**	**20.23%**	**$1,595.40**
Legislative Services						
001-000-000-511-60-10-00	Salaries & Wages	$1,539.05	$6,044.45	$18,000.00	33.58%	$11,955.55
001-000-000-511-60-20-00	Personnel Benefits	$224.95	$708.04	$1,537.00	46.07%	$828.96
001-000-000-511-60-41-01	IT/Software Services	$0.00	$0.00	$3,833.00	0.00%	$3,833.00
001-000-000-511-60-43-00	Travel/Meals/Lodging	$0.00	$225.00	$500.00	45.00%	$275.00
001-000-000-511-60-46-00	Insurances	$636.73	$3,183.65	$7,362.00	43.24%	$4,178.35
001-000-000-511-60-47-00	Electricity	$135.29	$595.78	$0.00		($595.78)
001-000-000-511-60-47-02	City Sewer - Museum	$40.81	$122.43	$1,890.00	6.48%	$1,767.57
001-000-000-511-60-48-00	Repair & Maintenance	$0.00	$0.00	$200.00	0.00%	$200.00
001-000-000-511-60-49-01	Miscellaneous	$0.00	$0.00	$100.00	0.00%	$100.00
001-000-000-511-60-51-00	Election Costs	$0.00	$6,851.40	$6,000.00	114.19%	($851.40)
Total Legislative Services		**$2,576.83**	**$17,730.75**	**$39,422.00**	**44.98%**	**$21,691.25**
Total Legislative		**$2,751.19**	**$18,135.35**	**$41,422.00**	**43.78%**	**$23,286.65**
Judicial						
001-000-000-512-50-40-03	Municipal Court Services	$1,236.00	$5,544.00	$17,250.00	32.14%	$11,706.00
001-000-000-512-50-40-04	Court Remit TO State	$0.00	$0.00	$3,500.00	0.00%	$3,500.00
Total Judicial		**$1,236.00**	**$5,544.00**	**$20,750.00**	**26.72%**	**$15,206.00**
Financial and Records Services						
Financial Services						
001-000-000-514-20-10-00	Salaries & Wages	$3,312.88	$13,709.04	$42,373.00	32.35%	$28,663.96
001-000-000-514-20-20-00	Personnel Benefits	$1,163.95	$4,440.27	$12,935.00	34.33%	$8,494.73
001-000-000-514-20-31-00	Office & Operating Supplies	$621.50	$2,221.79	$6,020.00	36.91%	$3,798.21
001-000-000-514-20-35-00	Small Tools & Equipment	$0.00	$0.00	$2,000.00	0.00%	$2,000.00
001-000-000-514-20-41-00	Professional Services	$239.76	$1,192.31	$2,000.00	59.62%	$807.69
001-000-000-514-20-42-00	Communication	$336.37	$1,375.69	$4,080.00	33.72%	$2,704.31
001-000-000-514-20-43-00	Travel/Meals/Lodging	$128.80	$128.80	$1,000.00	12.88%	$871.20
001-000-000-514-20-43-01	Training	$0.00	$0.00	$1,500.00	0.00%	$1,500.00
001-000-000-514-20-45-00	Postage Meter Rental	$0.00	$404.29	$1,452.00	27.84%	$1,047.71
001-000-000-514-20-46-00	Insurance	$0.00	$0.00	$0.00		$0.00
001-000-000-514-20-47-00	Electricity	$0.00	$0.00	$0.00		$0.00
001-000-000-514-20-47-01	Garbage Bills	$279.90	$1,120.49	$3,049.00	36.75%	$1,928.51
001-000-000-514-20-47-02	Water - City Hall	$53.01	$160.97	$432.00	37.26%	$271.03
001-000-000-514-20-47-03	Sewer - City Hall	$78.06	$238.48	$1,440.00	16.56%	$1,201.52
001-000-000-514-20-47-04	Storm Drainage	$25.11	$75.33	$300.00	25.11%	$224.67
001-000-000-514-20-48-00	Repairs & Maintenance	$41.46	$415.34	$500.00	83.07%	$84.66
001-000-000-514-20-49-00	Miscellaneous	$0.00	$145.00	$4,000.00	3.63%	$3,855.00
Budgeting, Accounting, Auditing (State Auditors)						
001-000-000-514-23-41-00	Audit Costs	$0.00	$0.00	$20,400.00	0.00%	$20,400.00
Total Budgeting, Accounting, Auditing (State Auditors)		**$0.00**	**$0.00**	**$20,400.00**	**0.00%**	**$20,400.00**
Total Financial Services		**$6,280.80**	**$25,627.80**	**$103,481.00**	**24.77%**	**$77,853.20**
Records Services						
001-000-000-514-30-50-00	Records Services	$0.00	$0.00	$0.00		$0.00
001-000-000-514-31-40-00	Recording Fees	$75.00	$480.00	$0.00		($480.00)
Total Records Services		**$75.00**	**$480.00**	**$0.00**		**($480.00)**
001-000-000-514-81-00-00	Licensing Fees	$0.00	$30.00	$0.00		($30.00)
Total Financial and Records Services		**$6,355.80**	**$26,137.80**	**$103,481.00**	**25.26%**	**$77,343.20**
Legal						
001-000-000-515-30-41-00	Legal Services	$1,458.00	$5,526.00	$20,000.00	27.63%	$14,474.00
Total Legal		**$1,458.00**	**$5,526.00**	**$20,000.00**	**27.63%**	**$14,474.00**
Other General Government Services						
Miscellaneous						
001-000-000-519-70-49-00	Assoc of WA Cities (dues)	$0.00	$473.00	$720.00	65.69%	$247.00
001-000-000-519-70-49-01	Pacfic Council of Governments	$0.00	$1,500.00	$1,500.00	100.00%	$0.00
001-000-000-519-70-49-02	Misc General Government	$0.00	$0.00	$0.00		$0.00
001-000-000-519-70-49-03	Pacific County EDC	$0.00	$500.00	$500.00	100.00%	$0.00
Total Miscellaneous		**$0.00**	**$2,473.00**	**$2,720.00**	**90.92%**	**$247.00**
Total Other General Government Services		**$0.00**	**$2,473.00**	**$2,720.00**	**90.92%**	**$247.00**
Total General Government Services		**$11,800.99**	**$57,816.15**	**$188,373.00**	**30.69%**	**$130,556.85**
Public Safety						
Law Enforcement						
Administration						
001-000-000-521-10-50-00	Law Enforcement Contract	$15,261.69	$61,046.76	$214,250.00	28.49%	$153,203.24
Total Administration		**$15,261.69**	**$61,046.76**	**$214,250.00**	**28.49%**	**$153,203.24**

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
001-000-000-521-30-40-00	Drug Task Force	$0.00	$0.00	$0.00		$0.00
Total Law Enforcement		**$15,261.69**	**$61,046.76**	**$214,250.00**	**28.49%**	**$153,203.24**
Fire Control						
Administration						
001-000-000-522-10-10-00	Salaries & Wages	$1,465.51	$5,492.00	$15,952.00	34.43%	$10,460.00
001-000-000-522-10-20-00	Personnel Benefits	$867.45	$3,400.77	$10,196.00	33.35%	$6,795.23
001-000-000-522-10-20-01	Board of Volunteer Firemen	$0.00	$1,320.00	$2,100.00	62.86%	$780.00
001-000-000-522-10-20-02	Life & Disability Insurance	$0.00	$0.00	$3,600.00	0.00%	$3,600.00
001-000-000-522-10-31-00	Office & Operating Supplies	$202.61	$1,054.41	$10,730.00	9.83%	$9,675.59
001-000-000-522-10-31-01	Training/Attendance	$428.90	$580.90	$10,650.00	5.45%	$10,069.10
001-000-000-522-10-32-00	Gasoline	$0.00	$56.72	$1,600.00	3.55%	$1,543.28
001-000-000-522-10-35-00	Small Tools & Equipment	$0.00	$0.00	$7,700.00	0.00%	$7,700.00
001-000-000-522-10-42-00	Communication	$472.26	$1,627.08	$4,440.00	36.65%	$2,812.92
001-000-000-522-10-49-00	Miscellaneous	$0.00	$0.00	$0.00		$0.00
Total Administration		**$3,436.73**	**$13,531.88**	**$66,968.00**	**20.21%**	**$53,436.12**
Facilities						
001-000-000-522-50-46-00	Insurance	$824.83	$4,919.51	$9,540.00	51.57%	$4,620.49
001-000-000-522-50-47-00	Electricity	$511.06	$3,209.44	$7,000.00	45.85%	$3,790.56
001-000-000-522-50-47-01	Water	$158.60	$477.04	$1,500.00	31.80%	$1,022.96
001-000-000-522-50-47-02	Sewer	$225.78	$680.09	$2,940.00	23.13%	$2,259.91
001-000-000-522-50-47-03	Storm Drainage	$70.47	$228.89	$500.00	45.78%	$271.11
001-000-000-522-50-48-00	Repair & Maintenance	$0.00	$1,778.55	$2,800.00	63.52%	$1,021.45
Total Facilities		**$1,790.74**	**$11,293.52**	**$24,280.00**	**46.51%**	**$12,986.48**
001-000-000-522-60-48-00	Vehicle & Equipment Maintenance	$0.00	$0.00	$800.00	0.00%	$800.00
Total Fire Control		**$5,227.47**	**$24,825.40**	**$92,048.00**	**26.97%**	**$67,222.60**
Detention and/or Correction						
Monitoring Of Prisoners						
001-000-000-523-20-40-00	Correctional Institutions	$0.00	$0.00	$3,500.00	0.00%	$3,500.00
001-000-000-523-21-00-01	Juvenile Facility	$0.00	$0.00	$50.00	0.00%	$50.00
Total Monitoring Of Prisoners		**$0.00**	**$0.00**	**$3,550.00**	**0.00%**	**$3,550.00**
Total Detention and/or Correction		**$0.00**	**$0.00**	**$3,550.00**	**0.00%**	**$3,550.00**
Emergency Services						
Emergency Preparedness						
001-000-000-525-60-51-00	Disaster Preparedness	$1,475.50	$2,951.00	$5,753.00	51.29%	$2,802.00
Total Emergency Preparedness		**$1,475.50**	**$2,951.00**	**$5,753.00**	**51.29%**	**$2,802.00**
Total Emergency Services		**$1,475.50**	**$2,951.00**	**$5,753.00**	**51.29%**	**$2,802.00**
Communications, Alarms and Dispatch						
Operations - Contracted Services						
001-000-000-528-60-51-00	Dispatch Services	$8,152.75	$16,305.50	$28,729.00	56.76%	$12,423.50
Total Operations - Contracted Services		**$8,152.75**	**$16,305.50**	**$28,729.00**	**56.76%**	**$12,423.50**
Total Communications, Alarms and Dispatch		**$8,152.75**	**$16,305.50**	**$28,729.00**	**56.76%**	**$12,423.50**
Total Public Safety		**$30,117.41**	**$105,128.66**	**$344,330.00**	**30.53%**	**$239,201.34**
Utilities and Environment						
Other Environmental Services						
Other						
001-000-000-539-90-41-00	Enviromental Monitoring 2006	$0.00	$0.00	$0.00		$0.00
Total Other		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Other Environmental Services		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Utilities and Environment		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Economic Environment						
001-000-000-553-70-51-00	Air Pollution Control	$0.00	$423.00	$423.00	100.00%	$0.00
Community Services						
Information Services						
001-000-000-557-20-41-00	Ilwaco Web Page	$50.00	$200.00	$1,500.00	13.33%	$1,300.00
Total Information Services		**$50.00**	**$200.00**	**$1,500.00**	**13.33%**	**$1,300.00**
Total Community Services		**$50.00**	**$200.00**	**$1,500.00**	**13.33%**	**$1,300.00**
Planning and Community Development						
Planning						
001-000-000-558-60-41-00	Planner Services	$10,044.68	$29,051.95	$70,000.00	41.50%	$40,948.05
Total Planning		**$10,044.68**	**$29,051.95**	**$70,000.00**	**41.50%**	**$40,948.05**
Total Planning and Community Development		**$10,044.68**	**$29,051.95**	**$70,000.00**	**41.50%**	**$40,948.05**
Total Economic Environment		**$10,094.68**	**$29,674.95**	**$71,923.00**	**41.26%**	**$42,248.05**
Mental and Physical Health						
Substance Abuse						
001-000-000-566-00-51-00	Alcohol Program 2%	$0.00	$0.00	$250.00	0.00%	$250.00
Total Substance Abuse		**$0.00**	**$0.00**	**$250.00**	**0.00%**	**$250.00**
Total Mental and Physical Health		**$0.00**	**$0.00**	**$250.00**	**0.00%**	**$250.00**
Culture and Recreation						
Libraries						
Facilities						
001-000-000-572-50-41-00	Custodian Library	$385.00	$1,390.00	$4,140.00	33.57%	$2,750.00
001-000-000-572-50-46-00	Insurance	$942.31	$4,711.55	$1,781.00	264.55%	($2,930.55)
001-000-000-572-50-47-00	Electricity	$706.50	$3,058.99	$6,500.00	47.06%	$3,441.01
001-000-000-572-50-47-01	City Water	$161.92	$487.85	$1,200.00	40.65%	$712.15
001-000-000-572-50-47-02	City Sewer	$233.12	$703.93	$2,200.00	32.00%	$1,496.07
001-000-000-572-50-47-03	Storm Drainage	$10.99	$30.79	$100.00	30.79%	$69.21
001-000-000-572-50-48-00	Repairs & Maintenance	$0.00	$264.37	$900.00	29.37%	$635.63
001-000-000-572-50-49-00	Miscellaneous	$0.00	$10.78	$100.00	10.78%	$89.22
Total Facilities		**$2,439.84**	**$10,658.26**	**$16,921.00**	**62.99%**	**$6,262.74**
Total Libraries		**$2,439.84**	**$10,658.26**	**$16,921.00**	**62.99%**	**$6,262.74**

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
Spectator and Community Events						
001-000-000-573-90-30-00	Street Banners	$0.00	$0.00	$0.00		$0.00
001-000-000-573-90-49-00	Black Lake Fishing Derby	$2,557.50	$2,651.50	$5,000.00	53.03%	$2,348.50
001-000-000-573-90-49-01	Port of Ilwaco Fireworks	$3,750.00	$3,750.00	$0.00		($3,750.00)
Total Spectator and Community Events		**$6,307.50**	**$6,401.50**	**$5,000.00**	**128.03%**	**($1,401.50)**
001-000-000-575-50-40-00	Community Bldg Other - Electri	$471.00	$2,039.33	$6,220.00	32.79%	$4,180.67
001-000-000-575-50-40-01	Community Bldg Other-Mntc	$401.39	$401.39	$2,000.00	20.07%	$1,598.61
001-000-000-575-50-40-02	Community Building Water	$0.00	$0.00	$0.00		$0.00
001-000-000-575-50-40-03	Community Building Sewer	$0.00	$0.00	$0.00		$0.00
001-000-000-575-50-40-04	Community Building Insurance	$0.00	$0.00	$9,120.00	0.00%	$9,120.00
Park Facilities						
General Parks						
001-000-000-576-80-10-00	Parks Salaries and Wages	$2,153.58	$10,532.85	$35,744.00	29.47%	$25,211.15
001-000-000-576-80-20-00	Parks Benefits	$918.92	$3,761.22	$15,039.00	25.01%	$11,277.78
001-000-000-576-80-31-00	Office & Operating Supplies	$1,897.94	$2,329.80	$4,500.00	51.77%	$2,170.20
001-000-000-576-80-34-00	Aquatic Weed Treatment	$0.00	$0.00	$19,519.00	0.00%	$19,519.00
001-000-000-576-80-35-00	Small Tools & Equipment	$0.00	$0.00	$8,000.00	0.00%	$8,000.00
001-000-000-576-80-46-00	Insurance	$198.45	$992.25	$2,294.00	43.25%	$1,301.75
001-000-000-576-80-47-00	Electricity	$89.17	$369.70	$1,000.00	36.97%	$630.30
001-000-000-576-80-47-01	Water-Parks, Sprinklers,Blk Lake	$186.11	$557.10	$2,600.00	21.43%	$2,042.90
001-000-000-576-80-47-02	Sewer-Parks, Black Lake	$45.66	$334.34	$2,400.00	13.93%	$2,065.66
001-000-000-576-80-47-03	Storm Drainage	$21.98	$1,486.97	$1,500.00	99.13%	$13.03
001-000-000-576-80-48-00	Repairs & Maintenance	$626.95	$1,074.88	$9,954.00	10.80%	$8,879.12
001-000-000-576-80-49-00	Miscellaneous	$0.00	$0.00	$0.00		$0.00
001-000-000-576-80-49-01	Other	$0.00	$0.00	$5,000.00	0.00%	$5,000.00
Total General Parks		**$6,138.76**	**$21,439.11**	**$107,550.00**	**19.93%**	**$86,110.89**
Total Park Facilities		**$6,138.76**	**$21,439.11**	**$107,550.00**	**19.93%**	**$86,110.89**
Total Culture and Recreation		**$15,758.49**	**$40,939.59**	**$146,811.00**	**27.89%**	**$105,871.41**
Debt Service						
Redemption Of Long-Term Debt - Governmental Funds						
001-000-000-591-13-71-00	Usda RD #97-09 Bond - Prin	$0.00	$0.00	$19,332.00	0.00%	$19,332.00
001-000-000-591-22-71-00	BOP Fire Station - Prin	$0.00	$23,041.95	$37,282.00	61.80%	$14,240.05
001-000-000-591-48-71-01	John Deer Mower 8157-96 - Prin	$1,000.00	$4,000.00	$12,000.00	33.33%	$8,000.00
001-000-000-591-73-71-00	BOP Community Bldg - Prin	$18,498.32	$18,498.32	$15,947.00	116.00%	($2,551.32)
Total Redemption Of Long-Term Debt - Governmental Funds		**$19,498.32**	**$45,540.27**	**$84,561.00**	**53.85%**	**$39,020.73**
Interest And Other Debt Service Costs						
001-000-000-592-13-83-00	Usda RD #97-09 Bond - Interest	$0.00	$0.00	$7,195.00	0.00%	$7,195.00
001-000-000-592-22-83-00	BOP Fire Station - Interest	$0.00	$15,674.35	$40,150.00	39.04%	$24,475.65
001-000-000-592-48-83-00	John Deer Mower 8157-96 - Interest	$82.23	$328.92	$500.00	65.78%	$171.08
001-000-000-592-73-83-00	BOP Community Bldg - Interest	$10,528.60	$10,528.60	$13,080.00	80.49%	$2,551.40
Total Interest And Other Debt Service Costs		**$10,610.83**	**$26,531.87**	**$60,925.00**	**43.55%**	**$34,393.13**
Capital Expenditures						
001-000-000-594-42-64-00	Templin Foundation	$0.00	$0.00	$0.00		$0.00
001-000-000-594-62-14-00	Governmental Facility	$0.00	$2,854.27	$3,000.00	95.14%	$145.73
001-000-000-594-62-72-01	Community Building	$0.00	$0.00	$0.00		$0.00
Equipment						
001-000-000-594-64-14-00	Administrative Equipment	$0.00	$0.00	$0.00		$0.00
001-000-000-594-64-22-00	Fire Department Vehicles	$0.00	$0.00	$0.00		$0.00
001-000-000-594-64-22-01	Fire Equipment	$0.00	$0.00	$5,000.00	0.00%	$5,000.00
001-000-000-594-64-76-00	Parks Vehicles	$0.00	$371.56	$31,200.00	1.19%	$30,828.44
Total Equipment		**$0.00**	**$371.56**	**$36,200.00**	**1.03%**	**$35,828.44**
Total Capital Expenditures		**$0.00**	**$3,225.83**	**$39,200.00**	**8.23%**	**$35,974.17**
001-000-000-597-00-00-00	Contingency	$0.00	$0.00	$0.00		$0.00
Total Debt Service		**$30,109.15**	**$75,297.97**	**$184,686.00**	**40.77%**	**$109,388.03**
Total Expenditure		**$97,880.72**	**$308,857.32**	**$936,373.00**	**32.98%**	**$627,515.68**
Total General Fund Current Expense		**$97,880.72**	**$308,857.32**	**$936,373.00**	**32.98%**	**$627,515.68**
City Streets						
Expenditure						
Transportation						
Road and Street Maintenance						
Roadway						
101-000-000-542-30-10-00	Salaries & Wages	$2,019.08	$9,856.12	$31,066.00	31.73%	$21,209.88
101-000-000-542-30-20-00	Benefits	$837.34	$3,710.99	$12,917.00	28.73%	$9,206.01
101-000-000-542-30-31-00	Roadway Operating	$0.00	$0.00	$2,000.00	0.00%	$2,000.00
101-000-000-542-30-35-00	Roadway Equipment	$0.00	$0.00	$2,000.00	0.00%	$2,000.00
Total Roadway		**$2,856.42**	**$13,567.11**	**$47,983.00**	**28.27%**	**$34,415.89**
Traffic And Pedestrian Services						
Street Lighting						
101-000-000-542-63-47-00	Street Light Operating	$630.31	$2,589.91	$6,005.00	43.13%	$3,415.09
Total Street Lighting		**$630.31**	**$2,589.91**	**$6,005.00**	**43.13%**	**$3,415.09**
Snow And Ice Control						
101-000-000-542-66-31-00	Ice Control Operating	$0.00	$0.00	$400.00	0.00%	$400.00
Total Snow And Ice Control		**$0.00**	**$0.00**	**$400.00**	**0.00%**	**$400.00**
Street Cleaning						
101-000-000-542-67-30-00	Street Cleaning	$0.00	$383.97	$4,000.00	9.60%	$3,616.03
Total Street Cleaning		**$0.00**	**$383.97**	**$4,000.00**	**9.60%**	**$3,616.03**
Total Traffic And Pedestrian Services		**$630.31**	**$2,973.88**	**$10,405.00**	**28.58%**	**$7,431.12**
Roadside						
101-000-000-542-70-31-00	Roadside Operating	$0.00	$1,125.92	$2,000.00	56.30%	$874.08
Total Roadside		**$0.00**	**$1,125.92**	**$2,000.00**	**56.30%**	**$874.08**

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
Total Road and Street Maintenance		**$3,486.73**	**$17,666.91**	**$60,388.00**	**29.26%**	**$42,721.09**
Road and Street General Administration / Overhead						
101-000-000-543-30-30-00	Office And Operating	$384.12	$3,836.80	$4,633.00	82.81%	$796.20
101-000-000-543-30-30-01	Gasoline & Oil Products	$235.91	$1,086.87	$1,500.00	72.46%	$413.13
101-000-000-543-30-30-02	Small Tools & Equipment	$734.15	$1,130.38	$1,500.00	75.36%	$369.62
101-000-000-543-30-40-00	Safety Training	$0.00	$150.00	$500.00	30.00%	$350.00
101-000-000-543-30-40-01	Insurance	$121.75	$608.75	$1,384.00	43.98%	$775.25
Total Road and Street General Administration / Overhead		**$1,475.93**	**$6,812.80**	**$9,517.00**	**71.59%**	**$2,704.20**
Total Transportation		**$4,962.66**	**$24,479.71**	**$69,905.00**	**35.02%**	**$45,425.29**
Debt Service						
Roads/Streets Construction & Other Infrastructure						
Engineering						
101-000-000-595-10-41-01	Engineering-Brumbach	$0.00	$0.00	$0.00		$0.00
101-000-000-595-10-41-04	Engineering - Elizabeth	$0.00	$0.00	$0.00		$0.00
Total Engineering		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Roadway						
101-000-000-595-30-61-00	Brumbach-Construction	$0.00	$0.00	$0.00		$0.00
101-000-000-595-30-65-00	Roadway Construction	$0.00	$151.71	$0.00		($151.71)
Total Roadway		**$0.00**	**$151.71**	**$0.00**		**($151.71)**
Traffic And Pedestrian Services						
Sidewalks						
101-000-000-595-61-60-01	Sidewalks	$0.00	$0.00	$0.00		$0.00
Total Sidewalks		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Traffic And Pedestrian Services		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Roads/Streets Construction & Other Infrastructure		**$0.00**	**$151.71**	**$0.00**		**($151.71)**
101-000-000-597-00-00-01	Contingency	$0.00	$0.00	$0.00		$0.00
101-000-000-597-00-00-03	Transfer TO 001-Bldg. Rental	$0.00	$0.00	$11,500.00	0.00%	$11,500.00
101-000-000-597-00-00-10	Transfer TO 408	$0.00	$0.00	$8,000.00	0.00%	$8,000.00
Total Debt Service		**$0.00**	**$151.71**	**$19,500.00**	**0.78%**	**$19,348.29**
Total Expenditure		**$4,962.66**	**$24,631.42**	**$89,405.00**	**27.55%**	**$64,773.58**
Total City Streets		**$4,962.66**	**$24,631.42**	**$89,405.00**	**27.55%**	**$64,773.58**
Tourism						
Expenditure						
104-000-000-557-30-40-01	Fishing Derby	$0.00	$0.00	$0.00		$0.00
104-000-000-557-30-40-02	Ilwaco Web Page	$0.00	$0.00	$0.00		$0.00
104-000-000-557-30-40-03	Miscellaneous	$0.00	$0.00	$7,500.00	0.00%	$7,500.00
104-000-000-557-30-41-01	Heritage Museum	$0.00	$0.00	$5,000.00	0.00%	$5,000.00
104-000-000-557-30-41-02	Visitors Bldg. - City Portion	$769.00	$769.00	$769.00	100.00%	$0.00
104-000-000-557-30-41-03	Ilwaco Merchants Association	$0.00	$0.00	$3,000.00	0.00%	$3,000.00
104-000-000-557-30-41-04	Peninsula Visitors Bureau	$0.00	$0.00	$7,875.00	0.00%	$7,875.00
104-000-000-557-30-41-05	Ilwaco Charter Association	$0.00	$0.00	$1,000.00	0.00%	$1,000.00
104-000-000-557-30-46-00	Heritage Museum - Insurance	$477.24	$2,386.20	$5,520.00	43.23%	$3,133.80
Culture and Recreation						
Spectator and Community Events						
104-000-000-573-90-00-00	Merchants/marketing Committee	$0.00	$0.00	$0.00		$0.00
104-000-000-573-90-00-03	Visitors Bureau	$0.00	$0.00	$0.00		$0.00
Total Spectator and Community Events		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Park Facilities						
General Parks						
Unit						
104-000-000-576-80-31-00	Office & Operating Supplies	$0.00	$0.00	$0.00		$0.00
Total Unit		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total General Parks		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Park Facilities		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Total Culture and Recreation		**$0.00**	**$0.00**	**$0.00**		**$0.00**
Debt Service						
104-000-000-597-00-00-00	Contingency	$0.00	$0.00	$36,000.00	0.00%	$36,000.00
104-000-000-597-00-00-01	Transfer TO 001	$0.00	$0.00	$2,500.00	0.00%	$2,500.00
Total Debt Service		**$0.00**	**$0.00**	**$38,500.00**	**0.00%**	**$38,500.00**
Total Expenditure		**$1,246.24**	**$3,155.20**	**$69,164.00**	**4.56%**	**$66,008.80**
Total Tourism		**$1,246.24**	**$3,155.20**	**$69,164.00**	**4.56%**	**$66,008.80**
Excise Reserve						
Expenditure						
Debt Service						
301-000-000-597-00-00-01	Transfer TO 001	$0.00	$0.00	$0.00		$0.00
301-000-000-597-00-00-10	Transfer TO 408	$0.00	$0.00	$20,000.00	0.00%	$20,000.00
Total Debt Service		**$0.00**	**$0.00**	**$20,000.00**	**0.00%**	**$20,000.00**
Total Expenditure		**$0.00**	**$0.00**	**$20,000.00**	**0.00%**	**$20,000.00**
Total Excise Reserve		**$0.00**	**$0.00**	**$20,000.00**	**0.00%**	**$20,000.00**
Water						
Expenditure						
Utilities and Environment						
Water Utilities						
401-000-000-534-00-10-00	Salaries & Wages	$18,942.87	$84,493.07	$216,634.00	39.00%	$132,140.93
401-000-000-534-00-20-00	Benefits	$7,731.45	$26,836.27	$74,490.00	36.03%	$47,653.73
401-000-000-534-00-31-00	Operation & Maintenance	$7,027.58	$17,166.93	$40,000.00	42.92%	$22,833.07
401-000-000-534-00-31-01	Chemicals	$2,380.69	$9,166.08	$40,000.00	22.92%	$30,833.92

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
401-000-000-534-00-31-02	Monthly Excise Tax Pay	$2,452.91	$10,758.10	$35,751.00	30.09%	$24,992.90
401-000-000-534-00-31-03	Annual Meter Calibrations	$0.00	$1,583.60	$2,500.00	63.34%	$916.40
401-000-000-534-00-31-04	Annual Permit Fees	$0.00	$3,061.05	$5,000.00	61.22%	$1,938.95
401-000-000-534-00-31-05	Cleaning Water Tanks	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-31-06	Office & Customer Service	$994.04	$1,953.11	$6,000.00	32.55%	$4,046.89
401-000-000-534-00-32-00	Gasoline	$511.50	$1,195.94	$7,500.00	15.95%	$6,304.06
401-000-000-534-00-33-00	Intertie Water	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-35-00	Small Tools & Equipment	$215.57	$698.20	$5,000.00	13.96%	$4,301.80
401-000-000-534-00-35-01	Small Tools & Equipment - Lab	$66.21	$2,595.37	$5,000.00	51.91%	$2,404.63
401-000-000-534-00-41-00	Professional Services	$0.00	$2,112.13	$10,000.00	21.12%	$7,887.87
401-000-000-534-00-41-01	Attorney Fees	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-41-03	Professional Services - Electrician	$2,835.12	$6,948.95	$12,000.00	57.91%	$5,051.05
401-000-000-534-00-41-04	Professional Services - Computer system	$263.52	$1,819.46	$9,000.00	20.22%	$7,180.54
401-000-000-534-00-41-05	Water Comp. Plan-Engineering	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-42-00	Communications	$410.07	$1,588.25	$4,500.00	35.29%	$2,911.75
401-000-000-534-00-43-00	Travel/Meals/Lodging	$0.00	$1,041.89	$2,000.00	52.09%	$958.11
401-000-000-534-00-44-00	Advertising & Printing	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-46-00	Insurance	$1,626.52	$8,132.60	$18,802.00	43.25%	$10,669.40
401-000-000-534-00-47-00	Electricity	$2,124.29	$8,797.58	$35,000.00	25.14%	$26,202.42
401-000-000-534-00-47-01	Water	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-47-02	Sewer	$0.00	$0.00	$0.00		$0.00
401-000-000-534-00-47-03	Storm Drainage	$0.00	$643.35	$660.00	97.48%	$16.65
401-000-000-534-00-48-00	Vehicle Repairs/Maintenance	$43.16	$180.64	$5,000.00	3.61%	$4,819.36
401-000-000-534-00-48-01	Water Line Replacement	$0.00	$0.00	$5,000.00	0.00%	$5,000.00
401-000-000-534-00-49-00	Miscellaneous	$0.00	$95.00	$7,500.00	1.27%	$7,405.00
401-000-000-534-00-49-01	Safety Training	$0.00	$0.00	$500.00	0.00%	$500.00
401-000-000-534-00-49-02	Software Upgrade	$0.00	$2,133.10	$2,000.00	106.66%	($133.10)
Total Water Utilities		**$47,625.50**	**$193,000.67**	**$549,837.00**	**35.10%**	**$356,836.33**
Total Utilities and Environment		**$47,625.50**	**$193,000.67**	**$549,837.00**	**35.10%**	**$356,836.33**
Debt Service						
Redemption of Long Term Debt - Proprietary Funds						
401-000-000-591-34-72-00	Principal Pwtf - 94206	$0.00	$0.00	$0.00		$0.00
401-000-000-591-34-72-01	Principal Pwtf - 04-65104-013	$0.00	$0.00	$16,985.00	0.00%	$16,985.00
401-000-000-591-34-72-02	Principal DWSRF 11-952-016	$0.00	$0.00	$20,475.00	0.00%	$20,475.00
401-000-000-591-34-72-03	Principal DWSRF 11-952-015	$0.00	$0.00	$27,000.00	0.00%	$27,000.00
401-000-000-591-34-72-04	Principal DWSRF 11-952-017	$0.00	$0.00	$3,000.00	0.00%	$3,000.00
Total Redemption of Long Term Debt - Proprietary Funds		**$0.00**	**$0.00**	**$67,460.00**	**0.00%**	**$67,460.00**
Interest And Other Debt Service Costs						
401-000-000-592-34-80-00	Interest Pwtf - 94206	$0.00	$0.00	$0.00		$0.00
401-000-000-592-34-83-01	Interest Pwtf - 04-65104-013	$0.00	$0.00	$1,864.00	0.00%	$1,864.00
401-000-000-592-34-83-02	Interest DWSRF 11-952-016	$0.00	$0.00	$5,835.37	0.00%	$5,835.37
401-000-000-592-34-83-03	Interest DWSRF 11-952-015	$0.00	$0.00	$9,437.63	0.00%	$9,437.63
401-000-000-592-34-83-04	Interest DWSRF 11-952-017	$0.00	$0.00	$500.00	0.00%	$500.00
Total Interest And Other Debt Service Costs		**$0.00**	**$0.00**	**$17,637.00**	**0.00%**	**$17,637.00**
Capital Expenditures						
401-000-000-594-34-41-01	Engineering - Plant	$0.00	$0.00	$0.00		$0.00
401-000-000-594-34-41-02	Engineering - Distribution	$3,417.50	$3,417.50	$0.00		($3,417.50)
401-000-000-594-34-62-00	Construction Project -Resvoir	$0.00	$0.00	$0.00		$0.00
401-000-000-594-34-62-01	Construction - Plant	$0.00	$540,744.92	$780,000.00	69.33%	$239,255.08
401-000-000-594-34-62-02	Construction - Distribution	$0.00	$3,330.45	$0.00		($3,330.45)
401-000-000-594-62-34-00	Plant Improvements	$2,062.22	$41,771.62	$121,000.00	34.52%	$79,228.38
Equipment						
401-000-000-594-64-34-00	Vehicle Purchase	$0.00	$0.00	$0.00		$0.00
401-000-000-594-64-34-01	Equipment	$1,115.21	$1,115.21	$44,500.00	2.51%	$43,384.79
401-000-000-594-64-34-02	Contingency	$0.00	$0.00	$100,000.00	0.00%	$100,000.00
Total Equipment		**$1,115.21**	**$1,115.21**	**$144,500.00**	**0.77%**	**$143,384.79**
Total Capital Expenditures		**$6,594.93**	**$590,379.70**	**$1,045,500.00**	**56.47%**	**$455,120.30**
Transfer Out						
401-000-000-597-00-00-02	Transfer TO 001	$0.00	$0.00	$12,375.00	0.00%	$12,375.00
401-000-000-597-00-00-03	Transfer TO 403 Usda 91-01	$2,177.00	$2,177.00	$4,354.00	50.00%	$2,177.00
401-000-000-597-00-00-04	Transfer To403pwtf04-65104-013	$0.00	$0.00	$0.00		$0.00
401-000-000-597-00-00-05	Transfer to 101	$0.00	$0.00	$0.00		$0.00
Total Transfer Out		**$2,177.00**	**$2,177.00**	**$16,729.00**	**13.01%**	**$14,552.00**
Total Debt Service		**$8,771.93**	**$592,556.70**	**$1,147,326.00**	**51.65%**	**$554,769.30**
Total Expenditure		**$56,397.43**	**$785,557.37**	**$1,697,163.00**	**46.29%**	**$911,605.63**
Total Water		**$56,397.43**	**$785,557.37**	**$1,697,163.00**	**46.29%**	**$911,605.63**
Water & Sewer Bond Redemption						
Expenditure						
Debt Service						
403-000-000-591-34-70-01	Pwtf 97-791-007 Principal	$0.00	$0.00	$13,118.00	0.00%	$13,118.00
403-000-000-591-34-70-03	Pwtf 04-691 Principal	$0.00	$0.00	$1,496.00	0.00%	$1,496.00
403-000-000-591-34-70-04	Pwtf 05-691 Principal	$0.00	$0.00	$20,260.00	0.00%	$20,260.00
403-000-000-591-34-70-05	Pwtf 04-65104-013 Principal	$0.00	$0.00	$0.00		$0.00
403-000-000-591-34-72-00	Usda 91-01 Principal	$1,117.82	$1,117.82	$2,378.00	47.01%	$1,260.18
403-000-000-591-35-72-01	Srf 94-08 Principal Only	$0.00	$52,153.94	$104,308.00	50.00%	$52,154.06
403-000-000-591-35-72-04	Pwtf - 06-962-0017 Principal	$0.00	$0.00	$11,898.00	0.00%	$11,898.00
403-000-000-591-35-72-05	PWTF PC13-961-054 Nesadi Principal	$0.00	$0.00	$0.00		$0.00
403-000-000-591-35-72-06	B of P - 2008 - Principal	$0.00	$7,404.06	$15,275.00	48.47%	$7,870.94
403-000-000-591-35-72-07	PWTF PR09-951-050	$0.00	$0.00	$0.00		$0.00
403-000-000-591-35-78-00	DOE SRF L1300001- Principal	$0.00	$66,362.55	$133,626.00	49.66%	$67,263.45
403-000-000-591-35-78-01	DOE SRF L1300003 -Principal	$0.00	$0.00	$38,964.00	0.00%	$38,964.00
403-000-000-591-35-78-02	DOE SRF L1300006 - Principal	$0.00	$0.00	$4,892.00	0.00%	$4,892.00
Interest And Other Debt Service Costs						

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
403-000-000-592-34-80-00	Usda 91-01 Interest	$1,059.18	$1,059.18	$1,976.00	53.60%	$916.82
403-000-000-592-34-80-01	Pwtf 97-791-007 Interest	$0.00	$0.00	$1,181.00	0.00%	$1,181.00
403-000-000-592-34-80-02	Pwtf - 2003 Interest	$0.00	$0.00	$0.00		$0.00
403-000-000-592-34-80-03	Ptwf 04-691 Interest	$0.00	$0.00	$150.00	0.00%	$150.00
403-000-000-592-34-80-04	Pwtf 05-691 Interest	$0.00	$0.00	$4,457.00	0.00%	$4,457.00
403-000-000-592-34-80-05	Pwtf 04-65104-013 Interest	$0.00	$0.00	$0.00		$0.00
403-000-000-592-34-80-07	PWTF PR09-951-050	$0.00	$0.00	$0.00		$0.00
403-000-000-592-35-80-00	Usda 92-07 Interest	$0.00	$0.00	$0.00		$0.00
403-000-000-592-35-80-01	Usda-Sbr #3 - Interest	$0.00	$0.00	$0.00		$0.00
403-000-000-592-35-80-04	Pwtf - 06-962-0017 Interest	$0.00	$0.00	$1,428.00	0.00%	$1,428.00
403-000-000-592-35-80-05	PWTF PC13-961-054 Nesadi Interest	$0.00	$0.00	$1,226.00	0.00%	$1,226.00
403-000-000-592-35-80-06	B of P - 2008 - Interest	$0.00	$7,419.34	$14,372.00	51.62%	$6,952.66
403-000-000-592-35-83-00	DOE SRF L1300001- Interest	$0.00	$41,470.80	$82,041.00	50.55%	$40,570.20
403-000-000-592-35-83-01	DOE SRF L1300003 - Interest	$0.00	$0.00	$25,641.00	0.00%	$25,641.00
403-000-000-592-35-83-02	DOE SRF L1300006 - Interest	$0.00	$0.00	$263.00	0.00%	$263.00
Total Interest And Other Debt Service Costs		**$1,059.18**	**$49,949.32**	**$132,735.00**	**37.63%**	**$82,785.68**
Total Debt Service		**$2,177.00**	**$176,987.69**	**$478,950.00**	**36.95%**	**$301,962.31**
Total Expenditure		**$2,177.00**	**$176,987.69**	**$478,950.00**	**36.95%**	**$301,962.31**
Total Water & Sewer Bond Redemption		**$2,177.00**	**$176,987.69**	**$478,950.00**	**36.95%**	**$301,962.31**
Stormwater						
Expenditure						
Utilities and Environment						
Flood Control						
408-000-000-531-38-10-00	Salaries & Wages	$1,196.13	$4,897.38	$15,704.00	31.19%	$10,806.62
408-000-000-531-38-20-00	Benefits	$453.75	$1,683.73	$5,437.00	30.97%	$3,753.27
408-000-000-531-38-31-01	Operations & Maintenance	$3,023.90	$5,996.75	$8,800.00	68.14%	$2,803.25
408-000-000-531-38-31-02	Excise Tax	$110.03	$696.02	$1,600.00	43.50%	$903.98
408-000-000-531-38-32-00	Gas/Oil Products	$0.00	$170.69	$1,000.00	17.07%	$829.31
408-000-000-531-38-35-00	Small Tools	$0.00	$156.56	$1,500.00	10.44%	$1,343.44
408-000-000-531-38-43-02	Training	$0.00	$0.00	$0.00		$0.00
408-000-000-531-38-46-00	Insurance	$57.83	$289.15	$692.00	41.78%	$402.85
Total Flood Control		**$4,841.64**	**$13,890.28**	**$34,733.00**	**39.99%**	**$20,842.72**
Total Utilities and Environment		**$4,841.64**	**$13,890.28**	**$34,733.00**	**39.99%**	**$20,842.72**
Debt Service						
Redemption of Long Term Debt - Proprietary Funds						
408-000-000-591-38-72-01	Strmwater -Principal #I9900038	$0.00	$0.00	$3,588.00	0.00%	$3,588.00
408-000-000-591-38-72-02	Pw-04-691 Principal	$0.00	$0.00	$1,496.00	0.00%	$1,496.00
408-000-000-591-38-72-03	Pw-05-691-023 Principal	$0.00	$0.00	$20,260.00	0.00%	$20,260.00
Total Redemption of Long Term Debt - Proprietary Funds		**$0.00**	**$0.00**	**$25,344.00**	**0.00%**	**$25,344.00**
Interest And Other Debt Service Costs						
408-000-000-592-31-83-01	Strmwater - Interest #I9900038	$0.00	$0.00	$1,131.00	0.00%	$1,131.00
408-000-000-592-31-83-02	Pw-04-691 Interest	$0.00	$0.00	$150.00	0.00%	$150.00
408-000-000-592-31-83-03	Pw-05-691-023 Interest	$0.00	$0.00	$4,457.00	0.00%	$4,457.00
Total Interest And Other Debt Service Costs		**$0.00**	**$0.00**	**$5,738.00**	**0.00%**	**$5,738.00**
Capital Expenditures						
408-000-000-594-31-64-00	Drainage Construction	$6,204.73	$6,204.73	$48,500.00	12.79%	$42,295.27
Total Capital Expenditures		**$6,204.73**	**$6,204.73**	**$48,500.00**	**12.79%**	**$42,295.27**
Transfer Out						
408-000-000-597-00-00-03	Transfer TO 001-Bldg. Rental	$0.00	$0.00	$5,500.00	0.00%	$5,500.00
Total Transfer Out		**$0.00**	**$0.00**	**$5,500.00**	**0.00%**	**$5,500.00**
Total Debt Service		**$6,204.73**	**$6,204.73**	**$85,082.00**	**7.29%**	**$78,877.27**
Total Expenditure		**$11,046.37**	**$20,095.01**	**$119,815.00**	**16.77%**	**$99,719.99**
Total Stormwater		**$11,046.37**	**$20,095.01**	**$119,815.00**	**16.77%**	**$99,719.99**
Sewer						
Expenditure						
409-000-000-520-35-83-02	DOE SRF L1300006 - Interest	$0.00	$0.00	$0.00		$0.00
Utilities and Environment						
Sewer Utilities						
409-000-000-535-00-10-00	Salaries And Wages	$12,725.38	$50,335.15	$149,612.00	33.64%	$99,276.85
409-000-000-535-00-20-00	Employee Benefits	$5,277.70	$18,248.63	$54,093.00	33.74%	$35,844.37
409-000-000-535-00-31-01	Operations And Maintenance	$4,258.14	$8,473.90	$12,000.00	70.62%	$3,526.10
409-000-000-535-00-31-02	Chemicals	$1,373.66	$4,872.98	$16,000.00	30.46%	$11,127.02
409-000-000-535-00-31-03	Excise Tax	$1,146.18	$4,558.88	$15,530.00	29.36%	$10,971.12
409-000-000-535-00-31-04	Annual Meter Calibrations	$0.00	$1,592.71	$3,000.00	53.09%	$1,407.29
409-000-000-535-00-31-05	Doe Annual Permit	$0.00	$3,951.94	$3,700.00	106.81%	($251.94)
409-000-000-535-00-31-06	Screen Panels And Brushes	$0.00	$0.00	$7,200.00	0.00%	$7,200.00
409-000-000-535-00-31-07	Lab Supplies	$3,608.25	$3,608.25	$3,000.00	120.28%	($608.25)
409-000-000-535-00-31-08	Office Supplies & Customer Service	$0.00	$480.53	$4,800.00	10.01%	$4,319.47
409-000-000-535-00-32-00	Gas/oil Products	$407.23	$685.48	$4,500.00	15.23%	$3,814.52
409-000-000-535-00-35-00	Small Tools	$0.00	$156.56	$3,000.00	5.22%	$2,843.44
409-000-000-535-00-41-00	Attorney Fees	$0.00	$0.00	$4,000.00	0.00%	$4,000.00
409-000-000-535-00-41-01	Professional Services - Electrician	$1,152.58	$10,070.69	$20,000.00	50.35%	$9,929.31
409-000-000-535-00-41-02	Professional Services - Computer	$653.51	$4,044.36	$5,000.00	80.89%	$955.64
409-000-000-535-00-41-04	Professional Services - Brush Right of	$0.00	$0.00	$0.00		$0.00
409-000-000-535-00-42-00	Communications	$427.48	$1,687.17	$5,000.00	33.74%	$3,312.83
409-000-000-535-00-43-01	Travel/meals & Lodging	$66.31	$66.31	$2,500.00	2.65%	$2,433.69
409-000-000-535-00-43-02	Training	$0.00	$1,487.00	$3,500.00	42.49%	$2,013.00
409-000-000-535-00-45-00	Spray Sludge Disposal Site	$1,333.33	$5,333.32	$45,000.00	11.85%	$39,666.68
409-000-000-535-00-46-00	Insurance	$1,201.61	$16,932.75	$13,894.00	121.87%	($3,038.75)
409-000-000-535-00-47-01	Electricity	$4,132.04	$16,803.64	$60,000.00	28.01%	$43,196.36
409-000-000-535-00-47-02	Water	$450.10	$1,299.23	$5,000.00	25.98%	$3,700.77

Account Number	Title	Period	Fiscal	Budget	% of Total	Balance
409-000-000-535-00-47-03	Sewer	$545.77	$1,559.38	$7,200.00	21.66%	$5,640.62
409-000-000-535-00-47-04	Garbage Services	$457.84	$849.71	$2,200.00	38.62%	$1,350.29
409-000-000-535-00-47-05	Storm Drainage	$32.98	$204.50	$600.00	34.08%	$395.50
409-000-000-535-00-48-01	Repairs And Maintenance	$4,104.63	$4,193.59	$10,000.00	41.94%	$5,806.41
409-000-000-535-00-48-02	Annual Pipe Clean/tv Inspect	$8,225.14	$8,225.14	$10,000.00	82.25%	$1,774.86
409-000-000-535-00-48-03	Miscellaneous	$600.00	$2,785.10	$3,000.00	92.84%	$214.90
Total Sewer Utilities		**$52,179.86**	**$172,506.90**	**$473,329.00**	**36.45%**	**$300,822.10**
Total Utilities and Environment		**$52,179.86**	**$172,506.90**	**$473,329.00**	**36.45%**	**$300,822.10**
Debt Service						
Capital Expenditures						
409-000-000-594-63-35-00	Sewer Line Replace/repair	$0.00	$0.00	$10,000.00	0.00%	$10,000.00
409-000-000-594-63-35-02	Engineering - Collection System	$0.00	$0.00	$285,000.00	0.00%	$285,000.00
409-000-000-594-63-35-04	Treatment Plant Roof	$0.00	$0.00	$49,200.00	0.00%	$49,200.00
Equipment						
409-000-000-594-64-35-00	Software Upgrade	$0.00	$0.00	$0.00		$0.00
409-000-000-594-64-35-01	Machinery & Equipment	$0.00	$66.28	$202,425.00	0.03%	$202,358.72
409-000-000-594-64-35-02	Vehicle Purchase -Grit Trlr	$0.00	$0.00	$0.00		$0.00
409-000-000-594-64-35-03	Pump	$0.00	$0.00	$0.00		$0.00
409-000-000-594-64-35-04	Add'l Machinery & Equipment	$6,178.24	$6,178.24	$12,000.00	51.49%	$5,821.76
409-000-000-594-64-35-05	Contingency	$0.00	$0.00	$0.00		$0.00
Total Equipment		**$6,178.24**	**$6,244.52**	**$214,425.00**	**2.91%**	**$208,180.48**
Total Capital Expenditures		**$6,178.24**	**$6,244.52**	**$558,625.00**	**1.12%**	**$552,380.48**
Transfer Out						
409-000-000-597-00-00-02	Transfer TO 001-Bldg. Rental	$0.00	$0.00	$20,275.00	0.00%	$20,275.00
409-000-000-597-00-00-04	Wwtp - TO 403 Srf Redemption	$0.00	$159,987.29	$389,732.00	41.05%	$229,744.71
409-000-000-597-00-00-05	Wwtp - TO 403 Pwtf Redemption	$0.00	$0.00	$15,525.00	0.00%	$15,525.00
409-000-000-597-00-00-10	TO 403 Wwtp Pwtf 06-962-017	$0.00	$0.00	$13,326.00	0.00%	$13,326.00
409-000-000-597-00-00-11	TO 403 Wwtp Pwtf Red05-691-023	$0.00	$0.00	$24,718.00	0.00%	$24,718.00
409-000-000-597-00-00-12	TO 403 Wwtp Pwtf Red04-691-Pre	$0.00	$0.00	$1,646.00	0.00%	$1,646.00
409-000-000-597-00-00-13	WWTP to 403 PWTF PR09-951-050	$0.00	$0.00	$0.00		$0.00
409-000-000-597-00-00-14	TO 404 Wwtp B of P Reserve	$0.00	$0.00	$2,965.00	0.00%	$2,965.00
409-000-000-597-00-00-15	TO 403 Wwtp-B of P 2008 Redemp	$0.00	$14,823.40	$29,648.00	50.00%	$14,824.60
409-000-000-597-00-00-16	Wwtp - TO 404 Srf Reserve	$0.00	$0.00	$17,588.00	0.00%	$17,588.00
Total Transfer Out		**$0.00**	**$174,810.69**	**$515,423.00**	**33.92%**	**$340,612.31**
Total Debt Service		**$6,178.24**	**$181,055.21**	**$1,074,048.00**	**16.86%**	**$892,992.79**
Total Expenditure		**$58,358.10**	**$353,562.11**	**$1,547,377.00**	**22.85%**	**$1,193,814.89**
Total Sewer		**$58,358.10**	**$353,562.11**	**$1,547,377.00**	**22.85%**	**$1,193,814.89**
Grand Totals		**$232,068.52**	**$1,672,846.12**	**$4,958,247.00**	**33.74%**	**$3,285,400.88**

Cash and Investment Activity

Period: 2015 - April
Period Totals

Fund		Beginning Cash	Beginning Investments	Activity In	Activity Out	Ending Cash	Ending Investments	Ending Balance
001	General Fund Current Expense	$171,014.46	$0.00	$69,481.04	$97,880.72	$142,614.78	$0.00	$142,614.78
101	City Streets	$78,356.59	$0.00	$5,739.00	$4,962.66	$79,132.93	$0.00	$79,132.93
104	Tourism	$60,983.08	$0.00	$3,319.43	$1,246.24	$63,056.27	$0.00	$63,056.27
301	Excise Reserve	$13,996.98	$0.00	$1,408.39	$0.00	$15,405.37	$0.00	$15,405.37
401	Water	$315,543.00	$0.00	$44,629.98	$56,397.43	$303,775.55	$0.00	$303,775.55
402	Water & Sewer Equip Reserve	$0.12	$0.00	$0.00	$0.00	$0.12	$0.00	$0.12
403	Water & Sewer Bond Redemption	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
404	Water & Sewer Bond Reserve	$347,731.55	$0.00	$0.00	$0.00	$347,731.55	$0.00	$347,731.55
408	Stormwater	$45,391.27	$0.00	$5,676.17	$11,046.37	$40,021.07	$0.00	$40,021.07
409	Sewer	$266,453.49	$0.00	$73,774.03	$58,358.10	$281,869.42	$0.00	$281,869.42
631	Payroll Clearing Fund	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
632	Claims Clearing Fund	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
999	Lgip Investment	($1,090,814.97)	$1,090,814.97	$119,420.54	$119,420.54	($1,010,235.51)	$1,010,235.51	$0.00
		$208,655.57	**$1,090,814.97**	**$323,448.58**	**$349,312.06**	**$263,371.55**	**$1,010,235.51**	**$1,273,607.06**

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 04/13/15 Council Business Item: 05/11/15
04/27/15 05/26/15

B. Issue/Topic: **Partnership with Invoice Cloud for Utility Billing Payment Options**

C. Sponsor(s):
1. Karnofski 2.

D. Background (overview of why issue is before council): Currently the City of Ilwaco offers credit card payment via the website (one time processing), ACH pull from checking or savings account and check or cash. This new software integration would allow customers to check balances online, make online payments via credit/debit card or have an ACH pull on a day that they choose.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details): The Invoice Cloud software is directly tied into the Vision Utility Billing software, which allows customers to view current balances, and see payments made reflected immediately. Invoice Cloud also gives customers the option to go paperless, saving the City money on printing and postage. The City of Long Beach uses this software and it has been highly recommended by their Finance Director. The processing costs would be higher, but the availability and flexibility of the software is unlike anything the City currently has. Assuming that the frequency of credit card use by customers remains the same, the City is looking roughly at a $50 total increase per month. That includes processing fees and the admin fees for office use.

F. Impacts:
1. Fiscal: There would be a one-time set up fee with Vision of $2500.00 and an annual software assurance fee of $375.00. Invoice Cloud would charge $75 per month for the admin user plus $10 for every additional user. Each service has a price, please see the example attached. To see individual prices and an example of current and expected monthly credit cards fees please see the documents attached.
2. Legal: The city attorney has reviewed both documents.
3. Personnel: This would cut time on posting credit card payments, allowing customers to view their own balance online and would provide a better customer experience.
4. Service/Delivery:

G. Planning Commission: ☐ Recommended ☒ N/A ☐ Public Hearing on

Staff Comments:

H. Time Constraints/Due Dates:

I. Proposed Motion:

1. **I move to authorize the Mayor to enter into an agreement with Invoice Cloud for electronic bill pay and customer account services.**
2. **I move to authorize the Mayor to enter into an agreement with Vision Municipal Solution to integrate the Invoice Cloud software.**

Invoice Cloud Fees

Invoice Cloud Model

In one month we had 57 cards processed

51 Visa – 32 Visa Debits – 19 Visa Credit and 6 Mastercard Credit

Invoice Cloud rate $1.64 per processed card – 0.68 cents pass through for debit and 0.78 cents pass through for credit. That leaves the total fee for debit cards at $2.32 per card and for credit $2.42 per card. This is an effective rate of less than 2% of the average residential bill.

DEBIT – 32 * (1.64+.68) = 74.24

CREDIT – 25 * (1.64 + .78) = 60.50

$134.74 for fess plus the $75 per month for admin fees = $209.74

Total Merchant Concepts

For this same month the city paid $96.51 in fees for processing the cards, then $69.00 in admin fees = $165.51

The difference between the two companies including admin fees is roughly $44 a month. This difference can easily be made up in the diversity of invoice cloud, customer accessibility, reduction in staff time spent posting credit card transactions etc.

Vision Municipal Solutions, LLC
PO Box 28429
Spokane, WA 99228
Phone (509) 315-8845 Fax (888) 223-6007
Website: www.visionms.net Email: info@visionms.net

Vision Software and Professional Services for:

The City of Ilwaco

Software:	**Cost**	**Software Assurance**
Vision EBPP (Electronic Bill Payment and Presentment)	$2,500.00	$375.00
Vision Reporting Services	Included	Included
Total Software	**$2,500.00**	**$375.00**

Professional Services:	
Remote Installation	Included
Web services Setup and Configuration to the Online Portal	Included
Configuration of Microsoft SQL Server	Included
Remote training	Included
GRAND TOTAL	**$2,500.00**

Contract Notes:

1. Sales and use tax applies to all quoted Software and professional services.
2. Microsoft SQL Server 2008 Standard Edition or higher is required for Software. If Licensee needs to purchase Microsoft SQL Server 2012, the approximate cost is $800 for the initial license and $200 for each additional user.
3. Sale of Software is subject to the below described Software License Agreement.
4. **Please see payment terms section 7 (12 monthly payments after installation of software)**

Acceptance of Agreement:

Vision Municipal Solutions, LLC	**The City of Ilwaco**
Accepted By (Signature)	Accepted By (Signature)
Craig Lodgard	
Printed Name	Printed Name
Managing Member	
Title:	Title
03/27/2015	
Date	Date

Vision Municipal Solutions, LLC
PO Box 28429
Spokane, WA 99228
Phone (509) 315-8845 Fax (888)223-6007
Website: www.visionms.net Email:info@visionms.net

Software License Agreement between The City of Ilwaco and Vision Municipal Solutions, LLC

This Software License Agreement ("Agreement") is made by and between **Vision Municipal Solutions, LLC** ("Developer") and The City of Ilwaco ("Licensee").

Developer has developed and licenses to users its Software programs marketed and sold under the name "Vision EBPP" and/or "Vision Reporting Services" (collectively, "Software").

Licensee desires to utilize a copy of the Software.

NOW, THEREFORE, in consideration of the mutual promises set forth herein, Developer and Licensee agree as follows:

1. **License:**
   Developer hereby grants to Licensee a perpetual, non-exclusive, non-transferable, and irrevocable license to use the Software at The City of Ilwaco, on the terms, and subject to the conditions, set forth herein.

2. **Restrictions:**
   Licensee shall not modify Software source code, duplicate, copy, or reproduce Software, or transfer or convey Software, or any right in Software, to any third party without the express, prior written consent of Developer. Notwithstanding the foregoing, Licensee may make copies of Software for backup or archival purposes.

3. **License Fee:**
   For and in consideration for the grant of the herein license and the use of Software, Licensee agrees to pay Developer the sum of $2,500.00 plus any and all applicable sales or use tax.

4. **Warranty:**
   A. Developer hereby represents and warrants to Licensee that Developer is the sole owner of the Software or otherwise has the right to grant to Licensee the rights to use Software.

   B. For a period of one year (365 days) following the installation of Software to Licensee, Developer warrants that Software shall perform in all material respects according to Developer's specifications. In the event of any breach or alleged breach of this warranty, Licensee's sole and exclusive remedy shall be that Developer shall correct Software so that it operates according to the warranty. This warranty shall not apply if (i) Software is in anyway modified by Licensee, (ii) if Software is used improperly, including, without limitation, improper data entry, (iii) Software is not used with appropriate computer equipment, or (iv) if Software is used on operating systems or environments not approved by Developer.

Vision Municipal Solutions, LLC
PO Box 28429
Spokane, WA 99228
Phone (509) 315-8845 Fax (888)223-6007
Website: www.visionms.net Email:info@visionms.net

5. **Annual Software Assurance Program Schedules:**
The Software Assurance Program includes telephone support, email support, and on-line programs provided by Developer and product updates and enhancements to include any standard reports added to the system. Licensee will be required to have a high speed internet connection for Software updates and allow Developer the right to remote access for program updates and maintenance work when required. As part of the Software Assurance Program, Developer shall provide to Licensee any new, corrected, or enhanced versions of Software as created by Developer. Such enhancements shall include, but shall not be limited to, all modifications to Software that increase the performance, efficiency, or ease of use of the Software, or add additional capabilities or functionality to the Software. "Enhancements" do not include any customizations to Software requested by Licensee, which shall be will be quoted on a per-job basis at Developer's then hourly rate (currently, $150.00 per hour, but such rate is subject to change).

In the year of Software installation, the Software Assurance amount listed on page 1, will be pro-rated for the remainder of that year. After the year of Software installation, Developer shall bill Licensee on an annual basis, payable in advance, for the Software Assurance Program, at Developer's then current rates.

6. **Payment and acceptance:**
Payment for Software, hardware, and installation services shall be made by Licensee after all items contracted for have been delivered and Licensee has deemed all Software, hardware, and installation services delivered and accepted.

7. **Time Payment Schedule:**
If Licensee elects to terminate its agreement for software and services with Developer, all remaining amounts under the payment plan for Software, if any, are immediately due and payable, along with then applicable sales or use tax. The Software Assurance Program shall then immediately terminate and Developer shall not bill Licensee for any future years, nor shall Developer refund Licensee any amounts.
Software Financed: $2500.00 + Software Assurance = $2,850.00
1st Payment $208.34 + $375.00 = $583.34
2nd thru 12th Payment = $208.34 ea.
Note: Interest Amount = 0%

8. **Limitation of Liability:**
Developer shall not be responsible for, and shall not pay, any amount of incidental, consequential, or other indirect damages, whether based on lost revenue or otherwise. In no event shall Developer's liability hereunder exceed the amount of license fees paid by Licensee regardless of whether Licensee's claim is based on contract, strict liability, or product liability.

9. **Installation Travel Expenses billed to the customer:**
Licensee shall reimburse Developer for any and all travel expenses associated with the installation of Software at Licensee's site. If Developer uses Developer's vehicles (or Developer's employees use personal vehicles) Licensee shall reimburse Developer for mileage at then applicable IRS rates. If Developer (or employees of Developer) use a rental car, Licensee shall reimburse Developer for the actual rental car rate and actual gas charged. Licensee shall reimburse Developer for any and all per diem charges at the then current state published rate. Licensee shall reimburse Developer if Developer's employees are required to stay overnight.

Electronic Bill Presentment & Payment Proposal for

City of Ilwaco, WA

May 4, 2015

Vision MS chose to partner with Invoice Cloud to provide a simple, secure web based electronic invoice presentment and payment solution designed to provide a Fortune 100 online payment experience for your payers, increase operational efficiency, increase online payments, and save money by significantly increasing 'paperless' registration.

Invoice Cloud Experience

- 400+ customers in 35 states
- Focus on utility and municipal market
- Management with deep experience:
    - Secure Payments, Gateways
    - Billing Software and Integration
- **Tightly integrated with Vision MS platform allowing for functionality that no other company provides to Vision MS.**

Invoice Cloud Company Vision

- Provide the same online experience customers have come to expect when making payments to Fortune 100 companies (AT&T, Verizon, Visa, AMEX), and take that to the next level
- Provide this service to utilities and municipal governments
- Achieve industry best online payment and e-billing adoption
- Improved functionality and 'ease of use' for your customers
- Decrease effort and manual processes for your staff through improved management capabilities and an automated customer communications system (24 e-mail templates)
- Secret Sauce: Tight integration with Vision MS, customized for each biller's needs. Because no other EBPP (electronic bill presentment and payment) company has a deep data integration with Vision MS, Invoice Cloud is the only one who can provide much of the functionality outlined in this proposal.

Proposal Contact:
Carlyn Altheide, Western Regional Director
(925) 280-4597 Office
caltheide@invoicecloud.com

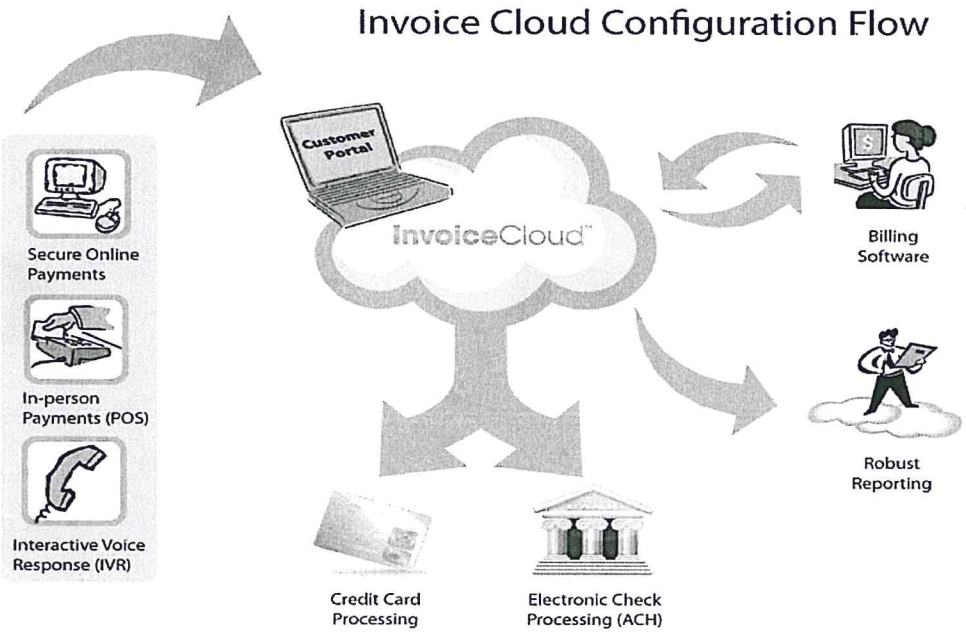
The Invoice Cloud EBPP Platform

Vision integrates tightly to Invoice Cloud and provides an easy to use system for Vision customers and its payers. Time and time again, implementing our solution has resulted in significant cost and time savings. ***The City of Ilwaco, Washington*** *and its customers would receive the following benefits from implementing Invoice Cloud:*

- **Your customers have access to an extensive <u>Customer Portal</u> to view and/or pay bills:**
  - View *24 months of billing and payment history*
  - Store bank account and/or credit card information – Invoice Cloud handles all PCI and NACHA compliance
  - Sign up for auto-pay, schedule a single payment, or create their own 'budget' payment schedule
  - *All of this improves your ability to provide services 24/7*
- **Improve communications with tax payers by offering a comprehensive e-payment platform through our 24 e-mail templates:**
  - Invoice Cloud provides 24 e-mail templates branded for your company, each sent to your payers based on certain events. Here are a few examples:
    - 3 e-mail reminders per bill (crucial for driving online and paperless adoption to new heights)
    - Payment confirmation receipt
    - Auto-Pay/Scheduled payment reminder
    - ACH reject notification
    - Credit Card expiration notification (if the credit card on file is expiring)
- **Extensive Web and Mobile payment options—all self-serve between Invoice Cloud and your payers:**
  - 'One-time pay'—no registration required: ***this is CRITICAL for driving online payment adoption***
  - Schedule a single payment
  - Schedule budget payments
  - Auto-pay
  - Account linking: pay multiple bills at once for multiple properties, plus manage all accounts through one interface
- **Accept payments in any manner--online, over the counter, mobile, IVR--through a single provider**
  - Using Invoice Cloud will give you a single source of reconciliation on the back end for all invoice and payment types
  - Go to one location to see a real time log of all payments made so far for the day
- **Accept payments in any manner--online, over the counter, or over the phone:**
  - Using Invoice Cloud will give you a single source of reconciliation on the back end for all invoice and payment types
- **Offer a comprehensive paperless program:**
  - Save money on print/mail: Invoice Cloud expects to enroll 10% of payers in paperless during the first 2 years on our platform
- **Allow payers to see an exact copy of their current and past bills online**
  - Access an exact copy of the bill allows payer to print it and send it to you if they choose
  - Seeing an exact copy of the bill online is a critical feature of improving paperless adoption rates
  - Significantly decrease calls about questions on bills from collection agencies and payers
- **Access to extensive administrative features in the <u>Biller Portal</u>:**
  - Extensive reconciliation reporting
  - E-mail an exact copy of the bill anytime
  - See e-mail history for all payers, with data and time stamps

- Easy to search for and locate any payment, regardless of where it was made (counter, web, IVR)

- **MOBILE: currently 34% of Invoice Cloud's payments are through mobile devices (smartphones and tablets)**



- ✓ Web Based, No Downloads, No Software
- ✓ No Up-Front Fees, Pay As You Go
- ✓ Flexible Electronic Invoice Presentment
- ✓ Customizable/Branded Portal
- ✓ Electronic Payments
  - EFT (ACH) and Credit Cards
  - Check Conversion
  - Recurring and Scheduled Payments
  - Self-Service or Merchant Initiated
- ✓ PCI (Payment Card Industry) Compliant Systems
- ✓ Invoice Submission Options
  - Via Web Services
  - Manual Upload to Biller Portal
- ✓ Customer Request Capability

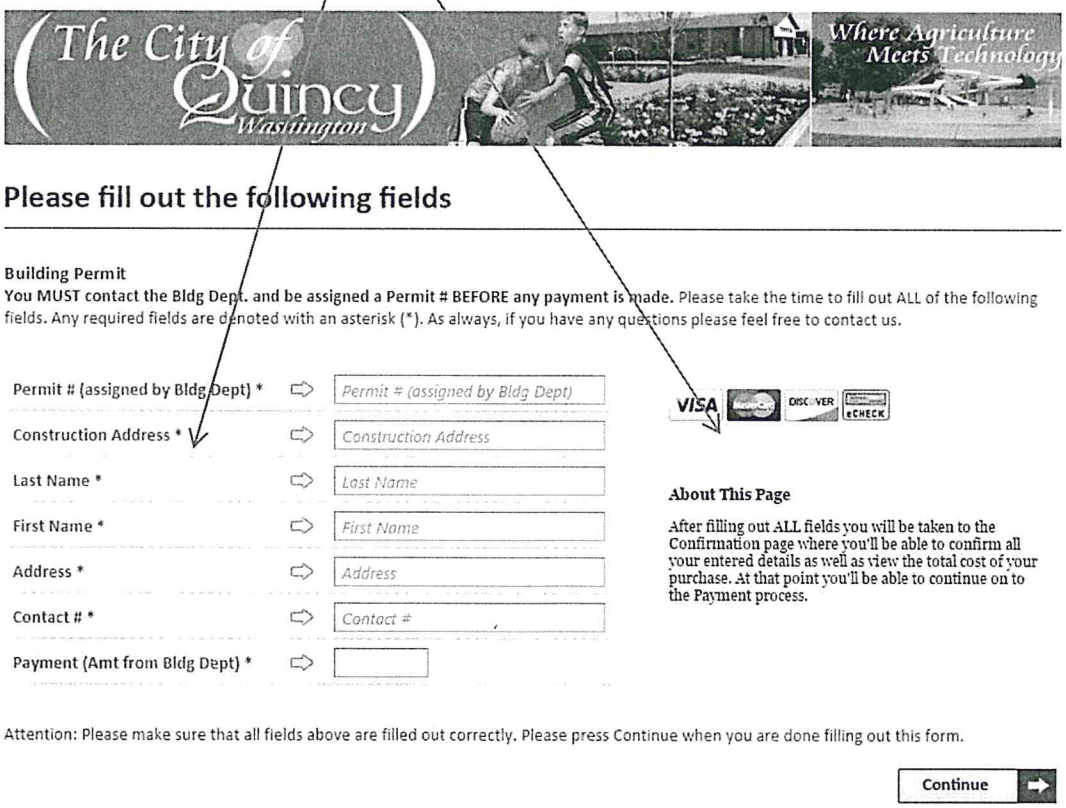
- ✓ Email Management – 24 Customizable Notifications
  - Including: open invoice (up to 3), payment receipts, credit card expiration, autopay notifications
- ✓ Reporting
  - Payment, Invoice, and Customer Data
  - Paperless
- ✓ Web access
  - Historical Payment and Invoice Data
  - Customer Data
- ✓ Capability to Download Data Files
  - Payments (ACH and Credit Card)
  - Rejects (ACH)
  - Changes (Customer changes)
- ✓ Customer Portal
  - Customer – Access to Invoice, Payment Data
  - Biller – Access to Customer Data for Support

IC Cloud Store™

The IC Cloud Store allows Billers to accept payments for non-invoiced services like airport fees, library services, fire, police, building permits, or activity programs. IC Cloud Store is also available for Utility Billing for one-time payments when an integration with the billing software is not available or feasible. Cloud Store Billers will have access to the same reporting functionality in our Biller Portal.

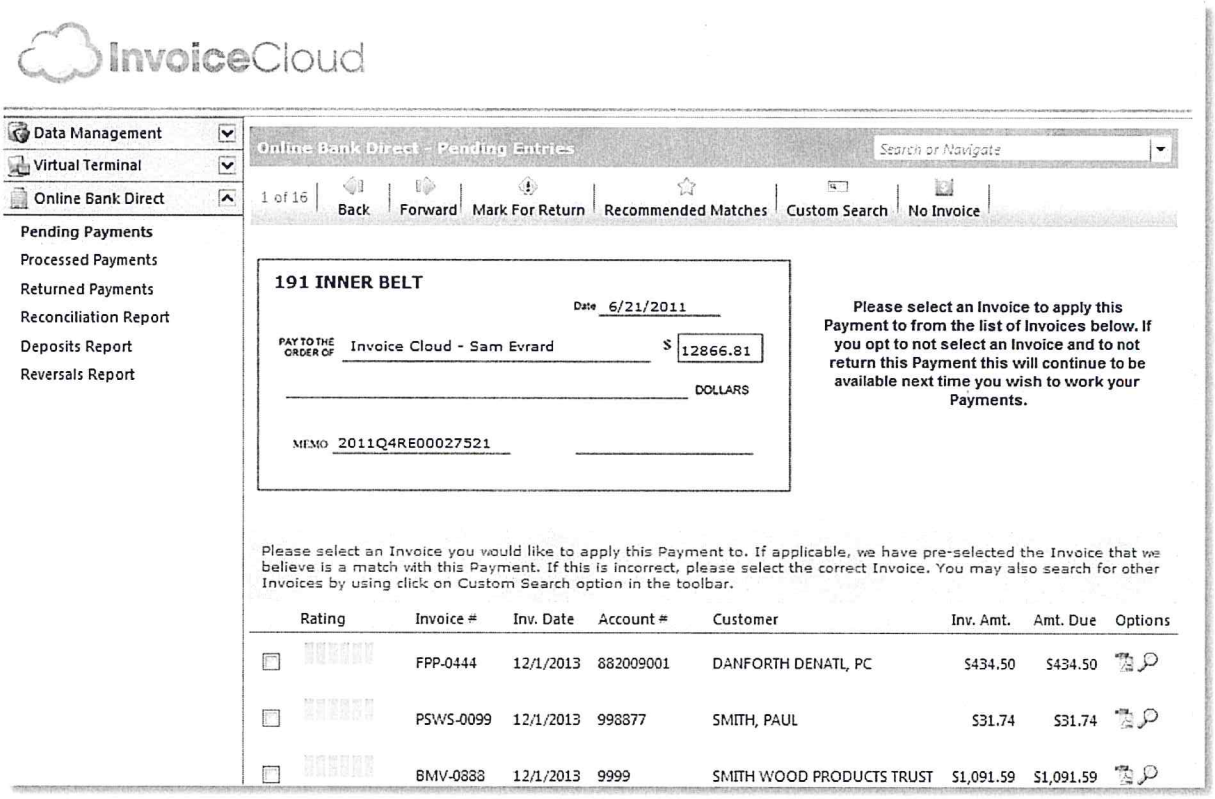
The following options are available:

- Accept one-time electronic check and or credit/debit card payments.
- Customer receives immediate email confirmation of payment.
- Department receives email notification of purchase event for instant fulfillment services.
- Ability to apply convenience fees, if required.
- Reporting by service type.
- Linked to The City branded payment portal.
- Each service type can have its own online registration form.
- Can be setup to accept payments over the counter.
- The City determines what information they would like to capture from the payer and Invoice Cloud creates a form similar to the one below. This form is very flexible and can look however the City would like it to:
    - The fields on the left side of the page can capture any information the City desires
    - The text on the right side of the page can contain any information the City would like, such as pricing, regulations, etc.



IC Online Bank Direct™

IC Online Bank Direct eliminates paper checks issued by online banking sites. The biller will be able to register through Invoice Cloud with online banking networks to electronically deposit citizen payments. Electronically depositing these payments will save biller staff time and effort. They will no longer need to manually compare citizen names and amounts to the bank issued checks and then enter them into the appropriate citizen file. They will also not need to send them to the bank for processing and deposit. The IC Bank Direct electronic payments (like lock box files) are matched (when possible) to the payer's account, processed and uploaded into the biller's customer information management system.



Pricing

City of Ilwaco, WA:

- 660 Utility Customers Billed Monthly & Average Bill $130

Administrative Fees	
Description	**Fee**
Integration, Deployment and Training	
Integration, deployment, and training - EBPP *Note: Includes integration with Vision MS*	No Charge
Account Access	
Monthly Access Fee for Branded Customer and Biller Portals -- includes **one** administrative user: The monthly access fee covers maintenance, support, upgrades and full access to the Invoice Cloud service for the City and its customers.	$75.00 $10.00 - each additional administrative user
Paperless Billing – Only available with EBPP	
Paperless Billing Fees – fee per paperless bill, per bill cycle - **ONLY WHEN PAPER IS SUPPRESSED AND A PAPER INVOICE IS NOT MAILED.**	~~$0.40 – Standard Fee~~ $0.35 - Ilwaco Fee
Online Bank Direct (Optional) - Only available with EBPP	
Monthly Access Fee - Online Bank Payment Consolidation	$50.00
Per Transaction Fee	$0.25
HelpDesk Support & Marketing	
Access to IC HelpDesk and client services team and marketing support to help you drive adoption to online payments	No charge
Other Merchant Services Fees – All pricing models	
Credit Card Chargeback Fee	$20.00
ACH Reject Fee	$15.00

Absorbed Fee Model – Processing Fees Paid by City

Electronic Payment Fees	
E-Check/ACH - Fee per transaction	$0.85 per transaction
Credit/Debit Cards: Visa, MasterCard and Discover – Fee per transaction Note: Invoice Cloud will provide the City with 2 card swipe devices for taking card payments at the counter	Interchange at pass through, plus fees, dues and assessments, plus $.20 authorization + 75 bps

1. License Grant & Restrictions. Subject to execution by Biller of the Invoice Cloud Biller Order Form incorporating this Agreement, Invoice Cloud hereby grants Biller a non-exclusive, non-transferable, worldwide right to use the Service described on the Biller Order Form until termination as provided herein, solely for the following purposes, and specifically to bill and receive payment from Biller's own customers, for Services that are referenced in the Biller Order Form. All rights not expressly granted to Biller are reserved by Invoice Cloud and its licensors.

Biller will provide to Invoice Cloud all Biller Data generated for Biller's Customers. Unless otherwise expressly agreed to in writing by Invoice Cloud to the contrary, Invoice Cloud will process all of Biller's Customers' Payment Instrument Transactions requirements related to the Biller Data and will do so via electronic data transmission according to our formats and procedures for each electronic payment type selected in the Biller Order Form. In addition, Biller will sign all third party applications and agreements required for the Service including without limitation payment and credit card processing agreements and merchant agreements. For invoice types listed on the Order Form (e.g. real estate taxes, utility bills, birth certificates, parking tickets, event tickets, etc.), Biller will not use the credit card processing, ACH or check processing of any bank, payment processor, entity, or person, other than Invoice Cloud via electronic data transmission or the authorization or processing of Biller's Customers' Payment Instrument Transactions for each electronic payment type selected in the Biller Order Form throughout the term of this Agreement.

Biller shall not: (i) license, sublicense, sell, resell, transfer, assign, distribute or otherwise commercially exploit or make available to any third party the Service in any way; (ii) modify or make derivative works based upon the Service; (iii) Recreate, "frame" or "mirror" any portion of the Service on any other server or wireless or Internet-based device; (iv) reverse engineer or access the Service; or (v) copy any features, functions or graphics of the Service.

2. Privacy & Security. Invoice Cloud's privacy and security policies may be viewed at http://www.invoicecloud.com/privacy.html. Invoice Cloud reserves the right to modify its privacy and security policies in its reasonable discretion from time to time which modification shall not materially adversely impact such policies. With respect to Protected Health Information (as defined in 45 C.F.R 160.103), Invoice Cloud will enter into a Business Associate Agreement pursuant to 45 CFR part 160 and 164. Invoice Cloud will maintain compliance with current required Payment Card Industry (PCI) standards and Cardholder Information Security standards.

3. Account Information and Data. Invoice Cloud does not and will not own any Customer Data, in the course of providing the Service. Biller, not Invoice Cloud, shall have sole responsibility for the accuracy, quality, integrity, legality, and reliability of, and obtaining the intellectual property rights to use and process all Customer Data. In the event this Agreement is terminated, Invoice Cloud will make available to Biller a file of the Customer Data within 30 days of termination of this Agreement (or at a later time if required by applicable law), if Biller so requests at the time of termination. Invoice Cloud reserves the right to remove and/or discard Customer Data with 30 days notice except as prohibited by applicable law or in the event of exigent circumstances which makes prior notice impracticable, and in which case, notice will be provided promptly thereafter.

4. Confidentiality / Intellectual Property Ownership. Invoice Cloud agrees that it may be furnished with or otherwise have access to Customer Data that the Biller's customers considers being confidential. Invoice Cloud agrees to secure and protect the Customer Data in a manner consistent with the maintenance of Invoice Cloud's own Confidential Information, using at least as great a degree of care as it uses to maintain the confidentiality of its own confidential information, but in no event use less than commercially reasonable measures. Invoice Cloud will not sell, transfer, publish, disclose, or otherwise make available any portion of the Customer Data to third parties, except as required to perform the Services under this Agreement or otherwise required by applicable law.

Invoice Cloud (and its licensors, where applicable) owns all right, title and interest, including all related Intellectual Property Rights, in and to the Invoice Cloud Technology, the Content and the Service and any enhancement requests, feedback, integration components, suggestions, ideas, and application programming interfaces, recommendations or other information provided by Biller or any other party relating to the Service. In the event any such intellectual property rights in the Invoice Cloud Technology, the Content or the Service do not fall within the specifically enumerated works that constitute works made for hire under applicable copyright laws or are deemed to be owned by Invoice Cloud, Biller hereby irrevocably, expressly and automatically assigns all right, title and interest worldwide in and to such intellectual property rights to Invoice Cloud. The Invoice Cloud name, the Invoice Cloud logo, and the product names associated with the Service are trademarks of Invoice Cloud or third parties, and no right or license is granted to use them.

Biller agrees that during the course of using or gaining access to the Service (or components thereof) it may be furnished with or otherwise have access to information that Invoice Cloud considers to be confidential including but not limited to Invoice Cloud Technology, customer and/or prospective customer information, pricing and financial information of the parties which are hereby deemed to be Invoice Cloud Confidential Information, or any other information by its very nature constitutes information of a type that any reasonable business person would conclude was intended by Invoice Cloud to be treated as proprietary, confidential, or private (the "Confidential Information"). Biller agrees to secure and protect the Confidential Information in a manner consistent with the maintenance of Invoice Cloud's rights therein, using at least as great a degree of care as it uses to maintain the confidentiality of its own confidential information, but in no event use less than reasonable efforts. Biller will not sell, transfer, publish, disclose, or otherwise make available any portion of the Confidential

Information of the other party to third parties (and will ensure that its employee and agents abide by the requirements hereof), except as expressly authorized in this Agreement or otherwise required by applicable law.

5. Billing and Renewal. Invoice Cloud fees for the Service are provided on the Biller Order Form. Invoice Cloud's fees are exclusive of all taxes, levies, or duties imposed by taxing authorities, Invoice Cloud may assess and/or collect such taxes, levies, or duties against Biller and Biller shall be responsible for payment of all such taxes, levies, or duties, excluding only United States (federal or state) taxes based solely on Invoice Cloud's income. All payment obligations are non-cancellable and all amounts or fees paid are non-refundable. Unless Invoice Cloud in its discretion determines otherwise, all fees will be billed in U.S. dollars. If Biller believes Biller's bill or payment is incorrect, Biller must provide written notice to Invoice Cloud within 60 days of the earlier of the invoice date, or the date of payment, with respect to the amount in question to be eligible to receive an adjustment or credit; otherwise such bill or payment is deemed correct. Invoice Cloud reserves the right to modify any pricing with respect to fees owed by the Biller upon thirty days written notice to Biller based on increases incurred by Invoice Cloud on fees, assessments, and the like from credit card processers, bank card issuers, payment associations, ACH and check processers.

6. Term and Termination. The initial term of this Agreement shall be for a period of three (3) years (**"Initial Term"**) commencing on the Effective Date on the Biller Order Form and will renew for each of additional successive three (3) year terms (**"Renewal Term"**) unless terminated as set forth herein. This Agreement may be terminated by either party effective at the end of the Initial or any Renewal Term by such party providing written notice to the other party of its intent not to renew no less than ninety (90) days prior to the expiration of the then-current term. Additionally, this Agreement may be terminated by either party with cause in the event of a material breach of the terms of this Agreement by the other party and the breach remains uncured for a period of 30 days following receipt of written notice by the breaching party. For example, any unauthorized use of the Invoice Cloud Technology or Service by Biller, or its authorized users will be deemed a material breach of this Agreement. Upon any early termination of this Agreement by Invoice Cloud as a result of the breach, Biller shall remain liable for all fees and charges incurred, and all periodic fees owed through the end of the calendar month following the effective date of termination. Upon any termination or expiration of this Agreement, Biller's password and access will be disabled and Biller will be obligated to pay the balance due on Biller's account computed in accordance with the Charges and Payment of Fees section above. Biller agrees that Invoice Cloud may charge such unpaid fees to Biller's Debit Account or credit card or otherwise bill Biller for such unpaid fees.

7. Invoice Cloud Responsibilities. Invoice Cloud represents and warrants that it has the legal power and authority to enter into this Agreement. Invoice Cloud warrants that the Service will materially perform the functions that the Biller has selected on the Order Form under normal use and circumstances and that. Invoice Cloud shall use commercially reasonable measures with respect to Customer Data to the extent that it retains such, in the operation of the Service; provided that the Biller shall maintain immediately accessible backups of the Customer Data. In addition, Invoice Cloud will, at its own expense, as the sole and exclusive remedy with respect to performance of the Service, correct any Transaction Data to the extent that such errors have been caused by Invoice Cloud or by malfunctions of Invoice Cloud's processing systems.

8. Limited Warranty EXCEPT AS PROVIDED IN SECTION 7, THE SERVICES AND ALL CONTENT AND TRANSACTION DATA IS PROVIDED WITHOUT ANY EXPRESS, OR IMPLIED WARRANTY, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW BY INVOICE CLOUD AND ITS LICENSORS AND PAYMENT PROCESSORS. INVOICE CLOUD AND ITS LICENSORS AND PAYMENT PROCESSORS DO NOT REPRESENT OR WARRANT THAT (A) THE USE OF THE SERVICE WILL BE UNINTERRUPTED OR ERROR-FREE, OR OPERATE IN COMBINATION WITH ANY OTHER HARDWARE, SOFTWARE, SYSTEM OR DATA, (B) THAT THE SERVICE WILL NOT DELAY IN PROCESSING OR PAYING, OR (C) THE SERVICE WILL MEET REQUIREMENTS WITH RESPECT TO SIZE OR VOLUME. Invoice Cloud's service may be subject to limitations, delays, and other problems inherent in the use of the internet and electronic communications. Invoice cloud is not responsible for any delays, delivery failures, or other damage resulting from such problems. Biller represents and warrants that Biller has not falsely identified itself nor provided any false information to gain access to the Service and that Biller's billing information is correct.

9. Biller's Responsibilities. Biller represents and warrants that it has the legal power and authority to enter into this Agreement. Biller is responsible for all activity occurring under Biller's accounts and shall abide by all applicable laws, and regulations in connection with Biller's and/or its customers' and a payers' use of the Service, including those related to data privacy, communications, export or import of data and the transmission of technical, personal or other data. Biller shall: (i) notify Invoice Cloud immediately of any unauthorized use of any password or account or any other known or suspected breach of security; (ii) report to Invoice Cloud and immediately stop any copying or distribution of Content that is known or suspected to be unauthorized by Biller or Biller's Users; and (iii) not impersonate another Invoice Cloud user or provide false identity information to gain access to or use the Service. Invoice Cloud is not responsible for any Biller postings in error due to delayed notification from credit card processor, ACH bank and other related circumstances.

Biller is required to ensure that it maintains a fair policy with regard to the refund, return or cancellation of services and adjustment of Transactions. Biller is also required to disclose a refund, return or cancellation policies to Invoice Cloud and any applicable payment processors and Biller's Customers, as requested. Any change in a return/ cancellation policy must be submitted to Invoice Cloud, in writing, not less than 21 days prior to the effective date of such change. If Biller allows or is required to provide a price adjustment, or cancellation of services in connection with a Transaction previously processed, Biller will prepare and deliver to Invoice Cloud Transaction Data reflecting

such refund/adjustment within 2 days of resolution of the request resulting in such refund/adjustment. The amount of the refund/adjustment cannot exceed the amount shown as the total on the original Transaction Data. Biller may not accept cash or any other payment or consideration from a Customer in return for preparing a refund to be deposited to the Customer's account; nor may Biller give cash/check refunds to a Customer in connection with a Transaction previously processed, unless required by applicable law

10. Indemnification. Invoice Cloud shall indemnify and hold Biller, employees, attorneys, and agents, harmless from any losses, liabilities, and damages (including, without limitation, Biller's costs, and reasonable attorneys' fees) arising out: (i) failure by Invoice Cloud to implement commercially reasonable measures against the theft of the Customer Data; or (ii) its total failure to deliver funds processed by Invoice Cloud as required hereunder (which relates to payments due from Invoice Cloud for Transaction Data). This indemnification does not apply to any claim or complaint relating to Biller's failure to resolve a payment dispute concerning debts owed to Biller or Biller's negligence or willful misconduct or violation of any applicable agreement or law.

Biller shall indemnify and hold Invoice Cloud, its licensors and Invoice Cloud's, subsidiaries, affiliates, officers, directors, employees, attorneys, agents, and payment processors harmless from and against any and all claims, costs, damages, losses, liabilities and expenses (including attorneys' fees and costs) arising out of or in connection with any claim, cause of action, lawsuit, administrative or criminal investigation, charge, action or claim alleging: (i) that use of the Customer Data infringes the rights of a third party; (ii) a violation by Biller of Biller's representations and warranties or the breach by Biller or Biller's Users of this Agreement including without limitation incomplete or inaccurate Transaction Data; or (iii) relating directly or indirectly to Biller's or its authorized users' use of the Service.

11. Limitation of Liability. INVOICE CLOUD'S AGGREGATE LIABILITY SHALL BE UP TO AND NOT EXCEED THE AMOUNTS ACTUALLY PAID BY AND/OR DUE FROM BILLER IN THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT GIVING RISE TO SUCH CLAIM. IN NO EVENT SHALL INVOICE CLOUD AND/OR ITS LICENSORS BE LIABLE TO ANYONE FOR ANY INDIRECT, PUNITIVE, SPECIAL, EXEMPLARY, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOSS OF DATA, REVENUE, PROFITS, USE OR OTHER ECONOMIC ADVANTAGE) ARISING OUT OF, OR IN ANY WAY CONNECTED WITH THIS SERVICE, EVEN IF THE PARTY FROM WHICH DAMAGES ARE BEING SOUGHT OR SUCH PARTY'S LICENSORS HAVE BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Certain states and/or jurisdictions do not allow the exclusion of implied warranties or limitation of liability for incidental, consequential or certain other types of damages, so the exclusions set forth above may not apply to Biller.

12. Export Control. The Biller agrees to comply with United States export controls administered by the U.S. Department of Commerce, the United States Department of Treasury Office of Foreign Assets Control, and other U.S. agencies.

13. Notice. Either party may give notice by electronic mail to the other party's email address (for Biller, that address on record on the Biller Order Form, or by written communication sent by first class mail or pre-paid post to the other party's address on record in Invoice Cloud's account information for Biller, and for Invoice Cloud, to Invoice Cloud, Inc., 35 Braintree Hill Office Park, Suite 100, Braintree, MA 02184 Attention: Client Services. Such notice shall be deemed to have been given upon the expiration of 48 hours after mailing or posting (if sent by first class mail or pre-paid post) or 12 hours after sending (if sent by email).

14. Assignment. This Agreement may not be assigned by either party without the prior written approval of the other party, but may be assigned without such party's consent to (i) a parent or subsidiary, (ii) an acquirer of assets, or (iii) a successor by merger. Any purported assignment in violation of this section shall be void.

15. Insurance.

Invoice Cloud agrees to maintain in full force and effect during the term of the Agreement, at its own cost, the following coverages:

a. Commercial General or Business Liability Insurance with minimum combined single limits of One Million ($1,000,000) each occurrence and One Million ($1,000,000) general aggregate.

b. Automobile Liability Insurance with minimum combined single limits for bodily injury and property damage of not less than One Million ($1,000,000) for any one occurrence, with respect to each of the Invoice Cloud's owned, hired or non-owned vehicles assigned to or used in performance of the Services.

c. Errors and Omissions Insurance (Professional Liability and Cyber Insurance) with limits of liability of at least One Million Dollars ($1,000,000) per claim and in the aggregate.

16. Immigration Laws. For Services performed within the United States, Invoice Cloud will assign only personnel who are either citizens of the United States or legally eligible to work in the United States. Invoice Cloud represents and warrants that it has complied and will comply with all applicable immigration laws with respect to the personnel assigned to the Biller.

17. General. With respect to agreements with municipalities, localities or governmental authorities, this Agreement shall be governed by the law of the state wherein such municipality, locality or governmental authority is established, without regard to the choice or conflicts of law

provisions of any jurisdiction. With respect to Billers who are not with municipalities, localities or governmental authorities, this Agreement shall be governed by Massachusetts law and controlling United States federal law, without regard to the choice or conflicts of law provisions of any jurisdiction. No text or information set forth on any other purchase order, preprinted form or document (other than an Biller Order, if applicable) shall add to or vary the terms and conditions of this Agreement. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then such provision(s) shall be construed, as nearly as possible, to reflect the intentions of the invalid or unenforceable provision(s), with all other provisions remaining in full force and effect. No joint venture, partnership, employment, or agency relationship exists between Biller and Invoice Cloud as a result of this agreement or use of the Service. The failure of either party to enforce any right or provision in this Agreement shall not constitute a waiver of such right or provision unless acknowledged and agreed to by Invoice Cloud in writing. All rights and obligations of the parties in Sections 4, 6, 10, 11, 13 and 17 shall survive termination of this Agreement. This Agreement, together with any applicable Biller Order Form, comprises the entire agreement between Biller and Invoice Cloud and supersedes all prior or contemporaneous negotiations, discussions or agreements, whether written or oral between the parties regarding the subject matter contained herein. Biller agrees that Invoice Cloud can disclose the fact that Biller is a paying customer and the edition of the Service that Biller is using.

Additional terms and conditions and definitions applicable to this Agreement and the Biller Order Form are found at www.invoicecloud.com/termsandconditions and are agreed to by Invoice Cloud and the Biller.

InvoiceCloud™

Biller Order Form

Sales Information	Services	Products	Biller Information
Software Partner: Vision	Invoice Presentment ☒	IVR ☐	Fed Tax ID: 91-6001443
Invoice Cloud Sales Partner:	ACH (EFT) Processing ☒	Check21 ☐	Organization Start Date: 1891
Invoice Cloud Sales Contact: Carlyn Altheide	Credit/Debit Card Processing ☒	Online Bank Direct ☐	Web Site URL: http://www.ilwaco-wa.gov/

GENERAL INFORMATION

Ownership Type:	Government		**CUSTOMER SERVICE / TRAINING CONTACT**	**TECHNICAL SUPPORT**	**MARKETING CONTACT**
Legal Name: City of Ilwaco *Note: This name will have to match on ALL documents*			Contact: Holly Beller, City Clerk	Contact: Vision MS	Contact: Holly Beller, City Clerk
Address 1: 120 First Avenue			Phone: (360-)642-3145	Phone:	Phone: (360-)642-3145
Address 2: PO Box 548			Email: clerk@ilwaco-wa.gov	Email:	Email: clerk@ilwaco-wa.gov
City: Ilwaco	State: WA	Zip: 98624			
Name of Paperwork Signer: Ariel Smith	Signer Title: Treasurer		Notes:		
Signer Phone: (360) 642-3145	Signer Email: treasurer@ilwaco-wa.gov				
Note: Signer must sign ALL documents					

PRICING

Biller Portal Access Fee	$ 75.00 Monthly	IC Payment Transaction Fee – EFT (biller not payer pays the transaction fee)	$n/a Per Transaction
Additional Biller Portal Access Fee	$ 10.00 Monthly	IC Payment Transaction Fee - Check 21	$n/a Per Transaction
Paperless Presentment (Includes 3 emails)	$ 0.35 Per paperless invoice (NOT for e-bills, only when paper is suppressed)	Check Reader Quantity (Optional)	$n/a Monthly $n/a Per Transaction
Additional Email Presentment	$n/a Per Presentment	Online Bank Direct Access Fee (Optional)	$50.00 per month
Credit Card Chargeback Fee	$20.00 Per Chargeback	Online Bank Direct Transaction Fee (Optional)	$0.25 per transaction
ACH Reject Fee	$15.00 Per Transaction	Implementation Fees	**$0.00**

BILLER BANK (MUST INCLUDE VOIDED BUSINESS CHECK OR BANK LETTER FOR EACH ACCOUNT)

Name of Checking Account (As it appears on check or Bank Letter): City of Ilwaco			
Bank Name: Bank of the Pacific		Physical Address: 1007 S. Pacific Hwy, Ilwaco, WA	Phone: 360-642-3777
Depository	*Your Invoice payment collections will be electronically deposited into this account.*	Routing # 125107707	Account # 8023281
Fees	*Your Invoice and payment processing fees will be electronically deducted from this account.*	Routing # 125107707	Account # 8023281

CERTIFICATION AND AGREEMENT

A. By signing below, the Biller hereby authorizes Invoice Cloud, Inc. ("Invoice Cloud") to initiate and execute debit/credit entries to its checking/deposit account(s) indicated above at the depository financial institution(s) named above and to debit/credit the same such account(s). The Biller acknowledges that the origination of ACH transactions to its account(s) must comply with the provisions of U.S. law. This authority is to remain in full force and effect until (i) Invoice Cloud has received written notification (by electronic or U.S. mail) from the Biller of its revocation in such time and manner as to allow Invoice Cloud a reasonable opportunity to act on it, but not less than 10 business days notice; and (ii) all obligations of the Biller to Invoice Cloud that have arisen under this Agreement and all other agreements have been paid in full. The Biller must also notify Invoice Cloud, in writing, (by electronic or U.S. mail) when a change in account number(s) or bank has occurred at which time this authorization shall apply to such new/changed account. This notification must be received within 10 business days of change. A fee will be charged for any returned ACH debits.

B. By signing below, the Biller named: (1) has read, agreed to, and acknowledges receipt of the terms and conditions of the Biller Agreement, attached hereto, as well as the terms and conditions at www.invoicecloud.com/termsandconditions, all of which is incorporated herein by reference (2) certifies to Invoice Cloud that he/she is authorized to sign this Biller Order Form; (3) certifies that all information and documents submitted in connection with this Order Form are true and complete; (4) authorizes Invoice Cloud or its agent to verify any of the information given, including credit references, and to obtain credit; (5) agrees to pay the Monthly Access Fee through the last day of the month following the effective date of termination as provided in the Billing Agreement; (6) agrees that Biller and each transaction submitted will be bound by the Biller Order Form and the Biller Agreement in its entirety; (7) agrees that Biller will submit transactions only in accordance with the information in this Biller Order Form and Biller Agreement and will immediately inform Invoice Cloud, by email (contracts@invoicecloud.com) if any information in this Biller Order Form changes. The terms and conditions and this Biller Order Form, the Biller Agreement and the terms and conditions at www.invoicecloud.com/termsandconditions constitute the entire integrated Biller Agreement by and between Biller and Invoice Cloud. If any provision of this agreement hereunder is held by a court of competent jurisdiction to be invalid or unenforceable, then such provision(s) shall be construed, as nearly as possible, to reflect the intentions of the invalid or unenforceable provision(s), with all other provisions remaining in full force and effect. and (8) the Biller agrees and understands that outstanding sums due and owing to Invoice Cloud., will be charged daily or monthly and debited from its current depository account. Non-sufficient funds for these debits are grounds for a change in fees or termination of this Agreement. In the event of non-payment of any sums due, Invoice Cloud reserves the right to withdraw such sums from the current depository account at any time to ensure payment of the same.

C. By signing below, the Biller hereby gives permission to Invoice Cloud to access his / her credit history via Trans Union, Equifax, or other credit-reporting agency

D. The Biller Order Form and the Biller Agreement will become effective only when counter-signed by Invoice Cloud and upon execution by the Biller of such third party agreement required by Invoice Cloud to permit use of the payment function of the Service.

In WITNESS WHEREOF, the parties hereto have executed this Agreement as of this day _____

Biller Signature

X _____
Corporate Officer

Ariel Smith Treasurer
Print Name **Title**

_____

Accepted by Invoice Cloud:

X _____

INVOICING PARAMETERS (An Invoicing Parameter Sheet needs to be completed for every invoice type)		
Today's Date: 5/4/2015	Submitter ☐ Non-Submitter ☒	Information provided by: Ariel Smith
Invoice Type: Utility	Type of IC Service: EBPP ☒ Cloud Store ☐ Cloud Pay ☐	Credit Card Payment Methods: Visa ☒ MC ☒ Discover ☒ Amex ☐
Billing Software: Vision	Software Version:	Printer:
Billing Frequency (How often bills are mailed) Monthly	Number of Installments: 1	Months Billed: Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec ☐ All ☒
Bill Mail Date: 1st - 10th ☒ 11th-20th ☐ 21st-31st ☐		Invoices per Cycle: 660/month
Highest Invoice Amount: $20,000		Average Invoice Amount: $120

SERVICE FEE PRICING (Please check if service fee will be charged to the payer or the fees are paid by the Biller)		
Credit Card (utility)	Paid by the Biller ☒	Interchange, fees, dues, assessments + $.20 auth + plus 75 BPS
ACH (Electronic Check)	Paid by the Biller ☒	$0.85

SAGE PAYMENT SOLUTIONS

1750 Old Meadow Road
Suite 300
McLean, VA 22102
Phone: (800) 261-0240

VIRTUAL CHECK MERCHANT PROCESSING APPLICATION

Referral:

Lead Source: None

Office:	Invoice Cloud, Inc.	Office Phone:	7818483733233	Application ID:	202278
Application Date:	5/12/2015 11:05:56 AM	Contractor Name:	Kevin Moon	Association:	Invoice Cloud, Inc.

General Information

Type of Ownership:	Government (Fed,St,Local)	Business Open	1/1/1900	Existing MID:	
Legal Business Name:	City of Ilwaco			Business Name:	City of Ilwaco
Mailing/Billing Address:	120 First Avenue			Location Address:	120 First Avenue
City:	Ilwaco	State: WA	Zip 98624	City:	Ilwaco State WA Zip 98624
Phone:	(360) 642-3145	Fax:	(360) 642-3145	Phone:	(360) 642-3145 Fax (360) 642-3145
Contact:	Ariel	Email:		Customer Service Number:	(360) 642-3145
Federal Tax ID:	916001443	D & B:		Web Site:	http://www.ilwaco-wa.gov/

General Comments: Utility MCC Code 4900 & Please apply for the Visa Utility Program

Tax Information

Name (as it appears on your Federal Tax Return): City of Ilwaco

Federal Tax ID: 916001443 State Filed: WA Type of Ownership: Government (Fed,St,Local)

☐ I CERTIFY THAT I AM A FOREIGN ENTITY / NON-RESIDENT ALIEN

☒ I CERTIFY THAT I AM PROVIDING AUTHORIZATION FOR THE ELECTRONIC ISSUANCE OF IRS FORM 1099

Owner/Officer 1 50%		Owner/Officer 2 0%		Trade Reference	
Name:	Ariel Smith	Name:		Name:	
Title:	Treasurer	Title:		Title:	
Address:	120 First Avenue	Address:		Address:	
City:	Ilwaco State: WA	City:	State:	City:	State:
Zip:	98624 Phone: (360) 642-3145	Zip:	Phone:	Zip:	Phone:
Email:		Email:		Email:	
SSN:	999-99-9999 DOB:	SSN:	DOB:		

Underwriting Profile

Type Of Business: MOTO Seasonal: False Seasonal High Months:

Business Description: Utility

Return Policy: Other Days Until Product Delivery: 0

*Company has obtained written authorization from the consumer to debit/credit consumer's depository account.

**Company has obtained verbal authorization from the consumer to debit/credit consumer's depository account, but does not have written authorization.

Annual Volume: $94,089.60 Average Ticket: $120.00 Highest Ticket: $5,000.00

*Written: 100% **Non-Written: 0% Merchant: 20% Consumer: 80%

Authorization to ACH (must include voided business check)

Bank Name: Bank of the Pacific Phone: City: State: WA Zip:

Depository	Routing #:	125107707	Account #:	8023281	Fees	Routing #:	125107707	Account #: 8023281

Virtual Check Fees

Description	Qty	Price
Total:		

Transaction Fees	Tran Fee	Rate	Micsellaneous Fees	
CCD Written	0.85	0.00	Statement Fee:	0.00
CCD Non-Written	0.85	0.00	Minimum Fee:	0.00
PPD Written	0.85	0.00	File Fee:	0.00
PPD Non-Written	0.85	0.00	Reject Fee:	15.00
WEB	0.85	0.00	Gateway Fee:	0.00
ARC	0.85	0.00	Maintenance Fee:	0.00

Collection of Startup Fees will be via ACH - Merchant drafted by Sage Payments

Billing Cycle : Monthly

Virtual Check Originators

IMPORTANT NOTES: APPLICATION FEE INCLUDES CREATION OF UP TO FIVE (5) ORIGINATOR ID'S AS INDICATED BELOW.
FEES WILL BE ASSESSED FOR ADDITIONAL ORIGINATOR ID'S.
A VOIDED CHECK FOR EACH BANK ACCOUNT LISTED BELOW MUST BE ATTACHED.

Description	Type	Comments	Disbursement	Fee	Reject

Execution of Agreement

By signing this agreement, the company certifies to Sage that it is authorized to sign this agreement. This agreement, together with the terms and conditions attached hereto, and incorporated herein by reference, constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior agreements. The company hereby agrees to abide by all the provisions of this agreement.

1. All of the Company's application and expedite (if applicable) fee(s) will be non-refundable if Company cancels the Agreement before credit approval and/or installation.
2. This Agreement is not considered received until all documentation requirements and requests have been fulfilled by the Company.
3. The Signatory hereby gives permission to Sage to access his/her credit history via Trans Union, Equifax or other credit-reporting agency.
4. An authorized Officer of the Company has read and hereby acknowledges receipt of the terms and conditions to it.

In witness whereof the parties hereto have caused this agreement (including funds transfer instructions included herein) to be executed by their duly authorized representatives to be effective on the date set out below.

By signing this Agreement, the Company understands that outstanding sums due and owing to Sage, will be charged daily or monthly and debited from its current depository account. Non-sufficient funds for these debits are grounds for a change in Fees or termination of this Agreement, per the attached Terms and Conditions. In the event of non-payment of any sums due, Sage reserves the right to withdraw such sums from the current depository account at any time to ensure payment of the same. By signing below, the Company represents that the information it has provided on this Agreement is complete and accurate.

Company Name:		SAGE PAYMENT SOLUTIONS
OWNER PARTNER ./ OFFICER 1	OWNER PARTNER ./ OFFICER 2	
Signature:	Signature:	Signature:
Printed Name:	Printed Name:	Printed Name:
Title:	Title:	Title:
Date:	Date:	Date:

As a primary inducement to Sage to enter into this Agreement, I, the undersigned Guarantor, absolutely and unconditionally guarantee the full and prompt payment of all Company's indebtedness and liabilities, and the performance of all Company's obligations, to Sage under this Agreement (the "Obligations"). I agree that upon Company's default I will pay Sage, in accordance with the terms and conditions of this Agreement, all fees and other sums payable by Company under this Agreement. Further, I acknowledge and agree that (i) this Guaranty will continue until the Obligations are fully and finally performed; (ii) this is a guaranty of payment and performance and not of collection, and in no case will Sage be required to attempt collection from Company or pursue any other remedy or action before collection from me; (iii) the provisions of the Agreement may be modified or waived without notice to or consent by me and without invalidating this Guaranty; (iv) this Guaranty will be governed by and construed in accordance with the laws of the Commonwealth of Virginia; (v) Sage is authorized to investigate any and all credit information pertaining to this Guaranty; (vi) I will be responsible for all legal fees and other costs that Sage incurs enforcing this Guaranty.

Signature:	Social Security #:	Affiliation with Company:

** EARLY TERMINATION: If Company cancels this Agreement during the term or any agreed upon extension term, applicable early termination fees shall be due Sage. See Article V Section 5.01 of the attached terms and conditions for additional details.

Site Inspection

By the signature below, signatory verifies that (i) he/she has physically inspected the Business Premises; and (ii) the information stated in this Agreement is correct, to the best of his/her knowledge and is represented by her/his Company.

Sales Representative - Signature:	Sales Representative - Printed Name:	Date:

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item:5/11/15 Council Business Item: 5/26/15

B. Issue/Topic: **Water Treatment Plant Improvements – Rebid Change Order #1**

C. Sponsor(s):
1. Cassinelli 2.

D. Background (overview of why issue is before council):
This project is near the end of completion and should be up and running before the summer season. There have been no requests for change orders during this project and the operators report that the construction staff have been great to work with. At the request of the water plant operator Rick Gray there have been two changes presented. First, the city has purchased a raw water turbidimeter and the cost to have that installed is $2,110.14. The second item is to replace the existing clearwell piping which is 6-inch to 10-inch ductile iron piping and fittings which is $5,851.52.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details)
These items are fairly small in comparison to the cost of the project as a whole. Again, they are at the request of the operator and will contribute to a more efficient plant.

F. Impacts:
1. Fiscal: This will increase the project amount by $7,961.66 which is available in the Plant Improvements line item in the budget.
2. Legal:
3. Personnel:
4. Service/Delivery:

G. Planning Commission: ☐ Recommended ☒ N/A ☐ Public Hearing on

H. Staff Comments:
1. None

I. Time Constraints/Due Dates:

J. Proposed Motion: **I move to authorize the mayor to execute Change Order #1 for the Water Treatment Plant Improvements - Rebid Project increasing the contract with Rotschy, Inc.**

CHANGE ORDER

Project Title	Water Treatment Plant Improvements – Rebid		
Owner	City of Ilwaco	**Contractor Name**	Rotschy, Inc.
Change Order No.	1	**Contractor Address**	9210 NE 62nd Avenue Vancouver, WA 98665
Change Order Date	April 24, 2015		
G&O No.	12555		

The following changes are hereby made to the Contract Documents:

ITEM NO. 1: **Install Raw Water Turbidimeter (COP No. 1)**

Install raw water turbidimeter purchased by the City of Ilwaco, including enlarging the raw water analyzer station backplate to accommodate the additional analyzer, a new conduit and conductor from the analyzer to the Filter System Manufacturer's Control Panel [01 CP 02], and additional integration work as required by Westech and Calvert Technical Services, Inc. to display the raw water turbidity level and provide a high raw water turbidity alarm.

The lump sum cost for this work is: $2,110.14

Justification: The additional work is at the request of the Owner.

ITEM NO. 2: **Modify Clearwell Piping (COP No. 3)**

Replace existing clearwell piping with 10-inch ductile iron piping and fittings, including enlarging the concrete penetration into the clearwell, providing a seal for the concrete penetration; and furnishing and installing a J-hook drop pipe to the bottom of the clearwell to improve the effluent piping water seal.

The lump sum cost for this work is: $5,851.52

Justification: The additional work is at the request of the Owner.

CHANGE TO CONTRACT PRICE

Original Contract Amount (without tax): $803,311.00
Current Contract Amount, as adjusted by previous change orders:.....$803,311.00
The Contract Amount due to this Change Order will be increased by: .....$ 7,961.66
The new Contract Amount (without tax) due to this Change Order will be:.....$811,272.66

CHANGE TO CONTRACT TIME

The Substantial Completion Contract Time will be increased by 6 working days, for a total of 63 working days.
The Physical Completion Contract Time will be increased by 6 working days, for a total of 73 working days.

This document will become a supplement to the Contract and all provisions in the Contract will apply hereto. The Contractor acknowledges and agrees that by executing this change order he foregoes all rights and privileges of acquiring any additional compensation for any known or unknown claims of any type or nature, to include but not be limited to, any additional work, delays, extended office overhead, design omissions, changed site conditions, or any oral directions as of the date of the execution of this change order.

GRAY & OSBORNE, INC. (RECOMMENDED)		Date	4/28/15
ROTSCHY, INC. (ACCEPTED)		Date	4.27.15
CITY OF ILWACO (ACCEPTED)		Date	

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 5/11/15 Council Business Item:
5/26/15

B. Issue/Topic: **Amend Title 15.16 of the IMC, Development in Flood Areas**

C. Sponsor(s):
1. Cassinelli 2.

D. Background (overview of why issue is before council):
1. The Dept. of Homeland Security (DHS) has reviewed the City of Ilwaco's flood damage prevention ordinance and found that the City of Ilwaco's ordinance is mostly compliant with the minimum standards with one change needed.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details):
1. The following must be added back into IMC Code to be compliant with NFIP:
   a. A minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided on different sides of each enclosed area.
   b. The bottom of all openings shall be a maximum of one foot (1') above grade.
   c. Openings may be equipped with screens, louvers or other coverings or devices provided such openings allow automatic entry and exit of floodwaters.
2. The removal of these provisions will create a situation for increased insurance costs for property owners. Without flood openings the flood insurance rating will be based on the bottom of the crawlspace. If this is below BFE the cost for flood insurance is likely to double.

F. Impacts:
1. Fiscal:
2. Legal:
3. Personnel:
4. Service/Delivery:

G. Planning Commission: ☐ Recommended ☒ N/A ☐ Public Hearing on

H. Time Constraints/Due Dates:

I. Proposed Motion: **I move to adopt Ordinance XXX amending Title 15.16, Development in Flood Areas, to comply with the most current International Building Code as adopted by the State of Washington and FEMA minimum requirements.**

Ariel Smith

From: Wood-McGuiness, Karen <Karen.Wood-McGuiness@fema.dhs.gov>
Sent: Thursday, May 14, 2015 4:54 PM
To: clerk@ilwaco-wa.gov
Cc: Ariel Smith
Subject: RE: Status request: Ordinance Review and adoption of new FIRMs and FIS
Attachments: 05_14_2015_updated_ORDINANCE XXX Amending Title 15 16 _to_be_presented_to_council.doc; WA Model Ordinance.doc; WA Model Ord V Zone Appendix.doc; WA Model Ord AO Zone Appendix.doc; Generic Model Ordinance_frm_common_2009.docx

Holly & Ariel,
Here are copies of the minimum model ordinance for both national and the State of Washington per your request. I have also attached a review of the ordinance XXX that you included in the email below that is planned to put before the city council on May 26, 2015, amending title 15.16. I noted one additional comment (in 15.16.050) in addition to the required changes you have already outlined for 15.16.090 (A)(2)(a, b, & c). Since there have been several updates to the city's ordinance Chapter 15.16, Development in Flood Areas, I wanted to make sure that the city did not have to go back to correct Chapter 15.16.050.

Please let me know as soon as these changes are approved. As we discussed, these must be updated so there is no ambiguity as to which regulations are applicable; clearing up the confusion between Ordinance # 816 and # 794.

Let me know if you have any questions or concerns.
Thank you.
Karen

From: City Clerk [mailto:clerk@ilwaco-wa.gov]
Sent: Thursday, May 14, 2015 1:07 PM
To: Wood-McGuiness, Karen
Cc: Ariel Smith
Subject: RE: Status request: Ordinance Review and adoption of new FIRMs and FIS

Hi Karen!

Congratulations on your son's graduation!

The council did not pass the ordinance. I have it going in front of them again on the 26th of May. Attached is what they will be looking at. If you could make sure that this is what we need for compliance it would be greatly appreciated. One note, the date contained in this ordinance was amended by council and is also attached.

The council would like a sample ordinance from a community which has met the minimum provisions, or perhaps a copy of what the minimum provisions are?

I will be out of the office on vacation from 4pm this afternoon until 8AM on 5/26. Ariel will be monitoring my inbox and can attach the information from you to our agenda packet, so we will be ready for the council that evening.

Holly Beller
Deputy City Clerk
City of Ilwaco
360-642-3145
clerk@ilwaco-wa.gov
www.ilwaco-wa.gov

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City of Ilwaco is an equal opportunity provider and employer

From: Wood-McGuiness, Karen [mailto:Karen.Wood-McGuiness@fema.dhs.gov]
Sent: Thursday, May 14, 2015 12:53 PM
To: clerk@ilwaco-wa.gov
Subject: RE: Status request: Ordinance Review and adoption of new FIRMs and FIS

Any movement on the remainder of the ordinance update?

I was out of the office until today, attending my son's graduation in Arizona, so I was unable to follow up until now. I am not sure what to provide, not understanding your council was looking for in an ordinance. The wording we provided regarding the required flood openings is directly out of the Code of Federal Regulations and these provisions are required of all communities. Are you able to provide additional insight on what they are looking for?

Thanks.
Karen

From: City Clerk [mailto:clerk@ilwaco-wa.gov]
Sent: Tuesday, May 12, 2015 8:41 AM
To: Wood-McGuiness, Karen
Subject: RE: Status request: Ordinance Review and adoption of new FIRMs and FIS

Hi Karen,

Council did not pass the amendment to our flood ordinance which added those 3 items which we were unsure if they had been removed from 816.

The council wants an example of how another city has done their flood plain ordinance correctly. Would you have something like that available?

Thanks,

Holly Beller
Deputy City Clerk
City of Ilwaco
360-642-3145
clerk@ilwaco-wa.gov
www.ilwaco-wa.gov

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APPENDIX A: COMMUNITIES WITH SHALLOW FLOODING IDENTIFIED AS AN AO ZONES ON FLOOD INSURANCE RATE MAPS (FIRM)

5.5 STANDARDS FOR SHALLOW FLOODING AREAS (AO ZONES) *(44 CFR 60.3(c)(7)(8))*
Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet above ground where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

1) New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade to the structure, one foot or more above* the depth number specified in feet on the community's FIRM (at least two feet above the highest adjacent grade to the structure if no depth number is specified).

   * *Minimum standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can significantly reduce insurance premiums. Adopting additional freeboard is strongly encouraged by FEMA. This note applies throughout Appendix A.*

2) New construction and substantial improvements of nonresidential structures within AO zones shall either:

i) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified) * *Recorded on a current elevation certificate (FF 81-31) with section E completed*; or

   ii) Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in section 5.2-2(3).

3) Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

4) Recreational vehicles placed on sites within AO Zones on the community's FIRM are required to either:

   i) Be on the site for fewer than 180 consecutive days, or

   ii) Be fully licensed and ready for highway use, on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or

   iii) Meet the requirements of 5.5(1) and 5.5(3) above and the anchoring requirements for manufactured homes (Section 5.1-1(2)).

FEMA

REGION X FLOOD DAMAGE PREVENTION ORDINANCE
WASHINGTON MODEL (REVISED 5/13/2004) REVISED EC FORM NO. (2/7/13)

Close to 300 towns, cities, counties, and tribes within the State of Washington participate in the National Flood Insurance Program (NFIP). As a condition of participation in the NFIP, communities are required to adopt and enforce a flood hazard reduction ordinance that meets the minimum requirements of the NFIP; however, there are occasionally additional requirements identified by State law that are more restrictive. In these cases, FEMA will require that communities meet those standards as well.

Although there is no specific prescribed ordinance that can be adopted across the country that meets all requirements for floodplain development, this model identifies the basic requirements, and cross references them to appropriate Federal CFR or State WAC citations (RCW 86.16 WA Floodplain Management law). It also encourages Community Officials to consider the direct insurance implications of certain building standards that, if adopted, can reduce (or increase) annual flood insurance premiums for local citizens. This ordinance, as developed by FEMA and the WA Department of Ecology, supercedes previous versions and includes all the minimum standards required as a condition of participation in the NFIP. It will be used by FEMA and State staff as the basis for providing technical assistance and compliance reviews during the Community Assistance Contact (CAC) and Community Assistance Visit (CAV) process to ensure that federal and state law are met.

The model identifies the basic minimum federal regulation requirements that must be contained in a local flood ordinance as well as suggestions for stronger measures, but notes that these measures are *recommended*, not required. Additionally, it outlines several specific floodplain development practices and regulations that can reduce insurance premiums (highlighted). Adopting this model flood hazard reduction ordinance verbatim can ensure compliance with FEMA; however, *it should be emphasized that its adoption is not a mandatory requirement per NFIP regulation.* Some sections of this document are included for clarity and are not required by federal or state law. For instance, as indicated in SECTION 1: STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES, it is not mandatory to adopt this entire section, but by doing so, it will make your ordinance more legally enforceable.

This document can also serve as a foundation upon which communities can craft their own additional measures. The ordinance can be modified to accommodate local standards, provided they are not less restrictive than the minimum standards identified on this model. Areas on the model that exceed those minimum standards are clearly marked. The model ordinance is in a modular format. The basic model is available separately, and the following attachments can be provided if they fit a community's status, or if they are requested:

APPENDIX A: ORDINANCE STANDARDS FOR COMMUNITIES WITH SHALLOW FLOODING IDENTIFIED AS AN AO ZONES ON FLOOD INSURANCE RATE MAPS (FIRM)

APPENDIX B: ORDINANCE STANDARDS FOR COMMUNITIES WITH COASTAL FLOODING IDENTIFIED AS A V ZONE AND AN ORDINANCE COMPLIANT WITH 44 CFR 60.3(E)

APPENDIX C: FLOOD HAZARD PREVENTION AND FISH HABITAT PROTECTION ORDINANCE *(Not yet complete)*

APPENDIX D: OTHER HIGHER REGULATORY STANDARDS *(Not yet complete)*

If you have any questions concerning this ordinance or participation in the NFIP, please contact the Department of Homeland Security, Federal Emergency Management Agency (FEMA) at our Regional Office at (425) 487-4678.

SECTION 1.0 - STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE, AND OBJECTIVES *(Not mandatory to adopt section 1.0)*

1.1 STATUTORY AUTHORIZATION

The Legislature of the State of Washington has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the _____ of _____, does ordain as follows:

1.2 FINDINGS OF FACT

1) The flood hazard areas of _____ are subject to periodic inundation which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2) These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

1.3 STATEMENT OF PURPOSE

It is the purpose of this ordinance to promote the public health, safety, and general welfare; reduce the annual cost of flood insurance; and minimize public and private losses due to flood conditions in specific areas by provisions designed:

1) To protect human life and health;
2) To minimize expenditure of public money and costly flood control projects;
3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4) To minimize prolonged business interruptions;
5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
6) To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
7) To ensure that potential buyers are notified that property is in an area of special flood hazard;
8) To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

1.4 METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, this ordinance includes methods and provisions for:

1) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3) Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;

4) Controlling filling, grading, dredging, and other development which may increase flood damage; and
5) Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

SECTION 2.0 – DEFINITIONS *(44 CFR 59.1, not mandatory to adopt all definitions as shown)*

Terms with 1 asterisk trigger a specific building requirement and must be adopted. Terms with 2 asterisks are directly related to insurance and are not mandatory to adopt. Unless specifically defined below, terms or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

APPEAL: a request for a review of the interpretation of any provision of this ordinance or a request for a variance.

AREA OF SHALLOW FLOODING: designated as AO, or AH Zone on the Flood Insurance Rate Map (FIRM). AO zones have base flood depths that range from one to three feet above the natural ground; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow; AH indicates ponding, and is shown with standard base flood elevations.

AREA OF SPECIAL FLOOD HAZARD: is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

BASE FLOOD: the flood having a 1% chance of being equaled or exceeded in any given year (also referred to as the "100-year flood"). Designated on Flood Insurance Rate Maps by the letters A or V.

*** BASEMENT:** means any area of the building having its floor sub-grade (below ground level) on all sides.

BREAKAWAY WALL: means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

COASTAL HIGH HAZARD AREA: means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as Zone V1-30, VE or V.

CRITICAL FACILITY: means a facility for which even a slight chance of flooding might be too great. Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police, fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.

*** DEVELOPMENT:** means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.

**** ELEVATION CERTIFICATE:** means the official form (FEMA Form 086-0-33) used to track development, provide elevation information necessary to ensure compliance with community floodplain management ordinances, and determine the proper insurance premium rate with Section B completed by Community Officials.

ELEVATED BUILDING: means for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

EXISTING MANUFACTURED HOME PARK OR SUBDIVISION: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION: means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

FLOOD OR FLOODING: means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1) The overflow of inland or tidal waters and/or
2) The unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD INSURANCE RATE MAP (FIRM): means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY (FIS): means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps, and the water surface elevation of the base flood.

FLOODWAY: means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

*** LOWEST FLOOR:** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance found at Section 5.2-1(2), (i.e. provided there are adequate flood ventilation openings).

MANUFACTURED HOME: means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

MANUFACTURED HOME PARK OR SUBDIVISION: means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

NEW CONSTRUCTION: means structures for which the "start of construction" commenced on or after the effective date of this ordinance.

NEW MANUFACTURED HOME PARK OR SUBDIVISION: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

RECREATIONAL VEHICLE: means a vehicle,

1) Built on a single chassis;
2) 400 square feet or less when measured at the largest horizontal projection;
3) Designed to be self-propelled or permanently towable by a light duty truck; and
4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

START OF CONSTRUCTION: includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent

construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

STRUCTURE: a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

*** SUBSTANTIAL DAMAGE:** means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

*** SUBSTANTIAL IMPROVEMENT:** means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

1) Before the improvement or repair is started; or
2) If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term can exclude:

1) Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
2) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

VARIANCE: means a grant of relief from the requirements of this ordinance that permits construction in a manner that would otherwise be prohibited by this ordinance.

WATER DEPENDENT: means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

SECTION 3.0 – GENERAL PROVISIONS *(Mandatory adoption requirements are listed per sub-section)*

3.1 LANDS TO WHICH THIS ORDINANCE APPLIES *(44 CFR 59.22(a))*

This ordinance shall apply to all areas of special flood hazards within the jurisdiction of _____.

3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD *(44 FR60.3(c)(1)(d)(2))*

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for (__*community name*__) " dated (___), (*20*__), and any revisions thereto*, with an accompanying Flood Insurance Rate Map (FIRM), and any revisions thereto*, are hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study and the FIRM are on file at (__*community address*__). The best available information for flood hazard area identification as outlined in Section 4.3-2 shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under Section 4.3-2.

** In some communities, the phrase "and any revisions thereto" is not considered legally binding and should not be adopted.*

3.3 PENALTIES FOR NONCOMPLIANCE *(Not mandatory)*

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions), shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than _____ or imprisoned for not more than __ days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the _____ from taking such other lawful action as is necessary to prevent or remedy any violation.

3.4 ABROGATION AND GREATER RESTRICTIONS *(Not mandatory)*

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

3.5 INTERPRETATION *(Not mandatory)*

In the interpretation and application of this ordinance, all provisions shall be:

1) Considered as minimum requirements;
2) Liberally construed in favor of the governing body; and,
3) Deemed neither to limit nor repeal any other powers granted under State statutes.

3.6 WARNING AND DISCLAIMER OF LIABILITY *(Not mandatory)*

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of _____, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

3.7 SEVERABILITY *(mandatory)*

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this Ordinance.

SECTION 4.0 – ADMINISTRATION

4.1 ESTABLISHMENT OF DEVELOPMENT PERMIT

4.1-1 DEVELOPMENT PERMIT REQUIRED *(44 CFR 60.3(b)(1))*

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 3.2. The permit shall be for all structures including manufactured homes, as set forth in the "Definitions," and for all development

including fill and other activities, also as set forth in the "Definitions."

4.1-2 APPLICATION FOR DEVELOPMENT PERMIT *(Not Mandatory; however example permits are available from FEMA/DOE for review or use)*

Application for a development permit shall be made on forms furnished by the _____ and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

1) Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate (FF 086-0-33) with Section B completed by the local official.
2) Elevation in relation to mean sea level to which any structure has been floodproofed;
3) Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet floodproofing criteria in Section 5.2-2;
4) Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

4.2 DESIGNATION OF THE LOCAL ADMINISTRATOR *(44 CFR 59.22(b)(1))*

(*Local Administrator*) is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions.

4.3 DUTIES & RESPONSIBILITIES OF THE LOCAL ADMINISTRATOR *(Not mandatory)*

Duties of the (*Local Administrator*) shall include, but not be limited to:

4.3-1 PERMIT REVIEW

1) Review all development permits to determine that the permit requirements of this ordinance have been satisfied. *(Not mandatory)*
2) Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required. *(44 CFR 60.3(a)(2))*
3) Review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of Section 5.4(1) are met. *(Not mandatory, but essential to enforce Washington's floodway law.)*

4.3-2 USE OF OTHER BASE FLOOD DATA (IN A AND V ZONES) *(44 CFR 60.3(b)(4))*

When base flood elevation data has not been provided (in A or V Zones) in accordance with Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the (*Local Administrator*) shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer Sections 5.2, SPECIFIC STANDARDS, *and 5.4 FLOODWAYS.*

4.3-3 INFORMATION TO BE OBTAINED AND MAINTAINED *(The following language is required and should be adopted verbatim per 44 CFR)*

1) Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in Section 4.3-2, obtain and record the actual (as-built) elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement. *(44 CFR 60.3(b)(5)(i))*

Recorded on a current elevation certificate (FF 086-0-33) with Section B completed by the local official.

2) For all new or substantially improved floodproofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in Section 4.3-2:
   i) Obtain and record the elevation (in relation to mean sea level) to which the structure was floodproofed *(44 CFR 60.3(b)(5)(ii))*
   ii) Maintain the floodproofing certifications required in Section 4.1-2(3) *(44 CFR 60.3(b)(5)(iii))*
3) Maintain for public inspection all records pertaining to the provisions of this ordinance. *(44 CFR 60.3(b)(5)(iii))*

4.3-4 ALTERATION OF WATERCOURSES *(44 CFR 60.3(b)(6))*

1) Notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
2) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

4.3-5 INTERPRETATION OF FIRM BOUNDARIES *(This section is not required, but if the Local Administrators are performing this task on a regular basis, it should be adopted.)*

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program (44 CFR 59-76).

4.4 CONDITIONS FOR VARIANCES *(Excerpts summarized from 44 CFR 60.6(a)(1-7)*

Communities are encouraged to adopt standards equal to or more restrictive than 44 CFR 60.6(a)(1-7) or use existing codes that meet or exceed these standards. FEMA may review a community's findings justifying the granting of variances, and if that review indicates a pattern inconsistent with the objectives of sound floodplain management, FEMA may take appropriate action under 44 CFR 59.24(b).

1) Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.
2) Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
3) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4) Variances shall only be issued upon:
   i) A showing of good and sufficient cause;
   ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant;

iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

5) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

6) Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except 4.4 1), and otherwise complies with Sections 5.1-1, 5.1-3, and 5.1-4 of the GENERAL STANDARDS.

7) Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk.

SECTION 5.0 – PROVISIONS FOR FLOOD HAZARD REDUCTION

5.1 GENERAL STANDARDS *(Section 5.0 is required)*

In all areas of special flood hazards, the following standards are required:

5.1-1 ANCHORING *(44 CFR 60.3(a)(b))*

1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure. *(44 CFR 60.3(a)(3)(i))*

2) All manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. *(44 CFR 60.3(b)(8)). For more detailed information, refer to guidebook, FEMA P-85, "Protecting Manufactured Homes from Floods and Other Hazards."*

5.1-2 CONSTRUCTION MATERIALS AND METHODS *(44 CFR 60.3(a)(3)(ii-iv))*

1) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

2) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Locating such equipment below the base flood elevation may cause annual flood insurance premiums to be increased.

5.1-3 UTILITIES *(44 CFR 60.3(a)(5)(6))*

1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

2) Water wells shall be located on high ground that is not in the floodway*

3) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

4) Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

** FEMA endorses the more restrictive WA floodway standard identified in WAC 173-160-171*

5.1-4 SUBDIVISION PROPOSALS *(44 CFR 60.3(a)(4)(b)(3))*

1) All subdivision proposals shall be consistent with the need to minimize flood damage;

2) All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage;

3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage;

4) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

5.1-5 REVIEW OF BUILDING PERMITS *(44 CFR 60.3(a)(3))*

Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (Section 4.3-2), applications for building permits shall be reviewed to assure that proposed construction will be *reasonably safe from flooding*. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

5.2 SPECIFIC STANDARDS *(44 CFR 60.3(c)(1))*

In all areas of special flood hazards where base flood elevation data has been provided as set forth in Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, or Section 4.3-2, USE OF OTHER BASE FLOOD DATA. Additional standards were clarified in FEMA Technical Bulletin 11-01 to allow crawlspace construction for buildings located in the special flood hazard areas; however, adopting this provision can result in a 20% increase in flood insurance premiums. The following provisions are required:

5.2-1 RESIDENTIAL CONSTRUCTION *(44 CFR 60.3(c)(2)(5))*

1) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more* above the base flood elevation (BFE).

   ** Minimum FEMA standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can reduce insurance premiums by as much as 30%. Adopting additional freeboard is strongly encouraged by FEMA. This note applies throughout the model ordinance.*

2) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

i) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

ii) The bottom of all openings shall be no higher than one foot above grade.

iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

Foundation vent standards required by the IBC/IRC outside the floodplain do not meet this standard and are often inadvertently permitted. Insurance rates reflect an "all or nothing" standard, meaning, partially ventilated crawlspaces may be subject to an additional loading fee of 20-25% attached to the annual insurance premium.

5.2-2 NONRESIDENTIAL CONSTRUCTION *(44 CFR 60.3(c)(3)(4))*

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more* above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1) Be floodproofed so that below one foot or more above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

3) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 4.3-3(2);

4) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in 5.2-1(2);

* *Applicants who are floodproofing nonresidential buildings should be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one foot below). Floodproofing the building an additional foot will reduce insurance premiums significantly.*

5.2-3 MANUFACTURED HOMES *(44 CFR 60.3(c)(6)(12))*

1) All manufactured homes in the floodplain to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one foot or more above* the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

5.2-4 RECREATIONAL VEHICLES *(44 CFR 60.3(c)(14))*

Recreational vehicles placed on sites are required to either:

1) Be on the site for fewer than 180 consecutive days, *(or)*

2) Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

3) Meet the requirements of 5.2-3 above and the elevation and anchoring requirements for manufactured homes.

5.3 AE AND A1-30 ZONES WITH BASE FLOOD ELEVATIONS BUT NO FLOODWAYS

(44 CFR 60.3(c)(10))

In areas with base flood elevations (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

5.4 FLOODWAYS *(Note the more restrictive language for floodway development per RCW 86.16)*

Located within areas of special flood hazard established in Section 3.2 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris, and increase erosion potential, the following provisions apply:

1) Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge. *(44 CFR 60.3(d)(3))*

2) Construction or reconstruction of residential structures is prohibited within designated floodways*, except for (i) repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and (ii) repairs, reconstruction or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either, (A) before the repair, or reconstruction is started, or (B) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded in the 50 percent.

   * *FEMA endorses the more restrictive WA floodway standard adopted in WAC 173-158-070.*

3) If Section 5.4(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 5.0, PROVISIONS FOR FLOOD HAZARD REDUCTION.

5.7 CRITICAL FACILITY *(Not mandatory)*

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible.

APPENDIX B: COMMUNITIES WITH COASTAL VELOCITY (V ZONES) PRESENT ON FIRM AND AN ORDINANCE COMPLIANT WITH 44 CFR 60.3(e)

5.6 COASTAL HIGH HAZARD AREAS *(44 CFR 60.3(e))*

Located within areas of special flood hazard established in Section 3.2 are Coastal High Hazard Areas, designated as Zones V1-30, VE and/or V. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions in this ordinance, the following provisions shall also apply:

1) All new construction and substantial improvements in Zones V1-30 and VE (V if base flood elevation data is available) on the community's FIRM shall be elevated on pilings and columns so that:

   i) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated one foot or more above* the base flood level; and

   ii) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

   ** Minimum standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can significantly reduce insurance premiums. Adopting additional freeboard is strongly encouraged by FEMA. This note applies throughout Appendix B.*

   A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of Section 5.6(1)(i) and (ii). **Actuarial insurance rates for V Zone structures may be reduced by completing the V-Zone Risk Factor Rating Form (FF 81-25). This document identifies construction activities that exceed minimum standards and allows the insurance community to provide insurance discounts for certain types of siting, design, and construction requirements identified in FEMA's Coastal Construction Manual. A copy of this form shall be provided to all new construction within the V Zone.*

2) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1-30, VE, and V on the community's FIRM and whether or not such structures contain a basement. The (*Local Administrator*) shall maintain a record of all such information. * *Recorded on a current elevation certificate (FF 086-0-33) with section B completed by the local official.*

3) All new construction within Zones V1-30, VE, and V on the community's FIRM shall be located landward of the reach of mean high tide.

4) Provide that all new construction and substantial improvements within Zones V1-30, VE, and V on the community's FIRM have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or State codes) may be permitted only if a registered professional engineer or architect certifies that the design proposed meets the

following conditions:

i) Breakaway wall collapse shall result from water load less than that which would occur during the base flood; and

ii) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.

5) Prohibit the use of fill for structural support of buildings within Zones V1-30, VE, and V on the community's FIRM.

6) Prohibit man-made alteration of sand dunes within Zones V1-30, VE, and V on the community's FIRM which would increase potential flood damage.

7) All manufactured homes to be placed or substantially improved within Zones V1-30, V, and VE on the community's FIRM on sites:

i) Outside of a manufactured home park or subdivision,

ii) In a new manufactured home park or subdivision,

iii) In an expansion to an existing manufactured home park or subdivision, or

iv) In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood;

shall meet the standards of paragraphs 5.6(1) through (6) of this section and manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within Zones V1-30, V, and VE on the FIRM shall meet the requirements of Section 5.2-3(2).

8) Recreational vehicles placed on sites within Zones V1-30, V, and VE on the community's FIRM either:

i) Be on the site for fewer than 180 consecutive days, or

ii) Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

iii) Meet the requirements of Section 4.1-1(*development permit required*) and paragraphs 5.6(1) through (6) of this section.

CITY OF ILWACO
ORDINANCE NO. XXX

AN ORDINANCE OF THE CITY OF ILWACO, WASHINGTON, AMENDING TITLE 15.16, DEVELOPMENT IN FLOOD AREAS, TO INCORPORATE THE MOST UP-TO-DATE FLOOD DAMAGE PREVENTION REGULATIONS AS DEVELOPED BY FEMA AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

WHEREAS, close to 300 towns, cities, counties and tribes within the State of Washington participate in the National Flood Insurance Program (NFIP), and as a condition of participation in the NFIP, communities are required to adopt and enforce a flood hazard reduction ordinance that meets the minimum requirements of the NFIP; and

WHEREAS, this ordinance incorporates the most up-to-date flood damage prevention regulations, as developed by FEMA and the Washington State Department of Ecology, and includes all the minimum standards required as a condition of participation in the NFIP, and as such, will be used by FEMA and state staff as the basis for providing technical assistance and compliance reviews during the Community Assistance Contact (CAC) and Community Assistance Visit (CAV) process to ensure that federal and state laws are met; and

WHEREAS, Ordinances 794 and 816 do not include the most up-to-date flood damage prevention regulations, and the city desires to ensure it meets all minimum standards required as a condition of participation in the NFIP; and

WHEREAS, the legislature of the state of Washington has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry; and

WHEREAS, the flood hazard areas of Ilwaco are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all which have the potential to adversely affect the public health, safety and general welfare; and

WHEREAS, these flood losses are caused by the cumulative effect of obstructions in areas of special flood hazard, which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated or otherwise protected from flood damage also contribute to the flood loss; and

WHEREAS, the City Council did meet at said time and place and did then consider the matter of said proposed policies; and
WHEREAS, the said proposed legislation is within the authority of the City Council to establish.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ILWACO, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Chapter 15.16, Development in Flood Areas, is amended to read as follows:

Chapter **15.16**
DEVELOPMENT IN FLOOD AREAS

Sections:

15.16.010 Statutory authorization, findings of fact, purpose and objectives.

15.16.020 Definitions.

15.16.030 Interpretation.

15.16.040 Lands to which chapter applies.

15.16.050 Basis for establishing areas of special flood hazard.

15.16.060 Local administrator.

15.16.070 Development permit.

15.16.080 General standards for flood hazard reduction.

15.16.090 Specific standards for flood hazard reduction.

15.16.100 Regulatory floodway not designated.

15.16.110 Areas designated as floodways.

15.16.120 Standards for shallow flooding areas (AO zones).

15.16.130 Coastal high hazard areas.

15.16.140 Construction of new critical facilities.

15.16.150 Interpretation of FIRM boundaries.

15.16.160 Conditions for variances.

15.16.170 Abrogation and greater restrictions.

15.16.180 Warning and disclaimer of liability.

15.16.190 Violations and penalties.

15.16.010 Statutory authorization, findings of fact, purpose and objectives.

A. Purpose. It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. Protect human life and health.

2. Maximize benefit from expenditure of public money.

3. Minimize the need for rescue and relief efforts associated with flooding.

4. Avoid or minimize prolonged business interruptions.

5. Avoid or minimize damage to public facilities and infrastructure located in areas of special flood hazard.

6. Help maintain a stable tax base by providing for sound use and development of areas of special flood hazard so as to avoid or minimize future flood damage.

7. Ensure potential buyers are notified that property is in an area of special flood hazard.

8. Ensure those who occupy areas of special flood hazard assume responsibility for their actions.

B. Methods of Reducing Flood Losses. In order to accomplish its purposes, this chapter includes methods and provisions for:

1. Restricting or prohibiting uses that are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.

2. Requiring that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction.

3. Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel floodwaters.

4. Controlling filling, grading, dredging and other development, which may increase flood damage.

5. Preventing or regulating construction of flood barriers that could divert floodwaters from their natural course or may increase flood hazards in other areas. (Ord. 794 § 2 (part), 2012)

15.16.020 Definitions.

"Appeal" means a request for a review of the interpretation of any provision of this chapter or a request for a variance.

"Area of shallow flooding" means designated as an AO or AH zone on the Flood Insurance Rate Map (FIRM). AO zones have base flood depths that range from one (1) to three (3) feet above the natural ground, a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate and velocity flow may be evident. AO is characterized as sheet flow. AH indicates ponding, and is shown with standard base flood elevations.

"Area of special flood hazard" means the land in the floodplain within a community that is subject to a one percent (1%) or greater chance of flooding in any given year. Designation on maps always includes the letter A or V.

"Base flood" means the flood having a one percent (1%) chance of being equaled or exceeded in any given year (also referred to as the "one hundred (100) year flood"). It is designated on Flood Insurance Rate Maps (FIRM) by the letter A or V.

"Basement" means any area of the building having its floor sub-grade (below ground level) on all sides.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or supporting foundation system.

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as zone V1-30, VE or V.

"Critical facility" means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations and installations that produce, use or store hazardous materials or hazardous waste.

"Development or development activity" means any human-made change to improved or unimproved real estate, including but not limited to:

1. Construction, clearing, grading, filling, excavating, paving, dredging, mining, drilling or otherwise significantly disturbing the soil of a site.

2. Building, installing, enlarging, replacing or substantially restoring a structure, impervious surface or water management system.

3. Subdividing land into two (2) or more parcels.

4. Construction of a permanent sign, unless expressly exempted by this title.

5. Alteration of a historic property for which authorization is required by this title.

6. Changing the use of a site so that the need for parking is increased.

7. Storage of equipment or materials located within the area of special flood hazards.

"Development permit" means any written authorization from the city that authorizes the commencement of a development activity.

"Elevated building" means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings or columns.

"Elevation certificate" means the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with community floodplain management chapters, and determine the proper insurance premium rate with Section B completed by the city building inspector.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads).

"Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters.

2. The unusual and rapid accumulation of runoff of surface waters from any source.

"Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps and the water surface elevation of the base flood.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

"Lowest floor" means the lowest floor of the lowest enclosed area (including basements). An unfinished or flood resistant enclosure usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter found at Section 15.16.090A2 (i.e., provided there are adequate flood ventilation openings).

"Manufactured home" means a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

"New construction" means structures for which the "start of construction" commenced on or after the effective date of this chapter.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

"Recreational vehicle" means (1) a vehicle built on a single chassis; (2) four hundred (400) square feet or less when measured at the largest horizontal projection; (3) designed to be self-propelled or permanently towable by a light duty truck; and (4) designed primarily not

for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

"Start of construction," including substantial improvements, means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, including a gas or liquid storage tank, that is principally above ground.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

"Substantial improvement" means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either: (1) before the improvement or repair is started; or (2) if the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term can exclude: (1) any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary or safety code specifications that have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

"Variance" means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited by this chapter.

"Water dependent" means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its

operations. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.030 Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements.

B. Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 794 § 2 (part), 2012)

15.16.040 Lands to which chapter applies.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the city. (Ord. 794 § 2 (part), 2012)

15.16.050 Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The FIRM is on file at Ilwaco City Hall, 120 First Ave. N., Ilwaco, WA. The best available information for flood hazard area identification as outlined in Section 15.16.060B2 shall be the basis for regulation until a new FIRM is issued that incorporates the data utilized under Section 15.16.060B2. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

Deleted: City of Ilwaco" dated August 1978, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM) dated February 1, 1979,

Commented [WK1]: Ordinance # 843 adopted the new Flood Insurance Study and Flood Insurance Rate Maps; please make sure that this provision does not supersede the new FIS and FIRM and dates. It must read:

"The Flood Insurance Study for Pacific County and Incorporated Cities, dated May 18, 2015, with the accompanying Flood Insurance Rate Maps, dated May 18, 2015 and any revisions thereto ...."

15.16.060 Local administrator.

A. Appointment. The mayor or mayor's designee is hereby appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

B. Duties and Responsibilities. Duties of the local administrator shall include, but not be limited to:

1. Permit Threshold Review. Review all development permits to determine if the proposed development falls within areas covered by this chapter. If not, the review is complete. If so, conduct further permit review for developments in defined flood areas as follows:

a. Confirm that permit requirements of this chapter have been satisfied.

b. Review development permits to determine that all necessary permits have been

obtained from those federal, state or local governmental agencies from which prior approval is required.

c. Review development permits to determine if proposed development is located in the floodway. If located in the floodway, ensure that encroachment provisions of Section 15.16.110A are met.

2. Use of Other Base Flood Data (in A and V Zones). When base flood elevation data have not been provided (A and V zones) in accordance with Section 15.16.050, the local administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 15.16.100 and 15.16.120.

3. Information to Be Obtained and Maintained.

a. Where base flood elevation data is provided through the Flood Insurance Study, FIRM or required as in subsection B2 of this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.

b. For all new or substantially improved floodproofed structures where base flood elevation data is provided through the flood insurance study, FIRM or as required in subsection B2 of this section:

i. Obtain and record the elevation (in relation to mean sea level) to which the structure was floodproofed.

ii. Maintain the floodproofing certifications required in Section 15.16.070B3.

c. Maintain for public inspection all records pertaining to provisions of this chapter.

C. Alteration of Watercourses.

1. Notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

D. Interpretation of FIRM Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to

appeal the interpretation as provided in Section 15.16.150. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.070 Development permit.

A. Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 15.16.050. The permit shall be for all structures including "manufactured homes," as set forth in Section 15.16.020, and for all "development," including fill and other activities, also as set forth in the definitions, Section 15.16.020.

B. Application for Development Permit. Application for a development permit shall be made on forms furnished by the city and shall include and not be limited to the following: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question, existing or proposed structures, fill, storage of materials and drainage facilities. Specifically, the following information is required:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures.

2. Elevation to which any structure has been floodproofed relative to mean sea level.

3. Certification by a registered professional engineer or architect that floodproofing methods for any nonresidential structure meet floodproofing criteria in Section 15.16.090.

4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development. (Ord. 794 § 2 (part), 2012)

15.16.080 General standards for flood hazard reduction.

In all areas of special flood hazard, the following standards are required:

A. Anchoring.

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over the top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

B. AH Zone Drainage. Adequate drainage paths are required around structures on slopes

to guide floodwaters around and away from proposed structures.

C. Construction Materials and Methods.

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3. Electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

D. Utilities.

1. All new and replacement water supply systems shall be designed to avoid or minimize infiltration of floodwaters into the systems.

2. Any proposed water well shall be located on high ground that is not in the floodway (WAC 173-160-171).

3. New and replacement sanitary sewage systems shall be designed to avoid or minimize infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

4. On-site waste disposal systems shall be located to avoid impairment of them or contamination from them during flooding.

E. Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage.

2. All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least fifty (50) lots or five (5) acres (whichever is less).

F. Review of Building Permits. Where elevation data are not available either through the flood insurance study, FIRM or from another authoritative source (Section 15.16.050), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two (2) feet above the highest adjacent grade in these zones may result in higher insurance rates. (Ord. 794 § 2 (part), 2012)

15.16.090 Specific standards for flood hazard reduction.

In all areas of special flood hazard where base flood elevation data have been provided as set forth in Section 15.16.050, the following provisions are required:

A. Residential Construction.

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of one (1) foot above the base flood elevation.

2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer or architect <u>or must meet or exceed the following minimum criteria:</u>

<u>a. A minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided on different sides of enclosed area.</u>

<u>b. The bottom of all openings shall be a maximum of one foot (1') above grade.</u>

<u>c. Openings may be equipped with screens, louvers or other coverings or devices provided such openings allow automatic entry and exit of floodwaters.</u>

and below-grade crawlspaces will not be considered basements if the following conditions are met:

a. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.

b. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the floor joist, must not exceed four (4) feet at any point.

c. There must be an adequate drainage system that removes floodwaters from the interior

of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event.

d. The velocity of floodwater at the site should not exceed five (5) feet per second.

e. Ductwork must either be placed above the BFE or sealed to prevent the entry of floodwaters.

f. Buildings that have below-grade crawlspaces will have higher flood insurance premiums than buildings that have the interior elevation at or above the lowest adjacent exterior grade. For additional information, refer to FEMA Technical Bulletin 11.

B. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated a minimum of one (1) foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that beneath one (1) foot above base flood level the structure is watertight with walls substantially impermeable to the passage of water.

2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

3. Be certified by a registered professional engineer or architect that proposed design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection, based on the engineer's or architect's development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 15.16.060B3b.

4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection A2 of this section.

5. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one (1) foot below).

6. Any below-grade crawlspace must comply with subsections A2d and e of this section.

C. Manufactured Homes.

1. All manufactured homes to be placed or substantially improved on sites outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision or in an existing manufactured home park or subdivision on which a manufactured home has

incurred "substantial damage" as the result of a flood shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated a minimum of one (1) foot above the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

2. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the above manufactured home provisions shall be elevated so that either:

a. The lowest floor of the manufactured home is elevated a minimum of one (1) foot above the base flood elevation.

b. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade and are securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

3. Any below-grade crawlspace must comply with subsections A2d and e of this section.

D. Recreational Vehicles. Recreational vehicles placed on sites are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of subsection C of this section and the elevation and anchoring requirements for manufactured homes per Section 15.16.080A2. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.100 Regulatory floodway not designated.

In areas where a regulatory floodway has not been designated, no new construction, substantial improvements or other development (including fill) shall be permitted within zones A1-30 and AE on the community's FIRM, unless it is demonstrated the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community. (Ord. 794 § 2 (part), 2012)

15.16.110 Areas designated as floodways.

Located within areas of special flood hazard established in Section 15.16.050 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the

velocity of floodwaters, which carry debris and potential projectiles, and which have erosion potential, the following provisions apply:

A. Encroachments Prohibited. Encroachments, including fill, new construction, substantial improvements and other development are prohibited unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed encroachment would not result in any increase in flood levels during the base flood discharge.

B. Construction or Reconstruction Prohibited. Construction or reconstruction of residential structures is prohibited within designated floodways, except for: (1) repairs, reconstruction or improvements to a structure which do not increase the ground floor area; and (2) repairs, reconstruction or improvements to a structure, the cost of which does not exceed fifty percent (50%) of the market value of the structure either (a) before the repair or reconstruction is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or to structures identified as historic places shall not be included in the fifty percent (50%).

C. Compliance with Certain Provisions. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 15.16.080 through 15.16.140. (Ord. 794 § 2 (part), 2012)

15.16.120 Standards for shallow flooding areas (AO zones).

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from one (1) to three (3) feet above ground where a clearly defined channel does not exist or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

A. Residential Structures and Manufactured Homes. New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade to the structure a minimum of one (1) foot above the depth number specified in feet on the community's FIRM (at least two (2) feet above the highest adjacent grade to the structure if no depth number is specified).

B. Nonresidential Structures. New construction and substantial improvements of nonresidential structures within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site a minimum of one (1) foot or more above the depth number specified on the FIRM (at least two (2) feet if no depth number is specified).

2. Together with attendant utility and sanitary facilities, be completely floodproofed to or above the FIRM depth level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 15.16.090B3.

C. Drainage. Adequate drainage paths shall be placed around structures on slopes to guide floodwaters around and away from proposed structures.

D. Recreational Vehicles. Recreational vehicles placed on sites within AO zones on the community's FIRM are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of subsections A and C of this section and the anchoring requirements for manufactured homes (Section 15.16.080A2). (Ord. 794 § 2 (part), 2012)

15.16.130 Coastal high hazard areas.

Located within areas of special flood hazard established in Section 15.16.050 are coastal high hazard areas, designated as zones V1-30, VE and/or V. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions in this chapter, the following provisions shall also apply:

A. Design and Method of Construction.

1. All new construction and substantial improvements in zones V1-30 and VE (V if base flood elevation data is available) on the community's FIRM shall be elevated on pilings and columns so that:

a. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated a minimum of one (1) foot above the base flood level; and

b. The pile or column foundation and structure attached thereto is anchored to resist

flotation, collapse and lateral movement resulting from wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent (1%) chance of being equaled or exceeded in any given year (a one (1) in one hundred (100) chance, based on the one hundred (100) year mean recurrence interval as defined in Section 15.16.020, Definitions).

2. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for construction, and shall certify the design and methods of construction to be used are in accordance with accepted standards of practice for meeting provisions of subsection A1 of this section.

B. Record of Elevation. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of each new and substantially improved structure in zones V1-30, VE and V on the community's FIRM, and ascertain whether or not each structure contains a basement. The local administrator shall maintain a record of all such information.

C. Location. All new construction within zones V1-30, VE and V on the community's FIRM shall be located landward of the reach of mean high tide.

D. Breakaway Walls.

1. All new construction and substantial improvements within zones V1-30, VE and V on the community's FIRM shall have the space below the lowest floor either free of obstructions or constructed with non-supporting breakaway walls, open wood lattice work or insect screening intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than ten (10) and no more than twenty (20) pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of twenty (20) pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies the design as proposed meets the following conditions:

a. Breakaway wall collapse shall result from water load less than that which would occur during the base flood.

b. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent (1%) chance of being equaled or exceeded in any given year (a one (1) in one hundred (100) chance, based on the one hundred (100) year mean

recurrence interval as defined in Section 15.16.020, Definitions).

2. If breakaway walls are utilized space enclosed or partially enclosed by such walls shall be useable solely for parking of vehicles, building access or storage. Such space shall not be used for human habitation.

E. Fill Prohibited. Use of fill for structural support of buildings within zones V1-30, VE and V on the community's FIRM shall be prohibited.

F. Alteration of Sand Dunes Prohibited. Human-made alteration of sand dunes within zones V1-30, VE and V on the community's FIRM that would increase potential flood damage shall be prohibited.

G. Manufactured Homes. All manufactured homes to be placed or substantially improved within zones V1-30, V and VE on the community's FIRM on sites located outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision or in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood shall meet standards of subsections A through F of this section. Manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within zones V1-30, V and VE on the FIRM shall meet requirements of Chapter 15.84.

H. Recreational Vehicles. RVs placed on sites within zones V1-30, V and VE on the community's FIRM are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of Section 15.16.080A2, and subsections A through F of this section. (Ord. 794 § 2 (part), 2012)

15.16.140 Construction of new critical facilities.

A. Location. Construction of new critical facilities shall be, to the extent feasible, located outside the limits of the special flood hazard area (SFHA) (one hundred (100) year floodplain).

B. Site. Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available.

C. Lowest Floor Elevation. Critical facilities constructed within the SFHA shall have the lowest floor elevated a minimum three (3) feet above the base flood level or to the height of the five hundred (500) year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above.

D. Floodproofing and Sealing. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

E. Access Routes. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible. (Ord. 794 § 2 (part), 2012)

15.16.150 Interpretation of FIRM boundaries.

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program. (Ord. 794 § 2 (part), 2012)

15.16.160 Conditions for variances.

A. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases, the technical justification required for issuing the variance increases.

B. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

C. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

D. Variances shall only be issued upon:

1. A showing of good and sufficient cause.

2. A determination that failure to grant the variance would result in exceptional hardship to the applicant.

3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or

ordinances.

E. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

F. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection D1 of this section, and otherwise complies with Sections 15.16.080A, D and E of the general standards.

G. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk. (Ord. 794 § 2 (part), 2012)

15.16.170 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 794 § 2 (part), 2012)

15.16.180 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city, any officer or employee thereof or the Federal Insurance Administration for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. (Ord. 794 § 2 (part), 2012)

15.16.190 Violations and penalties.

Penalties for violations of this chapter shall be assessed and enforced pursuant to Section 15.02.140, Violations and penalties. (Ord. 794 § 2 (part), 2012)

Section 4. Severability. If any section, subsection, paragraph, sentence, clause or phrase of this ordinance is declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining parts of this ordinance.

Section 5. Effective Date. This Ordinance takes effect and is in full force five (5) days after its passage, approval and publication of an approved summary of the title as provided by law.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTIFICATION OF ITS PASSAGE THIS XTH DAY OF XXXX, 2015.

_____

Mike Cassinelli, Mayor

ATTEST:

_____

Holly Beller, Deputy City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

PUBLISHED:
EFFECTIVE:

CITY OF ILWACO
ORDINANCE NO. XXX

AN ORDINANCE OF THE CITY OF ILWACO, WASHINGTON, AMENDING TITLE 15.16, DEVELOPMENT IN FLOOD AREAS, TO INCORPORATE THE MOST UP-TO-DATE FLOOD DAMAGE PREVENTION REGULATIONS AS DEVELOPED BY FEMA AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

WHEREAS, close to 300 towns, cities, counties and tribes within the State of Washington participate in the National Flood Insurance Program (NFIP), and as a condition of participation in the NFIP, communities are required to adopt and enforce a flood hazard reduction ordinance that meets the minimum requirements of the NFIP; and

WHEREAS, this ordinance incorporates the most up-to-date flood damage prevention regulations, as developed by FEMA and the Washington State Department of Ecology, and includes all the minimum standards required as a condition of participation in the NFIP, and as such, will be used by FEMA and state staff as the basis for providing technical assistance and compliance reviews during the Community Assistance Contact (CAC) and Community Assistance Visit (CAV) process to ensure that federal and state laws are met; and

WHEREAS, Ordinances 794 and 816 do not include the most up-to-date flood damage prevention regulations, and the city desires to ensure it meets all minimum standards required as a condition of participation in the NFIP; and

WHEREAS, the legislature of the state of Washington has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry; and

WHEREAS, the flood hazard areas of Ilwaco are subject to periodic inundation, which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief and impairment of the tax base, all which have the potential to adversely affect the public health, safety and general welfare; and

WHEREAS, these flood losses are caused by the cumulative effect of obstructions in areas of special flood hazard, which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately flood proofed, elevated or otherwise protected from flood damage also contribute to the flood loss; and

WHEREAS, the City Council did meet at said time and place and did then consider the matter of said proposed policies; and
WHEREAS, the said proposed legislation is within the authority of the City Council to establish.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ILWACO, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. Chapter 15.16, Development in Flood Areas, is amended to read as follows:

Chapter **15.16**
DEVELOPMENT IN FLOOD AREAS

Sections:

15.16.010 Statutory authorization, findings of fact, purpose and objectives.

15.16.020 Definitions.

15.16.030 Interpretation.

15.16.040 Lands to which chapter applies.

15.16.050 Basis for establishing areas of special flood hazard.

15.16.060 Local administrator.

15.16.070 Development permit.

15.16.080 General standards for flood hazard reduction.

15.16.090 Specific standards for flood hazard reduction.

15.16.100 Regulatory floodway not designated.

15.16.110 Areas designated as floodways.

15.16.120 Standards for shallow flooding areas (AO zones).

15.16.130 Coastal high hazard areas.

15.16.140 Construction of new critical facilities.

15.16.150 Interpretation of FIRM boundaries.

15.16.160 Conditions for variances.

15.16.170 Abrogation and greater restrictions.

15.16.180 Warning and disclaimer of liability.

15.16.190 Violations and penalties.

15.16.010 Statutory authorization, findings of fact, purpose and objectives.

A. Purpose. It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. Protect human life and health.

2. Maximize benefit from expenditure of public money.

3. Minimize the need for rescue and relief efforts associated with flooding.

4. Avoid or minimize prolonged business interruptions.

5. Avoid or minimize damage to public facilities and infrastructure located in areas of special flood hazard.

6. Help maintain a stable tax base by providing for sound use and development of areas of special flood hazard so as to avoid or minimize future flood damage.

7. Ensure potential buyers are notified that property is in an area of special flood hazard.

8. Ensure those who occupy areas of special flood hazard assume responsibility for their actions.

B. Methods of Reducing Flood Losses. In order to accomplish its purposes, this chapter includes methods and provisions for:

1. Restricting or prohibiting uses that are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities.

2. Requiring that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction.

3. Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel floodwaters.

4. Controlling filling, grading, dredging and other development, which may increase flood damage.

5. Preventing or regulating construction of flood barriers that could divert floodwaters from their natural course or may increase flood hazards in other areas. (Ord. 794 § 2 (part), 2012)

15.16.020 Definitions.

"Appeal" means a request for a review of the interpretation of any provision of this chapter or a request for a variance.

"Area of shallow flooding" means designated as an AO or AH zone on the Flood Insurance Rate Map (FIRM). AO zones have base flood depths that range from one (1) to three (3) feet above the natural ground, a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate and velocity flow may be evident. AO is characterized as sheet flow. AH indicates ponding, and is shown with standard base flood elevations.

"Area of special flood hazard" means the land in the floodplain within a community that is subject to a one percent (1%) or greater chance of flooding in any given year. Designation on maps always includes the letter A or V.

"Base flood" means the flood having a one percent (1%) chance of being equaled or exceeded in any given year (also referred to as the "one hundred (100) year flood"). It is designated on Flood Insurance Rate Maps (FIRM) by the letter A or V.

"Basement" means any area of the building having its floor sub-grade (below ground level) on all sides.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or supporting foundation system.

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as zone V1-30, VE or V.

"Critical facility" means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire and emergency response installations and installations that produce, use or store hazardous materials or hazardous waste.

"Development or development activity" means any human-made change to improved or unimproved real estate, including but not limited to:

1. Construction, clearing, grading, filling, excavating, paving, dredging, mining, drilling or otherwise significantly disturbing the soil of a site.

2. Building, installing, enlarging, replacing or substantially restoring a structure, impervious surface or water management system.

3. Subdividing land into two (2) or more parcels.

4. Construction of a permanent sign, unless expressly exempted by this title.

5. Alteration of a historic property for which authorization is required by this title.

6. Changing the use of a site so that the need for parking is increased.

7. Storage of equipment or materials located within the area of special flood hazards.

"Development permit" means any written authorization from the city that authorizes the commencement of a development activity.

"Elevated building" means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings or columns.

"Elevation certificate" means the official form (FEMA Form 81-31) used to track development, provide elevation information necessary to ensure compliance with community floodplain management chapters, and determine the proper insurance premium rate with Section B completed by the city building inspector.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads).

"Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. **The overflow of inland or tidal waters.**

2. **The unusual and rapid accumulation of runoff of surface waters from any source.**

"Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

"Flood Insurance Study (FIS)" means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps and the water surface elevation of the base flood.

"Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

"Lowest floor" means the lowest floor of the lowest enclosed area (including basements). An unfinished or flood resistant enclosure usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter found at Section 15.16.090A2 (i.e., provided there are adequate flood ventilation openings).

"Manufactured home" means a structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

"New construction" means structures for which the "start of construction" commenced on or after the effective date of this chapter.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

"Recreational vehicle" means (1) a vehicle built on a single chassis; (2) four hundred (400) square feet or less when measured at the largest horizontal projection; (3) designed to be self-propelled or permanently towable by a light duty truck; and (4) designed primarily not

for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

"Start of construction," including substantial improvements, means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, including a gas or liquid storage tank, that is principally above ground.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

"Substantial improvement" means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either: (1) before the improvement or repair is started; or (2) if the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term can exclude: (1) any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary or safety code specifications that have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

"Variance" means a grant of relief from the requirements of this chapter that permits construction in a manner that would otherwise be prohibited by this chapter.

"Water dependent" means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its

operations. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.030 Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements.

B. Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 794 § 2 (part), 2012)

15.16.040 Lands to which chapter applies.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the city. (Ord. 794 § 2 (part), 2012)

15.16.050 Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Ilwaco" dated August 1978, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM) dated February 1, 1979, and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The FIRM is on file at Ilwaco City Hall, 120 First Ave. N., Ilwaco, WA. The best available information for flood hazard area identification as outlined in Section 15.16.060B2 shall be the basis for regulation until a new FIRM is issued that incorporates the data utilized under Section 15.16.060B2. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.060 Local administrator.

A. Appointment. The mayor or mayor's designee is hereby appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

B. Duties and Responsibilities. Duties of the local administrator shall include, but not be limited to:

1. Permit Threshold Review. Review all development permits to determine if the proposed development falls within areas covered by this chapter. If not, the review is complete. If so, conduct further permit review for developments in defined flood areas as follows:

a. Confirm that permit requirements of this chapter have been satisfied.

b. Review development permits to determine that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.

c. Review development permits to determine if proposed development is located in the floodway. If located in the floodway, ensure that encroachment provisions of Section 15.16.110A are met.

2. Use of Other Base Flood Data (in A and V Zones). When base flood elevation data have not been provided (A and V zones) in accordance with Section 15.16.050, the local administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 15.16.100 and 15.16.120.

3. Information to Be Obtained and Maintained.

a. Where base flood elevation data is provided through the Flood Insurance Study, FIRM or required as in subsection B2 of this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.

b. For all new or substantially improved floodproofed structures where base flood elevation data is provided through the flood insurance study, FIRM or as required in subsection B2 of this section:

i. Obtain and record the elevation (in relation to mean sea level) to which the structure was floodproofed.

ii. Maintain the floodproofing certifications required in Section 15.16.070B3.

c. Maintain for public inspection all records pertaining to provisions of this chapter.

C. Alteration of Watercourses.

1. Notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

2. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

D. Interpretation of FIRM Boundaries. Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The

person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 15.16.150. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.070 Development permit.

A. Permit Required. A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 15.16.050. The permit shall be for all structures including "manufactured homes," as set forth in Section 15.16.020, and for all "development," including fill and other activities, also as set forth in the definitions, Section 15.16.020.

B. Application for Development Permit. Application for a development permit shall be made on forms furnished by the city and shall include and not be limited to the following: plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question, existing or proposed structures, fill, storage of materials and drainage facilities. Specifically, the following information is required:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures.

2. Elevation to which any structure has been floodproofed relative to mean sea level.

3. Certification by a registered professional engineer or architect that floodproofing methods for any nonresidential structure meet floodproofing criteria in Section 15.16.090.

4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development. (Ord. 794 § 2 (part), 2012)

15.16.080 General standards for flood hazard reduction.

In all areas of special flood hazard, the following standards are required:

A. Anchoring.

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over the top or frame ties to ground anchors (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

B. AH Zone Drainage. Adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

C. Construction Materials and Methods.

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3. Electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

D. Utilities.

1. All new and replacement water supply systems shall be designed to avoid or minimize infiltration of floodwaters into the systems.

2. Any proposed water well shall be located on high ground that is not in the floodway (WAC 173-160-171).

3. New and replacement sanitary sewage systems shall be designed to avoid or minimize infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

4. On-site waste disposal systems shall be located to avoid impairment of them or contamination from them during flooding.

E. Subdivision Proposals.

1. All subdivision proposals shall be consistent with the need to minimize flood damage.

2. All subdivision proposals shall have public utilities and facilities, such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least fifty (50) lots or five (5) acres (whichever is

less).

F. Review of Building Permits. Where elevation data are not available either through the flood insurance study, FIRM or from another authoritative source (Section 15.16.050), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two (2) feet above the highest adjacent grade in these zones may result in higher insurance rates. (Ord. 794 § 2 (part), 2012)

15.16.090 Specific standards for flood hazard reduction.

In all areas of special flood hazard where base flood elevation data have been provided as set forth in Section 15.16.050, the following provisions are required:

A. Residential Construction.

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of one (1) foot above the base flood elevation.

2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

a. A minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided on different sides of enclosed area.

b. The bottom of all openings shall be a maximum of one foot (1') above grade.

c. Openings may be equipped with screens, louvers or other coverings or devices provided such openings allow automatic entry and exit of floodwaters.

and below-grade crawlspaces will not be considered basements if the following conditions are met:

a. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest adjacent exterior grade.

b. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the floor joist, must not exceed four (4) feet at any point.

c. There must be an adequate drainage system that removes floodwaters from the interior of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event.

d. The velocity of floodwater at the site should not exceed five (5) feet per second.

e. Ductwork must either be placed above the BFE or sealed to prevent the entry of floodwaters.

f. Buildings that have below-grade crawlspaces will have higher flood insurance premiums than buildings that have the interior elevation at or above the lowest adjacent exterior grade. For additional information, refer to FEMA Technical Bulletin 11.

B. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated a minimum of one (1) foot above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that beneath one (1) foot above base flood level the structure is watertight with walls substantially impermeable to the passage of water.

2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

3. Be certified by a registered professional engineer or architect that proposed design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection, based on the engineer's or architect's development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 15.16.060B3b.

4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection A2 of this section.

5. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one (1) foot below).

6. Any below-grade crawlspace must comply with subsections A2d and e of this section.

C. Manufactured Homes.

1. All manufactured homes to be placed or substantially improved on sites outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision or in an

existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated a minimum of one (1) foot above the base flood elevation and be securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

2. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the above manufactured home provisions shall be elevated so that either:

a. The lowest floor of the manufactured home is elevated a minimum of one (1) foot above the base flood elevation.

b. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade and are securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement.

3. Any below-grade crawlspace must comply with subsections A2d and e of this section.

D. Recreational Vehicles. Recreational vehicles placed on sites are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of subsection C of this section and the elevation and anchoring requirements for manufactured homes per Section 15.16.080A2. (Ord. 816 § 1 (part), 2013; Ord. 794 § 2 (part), 2012)

15.16.100 Regulatory floodway not designated.

In areas where a regulatory floodway has not been designated, no new construction, substantial improvements or other development (including fill) shall be permitted within zones A1-30 and AE on the community's FIRM, unless it is demonstrated the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community. (Ord. 794 § 2 (part), 2012)

15.16.110 Areas designated as floodways.

Located within areas of special flood hazard established in Section 15.16.050 are areas

designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters, which carry debris and potential projectiles, and which have erosion potential, the following provisions apply:

A. Encroachments Prohibited. Encroachments, including fill, new construction, substantial improvements and other development are prohibited unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed encroachment would not result in any increase in flood levels during the base flood discharge.

B. Construction or Reconstruction Prohibited. Construction or reconstruction of residential structures is prohibited within designated floodways, except for: (1) repairs, reconstruction or improvements to a structure which do not increase the ground floor area; and (2) repairs, reconstruction or improvements to a structure, the cost of which does not exceed fifty percent (50%) of the market value of the structure either (a) before the repair or reconstruction is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or to structures identified as historic places shall not be included in the fifty percent (50%).

C. Compliance with Certain Provisions. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 15.16.080 through 15.16.140. (Ord. 794 § 2 (part), 2012)

15.16.120 Standards for shallow flooding areas (AO zones).

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from one (1) to three (3) feet above ground where a clearly defined channel does not exist or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

A. Residential Structures and Manufactured Homes. New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade to the structure a minimum of one (1) foot above the depth number specified in feet on the community's FIRM (at least two (2) feet above the highest adjacent grade to the structure if no depth number is specified).

B. Nonresidential Structures. New construction and substantial improvements of

nonresidential structures within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site a minimum of one (1) foot or more above the depth number specified on the FIRM (at least two (2) feet if no depth number is specified).

2. Together with attendant utility and sanitary facilities, be completely floodproofed to or above the FIRM depth level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 15.16.090B3.

C. Drainage. Adequate drainage paths shall be placed around structures on slopes to guide floodwaters around and away from proposed structures.

D. Recreational Vehicles. Recreational vehicles placed on sites within AO zones on the community's FIRM are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of subsections A and C of this section and the anchoring requirements for manufactured homes (Section 15.16.080A2). (Ord. 794 § 2 (part), 2012)

15.16.130 Coastal high hazard areas.

Located within areas of special flood hazard established in Section 15.16.050 are coastal high hazard areas, designated as zones V1-30, VE and/or V. These areas have special flood hazards associated with high velocity waters from surges and, therefore, in addition to meeting all provisions in this chapter, the following provisions shall also apply:

A. Design and Method of Construction.

1. All new construction and substantial improvements in zones V1-30 and VE (V if base flood elevation data is available) on the community's FIRM shall be elevated on pilings and columns so that:

a. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated a minimum of one (1) foot above the base flood level; and

b. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement resulting from wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent (1%) chance of being equaled or exceeded in any given year (a one (1) in one hundred (100) chance, based on the one hundred (100) year mean recurrence interval as defined in Section 15.16.020, Definitions).

2. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for construction, and shall certify the design and methods of construction to be used are in accordance with accepted standards of practice for meeting provisions of subsection A1 of this section.

B. Record of Elevation. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of each new and substantially improved structure in zones V1-30, VE and V on the community's FIRM, and ascertain whether or not each structure contains a basement. The local administrator shall maintain a record of all such information.

C. Location. All new construction within zones V1-30, VE and V on the community's FIRM shall be located landward of the reach of mean high tide.

D. Breakaway Walls.

1. All new construction and substantial improvements within zones V1-30, VE and V on the community's FIRM shall have the space below the lowest floor either free of obstructions or constructed with non-supporting breakaway walls, open wood lattice work or insect screening intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than ten (10) and no more than twenty (20) pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of twenty (20) pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies the design as proposed meets the following conditions:

a. Breakaway wall collapse shall result from water load less than that which would occur during the base flood.

b. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent (1%) chance of being equaled or exceeded in any given year

(a one (1) in one hundred (100) chance, based on the one hundred (100) year mean recurrence interval as defined in Section 15.16.020, Definitions).

2. If breakaway walls are utilized space enclosed or partially enclosed by such walls shall be useable solely for parking of vehicles, building access or storage. Such space shall not be used for human habitation.

E. Fill Prohibited. Use of fill for structural support of buildings within zones V1-30, VE and V on the community's FIRM shall be prohibited.

F. Alteration of Sand Dunes Prohibited. Human-made alteration of sand dunes within zones V1-30, VE and V on the community's FIRM that would increase potential flood damage shall be prohibited.

G. Manufactured Homes. All manufactured homes to be placed or substantially improved within zones V1-30, V and VE on the community's FIRM on sites located outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision or in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood shall meet standards of subsections A through F of this section. Manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within zones V1-30, V and VE on the FIRM shall meet requirements of Chapter 15.84.

H. Recreational Vehicles. RVs placed on sites within zones V1-30, V and VE on the community's FIRM are required to either:

1. Be on the site for fewer than one hundred eighty (180) consecutive days, and be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions.

2. Meet the requirements of Section 15.16.080A2, and subsections A through F of this section. (Ord. 794 § 2 (part), 2012)

15.16.140 Construction of new critical facilities.

A. Location. Construction of new critical facilities shall be, to the extent feasible, located outside the limits of the special flood hazard area (SFHA) (one hundred (100) year floodplain).

B. Site. Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available.

C. Lowest Floor Elevation. Critical facilities constructed within the SFHA shall have the lowest floor elevated a minimum three (3) feet above the base flood level or to the height of the five hundred (500) year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above.

D. Floodproofing and Sealing. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

E. Access Routes. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities to the extent possible. (Ord. 794 § 2 (part), 2012)

15.16.150 Interpretation of FIRM boundaries.

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program. (Ord. 794 § 2 (part), 2012)

15.16.160 Conditions for variances.

A. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases, the technical justification required for issuing the variance increases.

B. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

C. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

D. Variances shall only be issued upon:

1. A showing of good and sufficient cause.

2. A determination that failure to grant the variance would result in exceptional hardship to the applicant.

3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or

ordinances.

E. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from flood elevations should be quite rare.

F. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection D1 of this section, and otherwise complies with Sections 15.16.080A, D and E of the general standards.

G. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be built with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk. (Ord. 794 § 2 (part), 2012)

15.16.170 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 794 § 2 (part), 2012)

15.16.180 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city, any officer or employee thereof or the Federal Insurance Administration for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. (Ord. 794 § 2 (part), 2012)

15.16.190 Violations and penalties.

Penalties for violations of this chapter shall be assessed and enforced pursuant to Section 15.02.140, Violations and penalties. (Ord. 794 § 2 (part), 2012)

Section 4. Severability. If any section, subsection, paragraph, sentence, clause or phrase of this ordinance is declared unconstitutional or invalid for any reason, such decision shall not affect the validity of the remaining parts of this ordinance.

Section 5. Effective Date. This Ordinance takes effect and is in full force five (5) days after its passage, approval and publication of an approved summary of the title as provided by law.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTIFICATION OF ITS PASSAGE THIS XTH DAY OF XXXX, 2015.

_____

Mike Cassinelli, Mayor

ATTEST:

_____

Holly Beller, Deputy City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

PUBLISHED:
EFFECTIVE:

Technical Bulletin

Crawlspace Construction

for Buildings Located in Special Flood Hazard Areas
National Flood Insurance Program Interim Guidance

FEMA TB-11 / November 2001

FEMA

Key Word/Subject Index

This index allows the user to locate key words and subjects in this Technical Bulletin. The Technical Bulletin User's Guide (printed separately) provides references to key words and subjects throughout the Technical Bulletins. For definitions of selected terms, refer to the Glossary at the end of this bulletin.

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Any comments on the Technical Bulletins should be directed to:

Federal Emergency Management Agency
Federal Insurance and Mitigation Administration
500 C Street, SW.
Washington, DC 20472

Wave design on cover based on the Japanese print *The Great Wave Off Kanagawa*, by Katsuchika Hokussai (1760–1849), Asiatic Museum of Fine Arts, Boston.

TECHNICAL BULLETIN 11-01

Crawlspace Construction for Buildings Located in Special Flood Hazard Areas National Flood Insurance Program Interim Guidance

Introduction

Crawlspace foundations are commonly used to elevate the lowest floors of residential buildings located in Special Flood Hazard Areas (SFHAs) above the Base Flood Elevation (BFE). This Technical Bulletin provides guidance on crawlspace construction and supports a recent policy decision to allow construction of crawlspaces with interior grades up to 2 feet below the lowest adjacent exterior grade (LAG), referred to as below-grade crawlspaces, provided that other requirements are met. Prior to that decision, below-grade crawlspaces were considered basements under the National Flood Insurance Program (NFIP) Floodplain Management Regulation definitions at 44 CFR 59.1 and were not permitted below the BFE. This requirement had been established because below-grade crawlspace foundation walls are exposed to increased forces during flood conditions, such as hydrostatic and saturated soil forces.

In many parts of the country, a common practice is to construct crawlspaces with the interior floor 1 or 2 feet below-grade by either (1) backfilling against the exterior of the foundation wall or (2) excavating the crawlspace area to construct footings that result in a below-grade crawlspace floor. Because FEMA wishes to recognize common construction practices that do not increase flood damage, FEMA recently completed a review of the policy for residential crawlspace construction. In this review, the construction practices for below-grade crawlspaces were examined to determine whether a crawlspace that was 1 or 2 feet below grade would increase the flood damage potential to the foundation walls or result in additional damages to the building.

The review included (1) an engineering analysis that assessed the damage potential of floodwaters acting upon below-grade crawlspace foundation walls, (2) a review of available NFIP claims history for crawlspaces, and (3) input from FEMA Regional staff and NFIP General Adjusters of any firsthand knowledge of crawlspace damage during flood events. A review of NFIP claims history and staff input did not reveal evidence of structural damage or failure of crawlspace foundation walls during flood events. The engineering analysis indicates that below-grade foundation walls, when constructed according to common practice, have sufficient capacity to resist flood-related forces from standing and low-velocity floodwaters, subject to the requirements outlined in this bulletin.

This Technical Bulletin presents NFIP minimum requirements for crawlspace construction in the SFHA, including (1) requirements for all crawlspace construction and (2) requirements for below-grade crawlspace construction that may extend 1 or 2 feet below grade in the SFHA. This Technical Bulletin also provides a best practices approach for preferred and below-grade crawlspace construction, illustrated in Figures 1 and 2, including design limitations, water accumulation and drainage considerations, and use of flood-resistant materials. While communities may now allow below-grade crawlspace construction in the SFHA, this type of construction is not the recommended construction method, because of the increased likelihood of problems with water accumulation,

moisture damage, and drainage. The use of crawlspace construction with the interior grade at or above the LAG minimizes the occurrence of these problems. This interim guidance on residential crawlspace construction is based on conclusions from the recently completed review and analyses.

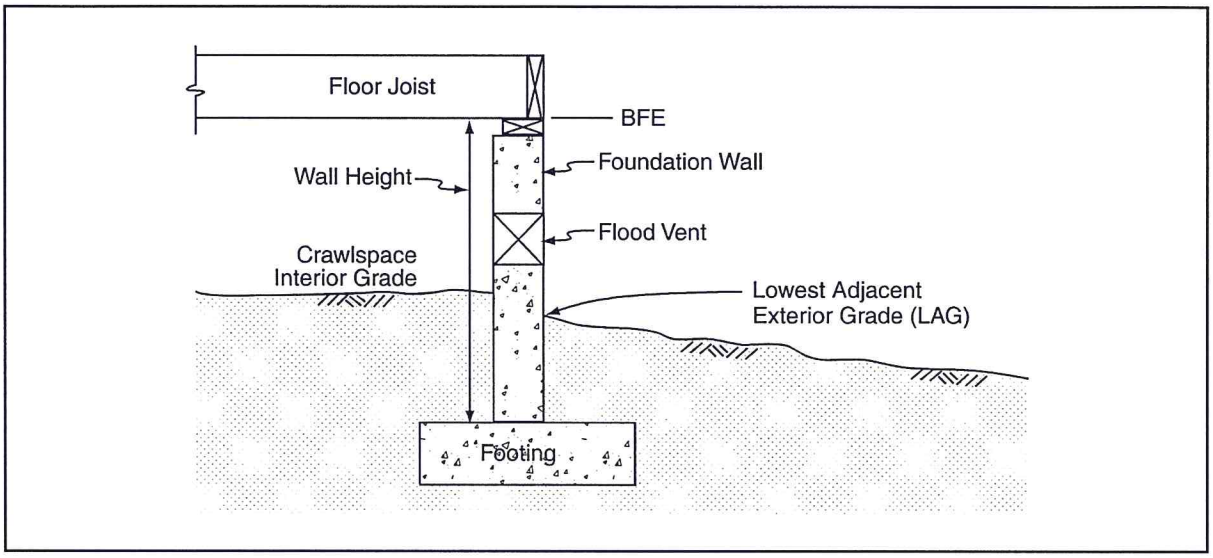

Figure 1 Preferred crawlspace construction.

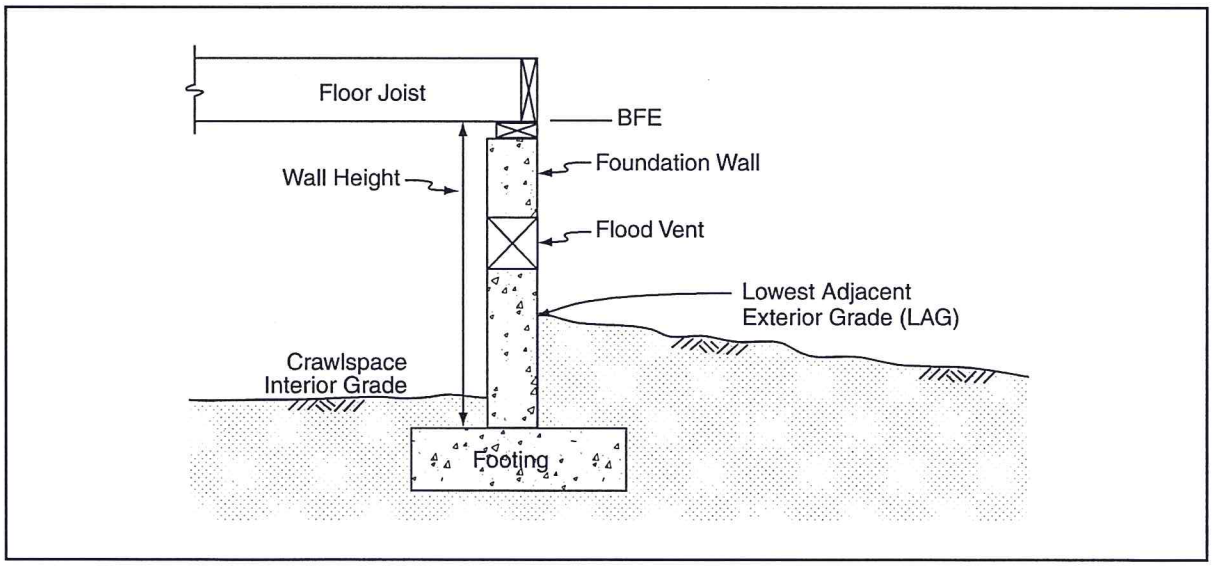

Figure 2 Below-grade crawlspace construction.

This Technical Bulletin provides **interim** guidance. The decision whether or not to allow below-grade crawlspace construction will be left to each community. Communities should review applicable state laws, regulations, and building codes, and consult with their State NFIP Coordinator to determine whether below-grade crawlspace construction is permitted in their state. Communities that choose to allow below-grade crawlspace construction will be required to amend their floodplain management ordinance to include the provisions outlined in the following sections on below-grade crawlspace construction. Please note that communities that choose to amend their ordinance to allow for below-grade crawlspaces in response to this interim guidance may also be required at some later date to amend their ordinance if FEMA adopts revised regulations that differ from the interim guidance.

Note

Any building utility systems within the crawlspace must be elevated above the BFE or designed so that floodwaters cannot enter or accumulate within system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed to prevent the entry of floodwaters. FEMA 348, *Protecting Building Utilities from Flood Damage*, provides detailed guidance on designing and constructing flood-resistant utility systems.

NFIP Requirements

NFIP requirements that apply to crawlspace construction are found in sections 44 CFR 60.3(a)(3) and 60.3(c)(2) and (c)(5) of the NFIP regulations. NFIP requirements that apply to all crawlspaces are discussed in the first section below. The second section lists additional requirements that must be applied to crawlspaces that have interior grades below the LAG. The additional requirements are intended to ensure that these crawlspaces are not subject to flood-related loads that would exceed the strength of the crawlspace wall and lead to failure and significant damage to the building or to other damage related to poor drainage in the below-grade crawlspace.

NFIP Requirements for All Crawlspace Construction

Crawlspaces are commonly used as a method of elevating buildings in SFHAs to or above the BFE. General NFIP requirements that apply to all crawlspaces that have enclosed areas or floors below the BFE include the following:

- The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed though the required openings discussed in the next bullet. Because of hydrodynamic loads, crawlspace construction is not recommended in areas with flood velocities greater than 5 feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.
- The crawlspace is an enclosed area below the BFE and, as such, must have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than 1 foot above the lowest adjacent exterior grade. For guidance on flood openings, see Technical Bulletin 1-93, *Openings in Foundation Walls*.

- Crawlspace construction is not permitted in V zones. Open pile or column foundations that withstand storm surge and wave forces are required in V zones.
- Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE. Insulation is not a flood-resistant material. When insulation becomes saturated with floodwater, the additional weight often pulls it away from the joists and flooring. Ductwork or other utility systems located below the insulation may also pull away from their supports. See the section Flood-Resistant Materials, on page 8 this bulletin. For more detailed guidance on flood-resistant materials see Technical Bulletin 2-93, *Flood-Resistant Materials Requirements*.
- Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters. For further guidance on the placement of building utility systems in crawlspaces, see FEMA 348, *Protecting Building Utilities From Flood Damage.*

Flood-resistant materials and utilities, access, and ventilation openings in crawlspaces are further addressed in this bulletin.

Additional Requirements for Below-Grade Crawlspaces

If a community chooses to amend its floodplain management ordinance to allow for the construction of below-grade crawlspaces, the ordinance must include the following provisions in addition to the above requirements:

- The interior grade of a crawlspace below the BFE must not be more than 2 feet below the lowest adjacent exterior grade (LAG), shown as D in Figure 3.
- The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed 4 feet (shown as L in Figure 3) at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas (see the section Guidance for Pre-Engineered Crawlspaces, on page 7 of this bulletin). This limitation will also prevent these crawlspaces from being converted into habitable spaces.
- There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles, or gravel or crushed stone drainage by gravity or mechanical means.
- The velocity of floodwaters at the site should not exceed 5 feet per second for any crawlspace. For velocities in excess of 5 feet per second, other foundation types should be used.

- Below-grade crawlspace construction in accordance with the requirements listed above will not be considered basements.

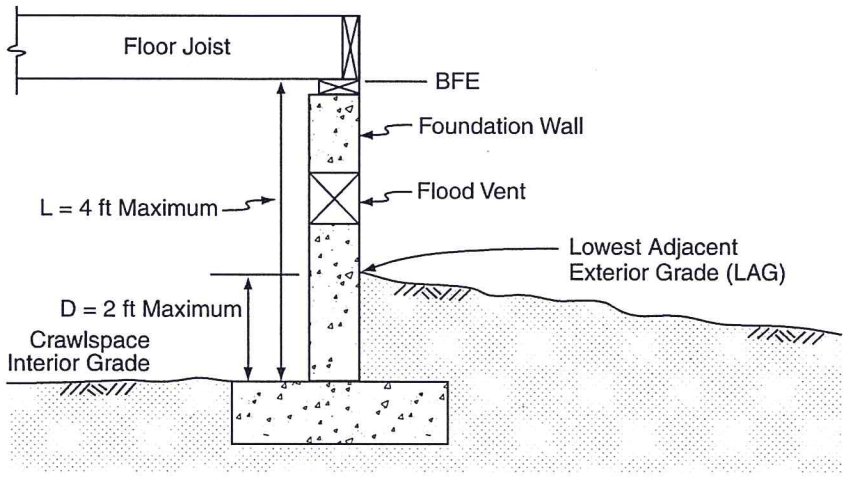

Figure 3 Requirements regarding below-grade crawlspace construction.

Drainage considerations for below-grade crawlspaces are further addressed in this bulletin. For additional information regarding this interim guidance, please contact the FEMA Regional Office or State NFIP Coordinator. Local FEMA regional offices are listed in the separately printed *User's Guide to Technical Bulletins* and may be found at the www.fema.gov website.

Flood Forces on Buildings

Buildings in flood hazard areas may be subjected to a variety of flood-induced forces. During inundation by standing or low-velocity floodwaters, a building must primarily resist hydrostatic pressures from saturated soils and floodwaters. This situation is typical of broad, flat floodplains and floodways along lower-gradient rivers and streams. During inundation by high-velocity floodwaters, a building must also resist hydrodynamic forces and impact loads. High-velocity floodwaters are found in floodways along steeper-gradient rivers, sheet flow down slopes, or coastal areas with storm surge and waves.

The community Flood Insurance Study contains a Floodway Data Table that includes data on mean velocities (in feet per second) within the floodway at each cross section along the river or stream. The mean averages the higher channel velocities with lower velocities in overbank areas that are within the floodway. Generally, velocities at sites outside of the floodway are lower than the mean floodway velocities listed in the Floodway Data Table. For example, if the mean floodway velocity at a cross section is 4 feet per second, the velocities outside the floodway are likely less than that value. If in doubt about the floodway velocity or in areas where the mean floodway velocity may exceed 5 feet per second, contact an engineer knowledgeable in hydraulics and hydrology to determine flood velocities at the building site.

Buildings located in areas subject to ponding or low-velocity flows must primarily address issues related to hydrostatic loads on the crawlspace foundation, removal of floodwater and sediment from the crawlspace area, and other NFIP floodproofing requirements, such as protecting or elevating utilities and using flood-resistant materials.

Crawlspace construction is not recommended in A zones with high-velocity floodwaters (greater than 5 feet per second). Other types of foundations, such as open pile or column foundations, that allow floodwaters to flow freely beneath the building are recommended for these areas.

Flood Insurance Implications

In May 1999, the Federal Insurance Administration (now the Federal Insurance and Mitigation Administration – FIMA) revised the rates being charged for residential buildings with below-grade crawlspaces. These rates were considerably lower than the full basement rates previously charged for these buildings. In May 2001, these rates were further reduced based on engineering analyses performed by FEMA. However, rates for buildings with below-grade crawlspaces will be higher than rates for buildings that have the interior grade of the crawlspace at or above the adjacent exterior grade, since the risk of flood damage is greater for the former type of construction. As more experience is gained on crawlspace losses, FEMA will continue to reassess those rates, factoring in the cost of pumping out and cleaning these areas, as well as physical damage to the foundation. Buildings with below-grade crawlspaces currently cannot be rated by an insurance agent using the NFIP *Flood Insurance Manual*. They must be submitted for a special rating under the Submit-to-Rate process by underwriters knowledgeable in this type of construction. FIMA will determine whether the rating for this type of construction should be standardized and included in the Flood Insurance Application and the *Flood Insurance Manual*.

Caution

Buildings that have below-grade crawlspaces will have higher flood insurance premiums than buildings that have the preferred crawlspace construction, with the interior elevation at or above the lowest adjacent exterior grade (LAG).

Best Practices for Crawlspace Foundations in SFHA

The NFIP preferred construction practice for excavated crawlspace construction is to backfill the interior area so that it is level with or higher than the LAG. If trench construction is used to place footings, the trenches should be backfilled to the level of the adjacent exterior grade, to avoid ponding of water. A reinforced masonry or concrete foundation wall that is anchored to the footing and lowest floor with connectors will provide the best performance in flood events. This type of construction will better resist hydrostatic pressures against the foundation and limit the amount of water that will pond under the building after a flood.

The 2000 *International Residential Code* (IRC 2000), Section 327, addresses flood-resistant design and construction of foundation walls in flood hazard areas and is consistent with NFIP requirements. The IRC requires that all structural systems in floodplains be designed, connected, and anchored to resist flotation, collapse, or permanent lateral movement due to structural loads from flooding equal to the design flood elevation. The IRC limits the unsupported height of plain (unreinforced) 8-inch hollow masonry walls to 4 feet for flood-resistant construction, where the unsupported height is the distance from the finished grade of the enclosed crawlspace area to the top of the foundation wall.

A community that chooses to allow the construction of below-grade crawlspaces should develop a multi-hazard approach that also resists other loads from hazards such as wind and earthquake. Crawlspace foundation walls must bear or resist all loads that may be experienced during their useful service life.

Guidance for Pre-Engineered Below-Grade Crawlspace Foundations

FEMA performed an engineering analysis to determine the effect of flood-related forces on crawlspace foundation walls (see Figure 4), particularly for unreinforced concrete and concrete masonry construction. The analysis followed design criteria prescribed in the American Concrete Institute (ACI) *Building Code Requirements and Commentary for Reinforced Concrete* (ACI 318-92) and the 1999 Masonry Standards Joint Committee (MSJC) *Building Code Requirements and Specifications*. Flood analysis procedures from FEMA 259, *Engineering Principles and Practices of Retrofitting Flood-Prone Residential Structures,* were used for calculating hydrostatic and hydrodynamic forces. A comprehensive analysis of two flood scenarios was conducted:

- Fully saturated soil and 1-foot-deep floodwaters, that just reach the bottom of the flood opening, but have not flooded the enclosed crawlspace area.
- A fully flooded crawlspace area with velocity floodwaters acting on the above-grade portion of the crawlspace walls.

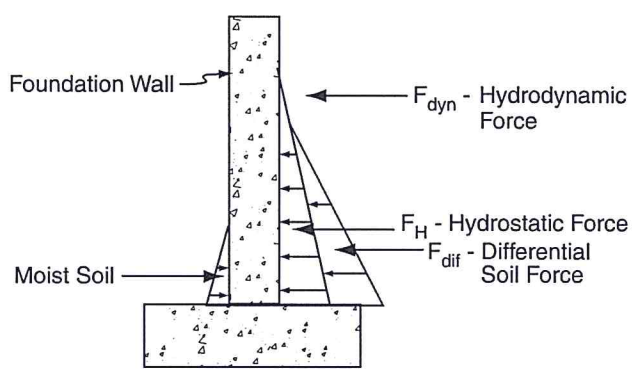

Figure 4 Flood-related forces on a crawlspace wall.

The first analysis evaluated four parameters: (1) wall construction of unreinforced 8-inch and 12-inch masonry block with standard M or S mortar type and 6-inch plain concrete foundation walls, (2) depth of interior crawlspace grade relative to the LAG, (3) flood velocity, and (4) soil types suitable for construction. The hydrostatic pressures from the saturated soil and 1-foot-deep floodwaters cause the maximum loads to occur in the lower section of the wall below the exterior grade. This analysis assumed that the 1-foot-deep floodwaters have a low velocity and are unlikely to cause significant hydrodynamic or impact loads on the foundation wall.

The second analysis evaluated hydrodynamic forces for varied flood depths and flood velocities on a foundation wall. The analysis assumed that the crawlspace was provided with proper openings to equalize hydrostatic pressure. Impact forces were not included in the analysis, as the shallow flood depths and low-velocity flows are not expected to produce significant debris impact damage. This decision was further supported by the lack of field evidence concerning wall failures from impact by debris. However, debris impact should be considered as part of the foundation wall design and analysis for riverine or other locations with high-velocity flows.

These analyses found that a crawlspace can resist flood-related forces for flood velocities up to 5 feet per second, if the wall height is limited to 4 feet and the top of the footing is no more than 2 feet below-grade.

As a result of these analyses, FEMA has determined that communities may allow below-grade residential crawlspace construction provided that the interior grade of the crawlspace does not exceed 2 feet below the LAG, and the height of the crawlspace measured from the interior grade of the crawlspace at any point to the bottom of the lowest horizontal structural member of the lowest floor does not exceed 4 feet for the specified wall construction.

Flood-Resistant Materials

All structural and non-structural building materials at or below the BFE must be flood resistant. A flood-resistant material is defined as any building material capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Flood-resistant materials must be used for all building elements subject to exposure to floodwaters, including floor joists, insulation, and ductwork. If flood-resistant materials are not used for building elements, those elements must be elevated above the BFE. The term "prolonged contact" means at least 72 hours, and the term "significant damage" means any damage requiring more than low-cost cosmetic repair (such as painting). This requirement applies regardless of the expected or historical flood duration. Technical Bulletin 2-93, *Flood Resistant Materials Requirements*, further defines NFIP criteria for flood-resistant materials and material categories.

Drainage Considerations

A significant issue associated with below-grade crawlspaces is drainage of the interior crawlspace area after normal precipitation and flood events. Moisture damage to a building can be severe when water remains standing in the crawlspace area after precipitation or a flood event. Standing water also creates significant health hazards, such as mosquito breeding grounds and growth of bacteria, mold, and fungus. If crawlspace access doors do not remain secured, standing water also presents a drowning hazard.

The interim guidance for below-grade crawlspace construction requires an adequate drainage system that allows floodwaters to drain from the interior area of the crawlspace within a reasonable time. A maximum time of 72 hours is recommended to minimize floodwater contact with crawlspace materials and related moisture damage. The interim guidance is not prescriptive as to a type of drainage system; however, it is the community's responsibility to ensure that all buildings with below-grade crawlspaces have adequate drainage systems to ensure that accumulated waters drain from the crawlspace area. Communities must include in their ordinances a provision that addresses drainage requirements.

Drainage systems for below-grade crawlspace areas will vary because of site characteristics and soil types. Possible drainage system options include perforated pipes, drainage tiles, or gravel or crushed stone drainage by gravity or mechanical means. Fill dirt placed around the outside of the foundation wall should be adequately graded to slope away from the foundation and aid natural site drainage. If lots are too small to provide adequate site drainage through grading, other methods, such as swales, may be used to provide drainage away from the structure. Foundation drainage practices required by local codes must be met in addition to drainage of the enclosed below-grade crawlspace area.

Any enclosed area below the BFE is subject to flood forces and must have exterior wall openings whose bottom edges are no more than 1-foot above the LAG, in accordance with NFIP regulations. The wall openings allow the automatic entry and exit of floodwaters and for the floodwaters to reach equal levels on both sides of the foundation wall. The only exception to this requirement is dry floodproofed non-residential buildings. Further information on NFIP requirements for flood openings in foundation walls is found in Technical Bulletin 1-93, *Openings in Foundation Walls*.

Utilities, Access, and Ventilation Openings

NFIP regulations at 44 CFR, Section 60.3(a)(3)(iv) require that "utility systems shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located to prevent water from entering or accumulating within the components during conditions of flooding." The utility systems can be either elevated above the BFE or floodproofed in a manner that prevents floodwaters from infiltrating or accumulating within any component of the system. Elevation is the recommended method of mitigation for utility systems in A Zones. FEMA 348, *Protecting Building Utilities from Flood Damage*, provides detailed guidance on designing and constructing flood-resistant utility systems.

Access and ventilation openings shall be provided to the crawlspace area according to the local building codes and regulations. Access and ventilation requirements under the IRC 2000 include the following:

- An access opening 18 inches by 24 inches shall be provided to the enclosed crawlspace area to allow access to mechanical equipment or building utilities located in this space.
- The minimum net area of required ventilation openings shall not be less than 1 square foot for each 150 square feet of enclosed crawlspace area. One such ventilation opening shall be within 3 feet of each corner of the building. Ventilation openings shall be covered with an appropriate material.

The NFIP

The NFIP was created by Congress in 1968 to provide federally backed flood insurance coverage, because flood coverage was generally unavailable from private insurance companies. The NFIP is also intended to reduce future flood losses by identifying floodprone areas and ensuring that new development in these areas is adequately protected from flood damage. The NFIP is based on an agreement between the Federal government and participating communities that have been identified as floodprone. FEMA, through the Federal Insurance and Mitigation Administration, makes flood insurance available to the residents of a participating community, provided the community adopts and enforces adequate floodplain management regulations that meet the minimum NFIP requirements. The NFIP encourages communities to adopt floodplain management ordinances that exceed the minimum NFIP criteria set forth in Part 60 of the NFIP Floodplain Management Regulations (44 CFR 60). Included in the NFIP requirements, found under Title 44 of the U.S. Code of Federal Regulations, are minimum building design and construction standards for buildings located in SFHAs. Through their floodplain management ordinances or laws, communities adopt the NFIP performance standards for new, substantially improved, and substantially damaged buildings in floodprone areas identified on FEMA's Flood Insurance Rate Maps (FIRMs).

Technical Bulletins

This publication is one of a series of Technical Bulletins that FEMA has produced to provide guidance concerning the building performance standards of the NFIP. These standards are contained in 44 CFR 60.3. The bulletins are intended for use primarily by state and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically, as necessary. The bulletins do not create regulations; rather they provide specific guidance for conforming with the minimum requirements of existing NFIP regulations. Users of the Technical Bulletins who need additional guidance concerning NFIP regulatory requirements should contact the Mitigation Division of the appropriate FEMA Regional Office or the local floodplain administrator. NFIP Technical Bulletin 0, *User's Guide to Technical Bulletins,* lists the bulletins issued to date, provides a key word/subject index for the entire series, and lists addresses and telephone numbers for FEMA's 10 Regional Offices.

Ordering Information

Copies of FEMA Technical Bulletins can be obtained from the FEMA Regional Office that serves your area. In addition, Technical Bulletins and other FEMA publications can be ordered from the FEMA Publications Distribution Facility at 1-800-480-2520. The Technical Bulletins are also available at the FEMA web site at www.fema.gov.

Further Information

The following publications contain information related to the guidance presented in this bulletin:

American Concrete Institute. 1992. ACI318-92. *Building Code Requirements and Commentary for Reinforced Concrete*. Detroit, MI.

American Society of Civil Engineers. 1998. SEI/ASCE 7-98. *Minimum Design Loads for Buildings and Other Structures*. Reston, VA.

American Society of Civil Engineers. 1998. SEI/ASCE 24-98. *Flood Resistant Design and Construction*. Reston, VA.

Federal Emergency Management Agency. 1986. *Floodproofing Non-Residential Structures*. FEMA 102. Washington, DC.

Federal Emergency Management Agency. 1999. *Protecting Building Utility Systems From Flood Damage*. FEMA 348. Washington, DC.

Federal Emergency Management Agency. 2001. *Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures*. FEMA 259. Washington, DC.

International Code Council. 2000. *International Building Code*. Birmingham, AL.

International Code Council. 2000. *International Residential Code*. Birmingham, AL.

Masonry Standards Joint Committee. 1999. ACI 530-99/ASCE 5-99/TMS 402-99. *Building Code Requirements for Masonry Structures*.

National Association of Home Builders Research Foundation, Inc. 1977. *Manual for the Construction of Residential Basements in Non-Coastal Flood Environs*. Upper Marlboro, MD. March.

National Association of Home Builders Research Center, Inc. 2000. *Residential Structural Design Guide: 2000 Edition*. Upper Marlboro, MD.

National Concrete Masonry Association. 2000. TR121. *Concrete Masonry Design Tables*. Herndon, VA.

Glossary

Base Flood – The flood that has a 1-percent probability of being equaled or exceeded in any given year (also referred to as the 100-year flood).

Basement – Any area of a building having its floor subgrade (below ground level) on all sides.

Community – Any state or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or Alaska Native village or authorized native organization, which has the authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

Federal Emergency Management Agency (FEMA) – The independent Federal agency that, in addition to carrying out other activities, administers the NFIP.

Federal Insurance and Mitigation Administration (FIMA) – The component of FEMA directly responsible for administering the flood hazard identification, floodplain management, and flood insurance activities of the NFIP.

Flood Insurance Rate Map (FIRM) – The insurance and floodplain management map issued by FEMA that identifies, on the basis of detailed or approximate analysis, areas of 100-year flood hazard in a community.

Floodprone area – Any land area susceptible to being inundated by flood water from any source.

New construction/structure – For floodplain management purposes, new construction means structures for which the start of construction commences on or after the effective date of a floodplain management regulation adopted by a community and includes subsequent improvements to the structure. For flood insurance purposes, these structures are often referred to as "post-FIRM" structures.

Special Flood Hazard Area (SFHA) – Area subject to inundation by the base flood, designated Zone A, A1-30, AE, AH, AO, V, V1-V30, or VE.

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 5/26/15 Council Business Item:

B. Issue/Topic: **2015 First Budget Amendment**

C. Sponsor(s):
1. Mike Cassinelli 2.

D. Background (overview of why issue is before council):
1. The City attempts to adjust the budget throughout the year as known changes are identified and approved. The amount of the appropriation is a representation of current or expected expenditures. If the amount of appropriations is exceeded, the city could be issued a finding by the state auditor's office.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details)
1. A budget amendment has been created to illustrate the necessary changes to the budget for unforeseen revenues and expenditures that have been incurred or projected since the original budget for 2015 was passed.
2. Since the council last reviewed the budget, the city has been advised of an additional $66,000 of revenues from the Department of Health that will help fund the remainder of the Water Plant Improvements Project. Some of the other adjustments are due to staffing changes, the city fireworks fund and other various small revisions.

F. Impacts:
1. Fiscal: The City continues to build reserves. Revenues and expenditures for the first four months of the year are not significantly different than anticipated.
2. Legal:
3. Personnel:
4. Service/Delivery:

G. Time Constraints/Due Dates: Must be in place before year end

H. Proposed Motion: **I move that the council adopt the 2015 first budget amendment ordinance as presented.**

CITY OF ILWACO
ORDINANCE NO. XXX

AN ORDINANCE AMENDING THE 2015 BUDGET OF THE CITY OF ILWACO, WASHINGTON AS ADOPTED BY ORDINANCE #836

WHEREAS, the City of Ilwaco adopted the 2015 budget in final form by Ordinance #836 on November 24, 2014; and

WHEREAS, subsequent thereto it has become necessary for the city to amend said ordinance because of revenues and council approved unbudgeted expenditures of same; and

WHEREAS, the city is desirous of amending its budget pursuant to RCW 35A.33.090.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ILWACO, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. The following funds contained in the 2015 Budget are hereby amended as follows:

City of Ilwaco Funds	Original Appropriation	Amendment #1 Appropriation	Change
General Fund	936,372	962,846	(26,474)
Street Fund	89,405	89,227	178
Tourism Fund	69,164	69,164	-
Excise Reserve Fund	20,000	20,000	-
Water Fund	1,697,162	1,766,024	(68,862)
Water/Sewer Bond Redemption Fund	478,949	478,949	-
Water/Sewer Bond Reserve			-
Stormwater Fund	119,815	119,116	699
Sewer Fund	1,547,377	1,544,923	2,454
Total Appropriations	4,958,243	5,050,248	(92,005)

Section 2. The budget for the year 2015 is amended to provide redistribution of salaries and benefits that were not known at the time of developing the original budget for the city. As well as unexpected grant funds that were distributed in the first quarter of 2015 and event donations.

Section 3. The city clerk is hereby directed to transmit this supplemental budget to the State Auditor's Office and to the Association of Washington Cities.

Section 4. Effective Date. This Ordinance takes effect and is in full force five (5) days after its passage, approval and publication of an approved summary of the title as provided by law.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTIFICATION OF ITS PASSAGE THIS XX DAY OF _____, 2015.

_____
Mike Cassinelli, Mayor

ATTEST:

_____
Ariel Smith, Treasurer

VOTE	Jensen	Karnofski	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

PUBLISHED:

EFFECTIVE:

City of Ilwaco Budget - 2015										
	1/1/2015						12/31/2015			
Fund	***Beginning Balance***	*Revenues*	*Operations*	*Capital*	*Debt Svcs*	*Margin*	***Ending Balance***		*Desired Reserve*	*Surplus (shortfall)*
001 General	**179,179**	924,687	(764,159)	(53,200)	(145,486)	(38,159)	**141,020**		204,689	(63,669)
101 Streets	**88,744**	81,773	(69,727)	(19,500)	-	(7,455)	**81,289**		15,000	66,289
104 Tourism	**59,160**	30,130	(69,164)	-	-	(39,034)	**20,126**		10,000	10,126
301 Excise Reserve	**11,730**	9,000	(20,000)	-	-	(11,000)	**730**		1,296	(566)
401 Water	**332,491**	1,569,590	(553,198)	(1,111,000)	(101,826)	(196,434)	**136,057**		163,300	(27,243)
403 Bond Redemption	-	478,948	(478,949)	-	-	(0)	**(0)**		-	(0)
404 Bond Reserve	**347,731**	20,553	-	-	-	20,553	**368,284**		418,725	(50,441)
408 Stormwater	**18,556**	114,538	(82,533)		(36,583)	(4,578)	**13,978**		10,000	3,978
409 Sewer	**317,949**	1,451,996	(497,875)	(531,625)	(515,422)	(92,927)	**225,022**		418,334	(193,312)
										-
Total Fund Balance	**1,355,540**						**986,507**		1,241,345	(254,838)
Capital projects for 2015:	General/Streets Funds		Water Fund		Wastewater Fund					
	Jetter Truck		Paint Steel Reservoir		Sahalee					
			Misc Short Lived Assets		Misc Short Lived Assets					

2015 Budget - City of Ilwaco

5/14/2015

001 General Fund GENERAL FUND

ESTIMATED REVENUES -

		2014 Actual	2015 Orginal	2015 Amended	
001-000-000-311-10-00-00	General Property Taxes	142,542	146,300	146,300	(0)
001-000-000-313-11-00-00	Local Sales & Use Taxes	168,608	135,000	135,000	-
001-000-000-316-10-00-00	Business & Occupation Tax	69,124	60,000	60,000	-
001-000-000-316-40-01-00	Garbage 6% Utility Tax	15,629	15,000	15,000	-
001-000-000-316-40-02-00	Cable 6% Utility Tax	9,694	12,000	12,000	-
001-000-000-316-40-03-00	Telephone 6% Utility Tax	29,004	35,000	35,000	-
001-000-000-316-40-04-00	Electric 6% Utility Tax	70,098	75,000	75,000	-
001-000-000-316-40-05-00	Water Utility Tax	61,263	56,871	56,871	0
001-000-000-316-40-06-00	Sewer Utility Tax	45,488	46,591	46,591	0
001-000-000-316-40-07-00	Storm Drainage Utility Tax	4,557	5,192	5,192	0
001-000-000-316-40-08-00	Fire Hydrant Fee	99	-		-
001-000-000-316-81-00-00	Gambling Tax	661	-		-
001-000-000-317-20-00-00	Local Leasehold Excise Tax	30,335	30,000	30,000	-
001-000-000-317-40-00-00	Timber Harvest Excise Tax	122	-		-
001-000-000-321-99-00-00	Other Business Licenses and Permits	40,993	40,000	40,000	-
001-000-000-322-10-00-01	Building Permit Fees	6,153	7,500	7,500	-
001-000-000-322-90-00-00	Land Use Permit Fees	-	-		-
001-000-000-322-90-00-01	Zoning Fees	6,441	5,000	5,000	-
001-000-000-334-03-12-00	DOE Aquatic Weed Grant	1,514	19,519	19,519	-
001-000-000-334-03-13-00	DOE Shoreline Master Program	23,032	50,000	50,000	-
001-000-000-335-00-91-00	PUD Privilege Tax	8,626	9,000	9,000	-
001-000-000-336-06-21-00	Criminal Justice - Violent Crimes/Population	1,028	500	500	-
001-000-000-336-06-25-00	Criminal Justice - Contracted Services	1,543	1,500	1,500	-
001-000-000-336-06-26-00	Criminal Justice - Special Programs	895	795	795	-
001-000-000-336-06-51-00	DUI & Other Criminal Justice Assistance	169	300	300	-
001-000-000-336-06-94-00	Liquor Excise Tax	1,143	4,176	4,176	0
001-000-000-336-06-95-00	Liquor Board Profits	8,975	8,244	8,244	(0)
001-000-000-337-00-01-00	PCOG For Fire Station	25,000	25,000	25,000	-
001-000-000-337-00-02-00	PCOG For Community Building	18,979	18,979	18,979	-
001-000-000-341-81-00-00	Photocopying	20	100	100	-
001-000-000-341-96-00-00	Other General Government Services	275			-
001-000-000-342-20-00-00	Fire Protection Services	4,978	8,000	8,000	-
001-000-000-353-10-03-01	Municipal Court Fines	7,588	5,000	5,000	-
001-000-000-353-70-00-00	Non-Traffic Infraction Penalties	49	25	25	-
					-
001-000-000-361-11-00-00	Investment Interest	157	500	500	-
001-000-000-361-40-00-00	Other Interest	158	40	40	-
001-000-000-362-40-00-00	Space & Facility Rental	391			-
001-000-000-362-50-00-04	Community Building - Rent	4,272	3,250	3,250	-
001-000-000-362-50-01-00	Community Building - Electricity	12,706	11,500	11,500	-
001-000-000-362-90-00-00	Community Building - Other	23			-
					-
001-000-000-367-00-00-00	Templin Foundation Grant			14,000	(14,000)
001-000-000-367-19-00-00	Black Lake Fish Derby Donations	4,997	5,000	5,000	-
001-000-000-367-19-00-01	Ilwaco Park Fund Donations	2,500	-		
001-000-000-367-19-00-03	Fireworks Donation			15,000	(15,000)
001-000-000-369-10-00-00	Sale of Scrap And Junk	5,383	-		-

ESTIMATED EXPENDITURES -

		2014 Actual	2015 Orginal	2015 Amendment		
					-	
001-000-000-511-30-44-00	Official Publications	5,521	2,000	2,000	-	
001-000-000-511-60-10-00	Salaries & Wages	18,000	18,000	18,000	-	
001-000-000-511-60-20-00	Personnel Benefits	2,026	1,537	1,537	-	
001-000-000-511-60-41-01	IT/Software Services	5,153	3,833	3,833	-	- vision 2016 remains
001-000-000-511-60-43-00	Travel/Meals/Lodging	130	500	500	-	
001-000-000-511-60-46-00	Insurances	7,344	7,362	7,362	-	
001-000-000-511-60-47-00	Electricity	1,435	-	-	-	
001-000-000-511-60-47-02	City Sewer - Museum	477	1,890	1,890	-	
001-000-000-511-60-48-00	Repair & Maintenance	167	200	200	-	
001-000-000-511-60-49-00	Miscellaneous	-			-	
001-000-000-511-60-49-01	Miscellaneous	100	100	100	-	
001-000-000-511-60-51-00	Election Costs	7,494	6,000	7,000	(1,000)	
001-000-000-512-50-40-02	Municipal Court Services	-	-	-	-	*
001-000-000-512-50-40-03	Municipal Court Services	17,250	17,250	17,250	-	
001-000-000-512-50-40-04	Court Remit TO State	2,952	3,500	3,500	-	*
001-000-000-514-20-10-00	Salaries & Wages	37,253	42,373	37,102	5,271	
001-000-000-514-20-20-00	Personnel Benefits	11,755	12,935	12,036	899	
001-000-000-514-20-31-00	Office & Operating Supplies	7,452	6,020	6,020	-	
001-000-000-514-20-35-00	Small Tools & Equipment	-	2,000	2,000	-	
001-000-000-514-20-41-00	Professional Services	3,593	2,000	7,000	(5,000)	Annual Report
001-000-000-514-20-42-00	Communication	4,024	4,080	4,080	-	
001-000-000-514-20-43-00	Travel/Meals/Lodging	707	1,000	1,000	-	
001-000-000-514-20-43-01	Training	615	1,500	1,500	-	
001-000-000-514-20-45-00	Postage Meter Rental	1,449	1,452	1,452	-	
001-000-000-514-20-46-00	Insurance	193			-	
001-000-000-514-20-47-00	Electricity	318			-	
001-000-000-514-20-47-01	Garbage Bills	3,474	3,049	3,049	-	includes city recycling c
001-000-000-514-20-47-02	Water - City Hall	616	432	432	-	
001-000-000-514-20-47-03	Sewer - City Hall	920	1,440	1,440	-	
001-000-000-514-20-47-04	Storm Drainage	301	300	300	-	
001-000-000-514-20-48-00	Repairs & Maintenance	481	500	500	-	
001-000-000-514-20-49-00	Miscellaneous	-	4,000	4,000	-	
001-000-000-514-23-41-00	Audit Costs	6,767	20,400	20,400	-	
001-000-000-514-30-00-00	Records Services	-			-	
	General Government	**147,967**	**165,653**	**165,483**	170	
001-000-000-515-30-41-00	Legal Services	23,118	20,000	20,000	-	
001-000-000-519-70-49-00	Assoc of WA Cities (dues)	465	720	720	-	
001-000-000-519-70-49-01	Pacfic Council of Governments	1,500	1,500	1,500	-	
001-000-000-519-70-49-03	Pacific County EDC	500	500	500	-	
001-000-000-521-10-50-00	Law Enforcement Contract	183,139	214,250	214,250	-	
001-000-000-521-30-40-00	Drug Task Force	-			-	
	Legal & Law Enforcement	**208,722**	**236,970**	**236,970**	-	
001-000-000-522-10-10-00	Salaries & Wages	15,399	15,952	17,298	(1,346)	
001-000-000-522-10-20-00	Personnel Benefits	9,228	10,196	10,426	(230)	
001-000-000-522-10-20-01	Board of Volunteer Firemen	120	2,100	2,100	-	
001-000-000-522-10-20-02	Life & Disability Insurance	4,318	3,600	3,600	-	

001 General Fund GENERAL FUND

ESTIMATED REVENUES -

		2014 Actual	2015 Orginal	2015 Amended	
001-000-000-386-83-08-00	Trauma Care	146	170	170	-
001-000-000-386-83-31-00	Auto Theft	280	220	220	-
001-000-000-386-83-32-00	Brain Trauma	52	40	40	-
001-000-000-386-91-00-00	ST Gen Fund 40	1,216	1,300	1,300	-
001-000-000-386-92-00-00	ST Gen Fund 50	667	700	700	-
001-000-000-386-97-00-00	JIS Account	541	225	225	-
001-000-000-397-00-00-01	Transfer From 101-Bldg. Rental	11,500	11,500	11,500	-
001-000-000-397-00-00-02	Transfer From 401-Bldg. Rental	12,375	12,375	12,375	-
001-000-000-397-00-00-03	Transfer From 409-Bldg. Rental	20,275	20,275	20,275	-
001-000-000-397-00-00-06	Transfer From 104		2,500	2,500	-
001-000-000-397-00-00-07	Transfer from 408	5,500	5,500	5,500	-
001-000-000-397-00-00-08	Transfer from 301	2,500	-		-
001-000-000-398-00-00-00	Insurance Recoveries	2,719	-		

ESTIMATED EXPENDITURES -

		2014 Actual	2015 Orginal	2015 Amendment		
001-000-000-522-10-31-00	Office & Operating Supplies	9,398	10,730	10,730	-	
001-000-000-522-10-31-01	Training/Attendance	7,746	10,650	9,150	1,500	To compensate for the s
001-000-000-522-10-32-00	Gasoline	708	1,600	1,600	-	
001-000-000-522-10-35-00	Small Tools & Equipment	-	7,700	7,700	-	
001-000-000-522-10-42-00	Communication	5,608	4,440	4,440	-	
001-000-000-522-50-46-00	Insurance	12,013	9,540	9,540	-	
001-000-000-522-50-47-00	Electricity	6,857	7,000	7,000	-	
001-000-000-522-50-47-01	Water	2,260	1,500	1,500	-	
001-000-000-522-50-47-02	Sewer	3,582	2,940	2,940	-	
001-000-000-522-50-47-03	Storm Drainage	733	500	500	-	
001-000-000-522-50-48-00	Repair & Maintenance	4,171	2,800	2,800	-	
001-000-000-522-60-00-00	Vehicle & Equipment Maintenance	10	800	800	-	
Fire Department		**82,151**	**92,048**	**92,124**	(76)	
001-000-000-523-20-40-00	Correctional Institutions	3,387	3,500	3,500	-	
001-000-000-523-21-00-01	Juvenile Facility	-	50	50	-	
001-000-000-525-60-51-00	Disaster Preparedness	5,298	5,753	5,753	-	
001-000-000-528-60-51-00	Dispatch Services	22,434	28,729	28,729	-	
Other Emergency Service		**31,119**	**38,032**	**38,032**	-	
001-000-000-553-70-51-00	Air Pollution Control	423	423	423	-	
001-000-000-557-20-41-00	Ilwaco Web Page	4,062	1,500	1,500	-	
001-000-000-558-60-41-00	Planner Services	84,799	70,000	70,000	-	
001-000-000-566-00-51-00	Alcohol Program 2%	144	250	250	-	
Other General Government		**89,428**	**72,173**	**72,173**	-	
001-000-000-572-50-41-00	Custodian Library	4,079	4,140	4,140	-	
001-000-000-572-50-46-00	Insurance	10,869	1,781	1,781	-	
001-000-000-572-50-47-00	Electricity	7,527	6,500	6,500	-	
001-000-000-572-50-47-01	City Water	1,869	1,200	1,200	-	
001-000-000-572-50-47-02	City Sewer	2,800	2,200	2,200	-	
001-000-000-572-50-47-03	Storm Drainage	120	100	100	-	
001-000-000-572-50-48-00	Repairs & Maintenance	2,914	900	900	-	
001-000-000-572-50-49-00	Miscellaneous	70	100	100	-	
Library		**30,248**	**16,921**	**16,921**	-	
001-000-000-573-90-30-00	Street Banners	-			-	
001-000-000-573-90-49-00	Black Lake Fishing Derby	4,200	5,000	5,000	-	
001-000-000-573-90-49-01	Port of Ilwaco Fireworks			15,000	(15,000)	
001-000-000-575-50-40-00	Community Bldg Other - Electri	4,700	6,220	6,220	-	
001-000-000-575-50-40-01	Community Bldg Other-Mntc	13	2,000	2,000	-	
001-000-000-575-50-40-04	Community Building Insurance	-	9,120	9,120	-	
Other Community Bldg &		**8,913**	**22,340**	**37,340**	(15,000)	
001-000-000-576-80-10-00	Parks Salaries and Wages	26,430	35,744	35,334	70	
001-000-000-576-80-20-00	Parks Benefits	9,470	15,039	14,969	-	
001-000-000-576-80-31-00	Office & Operating Supplies	7,295	4,500	4,500	-	
001-000-000-576-80-34-00	Aquatic Weed Treatment	1,395	19,519	19,519	-	
001-000-000-576-80-35-00	Small Tools & Equipment	12,774	8,000	7,000	1,000	
001-000-000-576-80-46-00	Insurance	2,288	2,294	2,294	-	
001-000-000-576-80-47-00	Electricity	1,123	1,000	1,000	-	
001-000-000-576-80-47-01	Water-Parks, Sprinklers,Blk Lake	2,830	2,600	2,600	-	
001-000-000-576-80-47-02	Sewer-Parks, Black Lake	2,362	2,400	2,400	-	

001 General Fund GENERAL FUND

ESTIMATED REVENUES -

	2014 Actual	2015 Orginal	2015 Amended
GRAND TOTAL ALL REVENUES	892,980	895,688	924,687

ESTIMATED EXPENDITURES -

		2014 Actual	2015 Orginal	2015 Amendment		
001-000-000-576-80-47-03	Storm Drainage	1,542	1,500	2,000	(500)	
001-000-000-576-80-48-00	Repairs & Maintenance	6,084	9,954	8,500		??
001-000-000-576-80-49-00	Miscellaneous	2,616			-	playground timbers
001-000-000-576-80-49-01	Other	-	5,000	5,000	-	Misc including planters
Parks		**76,209**	**107,550**	**105,117**	2,433	
001-000-000-591-13-71-00	Usda RD #97-09 Bond - Prin	18,446	19,332	19,332	-	2021, 4.75%
001-000-000-591-22-71-00	BOP Fire Station - Prin	40,175	37,282	37,282	-	2024, 4.95%
001-000-000-591-48-71-01	John Deer Mower 8157-96 - Prin	11,115	12,000	12,000	-	2014 thru 2018, 3.5%
001-000-000-591-73-71-00	BOP Community Bldg - Prin	17,501	15,947	15,947	-	2024, 4.7%
001-000-000-592-13-83-00	Usda RD #97-09 Bond - Interest	8,082	7,195	7,195	-	2021, 4.75%
001-000-000-592-22-83-00	BOP Fire Station - Interest	37,257	40,150	40,150	-	2024, 4.95%
001-000-000-592-48-83-00	John Deer Mower 8157-96 - Interest	2,136	500	500	-	2014 thru 2018, 3.5%
001-000-000-592-73-83-00	BOP Community Bldg - Interest	11,525	13,080	13,080	-	2024, 4.7%
Debt Payments		**146,237**	**145,486**	**145,486**	-	
001-000-000-594-42-64-00	Templin Foundation			14,000	(14,000)	Dump Truck
001-000-000-594-62-14-00	Governmental Facility	23,544	3,000	3,000	-	City Hall ramp
001-000-000-594-64-14-00	Administrative Equipment	1,589			-	hydrant
001-000-000-594-64-22-01	Fire Equipment	-	5,000	5,000	-	
001-000-000-594-64-76-00	Parks Vehicles/ Equipment	39,002	31,200	31,200	-	
Captital Expenditures		**64,135**	**39,200**	**53,200**	(14,000)	
					-	
					-	
GRAND TOTAL		**885,129**	**936,373**	**962,846**	(26,472)	
2015 Reserve Contribution /(Depletion)		**7,852**	**(40,686)**	**(38,159)**		

(28,999)

Reserve Analysis

	original	amended	variance
CARRYOVER FROM PRIOR YEAR	**200,392**	**179,179**	21,213
	-		
2015 Reserve Contribution /(Depletion)	**(40,686)**	**(38,159)**	(2,527)
CARRYOVER TO NEXT YEAR	**159,706**	**141,020**	18,686
Future requirements of reserves:			
Emergency Reserves	50,000	-	
	-		
Fire Hydrant	-		
Parks Projects -donations	2,859		
Operating Reserve @12.5%	86,830		
Equipment Reserve including Fire	65,000		
Desired Reserves	204,689		
Reserve (shortfall)	(44,983)		

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2015 Budget - City of Ilwaco

101 STREET FUND

ESTIMATED REVENUES -

		2014 Acutal	2015 Orginal	2015 Amendment
101-000-000-311-10-00-00	General Property Tax	61,089	62,700	62,700
101-000-000-313-18-62-00	Pcog .09 - (2008)	26,653	-	
101-000-000-334-03-82-00	TIB - School Street	10,148	-	
101-000-000-334-03-83-00	TIB - Brumbach	270	-	
101-000-000-334-03-84-00	TIB - Sidewalks	91,964	-	
101-000-000-334-03-85-00	TIB - Elizabeth	504,592	-	
101-000-000-336-00-87-00	Motor Vehicle Fuel Tax	19,390	19,073	19,073
101-000-000-337-00-00-00	MV Fuel Tax - County distribution	58,529	-	
101-000-000-337-00-00-01	Other local distributions	20,000	-	
101-000-000-339-22-20-00	Arra Grant	107	-	
101-000-000-361-11-00-00	Investment Interest	11	-	
101-000-000-397-00-00-01	Transfer from 301	14,000	-	
101-000-000-397-00-41-00	Transfer IN - Brumbach	16,000	-	
GRAND TOTAL REVENUES		**822,754**	**81,773**	**81,773**

MVFT = 940 pop x 20.40

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amended
101-000-000-542-30-10-00	Salaries & Wages	32,486	31,006	30,601
101-000-000-542-30-20-00	Benefits	11,631	12,917	12,837
101-000-000-542-30-31-00	Roadway Operating	-	2,000	2,000
101-000-000-542-30-35-00	Roadway Equipment	1,508	2,000	2,000
101-000-000-542-40-32-00	Storm Drainage Supplies	-	-	
101-000-000-542-63-47-00	Street Light Operating	7,174	6,005	6,005
101-000-000-542-66-31-00	Ice Control Operating	1,649	400	400
101-000-000-542-67-30-00	Street Cleaning	978	4,000	4,000
101-000-000-542-70-31-00	Roadside Operating	4,020	2,000	2,000
101-000-000-543-30-30-00	Office And Operating	9,003	4,633	5,000
101-000-000-543-30-30-01	Gasoline & Oil Products	2,333	1,500	1,500
101-000-000-543-30-30-02	Small Tools & Equipment	1,755	1,500	1,500
101-000-000-543-30-40-01	Insurance	1,404	1,384	1,384
101-000-000-543-60-40-00	Safety Training	439	500	500
101-000-000-595-10-41-01	Engineering-Brumbach	-	-	
101-000-000-595-10-41-04	Engineering - Elizabeth	63,037	-	
101-000-000-595-30-65-00	Roadway Construction	521,904	-	
101-000-000-595-40-30-00	Storm Drainage Supplies	-	-	
101-000-000-595-61-60-01	Sidewalks	104,485	-	
101-000-000-597-00-00-01	Contingency	-		
101-000-000-597-00-00-03	Transfer TO 001-Bldg. Rental	11,500	11,500	11,500
	Transfer To Stormwater		8,000	8,000
		775,306	89,345	89,227
GRAND TOTAL EXPENDITURES		**775,306**	**89,345**	**89,227**
2015 Reserve Contribution /(Depletion)		47,448	(7,572)	(7,455)

Reserve Analysis

	original	amended
CARRYOVER FROM PRIOR YEAR, (Beginning Balance)	**$ 30,790**	**$ 88,744**
2015 Reserve Contribution /(Depletion)	**$ (7,572)**	**$ (7,455)**
CARRYOVER TO NEXT YEAR	**$ 23,218**	**$ 81,289**

	Rsv Distribtuion
Desired Reserve	
Emergency	
Operating	$ 23,218
Projects	
Equipment	

2015 Budget - City of Ilwaco

5/14/2015

104 TOURISM

ESTIMATED REVENUES

		2014 Actual	2015 Orginal	2015 Amendment
104-000-000-313-31-00-00	Hotel-Motel Tax	30,649	30,000	30,000
104-000-000-361-11-00-00	Investment Interest	39	130	130
GRAND TOTALS ALL REVENUES		**30,688**	**30,130**	30,130

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amendment
104-000-000-557-30-40-01	Fishing Derby	-		
104-000-000-557-30-40-03	Miscellaneous	-		
104-000-000-557-30-41-01	Heritage Museum	5,000	5,000	5,000
104-000-000-557-30-41-02	Visitors Bldg. - City Portion	769	769	769
104-000-000-557-30-41-03	Ilwaco Merchants Association	7,500	3,000	3,000
104-000-000-557-30-41-03	Fireworks		7,500	7,500
104-000-000-557-30-41-04	Peninsula Visitors Bureau	7,500	7,875	7,875
104-000-000-557-30-41-05	Ilwaco Charter Association	1,000	1,000	1,000
104-000-000-557-30-46-00	Heritage Museum - Insurance	5,504	5,520	5,520
104-000-000-597-00-00-00	Contingency	-	36,000	36,000
104-000-000-597-00-00-01	Transfer TO 001	2,500	2,500	2,500
GRAND TOTAL EXPENDITURES		**65,789**	**69,164**	69,164
2015 Reserve Contribution /(Depletion)		**35,101**	**(39,034)**	**(39,034)**

Reserve Analysis

		original	amended	
CARRYOVER FROM PRIOR YEAR (Beginning Balance)		**$58,587**	**$59,160**	includes SP carryover
Revenues	$30,130			
Expenses	(69,164)			
2015 Reserve Contribution /(Depletion)		($39,034)	(39,034)	
CARRYOVER TO NEXT YEAR		**$19,553**	**$20,126**	

Ending Balance is comprised of :

Contingency Reserve

Desired Reserve for cashflow 10,000.00

2015 Budget - City of Ilwaco

301 EXCISE RESERVE FUND

ESTIMATED REVENUES

		2014 Acutal	2015 Orginal	2015 Amendment
301-000-000-318-	Real Estate Excise Tax -	9,421	9,000	9,000
301-000-000-361-	Investment Interest	12		
GRAND TOTAL ALL REVENUES		**9,433**	**$9,000**	9,000

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amendment
301-000-000-597-00-00-01	Transfer TO 001		-	
	Transfer to 101	14,000		
	Transfer to 408		20,000	20,000
GRAND TOTAL EXPENDITURES		**14,000**	**20,000**	20,000
2015 Reserve Contribution /(Depletion)				**($11,000)**

Reserve Analysis

	original	amend
CARRYOVER FROM PRIOR YEAR (Beginning Balance)	**$ 12,296**	**$ 11,730**
2015 Reserve Contribution /(Depletion)	**(11,000)**	**($11,000)**
CARRYOVER TO NEXT YEAR	**1,296**	**730**

2015 Budget - City of Ilwaco

5/14/2015

401 Water Fund

ESTIMATED REVENUES

		2014 Actual	2015 Orginal	2015 Amendment	
401-000-000-334-04-00-01	State Grant - Department of Health	79,765	780,000	846,000	(66,000)
401-000-000-343-40-00-00	Water Sales	764,080	710,890	710,890	-
401-000-000-343-40-00-01	Other Utilities	232			-
401-000-000-343-40-00-02	Other Rev Sources	22,741	5,000	5,000	-
401-000-000-361-11-00-00	Investment Interest	209	200	200	-
401-000-000-379-00-00-00	Water Connections	-			-
401-000-000-379-00-00-01	Water Connections	12,316	7,500	7,500	-
401-000-000-391-80-00-00	Intergovernmental Loan Proceeds	875,493	-		
401-000-000-395-10-00-00	Proceeds From Sales of Capital Assets	3			
TOTAL		**1,754,839**	**1,503,590**	**1,569,590**	
GRAND TOTALS ALL REVENUES		**1,754,839**	**1,503,590**	**1,569,590**	

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amendment	
401-000-000-534-00-10-00	Salaries & Wages	193,009	216,634	220,634	(4,000)
401-000-000-534-00-20-00	Benefits	61,030	74,490	73,651	839
401-000-000-534-00-31-00	Operation & Maintenance	69,489	40,000	40,000	-
401-000-000-534-00-31-01	Chemicals	59,520	40,000	40,000	-
401-000-000-534-00-31-02	Monthly Excise Tax Pay	42,114	35,751	35,751	(0)
401-000-000-534-00-31-03	Annual Meter Calibrations	1,592	2,500	2,500	-
401-000-000-534-00-31-04	Annual Permit Fees	6,244	5,000	5,000	-
401-000-000-534-00-31-06	Office & Customer Service	5,699	6,000	6,000	-
401-000-000-534-00-32-00	Gasoline	7,961	7,500	7,500	-
401-000-000-534-00-35-00	Small Tools & Equipment	2,162	5,000	5,000	-
401-000-000-534-00-35-01	Small Tools & Equipment - Lab	-	5,000	5,000	-
401-000-000-534-00-41-00	Professional Services	17,131	10,000	10,000	-
401-000-000-534-00-41-03	Professional Services - Electrician	13,344	12,000	12,000	-
401-000-000-534-00-41-04	Professional Services - Computer	7,872	9,000	9,000	-
401-000-000-534-00-42-00	Communications	4,701	4,500	4,500	-
401-000-000-534-00-43-00	Travel/Meals/Lodging	1,527	2,000	2,000	-
401-000-000-534-00-46-00	Insurance	18,761	18,802	18,802	-
401-000-000-534-00-47-00	Electricity	30,241	35,000	35,000	-
401-000-000-534-00-47-03	Storm Drainage	556	660	660	-
401-000-000-534-00-48-00	Vehicle Repairs/Maintenance	7,538	5,000	5,000	-
401-000-000-534-00-48-01	Water Line Replacement	3,416	5,000	5,000	-
401-000-000-534-00-49-01	Safety Training	680	500	500	-
401-000-000-534-00-49-02	Software Upgrade	2,133	2,000	2,200	(200)
	Miscellaneous		7,500	7,500	-
	Subtotal O&M	**556,720**	**549,836**	**553,198**	(3,362)
					-
401-000-000-591-34-72-00	Principal Pwtf - 94206	-	-		-
401-000-000-591-34-72-01	Principal Pwtf - 04-65104-013	20,942	16,985	16,985	(0)
401-000-000-592-34-80-00	Interest Pwtf - 94206	-	-		-
401-000-000-592-34-83-01	Interest Pwtf - 04-65104-013	2,133	1,864	1,864	0
401-000-150-591-34-79-03	New DWSRF loans	-	66,248	66,248	-
	Subtotal Debt	**23,075**	**85,097**	**85,097**	0
401-000-000-594-62-34-00	Plant Improvements	1,598	121,000	121,000	-
401-000-000-594-64-34-00	Vehicle Purchase	3,062	-		-
401-000-000-594-64-34-01	Equipment	22,609	44,500	40,500	4,000
401-000-000-594-64-34-02	Contingency(paint reservoir)	4,000	100,000	100,000	-
	Subtotal SLA Expenditures	**31,269**	**265,500**	**261,500**	4,000
401-000-000-594-34-41-01	Engineering - Plant	35,410	-		-
401-000-000-594-34-41-02	Engineering - Distribution	5,957	-		-
401-000-000-594-34-62-00	Construction Project -Resvoir	595,923	-		-
401-000-000-594-34-62-01	Construction - Plant	30,950	780,000	846,000	(66,000)
401-000-000-594-34-62-02	Construction - Distribution	193,525	-	3,500	(3,500)
	Subtotal Project Expdenditures	**861,765**	**780,000**	**849,500**	(69,500)
401-000-000-597-00-00-02	Transfer TO 001	12,375	12,375	12,375	-
401-000-000-597-00-00-03	Transfer TO 403 Usda 91-01	4,354	4,354	4,354	-
401-000-000-597-00-00-04	Transfer To403pwtf04-65104-	-			-
	Subtotal Transfers	**16,729**	**16,729**	**16,729**	-
GRAND TOTAL EXPENDITURES		**1,489,558**	**1,697,162**	**1,766,024**	(68,862)

						2014 Reserve Contribution /(Depletion)			14,032	(127,572)	(196,434)		
Reserve Analysis			Original	Amended									
CARRYOVER FROM PRIOR YEAR (Beginning Balance)**			**$ 377,780**	**$ 332,491**	**to paint reservoir and other projects not completed 2014; also an add'l $60k related to increased water sales**								
Revenues		1,503,590		1,569,590									
Operational Exepnses		(651,662)		(655,024)									
Net Collections (Usage) from Operations Activity			**$ 851,928**	**$ 914,566**									
Reserve Including 2015 Contribution			**$ 1,229,708**	**$ 1,247,057**									
Utilization of Reserve for Capital Items - 2015			**$ (1,045,500)**	**$ (1,111,000)**									
RESERVE FOR FUTURE (Ending Balance)			**$ 184,208**	**$ 136,057**									

2015 Budget - City of Ilwaco

408 STORMWATER FUND

ESTIMATED REVENUES -

		2014 Actual	2015 Orginal	2015 Amendment
408-000-000-343-10-00-00	Storm Drainage	76,249	86,538	86,538
408-000-000-361-11-00-00	Investment Interest	15	-	
	Transfer from Excise Rsv		20,000	20,000
	Transfer from Streets		8,000	8,000
GRAND TOTAL REVENUES		**76,264**	**114,538**	**114,538**

ESTIMATED EXPENDITURES

			2014 Actual	2015 Orginal	2015 Amendment		
408-000-000-531-00-31-03	Storm Drainage Cleaning		-	-			
408-000-000-531-38-10-00	Salaries & Wages		14,603	15,704	15,107	597	
408-000-000-531-38-20-00	Benefits		4,950	5,437	5,335	102	
408-000-000-531-38-31-01	Operations & Maintenance		6,310	8,800	8,800	-	
408-000-000-531-38-31-02	Excise Tax		1,317	1,600	1,600	-	
408-000-000-531-38-32-00	Gas/Oil Products		996	1,000	1,000	-	
408-000-000-531-38-35-00	Small Tools		587	1,500	1,500	-	
408-000-000-531-38-46-00	Insurance		667	692	692	0	
408-000-000-591-38-72-01	Strmwater -Principal #I9900038		3,446	3,588	3,588	0	loan for plan, 2021
408-000-000-591-38-72-02	Pw-04-691 Principal	half	1,496	1,496	1,496	0	loan for lines, 2024
408-000-000-591-38-72-03	Pw-05-691-023 Principal	half	20,260	20,260	20,260	0	loan for lines, 2025
408-000-000-592-31-83-01	Strmwater - Interest #I9900038		1,273	1,131	1,131	(0)	loan for plan, 2021
408-000-000-592-31-83-02	Pw-04-691 Interest	half	165	150	150	(0)	loan for lines, 2024
408-000-000-592-31-83-03	Pw-05-691-023 Interest	half	4,863	4,457	4,457	0	loan for lines, 2025
408-000-000-594-31-64-00	Drainage Construction		227	48,500	48,500	-	ditch rehab (requested 50k)
408-000-000-597-00-00-03	Transfer TO 001-Bldg. Rental		5,500	5,500	5,500	-	
GRAND TOTAL EXPENDITURES			**66,660**	**119,816**	**119,116**		
2015 Reserve Contribution /(Depletion)			**$9,604**	(S43,552)	(S4,578)		

	76,264	76,264	114,538
GRAND TOTAL REVENUES	**76,264**	**76,264**	**114,538**

Reserve Analysis

	Original	Amended
CARRYOVER FROM PRIOR YEAR (Beginning Balance)	**$ 11,120**	**$ 18,556**
2015 Reserve Contribution /(Depletion)	**$ (4,578)**	**$ (4,578)**
CARRYOVER TO NEXT YEAR	**$ 6,542**	**$ 13,978**

Desired Reserve	Rsv Distribtuion
Emergency	$ 6,542
Operating	0
Stormlines	
Equipment	
	$ 6,542

2015 Budget – City of Ilwaco

403 Bond Redemption Fund

ESTIMATED REVENUES

ESTIMATED REVENUES

		2014 Budget	2015 Orginal	2015 Amendment
403-000-000-397-00-00-00	Intertie Loan Usda 91-01	4,354	4,354	4,354
403-000-000-397-00-00-03	Transfer-Sewer Pwtf97-791-007	14,692	14,299	14,299
403-000-000-397-00-00-04	Transfer From Sewer-Pwtf 2003	-		
403-000-000-397-00-00-05	Tranfer-Sewer Pwtf 04-691	1,660	1,646	1,646
403-000-000-397-00-00-06	Transfer-Sewer Pwtf 05-691	25,123	24,718	24,718
403-000-000-397-00-00-07	Transfer-Sewer DOE	248,343	285,424	285,424
403-000-000-397-00-00-08	Transfer from Sewer PC13-961-054 Nesadi	1,220	1,226	1,226
403-000-000-397-00-70-02	Transfer From Sewer Srf 94-08	104,308	104,308	104,308
403-000-000-397-00-70-05	Tran From Wat Pwtf04-65104-013	-	-	-
403-000-000-397-00-72-04	Tran From Sewer Pwtf06-962-017	13,375	13,326	13,326
403-000-000-397-00-72-06	Trans From Sewer-B of P 2008	29,647	29,648	29,648
403-000-000-397-00-72-07	Trans From Sewer PWTF 09-951-050	10,054		
TOTAL		**452,776**	**478,948**	**478,948**

ESTIMATED EXPENDITURES

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amendment
403-000-000-591-34-70-01	Pwtf 97-791-007 Principal	13,118	13,118	13,118
403-000-000-591-34-70-03	Pwtf 04-691 Principal	1,496	1,496	1,496
403-000-000-591-34-70-04	Pwtf 05-691 Principal	20,260	20,260	20,260
403-000-000-591-34-70-05	Pwtf 04-65104-013 Principal	-	-	-
403-000-000-591-34-72-00	Usda 91-01 Principal	2,264	2,378	2,378
403-000-000-591-35-72-01	Srf 94-08 Principal Only	104,308	104,308	104,308
403-000-000-591-35-72-04	Pwtf - 06-962-0017 Principal	12,559	11,898	11,898
403-000-000-591-35-72-06	B of P - 2008 - Principal	15,817	15,275	15,275
403-000-000-591-35-72-07	PWTF PR09-951-050	9,954	-	-
403-000-000-591-35-78-00	DOE SRF L1300001- Principal	130,070	133,626	133,626
403-000-000-591-35-78-01	DOE SRF L1300003 -Principal	5,805	38,964	38,964
403-000-000-591-35-78-02	DOE SRF L1300006 - Principal	2,203	4,892	4,892
403-000-000-592-34-80-00	Usda 91-01 Interest	2,090	1,976	1,976
403-000-000-592-34-80-01	Pwtf 97-791-007 Interest	1,574	1,181	1,181
403-000-000-592-34-80-03	Ptwf 04-691 Interest	164	150	150
403-000-000-592-34-80-04	Pwtf 05-691 Interest	4,862	4,457	4,457
403-000-000-592-34-80-05	Pwtf 04-65104-013 Interest	-	-	-
403-000-000-592-34-80-07	PWTF PR09-951-050	100	-	-
403-000-000-592-35-80-04	Pwtf - 06-962-0017 Interest	816	1,428	1,428
403-000-000-592-35-80-05	PWTF PC13-961-054 Nesadi Interest	1,219	1,226	1,226
403-000-000-592-35-80-06	B of P - 2008 - Interest	13,829	14,372	14,372
403-000-000-592-35-83-00	DOE SRF L1300001- Interest	85,597	82,041	82,041
403-000-000-592-35-83-01	DOE SRF L1300003 - Interest	24,441	25,641	25,641
403-000-000-592-35-83-02	DOE SRF L1300006 - Interest	225	263	263
TOTAL		**452,771**	**478,949**	**478,949**

Reserve Analysis

CARRYOVER FROM PRIOR YEAR

$	478,948
$	(478,949)

2015 Budget - City of Ilwaco

5/14/2015

404 Bond Reserve Fund

ESTIMATED REVENUES

		2014 Actual	2015 Oringal	2015 Amendment	
404-000-000-397-35-70-01	WWTP Bond Reserve- L1300001	4,668	4,668	4,668	+2
404-000-000-397-35-70-02	Wwtp Srf Reserve- First Avenue	12,920	12,920	12,920	+3
404-000-000-397-35-70-03	Wwtp 2004-Usda Reserve	-	-	-	
404-000-000-397-35-72-06	Wwtp 2008 Reserve-B of P	2,965	2,965	2,965	+2
		20,553	**20,553**	**20,553**	

ESTIMATED EXPENDITURES

Reserve	
TOTAL	**$0.00**
2015 Reserve Contribution /(Depletion)	**$20,552.93**

Reserve Analysis

	Original	Amended
CARRYOVER FROM PRIOR YEAR (Beginning Balance)	**$ 347,731.00**	**$ 327,178.00**
2015 Reserve Contribution /(Depletion)	**$ 20,552.93**	**$ 20,552.93**
CARRYOVER TO NEXT YEAR	**$ 368,283.93**	**$ 347,730.93**

							Needed	Thru 2014 Have	Difference
WTP Bond Reserve-1987-#91-01		Water			Ord. 541		$ 4,500.00	$ 4,500.00	$ -
WWTP Bond Reserve First Ave							$ 64,604.00	$ 12,920.00	$ 51,684.00
WWTP Bond Reserve-1999-#92-07 - transfered to L1300001		Sewer Plant			Ord. 615	141,762			$ -
WWTP Bond Reserve-2000-#L9400008	(Seaview 39,537.90)	Sewer Plant	Seaview provides portion of annual pmt				$ 104,307.88	$ 104,307.88	$ -
WWTP Bond Reserve L1300001 (refi of USDA 92-07 & 92-10)	(Seaview 59,371)	Sewer Plant & SBR #3	Seaview provides portion of annual pmt				$ 215,666.70	$ 201,663.00	$ 14,003.70
WWTP Bond Reserve-2004-#92-10 - transferred to L1300001		SBR#3				61,368			$ -
WWTP Bond Reserve-2008-BofP		PumpStations			Ord. 736		$ 29,646.80	$ 24,341.12	$ 5,305.68
							$ 418,725.38	$ 347,732.00	$ 70,993.38
								$ 347,732.00	

SRF/DOE Loan #L1300001 requires 1 annual payment accrued over the first 5 years of loan.
SRF/DOE Loan #L9400008 requires 1 annual payment accrued over the first 5 years of loan.
USDA-RD Loan #92-07 required 1 annual payment in reserve within 10 yeaers.
USDA-RD Bond requires 1 annual payment in reserve within 10 years.

409 - SEWER FUND

ESTIMATED REVENUES

		2014 Actual	2015 Orginal	2015 Amendment	
409-000-000-343-60-00-00	Sewer Service Charges	745,977	776,518	776,518	-
409-000-000-343-61-00-00	Seaview Sewer District Fees	173,548	285,982	285,696	286
409-000-000-343-62-00-00	Seaview - SRF Loan Match	94,282	94,282	94,282	-
409-000-000-361-11-00-00	Investment Income	502	500	500	-
409-000-000-361-40-00-00	Other Revenue Sources	25,672	10,000	10,000	-
409-000-000-372-00-00-00	Insurance Recovery	-	-		-
409-000-000-379-00-00-00	Sewer Connections	12,400	-		-
409-000-000-391-80-00-00	Intergovernmental Loan Proceed	6,123	285,000	285,000	-
409-000-000-391-80-00-01	Loan Proceeds	17,679	-		-
409-000-000-395-10-00-00	Proceeds Surplus Property	-			-
					-
					-
GRAND TOTAL ALL REVENUES		**1,076,183**	**1,452,282**	**1,451,996**	**286**

*Seaview Sewer fees are based on 35% of all expenses other than debt and capital expenditures related to them

*Sewer connections are estimated at 3 for the year

*Other income is typically interest on past due or NSF chgs.

ESTIMATED EXPENDITURES

		2014 Actual	2015 Orginal	2015 Amendment		Notes
409-000-000-535-00-10-00	Salaries And Wages	145,970	149,612	145,423	$ 4,189	
409-000-000-535-00-20-00	Employee Benefits	50,997	54,093	53,378	$ 715	
409-000-000-535-00-31-00	Operation & Maintenance	-	-	-	$ -	
409-000-000-535-00-31-01	Operations And Maintenance	24,517	12,000	12,000	$ -	
409-000-000-535-00-31-02	Chemicals	18,065	16,000	16,000	$ -	
409-000-000-535-00-31-03	Excise Tax	14,058	15,530	15,530	$ -	
409-000-000-535-00-31-04	Annual Meter Calibrations	1,929	3,000	3,000	$ -	
409-000-000-535-00-31-05	Doe Annual Permit	4,432	3,700	12,350	$ (8,650)	
409-000-000-535-00-31-06	Screen Panels And Brushes	6,787	7,200	6,000	$ 1,200	
409-000-000-535-00-31-07	Lab Supplies	65	3,000	4,000	$ (1,000)	
409-000-000-535-00-31-08	Office Supplies & Customer Service	4,435	4,800	4,800	$ -	
409-000-000-535-00-32-00	Gas/oil Products	4,959	4,500	4,500	$ -	
409-000-000-535-00-35-00	Small Tools	587	3,000	3,000	$ -	
409-000-000-535-00-41-00	Attorney Fees	4,708	4,000	4,000	$ -	
409-000-000-535-00-41-01	Professional Services - Electrician	17,844	20,000	20,000	$ -	
409-000-000-535-00-41-02	Professional Services - Computer Systems	10,238	5,000	5,000	$ -	
409-000-000-535-00-41-04	Professional Services - Brush Right of Way	-			$ -	
409-000-000-535-00-42-00	Communications	4,912	5,000	5,000	$ -	
409-000-000-535-00-43-01	Travel/meals & Lodging	2,500	2,500	2,500	$ -	
409-000-000-535-00-43-02	Training	485	3,500	3,500	$ -	
409-000-000-535-00-45-00	Spray Sludge Disposal Site	38,482	45,000	45,000	$ -	* 16,000 is lease pmts and 29,000 mntc including winter app site
409-000-000-535-00-46-00	Insurance	13,860	13,894	$ 24,894.00	$ (11,000)	
409-000-000-535-00-47-01	Electricity	57,424	60,000	60,000	$ -	
409-000-000-535-00-47-02	Water	5,617	5,000	5,000	$ -	
409-000-000-535-00-47-03	Sewer	7,445	7,200	7,200	$ -	
409-000-000-535-00-47-04	Garbage Services	1,465	2,200	2,200	$ -	
409-000-000-535-00-47-05	Storm Drainage	446	600	600	$ -	
409-000-000-535-00-48-01	Repairs And Maintenance	13,670	10,000	10,000	$ -	
409-000-000-535-00-48-02	Annual Pipe Clean/tv Inspect	13,840	10,000	10,000	$ -	
409-000-000-535-00-48-03	Miscellaneous	2,133	3,000	3,000	$ -	
					$ -	
409-000-000-594-63-35-00	Sewer Line Replace/repair	9,604	10,000	10,000	$ -	
	Subtotal O&M	**481,474**	**483,329**	**497,875**	$ (14,546)	
					$ -	
409-000-000-594-63-35-01	First Street Sewer Engineering	-	-	-	$ -	
409-000-000-594-63-35-02	Engineering - Collection System	11,970	285,000	285,000	$ -	
409-000-000-594-63-35-03	First Avenue Sewer Line - Construction	-	-	-	$ -	
409-000-000-594-63-35-04	Treatment Plant Roof	-	49,200	49,200	$ -	
409-000-000-594-64-35-00	Software Upgrade	-	-		$ -	
409-000-000-594-64-35-01	Machinery & Equipment	3,542	202,425	$ 187,425.00	$ 15,000	
409-000-000-594-64-35-03	Pump	120,573			$ -	
409-000-000-594-64-35-04	Add'l Machinery & Equipment	-	12,000	10,000	$ 2,000	
	Subtotal SLA Expenditures	**136,085**	**548,625**	**531,625**	$ 17,000	
409-000-000-597-00-00-02	Transfer TO 001-Bldg. Rental	20,275	20,275	20,275	$ -	
409-000-000-597-00-00-04	Wwtp - TO 403 Srf Redemption	352,651	389,732	389,732	$ -	032/2019/2033/2018

								409-000-000-597-00-00-05	Wwtp - TO 403 Pwtf Redemption	15,912	15,525	15,525	$ -	2017	
								409-000-000-597-00-00-08	TO 404 Wwtp Usda 2004 Bond Res	-	-	-	$ -		
								409-000-000-597-00-00-10	TO 403 Wwtp Pwtf 06-962-017	13,375	13,326	13,326	$ -	2026	
								409-000-000-597-00-00-11	TO 403 Wwtp Pwtf Red05-691-023	25,122	24,718	24,718	$ -	2025	
								409-000-000-597-00-00-12	TO 403 Wwtp Pwtf Red04-691-Pre	1,661	1,646	1,646	$ -	2024	
								409-000-000-597-00-00-13	WWTP to 403 PWTF PR09-951-050	10,054	-	-	$ -	final	
								409-000-000-597-00-00-14	TO 404 Wwtp B of P Reserve	2,965	2,965	2,965	$ -	2017	
								409-000-000-597-00-00-15	TO 403 Wwtp-B of P 2008 Redemp	29,646	29,648	29,648	$ -	2028	
								409-000-000-597-00-00-16	Wwtp - TO 404 Srf Reserve	17,588	17,588	17,588		2018	
									Subtotal Debt Payments	**489,249**	**515,422**	**$ 515,422.15**			
GRAND TOTALS ALL REVENUES			**1,076,183**	**1,452,282**	**1,451,996**			**GRAND TOTAL EXPENDITURES**		**$ 1,106,808**	**$ 1,547,376**	**$ 1,544,923**	$ 2,454		
								2015 Reserve Contribution /(Depletion)		**$ 345,474**	**$ (95,380)**	**$ (92,927)**			
Reserve Analysis				original											
CARRYOVER FROM PRIOR YEAR (Beginning Balance)				**$ 332,225**	**$ 317,949**										
Revenues			1,452,282		1,451,996										
Exepnses			$ (998,751)		$ (1,013,298)										
Net Collections (Usage) from Operations Activity				$ 453,530	$ 438,698.40										
Reserve Including 2014 Contribution				**$ 785,755**	**$ 756,647**										
Utilization of Reserve for Capital Items - 2014				**$ (548,625)**	**$ (531,625)**										
RESERVE FOR FUTURE (Ending Balance)				**$ 237,130**	**$ 225,022**										

Five Year Proforma
GENERAL FUND

	Amendment 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020
Cash Balance Carry Forward from Prior Year	179,179	141,021	121,327	100,722	92,484	79,777
Revenues						
Taxes	616,954	641,504	642,542	658,785	665,239	676,906
License/Permits	52,500	52,500	52,500	52,500	52,500	52,500
Intergovernmental	130,498	60,979	60,979	60,979	60,979	60,979
State Entitlements	15,515	12,000	12,000	12,000	12,000	12,000
Other	54,415	54,415	54,415	54,415	54,415	54,415
Non-Revenue	54,805	54,805	54,805	54,805	54,805	54,805
Sub total Revenue	924,687	876,203	877,241	893,484	899,938	911,605
Expenditures						
City Hall/Council	165,483	168,792	172,168	175,612	179,124	182,706
Courts/Legal	26,270	26,270	26,270	26,270	26,270	26,270
Law Enforcement	214,250	222,820	231,733	241,002	250,642	260,668
Fire Department	92,124	93,967	95,846	97,763	99,718	101,713
Other Emergency Services	34,482	34,482	34,482	34,482	34,482	34,482
Planner/Environment	72,173	23,616	24,089	24,571	25,062	25,563
Library	16,921	17,259	17,604	17,956	18,315	18,682
Other Community Bldg	37,340	38,087	38,848	39,625	40,418	41,226
Park	105,117	85,117	86,819	88,556	90,327	92,133
Debt Svc	145,486	145,486	145,486	145,486	132,986	120,486
Capital Expenditures	53,200	40,000	24,500	10,400	15,300	15,300
Sub total Expenditures	962,846	895,896	897,846	901,723	912,645	919,230
Contribution to Reserves	(38,158)	(19,693)	(20,605)	(8,238)	(12,707)	(7,625)
Operating Reserve : target = $80,000						
Beginning balance	80,000	80,000	80,000	80,000	80,000	80,000
Contribution to Reserve	-	-	-	-	-	-
Ending balance	**80,000**	**80,000**	**80,000**	**80,000**	**80,000**	**80,000**
Emergency Reserve: target = $50,000						
Beginning balance	50,000	50,000	50,000	50,000	50,000	50,000
Contribution to Reserve	-	-	-	-	-	-
Ending balance	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**
Asset Replacement Reserve including Fire						
Beginning balance	46,320	8,162	(11,532)	(32,137)	(40,375)	(53,082)
Contribution to Reserve				(8,238)	(12,707)	(7,625)
Utilization of Reserve	38,158	19,693	20,605			
Ending balance	**8,162**	**(11,532)**	**(32,137)**	**(40,375)**	**(53,082)**	**(60,706)**
Parks Reserve						
Beginning balance	2,859	2,859	2,859	2,859	2,859	2,859
Contribution to Reserve	-	-	-	-	-	-
Ending balance	**2,859**	**2,859**	**2,859**	**2,859**	**2,859**	**2,859**
Cash Balance Carry Forward to Next Year	**141,021**	**121,327**	**100,722**	**92,484**	**79,777**	**72,153**
*includes all reserve funds	-	-	-	-	-	-

Five Year Proforma
WATER FUND

	Amdment 1 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020
Cash Balance Carry Forward from Prior Year	332,491	136,057	146,869	142,454	38,372	1,155
1.03 *						
Revenues						
Sales *	710,890	732,217	754,183	776,809	800,113	824,116
Connections/loans/grants	858,700	78,700	78,700	78,700	78,700	78,700
Sub total Revenue	1,569,590	810,917	832,883	855,509	878,813	902,816
Expenditures						
Salary and Benefits*	294,285	303,114	312,207	321,573	331,221	341,157
O&M*	40,000	41,200	42,436	43,709	45,020	46,371
Chemicals*	40,000	41,200	42,436	43,709	45,020	46,371
Excise*	35,751	36,824	37,928	39,066	40,238	41,445
Insurance *	18,802	19,366	19,947	20,545	21,162	21,796
Electricity*	35,000	36,050	37,132	38,245	39,393	40,575
Other*	938,860	187,026	192,637	198,416	199,368	200,349
Debt Svc	101,826	101,826	101,826	131,826	158,009	158,009
Capital Expenditures	261,500	33,500	50,750	122,500	36,600	40,000
Sub total Expenditures	1,766,024	800,105	837,298	959,590	916,031	936,074
Contribution/Use of Reserves	(196,434)	10,812	(4,415)	(104,081)	(37,218)	(33,257)
Operating Reserve : target = $63,000						
Beginning balance	31,750	63,000	63,000	63,000	63,000	63,000
Contribution to Reserve	31,250				-	-
Ending balance	**63,000**	**63,000**	**63,000**	**63,000**	**63,000**	**63,000**
Emergency Reserve: target = $100,000						
Beginning balance	-	5,000	10,000	10,000	10,000	10,000
Contribution to Reserve	5,000	5,000				
Ending balance	**5,000**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**
Asset Replacement Reserve						
Beginning balance	300,741	68,057	73,869	69,454	(34,628)	(71,845)
Contribution to Reserve		5,812	(4,415)			
Utilization of Reserve	232,684	-		104,081	37,218	33,257
Ending balance	**68,057**	**73,869**	**69,454**	**(34,628)**	**(71,845)**	**(105,103)**
New Construction Reserve						
Beginning balance	-	-	-	-	-	-
Contribution to Reserve	-	-	-	-	-	-
Ending balance	-	-	-	-	-	-
Cash Balance Carry Forward to Next Year	**136,057**	**146,869**	**142,454**	**38,372**	**1,155**	**(32,103)**
						(32,103)

*includes all reserve funds

Five Year Proforma

SEWER FUND	Amendment 1 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020
Cash Balance Carry Forward from Prior Year	317,949	225,022	172,799	168,808	159,953	141,519
1.03 *						
Revenues						
Sales*	776,518	799,814	823,808	848,522	873,978	900,197
Seaview Fees (40%)	285,696	294,265	280,082	280,228	318,686	327,043
Seaview Loan Match	94,282	94,282	94,282	94,282	56,495	56,495
Loan Proceeds & Transfer in	285,000					
Connections	10,500	10,500	10,500	10,500	10,500	10,500
Sub total Revenue	1,451,996	1,198,860	1,208,672	1,233,532	1,259,659	1,294,235
Expenditures						
Salary and Benefits*	198,801	204,765	210,908	217,235	223,752	230,465
O&M*	12,000	12,360	12,731	13,113	13,506	13,911
Chemicals*	16,000	16,480	16,974	17,484	18,008	18,548
Excise*	15,530	15,996	16,476	16,970	17,480	18,004
Sludge Site	45,000	45,000	45,000	45,000	45,000	45,000
Insurance *	24,894	25,641	26,410	27,202	28,018	28,859
Electricity*	60,000	61,800	63,654	65,564	67,531	69,556
Other*	125,650	129,420	133,302	137,301	141,420	145,663
Debt Svc	515,422	515,422	512,457	544,318	481,377	481,377
Projects	285,000					
Capital Expenditures	246,625	224,200	174,750	160,700	242,000	247,600
Sub total Expenditures	1,544,923	1,251,084	1,212,663	1,244,887	1,278,092	1,298,984
Contribution/Use of Reserves	(92,927)	(52,224)	(3,991)	(11,356)	(18,433)	(4,749)
Operating Reserve : target = $60,888						
Beginning balance	60,888	60,888	60,888	60,888	60,888	60,888
Contribution to Reserve	-	-	-	-	-	-
Ending balance	**60,888**	**60,888**	**60,888**	**60,888**	**60,888**	**60,888**
Emergency Reserve: target = $100,000						
Beginning balance	100,000	100,000	100,000	100,000	100,000	100,000
Contribution to Reserve	-			-	-	-
Ending balance	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**
Asset Replacement Reserve						
Beginning balance	141,126	45,699	(9,024)	(15,515)	(26,870)	(47,804)
Contribution to Reserve			(6,491)			(7,249)
Utilization of Reserve	95,427	54,724		11,356	20,933	
Ending balance	**45,699**	**(9,024)**	**(15,515)**	**(26,870)**	**(47,804)**	**(55,053)**
Goulter Property Purchase Reserve						
Beginning balance	15,935	18,435	20,935	23,435	25,935	28,435
Contribution to Reserve	2,500	2,500	2,500	2,500	2,500	2,500
Ending balance	**18,435**	**20,935**	**23,435**	**25,935**	**28,435**	**30,935**
Cash Balance Carry Forward to Next Year	**225,022**	**172,799**	**168,808**	**159,953**	**141,519**	**136,770**
*includes all reserve funds	-	-	-	-	-	-

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 05/26/15 Council Business Item:

B. Issue/Topic: **Pollution Liability Insurance Quote**

C. Sponsor(s):
1. Chambreau 2.

D. Background (overview of why issue is before council):
1. This insurance policy provides broad pollution liability and clean up expense for the cities operations. Which would include a pollution event that is **discovered and commenced** on or after the effective date of this policy.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details):
1. The City has already entered into a three year policy for environmental risk associated with the Goulter Sludge Disposal Site Contract at a cost of roughly $10,500. The City has the option of extending this coverage to all city operations at a cost of about $23,531 for a one year term, or $41,620 for a three year term (less the $7,000 of the current policy as $3,500 was retained for the first year of coverage.)

F. Impacts:
1. Fiscal: Varies upon coverage options chosen – if requested there are financing options available.
2. Legal: Heather has reviewed the contract please see her email included in this packet, MRSC has also commented on the topic.
3. Personnel:
4. Service/Delivery:

G. Planning Commission: ☐ Recommended ☒ N/A ☐ Public Hearing on

H. Staff Comments:

Time Constraints/Due Dates:

I. Proposed Motion: **I move to authorize the Mayor to enter into agreement with AIG for pollution liability insurance coverage in the amount of $1,000,000.00, for a term of 3 years at a cost of $34,620.**

Ariel Smith

From: Heather Reynolds <heather@reynoldsattorney.com>
Sent: Tuesday, May 19, 2015 8:04 AM
To: 'Ariel Smith'
Subject: RE: Pollution Option

Ariel,

I think this policy is more appropriate for oil product transportation companies.

It has a $50,000 deductible.

It has a lot of coverage and training programs for drivers carrying a cargo that can cause pollution. The only cargo I can think of that the city transports is what it spreads on Goulter's fields.

This policy has a $250,000 endorsement for public relations specialists for crisis event handling, and includes a list of such crisis event specialists for reference. I think the possibility of an event in Ilwaco garnering national media attention is relatively remote.

It only covers pollution that is both discovered and proven to have commenced within the policy coverage period. Unless there was a catastrophic failure of a water tank, it would be difficult to prove when a pollution event commenced.

It also doesn't cover any "terrorist" act (without additional cost), and "terrorist" is defined broadly enough to include basically any act by a third party who acts with intent to cause damage.

Thus, your staff and councilmembers know the Ilwaco systems better than I, but I can't think of much within the City system that this policy would provide coverage for.
Heather

From: Ariel Smith [mailto:treasurer@ilwaco-wa.gov]
Sent: Monday, May 18, 2015 3:43 PM
To: 'Heather Reynolds'
Subject: FW: Pollution Option

Thanks,
Ariel

From: Kris Lawrence [mailto:Kris.Lawrence@propelinsurance.com]
Sent: Thursday, April 23, 2015 3:54 PM
To: 'Ariel Smith'
Cc: Kellie Hogan
Subject: Pollution Option

Ariel,

Take a look at this and let me know if you have any questions.

Sincerely,

Kris Lawrence
Propel Insurance
Managing Director
Propel One
315 5th Ave SE
Olympia, WA 98501-1116
360.252.2366 Direct
360.701.4519 Mobile
866.577.1326 Fax

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Ariel Smith

From: Bob Meinig <bmeinig@mrsc.org>
Sent: Wednesday, May 20, 2015 8:24 AM
To: treasurer@ilwaco-wa.gov
Subject: RE: Research Request

Ariel,

This is something we have not heard about or really deal with. But, I did a bit of looking and could find nothing that suggests that this is coverage that a city generally needs. In general, it does not appear that a city is engaged in any activities that present a reasonable threat of causing pollution that would create liability for the city. I would think it unlikely that the city's waste water treatment facility would create such a pollution event (though not out of the realm of possibility), which suggests that pollution insurance would be unnecessary. But that's really just a guess on my part. Again, we don't have any helpful knowledge or experience here.

If the city owns property with any underground gas storage tanks, there would be some threat there, and, in fact, there is a chapter in the RCW, 70.148, that addresses pollution liability from such tanks and establishes a state agency, the Pollution Liability Insurance Agency. But, unless the city acquired property with an underground tank, that would not be an issue. Perhaps the city owns property that is contaminated in some other way?

Contacting a few other cities of similar size may be a good idea.

Sorry I'm not of help here.

Bob Meinig
Legal Consultant
206.625.1300 | MRSC.org | Local Government Success

-----Original Message-----
From: Ariel Smith
Title: Treasurer
Phone: 360-642-3145
Email: treasurer@ilwaco-wa.gov

Our insurance broker has suggested possibly getting pollution insurance, this would cover damages done by a pollution event (waste water treatment facility). I called a couple other municipalities comparable in size and they have never heard of such a thing. Is this something that MRSC ever hears about or deals with? Or even recommends? Our city attorney looked at the docs and thought it was more geared to like oil tankers, or those transporting a lot of hazardous materials. This insurance comes with a large premium so I just wanted to check in with you all and get your thoughts. Thanks!

Ariel Smith

From: Kris Lawrence <Kris.Lawrence@propelinsurance.com>
Sent: Wednesday, May 13, 2015 7:41 AM
To: 'Ariel Smith'
Cc: Kellie Hogan
Subject: RE: Pollution Option

Ariel,

The underwriter at Colony has agreed to waive the fully earned provision of your existing pollution policy. They will charge for only 1 year of premium the $3,500 plus taxes and fees. So the remaining unearned premium of $7,000 can be applied to the new policy.

They will only do this if you are replacing the policy with the new broader pollution policy.

We need to execute this option within the next 30 days. Let us know if the city wishes to move to the broader policy and cancel the Colony policy.

Thank you!

Please notice my new email address!

Kris Lawrence
Propel Insurance
Kris.Lawrence@propelinsurance.com
360.252.2366 Direct
360.701.4519 Mobile

From: Ariel Smith [mailto:treasurer@ilwaco-wa.gov]
Sent: Tuesday, May 05, 2015 4:41 PM
To: Kris Lawrence
Subject: RE: Pollution Option

Oh ok great, thanks.

From: Kris Lawrence [mailto:Kris.Lawrence@propelinsurance.com]
Sent: Tuesday, May 05, 2015 4:29 PM
To: 'Ariel Smith'
Cc: Kellie Hogan
Subject: RE: Pollution Option

Haven't forgotten you, waiting for answers from Colony, hopefully we will have those tomorrow.

Please notice my new email address!

Kris Lawrence
Propel Insurance
Kris.Lawrence@propelinsurance.com

360.252.2366 Direct
360.701.4519 Mobile

From: Ariel Smith [mailto:treasurer@ilwaco-wa.gov]
Sent: Tuesday, April 28, 2015 8:08 AM
To: Kris Lawrence
Cc: Kellie Hogan
Subject: RE: Pollution Option

Kris,
So how would it work if were to purchase one of these policies when we have already paid a three-year premium for the specialty insurance? Wouldn't this then cover that? Would we get a refund for the two years? Also, somewhere in our conversations I remember that you mentioned our Colony premium could possibly be deducted from the AIG premium is that still true? We are just curious how this would all work with the specialty vs. pollution when the pollution would cover the specialty. I hope I am making sense here, please let me know if you need clarification on any of my questions. Thanks!

Ariel Smith
Treasurer
City of Ilwaco
P.O. Box 548
Ilwaco, WA 98624
Ph: 360-642-3145
Email: treasurer@ilwaco-wa.gov

From: Kris Lawrence [mailto:Kris.Lawrence@propelinsurance.com]
Sent: Thursday, April 23, 2015 3:54 PM
To: 'Ariel Smith'
Cc: Kellie Hogan
Subject: Pollution Option

Ariel,

Take a look at this and let me know if you have any questions.

Sincerely,

Kris Lawrence
Propel Insurance
Managing Director
Propel One
315 5th Ave SE
Olympia, WA 98501-1116
360.252.2366 Direct
360.701.4519 Mobile
866.577.1326 Fax

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City of Ilwaco
Pollution Option

Overview:
Current policy with Colony only provides coverage from Third Party suits that arise out of a new pollution event associated with the non owned site "Goulter".

Option to incorporate all city owned locations and broaden the coverage to include operations of the city.

Option:
AIG is offering the following terms which would replace the current Colony Policy.

Incident Limit	Aggregate Limit*	Policy Term	Premium**
$1,000,000	$1,000,000	3 year	$41,620
$2,000,000	$2,000,000	3 year	$52,020
$3,000,000	$3,000,000	3 year	$68,770

*Aggregate limit applied to the term of the policy not annually!

**Does not include taxes and fees

Deductible = $50,000

No Underground Storage Tanks are listed or insured.

Coverage Components:

B-On Site Clean Up of New Condition
D-Third Party Claims for Off Site Clean Up resulting from New Condition
E-Third Party Claims for Bodily Injury and Property Damage
F-Emergency Response-Limit is $250,000
G-Third Party Claims for Non Owned Locations
H-Third Party Claims for covered operations
I-Third Party Claims resulting from the transportation of cargo
J-Business Interruption Expenses-follows limits above – 3 day deductible

Finance:
Colony policy is fully earned so the $10,925.00 is non refundable.
AIG Three year policy can be financed annually.

Conclusion: This option provides broad pollution liability and clean up expense for the cities operations. A New Condition is defined in the policy as a pollution event that is **discovered and commenced** on or after the effective date of the policy.

AIG Property Casualty Insurance Agency, Inc.
121 SPEAR STREET
TWO RINCON CENTER
SAN FRANCISCO, CA 94105

April 10, 2015

Parker Bunbury
ENVIRONMENTAL RISK MANAGERS INC
124 E SUPERIOR STREET
WAYLAND, MI 49348

Phone: 231-218-1118
Fax:
Email: parker@estrategist.com

RE: CITY OF ILWACO

120 1ST AVE N
ILWACO, WA 98624-9137

POLLUTION LEGAL LIABILITY SELECT (PLL Select®)
SUBMISSION NUMBER: 00698153816
PREMIUM INDICATION: 000398476-003

Dear Parker:

We are pleased to offer the following **PLL Select** premium indication for the above-captioned account for the location(s) listed below in Section IV. Coverage is offered using the AIG SPECIALTY INSURANCE COMPANY, Form #104827 (05/14). *Coverage will only be offered for those coverage sections listed below in Section II.*

SECTION I - Coverages:

The following Coverage Sections are available on the PLL Select:

Coverage A- ON-SITE CLEAN-UP OF PRE-EXISTING CONDITIONS
Coverage B- ON-SITE CLEAN-UP OF NEW CONDITIONS
Coverage C- THIRD-PARTY CLAIMS FOR OFF-SITE CLEAN-UP RESULTING FROM PRE-EXISTING CONDITIONS
Coverage D- THIRD-PARTY CLAIMS FOR OFF-SITE CLEAN-UP RESULTING FROM NEW CONDITIONS
Coverage E- THIRD-PARTY CLAIMS FOR BODILY INJURY AND PROPERTY DAMAGE
Coverage F- EMERGENCY RESPONSE COSTS
Coverage G- THIRD-PARTY CLAIMS FOR NON-OWNED LOCATIONS
Coverage H- THIRD-PARTY CLAIMS FOR COVERED OPERATIONS
Coverage I- THIRD-PARTY CLAIMS RESULTING FROM THE TRANSPORTATION OF CARGO
Coverage J- BUSINESS INTERRUPTION EXPENSES

SECTION II - Premium Options for Coverages, Limits, Deductibles and Terms:

Commission %: 10%

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
1	B D E G H I J	$2,000,000	$2,000,000	$50,000	1	$29,390
	J	Limit $2,000,000	Deductible	3 Days	Policy Aggregate	$2,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
2	B D E G H I J	$2,000,000	$2,000,000	$50,000	3	$52,020
	J	Limit $2,000,000	Deductible	3 Days	Policy Aggregate	$2,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
3	B D E G H I J	$3,000,000	$3,000,000	$50,000	1	$38,853
	J	Limit $3,000,000	Deductible	3 Days	Policy Aggregate	$3,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
4	B D E G H I J	$3,000,000	$3,000,000	$50,000	3	$68,770
	J	Limit $3,000,000	Deductible	3 Days	Policy Aggregate	$3,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
5	B D E G H I J	$1,000,000	$1,000,000	$50,000	1	$23,531
	J	Limit $1,000,000	Deductible	3 Days	Policy Aggregate	$1,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/ SIR Amount	Term (Yrs)	Premium
6	B D E G H I J	$1,000,000	$1,000,000	$50,000	3	$41,620
	J	Limit $1,000,000	Deductible	3 Days	Policy Aggregate	$1,000,000

Add Surplus Lines Tax and Filing Fee if eRMI Files Taxes

Coverage F: Each Incident Limit: $250,000 **Coverage F: Aggregate Limit:** $1,000,000

Coverage F: Deductible: $50,000

The Premium amount(s) stated above does not include the premium for Terrorism Risk Insurance Act Coverage. Please see the attached Disclosure Statement regarding Terrorism Risk Insurance Act Coverage and the premium for such coverage. In the event that you choose to purchase Terrorism Risk Insurance Act Coverage along with one of the options above, the total premium shall be the premium shown above for the option chosen plus the Terrorism Risk Insurance Act Coverage premium shown on the attached Disclosure Statement for that option.

* As per Section **V. LIMITS OF LIABILITY AND DEDUCTIBLE**, Paragraph **D. Maximum for all Business Interruption Expenses.**

** The Premium amount(s) stated above does not include surplus lines tax, or surplus lines fees.

For multi-year policies, the limit of liability stated in the chart above is shared over the policy term indicated. The limit of liability is not an annual limit of liability and is therefore not reinstated each year within the policy term.

SECTION III - Additional Policy Information:

Policy Period: From: TBD To: TBD
Continuity Date: Policy Inception Date
Indoor Air Quality Retroactive Date: Policy Inception Date

Additional Information:

SECTION IV - Insured Property(ies):

See Schedule of Insured Properties

SECTION V - Policy Form Modifications:

The AIG SPECIALTY INSURANCE COMPANY, Form #104827 (05/14) Form will be modified as follows:

- Notice of Loss/Notice of Claim, Form#91968 (12/06)
- PLL Select 2010 AIGSIC Declarations, Form#104831 (11/13)
- Terrorism Excl W/Cert Acts Exception Purchased End, Form#97637 (03/08)
  Used if TRIA is accepted
- Cargo Coverage Endorsement, Form#105691 (06/10)
- Coverage E - New Conditions Only Endorsement, Form#105291 (04/10)
- Coverage G - New Conditions Only Endorsement, Form#105282 (04/10)
- Coverage I - New Conditions Only Endorsement, Form#105289 (04/10)
- Crisis Response And Crisis Management Endorsement, Form#109874 (09/11)
- Illicit Abandonment Exclusion Endorsement, Form#105352 (04/10)
- Mat Chng In Use Of Insd Prop - Intended Use End, Form#108733 (05/11)
- Pier Network Provider Deductible Reduction End, Form#113017 (10/12)
- Schedule Of Approved Crisis Management Firms Endor, Form#109876 (09/12)
- Specific Deed Restriction Amendatory Endorsement, Form#105318 (04/10)
- Terrorism Excl - All (Incl Cert Acts Of Terrorism), Form#97640 (03/08)
  Used if TRIA is rejected
- Underground Storage Tank Exclusion Endorsement, Form#105340 (04/10)
- Schedule of Insured Properties, Form#MNSCPT (12/14)

- Continuity Date For Covered Ops Endt, Form#105299 (04/10)

SECTION VI - Services:

At AIG, we enhance the coverage of every environmental insurance policy by giving insureds complimentary access to the following tools and programs proven to help manage environmental risk, mitigate environmental losses, and conduct loss control:

PIER (Pollution Incident and Environmental Response)®
Policyholders have access to pre-screened crisis management specialists who respond in a timely manner to environmental incidents at pre-negotiated rates. Environmental insurance policyholders are automatically enrolled in this program.

Claims Expertise
Our pollution claims operation, with 80+ claims specialists, is the largest in the industry.

RiskTool Advantage®
The complimentary, web-based system brings together a myriad of information that a company needs to manage Environmental, Health and Safety (EH&S) programs in one virtual "reference desk."

Transportation Loss Control Programs
We provide a number of transportation-related programs for insureds that reinforce positive driving behavior and potential improvements in loss reduction. These programs include preventive driving sessions and mock Department of Transportation audits.

Environmental Portal®
Portal is secure, Internet-based system that allows our clients to track environmental insurance policies for multiple site portfolios.

AIG is committed to the achievement of effective risk management objectives for clients as well as providing them access to incident response assistance in the event of a pollution-release event.

SECTION VII - Subject To Information:

If the terms and conditions of this indication are acceptable, please provide us with a completed copy of the "Broker Responsible for Surplus Lines Filings Agreement". If coverage is bound, the premium must be remitted to AIG SPECIALTY INSURANCE COMPANY within thirty (30) days of effective date or fifteen (15) days from billing, whichever is later. It is your responsibility to follow applicable state surplus lines laws and, in particular, to see that the appropriate surplus lines tax (and stamping fee, if applicable) is collected and paid.

In addition to the above-mentioned documentation, this indication is subject to the receipt and satisfactory review and acceptance of the following items prior to binding, unless otherwise specified:

- The original Signed AIG Pollution Legal Liability Application including all applicable attachments.
- Receipt and review of the Named Insured's Financial Statements, including the notes sections from the past two fiscal years.
- A copy of the current valued loss runs.
- Full addresses (APN or tax parcel numbers) for all properties listed on the SOV
- Copy of the insureds Biosolid Site Application Permit
- Most recent BioSolid Sampling data
- Completed and Signed Broker Responsible for Surplus Lines Form
- Email stating whether TRIA is rejected or accepted

NOTICE: PLEASE READ CAREFULLY THE ATTACHED POLICYHOLDER DISCLOSURE STATEMENT UNDER TERRORISM RISK ACT OF 2002, AS AMENDED. IF CERTIFIED ACTS OF TERRORISM COVERAGE UNDER TERRORISM RISK INSURANCE ACT OF 2002, AS AMENDED, IS REJECTED BY THE INSURED, YOU OR YOUR INSURANCE BROKER ON YOUR BEHALF MUST REJECT SUCH COVERAGE IN WRITING TO THE COMPANY PRIOR TO BINDING. IF SUCH COVERAGE IS ACCEPTED BY THE INSURED, YOU OR YOUR BROKER MUST ADVISE THE COMPANY IN WRITING PRIOR TO BINDING.

If this indication is accepted and bound, the policy will be issued by AIG SPECIALTY INSURANCE COMPANY, 175 Water Street, New York, NY 10038.

NOTICE: THIS INSURER IS NOT LICENSED IN THE STATE OF NEW YORK AND IS NOT SUBJECT TO ITS SUPERVISION.

This premium indication is valid for 30 days from the date of this proposal, or by the Expiration Date of the current policy, whichever is sooner.

Please notice that these conditions are not necessarily in compliance with conditions requested in your submission. We will not be obligated to provide coverage not addressed in this indication even though they may have been requested in your submission.

We appreciate the opportunity to present the above proposal to you for your client. Should you have any comments, questions, or specific items to be clarified, please feel free to contact me. AIG strives to offer you the most innovative and responsive solutions to your clients' environmental liability concerns.

Sincerely,

TREVOR SALMAN
UNDERWRITER
Tel: 415-836-2932
Fax: 415-836-7236
TREVOR.SALMAN@AIG.COM

This indication and all the terms, conditions and provisions contained within this letter are work product that was developed by or on behalf of, and is owned by the issuing company identified above. The Broker and the entity(s) to whom this letter is provided by the Company agree that they will hold this indication and the terms, conditions and provisions contained within this letter confidential and that they will not share this indication or the terms, conditions and provisions contained within this letter with any person or entity which (1) sells insurance, or (2) is not sent this letter directly by the Company, unless such person or entity agrees that it will not provide this indication or any of the terms, conditions and provisions contained within this letter to any person or entity which sells insurance. In the event that the Broker or any of the entity(s) to whom this letter is provided by the Company do not agree with this provision, please return all originals and copies of this indication to the Company.

IMPORTANT THIS AGREEMENT MUST BE COMPLETED BY THE
BROKER RESPONSIBLE FOR SURPLUS LINES FILINGS (Property & Casualty)

DATE: April 10, 2015

TO: Parker Bunbury
ENVIRONMENTAL RISK MANAGERS INC
124 E SUPERIOR STREET
WAYLAND, MI 49348

RETURN TO: TREVOR SALMAN
AIG
121 SPEAR STREET
TWO RINCON CENTER
SAN FRANCISCO, CA 94105

RE: Insured: CITY OF ILWACO

Policy #: _____

Effective Dates: From: _____ To: _____

This policy is written on a surplus lines basis by: AIG SPECIALTY INSURANCE COMPANY

In the insured's **home state** of _____(see attached definition of home state).

As the producing broker, it is **your** responsibility to arrange for the payment of the state tax and/or stamping fee on **100%** of the premium for this policy.

Please return a copy of this letter within 10 **business days** of receipt with your acknowledgment that you have arranged for the filing and payment of the surplus lines tax and/or stamping fee in accordance with the state regulation.

*Please list licensed resident surplus lines broker:

Individual's name:_____

Firm Name: _____

Firm address: _____

New Jersey SLA # (Transaction Number) assigned to this policy (if the insured's home state is NJ) _____

Surplus lines license No.: _____(for the insured's home state)

Tax and/or fee paid:

STATE: _____ TAXES, OTHER _____

FEE: _____ FEES, OTHER _____

TAX: _____ ASSESSMENTS, OTHER _____

By: _____ _____
Producing Broker signature Producing broker (Print Name)

Date: _____

The producing broker agrees that, upon request by the company or any insurance regulator, the broker will provide a copy of the surplus lines licenses referenced above as well as any documentation supporting the payment of surplus lines taxes hereunder.

DEFINITIONS

HOME STATE -

(A) In general. - Except as provided in subparagraph (B), the term "home state" means, with respect to an insured -

(i) the state in which an insured maintains its principal place of business or, in the case of an individual, the individual's principal residence; or

(ii) if 100 percent of the insured risk is located out of the state referred to in clause (i), the state to which the greatest percentage of the insured's taxable premium for that insurance contract is allocated.

(B) Affiliated Groups. - If more than 1 insured from an affiliated group are named insureds on a single non-admitted insurance contract, the term "home State" means the home State, as determined pursuant to subparagraph (A), of the member of the affiliated group that has the largest percentage of premium attributed to it under such insurance contract.

AFFILIATE - The term "affiliate" means, with respect to an Insured, any entity that controls, is controlled by, or is under common control with the Insured.

AFFILIATED GROUP - The term "affiliated group" means any group of entities that are all affiliated.

CONTROL - An entity has "control" over another entity if -

(A) the entity directly or indirectly or acting through 1 or more other persons owns, controls or has the power to vote 25 percent or more of any class of voting securities of the other entity; or

(B) the entity controls in any manner the election of a majority of the directors or trustees of the other entity.

PRINCIPAL PLACE OF BUSINESS - The term "principal place of business" means, with respect to determining the home state of the Insured:

(A) the state in which an Insured maintains its headquarters and the Insured's high level officers direct, control and coordinate the business activities; or

(B) if the Insured is a company which maintains outside any state its headquarters where the Insured's high level officers direct, control and coordinate the business activities, (for example a foreign company headquartered in a foreign country), then the state where the largest percentage of the risk resides, i.e. the state to which the greatest percentage of the Insured's taxable premium for the insurance contract is allocated.

PRINCIPAL RESIDENCE - "Principal residence" means, with respect to determining the Home State of the insured, (a) the state where the insured resides for the greatest number of days during a calendar year; or (b) if the insured's principal residence is located outside any state, the state to which the greatest percentage of the insured's taxable premium for that insurance contract is allocated.

STATE - The term "state" includes any state of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Northern Mariana Islands, the U.S. Virgin Islands, and American Samoa.

POLICYHOLDER DISCLOSURE NOTICE OF TERRORISM RISK INSURANCE ACT (TRIA) COVERAGE

You are hereby notified that under the federal Terrorism Risk Insurance Act, as amended, that you have a right to purchase insurance coverage for losses resulting from acts of terrorism, *as defined in Section 102(1) of the Act*: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury - in concurrence with the Secretary of State, and the Attorney General of the United States - to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property or infrastructure; to have resulted in damage within the United States, or outside of the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.

YOU SHOULD KNOW THAT WHERE COVERAGE IS PROVIDED BY THIS POLICY FOR LOSSES RESULTING FROM CERTIFIED ACTS OF TERRORISM, SUCH LOSSES MAY BE PARTIALLY REIMBURSED BY THE UNITED STATES GOVERNMENT UNDER A FORMULA ESTABLISHED BY FEDERAL LAW. HOWEVER, YOUR POLICY MAY CONTAIN OTHER EXCLUSIONS WHICH MIGHT AFFECT YOUR COVERAGE, SUCH AS AN EXCLUSION FOR NUCLEAR EVENTS. UNDER THE FORMULA, THE UNITED STATES GOVERNMENT GENERALLY REIMBURSES 85% OF COVERED TERRORISM LOSSES EXCEEDING THE STATUTORILY ESTABLISHED DEDUCTIBLE PAID BY THE INSURANCE COMPANY PROVIDING THE COVERAGE. THE PREMIUM CHARGED FOR THIS COVERAGE IS PROVIDED BELOW AND DOES NOT INCLUDE ANY CHARGES FOR THE PORTION OF LOSSES THAT MAY BE COVERED BY THE FEDERAL GOVERNMENT UNDER THE ACT.

YOU SHOULD ALSO KNOW THAT THE TERRORISM RISK INSURANCE ACT, AS AMENDED, CONTAINS A $100 BILLION DOLLAR CAP THAT LIMITS U.S. GOVERNMENT REIMBURSEMENT AS WELL AS INSURERS' LIABILITY FOR LOSSES RESULTING FROM CERTIFIED ACTS OF TERRORISM WHEN THE AMOUNT OF SUCH LOSSES IN ANY ONE CALENDAR YEAR EXCEEDS $100 BILLION. IF THE AGGREGATE INSURED LOSSES FOR ALL INSURERS EXCEED $100 BILLION, YOUR COVERAGE MAY BE REDUCED.

Unless you, or your insurance broker on your behalf, **REJECTS** in writing to the Company, Terrorism Coverage under the Federal Act, you will be covered for Terrorism as defined in the Act and your prospective premium for that coverage is based upon which coverage option you choose (Coverage options setting forth limits, policy term, etc. are set forth in the attached letter of indication). The premium stated herein does not include any surplus lines taxes or fees that may be applicable, which are the responsibility of the insured. It is the broker's responsibility to follow applicable state surplus lines laws and, in particular, to see that the appropriate premium tax (and stamping office fee, if applicable) is collected from you and paid.

Option 1 Terrorism Act Premium:	$1,323.00	Option 6 Terrorism Act Premium:	$1,873.00
Option 2 Terrorism Act Premium:	$2,342.00	Option 7 Terrorism Act Premium:	
Option 3 Terrorism Act Premium:	$1,749.00	Option 8 Terrorism Act Premium:	
Option 4 Terrorism Act Premium:	$3,095.00	Option 9 Terrorism Act Premium:	
Option 5 Terrorism Act Premium:	$1,059.00	Option 10 Terrorism Act Premium:	

Alternative Offers for policyholders who reject Terrorism Insurance Coverage in accordance with the Act.

If you decided to **REJECT** the Terrorism Insurance Coverage in accordance with the Act, then we would like you to consider alternative terrorism coverage options. If you wish to elect one of these options, you must **REJECT** the coverage under the Federal Act (as stated above) and opt instead for a Terrorism Sublimit Endorsement. Please note that under this coverage sublimit, terrorism may include that which is defined as terrorism under the Act as well as acts of terrorism that may not be covered under the Act or it may include terrorism as defined under the Act solely.

If you would like to consider one of these alternative options of terrorism coverage, please so indicate in writing to the Company, i) the amount of the sublimit and ii) the coverage option listed below for which you would like the Company to provide a prospective premium quotation:

Option A: Under this Option, it is understood that the sublimit applies to coverage for Terrorism as defined by the Act as well as acts of terrorism that may not be covered under the Act.

Option B: Under this Option, it is understood that the sublimit applies to coverage for Terrorism as defined by the Act only, and no coverage exists for non TRIA acts.

Option C: Under this Option, it is understood that the sublimit applies to non TRIA acts only, and no coverage exists for TRIA acts.

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

TERRORISM EXCLUSION WITH CERTIFIED ACTS OF TERRORISM EXCEPTION PURCHASED ENDORSEMENT

This Policy is amended by the addition of the following Exclusion:

The Company has no obligation to make any payment or to provide or to pay for a defense under this Policy due to or arising directly or indirectly as a result of or in connection with **Terrorism.**

Terrorism means the use or threatened use of force or violence against person or property, or commission of an act dangerous to human life or property, or commission of an act that interferes with or disrupts an electronic or communication system, undertaken by any person or group, whether or not acting on behalf of or in connection with any organization, government, power, authority or military force, when the effect is to intimidate, coerce or harm a government, the civilian population or any segment thereof, or to disrupt any segment of the economy.

This Exclusion does not apply to a certified "act of terrorism" which is defined by Section 102. Definitions, of the Terrorism Risk Insurance Act of 2002, as amended by the Terrorism Risk Insurance Program Reauthorization Act of 2007 as follows:

ACT OF TERRORISM -

(A) **CERTIFICATION** - The term "act of terrorism" means any act that is certified by the Secretary (of the Treasury), in concurrence with the Secretary of State, and the Attorney General of the United States -
- (i) to be an act of terrorism;
- (ii) to be a violent act or an act that is dangerous to --
  - (I) human life;
  - (II) property; or
  - (III) infrastructure;
- (iii) to have resulted in damage within the United States, or outside of the United States in the case of --
  - (I) an air carrier or vessel (described in TRIA)
  - (II) the premises of a United States mission; and
- (iv) to have been committed by an individual or individuals acting as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.

(B) **LIMITATION** -- No act shall be certified by the Secretary as an act of terrorism if --
- (i) the act is committed as part of the course of a war declared by the Congress, except that this clause shall not apply with respect to any coverage for workers' compensation; or
- (ii) property and casualty insurance losses resulting from the act, in the aggregate, do not exceed $5,000,000.

(C) **DETERMINATIONS FINAL** - Any certification of, or determination not to certify, an act as an act of terrorism under this paragraph shall be final, and shall not be subject to judicial review.

FOR USE WHEN THE INSURED ELECTS FULL CERTIFIED ACTS OF TERRORISM.

(D) **NONDELEGATION** - The Secretary may not delegate or designate to any other officer, employee, or person, any determination under this Paragraph of whether, during the effective period of the Program, an act of terrorism has occurred.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

FOR USE WHEN THE INSURED ELECTS FULL CERTIFIED ACTS OF TERRORISM.

SPECIMEN

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By:

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CARGO COVERAGE ENDORSEMENT

It is hereby agreed that Section **VIII. DEFINITIONS**, Paragraph **C. Cargo** is deleted in its entirety and replaced with the following:

C. Cargo means goods, products, or waste transported for delivery to or from an **Insured Property** by the **Named Insured** or by a carrier on behalf of the **Named Insured** provided the **Named Insured** or carrier is properly licensed to transport such goods, products, or waste.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

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COVERAGE E - NEW CONDITIONS ONLY ENDORSEMENT

It is hereby agreed that Section **I. INSURING AGREEMENTS, 1. COVERAGES:, COVERAGE E - THIRD-PARTY CLAIMS FOR BODILY INJURY AND PROPERTY DAMAGE** is deleted in its entirety and replaced with the following:

COVERAGE E - THIRD-PARTY CLAIMS FOR BODILY INJURY AND PROPERTY DAMAGE RESULTING FROM NEW CONDITIONS

To pay on behalf of the **Insured**, **Loss** that the **Insured** becomes legally obligated to pay as a result of a **Claim** for **Bodily Injury** or **Property Damage** resulting from a **Pollution Condition** on, under or migrating from or through the **Insured Property**, that first commenced on or after the **Continuity Date** shown below, provided such **Claim** is first made against the **Insured** and reported to the Company in writing during the **Policy Period** in accordance with Section III. of the Policy, or during the **Extended Reporting Period** if applicable.

For purposes of coverage provided by this Endorsement, the following **Continuity Date** applies to Coverage E:

Continuity Date: Policy Incep

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

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COVERAGE G - NEW CONDITIONS ONLY ENDORSEMENT

It is hereby agreed that Section **I. INSURING AGREEMENTS, 1. COVERAGES:, COVERAGE G - THIRD-PARTY CLAIMS FOR NON-OWNED LOCATIONS** is deleted in its entirety and replaced with the following:

COVERAGE G - THIRD-PARTY CLAIMS FOR NON-OWNED LOCATIONS RESULTING FROM NEW CONDITIONS

To pay on behalf of the **Insured**, **Loss** that the **Insured** becomes legally obligated to pay as a result of a **Claim** for **Bodily Injury** or **Property Damage** of parties other than the owners, operators or contractors of the **Non-Owned Location**, or their employees, or **Clean-Up Costs** resulting from **Pollution Conditions** on, under or migrating from the **Non-Owned Location** that first commenced on or after the **Continuity Date** shown below, provided such **Claim** is first made against the **Insured** and reported to the Company in writing during the **Policy Period** in accordance with Section III. of the Policy, or during the **Extended Reporting Period** if applicable.

For purposes of coverage provided by this Endorsement, the following **Continuity Date** applies to Coverage G:

Continuity Date: Policy Incep

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

COVERAGE I - NEW CONDITIONS ONLY ENDORSEMENT

It is hereby agreed that Section **I. INSURING AGREEMENTS, 1. COVERAGES:, COVERAGE I - THIRD-PARTY CLAIMS RESULTING FROM THE TRANSPORTATION OF CARGO** is deleted in its entirety and replaced with the following:

COVERAGE I - THIRD-PARTY CLAIMS RESULTING FROM THE TRANSPORTATION OF CARGO

To pay on behalf of the **Insured**, **Loss** that the **Insured** becomes legally obligated to pay as a result of a **Claim** for **Bodily Injury**, **Property Damage** or **Clean-up Costs** resulting from a **Pollution Condition** caused by **Transportation** of **Cargo** that first commenced on or after the **Continuity Date** shown below, provided such **Claim** is first made against the **Insured** and reported to the Company in writing during the **Policy Period**, or during the **Extended Reporting Period** if applicable. Provided, however, this Coverage shall not be utilized to evidence financial responsibility of any **Insured** under any federal, state, provincial or local law.

For the purposes of coverage provided by this Endorsement, the following **Continuity Date** applies to Coverage I:

Continuity Date: Policy Incep

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

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CRISIS RESPONSE® AND CRISIS MANAGEMENT ENDORSEMENT

It is hereby agreed that:

1. The following is added to Section **I. INSURING AGREEMENTS, 1. COVERAGES**:

CRISISRESPONSE® AND CRISIS MANAGEMENT

1. **Advancement of CrisisResponse® Costs during a Crisis Management Event**

The Company will pay **CrisisResponse® Costs** on behalf of the **Insured** that may be associated with **Loss** covered by this Policy arising from a **Crisis Management Event** first commencing during the **Policy Period**.

The Company will advance **CrisisResponse® Costs** that may be associated with **Loss** covered by this Policy directly to third parties.

2. **Crisis Management Insurance**

The Company will pay **Crisis Management Loss** on behalf of the **Insured** arising from a **Crisis Management Event** first commencing during the **Policy Period**.

A **Crisis Management Event** shall first commence at the time during the **Policy Period** when a **Responsible Insured** first becomes aware of a **Pollution Condition** that gives rise to a **Crisis Management Event** and shall end at the earliest of the time when the Company determines that a crisis no longer exists or when the CrisisResponse® limit of insurance and/or the crisis management limit of insurance, whichever applies, as described in Section **V. LIMITS OF LIABILITY AND DEDUCTIBLE**, as amended by this Endorsement, has been exhausted.

3. Any advancement of **CrisisResponse® Costs** or payment of **Crisis Management Loss** that the Company makes under the coverage provided by this coverage section will not be a determination of the Company's obligations under this Policy, nor create any duty to defend any **Claim** under any other part of this Policy.

2. The following are added to Section **VIII. DEFINITIONS**:

Crisis Management Event means an event that in the good faith opinion of a **Responsible Insured**, in the absence of **Crisis Management Services**, has been associated with or may reasonably be associated with:

1. **Loss** covered by this Policy; and

2. Significant adverse regional or national news media coverage.

Crisis Management Firm means any public relations firm or crisis management firm approved by the Company that is hired by the **Insured** to perform **Crisis Management Services** in connection with a **Crisis Management Event**. Attached to and forming a part of this Policy is a Schedule of firms that have been pre-approved by the Company and may be hired by the **Insured** without further approval by the Company.

Crisis Management Loss means the following amounts incurred during a **Crisis Management Event:**

1. Amounts for the reasonable and necessary fees and expenses incurred by a **Crisis Management Firm** in the performance of **Crisis Management Services** for the **Insured** solely arising from a covered **Crisis Management Event**; and

2. Amounts for reasonable and necessary printing, advertising, mailing of materials, or travel by the **Named Insured's** directors, officers, employees or agents or a **Crisis Management Firm** incurred at the direction of a **Crisis Management Firm**, solely arising from a covered **Crisis Management Event**.

Crisis Management Services means those services performed by a **Crisis Management Firm** in advising the **Insured** on minimizing potential harm to the **Insured** from a covered **Crisis Management Event** by maintaining and restoring public confidence in the **Insured**.

CrisisResponse® Costs means the following reasonable and necessary expenses incurred during a **Crisis Management Event** directly caused by a **Crisis Management Event**, provided that such expenses have been pre-approved by the Company and may be associated with **Loss** that would be covered by this Policy:

1. Medical expenses;

2. Funeral expenses;

3. Psychological counseling;

4. Travel expenses;

5. Temporary living expenses;

6. Expenses to secure the scene of a **Crisis Management Event**; and

7. Any other expenses pre-approved by the Company.

CrisisResponse® Costs does not include defense costs or **Crisis Management Loss**.

3. The following is added to the end of Section **V. LIMITS OF LIABILITY AND DEDUCTIBLE**, Paragraph **F. Deductible:**

Crisisresponse® And Crisis Management

Subject to Paragraphs V.A. through V.E. above, this Policy is to pay covered **CrisisResponse® Costs** and/or **Crisis Management Loss** in excess of the Deductible amount stated in Item 3. of the Declarations, up to but not exceeding the limits set forth in Paragraph V.A. above; provided that payment of Deductible amounts for **CrisisResponse® Costs** and/or **Crisis Management Loss** shall erode the Deductible amount applicable to that particular **Each Incident** for all other Coverages under this Policy.

The **Insured** shall promptly reimburse the Company for advancing any element of **Loss** falling within the Deductible.

4. The following is added to the end of Section **V. LIMITS OF LIABILITY AND DEDUCTIBLE**, Paragraph **A. Policy Aggregate Limit:**

The Company's total liability for all **CrisisResponse® Costs** and/or **Crisis Management Loss** shall not exceed $250,000 combined, regardless of the number of **Crisis Management Events** first commencing during the **Policy Period**. The Company will have no obligation to advance **CrisisResponse® Costs** or to pay **Crisis Management Loss** from the earliest of the time when the Company determines that a **Crisis**

Management Event has ended or when this $250,000 limit of liability has been exhausted. **CrisisResponse®** Costs and/or **Crisis Management Loss** shall not be included as **Loss** and do not reduce the available Limit of Liability.

5. The following is added to Section **III. NOTICE REQUIREMENTS AND CLAIM PROVISIONS**, Paragraph **A. NOTICE OF A POLLUTION CONDITION, EMERGENCY RESPONSE COSTS, CLAIM OR AN INTERRUPTION:**

   5. The **Insured** must report any **Crisis Management Event** to the Company within twenty-four (24) hours of the time that a **Responsible Insured** first becomes aware of a **Pollution Condition** that gives rise to a **Crisis Management Event** or as soon as practicable to be eligible for the advancement of **CrisisResponse® Costs** and the payment of **Crisis Management Loss**.

      Notice of a **Crisis Management Event** may be given by calling 1-877-244-3100. If notice is given by telephone, written notice will be given as soon as practicable thereafter. Written notice should include:

      a. How, when and where the **Crisis Management Event** is taking or took place;

      b. The names and addresses of any injured persons and any witnesses; and

      c. The nature and location of any injury or damage arising out of the **Crisis Management Event**.

   6. There shall be no requirement that the **Insured** obtain prior written approval from the Company before incurring any **Crisis Management Loss**, provided that the **Crisis Management Firm** selected by the **Insured** to perform the **Crisis Management Services** has been approved by the Company. If the **Insured** chooses to retain a firm that does not appear in the Schedule attached to and forming a part of this Policy, the **Insured** must obtain the Company's consent, which shall remain in the Company's sole discretion, prior to retaining the services of such firm.

   7. Any payments for **Crisis Management Loss** or advancement of **CrisisResponse® Costs** that the Company makes under this Policy:

      a. Shall not be deemed to be a determination of the insured's liability with respect to any **Claim** or **Loss** under the Policy; and

      b. Shall not create any duty to defend any **Claim** or to investigate any **Claim** or **Pollution Condition** arising from a **Crisis Management Event**, nor any coverage obligations under this Policy.

   8. If the Crisis Management Insurance provided by this Policy and any other insurance issued to the **Named Insured** by the Company or any of its affiliated companies shall apply to the same crisis the maximum limit of insurance under all insurance available shall not exceed the highest applicable limit of insurance available under any one policy or endorsement.

   9. In the event of a dispute between the **Insured** and us as to whether a **Crisis Management Event** has occurred, the **Insured** may, at its own cost, retain the services of an approved **Crisis Management Firm** and/or advance **CrisisResponse® Costs**. Provided, however, if the **Insured** elects to retain an approved **Crisis Management Firm** or to advance **CrisisResponse® Costs**, the Company shall have no obligation to reimburse the **Insured** under this Policy for such costs or expenses. The right to reimbursement shall be arbitrated pursuant to the rules of the American Arbitration Association in New York, New York or in the state indicated in Item 1. of the Declarations of this Policy as the address of the **Named Insured**.

All other terms, conditions, and exclusions shall remain the same.

_____

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ILLICIT ABANDONMENT EXCLUSION ENDORSEMENT

It is hereby agreed that Section **VIII. DEFINITIONS**, Paragraph **CC. Pollution Condition**, is deleted in its entirety and replaced with the following:

CC. Pollution Condition means the discharge, dispersal, release or escape of any solid, liquid, gaseous or thermal irritant or contaminant, including, but not limited to, smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, hazardous substances, low-level radioactive material, electromagnetic fields, medical waste including infectious and pathological waste and waste materials into or upon land, or any structure on land, the atmosphere or any watercourse or body of water, including groundwater, provided such conditions are not naturally present in the environment in the amounts or concentrations discovered. **Pollution Condition** also means Legionella pneumophila or **Microbial Matter** in any structure on land and the atmosphere contained within that structure, provided that such **Pollution Condition** commences on or after the Indoor Air Quality Retroactive Date shown in Item 7. of the Declarations Page.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

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MATERIAL CHANGE IN USE OF INSURED PROPERTY(IES) - INTENDED USE ENDORSEMENT

It is hereby agreed that:

1. Section **II. EXCLUSIONS, 1. COMMON EXCLUSIONS - APPLICABLE TO ALL COVERAGES,** Paragraph **B. CHANGE IN INTENDED USE OR OPERATIONS** is deleted in its entirety and replaced with the following:

   CHANGE IN INTENDED USE OR OPERATIONS:

   Based upon or arising from a change in use or operations which is materially different from the Intended Use listed below:

   Intended Use: Those uses listed on SOV referenced on Schedule of Insured Properties

2. Section **VI. CONDITIONS**, Paragraph **G. Cancellation**, Subparagraph 3. is deleted in its entirety and replaced with the following:

   3. A change in use or a change in operations which is materially different from the Intended Use listed in Paragraph 1. above on this Endorsement. Solely with respect to this Paragraph 3. and solely with respect to such change in use or change in operations on or under a particular **Insured Property(ies)**, the Company shall have the right to cancel coverage only with respect to that **Insured Property(ies)** where such change in use or operations has taken place.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PIER NETWORK PROVIDER DEDUCTIBLE REDUCTION ENDORSEMENT

It is hereby agreed that:

1. The following is added to Section **V. LIMITS OF LIABILITY AND DEDUCTIBLE**, Paragraph **F. Deductible**, Subparagraph 1. Coverages A through I:

   If the **Named Insured** utilizes a **PIER Network Provider** in response to an incident which results in **Emergency Response Costs** covered under Coverage F, and such **Emergency Response Costs** are incurred by a **PIER Network Provider**, the **Named Insured's** Deductible obligation shall be reduced by 50% subject to a maximum reduction of $25,000, and such reduced Deductible amount shall apply among all the coverage sections applicable to the **Loss** for **Each Incident**. In order for this Deductible reduction to apply, the **Named Insured** must provide proof of use of a **PIER Network Provider** including, at a minimum, a copy of the executed written contract between the **PIER Network Provider** and the **Named Insured** and a copy of the invoice(s) for such services which have been rendered under the aforementioned executed written contract in response to **Emergency Response Costs**. This provision does not alter the **Insured's** reporting obligations under Section **III.** of the Policy.

2. The following is added to Section **VIII. DEFINITIONS**:

   PIER Network Provider means an environmental or emergency response contractor that is a member of the Company's PIER (Pollution Incident and Environmental Response)® program.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

ENDORSEMENT NO.

SPECIMEN

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

SCHEDULE OF APPROVED
CRISIS MANAGEMENT FIRMS ENDORSEMENT

It is hereby agreed that the following public relations and non-public relations firms are approved crisis response vendors and are added to Section **VII. DEFINITIONS, Crisis Management Firm:**

FIRM ADDRESS	CONTACT INFORMATION	EMERGENCY TELEPHONE	SERVICES OFFERED
The Abernathy MacGregor Group, Inc.			
501 Madison Ave. New York, NY 10022	**Rhonda Barnat** **Managing Director** **(212) 371-5999 Office** **(917) 912-6378 Cell** **(212) 752-0723 Fax** **(646) 478-8740 Home** **rb@abmac.com**	**(917) 912-6378**	Public Relations, Crisis Management services. Serving clients in the US, UK, Germany, France, Italy, Switzerland, The Netherlands, Hong Kong, Spain, Latin America and China.
611 W. Sixth Street, Suite 1880 Los Angeles, CA 90017	**Ian D. Campbell** **Vice Chairman** **(213) 630-6550 Office** **(213) 422-7958 Cell** **(213) 489-3443 Fax** **(818) 957-5650 Home** **(818) 541-0954 Home Fax** **idc@abmac.com**	**(818) 750-4392** **(917) 940-3476**	
Ann Barks Public Relations			
896 Cross Gates Boulevard Slidell, LA 70461	**Ann W. Barks** **Owner** **(985) 847-0750 Direct** **(985) 290-8304 Cell** **abarkspr@bellsouth.net**	**(985) 290-8304**	Public Relations, Crisis Management services. Serving clients in the Gulf Coast region (Alabama, Florida, Georgia, Louisiana, Mississippi and Texas).

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Gladstone International, Inc.			
1278 Glenneyre St. Laguna Beach, CA 92651	**Joan Gladstone** **President and CEO** **(949) 475-6979 Office** **(949) 475-6978 Fax** **(949) 633-9900 Cell** **jgladstone@gladstonepr.com**	**(949) 633-9900**	Public Relations, Crisis Management services, Media Training. Serving the Western US region.
Bright Light Marketing Group			
1001 Bishop Street, Suite 900 Honolulu, Hawaii 96813-3429	**Charlene Lo Chan** Executive Vice President and Chief Operating Officer **(808) 275-3007 Direct** **(808) 524-6441 Office** **(808) 781-7733 Cell** **(808) 524-8115 Fax** **charlene@brightlightmarketing.com**		Public Relations, Crisis Management services. Serving clients in Hawaii, Japan, Taiwan, China, American Samoa, Samoa, Federated States of Micronesia, Guam, Mariana Islands, Saipan, Marshal Islands, Palau, Kiribati and South Korea.
Dix & Eaton			
200 Public Square Suite 1400 Cleveland, OH 44114-2316	**Matt Barkett** **Managing Director** **(216) 241-3073 Direct** **(216) 241-0405 Office** **(216) 780-7800 Cell** **(216) 241-3073 Fax** **mbarkett@dix-eaton.com** **Gary Pratt** **Senior Vice President** **(216) 241-4613 Direct** **(216) 241-0405 Office** **(440) 477-1278 Cell** **gpratt@dix-eaton.com**	**(216) 241-3073**	Public Relations, Crisis Management services. Serving clients in the Great Lakes region and the Mid-West US.
O'Neil & Associates			
31 New Chardon St. Boston, Massachusetts 02114	**Andrew M. Paven** **Senior Vice President** **(866) 989-4321 Toll Free** **(617) 646-1000 Office** **(617) 646-1290 Fax** **apaven@oneillandassociates.com**	**(866) 989-4321**	Public Relations, Crisis Management services. Serving clients in the New England region.

SAMPLE

Edelman			
200 E. Randolph Street, 63rd Floor Chicago, IL 60601	**Harlan Loeb** **Executive Vice President** **(312) 240-2624 Direct** **(312) 240-3000 Office** **(312) 240-2900 Fax** **(312) 282-5632 Cell** **harlan.loeb@edelman.com** **Jenifer Giller** **Senior Account Executive** **(312) 233-1272 Direct & Cell** **(312) 240-3000 Office** **(312) 240-2900 Fax** **jenifer.giller@edelman.com**	**(866) 333-5911**	Public Relations, Crisis Management services. Serving clients in the US and Internationally.
Fleishman-Hilliard International Communications, Inc.			
John Hancock Center 200 East Randolph Street, 37th Floor Chicago, IL 60601	**David Saltz** **Senior Vice President and Partner** **(312) 751-3530 Direct** **(312) 751-8878 Office** **(312) 729-3630 Cell** **(312) 751-8191 Fax** **david.saltz@fleishman.com** **Rick Fox** **Senior Vice President** **(617) 729-3734 Direct** **(312) 286-4983 Cell** **(312) 751-8191 Fax** **rick.fox@fleishman.com**	**(312) 729-3630**	Public Relations, Crisis Management services. Serving clients in the US and Internationally.
Levick Strategic Communications, LLC			
1900 M Street NW Washington, D.C. 20036	**Gene Grabowski** **Senior Vice President** **(202) 973-1351 Direct** **(202) 270-6560 Cell** **(202) 973-1301 Fax** **ggrabowski@levick.com** **Jason Maloni** **Senior Vice President** **(202) 973-1335 Direct** **(202) 834-9677 Cell** **Jason.maloni@levick.com**	**(202) 270-6560**	Public Relations, Crisis Management services. Serving the US, Europe, Asia and the Middle East.
Marsh, Inc. (Reputational Risk & Crisis Management Group)			
1166 Avenue of the Americas New York, NY 10036	**Tracy Knippenburg Gillis** **Managing Consultant** **(212) 345-3886 Direct** **(516) 661-0308 Cell** **(516) 536-5845 Other**	**(877) 246-2774**	Public Relations, Crisis Management services.

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	(212) 948-8638 Fax tracy.knippenburggillis@marsh.com		Serving clients in the US.
345 California Street Suite 1300 San Francisco, California 94104	**Simon R. Baker** **Vice President** **(415) 743-8648 Direct** **(415) 367-5707 Cell** simon.r.baker@marsh.com		
rbb Public Relations			
355 Alhambra Circle, Suite 800 Miami, Florida 33134	**Bruce S. Rubin** **Senior Counselor** **(305) 448-2640 Direct** **(305) 807-2704 Cell** **(305) 448-5027 Fax** Bruce.rubin@rbbpr.com	**(305) 807-2704**	Public Relations, Crisis Management services. Serving clients in the US.
Sard Verbinnen & Co.			
630 Third Avenue, 9th Floor New York, NY 10017	**George Sard** **Chairman and CEO** **(212) 687-8080 Office** **(212) 687-8344 Fax** gsard@sardverb.com	**(917) 750-4392**	Public Relations, Crisis Management services. Serving clients in the US.
475 Sansome Street, Suite 1750 San Francisco, CA 94111	**Paul Kranhold** **Managing Director** **(415) 618-8750 Office** **(415) 568-9580 Fax** pkranhold@sardverb.com		
Sitrick and Company, Inc.			
655 Third Avenue, 22nd Floor New York, NY 10017	**Jeffrey S. Lloyd, Ph. D.** **Managing Director** **(212) 660-6393 Direct** **(212) 573-6100 Office** **(310) 963-2850 Cell** **(212) 573-6165 Fax** jeff_lloyd@sitrick.com	**(310) 358-1011**	Public Relations, Crisis Management services. Serving clients in the US.
1840 Century Park East, Suite 800 Los Angeles, CA 90067	**Michael S. Sitrick** **Chairman and CEO** **(310) 788-2850 Direct** **(310) 788-2855 Fax** mike_sitrick@sitrick.com		

The Torrenzano Group			
The Lincoln Building 60 East 42nd Street, Suite 2112 New York, NY 10165-2112	**Richard Torrenzano** **Chairman and CEO** **(212) 681-1700 Ext. 111 Direct** **(212) 681-6961 Fax** **richard@torrenzano.com** **Edward A. Orgon** **Chairman and Chief Operating Officer** **(212) 681-1700 Ext. 102 Direct** **(917) 539-4000 Cell** **(212) 681-6961 Fax** **ed@torrenzano.com**	**(917) 539-4000**	Public Relations, Crisis Management services. Serving clients in the US.

THE FOLLOWING NON-PUBLIC RELATIONS FIRMS ARE APPROVED CRISIS RESPONSE VENDORS

FIRM ADDRESS	CONTACT INFORMATION	EMERGENCY TELEPHONE	SERVICES OFFERED
Bill Tibbo & Associates			
411 Borland Court Newmarket, Ontario, L3X 1E4	**Bill Tibbo** **Corporate Clinical Consultant and Disaster Management Specialist** **(888) 355-9788 Toll Free** **(416) 716-8057 Cell** **bill@billtibbo.com** **Ross McPhail** **Vice President Operations** **(905) 830-0291 Office** **(905) 868-4174 Cell** **ross@billtibbo.com**	**(905) 868-4174**	Psychological Counseling, Medical Case Management, Medical Cost Projection and Containment services. Serving clients in the US & Canada.
Coventry Health Care, Inc.			
3200 Highland Ave. Downers Grove, IL 60515	**Dr. Michael Lacroix** **(914) 223-4463 Cell** **(786) 513-7690 Fax** **jxlacroix@cvty.com**	**(888) 552-5378**	Psychological Counseling, Medical Case Management, Medical Cost Projection and Containment services. Serving clients in the US.

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Lombardi Associates

277 Fairfield Road, Suite 305A Fairfield, NJ 07004	**Anthony Nastasi** **National Director of Client Services** **(973) 271-8928 Direct** **(800) 550-0095 Office** **(310) 552-9052 Fax** **anthony.nastasi@lombardiassociates.com**	**(877) 715-2440**	Psychological Counseling, Medical Case Management, Medical Cost Projection and Containment services.
	Jennifer Wolfe **(803) 917-9948**		Serving clients in the US and Canada.

Cunningham Lindsey US (f/k/a GAB Robbins North America, Inc.)

560 Peoples Plaza, Suite 215 Newark, Delaware 19702	**Gail Oliver** **Vice President** **(302) 838-1684 Direct** **(302) 521-4985 Cell** **(302) 838-1685 Fax** **goliverg@cl-na.com**	**(800) 621-5410**	Claims Investigation, Appraisal, Emergency Claims and Loss Call Center Operations services.
			Serving clients in the US and Internationally.

T. J. Russo Consultants

99 Hillside Avenue, Suite X Williston Park, NY 11596	**Michael W. Russo** **Senior Consultant** **(516) 294-8644 Ext. 15 Direct** **(516) 456-3900 After Hours** **(516) 747-1009 Fax** **(516) 456-3900 Cell** **mwrusso123@aol.com**	**(516) 456-3900**	Fire Investigation and Analysis services.
			Serving clients in the US.

D.A.R., Inc.

4 Iris Drive Scarborough, Maine 04074	**David W. Hunt** **Founder and President** **(207) 415-0735 Direct** **(207) 883-0493 Home** **(207) 883-2436 Fax** **dhunt12348@aol.com**	**(207) 415-0735**	Crisis Management, Global Investigation Services, Access to National & International Intelligence Agencies, Crisis Management services.

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			Serving clients in the US and Internationally.
Lanny J. Davis & Associates, LLC			
600 13th Street, NW Suite 600 Washington, DC 20005	**Lanny J. Davis** **Attorney at Law** **(202) 756-8211** **(202) 737-1141 Fax** **ldavis@lannyjdavis.com**		Legal Crisis Communications, Media Strategy, Public Advocacy, Legal & Regulatory Issues, Crisis Management services.
	Maddie Melendez **Assistant** **(202) 756- 8293** **mmelendez@lannyjdavis.com**		Serving clients in the US and Internationally.
Meagher & Geer, P.L.L.P.			
33 S. Sixth Street, Suite 4400 Minneapolis, MN 55402	**Russell D. Melton** **Attorney at Law and Partner** **(612) 371-1317 Direct** **(612) 338-0661 Office** **(612) 338-8384 Fax** **(612) 964-1882 Cell** **rmelton@meagher.com**	**(612) 347-9118**	Commercial and industrial fire investigation, engineering and legal services. Serving clients in the US and Internationally.
Patton Boggs, LLP			
2550 M Street, NW Washington, DC 20007	**Thomas M. Keane** **Director of Strategic Business Initiatives, Litigation Practice** **(202) 457-7540 Direct** **(202) 256-1289 Cell** **(202) 457-6315 Fax** **tkeane@pattonboggs.com**		Legal & Regulatory Issues, Public Relations and Crisis Management services. Serving clients in the US.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

SPECIFIC DEED RESTRICTION AMENDATORY ENDORSEMENT

It is hereby agreed that:

1. The following is added to Section **II. EXCLUSION, 1. COMMON EXCLUSIONS - APPLICABLE TO ALL COVERAGES:**

   DEED RESTRICTION / ENGINEERING CONTROL:

   Arising from any **Insured's** material violation of or non-compliance with any deed restriction, activity or land use limitation or engineering control that is or is to be implemented on the **Insured Property**, or arising from any **Insured's** material violation of NPDS Waste Discharge Permit No. WA0023159, and any amendments thereto, associated with the **Insured Property**.

2. The following is added to Section **VI. CONDITIONS:**

   By acceptance of this Policy, the **Named Insured** agrees to comply with NPDS Waste Discharge Permit No. WA0023159, and any amendments thereto, associated with the **Insured Property**. Furthermore, the **Named Insured** understands and acknowledges that this Policy is issued in reliance upon such agreement.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

ENDORSEMENT NO.

SPECIMEN

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

TERRORISM EXCLUSION - ALL TERRORISM (CERTIFIED AND NON- CERTIFIED ACTS OF TERRORISM) EXCLUSION ENDORSEMENT

This Policy is amended to include the following Exclusion:

The Company has no obligation to make any payment or to provide or to pay for a defense under this Policy due to or arising directly or indirectly as a result of or in connection with **Terrorism. Terrorism** means the use or threatened use of force or violence against person or property, or commission of an act dangerous to human life or property, or commission of an act that interferes with or disrupts an electronic or communication system, undertaken by any person or group, whether or not acting on behalf of or in connection with any organization, government, power, authority or military force, when the effect is to intimidate, coerce or harm a government, the civilian population or any segment thereof, or to disrupt any segment of the economy.

The defined term **Terrorism** shall specifically include, but is not limited to, the following definition of a certified "act of terrorism" as defined by the Terrorism Risk Insurance Act of 2002, as amended by the Terrorism Risk Insurance Program Reauthorization Act of 2007 (collectively, "TRIA") as follows:

ACT OF TERRORISM, -

a. **CERTIFICATION** - The term "act of terrorism" means any act that is certified by the Secretary (of the Treasury), in concurrence with the Secretary of State, and the Attorney General of the United States -
   i. To be an act of terrorism;
   ii. To be a violent act or an act that is dangerous to:
      1. human life;
      2. property; or
      3. infrastructure;
   iii. to have resulted in damage within the United States, or outside of the United States in the case of:
      1. an air carrier or vessel (described in TRIA); or
      2. the premises of a United States mission; and
   iv. to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion.

b. **LIMITATION** - No act shall be certified by the Secretary as an act of terrorism if:
   i. The act is committed as part of the course of a war declared by the Congress, except that this clause shall not apply with respect to any coverage for workers' compensation; or
   ii. Property and casualty insurance losses resulting from the act, in the aggregate, do not exceed $5,000,000.

c. **DETERMINATION FINAL** - Any certification of, or determination not to certify, an act as an act of terrorism under this Paragraph shall be final, and shall not be subject to judicial review.

FOR USE TO EXCLUDE ALL TERRORISM REJECTION OF CERTIFIED ACTS OF TERRORISM.

d. **NONDELEGATION** - The Secretary may not delegate or designate to any other officer, employee, or person, any determination under this Paragraph of whether, during the effective period of the Program, an act of terrorism has occurred.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

FOR USE TO EXCLUDE ALL TERRORISM CERTIFIED and NON CERTIFIED ACTS.

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

UNDERGROUND STORAGE TANK EXCLUSION ENDORSEMENT

It is hereby agreed that:

1. Section **II. EXCLUSIONS, 1. COMMON EXCLUSIONS - APPLICABLE TO ALL COVERAGES,** Paragraph **F. IDENTIFIED UNDERGROUND STORAGE TANK** is deleted in its entirety and replaced with the following:

   F. IDENTIFIED UNDERGROUND STORAGE TANK:

   Arising from a **Pollution Condition** resulting from any **Underground Storage Tank(s)**. Coverage is available only for those **Underground Storage Tank(s)** specifically approved in writing by the underwriter and scheduled in the Policy by endorsement.

2. Section **VIII. DEFINITIONS**, Paragraph **JJ. Underground Storage tank** is deleted in its entirety and replaced with the following:

   JJ. Underground Storage Tank means any one or combination of tanks, including underground pipes connected thereto, that has or has had at least ten (10) percent of its volume beneath the surface of the ground. **Underground Storage Tank** does not include:

   1. Septic tanks, sump pumps or oil/water separators;

   2. A tank that is enclosed within a basement, cellar, shaft or tunnel, if the tank is upon or above the surface of the floor; or

   3. Storm-water or wastewater collection systems.

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

ENDORSEMENT NO.

SPECIMEN

This endorsement, effective 12:01 AM:

Forms a part of policy no.:

SPECIMEN

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

SCHEDULE OF INSURED PROPERTIES

It is hereby agreed that the following location(s) is (are) included in Item 5 of the Declarations as **INSURED PROPERTY(S)**, subject to all of the terms and conditions of the Policy.

Item 5: INSURED PROPERTY(S):

Those locations listed in the spreadsheet entitled SOV 2014 2015.xls sent to the Company by the Broker on December 5, 2014 and on file with the Company.

Parcel Numbers:

10112611049:	TAX LOT 49 LESS RIGHT OF WAY IN 26-10-11
10112612014:	TAX LOT 14 INCLUDING VACANT ROAD; TAX LOT 16 LESS RIGHT OF WAY IN 26-10-11
10112612018:	TAX LOT 18 INCLUDING VACANT ROAD IN 26-10-11
10112612024:	TAX LOT 24 AND 25 IN 26-10-11
10112613010:	TAX LOT 10 EAST OF HIGHWAY AND NORTH OF ROAD IN 26-10-11
10112443003:	TAX LOT 3 IN 24-10-11
10112444000:	SE ¼ OF SE ¼ LESS ROAD AND METES AND BOUNDS IN 24-10-11
10103032000:	NORTHWEST ¼ OF SOUTHWEST ¼ IN 30-10-10
10112522007:	INC RR R/WSEC 24/25

All other terms, conditions and exclusions remain the same.

Authorized Representative
or countersignature (where required by law)

SPECIMEN

ENDORSEMENT NO.

This endorsement, effective 12:01 AM,

Forms a part of Policy No:

Issued to:

By:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CONTINUITY DATE FOR COVERED OPERATIONS ENDORSEMENT

It is hereby agreed that solely with respect to **Covered Operations, Item 8. CONTINUITY DATE** of the Declarations is deleted in its entirety and replaced with the following:

Item 8. CONTINUITY DATE: Plcy Incep

All other terms, conditions, and exclusions shall remain the same.

AUTHORIZED REPRESENTATIVE
or countersignature (in states where applicable)

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing: 5/26/2015
Council Discussion Item: 5/26/15 Council Business Item:

Issue/Topic: **Six-Year Transportation Improvement Program**

B. Sponsor(s):
   1. David Jensen 2. Gary Forner

C. Background (overview of why issue is before council):
Annually, the city is required to update the six-year transportation improvement program and submit it to the state. The Streets Committee has recently met with the mayor to update the plan.

D. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details)
While the city has very little money to complete the projects listed on the plan, the projects typically must be listed on the plan when seeking funds from other agencies, such as the Transportation Improvement Board. Since the last meeting, the extension of the Discovery Trail has been added.

E. Impacts:
   1. Fiscal:
   2. Legal:
   3. Personnel:
   4. Service/Delivery: There are numerous deteriorating streets in the city.

F. Time Constraints/Due Dates: The plan must be submitted to the regional office by July 1, 2015.

G. Proposed Motion: **I move to adopt the proposed resolution revising and extending the six-year transportation improvement program from 2016-2021.**

CITY OF ILWACO
RESOLUTION NO. 2015-XX

A RESOLUTION OF THE CITY OF ILWACO, WASHINGTON, REVISING AND EXTENDING THE SIX YEAR TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, pursuant to the requirements of RCW 35.77.010, laws of the State of Washington, the City of Ilwaco has prepared a revised and extended Six Year Transportation Improvement program for the ensuing six calendar years of 2016 to 2021, and

WHEREAS, pursuant further to said law, the City Council did hold a public hearing on said plan at 6:00 pm or soon thereafter on the 26th day of May 2015,

NOW THEREFORE, be it resolved by the City Council that the revised and extended Six Year Transportation Improvement Program for the ensuing calendar years 2016 to 2021 be the same and is hereby adopted, and

Be it further resolved, that a copy of this resolution be filed with the Department of Transportation District Aid Engineer of the State of Washington.

Effective Date. This Resolution, being an exercise of power specifically delegated to the city legislative body, is not subject to referendum and shall take effect five (5) days after passage by the City Council.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTIFICATION OF ITS PASSAGE THIS XXTH DAY OF_____, 2015.

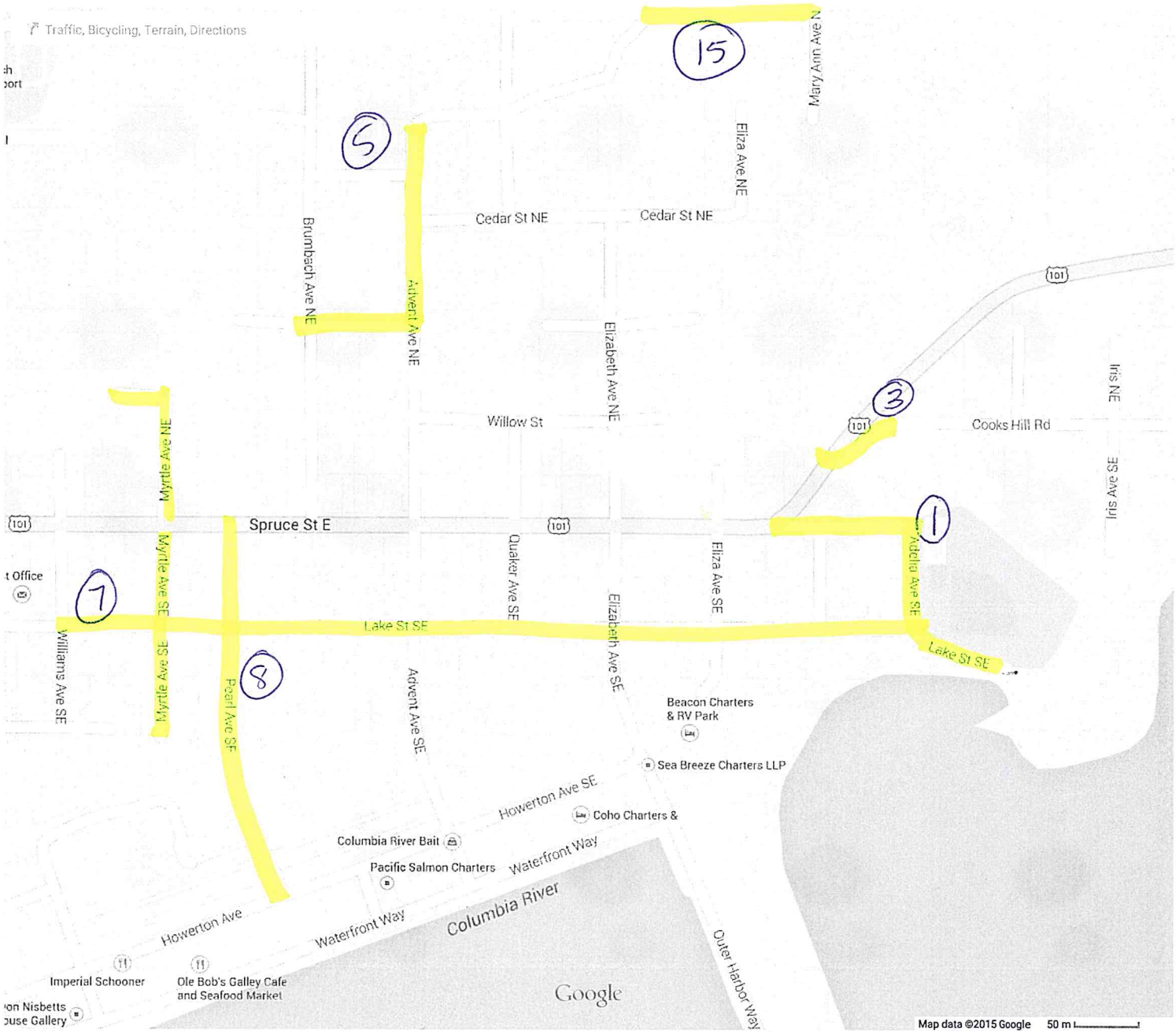
_____
Mike Cassinelli, Mayor

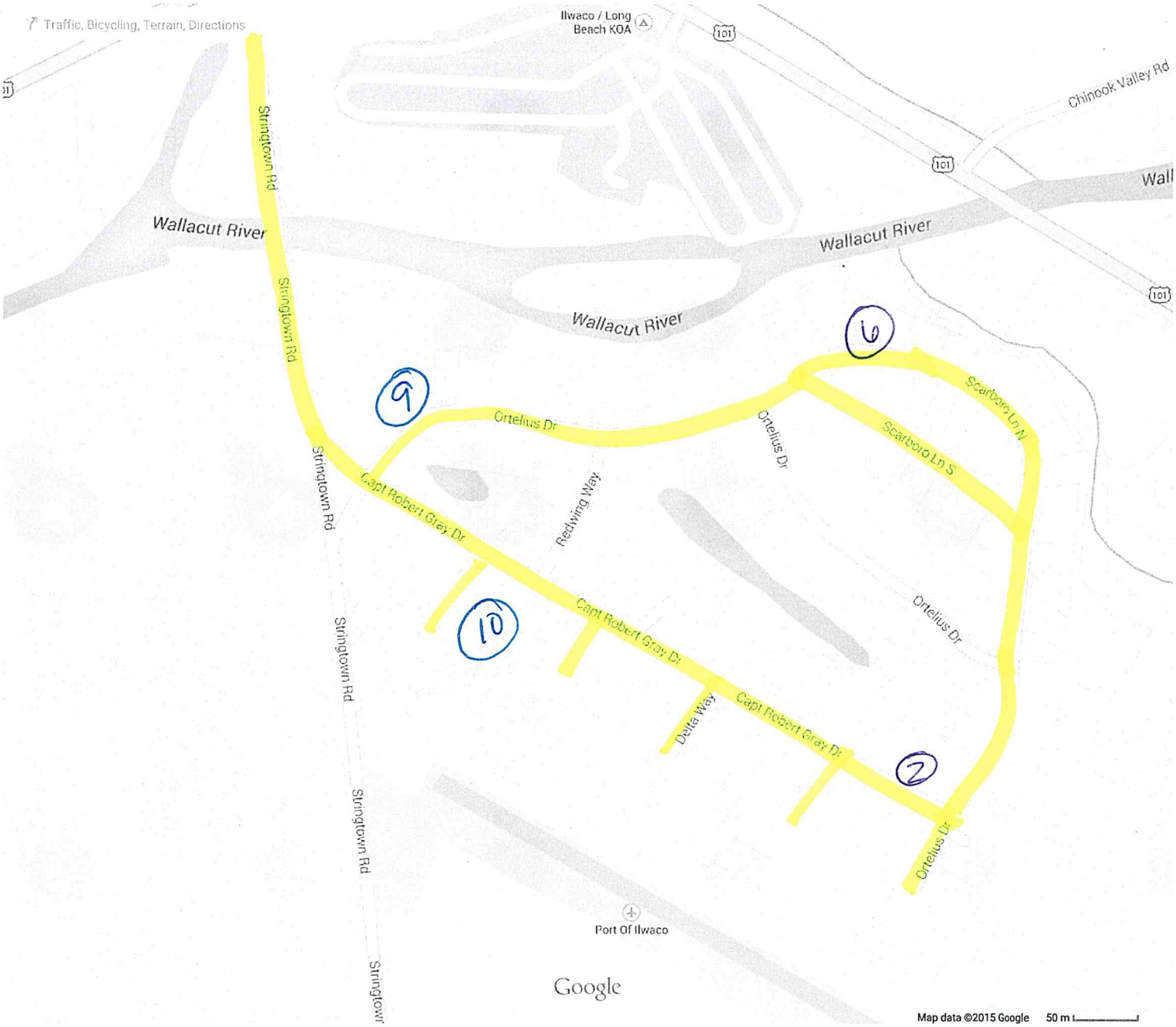
ATTEST:

_____
Ariel Smith, Treasurer

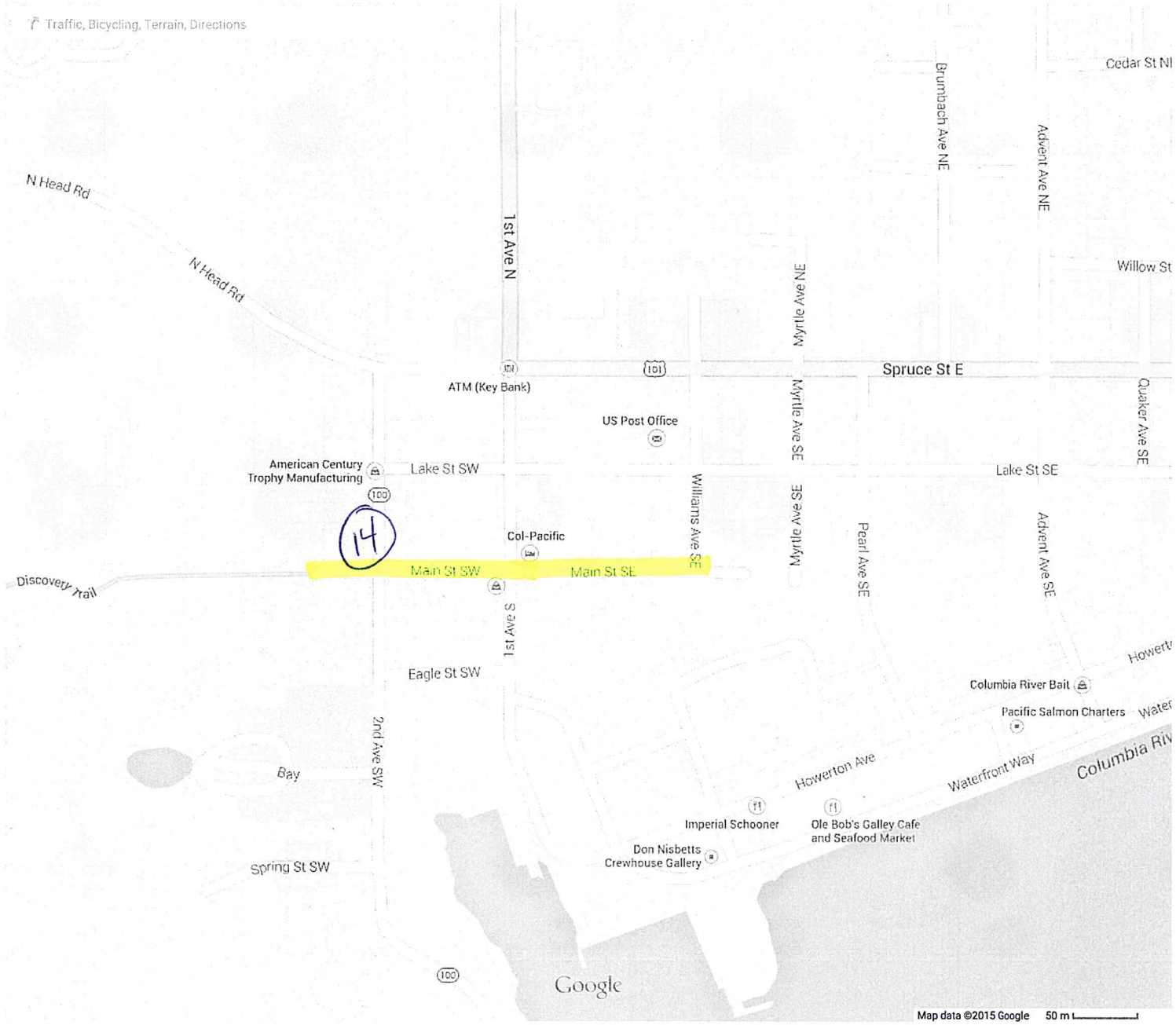
VOTE	Jensen	Mulinix	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

EFFECTIVE:


Traffic, Bicycling, Terrain, Directions
15
Mary Ann Ave N
Eliza Ave NE
5
Cedar St NE
Cedar St NE
Brumbach Ave NE
Advent Ave NE
Elizabeth Ave NE
101
3
Willow St
Cooks Hill Rd
Iris NE
Iris Ave SE
Myrtle Ave NE
101
Spruce St E
101
1
Quaker Ave SE
Eliza Ave SE
Adelia Ave SE
7
Lake St SE
Lake St SE
Myrtle Ave SE
Williams Ave SE
Myrtle Ave SE
8
Pearl Ave SE
Advent Ave SE
Elizabeth Ave SE
Beacon Charters & RV Park
Sea Breeze Charters LLP
Howerton Ave SE
Coho Charters &
Columbia River Bait
Pacific Salmon Charters
Waterfront Way
Howerton Ave
Waterfront Way
Columbia River
Outer Harbor Way
Imperial Schooner
Ole Bob's Galley Cafe and Seafood Market
Google
Map data ©2015 Google 50 m


Traffic, Bicycling, Terrain, Directions
Ilwaco / Long Beach KOA
101
Chinook Valley Rd
Stringtown Rd
Wallacut River
Wallacut River
Wallacut River
Wall
9
6
Ortelius Dr
Ortelius Dr
Scarboro Ln N
Scarboro Ln S
Capt Robert Gray Dr
Redwing Way
10
Capt Robert Gray Dr
Ortelius Dr
Delta Way
Capt Robert Gray Dr
2
Ortelius Dr
Port Of Ilwaco
Google
Map data ©2015 Google
50 m

Traffic, Bicycling, Terrain, Directions
Wecoma Pl SW
Wecoma Pl SW
Hiaqua Pl
Wecoma Pl SW
12
Nesadi Dr SW
Ocean View Ct
Lighthouse Keepers Rd
Lighthouse Keepers Rd
Klahanee Dr SW
Lamontay
Klahanee Pl
Discovery Dr
Discovery Ct
Tum Tum Pl SW
Lighthouse Keepers Rd
Lewis & Clark
Interpretive Center
Discovery Dr
Discovery Dr
101
Coastal Ridge Dr
Ridgetop Trail
Overlook Loop
Robert Gray Dr
Google
Map data ©2015 Google 50 m


Traffic, Bicycling, Terrain, Directions
Cedar St NI
Brumbach Ave NE
Advent Ave NE
N Head Rd
N Head Rd
1st Ave N
Willow St
Myrtle Ave NE
Spruce St E
ATM (Key Bank)
US Post Office
Myrtle Ave SE
Quaker Ave SE
American Century Trophy Manufacturing
Lake St SW
Lake St SE
Williams Ave SE
Myrtle Ave SE
Pearl Ave SE
Advent Ave SE
14
Col-Pacific
Main St SW
Main St SE
Discovery Trail
1st Ave S
Howerto
Eagle St SW
Columbia River Bait
Pacific Salmon Charters
Water
2nd Ave SW
Bay
Howerton Ave
Waterfront Way
Columbia Riv
Imperial Schooner
Ole Bob's Galley Cafe and Seafood Market
Don Nisbetts Crewhouse Gallery
Spring St SW
Google
Map data ©2015 Google 50 m

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
06	1	Adelia and Spruce Street Cutoff Adelia St. and Spruce St. SR 101 Cutoff to Lake Street Pave from SR 101 cutoff to Lake Street including parking area	WA-02776	05/26/15	05/26/15		2015-xx	03		0.110		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2016		0	TIB	76,000	0	76,000
P	CN	2017		0	TIB	400,000	20,000	420,000
			Totals	0		476,000	20,000	496,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	76,000	0	0	0	0
CN	0	420,000	0	0	0
Totals	76,000	420,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	2	Capt. Robert Gray Drive - Vandalia Captain Robert Gray Drive Stringtown Rd to Orelius E Chip seal Capt. Robert Gray Dr. from Stringtown Rd to Ortelius E	WA-02777	05/26/15	05/26/15		2015-xx	07		0.340		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	CN	2016		0	TIB	118,679	6,246	124,925
			Totals	0		118,679	6,246	124,925

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	124,925	0	0	0	0
Totals	124,925	0	0	0	0

Report Date: May 06, 2015

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	3	Cooks Hill Intersection Cooks Road NE Cooks Road NE to SR 101 Rebuild hazardous intersection	WA-02807	05/26/15	05/26/15		2015-xx	07		0.050		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2018		0	TIB	50,000	0	50,000
P	CN	2018		0	TIB	446,850	26,150	473,000
			Totals	0		496,850	26,150	523,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	50,000	0	0	0	0
CN	0	473,000	0	0	0
Totals	50,000	473,000	0	0	0

Report Date: May 06, 2015

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
00	4	Discovery Trail Extension Main Street to Cooks Hill Connect the Discovery from Main Street to Cooks Hill.	WA-06602	05/26/15	05/26/15		2015-xx	28		1.400		Yes

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2016		0	Ped/Bike Program	260,000	0	260,000
P	CN	2018		0	Ped/Bike Program	1,468,000	0	1,468,000
			Totals	**0**		**1,728,000**	**0**	**1,728,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	260,000	0	0	0	0
CN	0	1,468,000	0	0	0
Totals	**260,000**	**1,468,000**	**0**	**0**	**0**

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. / C. Project Title / D. Road Name or Number / E. Begin & End Termini / F. Project Description	B. STIP ID / G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
06	5	Hilltop School Route - Advent Street Advent and Hemlock Spruce to Quaker Pave Advent Ave.: Spruce thru Fir (w/sidewalks Spruce to Willow). Advent. Hemlock: Advent to Brumbach.	WA-02759	05/26/15	05/26/15		2015-xx	07		0.340		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2016		0	TIB	80,000	0	80,000
P	CN	2017		0	TIB	401,000	25,000	426,000
			Totals	0		481,000	25,000	506,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	80,000	0	0	0	0
CN	0	401,000	0	0	0
Totals	80,000	401,000	0	0	0

Report Date: May 06, 2015

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco

County: Pacific

MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	6	Scarboro Lane Improvements Scarboro Ln/Scarboro Dr Scarboro Ln South to Scarboro Ln South Scarboro Ln N from Scarboro Dr to Ortelius Dr Chip Seal and add storm drain	WA-02772	05/26/15	05/26/15		2015-xx	07		0.320		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2016		0	TIB	40,000	0	40,000
P	CN	2017		0	TIB	197,000	12,000	209,000
			Totals	0		237,000	12,000	249,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	40,000	0	0	0	0
CN	0	209,000	0	0	0
Totals	40,000	209,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
08	7	Lake Street Improvements Lake Street Adelia to Williams Pave shoulder and new sidewalks	WA-02762	05/26/15	05/26/15		2015-xx	03		0.400		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2017		0	TIB	94,000	0	94,000
P	CN	2018		0	TIB	476,000	30,000	506,000
			Totals	0		570,000	30,000	600,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	94,000	0	0	0	0
CN	0	506,000	0	0	0
Totals	94,000	506,000	0	0	0

Report Date: May 06, 2015

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
08	8	Pearl Av and Myrtle Av/Fire Hall Pearl Av and Myrtle Av Spruce to Howerton/Main Pave Pearl Av: Spruce to Howerton Pave Myrtle Av: Spruce to Lake Chip Seal Myrtle Av: Spruce end to (Main)	WA-02773	05/26/15	05/26/15		2015-xx	07		0.280		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2017		0	TIB	61,000	0	61,000
P	CN	2018		0	TIB	309,000	19,000	328,000
			Totals	0		370,000	19,000	389,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	61,000	0	0	0	0
CN	328,000	328,000	0	0	0
Totals	389,000	328,000	0	0	0

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	9	Ortelius Drive Ortelius Drive Stringtown Rd. to Capt. Robert Gray Drive Chip seal and add storm drains from Stringtown Rd. to Capt. Robert Gray Dr.	WA-02784	05/26/15	05/26/15		2015-xx	03		0.450		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2017		0	TIB	54,000	0	54,000
P	CN	2018		0	TIB	273,000	17,000	290,000
			Totals	0		327,000	17,000	344,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	54,000	0	0	0	0
CN	0	290,000	0	0	0
Totals	54,000	290,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco

County: Pacific

MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	10	Vandalia Cul-de-Sacs Chattam/Rochelle/Delta/Glemorag/Ortelius Capt. Robert Gray Dr to South to dead end Chip seal from Capt. Robert Gray Dr to end of each Vandalia cul-de-sac	WA-02805	05/26/15	05/26/15		2015-xx	03		0.150		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2019		0	TIB	20,000	0	20,000
P	CN	2020		0	TIB	99,000	7,000	106,000
			Totals	**0**		**119,000**	**7,000**	**126,000**

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	20,000	0	0	0	0
CN	106,000	106,000	0	0	0
Totals	**126,000**	**106,000**	**0**	**0**	**0**

Report Date: May 06, 2015

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. / C. Project Title / D. Road Name or Number / E. Begin & End Termini / F. Project Description	B. STIP ID / G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
00	11	Sidewalk Improvement Project Various Various to Various Repair/construct various city sidewalks	WA-02806	05/26/15	05/26/15		2015-xx	28		1.000		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
S	CN	2016		0	TIB	20,000	0	20,000
			Totals	0		20,000	0	20,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	20,000	0	0	0	0
Totals	20,000	0	0	0	0

Report Date: May 06, 2015

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	12	Reservoir Road Reservoir Road Wecoma to Dead End Chip Seal road from Wecoma to dead end	WA-02803	05/26/15	05/26/15		2015-xx	06		0.080		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2018		0	TIB	11,000	0	11,000
P	CN	2019		0	TIB	54,000	4,000	58,000
			Totals	0		65,000	4,000	69,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	11,000	0	0	0	0
CN	58,000	58,000	0	0	0
Totals	69,000	58,000	0	0	0

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	13	Miscellaneous Chip Seals Advent/Myrtle/Ash/Eagle/Main SE/Pearl to Chip seal Advent SE from Lake to Spruce; Myrtle SE from Lake to dead end; Ash NE; Eagle NE	WA-03625	05/26/15	05/26/15		2015-xx	05		0.470		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	CN	2017		0		0	26,064	26,064
			Totals	0		0	26,064	26,064

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
CN	26,064	0	0	0	0
Totals	26,064	0	0	0	0

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	14	Main Street SW Main St SW to Repair sloughing street. Connect to Discovery Trail.	WA-03624	05/26/15	05/26/15		2015-xx	05		0.130		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2019		0	TIB	44,000	0	44,000
P	CN	2020		0	TIB	165,000	9,000	174,000
			Totals	0		209,000	9,000	218,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	44,000	0	0	0	0
CN	0	174,000	0	0	0
Totals	44,000	174,000	0	0	0

Report Date: May 06, 2015

Washington State Department of Transportation

Six Year Transportation Improvement Program From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. / C. Project Title / D. Road Name or Number / E. Begin & End Termini / F. Project Description	B. STIP ID / G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
09	15	Whealdon Street Whealdon Quaker to dead end/Cedar Chip Seal and dedicate gravel road on city property within the county's jurisdiction	WA-02788	05/26/15	05/26/15		2015-xx	01		0.150		No

Funding

Status	Phase	Phase Start Year (YYYY)	Federal Fund Code	Federal Funds	State Fund Code	State Funds	Local Funds	Total Funds
P	PE	2018		0	TIB	64,000	0	64,000
P	CN	2018		0	TIB	244,000	13,000	257,000
			Totals	0		308,000	13,000	321,000

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
PE	64,000	0	0	0	0
CN	0	257,000	0	0	0
Totals	64,000	257,000	0	0	0

Washington State
Department of Transportation

Six Year Transportation Improvement Program
From 2016 to 2021

Agency: Ilwaco
County: Pacific
MPO/RTPO: SWW RTPO N Inside Y Outside

Functional Class	Priority Number	A. PIN/Project No. C. Project Title D. Road Name or Number E. Begin & End Termini F. Project Description	B. STIP ID G. Structure ID	Hearing	Adopted	Amendment	Resolution No.	Improvement Type	Utility Codes	Total Length	Environmental Type	RW Required
00	16	Quaker extension Quaker No name road/Whealdon to Develop road to Black Lake/old city shop	WA-06537	05/27/14	05/27/14		2014-08	03				No

Error: Subreport could not be shown.

Expenditure Schedule

Phase	1st	2nd	3rd	4th	5th & 6th
	0	0	0	0	0
Totals	0	0	0	0	0

	Federal Funds		State Funds	Local Funds	Total Funds
Grand Totals for Ilwaco	0		5,525,529	214,460	5,739,989

Report Date: May 06, 2015

CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 5/26/15 Council Business Item:

B. Issue/Topic: **Source Watershed Control Plan**

C. Sponsor(s):
1. Cassinelli 2.

D. Background (overview of why issue is before council):
1. Garrett Phillips with CREST contracted with the City of Ilwaco to produce a Water Source Control Plan to protect the City's drinking water supply and the health of water system users.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details):
1. A special meeting was held on April 27, 2015 with Garrett Phillips and City Council to review the plan and address any concerns or questions from council. It was then recommended to move the plan forward for formal adoption by council. Once the plan is adopted it will then be sent onto the Department of Health for approval, if DOH has any suggestions they will be incorporated into the final version.

F. Impacts:
1. Fiscal:
2. Legal: Heather has reviewed the resolution
3. Personnel:
4. Service/Delivery:

G. Planning Commission: ☐ Recommended ☒ N/A ☐ Public Hearing on

H. Staff Comments:

I. Time Constraints/Due Dates:

J. Proposed Motion: **I move enact resolution 2015-XX therefore adopting the Source Watershed Control Plan and amending the current Water System Plan.**

CITY OF ILWACO
RESOLUTION NO. 2015-XX

A RESOLUTION OF THE CITY OF ILWACO, WASHINGTON, ADOPTING THE SOURCE WATERSHED CONTROL PLAN AMENDING THE CURRENT WATER SYSTEM PLAN

WHEREAS, the City is required to ensure adequate source watershed protection under the Safe Drinking Water Act and the Washington State Group "A" Public Drinking Water Supplies Rule, WAC 246-290; and

WHEREAS, Washington Department of Health provided funding under interagency agreement Contract #N20735 to update the City's source water control program; and

WHEREAS, the 2011 Water System Plan as amended by the Source Watershed Control Plan 2015 will meet the requirements of WAC 246-290-668; and

WHEREAS, the City intends to protect its drinking water source by implementing the Source Watershed Control Program 2015;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ILWACO, WASHINGTON, DOES RESOLVE AS FOLLOWS:

Section 1. The Ilwaco Source Watershed Control Plan 2015 amends the City of Ilwaco 2011 Water System Plan, replacing Chapter 6 of said 2011 System Plan; and

Section 2. The City of Ilwaco staff is directed to submit the adopted Source Watershed Control Plan 2015 to the Washington State Department of Health for approval, and to make any corrections to the Source Watershed Control Plan 2015 document required by the Washington State Department of Health for compliance with WAC 246-290-668.

Section 3. Effective Date. This resolution, being an exercise of power specifically delegated to the city legislative body, is not subject to referendum and shall take effect five (5) days after passage by the City Council.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTIFICATION OF ITS PASSAGE THIS ___ DAY OF _____, 2015.

_____
Mike Cassinelli, Mayor

ATTEST:

_____
Holly Beller, Deputy City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

EFFECTIVE:

Source Watershed Control Plan

City of Ilwaco

May 2015

Prepared for:

PO Box 548
Ilwaco, WA 98624

Prepared by:

Columbia River Estuary Study Taskforce
818 Commercial Street, Suite 203
Astoria, OR 97103

Prepared with funding from:
Washington State Department of Health

Special thanks to the following contributors:

Rick Gray, City of Ilwaco

Daryl Gardner, City of Ilwaco

Dave Mckee, City of Ilwaco

Nadia Gardner, Columbia Land Trust

Darin Stringer, Pacific Stewardship LLC

Tom Kollasch, The Nature Conservancy

Nick Somero, USDA NRCS

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Land/ Timber Ownership
Parcels/ 1987 Agreement Units
Roads Overview
FPA Preliminary Stream Types and Zones
Timber Areas Downstream of Impoundment
Appendix E: Selected Roads Inventory

1. Introduction

1.1 Background

Implementation of this Water Source Control Plan will protect the City's drinking water supply and the health of water system users. It is typically more efficient to protect drinking water in the source watershed than it is to treat dirty water or to find and replace a drinking water supply.

Communities using surface water for their drinking water are required to ensure adequate source watershed protection under the Safe Drinking Water Act and the Washington State Group "A" Public Drinking Water Supplies Rule, WAC 246-290. Protecting drinking water at its source is the first part of a "multi-barrier" line of defense including treatment and monitoring. State of Washington Department of Health gave Ilwaco's watershed a low susceptibility rating in 2014.

The multi-barrier approach uses a series of technical and managerial barriers to prevent contamination of the drinking water source and distribution system. The overall philosophy is that by having multiple means of preventing contamination, if one approach fails, consumers will still be protected. The multi-barrier approach includes:

- Risk Prevention: Select and protect the best source of drinking water.
- Risk Management: Install and operate effective treatment technologies, properly design and construct facilities, and employ trained and certified operators.
- Monitoring, Compliance & Enforcement: Use a combination of monitoring that includes source water, finished water, distribution system, and tap monitoring to detect and fix problems.
- Individual Action: Empower customers with information on drinking water quality and health effects of contaminants, and provide opportunities for customers to be involved in water system decision-making.

1.2 Watershed Control Program Requirements

In Washington State, under WAC 246-290, drinking water supply systems using a surface water source must develop and implement a watershed control plan in order to protect the water supply and the health of the water system customers. Protection of the City's source watershed ("watershed") can be accomplished through monitoring, limiting, and controlling to the best extent possible, all activities that may pollute the source water.

This plan complies with Washington State's watershed control program requirements. Regulatory criteria against which Ilwaco's source water protection is evaluated are provided in Washington's Administrative Code.

- WAC 246-290-135, Source Protection
- WAC 246-290-668, Watershed Control
- WAC 246-290-678, Reliability for Filtered System

In accordance with WAC 246-290-135(4), the City's Watershed Control Plan must include a description of the source protection area, hereafter referred to as the watershed, including information on its location, hydrology, land ownership, and any activities that may adversely affect source water quality. The state regulations also require a description of any and all written agreements, monitoring activities, and water

quality information, and a plan for protecting water quality in the protection area.

WAC 246-290-668 requires an evaluation of the Source Watershed Control Plan at least every six years. All changes in the watershed over the previous six years, and changes that affect water quality, must be described. New or improved knowledge about the watershed and its functional characteristics, including hydrology, should be incorporated into a new Source Watershed Control Plan. The purveyor must also have a monitoring program in place to assess the adequacy of the Source Watershed Control Plan.

The Source Watershed Control Plan is an amendment to the 2011 City of Ilwaco Water System Plan, and replaces "Chapter 6 Watershed Control Program" of that plan.

2. Source Water System

The City collects its water from Indian Creek and its tributaries. Water is impounded by a dam and treated at an on-site water treatment facility. The water diverted for the City of Ilwaco would otherwise continue flowing through Indian Creek to the Bear River. The Bear River empties into the southern end of Willapa Bay. Treated City wastewater is discharged into Baker Bay. The Bear River is a minor source of water for Willapa Bay, which is supplied primarily by the North River, Nasselle River, and Willapa River. Willapa Bay is an estuary significant for its fishing, oyster farming, wildlife refuge, and recreational opportunities. The City is required by its water right to bypass a minimum flow into Indian Creek.

The City's drinking water intake is located behind the dam. Raw water from the impoundment flows by gravity to the water treatment plant. The water is filtered, disinfected using hypochlorite, and routed to a storage tank before flowing to the City's distribution system. The Indian Creek treatment facility currently has a production capacity of 1.5 mgd with both filters operating and water rights for 1.5 mgd.

Storage
Untreated water is stored in the Indian Creek Impoundment. The 60-foot-high earth dam is 750 feet long at the crest and 400 feet long at the base. The reservoir impounds 29.5 acre-feet (9.6 million gallons) of water at low pool (Elev. 45 feet), 847 acre-feet (276 million gallons) at normal pool (Elev. 90 feet) and 1,022 acre-feet (333 million gallons) at maximum pool (Elev. 94.7 feet). The reservoir covers 5.07 acres at low pool, 35.19 acres at normal pool and 48.39 acres at maximum pool.

In order to mitigate any adverse effects to aquatic spawning and rearing habitat, reservoir filling is limited to December, January, and February, with filling evenly distributed over these months. Stream water is not allowed to be diverted to the reservoir for filling during the salmon migration periods of October/November and March/April/May.

Intake
The reservoir has been designed so that 97 percent of the storage capacity can be released by gravity. An 18-inch steel pipe, encased in 10 inches of reinforced concrete, is located at an invert elevation of 22 feet (approximately 15 feet below the dam base). This pipe can remove 97 percent of the storage in a 10 to 20 day time period depending on inflow to the dam. The intake has two 12 inch diameter inlets that are screened. The pipe inlets are located at elevations of 75 and 60 feet.

Water is conveyed to the Ilwaco Water Treatment Plant by approximately 1,000 feet of 18-inch and 12-inch raw water transmission line.

Treatment
The pumping and transmission facilities are designed to handle the maximum projected flow rate of 1.5 mgd. The plant includes 2 - 700 gpm upflow clarifier package plants. The maximum allowable operating capacity of the plant is 1.5 mgd. This expansion allows the City to supply approximately 1.5 mgd while one 500,000-gpd filter unit is out of service. A third filter was installed in early 2015.

When the raw water enters the treatment facility, a flow-through turbidimeter measures the raw water turbidity. The City adds alum, soda ash, polymer, and potassium permanganate to ensure the removal of turbidity, iron, and manganese required to provide a high quality finished water and meet regulatory standards. The amounts of water treatment chemicals vary, depending on the varying raw water quality.

The City's water treatment system includes chemically aided flocculation, clarification, and mixed media filtration to remove particulate matter, and chemical disinfection to provide an appropriate chemical residual within the distribution system. These conventional filtration treatment technologies meet DOH standards for treatment of surface water.

With its existing technology, the treatment equipment at the water treatment plant produces acceptable drinking water by removing particulates and large organic materials. The equipment is sufficient at removing bacterial contaminants such as *Giardia* and *Cryptosporidium* through filtration and disinfection using sodium hypochlorite.

However, the existing water treatment plant is not well equipped to remove VOCs or SOCs, which are typically associated with petroleum products, herbicides and pesticides. Additional filtration media equipment would need to be installed in order to remove and sequester VOCs and SOCs if these become persistent contaminants.

3. Delineation

Indian Creek Reservoir is recharged by precipitation that falls within its watershed:
- Stream channels intercept precipitation and convey it into the reservoir.
- Precipitation falls on and runs over the ground directly into the reservoir.
- Precipitation falls on the ground, infiltrates into the soil, and flows into the reservoir or into streams that then flow into the reservoir.

The extent to which water flowing underground that originates outside of the watershed reaches the Indian Creek Reservoir is unknown.

For the purpose of the Source Water Control Plan water balance analysis, the source water area is determined by the highest continuous ridge upstream from the reservoir (i.e. the ridgeline surrounding the watershed) as delineated by Gray and Osborne for the 2011 Water System Plan, totaling 808 acres according to that plan.

For the purpose of other source water control planning and implementation, the source watershed is determined by the highest points of land upstream from the watershed (i.e. the ridgeline surrounding the watershed), as delineated by Columbia River Estuary Study Taskforce in 2014, totaling 893 acres. The watershed delineation was altered in different locations for the following three reasons:
- To err on the side of inclusiveness in locations of topographic ambiguity.
- To include road sections and their source areas that may have ditch lines crossing into the source

watershed.

- To correct what appear to be minor errors in the 2011 delineation that excluded areas within the topographically defined watershed.

The 2014 watershed delineation was performed using GIS to manually digitize the watershed ridge line using USGS topographic and roads data at a scale of 1:8000.

4. Geography

4.1 Location

The Indian Creek Watershed is located in Pacific County, Washington, approximately 5.5 miles east-northeast of the City of Ilwaco, Washington. The impoundment dam is located approximately 5,500 feet upstream from the confluence of Indian Creek and Bear River.

The drainage basin located in Sections 27, 28, 29, 33, and 34 of Township 10N, Range 10W and Section 3 of Township 9N, Range 10W in Pacific County consists of approximately 893 acres. The terrain of the drainage basin consists of wooded slopes. The adjacent drainage basins to the north and east discharge to small creeks that are tributaries to the Bear River and the drainage basins to the west discharge to small creeks that are tributaries to the Chinook River.

The larger Bear River Watershed of which the source watershed is a part, has about 12.6 miles of main stem creek with an additional 30.7 lineal miles of tributaries. The drainage area comprises about 30 square miles, and is the southernmost watershed emptying into Willapa Bay. The lower 3.5 miles is tidally influenced and surrounded by marsh and deciduous brush. Further upstream, the gradient increases to become moderate and provides spawning and rearing habitat for chum, fall chinook, coho and winter steelhead (Phinney and Bucknell 1975; WDFW and WWTIT 1994). In the upper reaches, the uplands are mountainous with steep tributaries, providing spawning and rearing habitat for coho and winter steelhead.[1]

4.2 Climate

The Coastal mountain range influences the local climate by intercepting prevailing moist air moving inland from the Pacific Ocean. Mean annual precipitation to the drainage basin is approximately 79.43 inches per year, as measured at the Long Beach Experimental Station, the official rain gauge closest to the watershed. This should be considered a conservative estimate, as average annual rainfall has been estimated at 100 inches in the Willapa Hills, and 80 to 90 inches in the foothills.[2]

Autumn rains in the Indian Creek Watershed begin in October. Relatively high precipitation continues to occur throughout the winter months. Precipitation rates decrease towards and through the spring. The summer months of July, August and September are relatively dry. The daily maximum precipitation events for individual winter months between 2003 and 2014 at surrounding weather stations in Naselle, Columbia, and Grays River watersheds was about 2 to 4 inches, with rare daily events in the 5 to 6 inch range in the Naselle watershed.[3]

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[1] CWC Coastal Watersheds Consulting. 1998. A Watershed Level Conservation and Restoration Plan for the Bear River, Pacific County, WA. US Fish and Wildlife Service, Lacey, WA. 25pp

[2] http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/washington/WA627/0/wa627_text.pdf

[3] National Climate Data Center. 2014. http://www.ncdc.noaa.gov/cdo-web/datatools/findstation

4.3 Topography

Watershed elevations range from approximately 50 feet at the treatment plant to 1000 feet above sea level. Within the outer watershed ridgeline, several ridgelines descend into the watershed.

The interior ridges in the northern portion of the watershed are relatively low elevation, broad, and descend relatively gently, in some cases with flat and undulating sections. Headwater slopes in the northwestern most portion of the watershed are 10 to 20 degrees. Ridgetop elevations increase, ridge descents become increasingly steep, and side slopes become increasingly steep further south and east in the watershed, with typical slopes in 20 to 40 degree range, and many slopes as steep as 60 to 70 degrees around stream headwaters. Numerous vertical earth faces resulting from gravel mining, and natural, road related or harvest related sloughing were also observed from Walberg Road in the southern and eastern portions of the watershed.

4.4 Geology

Geological characteristics such as soil types, depths, sub-surface layers, thickness, and the slope of the land surface can all impact water quality and quantity. Porosity, particle size, soil uniformity, and composition will also impact the subsurface flows of water.

Soils in the drainage basin are primarily deep, well drained, silty loam with some poorly drained, silty, clay loam along the shores of Indian Creek. The soils are moderately permeable allowing rainfall to infiltrate into the soil and provide recharge to the Indian Creek reservoir throughout the year.[4] [5]

- Knappton Silt Loam (#60), occupying more of the watershed than any other soil type, is well drained and has moderate permeability, water capacity, erosion, runoff and rooting depth characteristics.

- Palix Silt Loam (#111, 112), covering much of the northern watershed, is well drained, has moderate permeability, high water capacity, and moderate runoff and erosion characteristics depending on slope, but is subject to slippage, with moderate rooting depths.

- Vesta Silt Loam (#149, 150), covering small isolated areas, is well drained, has moderate permeability, high water capacity, slow runoff, and slight erosion characteristics, with deep rooting depths

- Willapa Silt Loam (#155, 157) covering a small area in the northernmost section of the watershed, has moderate drainage and permeability, high water capacity, shallow rooting depth, slow runoff, and slight erosion hazard.

All of the soil units are described as being most favorable to growth of Western hemlock, with varying second best suitability for Douglas fir, Sitka spruce, Red cedar, and red alder. All units are described as having a one inch organic layer resting on top of the soil.

Field observations and topographic data suggest that some of the watershed's more severely steep slopes may have been misclassified as lesser slopes in the 1979 soil survey. Soil maps alone do not suggest obvious areas of relative landslide or erosion risk.

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[4] City of Ilwaco Water System Plan 2011
[5] USDA Soil Conservation Service. 1979. Soil Survey of Grays Harbor, Pacific, and Wahkiakum Counties. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/washington/WA627/0/wa627_text.pdf (Map Sheet 148)

4.5 Land Cover

The Indian Creek Watershed is in the Marine West Coast Forest Coast Range Ecoregion.[6] Rural forested land in Pacific County is managed intensively for timber. The watershed is covered in 2nd and 3rd growth timber. Roughly half of the watershed was logged in the 1980's and has not been actively managed for any purpose since that time. Prior harvest dates in the remainder of the watershed are unknown; however the timber throughout this remainder is of merchantable quality.

Vegetation

The vegetation within the drainage basin consists primarily of woodland areas. The watershed's timber resources have not been systematically inventoried by the City. The principal trees include Western hemlock, Douglas fir, Red alder, and Sitka spruce. Limited observations indicate Western Hemlock dominance, which is consistent with historic soil surveys.[7] Alder grow in the ditch lines and beds of abandoned logging roads, platforms, and other disturbed areas. Alder stands also dominate portions of the watershed's northern slopes.

The watershed's plant communities have not been systematically inventoried. Dominant understory species include salmonberry, salal, red huckleberry, and western sword fern, although some of the watershed has no understory beneath densely growing hemlock.

Wetland grasses and sedges have established themselves at some observed ditch lines where the ditches exit primary roadways to overland dispersal. The impoundment's shoreline vegetation includes salal, sword fern, sedges, and rushes.

5. Hydrology

5.1 Precipitation

Mean annual precipitation to the drainage basin is approximately 79.43 inches per year, as measured at the Long Beach Experimental Station, the official rain gauge closest to the watershed. The 808 acre drainage basin receives approximately 5,350 acre-feet, or 1,740 million gallons of rainfall per year. Approximately 232 acre-feet, or 75.5 million gallons of precipitation falls directly onto the 35 acres of impoundment water surface.[8]

5.2 Streams & Wetlands

Streams in the watershed descend on 5 to 20 percent gradients to the reservoir, in between the steep interior ridge slopes. Upstream intermittent flows, overland flows, and perennial streams flow across steeper gradients up to 50 to 60 percent. Low elevation overland flows directly into the reservoir may also occur outside of stream channels. Additional channelized flows may occur in abandoned road drainage ditches that descend with the roads gradually from the watershed's exterior ridge towards the reservoir.

Primary tributary streams were not characterized in detail for this plan. A more detailed stream characterization that collects information on gradient, profile, discharge, and substrate could inform management decisions.

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[6] US EPA. Level III Ecoregions of North America
[7] 1979 Soil Survey
[8] City of Ilwaco. 2011. Water System Plan.

Wetland totaling less than five acres occur along Indian Creek in the southeastern portion of the watershed, several hundred yards downstream from the stream's intersection with the Walberg Road haul route extension in Section 34.

5.3 Water Balance

This water balance analysis was prepared using information from the 2011 Water System Plan.

The hydrology report prepared during the planning stages for the Indian Creek Dam provided a water balance for the impoundment. The Reservoir Permit (No. R 2-26649P) requires that the reservoir can only be filled during the months of December, January and February, and that a minimum of 2.0 cfs must be maintained in Indian Creek downstream of the dam during the spring and summer. The following Water Balance **Table 1** indicates that the impoundment is able to be filled by creek flow in December, January and February and the remainder of demands are met by available storage and Indian Creek flow during the remainder of the year.

The City measured the water surface elevation in the impoundment and the flow released to Indian Creek downstream of the dam approximately twice a month from 1990 through 1994. The normal pool elevation of 90 feet shown in the records indicates that the water surface elevation is just below the spillway. An elevation of 90+ feet indicates that water is exiting the impoundment over the spillway. The information presented in the water surface elevation records indicate that the minimum impoundment surface elevation experienced in the 5 years of record was 80 feet, equivalent to available storage of approximately 450 acre-ft.

As of the 2011 Water System Plan, the City planned to resume collection of weekly water surface elevation readings to track trends in the water level.

Table 1: Water Balance[9]

Month	Indian Creek Inflow[1]	Downstream Release (cfs)[2]	City Demand[3] (cfs)	Evaporation and Seepage Loss[4] (cfs)	Total Demand (cfs)	Surplus/ (Deficit) (cfs)	Available Storage (acre-ft)[5]
January	21.43	2.00	2.33	0.02	4.35	17.08	1022
February	14.82	2.00	2.33	0.03	4.36	10.46	1022
March	11.17	2.00	2.33	0.04	4.37	6.80	1022
April	6.86	2.00	2.33	0.07	4.40	2.46	1022
May	3.89	2.00	2.33	0.10	4.43	(0.54)	989
June	2.65	2.00	2.33	0.13	4.46	(1.81)	878
July	1.70	2.00	2.33	0.14	4.47	(2.77)	707
August	1.13	2.00	2.33	0.13	4.46	(3.33)	502
September	0.89	2.00	2.33	0.11	4.44	(3.55)	284
October	0.89	2.00	2.33	0.07	4.40	(3.51)	68
November	12.56	2.00	2.33	0.04	4.37	8.19	572
December	21.22	2.00	2.33	0.02	4.35	16.87	1022

1. From Table II-1, Town of Ilwaco Design Report for Water System Improvements, 1986. Evaluation of Indian Creek yield based on measured flow in Bear River and percentage of total acres in Bear River watershed attributable to the Indian Creek Watershed.
2. Minimum downstream release of 2.0 cfs during spring and summer applied to all months.
3. City demand assumed to be 1.5 mgd.
4. From Table II-4, town of Ilwaco Design Report for Water System Improvements, 1986

[9] City of Ilwaco Water System Plan. 2011.

5. Available storage varies by month primarily as a function of Indian Creek Inflow.

The City has adequate instantaneous and annual withdrawal water rights to meet projected demands according to the 2011 Water System Plan. The City's existing source of supply was capable of supplying maximum day demands through 2012 however a new treatment unit was needed to supply maximum day demands beyond 2012. The new treatment unit is expected to be installed in 2015. The City's system has sufficient storage and backup supply from the City of Long Beach to allow an outage of several days for treatment unit repair.

6. Water Quality

This analysis used information in the 2011 Water System Plan, and personal communication with the City's water system operators.

Degraded source water quality is an issue throughout the year. Primary operational issues occur in the fall when initial heavy rains flush tannins, sediments, and organic matter into the source water, and in the summer when algae grow in the source water, and tannins become concentrated at lower water levels. High turbidity and discoloration associated with flushing rain events recur throughout fall, winter, and spring

If high turbidity levels exceed the treatment plant's ability to meet drinking water quality standards, it could cause treatment plant shut downs. In addition, organic material that is found in the watershed—especially from plants—decomposes over time and this decayed organic matter leaches tannins into the water, causing discoloration. Tannins are generally not a health risk, but its presence – typified by coffee or tea colored water - is considered aesthetically unacceptable by many residents.

Organic compounds react chemically with disinfectant chemicals used in drinking water treatment, creating byproducts that have health impacts. As such there are regulatory limits on the amount of these byproducts that are allowed in treated drinking water. When the source water is high in turbidity and tannins, enhanced operator attention is required. The source water quality is highly variable across short time scales (a single day to a week), requiring intensive operator reaction in adjusting the water treatment system.

Existing state law regulates raw water quality, including bacteriological contaminants and various organic and inorganic chemicals. Minimum standards for water quality are specified in terms of Maximum Contaminant Levels (MCLs). Primary MCLs are based on chronic and/or acute human health effects. Secondary MCLs are based on factors other than health effects, such as aesthetics. Current MCLs are specified in WAC 246-290. The following sections discuss the applicable water quality regulations, analysis of the City's compliance with these regulations, and a summary of future regulations for each category.

Table 2 Drinking Water Regulations

Rule[1]	Contaminants Affected[2]	Action Required
Total Coliform Rule	Coliforms	Yes
Residual Disinfectant	Total Free Chlorine	Yes
Lead and Copper Rule	Lead, Copper	Yes
Arsenic Rule	Arsenic	Yes

Inorganic Chemicals, and Physical Parameters	IOCs	Yes
Volatile and Synthetic Organic Compounds	VOCs, SOCs	Yes
Surface Water Treatment Rule (SWTR)	Microbial Contaminants	Yes
Interim Enhanced Surface Water Treatment Rule	Microbial Contaminants	No
Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR)	Microbial Contaminants	Yes
Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)	Microbial Contaminants	Yes
Filter Backwash Recycling Rule	Microbial Contaminants	No
Stage 1 Disinfectants/Disinfection Byproducts Rule (DBPR)	TTHMs, HAA5, Chlorite, Bromate	Yes
Stage 2 Disinfectants/Disinfection Byproducts Rule (DBPR)	TTHMs, HAA5, Chlorite, Bromate	Yes
Consumer Confidence Report	Reporting Only	Yes
Radionuclides Rule	Radionuclides	Yes
Ground Water Rule	Bacteriological	No

1. Drinking water regulations as of February 2014.
2. TTHM = Total Trihalomethanes, IOCs = Inorganic Chemical and Physical Characteristics VOCs = Volatile Organic Chemicals, SOCs = Synthetic Organic Compounds, HAA5 = Five Halo-Acetic Acids

6.1 Turbidity

Turbidity and total dissolved solids are two important quantitative measures of raw water quality. The City must take turbidity monitoring results every four hours. The turbidity reading must be below 0.3 NTU in at least 95 percent of the measurements taken each month. The maximum turbidity level is 1 NTU. Turbidity levels have not approached those that would require a plant shutdown.

6.2 Bacteriological

Coliform bacteria are a broad category of organisms routinely monitored in potable water supplies. Though not all coliform bacteria are pathogenic in nature, they are relatively easy to identify in laboratory analysis. If coliform bacteria are detected, then other pathogenic organisms may also be present. Bacterial contamination in a water supply can cause a number of waterborne diseases, so these tests are strictly monitored and regulated by DOH. Bacteriological data for raw water samples are kept on file with DOH. The City is in compliance with monitoring requirements for coliform. The City has not had a sample test positive for coliform since 1999.

6.3 Inorganic Chemicals

The State of Washington has adopted Federal MCLs and monitoring regulations for inorganic chemicals and physical parameters (IOCs), volatile organic compounds (VOCs), and synthetic organic compounds (SOCs). Water System Operators monitor raw water organic contaminants by sampling for standard panels of volatile organic compounds (VOCs) and synthetic organic compounds (SOCs). VOCs are a class of volatile compounds that include solvents, lighter petroleum products, and other lighter organic compounds while SOCs are larger, non-volatile compounds that include herbicides and pesticides.

The City has had samples that have exceeded the MCLs for color and manganese in the sixteen years preceding 2011. In July 2004, the City detected a level of manganese of 0.096 mg/L, which is above the MCL for manganese of 0.05 mg/L. In the same sample, the color level was 25 color units, which is above the MCL for color of 15 color units. However, the most recent IOC/VOC/SOC samples have had results below the MCLs for all contaminants.

6.4 Nitrate

The City presently monitors for nitrate as part of the general inorganic chemical testing every three years

per regulation.

6.5 Disinfectant By-Products

Disinfectants can react with naturally occurring organic materials in source water and form what are known as disinfection byproducts (DBPs). A number of these DBPs have been shown in laboratory animal tests to be carcinogenic or cause adverse reproductive and developmental effects.

The City's DBP monitoring has indicated that the extremities of the City's system have moderate amounts of both TTHM's and HAA5's. The City monitors for DBP's at Lakeview Estates and the State Park. The TTHM levels in the City's system typically range from 20-40 µg/L at Lakeview Estates and from 40-60 µg/L at the State Park. The HAA5 levels in the City's system typically range from 5-10 µg/L at Lakeview Estates and 10-30 µg/L at the State Park. The City has had individual samples that have exceeded the MCL for both TTHM's (117.8 µg/L in September of 2004 and 83.2 µg/L in September of 2006 at the State Park) and HAA5's (60.1 µg/L in September of 2004 at the State Park); however, the running annual average for the City's system has remained below the MCL's. DBP levels have decreased in recent years. The City will continue to monitor DBP levels and optimize the system to maintain DBP levels below the MCL.

6.6 Residual Disinfectant

The City treats and chlorinates its own water at the water treatment plant (WTP). The City has a chlorine analyzer at the outlet of the WTP that it uses to ensure the correct amount of chlorine has been added. The chlorine analyzer continually monitors the chlorine in the treated water

6.7 Asbestos

The City conducted asbestos sampling in 1999 and 2009 and found that the asbestos levels in the samples were below the detection limits.

6.8 Lead and Copper

The City completed lead and copper testing in 2005 and 2011, and all samples were below the action levels.

7. Land Use and Activities

7.1 Historical Land Use & Activities

The source watershed and neighboring watersheds have since European settlement been used for timber production, while providing many other ecosystem services. Lumber mills were present in Pacific County as early as the 1890's; however the dates of first and subsequent timber harvests in the Indian Creek watershed are not known.

In 1987 City of Ilwaco purchased several hundred acres in the watershed, constructed the impoundment, and started delivering water from Indian Creek in 1989. The City's property was harvested at around the time the impoundment was being constructed, and has not been actively managed since then.

City-owned portions of the watershed continue to be managed for drinking water. No recreational or other activities are allowed in these areas. Roads have been maintained to variable degrees; however no highly imminent or hazardous road issues were observed on roads while creating this plan.

Areas of the watershed not owned by the City are managed for commercial timber production. Typical activities taking place in these areas may have included road maintenance and decommissioning, pre-commercial thinning, herbicide application and other treatments, slash burning, and recreational trespass by members of the public. Some roads accessing land and timber not owned by the City have been improved in 2014 and 2015 to prepare for timber harvests.

1979 soil survey maps revealed only one historic "quarry or mine." No history was discovered regarding the site, however it appears now as a cut slope immediately adjacent and uphill from Walberg Road, in the southeastern end of the watershed.

Walberg Road, owned by the County, travels along the watershed's northern ridgeline. The road has been used historically for hauling timber and machines, and is designated by Pacific County as a road for OHV use.

7.2 Land and Timber Ownership

Land ownership is described by owner below. Some land is owned by The City, with reserved timber rights owned by Weyerhaeuser. The descriptions below are based on the Pacific County Tax Assessor's online mapping tools, and land sale documents included in the 2011 Water System Plan. There is ambiguity over the ownership of the east half of parcel 10103429000. Ownership information is based on Pacific County's online resources, and the 1987 Agreement. Ownership was not confirmed through research of original documents recorded with Pacific County.

City of Ilwaco

The 663 acres of the 893 drainage basin owned by the City of Ilwaco are wooded areas and are managed by the City as protective areas for the City's watershed. The area was previously logged in the mid 1980's. City-owned land was purchased from Weyerhaeuser per the agreement recorded in 1987, referred to hereafter as the "1987 Agreement." Of the 663 acres owned by the City, 488 acres are owned in fee title including timber rights. 175 acres that the City purchased has a reserved timber right held by Weyerhaeuser. The timber rights on this land will revert to the City in 2027, per the 1987 Agreement. The City owns 2.4 acres west of the WTP, which contains the Indian Creek Reservoir (water tanks) and approximately 100 acres immediately north of the treatment plant site.

Weyerhaeuser

Weyerhaeuser owns approximately 230 acres of land/timber in the southern portion of the City's watershed. Additionally, Weyerhaeuser owns the right to harvest timber on 175 acres of City owned land in the watershed until 2027. Weyerhaeuser is required to give the City notice of its intent to harvest these areas at least three years in advance, and has effectively done so, articulating intent to harvest the reserved areas in 2020. This probably does not preclude Weyerhaeuser from providing a revised notice for harvesting sooner (as soon as 2018 given that the present time is 2015).

While the timber reservations are in place, Weyerhaeuser may manage the areas according to generally accepted silvicultural practices (thinning, fire control, pest control, fertilization, etc.), provided that all actions comply with applicable laws governing operations in municipal watersheds. Weyerhaeuser may not apply pesticides without approval by the City. Weyerhaeuser will give the City notice at least 90 days before commencing any silvicultural practices, except in emergencies. Weyerhaeuser also reserved rights to use and maintain historic roads across City owned property for the purpose of accessing the timber that it has rights to.

The majority of property immediately east and north of the watershed (outside the watershed) is owned by Weyerhaeuser. Active harvests on the slope north of the watershed are taking place currently, and include use of Walberg Road for hauling machines and timber.

Hawaii Timberland LLC
Portions of Sections 29 and 33 Township 10N Range 10W to the west and south of the watershed belong to Hawaii Timberland LLC. Small portions of these parcels lie within the watershed. Recent aerial photographs indicate that the parcel located in Section 29 Township 10N Range 10W has been recently logged. A heavily vegetated buffer of City owned property is located between the logging activity and the impoundment. The Hawaii Timberland LLC property is managed as a timber resource. The Goulter Road access to City owned land and roads in the watershed crosses Hawaii Timberland LLC's land on the watershed's west side.

TC&I-Chinook LLC
Portions of Sections 27 and 28 Township 10N Range 10W outside of the north drainage basin boundary belong to TC&I-Chinook, Inc. The TC&I – Chinook property is managed as a timber resource and uses Walberg Road for access.

Mineral Rights
Weyerhaeuser retained the mineral rights to the property that it sold to the City within the watershed, which includes all of the parcels immediately surrounding the impoundment. These rights include the right to explore and mine for minerals.

7.3 Current Land Use & Activities

Areas of the watershed not owned by the City are managed for timber production. Weyerhaeuser since 2014 has been performing major reconstruction of some historic interior roads, to prepare for timber harvests scheduled between 2018 and 2027.

Walberg Road, a County road, provides limited access to the Indian Creek Watershed. The gravel and earth road begins at Chinook Valley Road and continues east past the Water Treatment Plant and along the watershed's northern ridgeline. Walberg road continues in private ownership into additional roads in the southeastern portion of the watershed. They extend out of the watershed connecting to a regional private forest road network.

West of the Water Treatment plant, an abandoned logging road connects Walberg Road with the reservoir's south and west side, with additional abandoned logging roads south of the reservoir, and an abandoned road that encircles the reservoir.

Additional access to the watershed for City staff is available via Goulter Road, which is traversable by vehicles to the south watershed boundary, where it connects with additional abandoned logging roads that can only be travelled by foot. Goulter Road has a locked city owned gate preventing public access at its entrance from Chinook Valley Road.

8. Source Water Vulnerability

State of Washington Department of Health gave Ilwaco's watershed a low susceptibility rating in 2014. The state rating provides a sense of the relative susceptibility of Ilwaco's watershed compared with other surface water sources in the state. Despite the rating, planned timber harvests in the next ten years

could substantially degrade source water quality . The "low susceptibility" rating for Ilwaco reflects the foresight of Ilwaco's leaders in selecting the source watershed, and purchasing substantial portions of it in the 1980's, and Ilwaco can consider itself as starting from a relatively strong position in continuing to make source water control program improvements.

8.1 Forest Practices

Forest Practices including timber harvest, road building, equipment operation, herbicide application can all impact water quality. All activities create the risk of spilling hydrocarbons, hydraulic fluids, and other mechanical fluids. Herbicide application can directly pollute the reservoir. Eroding sediment leads to turbidity issues.

Washington's forest practices regulations were not intended or designed to protect drinking water quality and cannot be relied upon for that purpose. State DNR review of timber harvest or road work applications requires only checking a box to indicate that the work will be near a public drinking water supply. Drinking water is factored into the forest practices application and permit review only if spraying were to take place near the impoundment.

Timber harvests scheduled for the years 2018 through 2027 may clear cut approximately 405 acres of 893 acre watershed (less RMZ's and existing cleared roads). Some roads and landings were being built in preparation for these harvests as of 2014-2015. All roads and trails in the watershed are unpaved, and some occur or cross waterways. Timber harvest, roads, and road construction are a source of erosion to the drinking water source.

Timber harvests remove vegetation that would otherwise intercept, interrupt, evaporate, and transpire precipitation. Harvest operations disturb soils leaving them more vulnerable to erosion. Roads intercept, and concentrate surface flows. They can increase the rate of runoff into streams (higher, quicker peak flows result). The likelihood of sediment arriving in streams increases when roads are used by heavy equipment during rains, when there is road construction, or when roads are poorly maintained. Other risk factors include high precipitation rates, steep slopes, exposed soils, saturated soils, and/or unstable soils.

Forest road runoff and runoff from recently harvested areas delivers organic coloration, organic matter, and nutrients, as well as sediments. During warmer months, nutrient loads support algal growth that exacerbates turbidity, essentially making erosion the source of a year round problem rather than just a rainy season problem.

8.2 Unmaintained Roads and Culverts

Unmaintained roads can become unstable and deliver both chronic and acute loads of sediment, organic matter, coloration, and nutrients. Ditch lines clogged by debris and growing trees cause water to flow down road surfaces, eventually creating ruts that persistently erode. Metal culverts corrode, typically on their bottoms, allowing water to pass through the road bed underneath the culvert, undermining the road.

Culverts clogged by debris, tree roots or complete collapse cause ponds to build up behind roads. Water then spills over the road surface, disturbing the surface and creating a persistent source of erosion. Alternately, clogged culverts can cause water to pass under the culvert, undermining the road bed. Finally, ponding water behind clogged and collapsed culverts can saturate the road bed, causing major road failures and erosion events.

Unmaintained roads can compound other issues, leaving timber owners without the ability to travel them

for fighting wildfire, or managing timber to prevent wildfire, pest outbreaks, and blowdowns.

Weyerhaeuser's roads are being reconstructed to Forest Practices rule standards for large forest landowners in preparation for planned harvests. City roads have received varying degrees of maintenance, but are not out of compliance with the Forest Practices Rules for small landowners. Walberg road is actively maintained, but exhibits some erosion due to recent hauling and recreational activity.

8.3 Mass Wasting and Rapid Slope Failure

Mass wasting and rapid slope failure risks may be compounded by timber harvest practices and road construction, despite some protections provided by the Washington Forest Practices act. Seismic events can trigger slope failures that would impact source water as well. Observed mass wasting and slope failure vulnerabilities are concentrated in the southern portions of the watershed, and limited to what could be observed from Walberg Road and its primary haul route extension.

Shallow rapid slope information summarized below was not created for assessing seismic landslide hazard risk or for site level landslide hazard risk characterization, but was created for pre-screening of forest practices applications. As such it can be considered appropriate for conceptual level watershed-scale planning, even though more detailed forest management prescriptions developed at a later date will require more detailed slope stability analysis.

Washington DNR slope stability data indicate concentrations of relatively severe slope instability in the central watershed, with relative stability in the northwestern third of the watershed, and concentrations of moderate to severe instability in the southeastern portions of the watershed. Slope instability in the watershed is associated with convergent landforms around headwater drainages.

Areas identified as severely unstable by WA DNR in the southeastern portions of the watershed correspond with nine identified slides in the 1979 Soil Survey of Grays Harbor, Pacific and Wahkiakum Counties[10], and with 2014 field observations of exposed soil faces. Washington DNR Geology and Earth Resources Division's 1:24,000 landslides data[11] does not include slides anywhere in the watershed.

In the northwestern portions of the watershed adjacent to the impoundment there are two small areas of severe instability, on the northwestern side of the reservoir adjacent and downhill from recently clear cut TCI & Chinook Timber, and at the southeastern end of the reservoir.

In the southeastern portions of the watershed, severe instability is associated with steeply sloped convergent landforms descending adjacent from Walberg Road into the watershed.
City owned land north and northeast of the reservoir is relatively free of identified unstable slopes. City owned timber west of the reservoir has a mix of stable, moderate and severely unstable slopes. The Weyerhaeuser owned timber proposed for harvest in 2018 and 2027 in Section 33 has predominantly moderate slope instability, but includes highly unstable areas adjacent to Walberg Road.

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[10] USDA. 1979. Soil Survey of Grays Harbor, Pacific, and Wahkiakum Counties

[11] WA DNR-DGER. 2014. Landslides Geodatabase.
http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_gis_spatial_data.aspx
These data contain 1:24,000-scale polygons defining the extend of mapped landslides in the state of Washington. This dataset is compiled chiefly from pre-existing landslide databases created in different divisions of the Washington State Department of Natural Resources to meet a variety of purposes. Although it has been updated to include landslides from specific recent landslide events, it does not yet include landslides from recent geologic quadrangle mapping; this mapping will be included in a future release of this dataset. This dataset does not include landslides mapped at 1:100,000 scale; landslides at that scale are included in a separate geodatabase (surface_geology_100k.gdb).

A historic "mine or quarry" identified on the 1979 soil survey, adjacent to Walberg road and south of Indian Creek, was observed in the field as a large nearly vertical face of earth with some vegetation growing on it. Additional information on the specific activities that occurred there was not discovered.

A more recent gravel pit observed in areal images and the field is adjacent to Walberg Road, north of Indian Creek, immediately across Walberg Road from very steep slopes. The pit has vertical faces of approximately 30 feet with young alder growing at its base.

Based on the limited available information on landslide hazards, there are no identifiable areas that should be prioritized for special protections. Instead, the City should use the available information in making its own forest management plans and in working with Weyerhaeuser.

8.5 Alder Leaves and Other Organic Matter

Fallen alder leaves leach organic color during rain events.[12] This presumably contributes to discoloration in the source water. Nutrients from alder leaves and other organic matter can contribute to algae and associated turbidity issues as well.

8.6 Timber Blowdown

High winds blow down vulnerable timber, increasing soil surface exposure to erosion, and allowing stands of alder to establish themselves, which eventually deliver organic discoloration to the source water. Overstocked hemlock stands are vulnerable to blowdown because their stems become too thin to support them in heavy wind. Any other tree stand on the edge of a clear cut should also be considered vulnerable to blowdown.

Observed blowdown is occurring and recurring immediately south of the impoundment, adjacent to a 2013 clear cut that is outside of the watershed. Future blowdown is expected along intersections with the proposed Weyerhaeuser clear cuts that will occur in 2018 through 2027, and in overstocked hemlock stands on the north side of the impoundment.

8.7 Wildfire and Pests

Areas affected by wildfire and pests increase soil surface exposure to erosion. The USDA Forest Service gives the source watershed a very low to low fire risk on a relative scale applied to the entire United States.[13] However, fire does occur regularly in this region, and is typically caused by lightning and human activities, including fireworks, campfires and logging. Potential fire effects on the watershed's surface water can be divided into direct and indirect effects. The direct effects of vegetation loss include increased surface water temperature, dissolved nutrients, ash and charcoal. The indirect effects include modified channel morphology and increased sediment deposition and turbidity. Cedar stumps observed near roads north of the impoundment had black scarring from historic fires.

As with blowdown areas, lack of management after the stand disturbance can result in alder dominated stands and resulting water quality impacts. The extent of threatening pests has not been investigated in the source watershed; however contributing factors to pest vulnerability include overstocked stands, such as those observed north of the impoundment. Overstocked stands also increase wildfire vulnerability, and

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[12] Taylor, R. Lynn, Adams, Paul W. RED ALDER LEAF LITTER AND STREAMWATER QUALITY IN WESTERN OREGON1 Journal of the American Water Resources Association. VL - 22, IS - 4. Blackwell Publishing Ltd. 1752-1688 http://dx.doi.org/10.1111/j.1752-1688.1986.tb01917.x

[13] USDA USFS. 2014. Wildland Fire Potential. ArcGIS Forest to Faucets Program Web Map Viewer.

reduce the City's capacity to fight wildfire.

8.8 Wildlife

The fecal matter of birds, deer, elk, and small mammals is a potential source of bacteria and parasites that may infect and sicken humans if ingested. Contamination can occur through an animal's direct contact with a stream, or microorganisms can be transported to surface waters via runoff. Pathogens found in animal waste may include Giardia lamblia, Salmonella, E. coli and Cryptosporidium.

8.9 Public Access

The presence of people in a watershed can increase the risk of pollution, including microbiological contamination from individuals or animals they bring with them such as dogs or horses, as well as petroleum products from vehicles. Fishers, hikers, hunters, or others that develop unmaintained trails or use off-road vehicles can also cause increased erosion. Pacific County's map designating County Roads open and closed to ORV/ATV use indicates that Walberg Road is open to ATV's and ORV's use.[14]

Observed sources of impact from the public includes minor and isolated amounts of trash on abandoned logging roads, rutted exposed soil adjacent to Walberg road from recreation vehicles, and a car that was dumped down a steep slope from Walberg Road. City staff report that the most common trespass is by fishers hiking down to the impoundment from Walberg road.

8.10 Land Conversion

Most of the watershed is zoned Transitional Forest (F-T), while very limited acreage is zoned Rural Lands (R-L)[15]. Neither zone is intended to protect surface source drinking water. Both zones are intended to provide flexibility in maintaining a rural landscape, while permitting a variety of activities including mining, dwellings, recreational vehicle camping, and contractor storage yards among many others. The County Comprehensive Plan does not provide policy guidance that is more protective of drinking water than the zoning code.

Property clear cut in 2013 outside of the watershed's western boundary in the Rural Land zone has areas sloped gently enough to support rural residential development. Other activities permitted under the zoning code could plausibly occur here or in the southeastern upstream sections of the watershed owned by Weyerhaeuser after the timber is liquidated, without the City having many avenues for recourse, although the watershed's steep slopes make it unsuitable for dense development. Any residential development would rely on septic systems.

The American Water Works Association and Trust for Public Land found that for every 10 percent increase in forest cover in drinking water source watersheds, drinking water treatment and chemical costs decreased by approximately 20 percent. This exact relationship cannot be applied to Ilwaco's watershed, but illustrates the benefits of preventing land use conversion from commercial timber to more intense uses.

9. Existing Watershed Control Measures Evaluation

9.1 Access to the Source Watershed

[14] Pacific County. 2014. Ordinance 174 Map. http://www.co.pacific.wa.us/ordres/Ordinance-174-Map.pdf
[15] Pacific County . 2014. Ordinance 162. http://www.co.pacific.wa.us/ordres/index.htm

Currently, there are no required permits for entry into the source watershed. The watershed may be accessed via regional private forest road networks. Goulter Road and Walberg Road are typically gated and locked, however either may be opened for weeks to months at a time during active forest practices.

No trespassing signs are located on Walberg Road and Goulter Road at their respective gates. The water treatment plant, and the road to the impoundment that is accessed via the water treatment plant parking area are surrounded by a barbed wire topped cyclone fence. Maintaining the gates and roads to limit vehicular access to impoundment is important for the long term health of the watershed.

9.2 Formal Agreements and Rights

Water Rights and Permits
City of Ilwaco's water rights and permits are summarized below.

Table 3: Water Rights

Date	Type	Number	Maximum Permitted Instantaneous Withdrawal (cfs)	Maximum Permitted Annual Withdrawal (acre-ft/year)	Maximum Permitted Storage (acre-ft/year)
4/24/1995	Permit	S2-29218	0.77	22	N/A
3/04/1991	Water Right Certificate	S2-25880	1.56	710	N/A
6/23/1986	Reservoir Permit	R2-26649	N/A	N/A	1,022

Water System Infrastructure
The City of Ilwaco owns and operates the infrastructure associated with the drinking water system, including the water diversions, pipes, reservoir, and treatment plant facilities.

Access rights or land use agreements
Access to the treatment plant facility and some portions of the northern watershed is provided by the County owned Walberg Road. A road privately owned by the City on City land provides access from the treatment plant to the impoundment and intake. Access to some other portions of the watershed is physically available on roads that cross private property; however any existing easements or rights of way were not assessed.

9.3 Forest Fire Protection

WA Department of Natural Resources fights fires on private and state-owned forest lands. In the case of a forest fire, DNR will work with the local fire district and the landowner to mobilize firefighting labor and equipment.

9.4 Relevant Land Use Regulations

Land use and environmental regulations such as County Zoning, the State Forest Practices Act, Federal Endangered Species Act and Clean Water Act, are not intended to protect drinking water. Drinking water utilities and municipalities must negotiate directly with landowners to secure protective land use controls or measures. Pacific County's land use laws and their relation to land use conversion is described in section 8.10.

Shoreline Management Act and County Shoreline Master Program

The impoundment and the land surrounding the lake 200 feet landward is in the SMA required shoreline jurisdiction. The City owns all of the impoundment, and 99% of the land in the shoreline jurisdiction. The creeks draining into the impoundment are not in the SMA shoreline jurisdiction due to their small mean annual flow rates. The Shoreline Management Act does not provide any additional protection to the shoreline jurisdiction area beyond the City's own management goals for protecting drinking water quality.

Forest Practices Act and Rules, including SEPA Relationship

The Washington Forest Practices Act and its implementing rules (WAC 222) include limitations on harvesting to reduce erosion and landslides to ensure long term recruitment of large woody debris to fish bearing streams, and to ensure shading of fish bearing streams. The Forest Practices Board Manual provides extensive guidance on Forest Practices Act compliance and best management practices.

Riparian Management Zone harvest and operation limits vary depending on waterbody type, site classification, stand characteristics, and harvest options provided to the timber owner. The entire source watershed is designated Site Class III, and includes all stream types. The Appendix D Preliminary Stream Types and Zones Map illustrates typical buffers based on existing stream types in the watershed; however stream types are modified by DNR based on field reconnaissance prior to harvest. Stream types and buffers shown on the map may be classed down to lesser protections in the future.

Table 4. Washington DNR Water Types

Water Type	Description
Type "S" = Shoreline (formerly type 1)	Streams and waterbodies that are designated "shorelines of the state" as defined in chapter 90.58.030 RCW.
Type "F" = Fish (formerly type 2 or 3)	Streams and waterbodies that are known to be used by fish, or meet the physical criteria to be potentially used by fish. Fish streams may or may not have flowing water all year; they may be perennial or seasonal.
Type "Np" = Non-Fish Perennial (formerly type 4)	Streams that have flow year round and may have spatially intermittent dry reaches downstream of perennial flow. Type Np streams do not meet the physical criteria of a Type F stream. This also includes streams that have been proven not to contain fish using methods described in Forest Practices Board Manual Section 1Forest Practices Board Manual Section 13.
Type "Ns" = Non-Fish Seasonal (formerly type 5)	Streams that do not have surface flow during at least some portion of the year, and do not meet the physical criteria of a Type F stream.

Less than six acres of Type A and B Wetlands occur in the source watershed, the largest of which is less than four acres. With some variation for site specific conditions, Type A and B wetlands and a buffer averaging 50 feet around the wetland have restrictions on the number of trees harvested and harvest operations.

Harvest and Related Operation Restrictions (WAC 222-30)

The Forest Practices act provides a 50 foot no harvest "core zone" buffer to Type S and F waterbodies. Limited harvesting can occur in the 43 to 55 foot "inner zone" surrounding the core zone. Within some limitations, most trees in a 35 to 47 foot "outer zone" buffer surrounding the "inner zone" can be harvested. These concentric buffers comprise a total 140 foot Riparian Management Zone buffer on either side of a type S or F waterbody in areas of Site Class III, such as Ilwaco's watershed. Restrictions on yarding, felling, and bucking trees in and across type S and F waters are also provided by the Forest Practices Act.

Smaller streams identified by DNR as Type N include operation restrictions in a 30 foot zone on either side of the stream. Stream reconnaissance at the time of developing a forest practices application determines whether the stream receives the more stringent protections associated with Type Np streams (50 foot no harvest buffer on both sides of the stream), or the lesser restrictions associated with Type Ns streams (equipment entry restriction only). Even with Type Np streams, some harvesting is

permitted in the 50 foot buffer depending on its proximity to streams typed S or F. Yarding, felling, and bucking activities may take place in and around Type N streams.

Pesticide and Fertilizer Restrictions (WAC 222-38)
Pesticide application is prohibited in the Core Zone and Inner Zone (approximately 100 feet on either side) of Type S and F waters and in the RMZ of Type Np waters (50 feet on either side). Additional buffers are applied depending on the application method. Fertilizer applications are permitted within RMZ's.

Reforestation (WAC 222-34)
Reforestation is required following clear cuts or selective harvests where more than 50% of timber volume is removed in a five year period. Reforestation is not required for thinning schemes that meet certain criteria. A reforested area must have 190 vigorous undamaged commercial seedlings per acre surviving one year after planting.

Road Construction and Maintenance (WAC 222-24)
Road construction and maintenance provisions are intended to protect public resources, and ecological function, including minimization of landslides and erosion. Timber harvest in and to the side of the road's path is permitted and typically associated with road and landing construction. Road regulations prescribe how roads, culverts, and drainage systems are built and maintained.

Road Maintenance and Abandonment Plan requirements are intended to ensure continuous improvement in the condition of forest roads over time. Large forest landowners such as Weyerhaeuser are required to submit Road Maintenance and Abandonment Plans, and to bring their road systems to the FPA standards by 2016. Small forest landowners such as the City of Ilwaco must submit a Road Maintenance and Abandonment Plan checklist with any new Forest Practices Applications. If the City makes plans to harvest more than two million board feet per year for a ten year period, it will be categorized as a large forest landowner and be subject to the more expansive RMAP regulations.

Landslide Hazard Avoidance
Forest Practices Rules and the Forest Practices Board Manual include procedures for evaluating and prescribing avoidance to landslide hazard risk associated with a proposed forest practice, (WAC 222-16-050 & WAC 222-10-030. Screening for landslide hazard is conducted on a site specific basis while developing and reviewing individual forest practices applications, and prescriptions are applied at that time. Proposed forest practices in rule identified landslide hazard situations are considered a Class IV Special Forest Practice; requiring a SEPA checklist, and potentially more detailed environmental assessments and review by licensed geologists. DNR's landslide hazard data indicates moderate to severe slope instability in locations throughout the watershed, particularly associated with convergent landforms near stream headwaters. Recent approved FPA's for road reconstruction indicate that Class IV FPA reviews for road construction are not necessarily triggered by the presence of slope instability in DNR's GIS data.

9.5 Monitoring and Surveillance Program

Forest & Roads Management Monitoring
There is no forest management program, plan or associated monitoring program that would monitor water quality response to active forest and roads management and major weather events. There is not a systematic monitoring program to ensure that culverts and ditch lines are not blocked.

Forest Practices Notification
The City Clerk is registered for forest practices notifications from WA DNR, and reviews applications. The

1987 Agreement articulates Weyerhaeuser's obligations to provide notice to the City of forest practices in reserved timber areas. Weyerhaeuser owned lands in the watershed are not subject the notification requirements of the 1987 Agreement.

Forest practices applications require the applicant to obtain the signature of landowners in addition to the timber owners on the application form; however unless the City monitors forest practices applications on City owned land, the applications may be approved without the City's signature or knowledge.

Watershed Surveillance
City water system staff inspect the impoundment wall and intake area on a weekly basis as part of their routine operations. They drive and walk upper portions of the Source Watershed on an infrequent basis to ensure there is not any illegal dumping or trespassing activities, or if staff suspects a problem. The entire source watershed is not continually patrolled, monitored or surveyed for harmful activity. The City has a boat at the treatment plant that can be used to inspect the impoundment by water; however it may not be operational.

Water Quality Monitoring
The City performs water quality monitoring on a continual basis as is required by Washington State Department of Health (DOH) regulations.

9.6 System Operations and Emergency Provisions

The City's 2011 Water System Plan includes system operation and emergency provisions for the source watershed.

10. Recommendations

Potential actions and measures that can be taken to increase certainty that the City's drinking water will be protected are discussed below, and summarized with additional timing and cost information in **Table 5.**

Goal 1: Small Steps toward More Active Management

1.1 Short Term Road Maintenance

The City should implement the maintenance strategy outlined in the Selected Road Inventory (**Appendix E**):

- Remove accumulated debris and sediment from four culvert inlets and outlets
- Straighten crushed culvert inlets and outlets on two culverts
- Install culvert extensions and cobble sized rock underneath three culvert outfalls

1.2 Expanded/Documented Monitoring

City water system staff should continue their weekly inspection of the drinking water system, including the impoundment wall and intake area as described in the 2011 Water System Plan.

The remainder of the source watershed should be patrolled on a more frequent basis than it is currently to ensure there is no illegal dumping, trespassing, or significant changes in land or water conditions. Staff should document extraordinary conditions or trending conditions in writing from each patrol. These records can provide contextual information to assist water system staff in identifying activities and management practices that improve or harm water quality, and can provide a basis for productive communication with Weyerhaeuser about watershed conditions and forest practices.

Water quality data on turbidity and other pollutants of interest should be collected and stored in a format that facilitates analyzing the relationship between these pollutants, watershed actions, and weather events over time.

1.3 Review and Comment on Forest Practices Applications

After reviewing forest practice applications using the WA DNR notification and review system, the City can submit comments to DNR staff within fourteen days of the notification. The City may comment on every FPA in the watershed simply to notify DNR staff of the drinking water source. The City can at its discretion request that Forest Practices applications be reviewed as Type IV Special applications requiring a SEPA checklist, if the City is concerned about impacts to the drinking water source. The rationale for this request would typically be that there is potential for the forest practice to damage a public resource from sedimentation or landslides. In addition to any DNR contacts listed on the FPA notification, the City should submit comments to bruze.hazen@dnr.wa.gov and fp_pc@dnr.wa.gov. The city may consider including Washington Department of Health staff in the list of recipients.

1.4 Special circumstance water quality monitoring

Beyond continuing water quality monitoring prescribed by DOH, the city should consult with the Department of Health's Regional Engineer if known land use activities might cause water quality problems. The City should monitor Synthetic Organic Compounds before and after herbicide applications.

Goal 2: Complete a Forest Management Plan

2.1 Complete a Forest Management Plan

A comprehensive forest and roads management plan is needed to guide holistic, specific and cost effective management of the watershed. Forest management plans with the desired qualities include delineation of manageable timber stands, characterization of timber conditions in each stand, timber growth projections under alternate prescriptions for each stand, and recommendations for future thinning and/or harvests for each timber stand. The plan should also include a detailed road and culvert inventory, with cost estimated prescriptions for each road and culvert segment.

Timber management and road management recommendations will be interrelated, in that road maintenance and reconstruction represents a primary cost in choosing to manage any given stand of timber. This Source Water Control Plan includes a "head start" on the road management element of a comprehensive forest plan, by providing a detailed inventory of a portion of the watershed's road segments.

Use a Deliberative Multi-Stakeholder Process

The forest management plan should be built on a process that allows for the City Council and/or an advisory committee to establish policy level goals, consider alternative management approaches, and thereafter establish objectives and agree on management prescriptions. The process should also include time and resources for bringing together stakeholders such as Weyerhaeuser and Pacific County, and outside resources such as conservation investment funds.

Include Recommendations to support long term land and timber acquisitions

The forest management plan should provide management recommendations that would generate revenues to support the purchase of additional land or timber rights in the watershed, rather than revenues to only support ongoing management of the City's existing ownership.

Include Recommendations from a Consulting Forest Geologist in the Forest Management Plan
The City should include recommendations from a consulting forest geologist in the forest management plan to improve understanding of the Source Watershed's landslide prone areas.

Include a Road Inventory of remaining road sections in the Forest Management Plan
The road inventory completed for this plan under limited funding did not inventory several roads in the watershed, including Walberg Road, the road on the watershed's south side that descends the ridgeline to the impoundment from Goulter road, and an unnamed south watershed perimeter road that traverses City owned property.

Include Scheduled Monitoring and Maintenance
The forest management plan should include a schedule for regular monitoring, evaluation, and minor maintenance, to manage public access and ensure that roads and culverts are not allowed to rapidly degrade into problematic erosion sources.

Include Preparation for Alternative or Value Added Revenue Sources
The management plan should address the viability and actions that would need to be taken to generate revenue from alternative products and services provided by the watershed including carbon credits and Forest Stewardship Council certification.

2.2 Hire a Consulting Forester to guide implementation of the Forest Management Plan

After completing the forest management plan, the City should hire a consulting forester to assist in implementing the plan. While the plan should identify a schedule for thinning, harvests, and road management activities, a consulting forester would assist the City in bidding and managing timber and road work to maximize timber derived revenues, and ensure quality and timely completion of work by contractors. The management plan should estimate the cost of consulting forester services.

Goal 3: Take Collaborative Action with Neighbors

3.1 City-Weyerhaeuser Action

Schedule at least one in-person meeting per year with Weyerhaeuser's forester, or more often if activities warrant it, to update one another on respective operations and plans. An on-site visit to the watershed should be included at least once per year. Scheduled meetings are in addition to the ad hoc communications that occur or should occur between the Operator and the Weyerhaeuser Forester on an as-needed basis.

The Forester may be able to make slight management and operational changes to forest practices to accommodate the City's interests if there is a least an established relationship. Furthermore as the City begins to manage the watershed more actively, staff and contractors will need more regular access to the watershed. The City and Weyerhaeuser will need to communicate with each other proactively about forest practices that will temporarily close or create unsafe travel conditions on primary access roads. Weyerhaeuser's current Forester for the area is Chance Yecklee (360.355.0333, Chance.Yeckley@Weyerhaeuser.com)

3.2 City- County Action

The City should communicate with the County to ensure that drinking water quality values are reflected in the County Comprehensive Plan and Zoning Code, to limit the potential for land use conversion to non-forest uses.

The City should explore Walberg Road management opportunities with the County to prevent erosion

and landslides from the county owned road. The City should also explore opportunities with the County to limit public use of Walberg road adjacent to the watershed, by removing it from the County map of roads open to ATV's, managing the primary access gate north of the impoundment, and working with Weyerhaeuser on limiting the impacts of forest practices to the road, including chronic erosion and landslide hazards.

The City should look for opportunities to collect Lidar data for the watershed as part of a larger Lidar data collection project possibly involving the county or other large landowners in the area. Lidar is useful for road and forest planning, and for evaluating landslide hazards.

Goal 4: Acquire Timber and Land

4.1 Short Term Acquisition

The City should negotiate for priority land and timber interests that will reduce the water quality impacts of proposed near term Weyerhaeuser harvests.

The City would seek to purchase from Weyerhaeuser in the near term the right to harvest expanded riparian or landslide protection buffers, or the entirety of reserved timber rights areas. Weyerhaeuser may be more willing to sell entire blocks of reserved timber rather than expanded riparian buffers or timber and the land underneath it. Weyerhaeuser may also find value in changing reserved timber rights of the 1987 agreement to moderately extend further into the future.

Initiating preliminary discussion is a first step in understanding what Weyerhaeuser would be willing to negotiate over at this time. The City can then investigate opportunities within that scope of possibility to make short term acquisitions. Although some exploratory discussion has taken place with prior Weyerhaeuser or Longview Timber foresters, the City should engage directly with Weyerhaeuser's Property Development office by contacting Michelle Metcalf (360.442.4305, Michelle.Metcalf@Wyerheauser.com)

4.2 Privately Financed Conservation

At least one regional organization named Ecotrust, uses private capital (from individual or institutional investors) to buy and manage land and timber. The forests are managed for long term timber production, along with carbon sequestration, and wildlife values, in a manner that is profitable for the investors. Although the City's watershed may not be large enough to alone attract the interest of such groups, there may be opportunities for multiple local governments to participate in pooled acquisition finance opportunities, or pooled resource management planning in order to overcome economy of scale hurdles that many local governments face in initiating active management and acquisition programs in their source watersheds.

For example, it is conceivable that a conservation oriented forest investment fund could offer forest management planning assistance to multiple local governments with surface water watersheds, and offer to purchase land and timber from corporate owners, hold the land and timber for some time, and eventually sell it to the municipalities. The investment fund and planning partners would bring added value to the municipalities with carbon credits, and would achieve sufficient economies of scale in generating carbon credits by working with many municipalities at once.

4.3 Conservation Partnerships for Enhanced Grant Eligibility

As described in Appendix B Funding Sources, The City at this time is not eligible for some grant funding oriented towards wildlife habitat and small forest landowners, but could become more eligible for these funds if a small conservation organization owned and/or actively managed the land and timber in

partnership with the City.

4.3 Long Term Acquisition

In the long term the City should seek to own and thereby control the whole watershed to the maximum extent possible. This is a long term aspiration, but is important to articulate separately from more short term and distinct acquisition goals.

Goal 5: Continually Improve Watershed Management

5.1 Learn from other forested source watersheds

The City of Ilwaco has ongoing opportunities to meet with other towns and landowners that are in a similar situation and learn from their experiences. WA Department of Health hosts workshops for municipalities with surface drinking water sources. Staff should attend these meetings to connect with potential technical and funding resources, learn from the experiences of other municipalities, and share information about Ilwaco's challenges and successes.

5.2 Update and Operationalize the Source Watershed Control Plan

DOH requires that the City update its Watershed Control Plan at least once every six years (next scheduled update will be in 2021), and sooner if new information is available such as deleterious changes to water quality or quantity or if there are significant changes to the watershed such as a proposed development, or changes in land-use practices. If water quality or quantity is at risk then new information and insight should be reflected in management practices, even if the Watershed Control Plan itself has not yet been updated.

Goal 6: Increase Public Understanding

6.1 Improve Signage

Proactive signage and warnings at established entrances to the source watershed can alert road and trail users to the sensitivity of the area. Phrasing for signs may include: "No Trespassing," "Drinking water supply protection area," or "Sensitive Area." Additional language should be included to the effect of, "If you see suspicious activity, call Town Clerk #."

Some existing signage at the Goulter Road gate, Walberg Road gate, and Walberg Road spur road on the north side of the impoundment are becoming less legible with age and vandalism.

There is currently not any signage at the entrance to abandoned spur connecting Walberg Road with unmaintained roads on the impoundment's south side. Hunters have been observed parking and walking down this road during the fall hunting season.

6.2 Water Quality Report and Utility Bill Communications

The City can use its annual consumer water quality report and utility bill mailings to deliver messages to the community about the value of the source watershed, the costs and benefits of active management, and improvements that the City makes in the Watershed.

6.3 K-12 Education/ Exhibits/ Tours

There are a few opportunities to provide enhanced outreach and education to the public and showcase watershed successes as the City makes achievements going forward. These include:

K-12 Education

Students in Ilwaco's schools could benefit from field trips that illustrate natural science concepts

they are learning in school, while educating them about the importance of protecting the watershed.

Museum and Library Exhibits
Ilwaco's museum and library may both provide venues for the City to educate residents on the history of the source watershed and evolving issues.

Annual Tours
The City may find it beneficial to offer tours of the watershed to the public in the future to showcase successes and educate the public and watershed.

Goal 7: Leverage & Dedicate External Funding For the Watershed

7.1 Plan to Use to Some Tax or Ratepayer Funding

Although the City has opportunities to obtain grants and loans, and generate revenue from timber harvests, all funding sources will require the City to make some up front investments.

- Grants require match and consultant grant writing
- Loans require reserve funds and consultant assistance
- Timber harvests require cruises, appraisals, and consultant services.

Ultimately the City would have to pay for these investments using tax or ratepayer funds. The City should consider whether its general fund and water fund budgets typically provide the flexibility that would be needed for hiring consultants and providing match for grants. If the City intends to aggressively pursue funding sources for forest planning and land acquisition, and undertake informed negotiations with Weyerhaeuser for timber and land, it should consider using a source water protection surcharge from ratepayers, or dedicating a portion of water system revenues under the existing rate structure, to ensure that funding is available as opportunities present themselves.

7.2 Source Water Protection Fund

While considering the options described above in recommendation 7.1, The City should consider establishing a dedicated source water protection fund within the City's budget for source water protection activities, as a way of organizing its budget to ensure that the funding it does intend to spend on source water protection is set aside and used for that activity.

Table 5. Recommendations Summary

Potential Actions	Priority	Begin	End	Cost	Potential Source
1.1 Short Term Road Maintenance	High	2016	2016	Water Operator: 20 hours Contractor: 40 hours = $3,000 - $5,000 Culvert 3 x 20" Downspout/Extensions: $700 – $900 Delivered Rock 6 yds: $600 - $800	City, WA DOH Grant
1.2 Expanded/Documented Monitoring	High	2016	Ongoing	Water Operator Staff: 36 hours/ year	Staff time only
1.3 Review and Comment on Forest Practices Applications	High	2015	Ongoing	Clerk/ Treasurer Staff: 20 hours/ year	Staff time only
1.4 Special circumstance water quality monitoring	Future Actions				
2.1 Complete a Forest Management Plan	High	2015	2017	Scoping/ Grant Proposal: 200 hours (City staff or consultant) Clerk/Treasurer: 200 hours Consultant: $40,000 - $50,000	WA DOH Grant
2.2 Hire a Consulting Forester to guide implementation of the Forest Management Plan	Future Actions				
3.1 City-Weyerhaeuser Action	High	2015	Ongoing	Clerk/ Treasurer: 10 hours/year	Staff time only
3.2 City- County Action	High	2015	Ongoing	Clerk/ Treasurer: 10 hours/year	Staff time only
4.1 Short Term Acquisition	High	2015	2018	Not estimated	WA DOH Grant WA Wildlife & Recreation WA Ecology Loans Conservation Partner
4.2 Conservation Finance Partnerships	High	2015	Ongoing	Not estimated	City
4.3 Long Term Acquisition	Future Actions				
5.1 Learn from other forested source watersheds	Medium	2015	Ongoing	Clerk/ Treasurer: 5 hours/ year	Staff time only
5.2 Update and operationalize the Source Watershed Control Plan	Medium	Ongoing	2021	Clerk/ Treasurer: 20 hours Consultant: $8,500	City, WA DOH Grant
6.1 Signage		2017	Ongoing	Water Operators: 3 hours Signs 10 x $30: $300	City, WA DOH Grant
6.2 Water Quality Report and Utility Bill Communications		2017	Ongoing		Staff time only
6.3 K-12 Education/ Exhibits/ Tours	Future Actions				
7.1 Tax or Ratepayer Funding		2016	2017	Not estimated	City
7.2 Source Water Protection Fund		2016	2017	Not estimated	Staff time only

Table 6. Funding for Major Near Term Actions

Action	Funding Source	Considerations
2.1 Complete a Forest Management Plan	WA DOH Source Water Protection Fund Grant	Apply in Summer/Fall 2015 or 2016. WA DOH funding would require a special commitment to manage watershed for drinking quality under a precautionary principle. Further preliminary eligibility discussion with DOH staff required.
	WA Department of Ecology Grants (319 & Centennial)	Apply in Fall 2016. The grant materials appear to support this type of project, however recent feedback from program staff was discouraging.
	Weyerhaeuser Family Foundation	Initiate discussion with non-profit applicant partner as soon as possible. Consider Ecotrust, a prior successful applicant.
	City General or Water Fund	Use for match and grant writing
4.1 Short Term Acquisition	Washington Wildlife & Recreation Program	Apply in Winter 2015 to Spring 2016. Wildlife Plan due in Spring 2016 required for some grant categories. Generally, City must be committed to managing acquired land for the benefit of priority species.
	City Timber Harvest outside watershed	Cruise city owned stands outside of watershed after initiating discussions with Weyerhaeuser. Cruise Weyerhaeuser stands simultaneously. Consider evaluation of City owned blown down timber south of impoundment in watershed as well.
	City General or Water Fund	Use for match, grant writing, transaction costs, and to subsidize purchase
	Assorted Loans	Initiate dialogue with loan program staff after reaching out to Weyerhaeuser.

11. Conceptual Acquisition Strategies

11.1 Goals

Two broad recommended acquisition goals are listed below. The alternatives that follow primarily address the short term goal, but are applicable to the long term goal as well. The goals and alternatives are based on the assumption that the City cannot afford to buy all land and timber interests in the watershed in the near term, and that some near term water quality impacts from limited clear cutting can be tolerated by the treatment system and ratepayers.

- Short term goal (0 – 5 years): Protect water quality by acquiring limited timber and other interests throughout the watershed.
- Long term goal 5 years and beyond): Protect water quality by acquiring all timber and land interests in the watershed.

11.2 Negotiation Elements

Some combination of the following conceptual elements would most likely result in the most optimal and practical agreement between the City and Weyerhaeuser.

Element 1: Negotiate for whole timber rights on entire units
The City would purchase the timber rights to prevent harvest in the reserved timber areas, with additional protective measures in other areas as described below.

Element 2: Negotiate for riparian buffers and other assurances
The City would negotiate for no aerial chemical spraying, limits on ground based spraying at key locations, larger riparian buffers and/or no logging within the 200 foot buffers (in contrast to thinning as allowed). The City may have to pay for forgone timber revenues. The 1987 Agreement provides that herbicide applications may not occur without the City's permission, but that permission should not be unreasonably withheld. This provision may provide a basis for the City to require special conditions for herbicide applications that lessen potential impacts on water quality.

Element 3: Negotiate for a staggered schedule of harvests
The City would negotiate to increase the duration between Weyerhaeuser harvests, to limit acute water quality impacts. For example, under this type of agreement, Weyerhaeuser might agree to delay its harvests in the reserved timber areas such that they would not occur until at least 10 years after the completion of Weyerhaeuser harvests on the land that Weyerhaeuser owns in the reminder of the watershed. Weyerhaeuser might find value in such an agreement if it perceived improved timber prices in the future, if it valued the timber volume that would be added during the ten year delay, and if the harvest schedule complimented other harvest plans in neighboring areas.

Element 4: Negotiate for discounted interests
The City should in any case negotiate for discounts that Weyerhaeuser may also find value in. Taxation frameworks and public relations may provide Weyerhaeuser an incentive to do so. For example as part of a larger deal that included purchase of timber rights in the reserved areas, Weyerhaeuser might be willing to sell its remaining land in the watershed at a reduced cost or as a donation after it liquidates the timber in those areas.

11.3 Conceptual Alternatives

The following alternatives are conceptual and are intended to illustrate two alternative approaches to acquisition.

Protective Approach

The City would purchase all or most of the timber rights in the reserved timber areas to prevent it from being clear cut in the near term, while negotiating for protective forest practices on the land that Weyerhaeuser owns, and ultimately the acquisition of that land after it is harvested.

Adaptive Approach

While attempting to purchase at least some timber rights on limited acreage in the immediate term, the City would negotiate to have Weyerhaeuser's harvests staggered over an extended period of time (ten years for example) but not attempt to prevent at least one small near term harvest. The City would thereafter revise its acquisition plans for outstanding land and timber rights based on its observations of water quality performance following the initial harvest. The initial negotiated harvest schedule should be sufficiently drawn out to provide water quality benefits on its own, but also sufficiently drawn out for the City to revise its acquisitions plans, raise capital, and negotiate for the purchase of land and timber before the subsequent harvests would occur.

11.4 Funding Sources

The City will likely have to use general tax funds or ratepayer funds in the form of cash or debt capacity and reserves in order to complete acquisitions. Additional funding sources for acquisition are described in Funding Appendix B, and include:

- Subsidized loan opportunities.
- Limited grant opportunities.
- Sale or exchange of City owned timber outside of the watershed
- Sale of select timber from commercial-restoration thinning within the watershed
- Carbon market participation (not a near term revenue source)
- Bridge financing opportunities with conservation investment funds

11.5 Value for Weyerhaeuser

In negotiating with Weyerhaeuser, the city should consider the full range of Weyerhaeuser's interests, including but not limited to the following considerations.

- Weyerhaeuser could find public relations value in helping the City achieve its goals at reduced cost to the City, and the City can help Weyerhaeuser achieve that value by promoting their partnership.
- Weyerhaeuser could find value in alternative harvest schedules, associated with added timber volume, anticipated increases in timber prices, or synergies with Weyerhaeuser's mill demands or neighboring harvest schedules.
- Weyerhaeuser could find value in being relieved of its post-harvest replanting obligations, and road maintenance and abandonment obligations.
- Weyerhaeuser would find value in cash provided by the City, whether its source was a loan, grant, or otherwise.
- Weyerhaeuser could find value in acquiring land and timber owned by the City outside of the watershed, and may be more efficient at managing and harvesting that timber than the City is.

11.6 Next Steps

The City should reach out to Weyerhaeuser's land development office to determine their willingness to engage in negotiation over any combination of these alternatives, and should do so as soon as the City is willing. A consulting forester and assured funding sources are not needed to make initial contact. Rather, initial contact and understanding of Weyerhaeuser's willingness to negotiate on alternative topics is needed to complete a funding strategy.

The initial contact should articulate the City's interest in purchasing all timber rights in the reserved areas, and its interest in acquiring the remainder of Weyerhaeuser's interests in the watershed as a donation or bargain sale after the areas are harvested, and should request Weyerhaeuser to articulate some indication of what it would cost to do so.

After reaching out to Weyerhaeuser, the City should have a timber cruise done on its timber outside of the watershed, any timber that the City is considering purchasing, and potentially the City owned blown down salvageable timber south of the impoundment. Based on an estimate of City owned timber value and the City's willingness to harvest it, realistic expectations can be established for the City to use the funds as grant match and loan collateral. The optimal time to formally appraise the timber may be later than the cruise, depending on the speed of negotiations and the requirements of grant and loan maker

Table 7 Parcels and Harvest Units in the Watershed

Unite # per 1987 Agreement [16]	County Parcel Number	Location (all in Township 10 North, Range 10 West)	Acres[17]	Last known harvest	Estimated future harvest[18]	Harvest Related Road Work[19]	Timber Owner[20]	Land Owner[21]
N/a	09100300000	Section 3 (Township 9N)	640 (20 inside watershed)	Unkn.	Unkn.	2015	Weyerhaeuser	Weyerhaeuser
N/a	10103428000	NE ¼, SE ¼, SW ¼ of Section 34	480 (150 inside watershed)	Unkn.	Unkn.	2015	Weyerhaeuser	Weyerhaeuser
N/a	10103429000 East Half	East ½ of NW ¼ of Section 33	80 (60 inside watershed)	Unkn.	Unkn.	2015	Weyerhaeuser	Weyerhaeuser
N/a	10103429000 West Half	West ½ of NW ¼ of Section 33	80	Unkn.	None	None	Ilwaco	Ilwaco
N/ a	10103322002	Portion of the NW ¼ of Section 33	80	Unkn.	None	None	Ilwaco	Ilwaco
N/ a	10102837000	South ½ the SW ¼ of Section 28	84	Unkn.	None	None	Ilwaco	Ilwaco
625	Portion of 10102822001	Portions of all quarters in Section 28	251(244)	1983	None	None	Ilwaco	Ilwaco
637	Portion of 10102822001			1983	None	None	Ilwaco	Ilwaco
644	Portion of 10102822001			1987	None	None	Ilwaco	Ilwaco
626	10102732001 & Portion of 10102822001	Portion of SW ¼ of Section 27 & Portion of SE ¼ of Section 28	52 (59)		2018 - 2027	2015	Weyerhaeuser	Ilwaco
759	10103312003	Portion of NE ¼ of Section 33	102	Unkn.	2018 - 2027	2015	Weyerhaeuser	Ilwaco
761		Portion of NE ¼ of Section 33 & Portion of SE ¼ of Section 33	14	Unkn.	2018 - 2027	2015	Weyerhaeuser	Ilwaco

[16] Unit numbers provided in text and Exhibit D of the 1987 Agreement. Parcel numbers obtained from Pacific County GIS webpage.
[17] Acres are approximate and not based on a survey. The 1987 agreement ambiguously includes a 7 acre portion of parcel 10102732001 in the timber reservation. Including that seven acres makes the total acreage of the Unit 626 reservation 59 acres.
[18] Estimated future harvest in the timber reservation areas is based on the 1987 agreement parameters, that notice of intent to harvest must be provided three years in advance, and that the harvests must be completed 40 years from recording of the agreement, which occurred in 1987.
[19] Road work information was obtained by reviewing forest practices act applications, and field observation. Not all approved road work has been initiated as of the writing of this plan.
[20] The timber owner is assumed to be the same as the landowner, unless specified otherwise in the 1987 agreement.
[21] Landowner information was obtained from Pacific County's GIS webpage and Assessors online parcel mapping tool, and the 1987 Agreement. Pacific County information sources indicate that the entirety of parcel 10103429000 is owned by City of Ilwaco, however forest practices application indicate that that the east half of the parcel remains in Weyerhaeuser ownership. Until more definitive information is available to settle the question, it is assumed for analysis purposes only that that Weyerhaeuser owns the east half of parcel 10103429000

Table 8. Order of Magnitude Estimate of Timber Value in Reserved Timber Areas

Parcel	Location	RMZ/ WMZ Acres Detail[22]	RMZ/ WMZ Adjusted Acres[23]	OM Board ft Detail[24]	OM Timber Value[25]
10103312003	Portion of NE ¼ of Section 33	4920 ft. of Type F 12 Core Zone Acres 22 Inner/Outer Acres 4224 ft of Type Nx 10 Acres	102 total acres Minus 27 RMZ/WMZ acres Equals 75 merchantable acres	22,000 – 25,000 bf per acre $300 - $350 per 1000 bf. Timber = $6,600 to $8,750 per acre	$495,000 - $656,250
10102732001 & Portion of 10102822001	Portion of SW ¼ of Section 27 & Portion of SE ¼ of Section 28	4771 ft. of Type Nx 11 Acres	59 total acres Minus 5.5 RMZ/WMZ acres Equals 53.5 merchantable acres	22,000 – 25,000 bf per acre $300 - $350 per 1000 bf. Timber = $6,600 to $8,750 per acre	$353,100 - $468,125
Total Order of Magnitude Estimate of Timber value in reserved timber areas					$848,100 - $1,124,375

[22] Parcel acres are approximate and not based on a survey. WA DNR stream type data were used to measure stream length by water type. Linear measurements were multiplied by FP rule buffer widths for RMZ's/WMZ's. Stream type classification and harvest options within RMZ zones are finalized at the time of forest practices application review, therefor the real harvestable timber will vary from the estimates provided here.

[23] Type F Inner and Outer Zone acres, and Nx acres were halved to approximately represent harvest limitations in these areas.

[24] The board foot volume per acre based on visual observation from roads is a preliminary estimate. The board foot value is based on a 2013 sample appraisal from SW Washington and personal communications with professional forest managers, and represents the net value of timber after the cost of harvest and hauling.

[25] Order of Magnitude (OM) Timber Value does not include acreage of spur road ROW's and platforms that have already been harvested. Although this biases the estimate towards being too high, Weyerhaeuser might expect to recuperate the sunk cost of road and platform reconstruction that has occurred. The estimate does not include transaction costs. An estimate of value for the reserved timber area used in prior City communications was $3,500 per acre; however the assumptions underlying that estimate aren't known and therefor were not used in this analysis. An order of magnitude estimate is accurate to within an order of magnitude.

Table 9. Order of Magnitude Estimate of the Bare Land Value Owned By Weyerhaeuser[26]

County Parcel Number	Location (all in Township 10 North, Range 10 West)	Acres[27]	Bare Land Value per Acre[28]	Order of Magnitude Bare Land Value[29]
09100300000	Section 3 (Township 9N)	640 (20 inside watershed)	$500 - $700 per acre	$10,000 - $14,000
10103428000	NE ¼, SE ¼, SW ¼ of Section 34	480 (150 inside watershed)		$75,000 - $105,000
10103429000 East Half	East ½ of NW ¼ of Section 33	80 (60 inside watershed)		$30,000 - $42,000
Total Order of Magnitude Estimated Value of Bare Land owned by Weyerhaeuser =				$115,000 - $161,000

[26] The land is currently forested. This estimate contemplates the value of the bare land after the timber is harvested.
[27] Acres are approximate and not based on a survey. The 1987 agreement ambiguously includes a 7 acre portion of parcel 10102732001 in the timber reservation. Including that seven acres makes the total acreage of the Unit 626 reservation 59 acres.
[28] Land value per acre range obtained from personal communication with professional foresters.
[29] The estimate does not include transaction costs. An order of magnitude estimate is accurate to within an order of magnitude. Exact acreage, market changes, and the interests of transaction participants affect value.

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Data Sources

Pacific County Assessor

Pacific County GIS Webpage

Western Regional Climate Center

Washington Department of Natural Resources Geosciences Portal

Washington State Forest Practices Spatial Datasets

Washington State Forest Practices Application Review System

Ilwaco Water System Plan 2011

Appendix A
Funding and Assistance Sources[1]

Market Opportunities

1.1 Timber Sale
1.2 Minor Forest Products
1.3 Carbon Sequestration Offsets
1.4 Sustainable Certifications

Ratepayer Charges

Technical Assistance Resources

Public Funds

Foundations

[1] Sources:
Funding program webpages
Funding source summary compiled by Cathi Read, WA Department of Commerce
City of Carbonado Source Water Plan

Market Opportunities

1.1 Timber Sales Generally

The City of Ilwaco will be challenged to identify merchantable timber of sufficient quantity to profit from existing owned timber in the watershed, given the relatively high fixed costs associated with administering timber sales, mobilizing equipment, and bringing the hauling roads up to standard, regardless of its tolerance for water quality impacts.

North of the impoundment adjacent to ridgetop roads, there appear to be merchantable saw log and pulp hemlock and alder that could be harvested without creating major risks to water quality. Aside from some exceptional areas, beyond thirty to fifty feet from the roads stem sizes tend to decrease and would require pre-commercial thinning prior to a revenue generating harvest in the future.

South of the impoundment adjacent to recent clear cuts on neighboring property not owned by the City, there are blown down hemlock and Douglas fir that could potentially be salvaged without creating major risks to water quality. Otherwise there are clearly merchantable standing saw log hemlock, however timber on this side of the impoundment is relatively close to the impoundment shoreline, increasing sedimentation risks from harvest. Generally this area has more productive tree densities and trees are larger than on the watershed's north side; however the total area in question is smaller than areas on the north side.

West of the impoundment near the treatment plant (technically outside of the impoundment's watershed) the City owns at least two stands of timber with potentially merchantable logs. The stand south of the water treatment plant has clearly merchantable saw logs.

City owned timber in the watershed will not improve substantially prior to scheduled Weyerhaeuser harvests in the remainder of the watershed, given the short timeline and typically excessive density of City owned timber. Therefor existing City owned timber within the watershed should not be considered a direct revenue source to support purchasing timber rights from Weyerhaeuser in the near term.

It is possible that existing City owned timber could be used as collateral on a commercial or subsidized loan for purchasing additional land and timber. This type of loan facility would allow the City to rely less on its other debt capacity. The loan could potentially be structured to provide for a balloon type payment in the future, funded by sale of the existing timber. If this were possible, the City would likely need to demonstrate that it has the expertise, plans, and interim funding needed to maintain that timber/collateral and develop it into a merchantable stand that would be adequate for paying the loan. This demonstration might take the form of a timber management plan with specific scheduled thinning prescriptions, a reserve fund dedicated to implementing the pre-commercial thinning, other interim thinning and road maintenance/reconstruction, and forms of insurance for fire, pests, and/or timber market fluctuations. It is also conceivable that timber the City's wishes to purchase could be used as collateral and the source of payment on a loan to purchase that same timber. Given the improved condition of timber not owned by the City, structuring a loan facility to use that timber may involve less risk and therefor less cost in the form of insurance and reserves.

There is some possibility of using carbon sequestration revenues, city owned timber outside of the watershed, or a loan securitized and paid off by future sale of city owned timber inside of the watershed

to purchase timber rights.

1.2 Alternative Forest Products

Some opportunities may exist for the City to generate revenue from the sale of permits for harvesting Christmas trees, mushrooms, or salal greenery. The City's small acreage limits opportunities in these markets. Furthermore, inviting permittees into the watershed could create water quality problems from erosion, trash, and human and pet waste.

1.3 Carbon Markets

The City could generate revenue from carbon markets for the carbon stored in wood fiber in the watershed. There are several operating carbon markets in the United States and World. Washington's Carbon Pollution Accountability Act of 2015[2] would establish a market for greenhouse gas emissions in Washington. Section 9 of the Act would establish mechanisms to incorporate greenhouse gas sequestration into the market. The City could generate revenue by selling carbon offsets in this market or others even if the Washington bill is not adopted in 2015.

The City of Astoria valuated carbon sequestration in its source water watershed while developing a comprehensive forest management plan, and is now a producer of carbon offsets/credits in collaboration with the Climate Trust. City of Astoria may generate over $350,000 in its first year of participation, and about $130,000 per year for the following nine years. City of Astoria's forest is approximately 3,700 acres, producing approximately 3 million board feet per year in new timber, with 100 million board feet of standing timber.

Carbon market opportunities for the City of Ilwaco would be limited in the short term by its smaller acreage, and its young and overgrown timber stands, however there may be opportunities to participate with other municipalities in pooled carbon market opportunities that would help small communities achieve economies of scale together. In the medium to long term, carbon markets should be seen as a likely source of revenue that does not conflict with water quality goals. Ecotrust is a likely partner for taking next steps toward carbon market participation.

1.4 Sustainable Certifications

The City should consider participating in a sustainability certification program such as that provided by the Forest Stewardship Council. While there does not appear to be a direct price premium offered to timber owners for certified wood, in some regions certification will provide timber owners access to markets for certified wood that they would otherwise not have access to. This could theoretically improve the city's bargaining position at any given time and result in it fetching higher prices for wood. Certification can also be seen as a framework for normalizing a culture of proactive facility maintenance, good record keeping, worker safety, and environmental stewardship. There are substantial costs associated with the certification process that will challenge Ilwaco because of its small acreage; however the certification programs provide mechanisms for multiple small forest owners to pool resources toward joint certifications. Additionally, grants are available to subsidize the certification process. Northwest Natural Resources Group and Trout Mountain Forestry are two managers of group certifications in Oregon and Washington. Sustainability certifications should be explored in combination with carbon market opportunities.

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[2] Governor Jay Inslee. 2014. The Carbon Pollution Accountability Act of 2015. http://www.governor.wa.gov/issues/climate/documents/CarbonPolutionAccountabilityAct2015_Z-0307.2.pdf

Ratepayer Charges

Most of the revenue sources described in this plan require an investment from the City, whether in the form of formal match for grants, paying consultant grant writers, or paying for timber cruises and appraisals.

A modest source water protection surcharge would provide the City with a flexible source of funding for leveraging other revenue. A $1 per month flat surcharge applied to every water system connection, assuming approximately 750 connections, would generate approximately $45,000 after five years. Initially this funding might be used to fund timber cruises, appraisals, and negotiations for timber and land purchases with Weyerhaeuser. If the City were willing to use other funds for those activities, the source water protection surcharge could be used as match to leverage grants from state and federal agencies. Given that the City just updated their water rates in 2014-2015, it may not be feasible to make additional changes so soon.

Technical Assistance Resources

Some technical assistance resources provided in kind can be used match for grants, and should be documented accordingly.

US Fish and Wildlife Service Partners for Fish and Wildlife
This is the only technical assistance resources listed here that the City has not already used. The program may be able to assist the City by providing experts to evaluate the watershed's habitat potential for priority species. This would improve the forest management plan effort, and help the City obtain grant funds aimed at habitat protection.

Columbia Land Trust
Columbia Land Trust provided technical assistance leading up to the development of this plan and continues to be available to provide assistance. They may also be able to support wildlife habitat grant writing that could offset the cost of acquisition and restoration activities (culvert and road upgrades, forest restoration).

Evergreen Rural Water of Washington
Evergreen Rural Water of WA (ERWoW) provides on site training and technical assistance to water and wastewater systems throughout the state. The staff works directly with systems to solve operational, regulatory, administrative and financial challenges faced by water systems.

Washington Department of Health – funding and technical support
Washington Department of Ecology– funding and technical support

Natural Resource Conservation Service
USDA staff visited the Indian Creek Watershed to provide preliminary impressions on road maintenance and timber management in 2014, and are available to provide more assistance in the future.

CREST
CREST can assist the City with developing management goals, public participation, meeting facilitation, grant writing, and working through the initial steps of completing any of the recommendations in this plan.

Public Funds

Program	Planning	Acquisition	Design	Construction/ Restoration/ BMP's	Emergency
WA Ecology -- Integrated Water Quality Funding Program	Washington Department of Ecology's Centennial Clean Water Program, Clean Water Action Section 319 Grant Program, Clean Water State Revolving Fund Loan Program could provide grants for planning and subsidized loans for acquisition. Drinking water source protection is not a typical project type or goal for these funding programs, so while they merit some further exploration, they thorough vetting is needed with program staff prior to investing time and resources in applying for funds.				
WA DOH -- Source Water Protection Grants	Although Washington Department of Health funds may be used for a wide variety of source watershed activities, total funding for allocation throughout the state is limited, and back to back awards are difficult to obtain. Recent culvert work and this source water control plan were funded under this program. Given their flexibility, the City should seek to use future DOH funds or a purpose that otherwise had very limited funding options.				
WA Wildlife & Recreation Program	This program's funding focuses on outdoor recreation areas and protecting wildlife habitat, and may contribute funding toward purchasing land or riparian easements from Weyerhaeuser. The program is funded state wide at $55 million dollars, and there are no caps on individual grants, a match ranging from 10% to 50% is required. This program requires that the local government have a wildlife plan demonstrating the need and public support for the project, for some grant categories. The City would be required to submit a plan to the funding agency in spring 2016 to apply for a grant later in that year.				
CDBG – Planning-Only Grants -- General Purpose Grants -- Imminent Threat Grants					
Public Works Trust Fund – Planning Program -- Preconstruction Program -- Construction Program -- Emergency Program					
Rural Community Assistance Corporation -- Feasibility Loans -- Pre-Development Loans -- Construction Loans					
Drinking Water State Revolving Loan Fund					
USDA RD– Rural Utilities Service – Direct Loans and Grants -- Predevelopment Grants -- Search Grants -- Emergency Grants					
WA RCO - Habitat Grants					
WA RCO - Land & Water Conservation					
National Rural Water Assn. -- Loans					

Other programs to consider, with major restrictions	
WA DNR --Family Forest Fish Passage Program	WA DNR programs generally do not allow public entities or corporate timber owners to receive assistance. If the City participates with a third party private land owner such as a land trust or conservation fund forest investor, the USDA NRCS programs may be useful for acquisition. The Forest Legacy Program purchases development rights on commercial forests, to keep them in commercial production. Funds could be used to offset some costs of purchasing land from Weyerhaeuser if the development rights on their land are perceived to be valuable and there is a perception that land use conversion threatens the future of commercial timber production.
WA DNR - Forest Stewardship Program	
WA DNR - Riparian Easement Program	
WA DNR Forest Legacy Program	
WA RCO - Salmon Recovery Funding Board	The water control structure limits salmon access to the upper watershed. Therefore, salmon funding is not available. If access was provided in the future, this would be a potential acquisition and restoration funding source,
USDA NRCS --Environmental Quality Incentives Program	USDA NRCS programs generally do not allow public entities to receive financial assistance, nor do they generally provide for industrial size timber owners such as Weyerhaeuser to receive assistance. The CRES program focused on riparian area protection does not include Indian Creek or its tributaries as eligible streams. The EQIP program may have flexibility to fund planning and conservation projects on City owned forest land, however the owner (City) must already be engaged in active forest management and production. If the City participates with a third party private land owner such as a land trust or conservation fund forest investor, the USDA NRCS programs may be useful for acquisition.
USDA NRCS - Conservation Reserves Enhancement Program	
USDA NRCS - Conservation Stewardship Program	
USDA NRCS - Healthy Forests Reserve Program	
USDA NRCS - Agricultural Conservation Easement Program	
USDA, Farm Service Agency Emergency Forest Restoration Program	
USFWS Cooperative Endangered Species Conservation Fund	The City may be able to apply for these funds through the State, to enhance habitat for threatened or endangered species such as Marbled Murrelet, Northern Spotted Owl, Fisher, and Marten if the City intends to manage watershed resources for the benefit of these species. The state's Marbled Murrelet and Northern Spotted Owl Habitat Conservation Plans include the watershedDuring the last federal funding opportunity, the state did not invite local governments to apply.

Foundations

Foundation opportunities may be applicable to Ilwaco, but would likely require a non-profit partner, and may require the project to be framed as one that could be scaled up to other communities, or one that assists Ilwaco and a handful of other communities at the same time. For example, a regional conservation organization would obtain a foundation loan or grant to assist Ilwaco and other communities with surface drinking water sources develop forest management plans, obtain acquisition financing, and take preparatory steps to participate in carbon markets.

Foundations with particular relevance to Ilwaco's situation include the following:

- The Bullitt Foundation
- Laird Norton Family Foundation

- Kresge Foundation
- FSC Smallholder Fund
- Bonneville Environmental Foundation
- Weyerhaeuser Family Foundation

Non profit partners with particular relevance to Ilwaco's situation include the following:

- The Nature Conservancy
- Columbia Land Trust
- Ecotrust

Additional information on some of these organizations is provided in the sections below.

Program Related Investments (PRIs)

Program-Related Investments (PRIs) are made by foundations to support charitable activities, typically in the form of loans or loan guarantees. For example, 98% of the Bullitt Foundation's PRI's have been through a revolving loan fund for the acquisition of land with unique biological characteristics or attributes related to the foundation's other programs.

Foundations that make program related investments potentially applicable to Ilwaco's watershed include:

- The Bullitt Foundation
- Laird Norton Family Foundation
- Kresge Foundation

Forest Stewardship Council Smallholder Fund

Eligible Applicants

- Not specified

Eligible Projects

- Preparing for FSC certification e.g. technical assistance, certification training
- Compliance costs e.g. new or adapted management plans; set-aside, buffer areas and conservation zones; management of High Conservation Value forests
- Investments in the production chain e.g. machines, equipment, capacity-building, training
- Marketing strategies and sales e.g. training, participation in trade fairs.

Bonneville Environmental Foundation

Eligible Applicants

Nonprofit organizations.

Eligible Projects

Renewable power and acquire, maintain, preserve, restore, protect, and/or sustain fish and wildlife habitats within the Pacific Northwest. Interests: Watershed Restoration Program: Supports restoration of damaged watershed ecosystems. It supports communities trying to heal their local watersheds by supporting watershed restoration projects grounded in the best available watershed science.

The Bullitt Foundation

Eligible Applicants

Nonprofit organizations

Eligible Projects

Program priorities:

1) Manage freshwater resources: control, use, distribution, conservation;
2) Conserve and restore resilient watersheds, wetlands and estuaries;
3) Maintain a working land base for sustainable agriculture and forestry;
4) Enforce laws and policies intended to assure air and water quality;

5) Create landowner incentives for maintaining and enhancing ecosystem services, including the development of market-based mechanisms.

Weyerhaeuser Family Foundation (Not associated with Weyerhaeuser Corporation)

Eligible Applicants

Tax exempt organizations

Eligible Projects

- Creating value in forests and forest communities through developing, producing, and marketing new forest products or forest ecosystem services.
- Advancing community-wide long-term planning for monetizing the full range of forest values, including explicit valuation of and creation of markets for forest ecosystem services.

Land Trusts

General Description

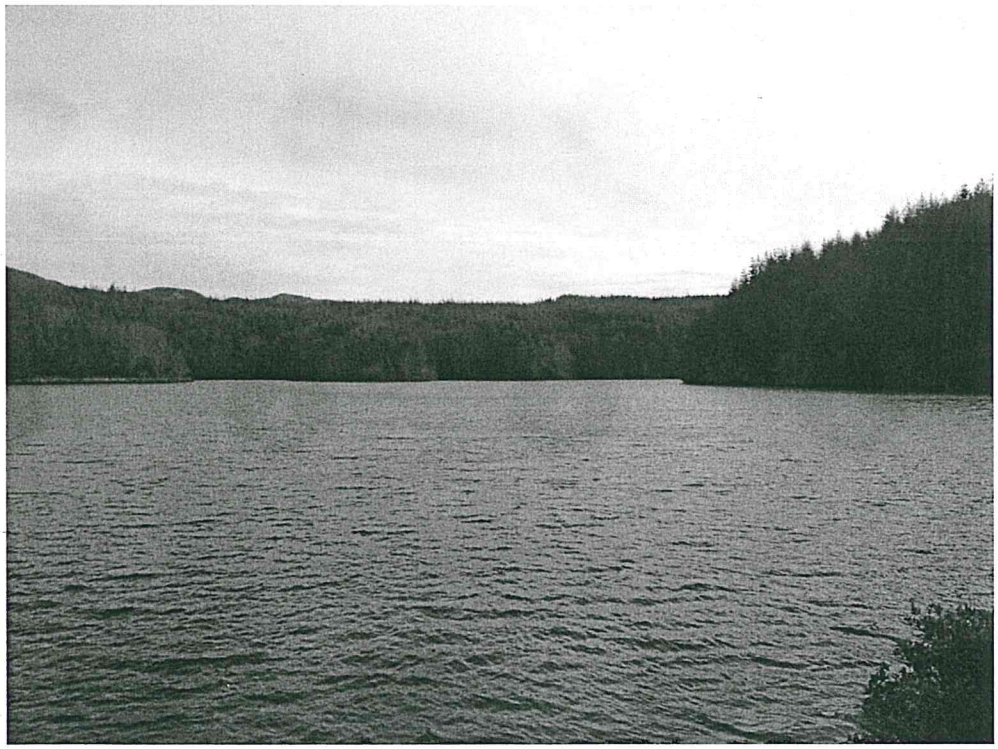
A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. Land trusts work with landowners and the community to conserve land by accepting donations of land, purchasing land, negotiating private, voluntary conservation agreements on land, and stewarding conserved land through the generations to come.

The Nature Conservancy of Washington and Columbia Land Trust have already provided significant support and would likely continue in the future. Aside from being actual parties to conservation transactions, these organizations have staff with expertise in land management, acquisition processes, grant writing, and state and federal funding resources.

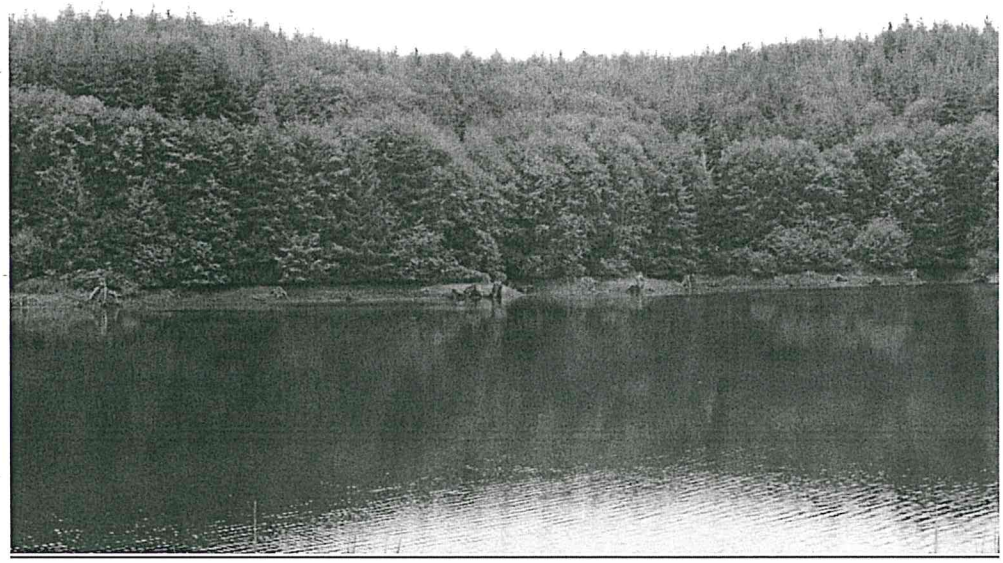
Appendix B

Photographs

Impoundment Dam. Alder and Hemlocks stands on mild slopes on impoundment's north side.



Impoundment. Mixed confer forest on moderate slopes on impoundment's east and south sides.

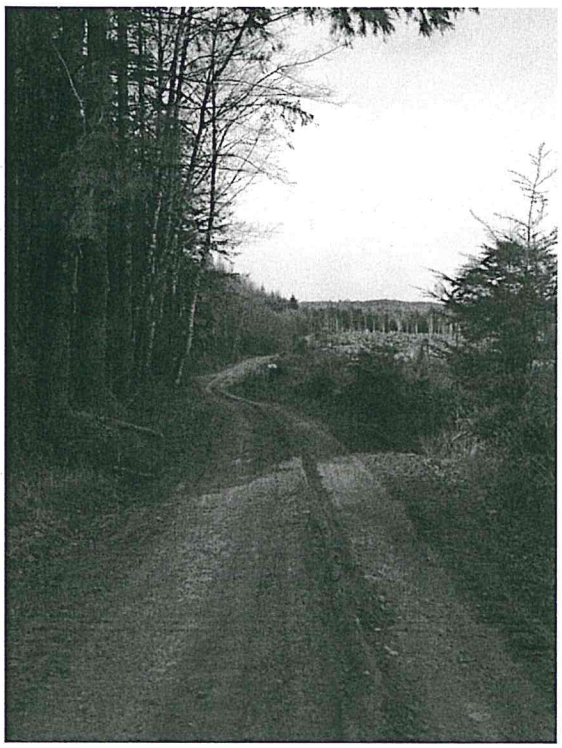


Exposed impoundment shorelines.

Impoundment looking north and west from on the water.

Typical city owned road and landing surface on watershed's north side. Saw log alder and overstocked hemlock beyond.

Active preparation for harvest between 2018 and 2027. Major road reconstruction in southern watershed on interior ridge top.



Walberg Road on watershed's north ridge, with some wearing from recent haul activity.

City boundary southwest of reservoir. Blown down and vulnerable timber next to clear cut.

City timber southwest of impoundment. Blown down and vulnerable timber next to recent clear cut

Southeast of impoundment, shoreline vegetation, City's timber, and clear cut beyond. Small creek with recently deposited sediments and gravels.

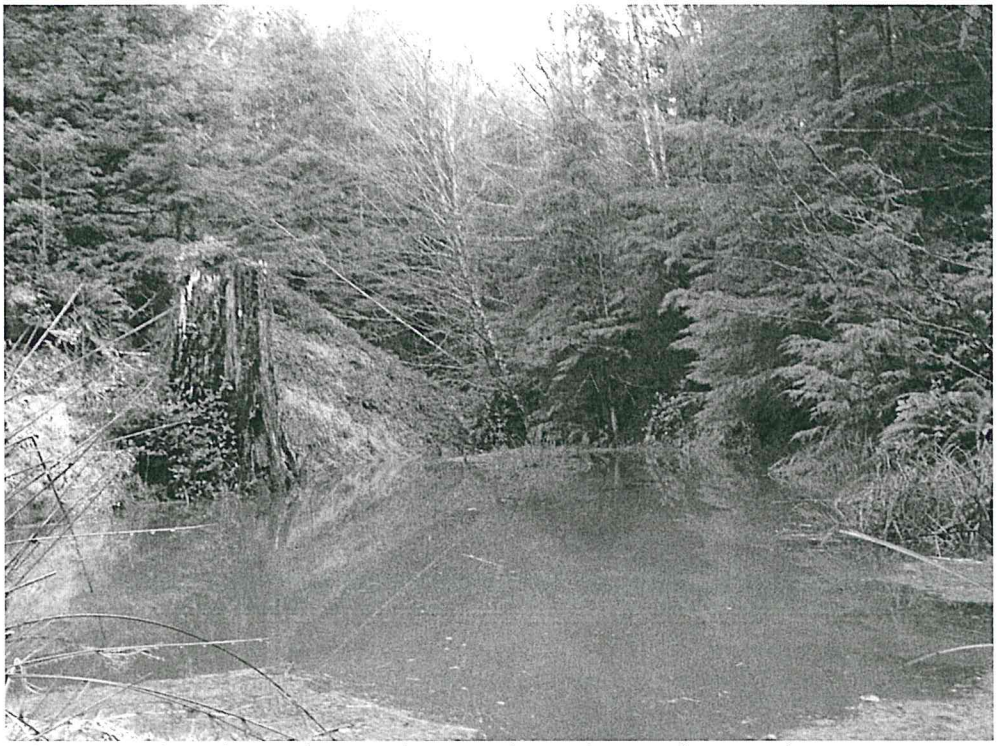
South of impoundment. City owned timber. Clear cut above and beyond.

Southwest of impoundment Shoreline vegetation including alder.

South of impoundment Shoreline vegetation including alder.

South of impoundment Beaver dam on small creek.

Mouth of Indian Creek flowing into the impoundment. Recent sediment deposits.



Tributary mouth southeast of impoundment. Sediment deposits, fire scarred stump, semi-exposed bank.

Tributary southeast of impoundment. Blown down, thin stemmed hemlock.

Tributary creek and side slopes on watershed'south east side.

Tributary creek and side slopes on watershed's east side.

Historic photo circa 1988 looking west across the impoundment. Impoundment wall on right. Historic Indian Creek drainage on left.

REAL ESTATE CONTRACT

Between the Town of Ilwaco, a Washington muncipal corporation ("Ilwaco"), and Weyerhaeuser Company, a Washington corporation ("Weyerhaeuser"), dated March 20, 1987.

BACKGROUND:

Based on recommendations of its consultant, American Engineering Associates, and other information, Ilwaco has determined that it needs to acquire certain timberlands in the Indian Creek drainage for municipal watershed purposes. Ilwaco is authorized and prepared to acquire the needed property by condemnation if necessary. Weyerhaeuser owns portions of the property. Wishing to avoid the expense and delays of condemnation, Ilwaco and Weyerhaeuser agree to the following transaction.

AGREEMENTS:

1. Weyerhaeuser will convey to Ilwaco the following real property lying approximately as shown on the map attached as Exhibit A:

(a) "Parcel 1," containing approximately 133 acres, and consisting of the following portions of Section 28, Township 10 North, Range 10 West (W.M.), Pacific County, Washington:

(1) the North one half of the Southwest one quarter; and

(2) that portion of the Northwest one quarter lying South of the North boundary of a new county road right of way, to be sixty feet in width and located as close as practicable to the ridge line extending Northwesterly from the existing county road, and South of the South side of Weyerhaeuser logging road No. 1620 extending Southeasterly from the existing county road.

(b) "Parcel 2," containing approximately 327 acres, and consisting of the following portions of Township 10 North, Range 10 West (W.M.):

(1) In Section 28, that portion of the East one half lying South of the South side of Weyerhaeuser's existing logging road No. 1620;

(2) In Section 27, that portion of the Southeast one quarter lying South and West of the Southwest side of Weyerhaeuser's existing logging road No. 1620;

be based on the survey. The survey will be completed as soon as practicable after Ilwaco's review of the title report and Weyerhaeuser's approval of the staking of those boundaries requiring a survey.

6. In the deed Weyerhaeuser will quitclaim a non-exclusive easement to use any roads it may now or hereafter own or control that provide access from the nearest public road to the property conveyed, authorizing Ilwaco to use such roads to manage the lands for watershed and commercial timber management purposes. However, Weyerhaeuser does not guarantee that any such roads will remain usable, and Ilwaco will be responsible for any additional maintenance attributable to its use.

7. In the deed Ilwaco will covenant that the proposed replacement county road segment will be dedicated and open for public use before Ilwaco authorizes the existing segment within the subject property to be taken out of service.

~~8. Weyerhaeuser will pay any real estate excise tax under Ch. 82.45 RCW. Ilwaco will pay any "rollback taxes" attributable to the conveyances, and will reimburse Weyerhaeuser for property taxes pro rated as of the date of this agreement. If it elects to close through escrow, Ilwaco will pay all escrow fees. If it elects to purchase title insurance, Ilwaco pay any title insurance premiums and sales taxes on the title policy.~~

9. During the time this agreement is in effect, Weyerhaeuser may continue harvesting timber being reserved, and otherwise continue managing the property for commercial timber production.

10. This agreement may be terminated by Ilwaco if it decides not to proceed with its proposed watershed project, or by Weyerhaeuser if the transaction has not closed by _____, 1987.

* * * End of Agreement * * *

TOWN OF ILWACO

By Nathan Brand
Mayor 2-24-87

WEYERHAEUSER COMPANY

By J. Willis
Manager, Acquisition, Sale & Exchange

jw2/1124/a8
11/11/86

STATE OF WASHINGTON
) ss.
COUNTY OF KING)

* Manager, Acquisition, Sale & Exchange

On this 23rd day of March, 1987, before me personally appeared J. Whittig, to me known to be a ~~Vice President~~ * of WEYERHAEUSER COMPANY, the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public in and for the State of Washington, residing at Seattle.

My appointment expires March 20, 1988

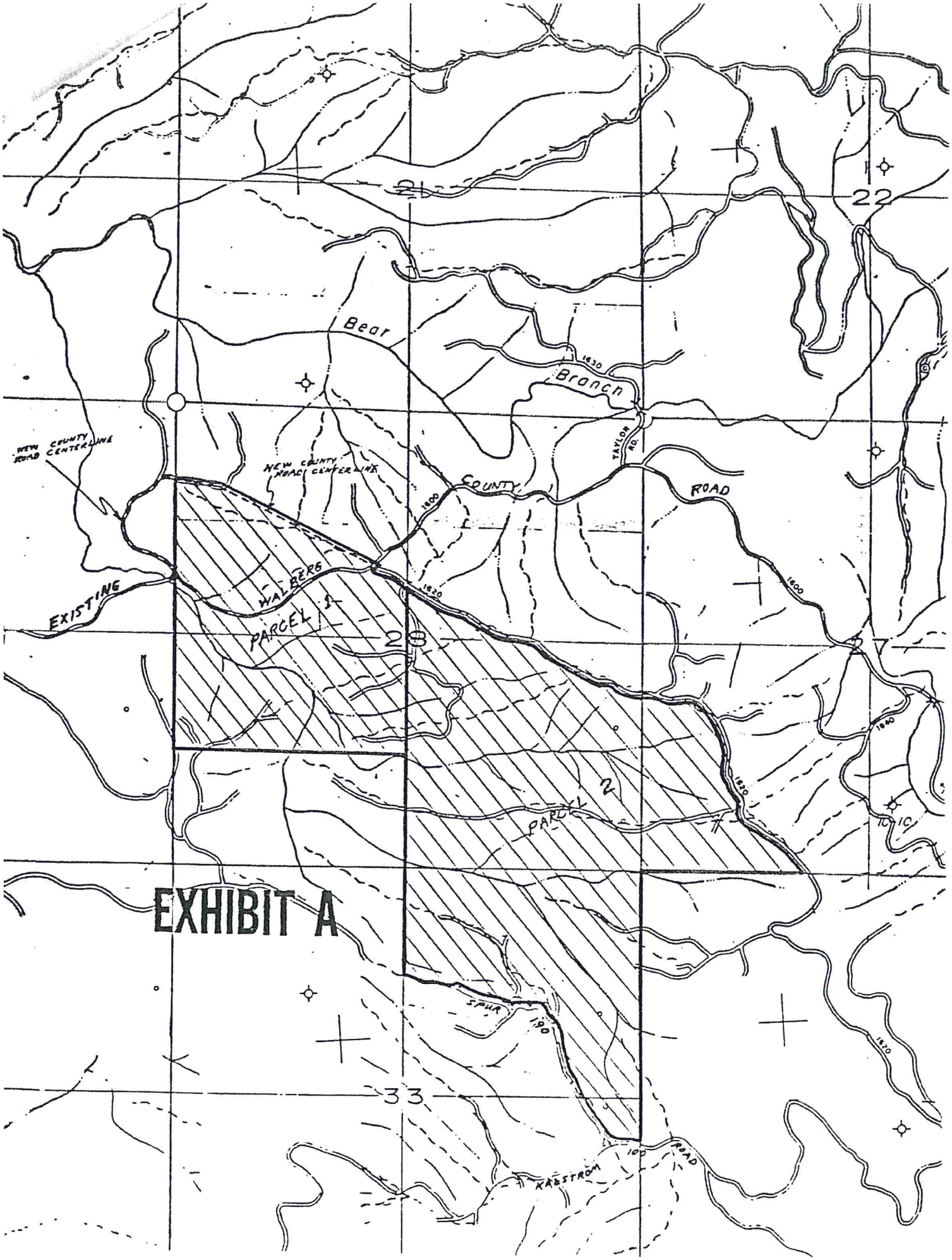

21
22
Bear
Branch
1830
TAYLOR RD.
NEW COUNTY ROAD CENTERLINE
NEW COUNTY ROAD CENTERLINE
COUNTY
ROAD
1800
1820
1600
EXISTING
WALBERG
PARCEL 1
28
27
1840
1820
PARCEL 2
1010
EXHIBIT A
SPUR
190
1870
33
100
ROAD
KARSTROM

EXHIBIT B

Mineral Reservation

Grantor hereby expressly saves, excepts and reserves out of the grant hereby made, unto itself, its successors and assigns, forever, all geothermal steam and heat and all metals, ores and minerals of any nature whatsoever, not previously reserved, in or upon said land including but not limited to, coal, lignite, peat, oil and gas, including coal seam gas, together with the right to enter upon said lands for the purpose of exploring the same for such geothermal resources, metals, ores and minerals, and drilling, opening, developing and working mines and wells thereon and taking out and removing therefrom, including by surface mining methods, all such geothermal resources, metals, ores and minerals, and to occupy and make use of so much of the surface of said land as may be reasonably necessary for said purpose; provided, that Grantee and Grantee's heirs, representatives, successors and assigns, shall be paid just and reasonable compensation for any injury or damage to the surface of said land, to the crops or to the improvements thereon caused by the exercise of any rights herein reserved, provided, further, that the exercise of such rights by Grantor shall not be postponed or delayed pending reasonable efforts to agree upon or have determined such just and reasonable compensation.

EXHIBIT C

Reservation of Rights to Use Roads

The following reservation is to be included in the deed from Weyerhaeuser Company to the town of Ilwaco:

"The Grantor reserves, for itself and any successor owners of any tributary lands, the right to use and maintain all haul roads now existing on the lands hereby conveyed, and any replacement roads that may be constructed with consent of Grantee or its successors, for purposes of commercial timber management on lands now or hereafter owned or controlled by the Grantor or its successors that are tributary to such roads. For this purpose lands shall be considered "tributary" to a road segment if the road segment could be reasonably used in the ordinary course of business for access to the lands for commercial timber management purposes, and "commercial timber management" includes timber harvesting and hauling, site preparation for reforestation, protection of timber crops from fire, disease, pests and competing vegetation, and hauling of rock or other road building materials and equipment in preparation for or in connection with any such activities."

jw2/1124/a9

EXHIBIT D

Timber Reservations and Timber Management Covenants

The following reservations and covenants are to be included in the deed from Weyerhaeuser Company to the town of Ilwaco, with respect to "Parcel 2":

"1. Weyerhaeuser to itself, successors and assigns reserves the right to harvest the currently merchantable stand of timber designated on the attached map as Unit 644, containing approximately 120 acres, in the Northwest quarter of Section 28, until five years from recording of this conveyance. A portion of this timber is covered by the Indian Creek No. 1 timber cutting contract between Weyerhaeuser and M. Nygaard Logging Company, currently scheduled to expire March 31, 1987. Weyerhaeuser agrees to release the portion of Unit 644 covered by that contract promptly on its completion, if the timber has then been removed.

"2. Weyerhaeuser for itself, successors and assigns reserves the right to harvest the existing stands of timber designated on the attached map as Unit 626, containing approximately 59 acres, in the Southwest quarter of Section 27, and Units 579 and 761, containing approximately 102 acres and 14 acres respectively, in the East one half of Section 33, until 40 years from recording of this conveyance.

"3. Weyerhaeuser will give Ilwaco three years notice before exercising any of the harvest rights hereby reserved, except Unit 644 currently scheduled for harvest in 1986 and 1987. If Weyerhaeuser gives notice of intent to harvest but is unable to obtain necessary regulatory permits to do so, it may elect either to extend the timber reservation until it is able to remove the reserved timber or to sell such timber to Ilwaco at its then current market value, disregarding any adverse effects on market value attributable to its location within a municipal watershed or unavailability of harvest permits.

"4. Weyerhaeuser will release its rights under these timber reservations and timber management covenants as to each unit or portion of a unit on completion of harvest.

"5. Weyerhaeuser will be responsible for any post-harvest slash disposal and reforestation to the extent necessary to meet normal regulatory requirements for comparable timberlands outside municipal watersheds. Weyerhaeuser will indemnify Ilwaco against any penalties and other costs imposed by regulatory

agencies for failure to meet normal regulatory requirements relating to slash disposal and reforestation, but Ilwaco will reimburse Weyerhaeuser for any additional slash disposal or reforestation costs attributable to the fact that the lands are used for domestic water supply purposes.

"6. Weyerhaeuser reserves the right to manage and protect the reserved timber by thinning, fire control, pest control, fertilization, and other generally accepted silvicultural practices, provided that Weyerhaeuser:

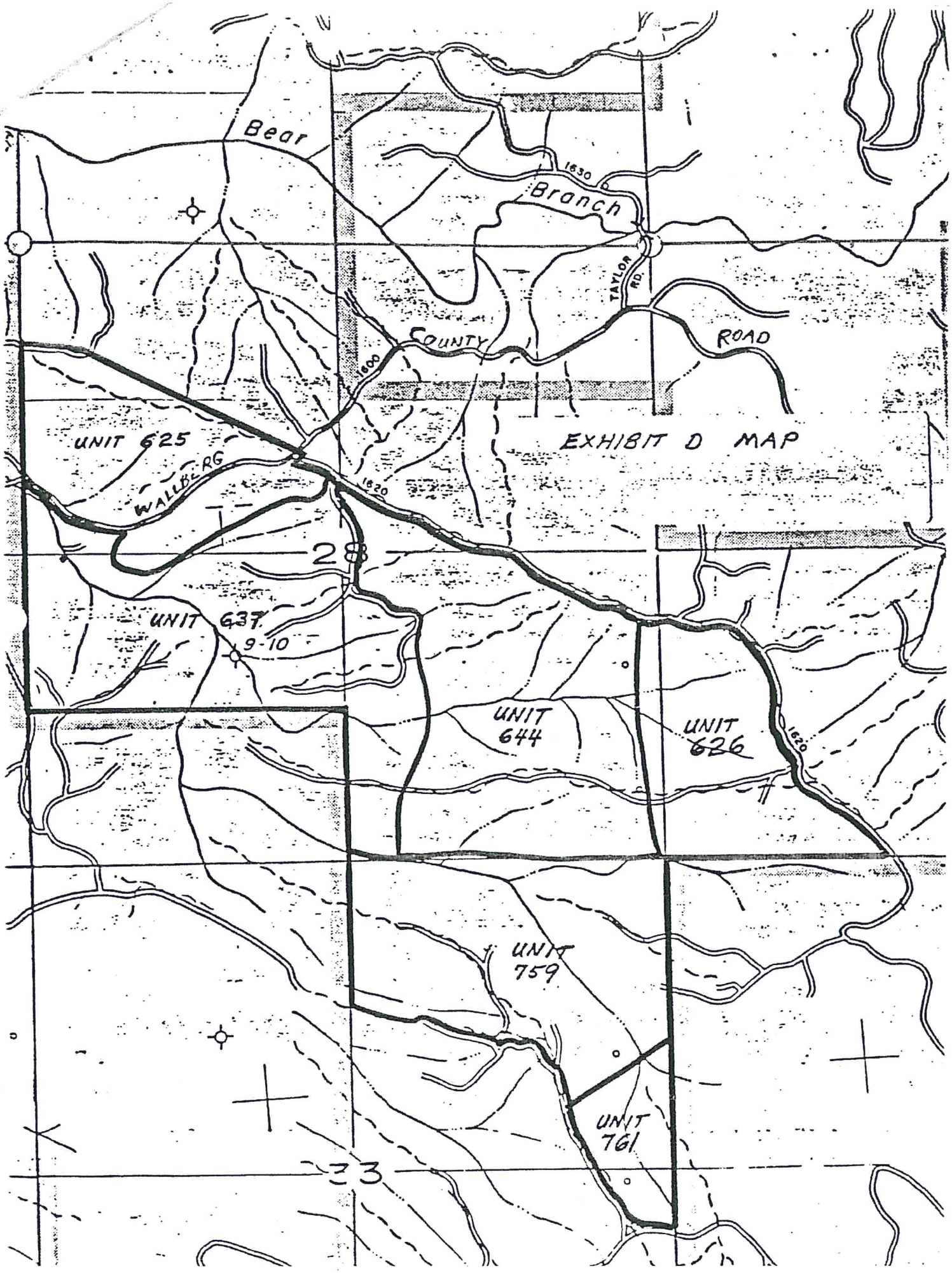
(a) will comply with all applicable state laws and regulations generally applicable to similar operations in municipal watersheds;

(b) will not apply pesticides within the watershed without approval of Ilwaco, which approval will not be unreasonably withheld;

(c) will give Ilwaco 90 days notice before commencing any forest practice, except in emergencies where Weyerhaeuser will give notice as soon as practicable;

(d) does not guarantee that the area will be adequately protected from fire, pests or other damage, and will have no responsibility to Ilwaco for any damage occurring to the timber from natural or other causes.

"7. The town of Ilwaco agrees not to unreasonably interfere with Weyerhaeuser's harvest of the reserved timber or with Weyerhaeuser's management of the reserved timber stands. Ilwaco will cooperate with Weyerhaeuser to manage the water supply system in a manner which minimizes the possibility of adverse effects being caused by Weyerhaeuser's timber harvest and silvicultural operations."


Bear
Branch
1630
TAYLOR RD.
COUNTY
ROAD
1600
UNIT 625
EXHIBIT D MAP
WALLBERG
1620
28
UNIT 637
9-10
UNIT 644
UNIT 626
1620
UNIT 759
UNIT 761
23

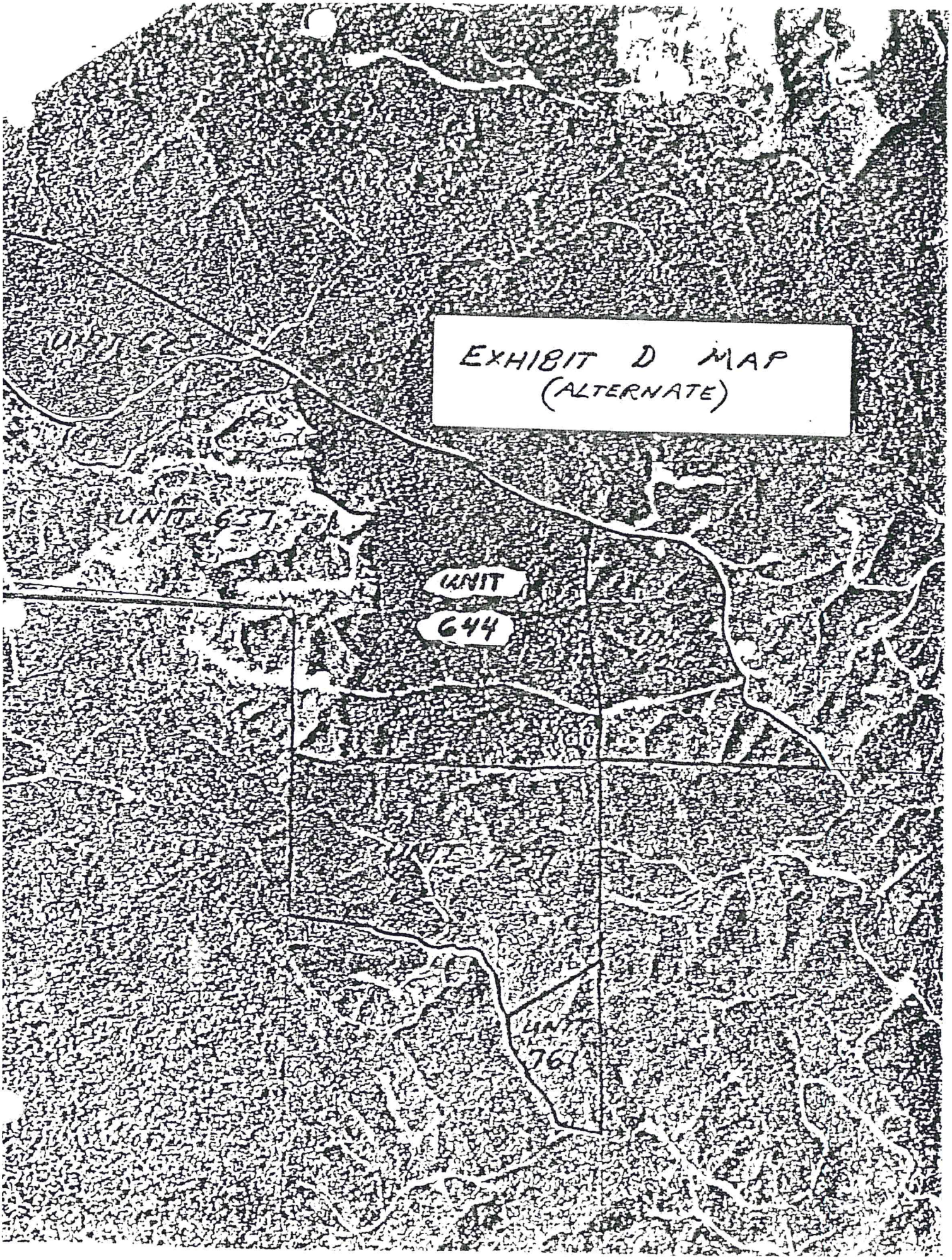


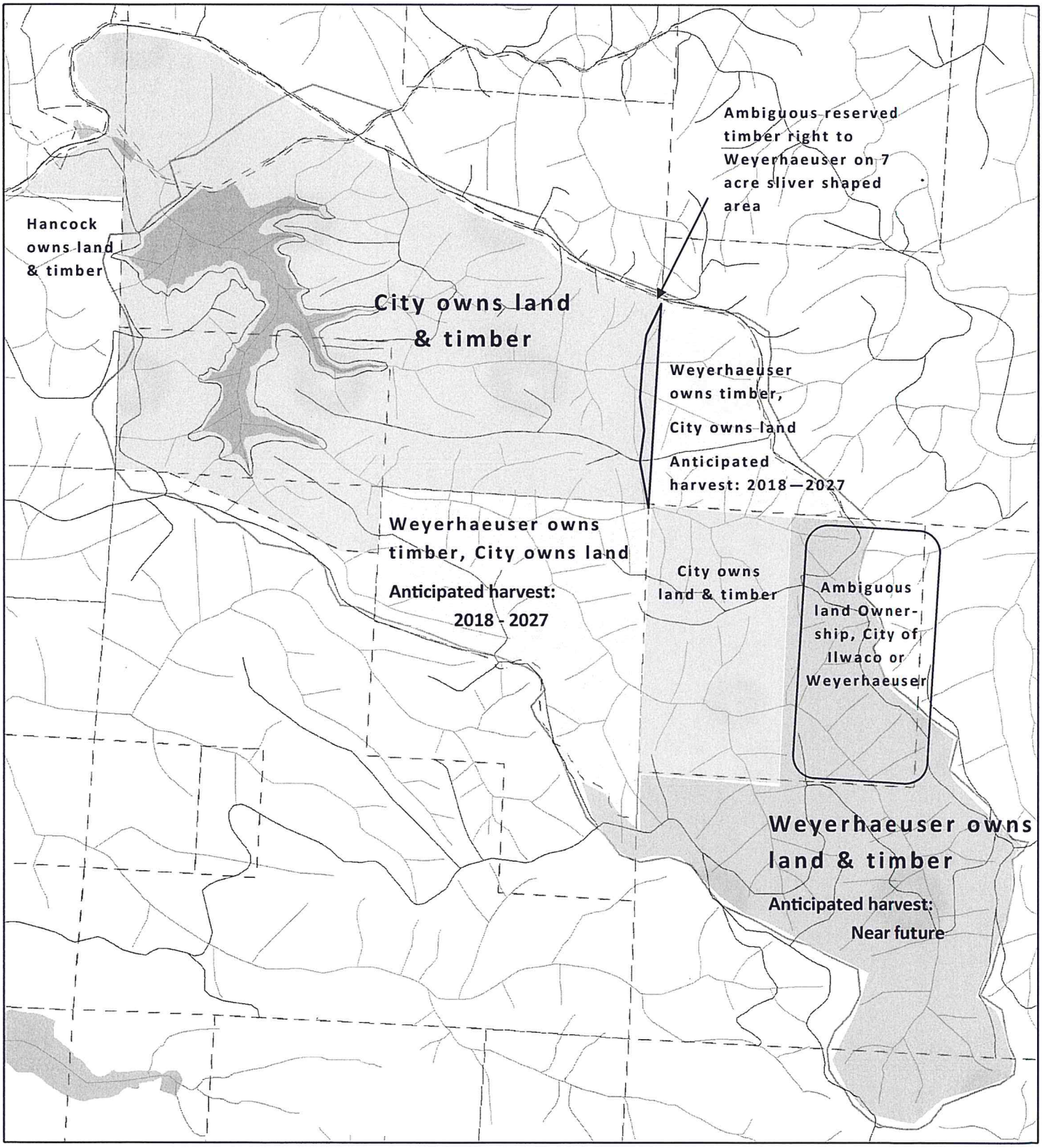
EXHIBIT D MAP
(ALTERNATE)
UNIT 637
UNIT
644
UNIT 761

NORTH

0 1 2 Miles

crest

Land/ Timber Ownership



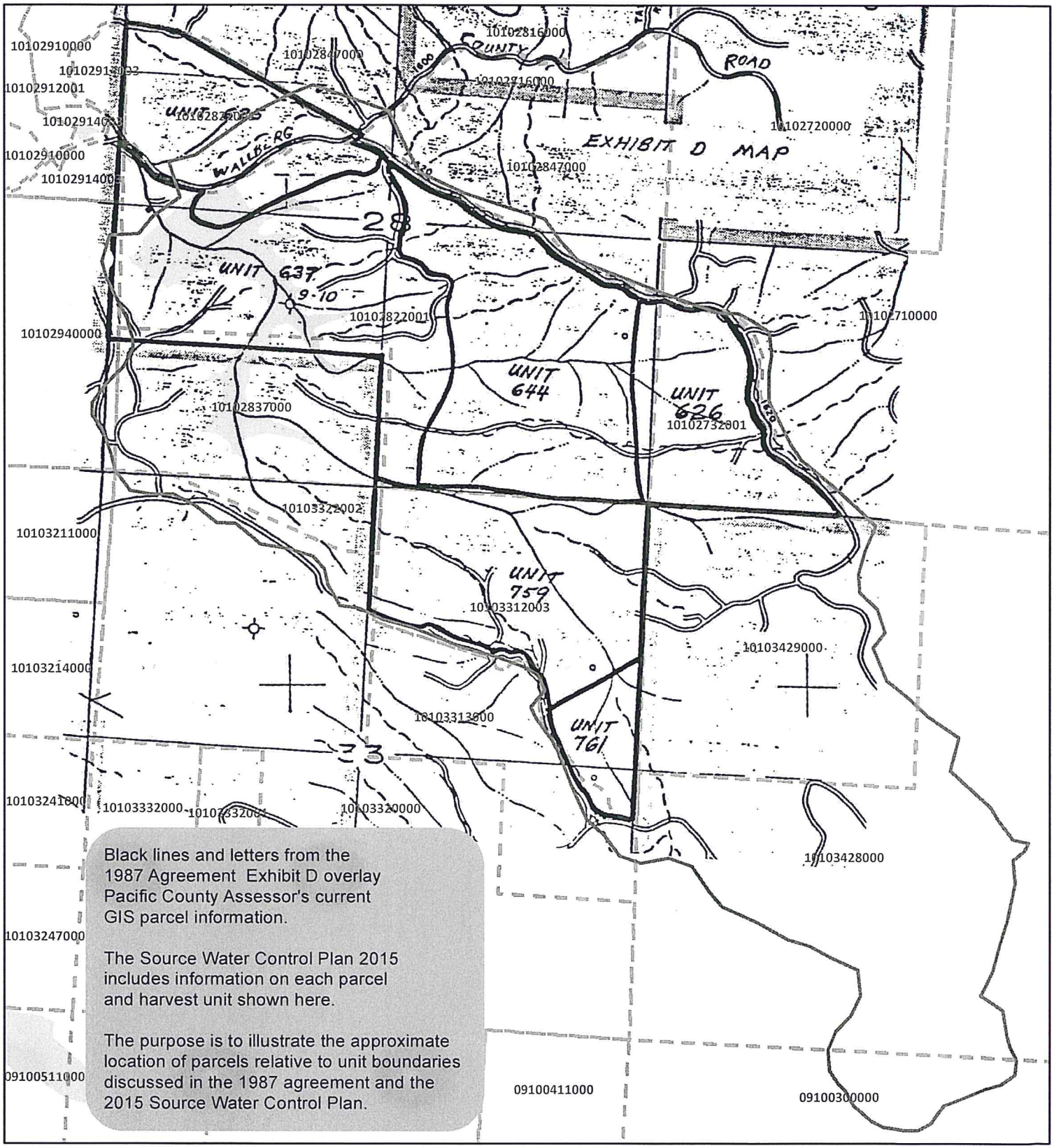
Legend

- Roads
- Tax_Lots
- Watershed Boundary

1:15,000 NORTH

0 1,000 2,000 Feet

Parcels/ 1987 Agreement Units



Black lines and letters from the 1987 Agreement Exhibit D overlay Pacific County Assessor's current GIS parcel information.

The Source Water Control Plan 2015 includes information on each parcel and harvest unit shown here.

The purpose is to illustrate the approximate location of parcels relative to unit boundaries discussed in the 1987 agreement and the 2015 Source Water Control Plan.

Legend

Tax_Lots_Pacific_County_2012

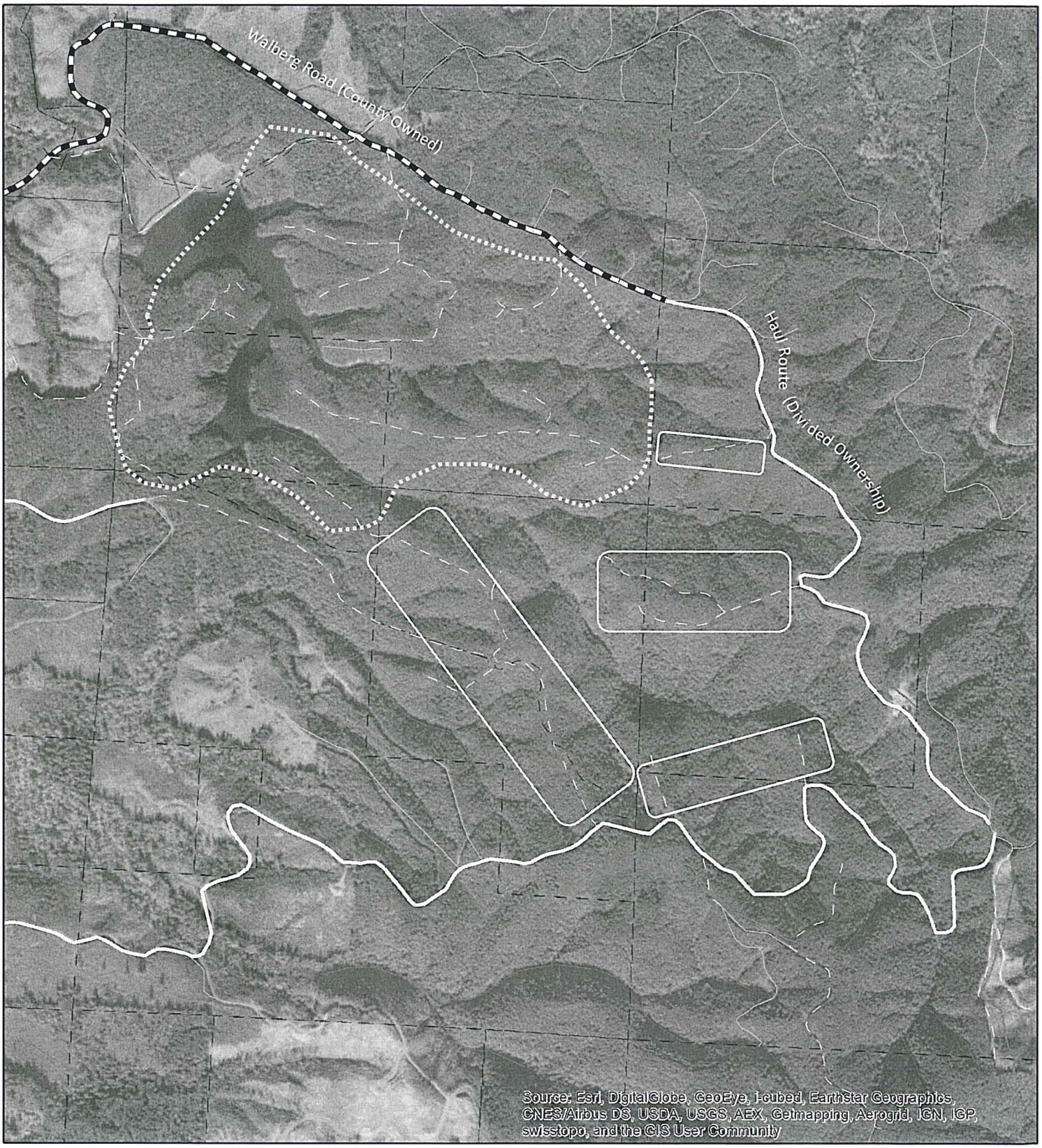
Source Watershed

1:15,000

NORTH

0 1,000 2,000 Feet

Roads Overview



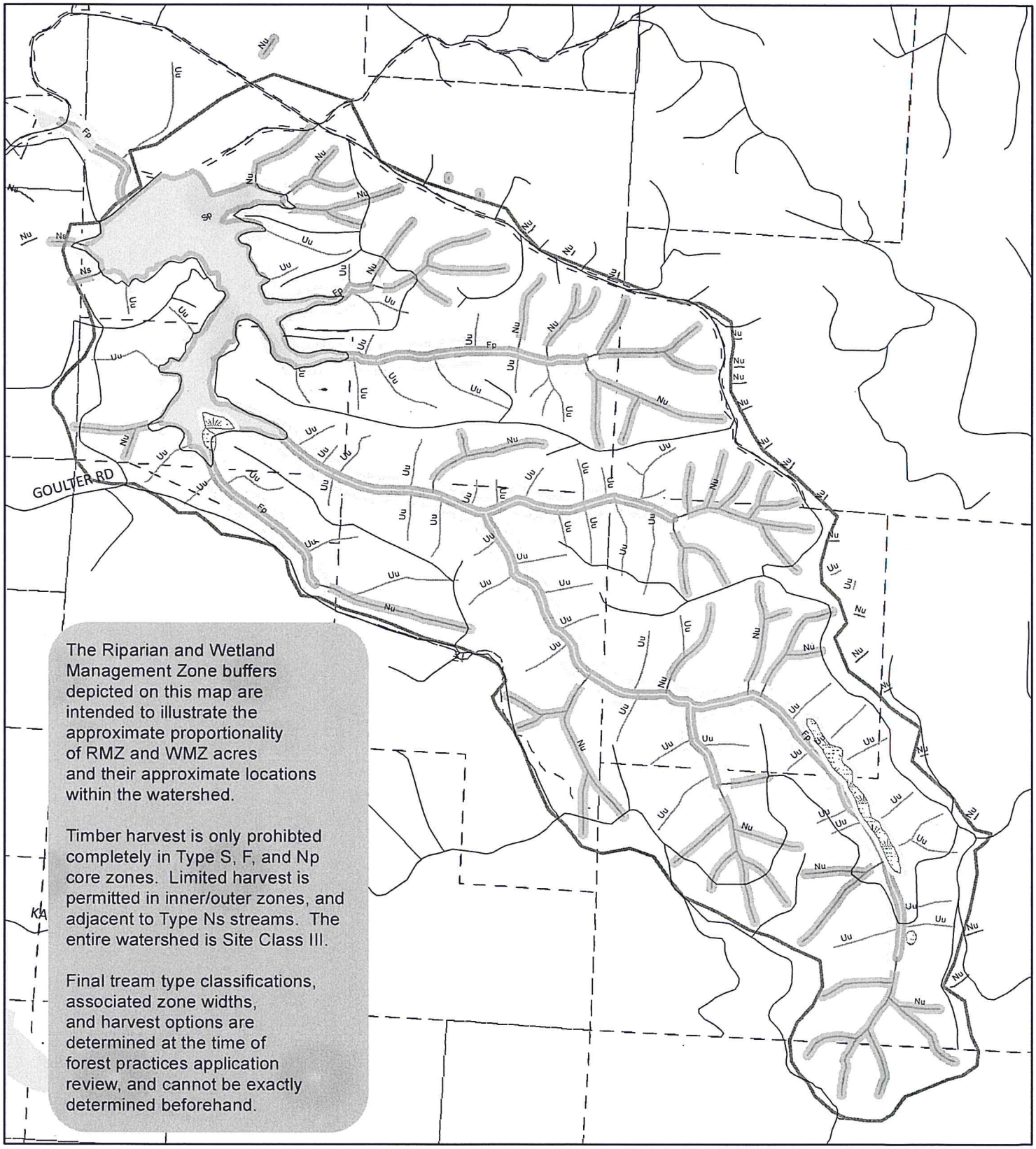
Legend

- Tax Lots
- Watershed Boundary
- Roads Reconstructed in 2015 by Weyerhaeuser
- Roads Owned by City, in variable levels of maintenance
- Primary Haul Routes

1:15,000 NORTH

0 1,000 2,000 Feet

FPA Preliminary Stream Types & Zones



Legend

- FP Wetlands
- Wetland Buffer
- Source Watershed
- Type F
- Type N
- Type S
- Type U
- Type S/F Core Zone
- Type S/F Inner Zone
- Type S/F Outer Zone
- Type N Zone
- Tax Lots

1:15,000

NORTH

0 1,000 2,000 Feet

Topography

Ilwaco Source Water Control Plan 2015

Copyright:© 2013 National Geographic Society, i-cubed

Legend

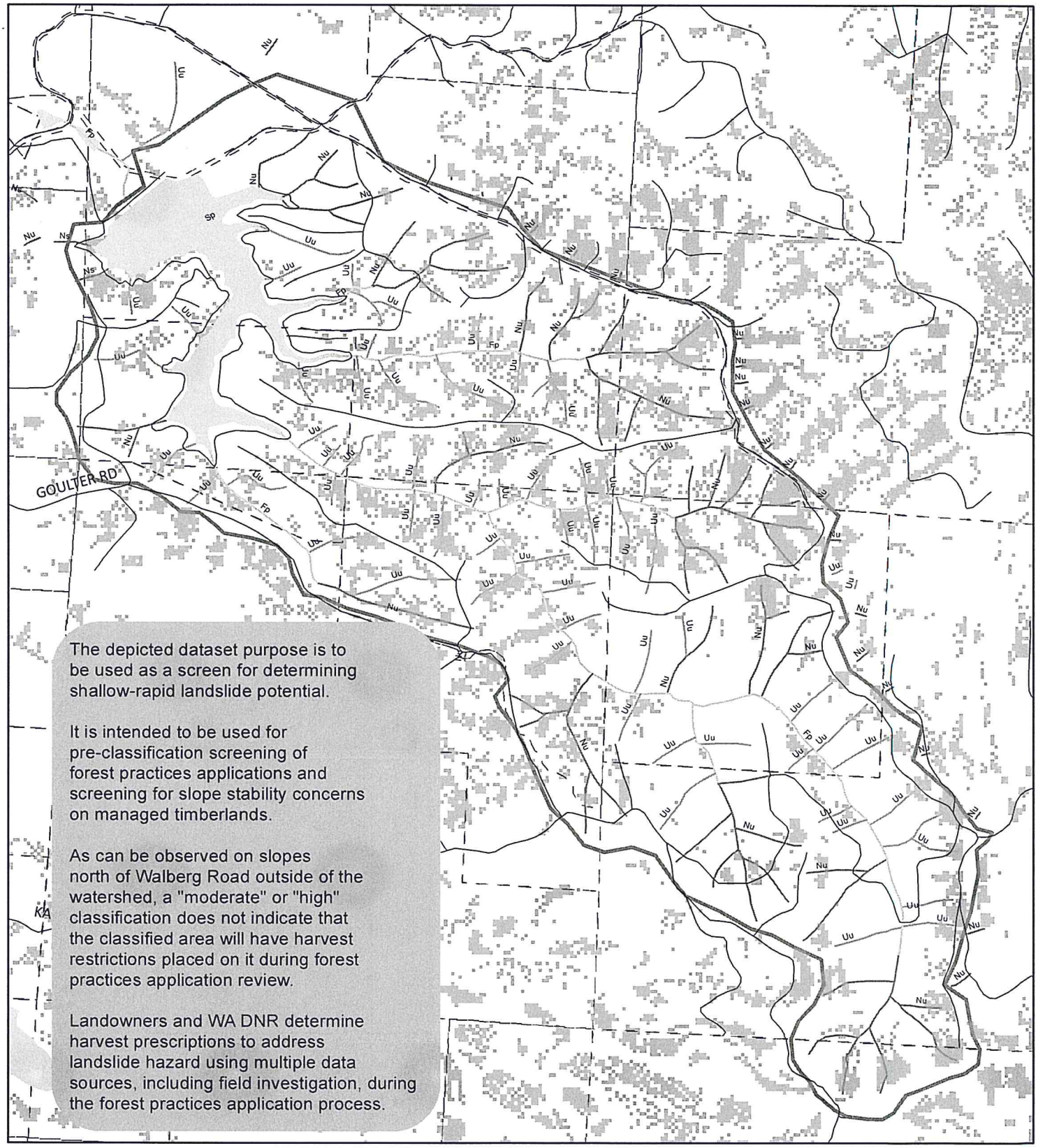
Source Watershed

1:15,000

NORTH

0 1,000 2,000 Feet

Preliminary Screening Shallow Rapid Slope Slide Hazard



The depicted dataset purpose is to be used as a screen for determining shallow-rapid landslide potential.

It is intended to be used for pre-classification screening of forest practices applications and screening for slope stability concerns on managed timberlands.

As can be observed on slopes north of Walberg Road outside of the watershed, a "moderate" or "high" classification does not indicate that the classified area will have harvest restrictions placed on it during forest practices application review.

Landowners and WA DNR determine harvest prescriptions to address landslide hazard using multiple data sources, including field investigation, during the forest practices application process.

Legend

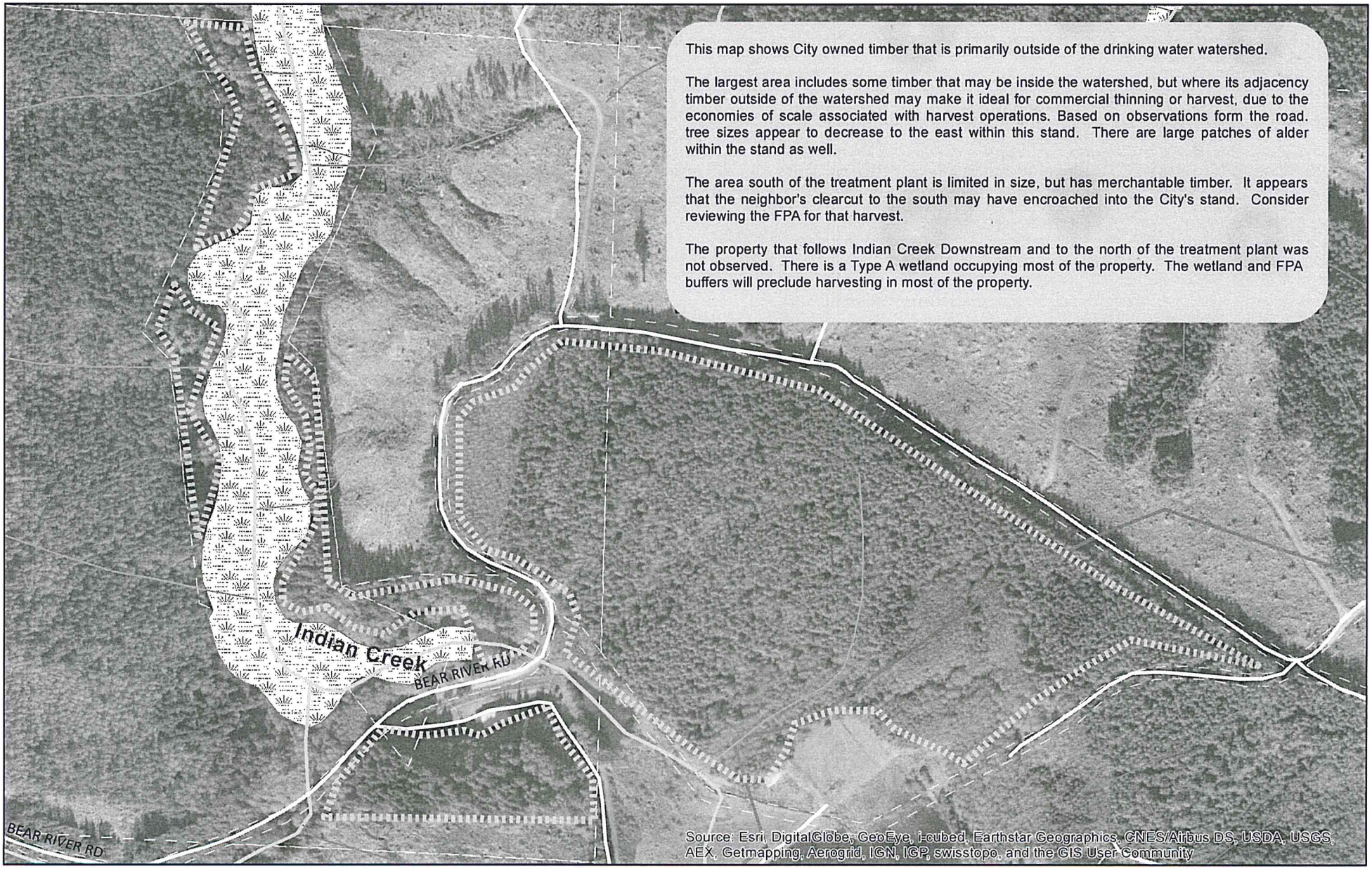
- Source Watershed
- Type F
- Tax Lots
- Type N — low slope instability
- Type S — moderate slope instability
- Type U — high slope instability

1:15,000

NORTH

0 1,000 2,000 Feet

City Owned Timber Outside of Watershed



This map shows City owned timber that is primarily outside of the drinking water watershed.

The largest area includes some timber that may be inside the watershed, but where its adjacency timber outside of the watershed may make it ideal for commercial thinning or harvest, due to the economies of scale associated with harvest operations. Based on observations form the road. tree sizes appear to decrease to the east within this stand. There are large patches of alder within the stand as well.

The area south of the treatment plant is limited in size, but has merchantable timber. It appears that the neighbor's clearcut to the south may have encroached into the City's stand. Consider reviewing the FPA for that harvest.

The property that follows Indian Creek Downstream and to the north of the treatment plant was not observed. There is a Type A wetland occupying most of the property. The wetland and FPA buffers will preclude harvesting in most of the property.

Legend

FP_WTRTY_C
- Type F
- Type N
- Type S
- Type U

fpwet

Source Watershed

Property Boundary

City owned potentially merchantable timber outside watershed

1:5,000

NORTH

0 500 1,000 Feet

Indian Creek Watershed Road Inventory

Prepared for the Columbia River Estuary Study Taskforce (CREST)

March 30, 2015

Pacific Stewardship LLC

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METHODOLOGY AND DELIVERABLES 2
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FIGURE 2. INVENTORIED ROAD ISSUES
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TABLE 2. ROAD NARRATIVES AND RECOMMENDATIONS
TABLE 3. CULVERT NARRATIVES AND RECOMMENDATIONS
TABLE 4. ESTIMATED ROAD UPGRADE COSTS

Prepared by:

Pacific Stewardship LLC.
2207 NW Panama Street
Bend, Oregon 97701
Phone: (541) 517-3875

www.pacificstewardship.com
darin@pacificstewardship.com

Summary

An inventory was completed for selected roads within the 808-acre Indian Creek Watershed in parts of sections 27,28,34,35 of T10N R10W (see Figure 1). Indian Creek Watershed (located approximately five miles east-northeast of Llwaco) is the municipal water source for the city. These roads are located above and in close proximity to the City of Llwaco's reservoir. Funding limited the agreed to scope of work to these roads, which were selected because they occur on city owned lands and are concentrated allowing efficient inventorying. Other roads not surveyed included Walberg Road and the remainder of the watershed perimeter road, city owned roads south of the impoundment, the historic road adjacent and surrounding the impoundment's perimeter, and other upper watershed spurs on Weyerhaeuser lands. The impoundment perimeter road was determined by CREST to be beyond serviceability and often undetectable. The purpose of this project was to assess the condition of these selected roads and related structures to identify current and potential sediment sources and work needed to upgrade and prepare roads for possible forest management activities. The intent is to manage these roads to minimize sediment delivery to this water source.

A total of twelve spur roads totaling a distance of three miles were inventoried. All roads are inactive and most are currently impassable due to vegetation encroachment. The surrounding forest was logged in the mid 1980's and these roads have not been maintained with regularity since then. The roads typically follow ridges or cut across gradual to moderate terrain on short slopes. Inventoried roads appear to be stable with few noted issues. Surface erosion is very limited due to re-vegetation and the generally gradual slopes of these grades. Two small segments of road were considered unstable due to past sloughing along the shoulder. One road segment has a potentially unstable cut slope. These areas do not appear to be delivering sediment to streams.

Along these roads two ditch relief, three stream, and two combined stream/ditch relief culverts were located, mapped, and assessed. Six of these culverts should be replaced because they are poorly placed and inadequately sized. While according to the state GIS stream layer, none of the streams intersecting inventoried roads are classified as fish bearing, all culverts are inadequate for fish passage. Four culverts may be delivering sediment to streams.

If roads are determined to be needed for forest management, they should be upgraded by removing encroaching vegetation, grading, stabilizing fill slope issue areas, clearing ditches, installing ditch outs, and replacing and adding culverts. Various erosion control practices such as erosion settling areas in ditches, and re-vegetation with hydroseeding or seeding and mulching should be implemented as mitigation measures to minimize sediment production and delivery resulting from road upgrades. A forest stewardship plan is recommended to inform the city of future forest management options and determine road use needs and timing for upgrades.

Methodology and Deliverables

Roads 1-6 displayed in Exhibit 2 of contract with CREST were inventoried March 2-4, 2015. The roads were walked and mapped as polylines using ArcPad and a Garmin Glo GPS. Road features and issues were recorded as points and data collected on conditions. Photos were taken of the inlet and outlet of each culvert. The following GIS shapefiles result from this field work and have been delivered to CREST: 1- Roads (line), 2- Culverts (point), 3- Road Issues (point), 4- Gates (point), 5- Features (point). Shapefiles are projected in NAD 1983 HARN State Plane Washington South format. A data dictionary providing the attribute table fields and descriptions has been provided to CREST.

Road management strategies were developed based on scenarios of minimum management in the short term (Maintenance) and a more intensive approach of upgrading roads (Reconstruction) to address culvert and road issues and allow access for potential tree thinning. Cost estimates were developed for reconstruction by contacting Linstrom & Son of Chinook, Washington, a local contractor used by Weyerhaeuser and the Nature Conservancy. These estimates are approximations based on verbal description of the roads and culverts and are the upper ranges provided by the contractor.

Project deliverables include:

1- Road Inventory Report (Word format)
2- Culvert Photos (JPG format)
3- Shapefiles (Road, Culvert, Gates, Features, Issues)
4- Figures 1 and 2 (Maps in PDF format)
5- Data Dictionary (Excel format)

Table 1. Road Inventory Summary Data

Road Metric	Miles/Feet	#
Active Road	0 mi	12
Inactive Road	3 mi	NA
Surface Erosion	0	NA
Unstable Cut Slope	250'	1
Unstable Fill Slope	220'	2
Ditch Relief Culverts	NA	2
Stream Culverts	NA	3
Ditch/Stream Culverts	NA	2
Plugged Culverts	NA	1
Culverts to Replace	NA	6

NA= Not applicable

Road and Culvert Conditions

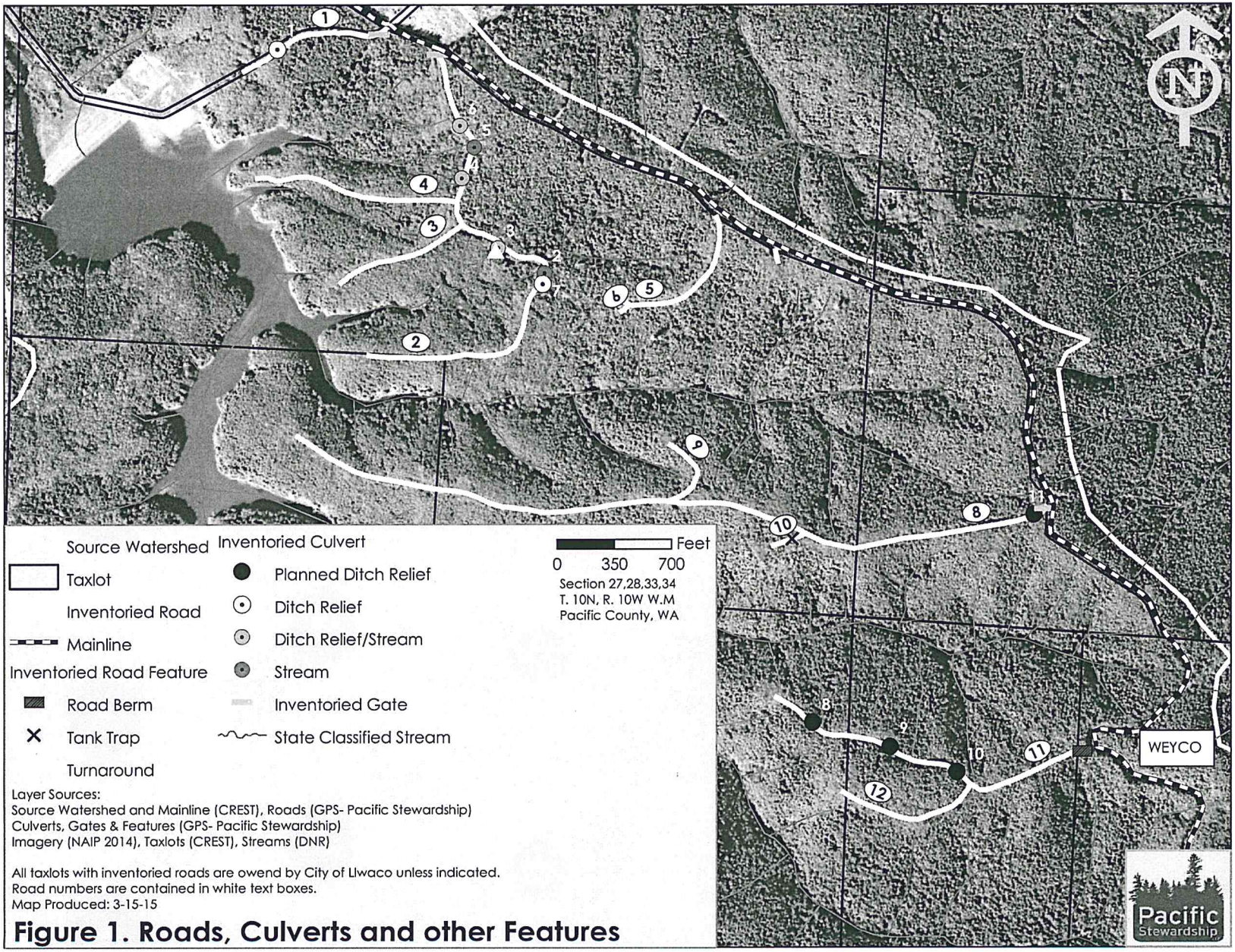
A total of twelve roads were inventoried, totaling three miles (see Table 1 & Figure 1). Narratives of each road are presented in Table 2. All roads are within the City of Llwaco ownership with the exception of the starting point of Road # 11, which occurs on Weyerhaeuser land. All roads are inactive, and most haven't been in use possibly since the last timber harvest. Part of Road # 2 was recently activated to complete culvert updates. Though rocked, all roads are now covered with several inches of soil and varying levels of vegetation cover ranging from moss and grass to more heavy cover by sword fern and alder (see Photo 1). Though several of the roads are passable, vehicle traffic is not possible on most due to down logs, trees, and other vegetation, or berms at entrances. Most of these roads follow ridgelines and are flat to gradually sloped with some short sections up to 15%. The more gradual sections of road are full fill constructed while the steeper grades including those that don't follow the tops of ridges are partial

bench. Most roads were originally crowned or insloped with inboard ditches. Some sections of roads have no ditches. Very few ditch relief culverts were installed and drainage often was directed to outwash areas using ditchouts. Despite the often poor drainage system on some of these roads there is little evidence of surface erosion on the road grade, likely due to re-vegetation, gradual slopes and their ridgetop position. Notable exceptions include areas of ponding and muddy ruts at the conjunctions of most roads with the mainline. The cut and fill slopes of inventoried roads generally appear to be stable, though several cases of sloughing along the road shoulder were noted on Road # 2 and 9 (see Road Issue # 3 &11) (see Photo 2 and Figure 2). A small sinkhole was also noted on the shoulder of Road # 2 above culvert # 2 (see Road Issue # 4). There was no obvious active or recent sediment delivery to streams from any of the road issues identified. However, on eight of the eleven road issues there was a possibility of sediment delivery.

Photo 1: Typical condition of roads surveyed. The grade is covered with moss, ferns, and alder. Ditches are often encroached by trees and filled with debris but surface erosion is minimal.

A total of seven culverts were identified on two roads (see Figure 1). Culvert narratives are presented in Table 3 and issues displayed in Figure 3. Six culverts are located on Road # 2 (one ditch relief, two stream, and three stream culverts that also provide ditch relief). Road # 1 has one ditch relief culvert. There are multiple issues associated with most of these culverts. The most significant issue involves Culvert # 2 which is not capturing stream flows and there is evidence suggesting the stream flow running under the road may lead to road instability (see Appendix A for photos of all culverts). Six culverts are likely undersized, three stream culverts are placed too high and outlet is perched above the stream channel bottom. Though all streams with culverts are state-classified as Non-fish creeks, these culverts would prevent fish passage. One ditch relief culvert was buried at its outlet and four of the seven culverts were partially plugged. There was no obvious active or recent sediment delivery to streams from any of the culverts. However, on four of the seven culverts there was a possibility of sediment delivery due to the ditch relief directly into a stream (Culverts 3, 4 & 6), and from undercutting of culvert due to perched pipe at the outlet (Culverts 2, 3, & 6). Undersized stream culverts could potentially create sediment delivery during storm events.

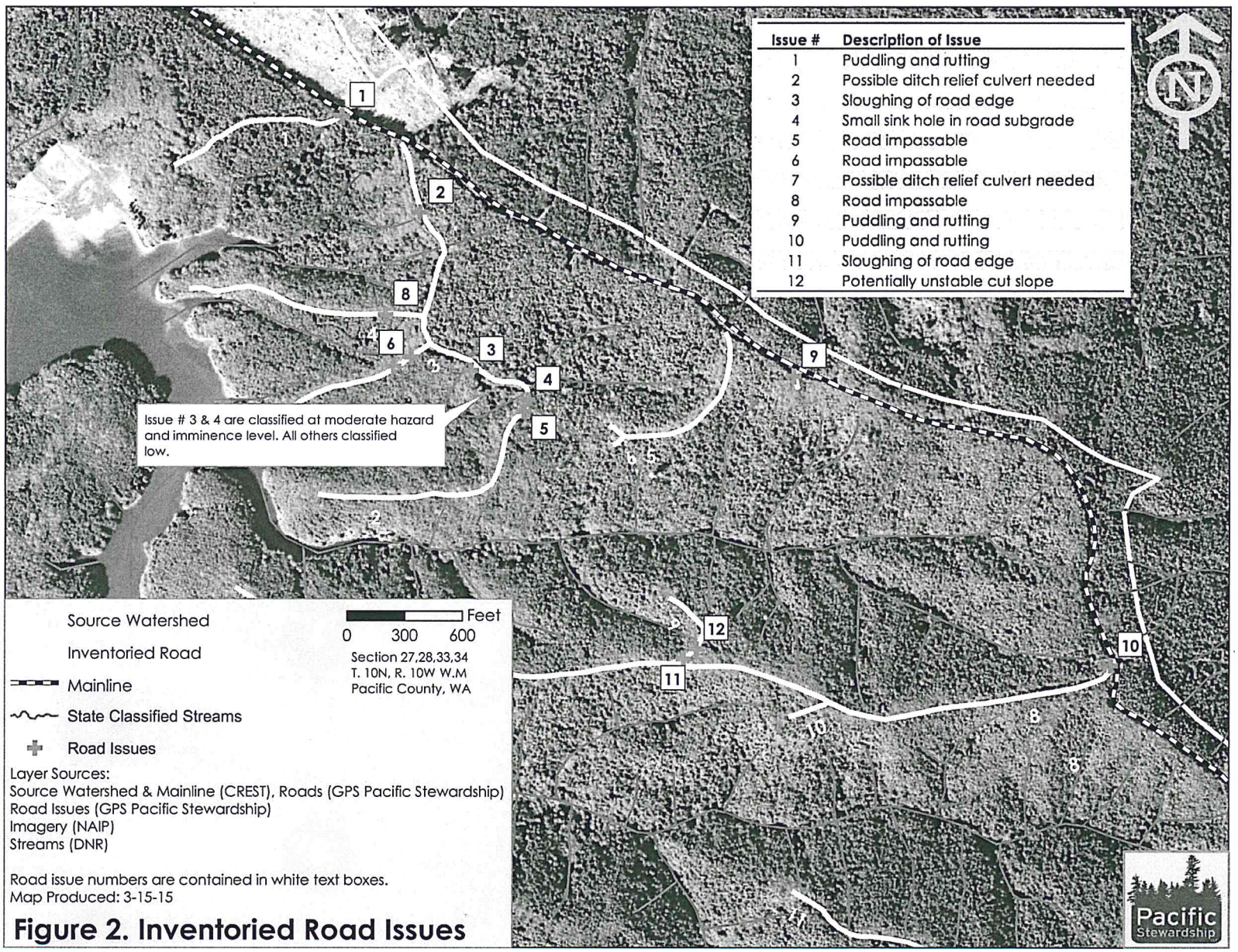
Photo 2: The main issue associated with roads is sloughing along the fill slope. This condition was noted in two locations (photo shows Issue # 3 along Road # 2. Both areas should be stabilized during road reshaping operations.



Layer Sources:
Source Watershed and Mainline (CREST), Roads (GPS- Pacific Stewardship)
Culverts, Gates & Features (GPS- Pacific Stewardship)
Imagery (NAIP 2014), Taxlots (CREST), Streams (DNR)

All taxlots with inventoried roads are owend by City of Llwaco unless indicated.
Road numbers are contained in white text boxes.
Map Produced: 3-15-15

Figure 1. Roads, Culverts and other Features



Issue #	Description of Issue
1	Puddling and rutting
2	Possible ditch relief culvert needed
3	Sloughing of road edge
4	Small sink hole in road subgrade
5	Road impassable
6	Road impassable
7	Possible ditch relief culvert needed
8	Road impassable
9	Puddling and rutting
10	Puddling and rutting
11	Sloughing of road edge
12	Potentially unstable cut slope

Figure 2. Inventoried Road Issues

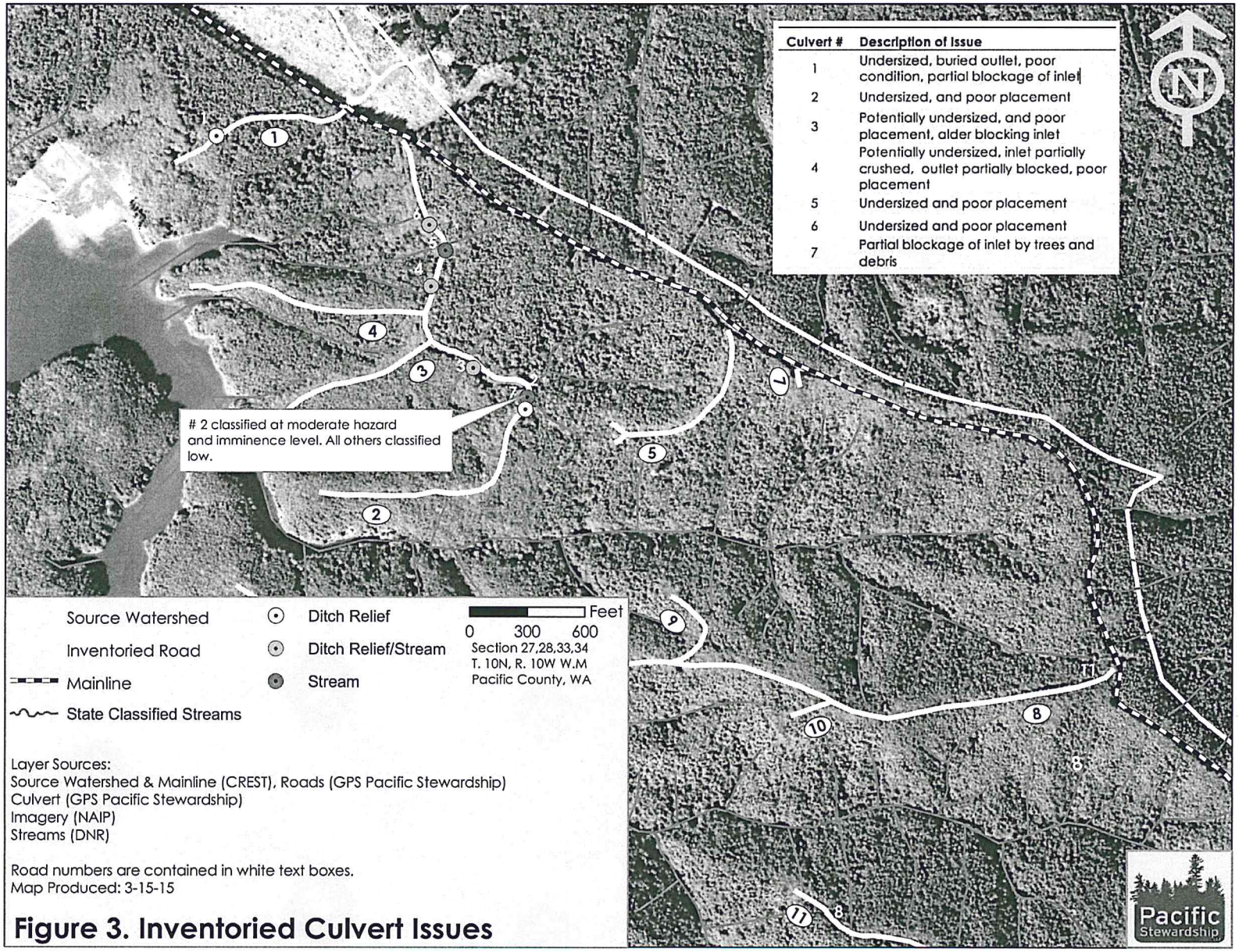


Figure 3. Inventoried Culvert Issues

Table 2. Road Narratives and Recommendations

Road #	Condition Narrative	Recommendations	
		Maintenance Strategy	Reconstruction Strategy
1	A very gradually sloped .2 mile spur that follows the edge of a ridge and ends at a large alder covered landing. An unlocked chain link gate is at road entrance. The surface is rocked but covered with several inches of organic matter overlain with moss, forbs and sedge. Road is impassable just beyond the gate due to down logs and occasional alder growing in the grade. Road is drained by an inboard ditch that is filled in places with sloughed dirt and branches. A single cross drain culvert was located on this road. Other ditch relief is at outwash areas. No indications of recent surface road erosion or instability of cut or fill slope were observed. However, the entrance to this road is rutted and water is ponding (Road Issue # 1). The road crosses no streams.	None required for road surface or ditches. See maintenance strategy for Culvert # 1.	Clear ditches and road edges of trees, debris and sloughed dirt. Cut and pull stumps from road surface. Remove organic layer from road surface and reshape for proper drainage. See reconstruction strategy for Culvert # 1. Re-vegetate exposed soils.
2	A gradually sloped .6 mile road that follows the slope, crossing five streams before heading west along a prominent ridge. Road is gated at entrance and unlocked. The surface is rocked but covered with several inches of organic matter. The first half of this road was recently cleared of shrubs and trees to replace culverts, and is now covered with grass. Just past culvert # 2, the road becomes impassable due to down logs, ferns and alder. Road is drained by an intermittent ditches that are typically poorly defined, and have filled with sloughed dirt and debris. Alder is growing in the ditches. Ditches either end without drainage, or are directed to outwash areas or drain into a stream channel. There are two stream culverts, three combined ditch relief and stream culverts and one ditch relief culvert on Road # 2. No indications of recent surface road erosion were observed, though the road edge has sloughed in several places due to uprooting roadside alder (Road Issue # 3). A small sinkhole has developed on the shoulder above culvert # 2 (see Road Issue # 4). No other instability of the surface, cut or fill slope was observed.	None required for road surface or ditches. See maintenance for Culvert # 2-6.	Clear ditches and road edges of trees, debris and sloughed dirt. Cut and pull stumps from road surface. Remove organic layer from road surface and reshape for proper drainage. Stabilize cut slope at Road Issue # 3. Possible installation of additional ditch relief culvert/s. See reconstruction strategy for Culverts # 2-6. Re-vegetate exposed soils.

		Recommendations	
Road #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
3	A gradually sloped .2 mile ridge road. Road is not gated but becomes impassable after first 100' due to vegetation and down logs. The surface is rocked but covered with several inches of organic matter, with moss, ferns and alder covering the road. Road is drained by intermittent ditches that either terminate or are directed to outwash areas. There are no culverts or stream crossings. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed.	None required for road surface or ditches.	Clear ditches and road edges of trees, debris and sloughed dirt. Cut and pull stumps from road surface. Remove organic layer from road surface and reshape for proper drainage. Possible installation of additional ditch relief culvert (see Road Issue #7). Re-vegetate exposed soils.
4	A gradually sloped .3 mile ridge road. Road is not gated but becomes impassable after 200' due to vegetation and logs. The surface is rocked but covered with several inches of organic matter, with moss, ferns and alder covering the road. Road is drained by intermittent ditches that either terminate or are directed to outwash areas. There are no culverts or stream crossings. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed.	None required for road surface or ditches.	Clear ditches and road edges of trees, debris and sloughed dirt. Cut and pull stumps from road surface. Remove organic layer from road surface and reshape for proper drainage. Re-vegetate exposed soils.
5	A gradually sloped .2 mile road that runs cross slope then extends along a prominent ridge. Road is not gated. The surface is rocked but covered with several inches of organic matter and moss. Road is drained by intermittent ditches that either terminate or are directed to outwash areas. There are no culverts or stream crossings. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed.	None required for road surface or ditches.	Clear ditches and road edges of trees, debris and sloughed dirt. Remove organic layer from road surface and reshape for proper drainage. Re-vegetate exposed soils.

		Recommendations	
Road #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
6	A short moderately sloped .02 mile spur that runs along the edge of a prominent ridge. This spur is passable and starts near the end of Road # 5. The surface is rocked but covered with several inches of organic matter and moss. Road is drained by intermittent ditches that either terminate or are directed to outwash areas. There are no culverts or stream crossings. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed.	None required for road surface or ditches.	Clear ditches and road edges of trees, debris and sloughed dirt. Remove organic layer from road surface and reshape for proper drainage. Re-vegetate exposed soils.
7	A short very gradually sloped .02 mile spur. This spur is passable. The surface is rocked but covered with several inches of organic matter and grass. Road has no ditches. There are no culverts or stream crossings. No indications of recent surface road erosion were observed. However, the entrance to this road is rutted and water is ponding (Road Issue # 9). No other instability of the cut or fill slope was observed. There are no culverts or stream crossings.	None required for road surface or ditches.	Clear road edge of trees, debris and sloughed dirt. Remove organic layer from road surface and reshape for proper drainage. Re-vegetate exposed soils.
8	A gradual to moderately sloped .9 mile spur that follows a prominent ridgeline. WEYCO has surveyed this road for reconstruction preceding planned timber harvest in 2020. The surface is rocked but covered with several inches of organic matter overlain with moss, grass, ferns and alder. Road is gated at entrance and impassable just beyond due to down logs and occasional alder growing in the grade. Road is drained by intermittent ditches that are filled in places with sloughed dirt, trees and branches. Ditches either end without drainage or are diverted to outwash areas. No indications of recent surface road erosion or instability of cut or fill slope were observed. However, the entrance to this road is rutted and water is ponding (Road Issue # 10). There are no culverts or stream crossings.	WEYCO is updating the first part of this road. None required for road surface or ditches.	WEYCO is updating the first part of this road. Clear ditches and road edge of trees, debris and sloughed dirt. Remove organic layer from road surface and reshape for proper drainage. WEYCO plans to install at least one ditch relief culvert on this road. Re-vegetate exposed soils.

		Recommendations	
Road #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
9	A gradual to moderately sloped .1 mile spur that cuts across a drainage and onto a side ridge. This road is not passable just past its conjunction with Road # 8 due to down logs and trees and sloughing of the road due along the fill slope (Road Issue # 11). The surface is rocked but covered with several inches of organic matter overlain with moss, ferns and grass. Road is drained by a small ditch that has filled in with sloughed dirt, trees and branches. The cut slope along the first 250' of this road is steep and potentially unstable in places (Road Issue # 12). There are no culverts or stream crossings.	None required for road surface or ditches.	Remove trees from road grade and along edge though not excessive (need to maintain vegetation cover for stability). Remove organic layer from road surface and reshape for proper drainage. Road may need to be outsloped as cut slope is already too steep to cut a new ditch. However, road needs to be cut further into the cut slope to compensate for sloughing along the fill slope near the entrance. Fill slope needs to be stabilized to prevent further sloughing. Re-vegetate exposed soils.
10	A gradual to moderately sloped .04 mile spur that runs along the south edge of a broad ridge. This road is impassable just past its conjunction with Road # 8 due to down logs and a small tank trap. The surface is rocked but covered with several inches of organic matter overlain with moss, ferns and grass. There are no drainage ditches on this road. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed. There are no culverts or stream crossings.	None required for road surface or ditches.	Remove trees and stumps from road, Remove organic layer from road surface and reshape for proper drainage. Install ditch or out slope with rolling dips or waterbars. Re-vegetate exposed soils.

		Recommendations	
Road #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
11	A gradual to moderately sloped .4 mile spur that follows a prominent ridgeline. WEYCO has surveyed this road for reconstruction preceding planned timber harvest in 2020 & 2022. A berm has been constructed at the entrance and road is not passable. The surface is rocked but covered with several inches of organic matter overlain with moss, grass, ferns and eventually becoming encroached by alder before opening back up. Road is drained by intermittent ditches that are filled in places with sloughed dirt, trees and branches. Ditches either end without drainage or are diverted to outwash areas. No indications of recent surface road erosion or instability of cut or fill slope were observed. There are no culverts or stream crossings.	WEYCO is updating this road.	WEYCO is updating this road.
12	A gradually sloped .2 mile spur that runs cross slope and parallel below the main ridge. This road is passable. The surface is rocked but covered with several inches of organic matter overlain with moss and ferns. There are intermittent ditches on this road typically filled with sloughed dirt, branches and vegetation. Ditch drainage is missing or goes to outwash areas. No indications of recent surface road erosion were observed. No other instability of the cut or fill slope was observed. There are no culverts or stream crossings.	WEYCO is updating this road.	WEYCO is likely updating this road.

Table 3. Culvert Narratives and Recommendations

		Recommendations	
Culvert #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
1	12" steel ditch relief culvert. Inlet is partially crushed and rusted. Outlet is buried.	Locate and hand excavate outlet, straighten crushed inlet and clear debris and sediment from entrance.	Replace culvert with 18" pipe.
2	24" steel stream culvert that has been sliplined with a 15" plastic pipe. Both openings are clear. Outlet has a 30" drop and though water was not flowing through pipe, water is undercutting the pipe during storm flows. Inlet only appears to receive water during storm events. Normal flow percolates into the ground just upstream of inlet and emerges about 10' downstream of outlet. A 2 x 2 X 2' sink hole occurs in the subgrade on the uphill side, suggesting water running under the road grade may reduce road stability.	Install downspout and armor the outlet with rocks to reduce head cutting.	Replace with larger culvert. Excavate sediments from stream channel above the inlet and rock to direct water flow into new pipe.
3	24" steel stream culvert. Outlet has 36" drop and is undercutting the pipe. Both openings are clear, though top has some debris and an alder growing in front of the intake.	Install downspout and armor the outlet with rocks to reduce head cutting, clear debris, sediment and alder from entrance.	Replace and consider larger culvert. Excavate sediments from stream channel above the inlet. Rock inlet and outlet areas.
4	18" steel stream and ditch relief culvert. Very weakly defined stream channel leading into culvert, flows not likely to be high. Intake is partially crushed and outlet is partially blocked with sediment. Outlet is flush with channel bottom.	Clear outlet of debris and straighten inlet.	Replace and consider larger culvert.
5	24" steel stream culvert that has been sliplined with a 12" plastic pipe. Openings are clear at both ends and outlet has a 4" drop.	None	Replace with larger culvert.

		Recommendations	
Culvert #	**Condition Narrative**	**Maintenance Strategy**	**Reconstruction Strategy**
6	12" plastic stream and ditch relief culvert is clear at both ends and has a 20' drop at outlet. Though the original culvert is not visible, this new pipe was probably sliplined.	Install downspout and armor the outlet with rocks to reduce head cutting.	Replace with larger culvert.
7	18" steel ditch relief culvert. The outlet is clear but debris are partially blocking inlet and trees have grown in around entrance.	Remove tree and debris at inlet.	None
8	18" planned ditch relief culvert. Surveyed but not installed.	NA	NA
9	18" planned ditch relief culvert. Surveyed but not installed.	NA	NA
10	18" planned ditch relief culvert. Surveyed but not installed.	NA	NA
11	18" planned ditch relief culvert. Surveyed but not installed.	NA	NA

Management Options

A well-maintained road system is fundamental to maintain water quality and facilitate stewardship forestry. A road management strategy is based on the objectives for the ownership. There currently is no forest management plan for the ownership, or plans for silvicultural actions. Therefore recommended road management actions provide options that cover both the scenarios of commercial tree harvest or a less intensive short-term approach that does not require a passable road network. These scenarios are as follows:

1- A minimal management approach (**Maintenance Road Strategy**) where no near term road access is needed. Road management activities are limited to those to address issues that may pose a high risk of sediment delivery into streams. The assumption under this strategy is that the road will eventually be reconstructed or abandoned to address undersized and poorly placed culvert issues. This strategy should be viewed as a short-term approach.

2- A strategy to re-activate roads (**Reconstruction Road Strategy**) using best management practices and meeting state requirements. Activation of forest roads serves the purpose of replacing culverts and providing access for commercial stand thinning. Such updates will reduce the long-term risk of sediment delivery resulting from potential culvert failures. However, it is likely to increase sediment delivery in the short term resulting from vegetation removal during road work. Erosion can be minimized with a well-designed re-vegetation strategy.

A third strategy which assumes all or part of the forest will not be commercially managed is to abandon unneeded roads. Though not analyzed in this report, such actions could involve culvert removal, stabilization of cut and fill slope issues, adding additional drainage features, and excavator roughing of roads and re-vegetating. More intensive abandonment may involve pulling sidecast material and re-contouring and vegetating the road grade. However this practice is not probably needed on most of the roads inventoried. A forest management plan will help determine short and long-term road needs.

Maintenance Road Strategy

The main recommended actions in this strategy are provided in Tables 2 & 3 and involve the following:

1- Excavating to open the buried outlet to Culvert # 1.

2- Clearing sediment and debris from openings of Culvert # 1, 3, 4, & 7.

3- Amoring the outlet of Culvert # 2, 3, & 6 with rocks to reduce head cutting under the pipe. Installing plastic half-pipe downspouts would dissipate energy and reduce erosion.

4- Straightening partially crushed Culvert # 1 & 4.

5- Monitor road and culvert conditions on a regular basis to identify issues. Ideally an annual road inspection will be performed early enough in the summer to allow for necessary road work to correct issues prior to the rainy season. Inspections should also occur after major storms.

Reconstruction (Use) Strategy

Activation of forest roads involves completing the following practices:

1- Cutting and removal of encroaching trees and other vegetation from the road grade and ditches.

2- Re-shaping of roads and ditches.

3- Stabilizing cut and fill slope instability areas.

4- Reshaping and installing ditch outs to divert water, installing sediment catch and settling structures and additional ditch relief culverts as needed. These structures should be focused where ditches currently run directly to the stream channel to reduce sediment delivery.

5- Replacing five stream culverts and one ditch relief culvert.

6- Implementing practices to reduce sediment delivery following road work. These practices include seeding exposed soils with native quick establishing species and mulching with straw bales or hydroseeding.

Additional Recommendations: Complete Forest Management Plan

Road management strategies are closely linked with forest management objectives and planned actions such as tree harvest schedules. Completion of a forest management plan will guide the city in its roads strategy and can facilitate cooperative relationships with adjacent landowners within the watershed and possible acquisitions. Such a plan should include the following components:

- Resource assessments including forest (habitat, timber, and carbon metrics, based on a thorough forest inventory), water, wildlife, and soils.
- Complete inventory of all roads within the ownership and potentially within the watershed with adjacent landowner cooperation.
- Well-defined goals and objectives and a synthesis of resource interests
- Management strategies, action and monitoring plans.

Estimated Reconstruction Costs

Maintenance costs are not estimated because they are mostly labor and rates will vary depending on who carries out the work (City staff, student/criminal justice labor crew, etc.). General estimates for upgrading the roads surveyed in this report are presented in Table 4. Additional costs associated with re-vegetating exposed soils are not included in these estimates. Mobilization costs are not included in these estimates but would be minimized if all work could be completed with one move in. These estimates should be used for planning purposes only. Site visits by contractor(s) and DNR staff to evaluate culvert requirements will allow more detailed and accurate cost estimates to be developed. Costs of "daylighting" roads is assumed to be covered by sale of logs from these areas. The costs provided in Table 4 should address most or all road issues mapped in Figure 2. However, Road Issues # 3, 11, & 12 may require additional machine and rock costs to remedy.

Table 4. Estimated Road Upgrade Costs

Task:	Stations (100')	#	Cost/Station or Culvert	Total
Road Upgrade[1]	118	NA	$1,048	$123,174
Replace Stream Culvert[2]	NA	5	$7,500	$37,500
Replace/Install Ditch Relief Culvert[3]	NA	3	$1,000	$3,000
			Total	**$163,674**

NA= Not applicable

[1] General cost for road upgrade provided by Linstrom & Son of Chinook, Washington based on phone conversation. Includes cost for dirt/stump/debris removal, shaping, ditch work, and 6" gravel lift coat and compacting/grading. Assumes $25/yard for rock & $400/station for machine costs. Rock represent 63% of upgrade costs and may be reduced depending on condition of existing road. Since these are spurs and only needed for briefly for logging, use of less rock may be possible.

[2] General cost for 24" x 60' stream culvert replacement provided by Linstrom & Son of Chinook, Washington based on phone conversation. Larger diameter culvert may be needed and should be determined through consultation with DNR.

[3] General cost for 18" x 30' ditch relief culvert replacement provided by Linstrom & Son of Chinook, Washington based on phone conversation.

Appendix A - Culvert Images

C1 Inlet IMG_3752

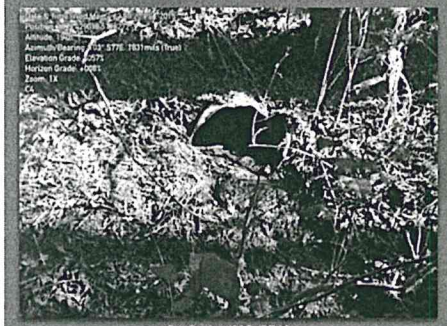
C2 Inlet IMG_3712

C2 Outlet IMG_3713

C3 Inlet IMG_3744

C3 Outlet IMG_3714

C4 Inlet IMG_3742



C4 Outlet IMG_3743

C5 Inlet IMG_3718

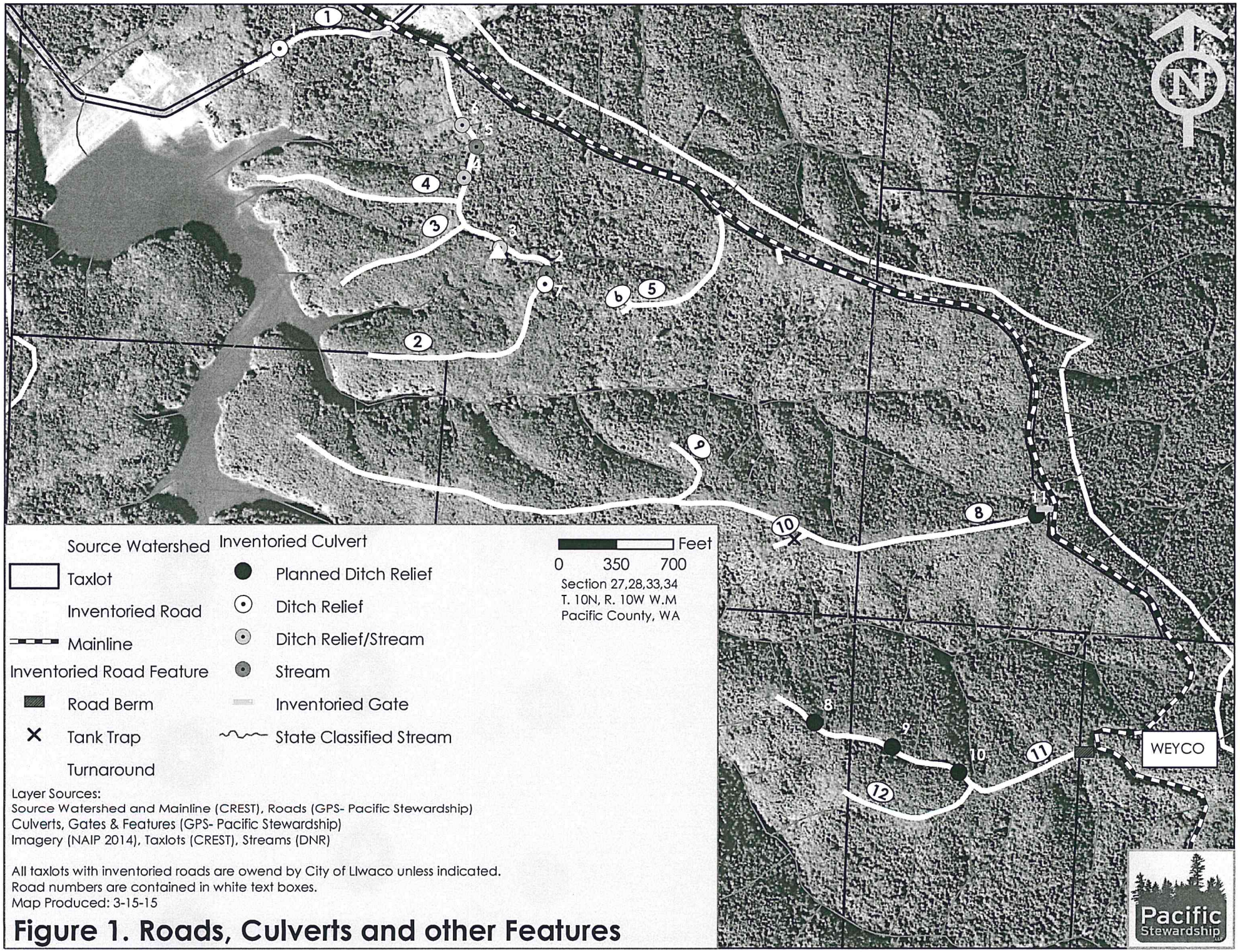
C5 Outlet IMG_3719

C6 Inlet IMG_3720

C6 Outlet IMG_3721

C7 Inlet IMG_3750

C7 Outlet IMG_3751



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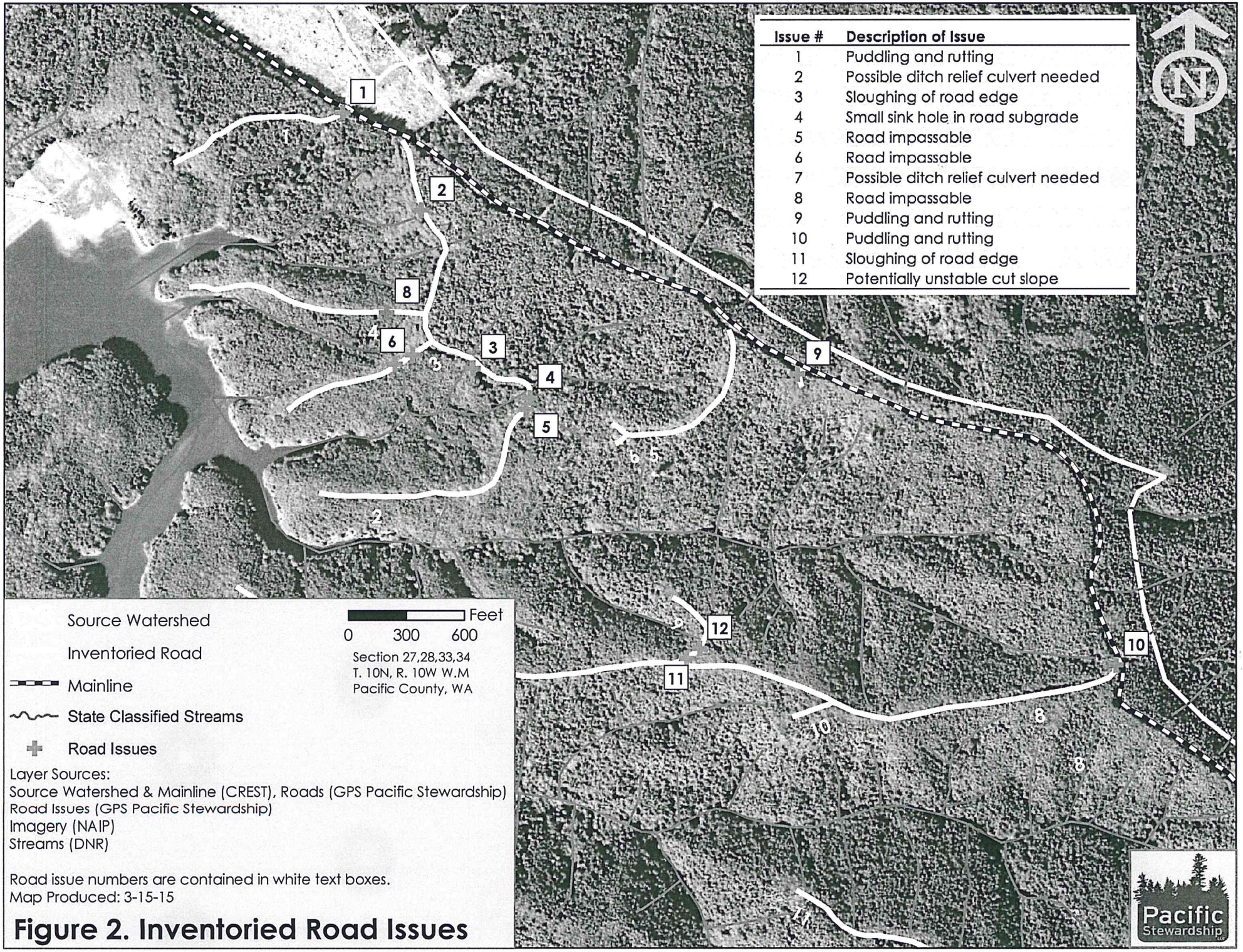

Figure 2. Inventoried Road Issues