



**CITY OF ILWACO
CITY COUNCIL MEETING
Monday, March 9 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. February 23, 2015 Special meeting
- b. February 23, 2015 Regular Meeting

2. Claims & Vouchers (TAB 2)

- a. Checks: 37569 to 37576 + electronic payments \$35,144.44
 - b. Checks: 37577 to 37624 \$58,103.19
- GRAND TOTAL: \$93,247.63

F. Reports

- 1. Staff Reports (TAB 3)**
 - a. Police 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.

H. Business

- 1. Black Lake Vegetation Control Contract (TAB 4) – *Karnofski*
- 2. Resolution Adopting Fire Department Officer Pay (TAB 5) – *Cassinelli*

I. Discussion

- 1. Amendment to Title 14 for Side Sewers & Private Sewers (TAB 9) – *Marshall*
- 2. Resolution of Public Hearing, Road Vacation (TAB 10) – *Crater*
- 3. Pollution Liability Insurance Quote (TAB 11) - *Chambreau*

J. Correspondence and Written Reports

- 1. Recommendation regarding the Vacation of a Portion of Public Right-of-Way – *Planning Commission*
- 2. Comments on City of Ilwaco Development Standards - *Marshall*

L. Future Discussion/Agendas

- 1. Amended Procedures Ordinance --*City Planner*
- 2. Pursuit of New Agreement with Seaview Sewer District –*Cassinelli*
- 3. Water Plant Operator Promotion – *Cassinelli*
- 4. Contract for Professional Engineering Services – *Jensen, Forner*
- 5. Update to Critical Areas Ordinance – *City Planner*

M. Adjournment

N. Upcoming Meetings

COUNCIL/COMMISSION	PURPOSE	DAY	DATE	TIME	LOCATION
City Council	Regular Meeting	Monday	03/09/15	6:00 p.m.	Community Building
Parks & Rec. Commission	Regular Meeting	Tuesday	03/10/15	6:00 p.m.	Ilwaco Fire Hall
Planning Commission	Regular Meeting <i>(meetings subject to cancellation if there is no business to transact)</i>	Tuesday	04/07/15	6:00 p.m.	Community Building



CITY COUNCIL
Special Council Meeting
Monday, February 23 2015

A. Call to Order

Mayor Cassinelli opened the special meeting at 3:30 p.m.

B. Roll Call

Councilmembers: Jon Chambreau, Fred Marshall and Gary Forner. Mayor Cassinelli and City Clerk, Holly Beller.

C. Pollution Liability Insurance

1. Kris Lawrence with Propel Insurance presented council with a hand out on Environmental Risk Assessment for Municipalities and Public Entities and examples of municipality environmental claims. 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 \$25,000 for a one year term, or about \$44,000 for a three year term (less the \$10,500 of the current policy.) It was asked by council what operations are covered and why the policy is necessary for a small municipality.
 - a. Kris Lawrence stated that definition of pollution is “anything not in its natural environment”. Definition has been broadened so much that general liability insurance isn’t as effective.
 - b. Initial assessment will look for any known pre-existing conditions and assess the steps necessary to mitigate these conditions.
 - c. Are we negligent? Was a third party hired? Contractual Obligation? All combined create need for insurance.
 - d. Policy covers liability associated with the polluting activity (including defense) and out of pocket expenses to “right the wrong” or clean up pollution.
2. Additional questions and discussions ensued between council and Kris Lawrence pertaining to old dump sites, chemicals at the Port of Ilwaco, sewer line breaks, etc.

D. Adjournment: The special meeting was closed at 3:55 pm.

Mike Cassinelli, Mayor

Holly Beller, Deputy City Clerk

Environmental Risk Assessment for Municipalities and Public Entities

What is a pollutant? Any material, substance, liquid, product, etc... which is introduced into an environment for other than its intended use / purpose. Fresh water, cheese, and milk have all been classified as pollutants by Insurance Carriers under various circumstances. What pollutants are impacting your business?

Some common environmental exposures faced by public entities/municipalities include: Wastewater treatment plants/pumping stations exposures from nuisance odor claims, raw sewage rupture, chlorine gas emissions; Storm water runoff; Sick building syndrome; Asbestos; Lead; Mold; Historic site conditions (i.e. old in ground tanks, surface impoundments, lagoons, clarifiers, unknown/old landfills); Sewer lines; Maintenance garage services; Aboveground and/or underground storage tanks; Leaks from elevator hydraulic fluid storage tanks; Inadequate or no secondary containment for above ground storage tanks; Parts washer solvents; Storage and use of pesticides and herbicides; Petroleum waste products; Vehicle and equipment storage/parking over unsealed surfaces; Parks, lakes, rivers and open land (i.e. midnight dumping, discharge of raw sewage/industrial waste, asphalt paving projects with storm discharge to open waters, unknown surface conditions); Transfer and recycling facilities; Hosting household hazardous material collection days or other environmentally sensitive materials/chemicals; Landfills; Inadequate methane collection or venting; Leachate; Natural resource damages; Uncontrolled storm water; Incinerators (i.e. airborne particulates, heavy metals (airborne and in residual ash), airborne volatile organic compounds); Spills/releases during loading/unloading process; Waste handling and disposal operations; No auditing of waste handling and disposal companies; Abandoned industrial sites within the municipality; Contamination from cemeteries; Poor community relations; Poor information on the possible adverse reactions and interactions of chemical compounds that accidentally commingle during a fire; Brownfields....

Note: The above list is intended only to outline some typical pollution exposures common to public entities, it is not all-encompassing. If a public entity has schools, airports, hospitals, golf courses or other operations not outlined above contact environmental Strategist, Inc. (Phone 231-256-2122) for a list of common environmental exposures.

Municipality Environmental Claims Examples

1. Chlorine release at a wastewater treatment plant resulted in toxic air emissions. Area residents and businesses were evacuated and several people were hospitalized for inhalation of fumes. A total of 12 businesses were forced to shut down for the better part of a day. Bodily injury claims amounted to \$70,000 and business interruption claims totaled \$120,000.
2. A wastewater treatment plant that was 25 years old had been upgraded several times over the years. Improper closure of an old clarifier and on-site surface impoundment had allowed gradual seepage into groundwater. These constituents contaminated the underlying groundwater, which was a potable water supply for the neighboring community. The costs for groundwater cleanup and emergency water supply for residents totaled \$550,000.
3. A local park owned by a municipality served as a convenient illegal disposal site for a recycling contractor. The contractor dumped five 55-gallon drums, releasing 275 gallons of used mineral spirits into the municipal park. When the drums were dumped, the hazardous contents leaked into the soil. In addition, the contractor emptied the contents of the vacuum truck into a nearby community lake. Total cleanup expenses amounted to \$475,000.
4. A maintenance garage used solvents for parts washing performed the work over a drain leading to an on-site septic system. Over time, the septic system leach field migrated into the surrounding soils and

groundwater. At the time of the septic system closure and conversion to a public sewer system, the contamination was discovered. Site remediation involved soil removal and installation of a groundwater recovery system. The costs exceeded \$720,000.

5. A municipal property was selected as the site for a new library. Construction was halted after the discovery of an unknown landfill location at the site. As a result of haphazard disposal techniques, there had been a wide array of materials disposed at this site. An investigation revealed that the landfill occupied about three acres and the refuse was approximately 20 feet deep. The cost to exhume all buried materials and sort them for proper disposal exceeded \$1 million. Additionally, further investigation turned up soil contaminated with pesticides, total petroleum hydrocarbons and various volatile organic compounds. Soil investigations, cleanup and disposal amounted to approximately \$500,000, bringing total costs to \$1.5 million.

6. At a newly built wastewater treatment plant pumping station, a faulty valve malfunctioned. As a result, a ruptured pipe released 2.8 million gallons of raw sewage into a local creek. Municipal workers acted quickly to stop the pipe rupture. Raw sewage traveled downstream to a larger river. The river was used by local fisherman, recreational boaters and marinas. Many boats were damaged by the sewage and marinas were forced to close temporarily while the riverbanks were cleaned up. The total cost of property damage and loss of income claims totaled \$195,000.

7. William Lee Slocum Jr., of Youngsville, Pa. has pleaded guilty in Pittsburgh U.S. District court to six counts of negligently violating the Clean Water Act when he operated the Youngsville Sewage Treatment Plant between 1983 and 1995. The Justice Department said during that period there were repeated discharges of raw sewage and sewage sludge from the plant into Brokenstraw Creek, a tributary of the Allegheny River. Slocum, a Pennsylvania State senator, could be sentenced to one year in prison and/or a fine of \$100,000 per violation.

8. The facilities department for a municipality hired a licensed hazardous waste transporter to pick-up and deliver three barrels of spent solvents, used for cleaning their boiler, to a treatment plant. While loading on municipal grounds, one barrel fell and spilled its contents, which seeped into the ground. Shortly after, twenty neighbors notified the state health department that their well water smelled odd. Health officials determined that chemicals from the accident had seeped into their wells. The municipality paid \$1.2 million in damages and clean-up costs.

9. A municipality hired a fiber optics company to install a network of data and voice cables. The job included directional drilling under a number of roads. While drilling, the contractor hit a fuel line and did not report it. After about 2 years, neighbors smelled gas in their well water. During investigation, the damaged fuel line was discovered and determined as the source of contamination. Since the fiber optics company was no longer in business, the municipality was held liable for damages and clean-up costs in excess of \$2.7 million.

Environmental Risk Transfer Strategies

The majority of public entities operating today, lack the financial strength to self-insure their environmental liabilities. Consideration needs to be given to the economies of scale afforded with environmental liability insurance as part of your risk transfer strategy.

The **three main benefits** environmental liability insurance offers:

1. **Defense Costs:** Environmental liabilities are relatively new and very litigious. Even if you do nothing wrong you can still get named in a suit and have to expense defense costs i.e. legal fees, environmental investigations, .

2. **Claim Management:** All policies come with specialists to assist you in handling a claim. Who is in charge of communications, public relations, emergency response, government compliance, financial management, third party claims for bodily injury, property damage, natural resource damages....?

3. **Third Party Liability:** The majority of the time the cost to clean up the environmental problem/s is far less than the associated claims that come in from third parties for bodily injury, property damage and business interruption. You need to look at your client's and neighbors that can be impacted if you or a sub-contractor/vendor cause an environmental loss.

Environmental Risk Transfer Products

ENVIRONMENTAL IMPAIRMENT LIABILITY (EIL)

EIL is for public entities susceptible to economic loss caused by pollution that actually or allegedly originated from their operations. Sometimes referred to as pollution legal liability this coverage is for those who own, operate, lease, or have any other insurable interest in real property and the operations. Coverage can be written in a variety of ways addressing unknown preexisting conditions or new conditions. Coverage can include third party bodily injury and property damage along with business interruption and extra expense, on and off site cleanup costs, legal defense expenses, non-owned disposal sites, transportation and more. EIL can be offered on multi year terms. Sewer lines and pump/lift stations can be covered by EIL. Most EIL policies cover above ground storage tanks.

PROPERTY TRANSFER COVERAGE

When buying, selling or condemning property there can be unknown preexisting environmental conditions. Since a Phase I or Phase II survey cannot guarantee uncovering all potential environmental liabilities, insurance companies have created property transfer insurance. This coverage protects the new owner or any party with an insurable interest, against unknown environmental conditions that may be discovered during the policy period, that were not caused by the new owner. This coverage not only helps to keep the property at its maximum value, it will assist the purchaser in being able to secure the necessary financing to complete their transaction.

TRANSPORTATION POLLUTION LIABILITY (TPL)

Generally, business auto or truckers policies will exclude pollution losses arising from spills or other releases of their cargo. Broadened auto pollution liability (typically Form CA9948) affords coverage during the loading, unloading and transportation, for a spill, release or sudden upset and over turn of transported cargo. Note: An MCS-90 endorsement is not pollution coverage.

UNDERGROUND AND ABOVE GROUND STORAGE TANKS (UST, AST)

Financial responsibility requirements ensure that owners and operators of underground storage tank systems have the ability to financially handle a release from an underground storage tank. The responsibility encompasses the ability to pay funds for corrective action and third party bodily injury and property damage from non-sudden and sudden and accidental releases from a regulated underground system.

Note: For public entities, you have potential indirect environmental exposures from the vendors you hire to perform services. Should your vendors cause an environmental problem or exacerbate an existing environmental issue their general liability insurance policy generally will have either an absolute or total pollution exclusion. In order to be protected you should make sure your vendors have the proper environment insurance coverage before they do any work on your behalf.

CONTRACTORS POLLUTION LIABILITY (CPL)

This coverage can be purchased to meet two specific exposures. First, contractors that perform remedial activities (asbestos, lead, mold, soil or ground water remediation) there is the standard contractor's pollution liability (CPL) insurance coverage. This protects the insured for pollution conditions they may cause or exacerbate an existing situation while performing remedial services. This is for covered operations performed by or on behalf of the insured. The loss must occur away from any premises the insured owns, rents, leases or occupies, in other words while they are performing remedial services at an educational institution.

Secondly, standard contractors (i.e. general contractors, HVAC, plumbing, electrical, mechanical, janitorial, demolition, drilling, excavation, highway, street and paving contractors, rigging, utility, millwrights, artisan, etc.), in performing their services may cause an environmental liability that is generally excluded from their general liability coverage. For these contractors there is contingent contractor's pollution liability (CCPL) coverage. Basically they are afforded the same coverage as remedial contractors but the cost to purchase this insurance is substantially less.

PROFESSIONAL LIABILITY (E&O)

Should a environmental engineer/consultant or analytical laboratory make an error or an omission in performing professional services for you they will need a E&O policy including pollution for there to be coverage. Some professional services could include Phase I or Phase II site assessments, All Appropriate Inquiry (AAI), air monitoring, lead and asbestos assessments, waste characterization, remedial action plans, water testing, mold survey's, environmental training....



**CITY OF ILWACO
CITY COUNCIL MEETING
Monday, February 23, 2015**

A. Call to order

Mayor Cassinelli called the meeting to order at 6:00pm

B. Flag Salute

The Pledge of Allegiance was recited. Mayor Cassinelli requested a moment of silence in remembrance of Walt Receconi who passed over the weekend. Walt had been a long time resident of Ilwaco and present at recent council meetings.

C. Roll Call

Present: Councilmembers Jensen, Karnofski, Marshall, Chambreau and Forner; Mayor Cassinelli.

D. Approval of Agenda

ACTION: Motion to approve agenda (Karnofski/Marshall) 5 Ayes 0 Nays 0 Abstain.

E. Approval of Consent Agenda

Including Checks 37535 to 37536 + Electronic totaling \$20,255.37 and 37537 to 37568 \$57,773.40 for a grand total of \$78,028.77.

ACTION: Motion to approve the consent agenda. (Chambreau/Marshall). 5 Ayes 0 Nays 0 Abstain.

F. Reports

Staff Reports

a. The Treasurer report was included in the agenda packet. Councilmember Chambreau met with the treasurer to go over a few questions.

b. Fire Chief Williams had no report.

c. The City Clerk reported that work was progressing with the 2015 Black Lake Fishing Derby.

Council Reports

a. Councilmember Jensen attended the Envision Ilwaco meeting who is planning a city wide "Spruce Up" day on March 14, 2015. More information will be given in the utility bill.

b. Councilmember Karnofski attended the Parks and Recreation Commission meeting and discussed the upcoming Black Lake Fishing Derby, the hand off of the Firecracker 5k to Ilwaco Merchant Association, planning of a community block party in the fall, and trail improvements. There has been discussion about the possibility of the trees behind Black Lake being logged in the near future and the impact to the lake. Mayor Cassinelli said he would investigate with the owner.

c. Councilmember Marshall attended the Envision Ilwaco meeting for the first time and commented that it was a good group of people there. He also worked on three new pieces of legislation for council.

d. Councilmember Forner attended the Dept. of Health and the City/Port Meeting. He also watched a documentary on tsunamis.

Mayor's Report

Mayor Cassinelli attended the DOH and City/Port meetings, along with a few others. The city wide spruce up will be March 14 and would like the council to be aware that the city will be contributing to the cost of about \$500 for the dumpsters. There was a discussion over if the clean-up should be advertised in the newspaper. New Flood Maps will be available at City Hall soon. Review of Roberts Rules of Order.

G. Comments of Citizens and Guests Present

None

H. Business

1. Amendment to Ordinance 834, Adopting Salary Classifications & Establishing the 2015 Pay Table

Mayor Cassinelli presented this item, stating that new definitions were introduced for Fire Administrator 8,9, and 10 and Fire Chief 9,10 and 11. This would allow these positions to move to higher pay grades.

ACTION: I move to Approve the amendment of Ordinance 834 to include the grades of Fire Administrator 8, 9, and 10; and Fire Chief 9, 10, and 11. (Marshall/Chambreau) 4 Ayes 0 Nays 1 Abstain

2. Department of Ecology State Revolving Fund Loan Agreement for Sahalee Sewer Improvements Project

Mayor Cassinelli presented this item.

ACTION: I move to authorize the mayor to execute the proposed Water Quality Combined Financial Assistance Agreement between the State of Washington Department of Ecology and the City of Ilwaco (WQC-2015-Ilwaco-00052). (Marshall/Forner) 5 Ayes 0 Nays 0 Abstain

3. Amendment to the Ilwaco Municipal Code Title 14, Development Standards for Developer Standards

Councilmember Marshall present this item.

ACTION: I move to enact the Ordinance that modifies the language "Developer Standards" to "Development Standards" within the Ilwaco Municipal Code TITLE 14. (Marshall/Chambreau) 5 Ayes 0 Nays 0 Abstain

I. Discussion

1. Promotion for Water Operator

Council discussed the Plant Operator Grade Descriptions and where the employee was originally assigned, how education in addition to experience may need to be considered, and further revising the pay table descriptions based upon current hiring practices.

ACTION: None taken at this meeting. Leave for future discussion.

2. Amendment to Title 14 for Side Sewers & Private Sewers

Council discussed how the Uniform Plumbing Code may apply to the city definitions and cited there may be several areas of the municipal code which have made reference to sewer lines which need to be compared and match with each other.

ACTION: None taken at this meeting. Leave for future discussion.

K. Correspondence and Written Reports

L. Future Discussion/Agendas

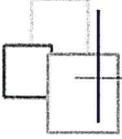
1. Amended Procedures Ordinance – *City Planner*
2. Pursuit of New Agreement with Seaview Sewer District – *Cassinelli*

L. Adjournment

ACTION: Motion to adjourn the meeting (Chambreau). Mayor Cassinelli adjourned the meeting at 7:05p.m.

Mike Cassinelli, Mayor

Holly Beller, Deputy City Clerk



Register

Number	Name	Fiscal Description	Amount
<u>37569</u>	Fero, Jimmie W	2015 - March - First meeting	\$1,034.22
<u>37570</u>	Gardner, Daryl W	2015 - March - First meeting	\$1,587.07
<u>37571</u>	Jensen, David	2015 - March - First meeting	\$181.91
<u>37572</u>	Williams, Thomas R	2015 - March - First meeting	\$890.70
<u>37573</u>	AWC - Life Insurance	2015 - March - First meeting	\$13.40
<u>37574</u>	AWC Employee Benefit Trust	2015 - March - First meeting	\$4,943.32
<u>37575</u>	Dept of Retirement - Def Comp	2015 - March - First meeting	\$280.00
<u>37576</u>	Dept of Retirement Systems	2015 - March - First meeting	\$5,937.33
Beller, Holly Celeste	ACH Pav - 1439	2015 - March - First meeting	\$1,146.53
Benson, Austin	ACH Pav - 1440	2015 - March - First meeting	\$977.47
Cassinelli, Michael	ACH Pav - 1441	2015 - March - First meeting	\$423.96
Chambreau, Jon H.	ACH Pav - 1442	2015 - March - First meeting	\$181.91
Forner, Gary	ACH Pav - 1444	2015 - March - First meeting	\$374.65
Gray, Richard Roy	ACH Pav - 1446	2015 - March - First meeting	\$2,324.05
Gustafson, David M.	ACH Pav - 1447	2015 - March - First meeting	\$1,477.18
Hazen, Warren M.	ACH Pav - 1448	2015 - March - First meeting	\$1,704.35
Marshall, Fred	ACH Pav - 1450	2015 - March - First meeting	\$181.91
Mc Kee, David A	ACH Pav - 1451	2015 - March - First meeting	\$1,603.59
Mulinix, Vinessa	ACH Pav - 1452	2015 - March - First meeting	\$181.11
Richardson, Troy	ACH Pav - 1453	2015 - March - First meeting	\$1,486.88
Smith, Ariel	ACH Pav - 1454	2015 - March - First meeting	\$1,383.83
Staples, Terri P	ACH Pav - 1455	2015 - March - First meeting	\$371.86
<u>Direct Deposit Run -</u>	Payroll Vendor	2015 - March - First meeting	\$13,819.28
<u>EFT 3-2-15</u>	U.S. Treasury Department	2015 - March - First meeting	\$5,707.21
<u>EFT 3-2-15</u>	Discovery Benefits	2015 - March - First meeting	\$750.00
			\$35,144.44

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.

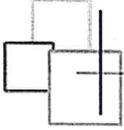
Treasurer

37569 through 37576 and electronic payments totalling \$35,144.44 are approved this 9th day of March, 2015.

Council member

Council member

Council member



Register

Fiscal: 2015

Number	Name	Print Date	Amount
Bank of the Pacific	8023281		
Check			
<u>37577</u>	A & E Security Solutions, Inc.	3/9/2015	\$89.85
<u>37578</u>	A Sparkling Castle	3/9/2015	\$455.00
<u>37579</u>	A-1 Redi Mix	3/9/2015	\$150.92
<u>37580</u>	ABECO Office Systems	3/9/2015	\$63.90
<u>37581</u>	ALS Environmental	3/9/2015	\$183.00
<u>37582</u>	Art's Auto Parts, Inc.	3/9/2015	\$39.67
<u>37583</u>	Association of WA Cities	3/9/2015	\$308.00
<u>37584</u>	Backflow Management Inc.	3/9/2015	\$900.00
<u>37585</u>	Calvert Technical Services, Inc.	3/9/2015	\$3,151.07
<u>37586</u>	Cartomation, Inc.	3/9/2015	\$50.00
<u>37587</u>	Cascade Columbia Distribution Co.	3/9/2015	\$1,090.23
<u>37588</u>	Cement Products Mfg Co., Inc	3/9/2015	\$2,854.27
<u>37589</u>	Chinook Observer	3/9/2015	\$99.12
<u>37590</u>	City of Ilwaco	3/9/2015	\$2,283.42
<u>37591</u>	City of Long Beach	3/9/2015	\$15,261.69
<u>37592</u>	Columbia Steel Supply	3/9/2015	\$265.14
<u>37593</u>	Consolidated Supply Co.	3/9/2015	\$498.02
<u>37594</u>	Dennis CO	3/9/2015	\$237.74
<u>37595</u>	Dry Box	3/9/2015	\$80.85
<u>37596</u>	Englund Marine Supply Inc	3/9/2015	\$947.27
<u>37597</u>	Ferguson Enterprises, Inc.	3/9/2015	\$1,116.00
<u>37598</u>	Gardner, Daryl	3/9/2015	\$95.94
<u>37599</u>	Goulter Diamond Bar Ranch	3/9/2015	\$1,333.33
<u>37600</u>	Hach Company	3/9/2015	\$3,161.78
<u>37601</u>	Harrington Industrial Plastics	3/9/2015	\$1,678.27
<u>37602</u>	HD Fowler Company	3/9/2015	\$486.86
<u>37603</u>	Home Depot Credit Services	3/9/2015	\$14.47
<u>37604</u>	John Deere Financial	3/9/2015	\$1,082.23
<u>37605</u>	Kris Kaino	3/9/2015	\$412.00
<u>37606</u>	L N Curtis & Sons	3/9/2015	\$50.53
<u>37607</u>	LEAF	3/9/2015	\$129.88
<u>37608</u>	Nancy McAllister	3/9/2015	\$412.00
<u>37609</u>	Naselle Rock & Asphalt	3/9/2015	\$1,110.21
<u>37610</u>	Northwest Motor Service	3/9/2015	\$2,175.18
<u>37611</u>	Oman & Son	3/9/2015	\$410.48
<u>37612</u>	One Call Concepts, Inc.	3/9/2015	\$9.56
<u>37613</u>	Pacific County Treasurer	3/9/2015	\$400.00
<u>37614</u>	Peninsula Sanitation Service, Inc.	3/9/2015	\$809.74
<u>37615</u>	Pitney Bowes	3/9/2015	\$500.00
<u>37616</u>	Ryan Herco Products Corp	3/9/2015	\$572.68
<u>37617</u>	Sunset Auto Parts Inc.	3/9/2015	\$127.26
<u>37618</u>	Tire Hut	3/9/2015	\$21.56
<u>37619</u>	USA Blue Book	3/9/2015	\$500.71
<u>37620</u>	Verizon Wireless	3/9/2015	\$91.76
<u>37621</u>	Vision Municipal Solutions, Llc	3/9/2015	\$6,899.20
<u>37622</u>	Wadsworth Electric	3/9/2015	\$4,113.83
<u>37623</u>	Wilcox & Flegel Oil Co.	3/9/2015	\$966.57
<u>37624</u>	William R. Penoyar, Attorney at Law	3/9/2015	\$412.00
	Total Check		\$58,103.19
	Total 8023281		\$58,103.19
	Grand Total		\$58,103.19

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

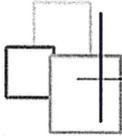
37577 through 37624

totalling \$58,103.19 are approved this 9th day of March, 2015.

Council member

Council member

Council member



Voucher Directory

Vendor	Number	Reference	Account Number	Description	Amount
A & E Security Solutions, Inc.	37577			2015 - March - First meeting	
		Invoice - 3/5/2015 11:18:45 AM			
			001-000-000-514-20-31-00	Office & Operating Supplies	\$17.97
			001-000-000-522-10-31-00	Office & Operating Supplies	\$17.97
			101-000-000-543-30-30-00	Office And Operating	\$17.97
			401-000-000-534-00-31-00	Operation & Maintenance	\$17.97
			409-000-000-535-00-31-01	Operations And Maintenance	\$17.97
		Total Invoice - 3/5/2015 11:18:45 AM			\$89.85
	Total 37577				\$89.85
Total A & E Security Solutions, Inc.					\$89.85
A Sparkling Castle	37578			2015 - March - First meeting	
		Invoice - 2/24/2015 11:55:34 AM			
			001-000-000-514-20-31-00	Office & Operating Supplies	\$80.00
			001-000-000-522-10-31-01	Training/Attendance	\$40.00
			001-000-000-572-50-41-00	Custodian Library	\$335.00
		Total Invoice - 2/24/2015 11:55:34 AM			\$455.00
	Total 37578				\$455.00
Total A Sparkling Castle					\$455.00
A-1 Redi Mix	37579			2015 - March - First meeting	
		Invoice - 3/2/2015 1:58:51 PM			
			1733		
			408-000-000-531-38-31-01	Operations & Maintenance	\$150.92
		Total Invoice - 3/2/2015 1:58:51 PM			\$150.92
	Total 37579				\$150.92
Total A-1 Redi Mix					\$150.92
ABECO Office Systems	37580			2015 - March - First meeting	
		Invoice - 3/2/2015 2:17:36 PM			
			1260563-0		
			001-000-000-514-20-31-00	Office & Operating Supplies	\$15.98
			101-000-000-543-30-30-00	Office And Operating	\$15.98
			401-000-000-534-00-31-00	Operation & Maintenance	\$15.98
			409-000-000-535-00-31-01	Operations And Maintenance	\$15.96
		Total Invoice - 3/2/2015 2:17:36 PM			\$63.90
	Total 37580				\$63.90
Total ABECO Office Systems					\$63.90
ALS Environmental	37581			2015 - March - First meeting	
		Invoice - 2/24/2015 2:12:18 PM			
			51-289137-0		
			409-000-000-535-00-31-02	Chemicals	\$183.00
		Total Invoice - 2/24/2015 2:12:18 PM			\$183.00
	Total 37581				\$183.00
Total ALS Environmental					\$183.00
Art's Auto Parts, Inc.	37582			2015 - March - First meeting	
		Invoice - 3/2/2015 2:28:07 PM			
			17525		
			101-000-000-543-30-30-00	Office And Operating	\$39.67
		Total Invoice - 3/2/2015 2:28:07 PM			\$39.67
	Total 37582				\$39.67
Total Art's Auto Parts, Inc.					\$39.67
Association of WA Cities	37583			2015 - March - First meeting	
		Invoice - 2/24/2015 12:01:30 PM			
			Drug Consortium		
			101-000-000-543-30-30-00	Office And Operating	\$77.00
			Dave		
			401-000-000-534-00-41-00	Professional Services	\$77.00
			Troy		
			409-000-000-535-00-31-01	Operations And Maintenance	\$154.00
			W & D		
		Total Invoice - 2/24/2015 12:01:30 PM			\$308.00
	Total 37583				\$308.00
Total Association of WA Cities					\$308.00
Backflow Management Inc.					\$308.00

37584	2015 - March - First meeting		
	Invoice - 2/26/2015 12:19:38 PM		
	7411		
	401-000-000-534-00-41-00	Professional Services	\$900.00
	Total Invoice - 2/26/2015 12:19:38 PM		\$900.00
Total 37584			\$900.00
Total Backflow Management Inc.			\$900.00
Calvert Technical Services, Inc.			\$900.00
37585	2015 - March - First meeting		
	Invoice - 2/27/2015 11:13:33 AM		
	4109		
	401-000-000-534-00-41-00	Professional Services	\$1,135.13
	409-000-000-535-00-41-02	Professional Services -	\$894.82
	409-000-000-535-00-41-02	Professional Services -	\$1,121.12
	Total Invoice - 2/27/2015 11:13:33 AM		\$3,151.07
Total 37585			\$3,151.07
Total Calvert Technical Services, Inc.			\$3,151.07
Cartomation, Inc.			\$3,151.07
37586	2015 - March - First meeting		
	Invoice - 2/24/2015 11:58:12 AM		
	001-000-000-557-20-41-00	Ilwaco Web Page	\$50.00
		GIS map storage	
	Total Invoice - 2/24/2015 11:58:12 AM		\$50.00
Total 37586			\$50.00
Total Cartomation, Inc.			\$50.00
Cascade Columbia Distribution Co.			\$50.00
37587	2015 - March - First meeting		
	Invoice - 2/24/2015 12:08:44 PM		
	635442		
	401-000-000-534-00-31-01	Chemicals	\$1,090.23
	Total Invoice - 2/24/2015 12:08:44 PM		\$1,090.23
Total 37587			\$1,090.23
Total Cascade Columbia Distribution Co.			\$1,090.23
Cement Products Mfg Co., Inc			\$1,090.23
37588	2015 - March - First meeting		
	Invoice - 3/5/2015 11:17:44 AM		
	City Hall Ramp 69196		
	001-000-000-594-62-14-00	Governmental Facility	\$2,854.27
	Total Invoice - 3/5/2015 11:17:44 AM		\$2,854.27
Total 37588			\$2,854.27
Total Cement Products Mfg Co., Inc			\$2,854.27
Chinook Observer			\$2,854.27
37589	2015 - March - First meeting		
	Invoice - 2/24/2015 11:59:26 AM		
	043-15		
	001-000-000-511-30-44-00	Official Publications	\$99.12
	Total Invoice - 2/24/2015 11:59:26 AM		\$99.12
Total 37589			\$99.12
Total Chinook Observer			\$99.12
City of Ilwaco			\$99.12
37590	2015 - March - First meeting		
	Invoice - 2/26/2015 12:14:55 PM		
	001-000-000-511-60-47-02	City Sewer - Museum	\$40.81
	001-000-000-514-20-47-02	Water - City Hall	\$54.46
	001-000-000-514-20-47-03	Sewer - City Hall	\$81.26
	001-000-000-514-20-47-04	Storm Drainage	\$25.11
	001-000-000-522-50-47-01	Water	\$159.84
	001-000-000-522-50-47-02	Sewer	\$228.53
	001-000-000-522-50-47-03	Storm Drainage	\$70.48
	001-000-000-572-50-47-01	City Water	\$162.76
	001-000-000-572-50-47-02	City Sewer	\$234.95
	001-000-000-572-50-47-03	Storm Drainage	\$10.99
	001-000-000-575-50-40-02	Community Building Water	\$0.00
	001-000-000-575-50-40-03	Community Building Sewer	\$0.00
	001-000-000-576-80-47-01	Water-Parks, Sprinklers,Blk Lake	\$185.51
	001-000-000-576-80-47-02	Sewer-Parks, Black Lake	\$44.37
	001-000-000-576-80-47-03	Storm Drainage	\$21.98
	409-000-000-535-00-47-02	Water	\$423.96
	409-000-000-535-00-47-03	Sewer	\$505.43
	409-000-000-535-00-47-05	Storm Drainage	\$32.98
	Total Invoice - 2/26/2015 12:14:55 PM		\$2,283.42
Total 37590			\$2,283.42
Total City of Ilwaco			\$2,283.42
City of Long Beach			\$2,283.42
37591	2015 - March - First meeting		
	Invoice - 2/24/2015 11:54:05 AM		
	001-000-000-521-10-50-00	Law Enforcement Contract	\$15,261.69
	Total Invoice - 2/24/2015 11:54:05 AM		\$15,261.69
Total 37591			\$15,261.69
Total City of Long Beach			\$15,261.69
Columbia Steel Supply			\$15,261.69

37592	2015 - March - First meeting		
	Invoice - 2/26/2015 12:12:17 PM		
	Dump Truck		
	101-000-000-543-30-30-02	Small Tools & Equipment	\$66.29
	401-000-000-534-00-48-00	Vehicle Repairs/Maintenance	\$66.29
	408-000-000-531-38-31-01	Operations & Maintenance	\$66.28
	409-000-000-594-64-35-01	Machinery & Equipment	\$66.28
	Total Invoice - 2/26/2015 12:12:17 PM		\$265.14
Total 37592			\$265.14
Total Columbia Steel Supply Consolidated Supply Co.			\$265.14
37593	2015 - March - First meeting		
	Invoice - 2/24/2015 12:07:10 PM		
	S7206978.001		
	401-000-000-594-62-34-00	Plant Improvements	\$498.02
	Total Invoice - 2/24/2015 12:07:10 PM		\$498.02
Total 37593			\$498.02
Total Consolidated Supply Co. Dennis CO			\$498.02
37594	2015 - March - First meeting		
	Invoice - 3/5/2015 11:26:16 AM		
	Fire Dept		
	001-000-000-514-20-31-00	Office & Operating Supplies	\$12.91
	001-000-000-522-10-31-00	Office & Operating Supplies	\$24.75
	001-000-000-572-50-48-00	Repairs & Maintenance	\$8.88
	401-000-000-534-00-31-00	Operation & Maintenance	\$182.06
	409-000-000-535-00-31-01	Operations And Maintenance	\$9.14
	Total Invoice - 3/5/2015 11:26:16 AM		\$237.74
Total 37594			\$237.74
Total Dennis CO Dry Box			\$237.74
37595	2015 - March - First meeting		
	Invoice - 3/4/2015 9:06:38 AM		
	C221U		
	401-000-000-534-00-31-00	Operation & Maintenance	\$80.85
	Total Invoice - 3/4/2015 9:06:38 AM		\$80.85
Total 37595			\$80.85
Total Dry Box Englund Marine Supply Inc			\$80.85
37596	2015 - March - First meeting		
	Invoice - 3/4/2015 11:22:15 AM		
	Streets		
	101-000-000-543-30-30-00	Office And Operating	\$22.97
	Total Invoice - 3/4/2015 11:22:15 AM		\$22.97
	Invoice - 3/4/2015 11:22:35 AM		
	Water		
	401-000-000-534-00-31-00	Operation & Maintenance	\$567.94
	Total Invoice - 3/4/2015 11:22:35 AM		\$567.94
	Invoice - 3/4/2015 11:22:36 AM		
	Waste Water		
	409-000-000-535-00-31-01	Operations And Maintenance	\$356.36
	Total Invoice - 3/4/2015 11:22:36 AM		\$356.36
Total 37596			\$947.27
Total Englund Marine Supply Inc Ferguson Enterprises, Inc.			\$947.27
37597	2015 - March - First meeting		
	Invoice - 2/24/2015 11:59:47 AM		
	3243818		
	401-000-000-594-62-34-00	Plant Improvements	\$588.66
	401-000-000-594-62-34-00	Plant Improvements	\$48.08
	401-000-000-594-62-34-00	Plant Improvements	\$8.28
	401-000-000-594-62-34-00	Plant Improvements	\$38.03
	401-000-000-594-62-34-00	Plant Improvements	\$74.54
	Total Invoice - 2/24/2015 11:59:47 AM		\$757.59
	Invoice - 2/24/2015 12:01:04 PM		
	3238837-1		
	401-000-000-594-62-34-00	Plant Improvements	\$358.41
	Total Invoice - 2/24/2015 12:01:04 PM		\$358.41
Total 37597			\$1,116.00
Total Ferguson Enterprises, Inc. Gardner, Daryl			\$1,116.00
37598	2015 - March - First meeting		
	Invoice - 2/26/2015 12:14:29 PM		
	Paper Towels		
	401-000-000-534-00-31-06	Office & Customer Service	\$95.94
	Total Invoice - 2/26/2015 12:14:29 PM		\$95.94
Total 37598			\$95.94
Total Gardner, Daryl Goulter Diamond Bar Ranch			\$95.94
37599	2015 - March - First meeting		
	Invoice - 2/24/2015 11:58:05 AM		

	409-000-000-535-00-45-00	Spray Sludge Disposal Site	\$1,333.33
	sludge site		
	Total Invoice - 2/24/2015 11:58:05 AM		\$1,333.33
Total 37599			\$1,333.33
Total Goulter Diamond Bar Ranch			\$1,333.33
Hach Company			
37600		2015 - March - First meeting	
	Invoice - 2/24/2015 12:08:04 PM		
	9248900		
	401-000-000-594-62-34-00	Plant Improvements	\$3,161.78
	Total Invoice - 2/24/2015 12:08:04 PM		\$3,161.78
Total 37600			\$3,161.78
Total Hach Company			\$3,161.78
Harrington Industrial Plastics			
37601		2015 - March - First meeting	
	Invoice - 2/24/2015 12:06:34 PM		
	007G0849		
	401-000-000-594-62-34-00	Plant Improvements	\$1,179.04
	Total Invoice - 2/24/2015 12:06:34 PM		\$1,179.04
	Invoice - 3/5/2015 11:15:37 AM		
	007F3559		
	401-000-000-594-62-34-00	Plant Improvements	\$499.23
	Total Invoice - 3/5/2015 11:15:37 AM		\$499.23
Total 37601			\$1,678.27
Total Harrington Industrial Plastics			\$1,678.27
HD Fowler Company			
37602		2015 - March - First meeting	
	Invoice - 2/24/2015 11:58:38 AM		
	I3844036		
	408-000-000-531-38-31-01	Operations & Maintenance	\$124.78
	408-000-000-531-38-31-01	Operations & Maintenance	\$362.08
	Total Invoice - 2/24/2015 11:58:38 AM		\$486.86
Total 37602			\$486.86
Total HD Fowler Company			\$486.86
Home Depot Credit Services			
37603		2015 - March - First meeting	
	Invoice - 2/27/2015 11:17:59 AM		
	9861		
	001-000-000-514-20-48-00	Repairs & Maintenance	\$14.47
	Total Invoice - 2/27/2015 11:17:59 AM		\$14.47
Total 37603			\$14.47
Total Home Depot Credit Services			\$14.47
John Deere Financial			
37604		2015 - March - First meeting	
	Invoice - 2/24/2015 11:56:49 AM		
	001-000-000-591-48-71-01	John Deer Mower 8157-96 - Prin	\$541.12
	001-000-000-592-48-83-00	John Deer Mower 8157-96 -	\$541.11
	Total Invoice - 2/24/2015 11:56:49 AM		\$1,082.23
Total 37604			\$1,082.23
Total John Deere Financial			\$1,082.23
Kris Kaino			
37605		2015 - March - First meeting	
	Invoice - 2/24/2015 11:54:56 AM		
	001-000-000-512-50-40-03	Municipal Court Services	\$412.00
	Total Invoice - 2/24/2015 11:54:56 AM		\$412.00
Total 37605			\$412.00
Total Kris Kaino			\$412.00
L N Curtis & Sons			
37606		2015 - March - First meeting	
	Invoice - 2/24/2015 12:09:11 PM		
	2121283.00		
	001-000-000-522-10-31-00	Office & Operating Supplies	\$50.53
	Total Invoice - 2/24/2015 12:09:11 PM		\$50.53
Total 37606			\$50.53
Total L N Curtis & Sons			\$50.53
LEAF			
37607		2015 - March - First meeting	
	Invoice - 2/27/2015 11:23:21 AM		
	5550127		
	001-000-000-514-20-31-00	Office & Operating Supplies	\$22.08
	001-000-000-522-10-31-00	Office & Operating Supplies	\$20.78
	101-000-000-543-30-30-00	Office And Operating	\$22.08
	401-000-000-534-00-31-00	Operation & Maintenance	\$22.08
	408-000-000-531-38-31-01	Operations & Maintenance	\$20.78
	409-000-000-535-00-31-01	Operations And Maintenance	\$22.08
	Total Invoice - 2/27/2015 11:23:21 AM		\$129.88
Total 37607			\$129.88
Total LEAF			\$129.88
Nancy McAllister			
37608		2015 - March - First meeting	
	Invoice - 2/24/2015 11:54:50 AM		

	001-000-000-512-50-40-03	Municipal Court Services	\$412.00
		Court services	
	Total Invoice - 2/24/2015 11:54:50 AM		\$412.00
Total 37608			\$412.00
Total Nancy McAllister			\$412.00
Naselle Rock & Asphalt			
37609			
		2015 - March - First meeting	
	Invoice - 3/5/2015 11:19:10 AM		
	001-000-000-576-80-31-00	Office & Operating Supplies	\$111.02
	101-000-000-542-70-31-00	Roadside Operating	\$666.13
	401-000-000-534-00-31-00	Operation & Maintenance	\$111.02
	408-000-000-531-38-31-01	Operations & Maintenance	\$222.04
	Total Invoice - 3/5/2015 11:19:10 AM		\$1,110.21
Total 37609			\$1,110.21
Total Naselle Rock & Asphalt			\$1,110.21
Northwest Motor Service			
37610			
		2015 - March - First meeting	
	Invoice - 2/27/2015 11:11:16 AM		
	R1735 Pump Re-Dipped		
	401-000-000-534-00-31-00	Operation & Maintenance	\$2,175.18
	Total Invoice - 2/27/2015 11:11:16 AM		\$2,175.18
Total 37610			\$2,175.18
Total Northwest Motor Service			\$2,175.18
Oman & Son			
37611			
		2015 - March - First meeting	
	Invoice - 3/4/2015 11:30:09 AM		
	001-000-000-514-20-48-00	Repairs & Maintenance	\$60.35
	001-000-000-576-80-48-00	Repairs & Maintenance	\$115.65
	101-000-000-543-30-30-00	Office And Operating	\$8.17
	401-000-000-534-00-31-00	Operation & Maintenance	\$226.31
	Total Invoice - 3/4/2015 11:30:09 AM		\$410.48
Total 37611			\$410.48
Total Oman & Son			\$410.48
One Call Concepts, Inc.			
37612			
		2015 - March - First meeting	
	Invoice - 3/2/2015 1:58:34 PM		
	101-000-000-543-30-30-00	Office And Operating	\$3.19
	401-000-000-534-00-31-00	Operation & Maintenance	\$3.19
	409-000-000-535-00-31-01	Operations And Maintenance	\$3.18
	Total Invoice - 3/2/2015 1:58:34 PM		\$9.56
Total 37612			\$9.56
Total One Call Concepts, Inc.			\$9.56
Pacific County Treasurer			
37613			
		2015 - March - First meeting	
	Invoice - 3/4/2015 11:13:01 AM		
	Court Services		
	001-000-000-512-50-40-03	Municipal Court Services	\$400.00
	Total Invoice - 3/4/2015 11:13:01 AM		\$400.00
Total 37613			\$400.00
Total Pacific County Treasurer			\$400.00
Peninsula Sanitation Service, Inc.			
37614			
		2015 - March - First meeting	
	Invoice - 2/25/2015 11:52:41 AM		
	Iiwaco Spruce Up Day Contribution		
	001-000-000-576-80-48-00	Repairs & Maintenance	\$300.00
	Total Invoice - 2/25/2015 11:52:41 AM		\$300.00
	Invoice - 3/2/2015 2:15:13 PM		
	Pacific Solid Waste Disposal 2-25-15		
	401-000-000-534-00-31-00	Operation & Maintenance	\$7.46
	408-000-000-531-38-31-01	Operations & Maintenance	\$7.46
	409-000-000-535-00-47-04	Garbage Services	\$7.46
	Total Invoice - 3/2/2015 2:15:13 PM		\$22.38
	Invoice - 3/5/2015 11:04:02 AM		
	3017 & 5585		
	001-000-000-514-20-47-01	Garbage Bills	\$255.15
	409-000-000-535-00-47-04	Garbage Services	\$232.21
	Total Invoice - 3/5/2015 11:04:02 AM		\$487.36
Total 37614			\$809.74
Total Peninsula Sanitation Service, Inc.			\$809.74
Pitney Bowes			
37615			
		2015 - March - First meeting	
	Invoice - 3/2/2015 2:18:06 PM		
	001-000-000-514-20-31-00	Office & Operating Supplies	\$166.68
	401-000-000-534-00-31-06	Office & Customer Service	\$166.66
	409-000-000-535-00-31-08	Office Supplies & Customer	\$166.66
	Total Invoice - 3/2/2015 2:18:06 PM		\$500.00
Total 37615			\$500.00
Total Pitney Bowes			\$500.00
Ryan Herco Products Corp			
37616			
		2015 - March - First meeting	
	Invoice - 3/4/2015 8:58:11 AM		

	8075074			
	401-000-000-534-00-31-00	Operation & Maintenance		\$572.68
	Total Invoice - 3/4/2015 8:58:11 AM			\$572.68
Total Ryan Herco Products Corp				\$572.68
Sunset Auto Parts Inc.				\$572.68
37617				
		2015 - March - First meeting		
	Invoice - 3/4/2015 11:27:48 AM			
	2306			
	101-000-000-542-70-31-00	Roadside Operating		\$19.15
	401-000-000-534-00-48-00	Vehicle Repairs/Maintenance		\$19.15
	409-000-000-535-00-48-01	Repairs And Maintenance		\$88.96
	Total Invoice - 3/4/2015 11:27:48 AM			\$127.26
Total Sunset Auto Parts Inc.				\$127.26
Tire Hut				\$127.26
37618				
		2015 - March - First meeting		
	Invoice - 2/26/2015 12:13:45 PM			
	6177			
	401-000-000-534-00-48-00	Vehicle Repairs/Maintenance		\$21.56
	Total Invoice - 2/26/2015 12:13:45 PM			\$21.56
Total Tire Hut				\$21.56
USA Blue Book				\$21.56
37619				
		2015 - March - First meeting		
	Invoice - 3/4/2015 8:48:51 AM			
	571411			
	401-000-000-534-00-31-00	Operation & Maintenance		\$500.71
	Total Invoice - 3/4/2015 8:48:51 AM			\$500.71
Total USA Blue Book				\$500.71
Verizon Wireless				\$500.71
37620				
		2015 - March - First meeting		
	Invoice - 3/2/2015 2:30:17 PM			
	401-000-000-534-00-42-00	Communications		\$91.76
	Total Invoice - 3/2/2015 2:30:17 PM			\$91.76
Total Verizon Wireless				\$91.76
Vision Municipal Solutions, Llc				\$91.76
37621				
		2015 - March - First meeting		
	Invoice - 3/2/2015 2:30:38 PM			
	09-3145			
	101-000-000-543-30-30-00	Office And Operating		\$2,633.00
	401-000-000-534-00-49-02	Software Upgrade		\$2,133.10
	409-000-000-535-00-48-03	Miscellaneous		\$2,133.10
	Total Invoice - 3/2/2015 2:30:38 PM			\$6,899.20
Total Vision Municipal Solutions, Llc				\$6,899.20
Wadsworth Electric				\$6,899.20
37622				
		2015 - March - First meeting		
	Invoice - 2/27/2015 10:15:48 AM			
	20880F			
	401-000-000-534-00-41-03	Professional Services -		\$3,536.02
	401-000-000-534-00-41-03	Professional Services -		\$577.81
	Total Invoice - 2/27/2015 10:15:48 AM			\$4,113.83
Total Wadsworth Electric				\$4,113.83
Wilcox & Fleqel Oil Co.				\$4,113.83
37623				
		2015 - March - First meeting		
	Invoice - 3/5/2015 11:22:08 AM			
	001-000-000-522-10-32-00	Gasoline		\$56.72
	101-000-000-543-30-30-01	Gasoline & Oil Products		\$444.06
	401-000-000-534-00-32-00	Gasoline		\$363.06
	409-000-000-535-00-32-00	Gas/oil Products		\$102.73
	Total Invoice - 3/5/2015 11:22:08 AM			\$966.57
Total Wilcox & Fleqel Oil Co.				\$966.57
William R. Penoyar, Attorney at Law				\$966.57
37624				
		2015 - March - First meeting		
	Invoice - 2/24/2015 11:54:44 AM			
	001-000-000-512-50-40-03	Municipal Court Services		\$412.00
	Total Invoice - 2/24/2015 11:54:44 AM			\$412.00
Total William R. Penoyar, Attorney at Law				\$412.00
Grand Total	Vendor Count	48		\$58,103.19

Long Beach Police

P.O. Box 795
Long Beach, WA 98631

lbpdchief@centurytel.net

Phone 360-642-2911
Fax 360-642-5273

03-01-15

Page 1 of 4

To: Mayor Cassinelli and Ilwaco City Council

From: Chief Flint R. Wright

Ref.: Monthly Report for February 2015

During the month of February the Long Beach Police Department handled the following cases and calls:

Long Beach

580 Total Incidents
Aid Call Assists: 8
Alarms: 9
Animal Complaints: 9
Assaults: 11
Assists: 62
(Includes 10 Law Enforcement Agency Assists Outside City Boundaries)
Burglaries: 0
Disturbance: 18
Drug Inv.: 7
Fire Call Assists: 5
Follow Up: 186
Found/Lost Property: 9
Harassment: 14
Malicious Mischief: 3
MIP – Alcohol: 3
MIP – Tobacco: 0
Missing/Found Persons: 0
Prowler: 1
Runaway: 4
Security Checks: 80
Suspicious: 14
Thefts: 14
Traffic Accidents: 0
Traffic Complaints: 14
Traffic Tickets: 10
Traffic Warnings: 56
Trespass: 12
Warrant Contacts: 16
Welfare Checks: 15

Ilwaco

372 Total Incidents
Aid Call Assists: 1
Alarms: 4
Animal Complaints: 0
Assaults: 5
Assists: 50
Burglaries: 1
Disturbance: 11
Drug Inv.: 4
Fire Call Assists: 0
Follow Up: 83
Found/Lost Property: 1
Harassment: 1
Malicious Mischief: 2
MIP – Alcohol: 0
MIP – Tobacco: 0
Missing/Found Persons: 0
Prowler: 0
Runaway: 0
Security Checks: 169
Suspicious: 9
Thefts: 3
Traffic Accidents: 2
Traffic Complaints: 8
Traffic Tickets: 3
Traffic Warnings: 10
Trespass: 1
Warrant Contacts: 1
Welfare Checks: 3

Officer Casey Meling attended training on February 12th and 13th. The title of the class was "Active Shooter Response Training Instructor Course". The course was designed to teach proactive survival strategies in violent intruder or active shooter situations.

On February 18th the department attended training put on by the Pacific County Prosecutors Office. The prosecutor covered search and seizure issues, report writing, coroner protocols and a new diversion program for suspended drivers.

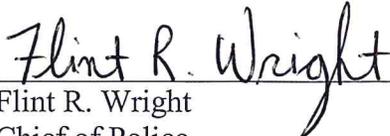
On the 23rd I received a thank you note from a Michael Matthews. Mr. Matthews recently wrote a mystery crime novel that takes place in our area. He had contacted me for information about how law enforcement in a small rural area like ours would deal with what takes place in the book. I was glad to help him and he actually thanked me in the book for my assistance and sent me two signed copies. The title of the book is "A River of Pain, An Ocean of Joy". A copy of the letter is attached.

I, along with area emergency first responders, attended a planning session to continue to prepare in the event we have an active shooter at an area school. This planning event was held on February 24th. Officer Casey Meling is heading up this update to our current plans dealing with a school shooter.

Officer Rodney Nawn attended training on February 24th – 26th. The course was the "Reid Interview and Interrogation Technique". This course teaches an officer how to look for "Behavioral Symptoms" to detect lying or deception, how to conduct the "Behavioral Analysis Interview" which is an interview process that utilizes both investigative and behavioral provoking questions and the "Reid Nine Steps of Interrogation". There are many interview courses that officers can take but the "Reid Technique" course is absolutely the best.

On February 25th I attended another planning meeting at Crises Support Network to continue the process of updating our protocols for dealing with sexual and physical assaults of children and adults.

Officer Mike Parker received a thank you note for assistance he gave to some motorists on the 28th. Mike did a great job representing the department and the city. A copy of the thank you note is attached.



Flint R. Wright
Chief of Police

Hello Chief Wright,

First of all, my apologies for taking so long to get this copy of the book to you. After finishing it, I kind of wanted to not even think about it for a while. But, here is the finished product.

Thank you very much for all your help. This would not be the great book that it is without your assistance. I really appreciated the fact that you took so much time to help me with the details of the law in this story. I was quite surprised and very pleased that you took as much time as you did with your answers to my emails.

If you take the time to read the story and have any comments on it, please send me an email or drop me a line. Even though this story is finished, opinions and critiques of my writing are always welcome and useful for future stories.

I wish you all the best and thank you again for your assistance with this story.

Sincerely,

A handwritten signature in cursive script that reads "Michael Matthews". The signature is written in black ink and is positioned below the word "Sincerely,".

Michael Matthews,
1318 Olympic Street,
Springfield, OR 97477
541-736-3772
mick_55@hotmail.com

Flint Wright

From: Flint Wright <lbpdcchief@centurytel.net>
Sent: Monday, March 02, 2015 2:35 PM
To: 'Leanne Veldhuis'
Subject: RE: Thank you to Officer Parker

*Great job! actions
like yours make a boss
very happy.
Mike,
Chief Wright*

Miss. Veldhuis,

Thank you so much for the kind words about Officer Parker. I will pass them on to him. Please come back again to our area. You are one of thousands who have gotten stuck and you won't be the last. ☺

Chief Flint R. Wright
Long Beach Police Department

From: Leanne Veldhuis [mailto:lvelldhui@gmail.com]
Sent: Monday, March 02, 2015 12:51 PM
To: lbpdcchief@centurytel.net
Subject: Thank you to Officer Parker

Hello Chief Wright,

I wanted to email you regarding Officer Parker, who did a great job on his patrol this past weekend!

My friend and I were visiting Cape Disappointment/Long Beach peninsula this past weekend and around 9pm on Saturday decided to attempt driving on the beach like everyone seems to do... in my 2WD Honda Civic. I'm sure you know what happened next, I joined the ranks of probably hundreds of people who got their inadequate vehicles stuck in the sand!

Within I think 60 seconds, Officer Parker drove over because he saw it happen from a distance, and he stayed until I was able to flag down a Jeep Wrangler to pull me out. I really appreciated his regard for our safety, being two out-of-town females stuck on the beach on a Saturday night. He has a really great demeanor when interacting with the public and made sure other vehicles didn't try and drive in our way as I was getting pulled out.

All told, it was a surprisingly memorable and dare I say almost fun experience getting stuck, though I of course will be avoiding off-roading in my Civic in the future...or it's time to get a great 4WD vehicle!

I had a wonderful visit to the coast this weekend and look forward to visiting again in the future, thanks for fostering a great police force!

Have a nice week,
~Leanne Veldhuis

**CITY OF ILWACO
CITY COUNCIL AGENDA ITEM BRIEFING**

A. Meeting Dates: Council Workshop: Public Hearing:
Council Discussion Item: 2/9/15 Council Business Item: 3/9/15

B. Issue/Topic: Black Lake Vegetation Control Contract

C. Sponsor(s):

1. Vinessa Karnofski
- 2.

D. Background (overview of why issue is before council):

1. The City of Ilwaco obtained an amendment from Dept. of Ecology Aquatic Weed Grant extending the grant period to June 2017. There is roughly \$57,000 remaining of the grant funds.
2. Pacific County Dept. of Vegetation Management has submitted a contract to manage the Elodea over a period of twelve months from execution of the contract, at a cost not to exceed \$20,000.

E. Discussion (specific details relevant to the issue, pros/cons, alternatives and any other decision-making details)

F. Impacts:

1. Fiscal: The expense would be reimbursed through the DOE Aquatic Weed Grant.
2. Legal: The contract has been reviewed by City Attorney, Heather Reynolds and Propel Insurance, Kris Lawrence.
3. Personnel: n/a
4. Service/Delivery: n/a

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

H. Staff Comments:

1. None

I. Time Constraints/Due Dates: Black Lake is usually sprayed in late February.

J. Proposed Motion: **I move to authorize the mayor to execute the contract with Pacific County Dept. of Vegetation Management for Elodea Control at Black Lake.**

THIS AGREEMENT, made and entered into this _____ day of _____, 2015, by and between the Pacific County Department of Vegetation Management, hereinafter referred to as "DVM", and the City of Ilwaco, hereinafter referred to as "City".

WITNESSETH: IT IS HEREBY COVENANTED AND AGREED AS FOLLOWS:

The City and DVM agree that the DVM shall perform vegetation control work specified by the City at a time and in a manner as to maximize vegetation control benefits. The City further requests that the work be completed within twelve months from the date of the Agreement.

The City agrees to reimburse the DVM for all costs associated with control program work performed by DVM, based on the actual costs of labor, equipment, and materials used in the work. The total cost of said work shall not exceed \$ 20,000.00.

DVM shall at all times during this agreement provide the following minimum insurance; Commercial General Liability limit of not less than \$5,000,000 per any one occurrence, Auto Liability, including Hired and Non-Owned Auto Liability of not less than \$5,000,000. A Certificate of Insurance along with the policy endorsements/language that meets the requirements shall be submitted to the City on or before the effective date of this agreement.

The City does hereby agree to hold harmless and indemnify the DVM for any ~~and all liabilities associated with the work described herein, except claims arising through the~~ sole negligence or sole willful misconduct ~~of the DVM on the part of the City.~~ This hold harmless agreement includes, but is not limited to, any claim for damage to property, personal injury, or death of any City participants, personnel, contractors, employee, agents, and/or invitees.

The DVM does hereby agree to hold harmless and indemnify the City for any and all liabilities associated with the work described herein, except claims arising through the sole negligence or sole willful misconduct of the City. This hold harmless agreement includes, but is not limited to, any claim for damage to property, personal injury, or death of any DVM participants, personnel, contractors, employee, agents, and/or invitees.

If any provision, or any portion thereof, contained in this Agreement is held to be unconstitutional, invalid or unenforceable, said provision(s), or portion(s) thereof, shall be deemed severed and the remainder of this Agreement shall not be affected and shall remain in full force and effect. Furthermore, if such an event occurs, the parties agree to negotiate a modification to replace the unacceptable provision(s) as soon as possible.

This Agreement contains all of the terms and conditions agreed upon by the parties. No other understandings oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the parties hereto.

Any modifications to this Agreement must be approved in writing by both parties.

CITY:

DVM:

(Signature) (Date)

Jeff Nesbitt, Director (Date)

(Title)

BOARD OF COUNTY COMMISSIONERS
PACIFIC COUNTY, WASHINGTON

Commissioner (Chairperson)

Commissioner

Commissioner

Attest:

City Clerk

**CITY OF ILWACO
RESOLUTION NO. 2015-XX**

A RESOLUTION OF THE CITY OF ILWACO, WASHINGTON, ADOPTING FIRE DEPARTMENT OFFICER PAY

WHEREAS, the City of Ilwaco pays employees according to a defined and structured set of standards, position grades, grade and step pay levels; and

WHEREAS, the officers of the Ilwaco Volunteer Fire Department occupy positions that are defined within this pay structure – namely that of Fire Chief and Fire Department Administrator; and

WHEREAS, the Fire Department officers are part-time workers; and

WHEREAS, the City deems it proper and reasonable to pay the Fire Department officers a defined fraction of the pay established for the positions held, and;

WHEREAS, the City has carefully considered the average pay in cities of similar size to Ilwaco with volunteer Fire Departments for the same types of positions, and;

WHEREAS, the City has considered the demands placed on Ilwaco Volunteer Fire Department officers, and;

WHEREAS, the city has weighed these considerations in defining clearly the fraction of pay established for these positions,

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ILWACO, WASHINGTON, DOES RESOLVE TO ESTABLISH FIRE DEPARTMENT CHIEF and ADMINISTRATOR PAY AS FOLLOWS:

Section 1. Basis. Each Fire Department officer position is defined at a number of pay grades and each grade consists of 10 in-grade steps which, overall, defines a pay table of salaries consistent with full-time employment.

Section 2. Pay Levels Established.

- a. The Fire Chief shall be paid an amount equal to 25% of the grade and step in which he/she is assigned.
- b. The Fire Department Administrator shall be paid an amount equal to 5.5% of the grade and step in which he/she is assigned.

Section 2. 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 AUTHENTICATION 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:

CITY OF ILWACO

ORDINANCE NO. 840

AN ORDINANCE OF THE CITY OF ILWACO, WASHINGTON, AMENDING THE 2015 SALARY CLASSIFICATIONS AS SET FORTH IN ORDINANCE 834.

WHEREAS, the City of Ilwaco is committed to a policy that places every employee on a pay scale; and

WHEREAS, the city must be financially responsible in implementing compensation plan changes; and

WHEREAS, the City Council has determined that it will have the final approval on all pay policy issues; and

WHEREAS, no change in any employee personnel status (rate of pay) is intended by this action.

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

Section 1. The City Council of the City of Ilwaco, Washington, adopts the City of Ilwaco Position Grades and Brief Descriptions, attached hereto as Exhibit "A."

Section 2. Each employee's pay shall remain unchanged through this action even though the position grade title may be modified.

Section 3. 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 4. Referendum and Effective Date. This Ordinance, being an exercise of a power specifically delegated to the city legislative body, is not subject to referendum, and shall take 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 AUTHENTICATION OF ITS PASSAGE THIS 23RD DAY OF FEBRUARY, 2015

Mike Cassinelli, Mayor

ATTEST:

Holly Beller, City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Fornier	Cassinelli
Ayes	X	X	X	X		
Nays						
Abstentions					X	
Absent						

PUBLISHED: March 4, 2015

EFFECTIVE: March 9, 2015

Exhibit "A"
City of Ilwaco
Position Grades and Brief Descriptions

Administrative Position.	Grade	Level
Non-Exempt Positions		
Office Assistant 3	3	Office assistant
Office Assistant 4	4	Office assistant/billing clerk
Office Assistant 5	5	Senior office assistant/billing clerk
Deputy City Clerk 5	5	Deputy city clerk
Deputy City Clerk 6	6	Deputy city clerk
Deputy City Clerk 7	7	Deputy city clerk
Deputy City Clerk 8	8	Senior deputy city clerk
Exempt Positions		
City Clerk 8	8	City clerk
City Clerk 9	9	City clerk
City Clerk 10	10	City clerk
City Clerk 11	11	Senior city clerk
Treasurer 8	8	City treasurer
Treasurer 9	9	City treasurer
Treasurer 10	10	City treasurer
Treasurer 11	11	Senior city treasurer
Treasurer 12	12	Senior city treasurer

Office Assistant 3: Office assistant. Entry-level position. Receives work direction, guidance and supervision from senior office staff members. Develops office skills and experience with guidance from others. Assists with utility billing.

Office Assistant 4: Office assistant/billing clerk. Performs many tasks independently. Proficient with word processing and spreadsheets. Expected to handle routine city business on the telephone and with visitors. Able to do most utility billing tasks.

Office Assistant 5: Senior office assistant/billing clerk. Performs most tasks independently without guidance or supervision. Determines own priorities. Proficient with word processing, spreadsheet and databases. Configures new computers for printing, simple networking and email and application installation. Does utility billing independently. Supervises others, as necessary.

Deputy City Clerk 5: Deputy City clerk. Entry-level position. Performs or is capable of performing all duties equivalent to Office Assistant 5. Receives work direction, guidance and supervision from the city clerk, city treasurer or mayor in matters involving the city clerk's duties.

Deputy City Clerk 6: Deputy City clerk. Performs some city clerk tasks independently, with

minimum guidance or supervision, as assigned by the city clerk, city treasurer or mayor. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications.

Deputy City Clerk 7: Deputy City clerk. Performs many city clerk tasks independently, with minimum guidance or supervision, as assigned by the city clerk, city treasurer or mayor. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications.

Deputy City Clerk 8: Senior deputy city clerk. Performs most city clerk tasks independently without guidance or supervision, as assigned by the city clerk, city treasurer or mayor. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications.

City Clerk 8: City clerk. Entry-level position. An administrative position with primary duties that includes exercising discretion and independent judgment with respect to matters of significance. Performs some city clerk tasks independently with guidance and supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. *Note: A change in position from Assistant Clerk 7 to City Clerk 7 would normally be accompanied by a two-step, in-grade increase and a change from non-exempt status to exempt status.*

City Clerk 9: City clerk. An administrative position with primary duties that includes exercising discretion and independent judgment with respect to matters of significance. Performs most city clerk tasks independently with minimum guidance or supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications.

City Clerk 10: City clerk. An administrative position with primary duties that includes exercising discretion and independent judgment with respect to matters of significance. Performs all duties of the city clerk without guidance or supervision. Drafts simple legislation that can be enacted into law without undue revision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Represents the city in outside meetings, as appropriate.

City Clerk 11: Senior city clerk. An administrative position with primary duties that includes exercising discretion and independent judgment with respect to matters of significance. Performs all duties of the city clerk without guidance or supervision. Drafts complex legislation that can be enacted into law without undue revision. Briefs the mayor and City Council on the effect of proposed legislation. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules.

Writes grant applications. Represents the city in outside meetings, as appropriate. Acts as senior advisor to the mayor and City Council in city matters.

Treasurer 8: City treasurer. Entry-level position. Performs some treasurer tasks independently with guidance and supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Trained in accounting and develops experience with accounting software and city transactions and budgeting.

Treasurer 9: City treasurer. Performs most treasurer tasks independently with guidance and supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Trained in accounting and develops experience with accounting software and city transactions and budgeting.

Treasurer 10: City treasurer. Performs treasurer tasks independently without guidance or supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Has some advanced training in accounting and has experience with accounting software and city transactions and budgeting. Prepares and briefs the city budget to the mayor and City Council, including coordinating with department heads. Performs all the duties of the city clerk, if assigned.

Treasurer 11: Senior city treasurer. Performs treasurer tasks independently without guidance or supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Has advanced training in accounting and has experience with accounting software and city transactions and budgeting. Prepares and briefs the city budget to the mayor and City Council, including coordinating with department heads. Represents the city in outside meetings, as appropriate. Acts as senior advisor to the mayor and City Council in city matters. Performs all the duties of the city clerk, if assigned.

Treasurer 12: Senior city treasurer. Performs treasurer tasks independently without guidance or supervision. Performs or is capable of performing all duties equivalent to Office Assistant 5. Supervises office staff as necessary, including setting priorities and work schedules. Writes grant applications. Has advanced training in accounting and has experience with accounting software and city transactions and budgeting. Prepares and briefs the city budget to the mayor and City Council, including coordinating with department heads. Represents the city in outside meetings, as appropriate. Acts as senior advisor to the mayor and City Council in city matters. Performs all the duties of the city clerk, if assigned. Experienced and possesses necessary skills for position and/or is highly capable of seeking needed resources.

Field Positions	Grade	
Non-Exempt Positions		
Utility Worker 3	3	Entry level
Utility Worker 4	4	Established (gaining experience)
Utility Worker 5	5	Experienced
Utility Worker 6	6	Experienced (works independently)
Utility Worker 7	7	Lead
Utility Supervisor 8	8	Senior lead
Utility Supervisor 9	9	Senior
Utility Supervisor 10	10	Senior
Utility Supervisor 11	11	Senior
Plant Operator 5	5	Entry level
Plant Operator 6	6	Established (gaining experience)
Plant Operator 7	7	Experienced
Plant Operator 8	8	Experienced (works independently)
Plant Operator 9	9	Senior/lead operator
Plant Operator 10	10	Senior
Plant Operator 11	11	Senior
Mechanic 7	7	Entry level
Mechanic 8	8	Experienced
Mechanic 9	9	Senior
Exempt Positions		
Utility Manager 7	7	Entry level
Utility Manager 8	8	Experienced
Utility Manager 9	9	Experienced
Utility Manager 10	10	Senior
Fire Administrator 7	7	Experienced
Fire Administrator 8	8	Experienced
Fire Administrator 9	9	Experienced
Fire Administrator 10	10	Senior
Fire Chief 8	8	Experienced
Fire Chief 9	9	Experienced
Fire Chief 10	10	Experienced
Fire Chief 11	11	Experienced
Fire Chief 12	12	Senior

Utility Worker3: Entry-level utility worker. Receives direction and guidance from others.

Utility Worker4: Established utility worker gaining experience. Receives direction and guidance from others.

Utility Worker5: Experienced utility worker. Works with some supervision and guidance.

Utility Worker 6: Experienced utility worker. Works independently.

Utility Worker 7: Lead utility worker/supervisor. Works independently and gives guidance to others. Has responsibility for one utility area (e.g. sewer or water distribution, streets and sidewalks, equipment).

Utility Supervisor 8: Utility supervisor. Receives some guidance and supervision from others. Participates in all aspects of utility operations. Sets work priorities and tasking. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Takes a lead role in configuration management. Prepares the department budgets with guidance.

Utility Supervisor 9: Senior utility supervisor. Works independently and supervises others. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Works closely with the city engineer in planning improvements to city infrastructure. Acts as city liaison for construction projects. Sets priorities and assigns tasks. Ensures effective configuration management. Prepares the department budgets with some guidance.

Utility Supervisor 10: Senior utility supervisor. Works independently and supervises others. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Works closely with the city engineer in planning improvements to city infrastructure. Acts as city liaison for construction projects. Sets priorities and assigns tasks. Ensures effective configuration management. Prepares the department budgets with some guidance.

Utility Supervisor 11: Senior utility supervisor. Works independently and supervises others. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Works closely with the city engineer in planning improvements to city infrastructure. Acts as city liaison for construction projects. Sets priorities and assigns tasks. Ensures effective configuration management. Prepares the department budgets with some guidance. Experienced and possesses necessary skills for position and/or is highly capable of seeking needed resources.

Plant Operator 5: Entry-level plant operator. Receives direction and guidance from others. Capable of some plant operations and minor repairs without assistance. Communicates plant status to others. Performs other Public Works duties.

Plant Operator 6: Established with at least one year of full-time plant operation experience. Receives direction and guidance from others. Capable of most routine plant operations and minor repairs without assistance. Communicates plant status to others verbally, in writing and through

means of computer file transfers. Primary duties are plant operations. Performs other Public Works duties.

Plant Operator 7: Experienced plant operator with at least two years of full-time plant operation experience. Receives direction and guidance from others. Capable of most routine plant operation and minor repairs without assistance. Communicates plant status to others verbally, in writing and through means of computer file transfers. Primary duties are plant operations. Performs other Public Works duties.

Plant Operator 8: Experienced plant operator with at least four years of full-time plant operation experience. Receives some direction and guidance from others. Provides some supervision and guidance to others. Capable of plant operations requiring the exercise of judgment, including making process adjustments and moderate repairs without supervision. Communicates plant status to others verbally, in writing and through means of computer file transfers. Primary duties are plant and systems operations.

Plant Operator 9: Lead plant operator/plant supervisor with at least five years of full-time plant operation experience. Works independently and supervises others. Capable of plant operations requiring the exercise of judgment, including making any and all process adjustments and complex repairs without supervision. Submits reports to DOH/DOE. Communicates plant status to others verbally, in writing and through means of computer file transfers. Primary duties are systems operations and supervision.

Plant Operator 10: Senior plant operator/plant supervisor with at least five years of full-time plant operation experience combined with demonstrated supervisory experience. Works independently and supervises others. Capable of plant operations requiring the exercise of judgment, including making any and all process adjustments and complex repairs at the plant and throughout the entire distribution system without supervision. Submits reports to DOH/DOE. Communicates plant status to others verbally, in writing and through means of computer file transfers. Sets priorities and assists in preparing/managing the budget. Primary duties are systems operations and supervision.

Plant Operator 10: Senior plant operator/plant supervisor with at least eight years of full-time plant operation experience combined with demonstrated supervisory experience. Works independently and supervises others. Capable of plant operations requiring the exercise of judgment, including making any and all process adjustments and complex repairs at the plant and throughout the entire distribution system without supervision. Submits reports to DOH/DOE. Communicates plant status to others verbally, in writing and through means of computer file transfers. Sets priorities and assists in preparing/managing the budget. Primary duties are systems operations and supervision.

Mechanic 7: Entry-level mechanic. Capable of maintaining vehicles and equipment with some supervision and guidance.

Mechanic 8: Experienced mechanic. Capable of maintaining vehicles, equipment and city infrastructure equipment with minimum supervision and guidance. Sets own priorities. Supervises others, as necessary.

Mechanic 9: Senior mechanic. Capable of maintaining vehicles, equipment and city infrastructure equipment without supervision. Sets own work schedules and priorities. Supervises others.

Utility Manager 7: Entry-level utility manager. Receives guidance and supervision from others. Participates in some aspects of utility operations and management. Sets work priorities and tasking. Ensures quality and efficiency of operations. Participates in configuration management. Assists in developing the department budget.

Utility Manager 8: Experienced utility manager. Receives some guidance and supervision from others. Participates in all aspects of utility operations and management. Sets work priorities and tasking. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Takes a lead role in configuration management. Prepares the department budgets with guidance.

Utility Manager 9: Experienced utility manager/director. Works independently. Participates in all aspects of utility operations and management. Sets work priorities and tasking. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Works closely with the city engineer in planning improvements to city infrastructure. Acts as city liaison for construction projects. Provides management information on status of the city infrastructure and does tradeoff analysis in problem solving and in proposing changes. Ensures effective configuration management. Prepares the department budgets with some guidance.

Utility Manager 10: Senior utility manager/director. Participates in all aspects of utility operations and management. Sets work priorities and tasking. Ensures quality and efficiency of operations. Makes continual improvements for efficiency and quality of operations. Works closely with the City Engineer in planning improvements to city infrastructure. Acts as city liaison for construction projects. Provides management information on status of the city infrastructure and does tradeoff analysis in problem solving and in proposing changes. Conceive and effectively executes improvement projects without supervision. Ensures effective configuration management. Prepares the department budget without guidance.

Fire Administrator 7: Reports directly to the Fire Chief and participates in the development and maintenance of all emergency management plans, support materials, reports and related documents. Conducts directed research, as well as independent internet-based research on a variety of emergency management and related topics. Develops or compiles documents, correspondence and materials, including all programmatic reports, as well as awards from non-government funding sources. Monitors and maintains federal, state, allied organization, professional and county newsletters, reports and related documents as directed.

Fire Administrator 8: Reports directly to the Fire Chief and works with little or no supervision under the Fire Chief's directions and performs the duties of Fire Administrator 7, as required. Obtains and perform duties as an EMT and Firefighter, respiratory testing officer for SCBA face piece and M95 mask fit tests and directs the training or assigns instructors to training classes. The Fire Administrator 8, documents all training and Fire/EMS requirements for compliance with National Fire Incident Reporting System, L&I, NFPA and FEMA standards, including evaluating fire station and fire ground safety standards procedures and enforcement. Fire Administrator 8, also records vehicle, station and equipment inspections, records and files personnel accident reports, create fire department related forms, performs or directs firefighters in station maintenance duties and participates in those duties. The Fire Administrator along with the Fire Chief, councils, evaluates and gives corrective disciplinary actions to department members. In the absence of Chief Fire Officers at an emergency incident performs as the Incident Commander until relieved.

Fire Administrator 9: Reports directly to the Fire Chief and performs the duties of Fire Administrator 7 & 8, as required. Attend workshops and training on current ordinances, regulations and building codes, participates in fire safety programs and distribution of fire prevention materials and smoke detectors. Fire Administrator 9, works with other fire jurisdictions on fire and natural disaster training, drill planning and fire standards. The Fire Administrator documents arson fires, fire statistics, create fire maps, publications and presentations.

Fire Administrator 10: Reports directly to the Fire Chief and assist the Fire Chief with the inspection of properties to ensure compliance with fire codes, ordinances and laws. Review building plans with the Fire Chief and document needed changes, corrections and violations. Perform the duties of Fire Administrator 7, 8, & 9, as needed, or duties as directed by the Fire Chief.

Fire Chief 8: Reports directly to the Mayor, plans, organizes, directs and evaluates the Ilwaco Volunteer Fire Department, which protects lives and property from fire and hazardous incident damage. Provides timely emergency medical services in the City of Ilwaco and other neighboring municipalities, which have contracted for fire protection services. Ensures the department incorporates up-to-date, efficient fire prevention, fire suppression, hazardous incident mitigation and emergency medical technologies into its procedures, equipment and methods. Recruits, performs back ground checks and trains new volunteer firefighters.

Fire Chief 9: Reports directly to the Mayor, and the Fire Chief will administer, plan, direct and control all aspects of the Ilwaco Volunteer Fire Department including the administration, fire suppression, fire prevention and rescue activities of the department as authorized by and incompliance with all City Ordinances, State or Federal laws. The Fire Chiefs administrative duties include the direct control of equipment purchasing, department expenditures, the preparation of the budget and the hiring, assigning, or the appointment and termination of

Officers and Volunteer members. The Fire Chief is responsible for Fire Code review, corrective code improvements, the compliance and the approval of building plans. The Fire Chief shall carry out all of the duties included in Fire Chief 8, and additional duties as required.

Fire Chief 10: Reports directly to the Mayor, and the Fire Chief will develop a long-range capital plan for apparatus replacement, personnel changes, the need for additional fire stations, the maintenance of all of the fire facilities, the relocation and/or replacement. The Fire Chief will participate in local and regional emergency preparedness drills and the planning process. The Fire Chief shall ensure that adequate mutual aid agreements are in place for major emergency incidents. The Fire Chief shall carry out all of the duties included in Fire Chief 8 and 9, and, any additional duties as required.

Fire Chief 11 Reports directly to the Mayor and shall carry out all duties included in Fire Chief 8, 9 and 10, and, any additional duties as required. The Fire Chief shall ensure that the Mayor, Council and all Department heads, and staff participate in Natural Disaster preparedness drills, the understanding of the National Incidents Management System (NIMS), including their job requirements, responsibilities and Federal Documentation requirements during a disaster.

Fire Chief 12 Reports directly to the Mayor and shall carry out all duties included in Fire Chief 8, 9, 10 and 11, and, represents the department at various local and state training seminars, hearings and meetings. Fire Chief 12 is responsible for managing and coordinating and serving as Incident Commander (IC) in the City's Emergency Operation Center (EOC) during Major Events.

**CITY OF ILWACO
ORDINANCE NO. 834 EXHBIT B**

2015 PAY TABLE (Effective January 1, 2015)

2015

City of Ilwaco
Exempt Employee Annual Salary Scale

Step	1	2	3	4	5	6	7	8	9	10
Grade	Years to Step									
		1	1	1	2	2	2	3	3	3
3	22517	23268	24018	24769	25520	26271	27022	27773	28524	29274
4	25276	26119	26962	27804	28647	29490	30332	31175	32018	32860
5	28280	29223	30166	31109	32053	32996	33939	34882	35825	36769
6	31524	32575	33626	34678	35729	36781	37832	38883	39935	40986
7	35031	36198	37365	38533	39700	40867	42034	43202	44369	45536
8	38795	40088	41381	42674	43967	45260	46553	47846	49139	50431
9	42850	44278	45707	47135	48564	49992	51421	52849	54278	55706
10	47188	48760	50333	51906	53479	55051	56624	58197	59770	61342
11	51907	53635	55362	57078	58807	60512	62237	63965	65692	67420
12	57674	59594	61513	63420	65341	67236	69152	71072	72991	74911

2015

City of Ilwaco
Non-Exempt/Hourly Employee Hourly Rate of Pay Scale

Step	1	2	3	4	5	6	7	8	9	10
Grade	Years to Step									
		1	1	1	2	2	2	3	3	3
3	10.83	11.19	11.55	11.91	12.27	12.63	12.99	13.35	13.71	14.07
4	12.15	12.56	12.96	13.37	13.77	14.18	14.58	14.99	15.39	15.80
5	13.60	14.05	14.50	14.96	15.41	15.86	16.32	16.77	17.22	17.68
6	15.16	15.66	16.17	16.67	17.18	17.68	18.19	18.69	19.20	19.70
7	16.84	17.40	17.96	18.53	19.09	19.65	20.21	20.77	21.33	21.89
8	18.65	19.27	19.89	20.52	21.14	21.76	22.38	23.00	23.62	24.25
9	20.60	21.29	21.97	22.66	23.35	24.03	24.72	25.41	26.09	26.78
10	22.69	23.44	24.20	24.95	25.71	26.47	27.22	27.98	28.74	29.49
11	24.96	25.79	26.62	27.44	28.27	29.09	29.92	30.75	31.58	32.41
12	27.73	28.66	29.58	30.49	31.41	32.32	33.24	34.17	35.09	36.01

**CITY OF ILWACO
RESOLUTION NO. 2015-XX**

A RESOLUTION OF THE CITY OF ILWACO, WASHINGTON, REQUIRING IDENTIFICATION AND PUBLICATION OF PRIVATE SEWER MAINS.

WHEREAS, it is the desire of the City Council to further the establishment of documentation of City-identified private sewer mains,

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

The City shall publish by March 31, 2015, a map of private sewer mains, a list of those sewer mains using a naming convention deemed suitable for identification and clarity in written correspondence and a list of tax parcels connected to each of those private sewer mains.

The City shall maintain this list with current information thereafter.

PASSED BY THE CITY COUNCIL OF THE CITY OF ILWACO, AND SIGNED IN AUTHENTICATION OF ITS PASSAGE THIS ____ DAY OF _____, 2014.

Mike Cassinelli, Mayor

ATTEST:

Holly Beller, Deputy City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Forner	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

EFFECTIVE:

**CITY OF ILWACO
ORDINANCE NO. XXX**

AN ORDINANCE OF THE CITY OF ILWACO, WASHINGTON, AMENDING CHAPTER 14 AND ESTABLISHING PROVISIONS FOR PRIVATE SEWERS IN THE ILWACO MUNICIPAL CODE

WHEREAS, IMC Title 14 refers to “side sewers” but has no definition for side sewers; and

WHEREAS, the City has identified private sewer mains but has no definition for private sewer mains; and

WHEREAS, the IMC does have terms and conditions for the construction and maintenance of (by definition) private **side sewers**; and

WHEREAS, the IMC does not have explicit terms and conditions for the construction and maintenance of private sewer **mains**; and

WHEREAS, the City has begun the process of identifying those private sewer mains that exist in the City; and

WHEREAS, the City has used ad hoc identification of private sewer mains and imposed terms and conditions regarding private maintenance those sewer mains; and

WHEREAS, the IMC has no corresponding terms and conditions for construction and maintenance to match the current terms and conditions for construction and maintenance for (by definition) private side sewers; and

WHEREAS, the City Council recognizes the need for clarity of language used regarding private ownership and responsibility of certain sewers in general; 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 14 is amended to read as follows:

14.02.020

Definitions.

For the purpose of this chapter and the city of Ilwaco developer standards, the following terms, in addition to their common meaning, are defined:

- A. "City engineer" shall mean an engineer employed or contracted by the city on either a part-time or full-time basis. (Ord. 832 § 1 (part), 2014)
- B. **"Side sewer" means a privately owned and maintained sewer connection between a building approved wastewater outlet, or other approved facility, to the nearest or most reasonable sewer system main line, public or private, or other approved discharge point.**
- C. Private sewer main" means a privately owned and maintained sewer main which has the characteristics: 1) running generally in or along a city street or platted city street right of way or in an established public or private utility easement whether improved or not; 2) connected or connectable to receive wastewater from other sewer mains or adjacent parcel side sewers whether improved or not improved; 3) discharges either directly or indirectly into an established City sewer main or other approved discharge point.

Chapter 14.06

UTILITIES

Sections:

Article I. General

- 14.06.110 Side sewer permits required.
- 14.06.115 Private sewer main permits required.**
- 14.06.116 New private sewer mains must meet City standards for sewer mains**
- 14.06.117 New private sewer mains to become part of the City Wastewater Utility**
- 14.06.120 Costs of side sewer borne by owner.
- 40.06.122 Costs of private sewer main repairs borne by owners**
- 14.06.130 Side sewer permitting process.

14.06.110

Side sewer permits required.

- A. A developer must obtain a side sewer permit for any connection to the city sewer system.
- B. A permit which includes side sewer work in a public area or the connection with or opening into any public sewer other than through the normal connection point of a "Y," "T," or stub, will only be issued to a registered side sewer contractor or qualified city employee.
- C. A permit which includes side sewer work on private property will only be issued to:
 - 1. The owner of the property (but such permit does not allow the owner to connect the side sewer to a public sewer except through the normal opening of a "Y," "T," or stub under the supervision of the city engineer or his representative);
 - 2. A registered sewer contractor; or
 - 3. A qualified city employee.
- D. Side sewer permits are not transferable. No authorized person, including any sewer contractor or qualified city employee, may lay any pipe pursuant to any other person's permit.

E. No permit will be issued for side sewer connection before the main sewer is accepted by the city. (Ord. 832 § 1 (part), 2014; Ord. 627 (part), 1999. Formerly 15.76.110)

14.06.115

Private sewer main permits required.

A. A developer must obtain a permit for any private sewer main installation (generally in a City right of way whether improved or unimproved or in an established utility easement on private property) and connection to the city sewer system. Permits will be issued in accordance with the requirements of .76.116

B. A permit which includes sewer main installation in a public area or the connection with or opening into any public sewer will only be issued to a registered sewer contractor or qualified city employee.

C. A permit for sewer main installation on private property will only be issued if there is a City-approved, established and recorded, public utility easement.

D. Sewer main installation permits are not transferable. No authorized person, including any sewer contractor or qualified city employee, may lay any pipe pursuant to any other person's permit.

E. The developer must indemnify the city from any loss or damage that may directly or indirectly be caused by the installation of the private sewer main. (Ord. 812 § 1 (part), 2012; Ord. 627 (part), 1999)

14.06.116

New private sewer mains must meet City standards for sewer mains.

A. Sewer main installation permits must be based on a design that meets the City Development Standards per 14.02.10 and is approved by the City Engineer. This requirement includes, and is not limited to, location, materials, manholes and similar accessibility for maintenance.

14.06.117

New private sewer mains to become part of the City Wastewater Utility

A. Upon completion of construction and acceptance by the City, the owner shall convey ownership and responsibility for sewer mains constructed after January 1, 2015 in

accordance with 14.06.010. In extraordinary circumstances and upon approval of the City Council, the City may opt to decline such transfer.

14.06.120

Costs of side sewer borne by owner.

A. The property owner must pay all costs and expenses related to the installation and connection of the side sewer, as well as the cost of repairs when:

1. There is a break or blockage in the side sewer within private property or within the building plumbing.

2. The blockage is located within the public right-of-way or easement and is caused by one (1) or more of the following:

a. Roots from trees or shrubs located outside public rights-of-way or easements.

b. Side sewer or mainline is blocked from sewage contents originating from private property.

c. Side sewer within the public right-of-way or easement is blocked by debris originating from a break in the side sewer within private property.

d. An investigation revealed that the source of the blockage originated from private property including adjacent private properties.

B. The owner must indemnify the city from any loss or damage that may directly or indirectly be caused by the installation of the side sewer. (Ord. 832 § 1 (part), 2014; Ord. 812 § 1 (part), 2012; Ord. 627 (part), 1999. Formerly 15.76.120)

14.06.122

Costs of private sewer main repairs borne by owners.

A. The property owners with side sewers connecting to a private sewer main must pay all costs and expenses related to the repairs of the private sewer main, including any necessary resulting repairs, meeting City standards, to sidewalks and streets.

B. Failure to act in a timely manner to effect necessary repairs by the property owners with side sewers connecting to a private sewer main can result in the City taking the necessary action to assure public health and safety. In addition to effecting necessary repairs, such action may include provisions to assure payment such as terminating public utility services and imposing liens on the properties. In such case, the City shall apply City standards for construction and replacement.

C. The owner must indemnify the city from any loss or damage that may directly or indirectly be caused by the installation of the private sewer main. (Ord. 812 § 1 (part), 2012; Ord. 627 (part), 1999)

D. Any agency or entity performing maintenance and construction of streets, sidewalks, pipelines and similar activities that causes damage to the integrity of a private sewer line shall pay all costs and expenses related to the repairs of the private sewer. Should repairs and/or replacement that are implemented according to plans approved by the City engineer bring an existing private sewer line to City standards, provisions for the City taking over the line shall be as provided for in IMC 15.76.117 including City acceptance.

Section 2. 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 3. Referendum and Effective Date. This Ordinance, being an exercise of a power specifically delegated to the city legislative body, is not subject to referendum, and shall take 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 AUTHENTICATION OF ITS PASSAGE THIS _____ DAY OF _____, 2015.

Mike Cassinelli, Mayor

ATTEST:

Holly Beller, Deputy City Clerk

VOTE	Jensen	Karnofski	Marshall	Chambreau	Fornier	Cassinelli
Ayes						
Nays						
Abstentions						
Absent						

PUBLISHED: Month date, Year

EFFECTIVE: Month date, Year

**CITY OF ILWACO
RESOLUTION NO. 2015-XX**

A RESOLUTION OF THE CITY OF ILWACO, WASHINGTON, GIVING NOTICE OF A PUBLIC HEARING FOR A VACATION OF A PORTION OF PUBLIC RIGHT-OF-WAY

WHEREAS, The owners of an interest in any real estate abutting upon any street or alley who may desire to vacate the street or alley, or any part thereof, may petition the legislative authority to make vacation, giving a description of the property to be vacated, and

WHEREAS, the petition is signed by the owners of more than two-thirds of the property abutting upon the part of such street or alley sought to be vacated, legislative authority by resolution shall fix a time when the petition will be heard.

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

Section 1. The petition will be heard and determined by City Council during the Regular Meeting scheduled for April 13, 2015.

Section 2. 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 AUTHENTICATION 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:

Resolution 2015-XX

Page 1 of 1



120 First Avenue North
PO Box 548 • Ilwaco, WA 98624
Phone: 360.642.3145
Fax: 360.642.3155
info@ilwaco-wa.gov
www.ilwaco-wa.gov

March 5, 2015

To: City Council
From: Ryan E. Crater, City Planner
Re: Knutzen – Road Vacation (RDV15-0001)

A. GENERAL INFORMATION

- 1. Petitioner:** Doug Knutzen
P.O. Box 549
Seaview, WA 98644
- 2. Surveyor:** otak
Dale N. Barrett
4253-A Hwy 101 N.
Gearhart, OR 97138
- 3. Location:** Access from Intersection of SR 100 Loop (Robert Gray Dr.) to, C Street and Third Street in the Platt of Ocean View.
- 4. Property Information:** Tax Parcels to receive portions of the vacated street.
Tax Parcel # 73018014806; Legal Description: *Ocean View 14 06 E25*
Tax Parcel # 73018013001; Legal Description: *Ocean View 13 01; Lots 2,3 Plus ½ Vac St, LS CO RD; Lots 4,6 LS RD.*
- 5. Road Vacation Area:** 7,500 square feet
- 6. Area to be Vacated:** A portion of C Street per the Plat of Ocean View as recorded in Volume D-1 of Plats at Page 12 in the office of the Pacific County Auditor, more particularly described as follows:
- Beginning at the southwest corner of Block 13, Plat of Ocean View; Thence north 89°07'34" west, A distance of 50.00 feet to the southeast corner of Block 14, Plat of Ocean View; Thence along the east line of said Block 14, north 00°52'26" east, a distance of 150.00 feet to the northeast corner of Block 14, Plat of Ocean View;

Thence south 89°07'34" east, A distance of 50.00 feet to the northwest corner of Block 13, Plat of Ocean View; Thence along the west line of said Block 13, south 00°52'26" west, A distance of 150.00 feet to the point of beginning. Containing 7,500 square feet.

7. Attachments:

Attachment 1: Master Planning Permit Application
Attachment 2: Site Maps

B. BACKGROUND:

The petitioner is requesting the Ilwaco City Council to vacate a 7,500 sq. ft. portion of C St. adjacent to State Route 100 Loop. C Street abuts Third St. to the south and Second St. to the north. Both abutting public right of ways are currently unimproved with no public utilities. The portion of C St. being requested to be vacated is also an unimproved public right of way. The portion of C St. covered by the petition does not provide access to adjacent land owners and will not land lock a parcel of land. The petitioner currently owns both sides of C St. requested for vacation under this petition.

C. PROPERTY DETAILS:

Comprehensive Plan Land Use Designation: No current land use designation.

Shoreline Master Program: Not applicable

SEPA: Not applicable

Zoning: R-3 Resort District

Utilities and Services:

- **Water:** Well
- **Sewer:** On-site septic system
- **Transportation:** Property is accessed by an existing driveway from S.R. 100 Loop (Robert Gray Dr.)
- **Public Education:** Ocean Beach School District
- **Electricity:** PUD No. 2
- **Storm water and Drainage:** On site
- **Solid Waste:** Peninsula Sanitation
- **Police:** City of Long Beach
- **Fire:** City of Ilwaco
- **Medical and Emergency Facilities:** City of Ilwaco, Medix ambulance service, and Ocean Beach Hospital District
- **Library:** Timberland Regional Library in Ilwaco
- **Public Parks and Recreation Area(s):** City of Ilwaco and State Parks
- **Public Transit:** Available in the City of Ilwaco

D. PETITION REVIEW:

This review is used to determine whether the proposed road vacation will impact adjacent landowners as well as existing or proposed public right of way improvements and future city utilities.

1. Compliance with the Comprehensive Plan and Zoning District:

Comprehensive Plan

The City of Ilwaco incorporated the section of land east of SR 100 Loop under Ordinance No. 613 on July 13, 1998. This section of land includes the ocean beach, accreted lands, and upland locations bordering SR 100 Loop. The Knutzen parcels are included within the upland section at the top of the hill adjacent to SR 100 Loop in the Platt of Ocean View, Block 13 and 14. The City has not yet provided the area covered under the 1998 annexation with a Land Use Designation under the Comprehensive Plan.

Zoning

The Knutzen parcels are currently zoned as Resort District (R-3).

Staff Findings: This petition to vacate a portion of public right-of-way known as C St between Block 13 and 14 within the Platt of Ocean View does not conflict with the Comprehensive Plan or the Zoning Regulations.

2. Parcel Size & Yard Setback Requirements:

The proposed road vacation will not result in a parcel of land being created that would be considered non-conforming under the Zoning Regulations. The proposed road vacation will also not create an existing structure to enter into a non-conforming status. The proposed road vacation will increase the conformity of Mr. Knutzen's existing lots and existing adjacent single family residence and associated structures.

Mr. Knutzen is considering expanding his existing Single-Family Residence, which the proposed road vacation will allow for expansion of the existing structure and meet property line setbacks. The existing land is also necessary to obtain a secondary drain field for the existing on-site septic system. This is necessary to maintain a distance of 100 feet from the existing well used for domestic purposes. *(Note: The land owner is not required to hook up to city sewer or water until such time the city provides infrastructure adjacent to the property to do so. The parcel has been served by an onsite septic and well prior to the City annexing this property in 1998 and is allowed to be maintained.)*

3. Project Review / Public Notice

Per Title 15.08.080(A), this Road Vacation is exempt from the "Notice of Application" requirements.

Per Title 15.94.030(A), this Petition for Vacation of a Public Right-of-Way requires that notice must be posted in three public places in the city and in a conspicuous place on the street or alley sought to be vacated. It also requires notice to be mailed to adjacent property owners abutting any part of the portion of street to be vacated.

Staff Comments: Public notice requirements were met regarding this petition. The proposed area to be vacated is abutted by the petitioner in its entirety.

4. Vacation of Public Right-of-Way Regulations:

Petitions to vacate public right-of-ways are contained under Title 15.94 of the Ilwaco Municipal Code.

5. Title 15.94 – Vacation of Public Rights-of-Way

15.94.010 Petition by owners.

A. The owners of an interest in any real estate abutting upon any street or alley may petition the city council to make vacation, giving a description of the property to be vacated.

B. The city council itself may also initiate a street vacation procedure.

C. The petition or resolution must be filed with the city clerk-treasurer.

15.94.020 Setting date for hearing.

A. If the petition is signed by the owners of more than two-thirds of the property abutting upon the street or alley sought to be vacated, the city council will by resolution set a date when the petition will be heard and decided upon.

B. The date must be not more than sixty (60) days nor less than twenty (20) days after the date of the passage of such resolution.

15.94.030 Notice of hearing.

A. Upon passage of the resolution the city clerk must post notice of the petition in three public places in the city and a notice in a conspicuous place on the street or alley sought to be vacated. The notice must contain:

1. A statement that a petition has been filed to vacate the street or alley described in the notice; and;

2. A statement of the time and place for the hearing of the petition.

B. If the proceeding is initiated by resolution of the city council and not by property owners, the notice described in subsection A above must be mailed to the owners of property abutting upon any part of a street or alley sought to be vacated, as shown on the rolls of the county treasurer, at least fifteen (15) days before the date fixed for the hearing; provided, that if fifty (50) percent of the abutting property owners file written objection to the proposed vacation with the city clerk, before the hearing, the city will not proceed with the resolution.

15.94.040 Hearing—Ordinance of vacation.

A. The hearing on the petition must be held by the city council. If the city council decides to grant the petition or any part of it, the city council may by ordinance vacate the street or alley.

B. The ordinance will provide that the ordinance will not become effective until the owners of property abutting upon the street or alley so vacated, will compensate the city in an amount which

does not exceed one-half the appraised value of the area so vacated, except in the event the subject property was acquired at public expense, compensation may be required in an amount equal to the full appraised value of the vacation; provided, that the ordinance may provide that the city retain an easement or the right to exercise and grant easements in respect to the vacated land for the construction, repair and maintenance of public utilities and services.

- C. The petitioning parties are responsible for arranging and paying for the appraisal.
- D. If the city is initiating the vacation, it is responsible for arranging and paying for the appraisal.

15.94.050 Record ordinance.

A certified copy of the ordinance must be recorded by the city clerk-treasurer and with the Pacific County auditor.

15.94.060 Limitations on vacations of streets abutting bodies of water.

A. The city may not vacate a street or alley if any portion of the street or alley abuts a body of fresh or salt water unless:

1. The vacation is sought to enable the city to acquire the property for port purposes, beach or water access purposes, boat moorage or launching sites, park, public view, recreation or educational purposes, or other public uses;
2. The city council by resolution declares that the street or alley is not presently being used as a street or alley and that the street or alley is not suitable for any of the following purposes: port, beach or water access, boat moorage, launching sites, park, public view, recreation or education; or
3. The vacation is sought to enable the city to implement a plan, adopted by resolution or ordinance, that provides comparable or improved public access to the same shoreline area to which the streets or alley sought to be vacated abut, had the properties included in the plan not been vacated.

B. Before adopting a resolution vacating a street or alley under subsection A2 above, the city must:

1. Compile an inventory of all rights-of-way within the city that abut the same body of water that is abutted by the street or alley sought to be vacated;
2. Conduct a study to determine if the street or alley to be vacated is suitable for use by the city for any of the following purposes: port, boat moorage, launching sites, beach or water access, park, public view, recreation or education;
3. Hold a public hearing on the proposed vacation in the manner required by this chapter, where in addition to the normal requirements for publishing notice, notice of the public hearing is posted conspicuously on the street or alley sought to be vacated, which posted notice indicates that the area is public access, it is proposed to be vacated, and that anyone objecting to the proposed vacation should attend the public hearing or send a letter to a particular official indicating his or her objection; and
4. Make a finding that the street or alley sought to be vacated is not suitable for any of the purposes listed under subsection A2 above, and that the vacation is in the public interest.

C. No vacation will be effective until the fair market value has been paid for the street or alley that is vacated. Money received from the vacation may be used by the city only for acquiring additional beach or water access, acquiring additional public view sites to a body of water, or acquiring additional moorage or launching sites.

Staff Comments: The proposed road to be vacated does not provide access to a body of fresh or salt water.

15.94.070 Title to vacated street or alley.

If any street or alley is vacated by the city council, the property within the limits so vacated will belong to the abutting property owners, one-half to each.

15.94.080 Vested rights not affected.

No vested rights are affected by the provisions of this chapter.

Staff Comments: The petition is being reviewed in compliance with the above city code.

E ENVIRONMENTAL REVIEWS:

A petition to vacate a public right-of-way is "Categorically Exempt" from the Washington State Environmental Policy Act (SEPA) per WAC 197-11-800 (2)(i) "*The vacation of streets or roads.*"

This petition to vacate a public right-of-way is in compliance with the City of Ilwaco Critical Areas Ordinance No. 614.

No additional environmental review is necessary beyond what has been reviewed in this staff report.

F CITY STAFF REVIEW:

Fire Chief: Chief Williams identified no issues with the requested road vacation.

City Engineer: Nancy Lockett stated the need for a utility easement would depend on if State Parks found it necessary. They are the only property owner that could be potentially affected if the street was vacated. Nancy stated the minimum utility easement for water and sewer is 20 feet to allow a 10 foot separation between water and sewer lines and to provide room to maintain them if necessary.

Planners Response to City Engineer Review: The land under the ownership of State Parks just Northwest of Second St. goes from Elevation 170 ft. to 19 ft. within the span of 150 ft. Developing the section of C St. covered under this petition to allow access would not be feasible given the topographical constraints and regulations contained under Ordinance No. 614 (Critical Area Regulations), specifically Section 10 (Geologically Hazardous Areas Regulations). The parcel owned by State Parks contains approximately 120 acres and can be accessed via the Pacific Ocean side and other locations that are more feasible. It should be noted that State Parks maintains this area in a natural state to protect the important ecology of this area known as the Seaview Dunes. It is unlikely State Parks will require access through C St. to the Seaview Dune area below in the foreseeable future given the monetary cost to develop such access.

Additionally, within the Platt of Ocean View, Third St. running west from S.R. 100 Loop provides a public right-of-way to the same parcel owned by State Parks. State Parks also has access directly

off of S.R. 100 Loop just south of C St. as well as off a public right-of-way heading west from Willows Rd. Each of these right-of-ways provides sufficient and reasonable access and location of future city utility services for State Parks regarding proposed future uses within Seaview Dunes.

G FINDINGS OF FACT AND CONCLUSIONS OF LAW:

1. The petitioner is: Doug Knutzen
 P.O. Box 549
 Seaview, WA 98644
2. The petitioner is seeking approval from the Ilwaco City Council to vacate a portion of C Street in the Platt of Ocean View between Blocks 13 and 14 in accordance with Title 15.94.
3. Tax Assessor's Parcels 73018013001 and 73018014806 are each to receive ½ of the vacated portion of C Street.
4. The area to be vacated is 7,500 sq. ft., which two 3,750 sq. ft. sections will be added on to each adjoining lot.
5. Tax Parcel 73018013001 will increase in size from 3,750 sq. ft. to 7,500 sq. ft. thereby brining the lot into a conforming status from a non-conforming status under the Lot Area Requirements contained in 15.29.040.
6. Tax Parcel 73018014806 will increase in size from 20,037 sq. ft. to 23,787 sq. ft. The lot already conforms to existing Lot Area Requirements contained in Title 15.29.040.
7. The road vacation does not affect existing easements and will not affect access to adjoining properties.
8. The road vacation will not adversely affect access, parcel design or other public safety and welfare concerns.
9. The road vacation will not violate applicable zoning code requirements.
10. The road vacation does not conflict with the Comprehensive Plan.
11. The road vacation will not invalidate any existing easements.
12. A Petition for vacation of a public right-of-way was received by the City of Ilwaco on February 13, 2015.
13. The petition to vacate a public right-of-way does not vacate a street or alley that abuts a body of fresh or salt water.
14. This petition to vacate a public right-of-way is "Categorically Exempt" under SEPA pursuant to WAC 197-11-800 (2)(i) "*The vacation of streets or roads.*"
15. The City Council has jurisdiction to review and make a decision on this matter pursuant to Ilwaco Municipal Code Title 15.94.040.

16. The granting of this road vacation is in compliance with Title 15.94.
17. The granting of this road vacation will not be materially detrimental to public health or injurious to property or improvements thereon.
18. The granting of this road vacation will not materially compromise the goals and policies of the Comprehensive Plan or the spirit of the Unified Development Ordinance (Title 15).

H RECOMMENDED CONTITIONS OF APPROVAL

1. The applicant shall record the road vacation with Pacific County Auditor and send a copy to the Pacific County Assessor's office in order for the tax records to be adjusted.
2. A copy of the approval showing that it has been recorded must be returned to the city.
3. The approval of this road vacation will not be deemed final until the applicant(s) have complied with all conditions of approval.
4. The road vacation cannot violate any requirements or conditions of a previous land use action in which a legal easement was established.

I STAFF RECOMMENDATION

Staff recommends that City Council moves to **APPROVE** the street vacation petition presented by Mr. Knutzen.

J PLANNING COMMISSION RECOMMENDATION

On March 3, 2015, the Planning Commission recommended that City Council **APPROVE** the petition of street vacation requested by Mr. Knutzen.

K CITY COUNCIL ACTION (RESOLUTION)

In accordance with Chapter 15.94.030 of the Ilwaco Municipal Code and RCW 35.79.010, City Council shall "**by resolution**" fix a time when the petition will be heard during a Public Hearing. The Public Hearing shall not be more than sixty days nor less than twenty days after the date of the passage of said resolution.

Upon passage of the resolution, the City Clerk shall give twenty days' notice of the pendency of the petition by a written notice posted in three of the most public places in the city and like notice in a conspicuous place on the street sought to be vacated.

The notice must contain the following at the very minimum:

1. A statement that a petition has been filed to vacate the street or alley described in the notice; and
2. A statement of the time and place for the hearing of the petition.

L CITY COUNCIL ACTION (PUBLIC HEARING)

Decision

Option 1

Based upon the foregoing Findings of Fact and Conclusions of Law, the petition to vacate a portion of a public right-of-way under project number RDV15-0001 is **APPROVED** by City Council subject to the conditions above.

Option 2

City Council moves to **DENY** the road vacation petition RDV15-0001 to vacate the public right-of-way. This denial is not subject to an appeal process.


Ryan E. Crater
Planner – City of Ilwaco

3/5/15

Attachment 1
Master Planning Permit Application



FOR CITY USE ONLY	
Date Received	2/10/15
Fee Paid	yes
Type of Fee	2-13-15 - P.K.
Receipt #	
Received By	<i>[Signature]</i>

MASTER PLANNING PERMIT APPLICATION FORM

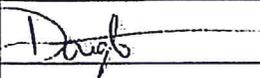
Application form must be accompanied by a submittal checklist for specific type of application and all application fees.

GENERAL INFORMATION	
Type of Application	ROAD VACATION
Name of Project	805 NORTH HEAD RD.

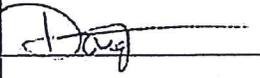
APPLICANT			
Name/Company	Doug KAUTZEN		
Address	Box 549	City/State/Zip	SEAVIEW, WA
Telephone	360-244-2720	Cell Phone	
Fax		Email	doug@boxkauto.com
If owner is different from applicant, what is the legal relationship of the applicant to the owner that entitles the applicant to make applications?			
Applicant			
Applicant's Signature	<i>[Signature]</i>	Date	FEB 10, 2015

REPRESENTATIVE (if different from Applicant)			
Name/Company	Applicant		
Address		City/State/Zip	
Telephone		Cell Phone	
Fax		Email	

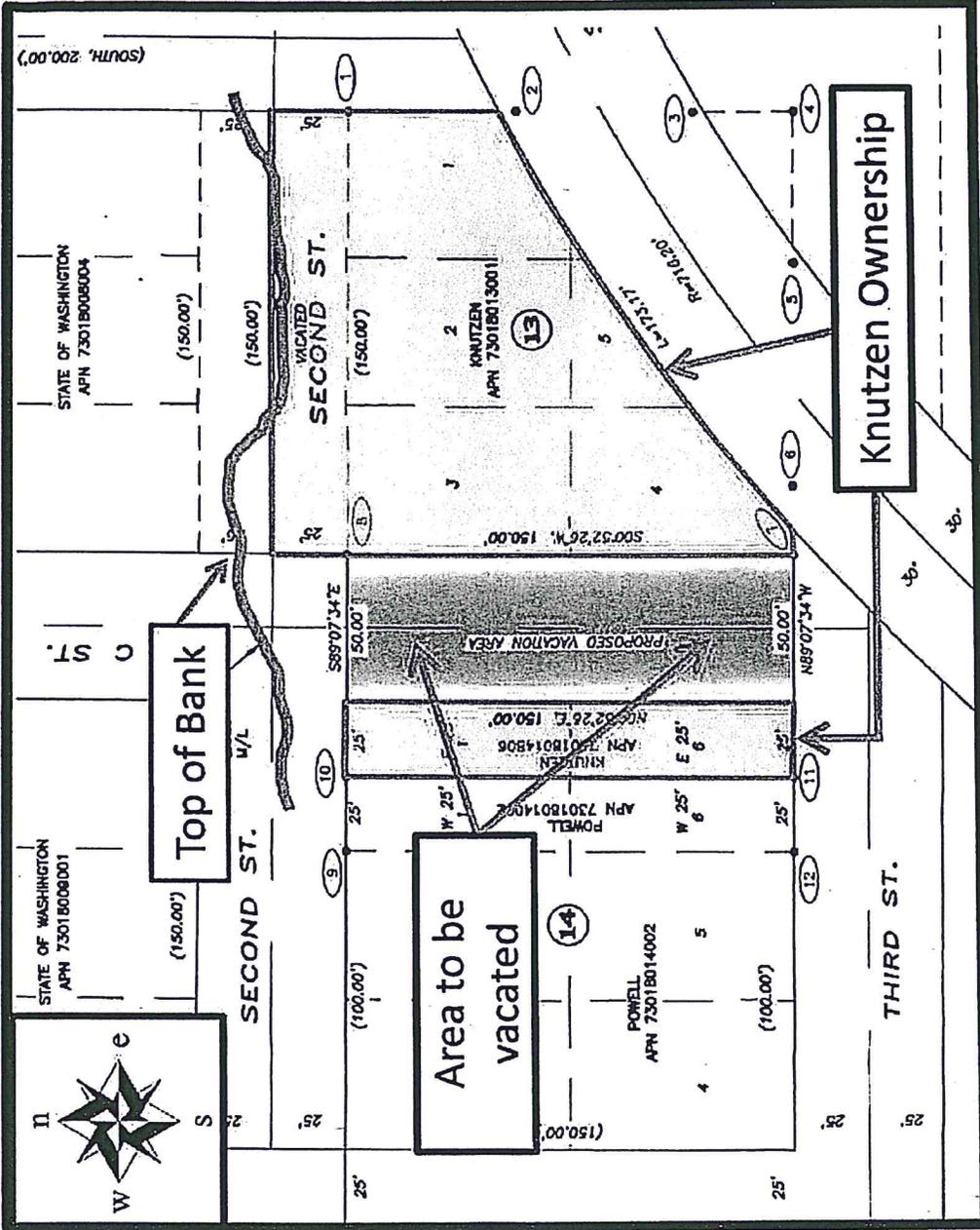
CONTACT PERSON/ENTITY (designate a single person/entity to receive determinations and notices from the city.)			
Name	Applicant		
Address		City/State/Zip	
Telephone		Cell Phone	
Fax		Email	

OWNER(S) (if different from Applicant)			
Name	Applicant		
Address			
City/State/Zip			
Telephone		Fax	
Email			
We, the undersigned, grant the applicant permission to use our property in the manner described in this application.			
Owner's Signature		Date	FEB 10, 2015
Owner's Signature		Date	
Owner's Signature		Date	

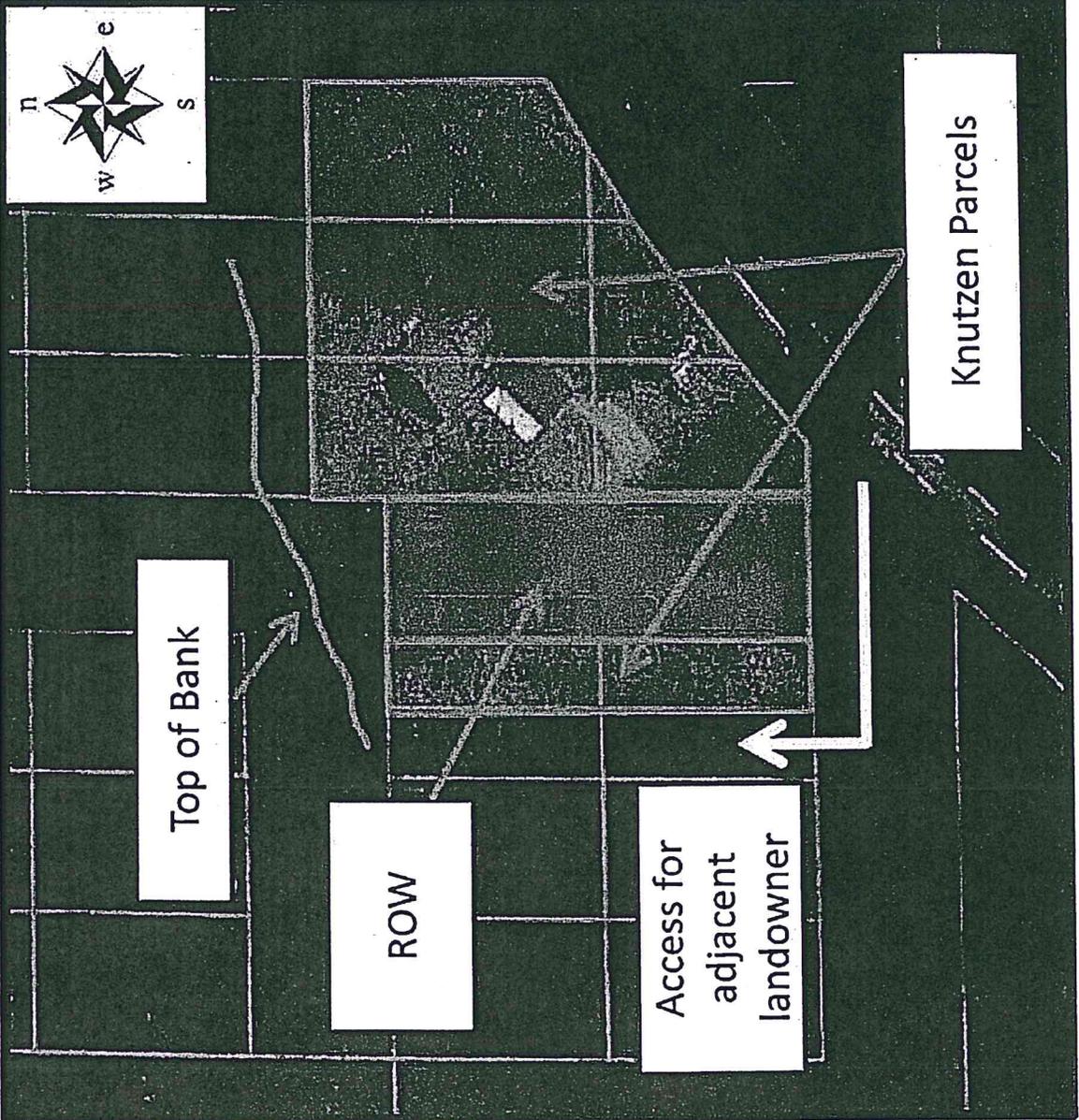
PROPERTY INFORMATION	
Property Address/Location	805 NORTH HEAD RD.
Assessor Parcel Nos.	73018013001
Current Zoning	R-3
Current Land Use	RESIDENTIAL
Proposed Land Use	RESIDENTIAL

LEGAL/FINANCIAL RESPONSIBILITY			
We, the undersigned, attest under penalty of perjury that the information in this application is true and accurate. We also acknowledge that it is our responsibility to understand and comply with all applicable federal, state and local regulations. Further, we agree that we shall be financially responsible for any and all engineering and planning services or other professional consulting/legal services deemed necessary by the city for the complete permit and plan review. These additional fees, if any, shall be paid in full prior to final signing of any permits, final plats, mylars, etc. (IMC 15-08-065).			
Signature		Date	FEB 10, 2015
Signature		Date	
Signature		Date	

Attachment 2
Site Maps



Knutzen – Road Vacation Petition (RDV15-0001)





AIG Property Casualty Insurance Agency, Inc.

December 11, 2014

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: 000398476-001

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 I J	\$1,000,000	\$1,000,000	\$50,000	1	\$24,779
	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
2	B D E G I J	\$1,000,000	\$1,000,000	\$50,000	3	\$43,858
	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
3	B D E G I J	\$2,000,000	\$2,000,000	\$50,000	1	\$33,823
	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
4	B D E G I J	\$2,000,000	\$2,000,000	\$50,000	3	\$59,866
	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
5	B D E G I J	\$3,000,000	\$3,000,000	\$50,000	1	\$40,328
	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
6	B D E G I J	\$3,000,000	\$3,000,000	\$50,000	3	\$71,379
	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
7	B D E G I J	\$5,000,000	\$5,000,000	\$50,000	1	\$52,035
	J	Limit \$5,000,000	Deductible	3 Days	Policy Aggregate	\$5,000,000

Option	Coverages	Each Incident Limit	Coverage Section Aggregate Limit	Deductible/SIR Amount	Term (Yrs)	Premium
8	B D E G I J	\$5,000,000	\$5,000,000	\$50,000	3	\$92,102
	J	Limit \$5,000,000	Deductible	3 Days	Policy Aggregate	\$5,000,000

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)

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.

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: December 11, 2014

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 ISURERS 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: \$1,115.00

Option 6 Terrorism Act Premium: \$3,212.00

Option 2 Terrorism Act Premium: \$1,974.00

Option 7 Terrorism Act Premium: \$2,342.00

Option 3 Terrorism Act Premium: \$1,522.00

Option 8 Terrorism Act Premium: \$4,145.00

Option 4 Terrorism Act Premium: \$2,694.00

Option 9 Terrorism Act Premium:

Option 5 Terrorism Act Premium: \$1,815.00

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.

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.

ENDORSEMENT NO. (Continued)

(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)

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.

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)

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 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)

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 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)

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:

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

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.

ENDORSEMENT NO. CONTINUED

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**

ENDORSEMENT NO. CONTINUED

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:
- How, when and where the Crisis Management Event is taking or took place;
 - The names and addresses of any injured persons and any witnesses; and
 - 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:
- Shall not be deemed to be a determination of the insured's liability with respect to any Claim or Loss under the Policy; and
 - 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)

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.

ILLCIT 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)

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.

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)

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.

EXPIRES 12/31/11

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
<u>The Abernathy MacGregor Group, Inc.</u>			
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	
<u>Ann Barks Public Relations</u>			
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).

Gladstone International, Inc.

1278 Glenneyre St.
Laguna Beach, CA
92651

Joan Gladstone (949) 633-9900
President and CEO
(949) 475-6979 Office
(949) 475-6978 Fax
(949) 633-9900 Cell
jgladstone@gladstonepr.com

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 (216) 241-3073
Managing Director
(216) 241-3073 Direct
(216) 241-0405 Office
(216) 780-7800 Cell
(216) 241-3073 Fax
mbarkett@dix-eaton.com

Public Relations,
Crisis Management
services.

Serving clients in the
Great Lakes region
and the Mid-West US.

Gary Pratt
Senior Vice President
(216) 241-4613 Direct
(216) 241-0405 Office
(440) 477-1278 Cell
gpratt@dix-eaton.com

O'Neil & Associates

31 New Chardon St.
Boston,
Massachusetts 02114

Andrew M. Paven (866) 989-4321
Senior Vice President
(866) 989-4321 Toll Free
(617) 646-1000 Office
(617) 646-1290 Fax
apaven@oneillandassociates.com

Public Relations, Crisis
Management services.

Serving clients in the
New England region.

Edelman

200 E. Randolph Street,
63rd Floor
Chicago, IL 60601

Harlan Loeb (866) 333-5911
Executive Vice President
(312) 240-2624 Direct
(312) 240-3000 Office
(312) 240-2900 Fax
(312) 282-5632 Cell
harlan.loeb@edelman.com

Public Relations,
Crisis Management
services.

Serving clients in the
US and
Internationally.

Jenifer Giller
Senior Account Executive
(312) 233-1272 Direct & Cell
(312) 240-3000 Office
(312) 240-2900 Fax
jenifer.giller@edelman.com

Fleishman-Hilliard International Communications, Inc.

John Hancock Center
200 East Randolph
Street, 37th Floor
Chicago, IL
60601

David Saltz (312) 729-3630
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

Public Relations,
Crisis Management
services.

Serving clients in the
US and
Internationally.

Rick Fox
Senior Vice President
(617) 729-3734 Direct
(312) 286-4983 Cell
(312) 751-8191 Fax
rick.fox@fleishman.com

Levick Strategic Communications, LLC

1900 M Street NW
Washington, D.C. 20036

Gene Grabowski (202) 270-6560
Senior Vice President
(202) 973-1351 Direct
(202) 270-6560 Cell
(202) 973-1301 Fax
ggrabowski@levick.com

Public Relations,
Crisis Management
services.

Serving the US,
Europe, Asia and the
Middle East.

Jason Maloni
Senior Vice President
(202) 973-1335 Direct
(202) 834-9677 Cell
Jason.maloni@levick.com

Marsh, Inc. (Reputational Risk & Crisis Management Group)

1166 Avenue of the
Americas
New York, NY 10036

Tracy Knippenburg Gillis (877) 246-2774
Managing Consultant
(212) 345-3886 Direct
(516) 661-0308 Cell
(516) 536-5845 Other

Public Relations,
Crisis Management
services.

(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 (917) 539-4000
Chairman and CEO
(212) 681-1700 Ext. 111 Direct
(212) 681-6961 Fax
richard@torrenzano.com

Public Relations,
Crisis Management
services.

Serving clients in the
US.

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

THE FOLLOWING NON-PUBLIC RELATIONS FIRMS ARE APPROVED CRISIS RESPONSE VENDORS

FIRM ADDRESS	CONTACT INFORMATION	EMERGENCY TELEPHONE	SERVICES OFFERED
<u>Bill Tibbo & Associates</u>			
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	(905) 868-4174	Psychological Counseling, Medical Case Management, Medical Cost Projection and Containment services.
	Ross McPhail Vice President Operations (905) 830-0291 Office (905) 868-4174 Cell ross@billtibbo.com		Serving clients in the US & Canada.
<u>Coventry Health Care, Inc.</u>			
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.

Lombardi Associates

277 Fairfield Road,
Suite 305A
Fairfield, NJ 07004

Anthony Nastasi (877) 715-2440
National Director of Client Services
(973) 271-8928 Direct
(800) 550-0095 Office
(310) 552-9052 Fax
anthony.nastasi@lombardiassociates.com

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 (800) 621-5410
Vice President
(302) 838-1684 Direct
(302) 521-4985 Cell
(302) 838-1685 Fax
goliverg@cl-na.com

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 (516) 456-3900
Senior Consultant
(516) 294-8644 Ext. 15 Direct
(516) 456-3900 After Hours
(516) 747-1009 Fax
(516) 456-3900 Cell
mwrusso123@aol.com

Fire Investigation
and Analysis
services.

Serving clients in
the US.

D.A.R., Inc.

4 Iris Drive
Scarborough, Maine
04074

David W. Hunt (207) 415-0735
Founder and President
(207) 415-0735 Direct
(207) 883-0493 Home
(207) 883-2436 Fax
dhunt12348@aol.com

Crisis
Management,
Global Investigation
Services, Access
to National &
International
Intelligence
Agencies, Crisis
Management
services.

ENDORSEMENT

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 (612) 347-9118
Attorney at Law and Partner
(612) 371-1317 Direct
(612) 338-0661 Office
(612) 338-8384 Fax
(612) 964-1882 Cell
rmelton@meagher.com

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.

ENDORSEMENT

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.

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.

ENDORSEMENT NO. (Continued)

- 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)

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.

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)

Environmental Risk Assessment for Municipalities and Public Entities

What is a pollutant? Any material, substance, liquid, product, etc... which is introduced into an environment for other than its intended use / purpose. Fresh water, cheese, and milk have all been classified as pollutants by Insurance Carriers under various circumstances. What pollutants are impacting your business?

Some common environmental exposures faced by public entities/municipalities include: Wastewater treatment plants/pumping stations exposures from nuisance odor claims, raw sewage rupture, chlorine gas emissions; Storm water runoff; Sick building syndrome; Asbestos; Lead; Mold; Historic site conditions (i.e. old in ground tanks, surface impoundments, lagoons, clarifiers, unknown/old landfills); Sewer lines; Maintenance garage services; Aboveground and/or underground storage tanks; Leaks from elevator hydraulic fluid storage tanks; Inadequate or no secondary containment for above ground storage tanks; Parts washer solvents; Storage and use of pesticides and herbicides; Petroleum waste products; Vehicle and equipment storage/parking over unsealed surfaces; Parks, lakes, rivers and open land (i.e. midnight dumping, discharge of raw sewage/industrial waste, asphalt paving projects with storm discharge to open waters, unknown surface conditions); Transfer and recycling facilities; Hosting household hazardous material collection days or other environmentally sensitive materials/chemicals; Landfills; Inadequate methane collection or venting; Leachate; Natural resource damages; Uncontrolled storm water; Incinerators (i.e. airborne particulates, heavy metals (airborne and in residual ash), airborne volatile organic compounds); Spills/releases during loading/unloading process; Waste handling and disposal operations; No auditing of waste handling and disposal companies; Abandoned industrial sites within the municipality; Contamination from cemeteries; Poor community relations; Poor information on the possible adverse reactions and interactions of chemical compounds that accidentally commingle during a fire; Brownfields....

Note: The above list is intended only to outline some typical pollution exposures common to public entities, it is not all-encompassing. If a public entity has schools, airports, hospitals, golf courses or other operations not outlined above contact environmental Strategist, Inc. (Phone 231-256-2122) for a list of common environmental exposures.

Municipality Environmental Claims Examples

1. Chlorine release at a wastewater treatment plant resulted in toxic air emissions. Area residents and businesses were evacuated and several people were hospitalized for inhalation of fumes. A total of 12 businesses were forced to shut down for the better part of a day. Bodily injury claims amounted to \$70,000 and business interruption claims totaled \$120,000.
2. A wastewater treatment plant that was 25 years old had been upgraded several times over the years. Improper closure of an old clarifier and on-site surface impoundment had allowed gradual seepage into groundwater. These constituents contaminated the underlying groundwater, which was a potable water supply for the neighboring community. The costs for groundwater cleanup and emergency water supply for residents totaled \$550,000.
3. A local park owned by a municipality served as a convenient illegal disposal site for a recycling contractor. The contractor dumped five 55-gallon drums, releasing 275 gallons of used mineral spirits into the municipal park. When the drums were dumped, the hazardous contents leaked into the soil. In addition, the contractor emptied the contents of the vacuum truck into a nearby community lake. Total cleanup expenses amounted to \$475,000.
4. A maintenance garage used solvents for parts washing performed the work over a drain leading to an on-site septic system. Over time, the septic system leach field migrated into the surrounding soils and

groundwater. At the time of the septic system closure and conversion to a public sewer system, the contamination was discovered. Site remediation involved soil removal and installation of a groundwater recovery system. The costs exceeded \$720,000.

5. A municipal property was selected as the site for a new library. Construction was halted after the discovery of an unknown landfill location at the site. As a result of haphazard disposal techniques, there had been a wide array of materials disposed at this site. An investigation revealed that the landfill occupied about three acres and the refuse was approximately 20 feet deep. The cost to exhume all buried materials and sort them for proper disposal exceeded \$1 million. Additionally, further investigation turned up soil contaminated with pesticides, total petroleum hydrocarbons and various volatile organic compounds. Soil investigations, cleanup and disposal amounted to approximately \$500,000, bringing total costs to \$1.5 million.

6. At a newly built wastewater treatment plant pumping station, a faulty valve malfunctioned. As a result, a ruptured pipe released 2.8 million gallons of raw sewage into a local creek. Municipal workers acted quickly to stop the pipe rupture. Raw sewage traveled downstream to a larger river. The river was used by local fisherman, recreational boaters and marinas. Many boats were damaged by the sewage and marinas were forced to close temporarily while the riverbanks were cleaned up. The total cost of property damage and loss of income claims totaled \$195,000.

7. William Lee Slocum Jr., of Youngsville, Pa. has pleaded guilty in Pittsburgh U.S. District court to six counts of negligently violating the Clean Water Act when he operated the Youngsville Sewage Treatment Plant between 1983 and 1995. The Justice Department said during that period there were repeated discharges of raw sewage and sewage sludge from the plant into Brokenstraw Creek, a tributary of the Allegheny River. Slocum, a Pennsylvania State senator, could be sentenced to one year in prison and/or a fine of \$100,000 per violation.

8. The facilities department for a municipality hired a licensed hazardous waste transporter to pick-up and deliver three barrels of spent solvents, used for cleaning their boiler, to a treatment plant. While loading on municipal grounds, one barrel fell and spilled its contents, which seeped into the ground. Shortly after, twenty neighbors notified the state health department that their well water smelled odd. Health officials determined that chemicals from the accident had seeped into their wells. The municipality paid \$1.2 million in damages and clean-up costs.

9. A municipality hired a fiber optics company to install a network of data and voice cables. The job included directional drilling under a number of roads. While drilling, the contractor hit a fuel line and did not report it. After about 2 years, neighbors smelled gas in their well water. During investigation, the damaged fuel line was discovered and determined as the source of contamination. Since the fiber optics company was no longer in business, the municipality was held liable for damages and clean-up costs in excess of \$2.7 million.

Environmental Risk Transfer Strategies

The majority of public entities operating today, lack the financial strength to self-insure their environmental liabilities. Consideration needs to be given to the economies of scale afforded with environmental liability insurance as part of your risk transfer strategy.

The **three main benefits** environmental liability insurance offers:

1. **Defense Costs:** Environmental liabilities are relatively new and very litigious. Even if you do nothing wrong you can still get named in a suit and have to expense defense costs i.e. legal fees, environmental investigations, .

2. **Claim Management:** All policies come with specialists to assist you in handling a claim. Who is in charge of communications, public relations, emergency response, government compliance, financial management, third party claims for bodily injury, property damage, natural resource damages....?

3. **Third Party Liability:** The majority of the time the cost to clean up the environmental problem/s is far less than the associated claims that come in from third parties for bodily injury, property damage and business interruption. You need to look at your client's and neighbors that can be impacted if you or a sub-contractor/vendor cause an environmental loss.

Environmental Risk Transfer Products

ENVIRONMENTAL IMPAIRMENT LIABILITY (EIL)

EIL is for public entities susceptible to economic loss caused by pollution that actually or allegedly originated from their operations. Sometimes referred to as pollution legal liability this coverage is for those who own, operate, lease, or have any other insurable interest in real property and the operations. Coverage can be written in a variety of ways addressing unknown preexisting conditions or new conditions. Coverage can include third party bodily injury and property damage along with business interruption and extra expense, on and off site cleanup costs, legal defense expenses, non-owned disposal sites, transportation and more. EIL can be offered on multi year terms. Sewer lines and pump/lift stations can be covered by EIL. Most EIL policies cover above ground storage tanks.

PROPERTY TRANSFER COVERAGE

When buying, selling or condemning property there can be unknown preexisting environmental conditions. Since a Phase I or Phase II survey cannot guarantee uncovering all potential environmental liabilities, insurance companies have created property transfer insurance. This coverage protects the new owner or any party with an insurable interest, against unknown environmental conditions that may be discovered during the policy period, that were not caused by the new owner. This coverage not only helps to keep the property at its maximum value, it will assist the purchaser in being able to secure the necessary financing to complete their transaction.

TRANSPORTATION POLLUTION LIABILITY (TPL)

Generally, business auto or truckers policies will exclude pollution losses arising from spills or other releases of their cargo. Broadened auto pollution liability (typically Form CA9948) affords coverage during the loading, unloading and transportation, for a spill, release or sudden upset and over turn of transported cargo. Note: An MCS-90 endorsement is not pollution coverage.

UNDERGROUND AND ABOVE GROUND STORAGE TANKS (UST, AST)

Financial responsibility requirements ensure that owners and operators of underground storage tank systems have the ability to financially handle a release from an underground storage tank. The responsibility encompasses the ability to pay funds for corrective action and third party bodily injury and property damage from non-sudden and sudden and accidental releases from a regulated underground system.

Note: For public entities, you have potential indirect environmental exposures from the vendors you hire to perform services. Should your vendors cause an environmental problem or exacerbate an existing environmental issue their general liability insurance policy generally will have either an absolute or total pollution exclusion. In order to be protected you should make sure your vendors have the proper environment insurance coverage before they do any work on your behalf.

CONTRACTORS POLLUTION LIABILITY (CPL)

This coverage can be purchased to meet two specific exposures. First, contractors that perform remedial activities (asbestos, lead, mold, soil or ground water remediation) there is the standard contractor's pollution liability (CPL) insurance coverage. This protects the insured for pollution conditions they may cause or exacerbate an existing situation while performing remedial services. This is for covered operations performed by or on behalf of the insured. The loss must occur away from any premises the insured owns, rents, leases or occupies, in other words while they are performing remedial services at an educational institution.

Secondly, standard contractors (i.e. general contractors, HVAC, plumbing, electrical, mechanical, janitorial, demolition, drilling, excavation, highway, street and paving contractors, rigging, utility, millwrights, artisan, etc.), in performing their services may cause an environmental liability that is generally excluded from their general liability coverage. For these contractors there is contingent contractor's pollution liability (CCPL) coverage. Basically they are afforded the same coverage as remedial contractors but the cost to purchase this insurance is substantially less.

PROFESSIONAL LIABILITY (E&O)

Should a environmental engineer/consultant or analytical laboratory make an error or an omission in performing professional services for you they will need a E&O policy including pollution for there to be coverage. Some professional services could include Phase I or Phase II site assessments, All Appropriate Inquiry (AAI), air monitoring, lead and asbestos assessments, waste characterization, remedial action plans, water testing, mold survey's, environmental training....



120 First Avenue North
PO Box 548 • Ilwaco, WA 98624
Phone: 360.642.3145
Fax: 360.642.3155
info@ilwaco-wa.gov
www.ilwaco-wa.gov

March 4, 2015

TO: Ilwaco City Council

Fr: Ilwaco Planning Commission

RE: Knutzen - Road Vacation (RCV15-0001)

The Ilwaco Planning Commission met 3/3/15 and reviewed the Findings of Fact and Conclusions of Law provided by Ryan E. Crater, City Planner regarding Petitioner Doug Knutzen's request to vacate a portion of a public right-of-way under project number RDV15-0001. The Petition requests a road vacation of the area access from Intersection of SR100 Loop (Robert Gray Dr.) to, C Street and Third Street in the Platt of Ocean View. After discussion and all questions were addressed, the Ilwaco Planning Commission formally recommends to the Ilwaco City Council APPROVAL of the road vacation subject to the conditions set for in the Findings of Fact and Conclusions of Law.

Nansen Malin, Chair



120 First Avenue North
PO Box 548 • Ilwaco, WA 98624
Phone: 360.642.3145
Fax: 360.642.3155
info@ilwaco-wa.gov
www.ilwaco-wa.gov

March 4, 2015

TO: Ilwaco City Council

Fr: Ilwaco Planning Commission

RE: Knutzen - Road Vacation (RCV15-0001)

The Ilwaco Planning Commission met 3/3/15 and reviewed the Findings of Fact and Conclusions of Law provided by Ryan E. Crater, City Planner regarding Petitioner Doug Knutzen's request to vacate a portion of a public right-of-way under project number RDV15-0001. The Petition requests a road vacation of the area access from Intersection of SR100 Loop (Robert Gray Dr.) to, C Street and Third Street in the Platt of Ocean View. After discussion and all questions were addressed, the Ilwaco Planning Commission formally recommends to the Ilwaco City Council APPROVAL of the road vacation subject to the conditions set for in the Findings of Fact and Conclusions of Law.

Nansen Malin, Chair

These notes refer to the City of Ilwaco Development Standards document adopted in late 2014.

The bulk of this document does what it's intended to do. But there are some awkward things around the edges.

Page 1-1, first paragraph appears to leave out approval from the City Engineer in the list of other City positions.

Page 1-1, first paragraph says:

"Where minimum values are stated, greater values should be used whenever practical; where maximum values are stated, lesser values may be used, **with City approval**, where practical. WHY "City approval" if the City has already stated a maximum? Or, WHY NOT "City approval" in the opposite case? It makes no sense. Recommend delete: "City approval"

Page 1-1 3rd paragraph says: "Where these "standards" conflict". I believe it should say for clarity: "Where the technical requirements of these standards..." Otherwise it appears to be able to trump the Ilwaco Municipal Code which would be entirely inappropriate.

Page 1-1 paragraph 4 says: "attempted transfer of property to the City shall be invalid". This seems to run counter to the idea that the City *wants* such transfers to take place. It appears to provide a loophole that the Developer could avoid such transfer at will.

Page 1-2 paragraph (a) says that a "Developer" is someone having an agreement with the City to install improvements that will become a part of the City's ... system upon completion. Combined with the introductory paragraph on page 1-1 that says this document is for the same thing .. in the public right of way or public easements. This is inconsistent with the standards provided starting on page 6-13 for Private Side Sewers which, by definition, lie outside these defined boundaries.

Page 1-2 paragraph (c) says that "plans" only apply to the water distribution system. This narrow definition seems out of place.

Page 1-3 paragraph (i) says: "Actions designated as taken by the City are the acts of the Council acting through the Mayor". This seems to deny the separation of powers. I would say that actions designated as taken by the City are the acts of the Administration; the Mayor, City Engineer, Director of Public Works..... . The Council "acts" to create laws and make certain narrowly defined decisions. Execution of the laws, projects, developments are the work of the Administration. If the intent is different, then the language should reflect it better.

Page 1-3 paragraph 3 says: "The Developer is expected to be fully informed [it appears this means "fully knowledgeable"] regarding the nature, quality, and the extent of the work to be done, and, if in doubt, to secure specific instructions from the City." This sounds more like what would be expected of a contractor working for the City. And, in the context of this document, developments may be similar as they are mostly on City property or public easements and involving what will become City infrastructure. It could stand some clarity.

Page 2-2 paragraph A. says: "the requirements of this ordinance". Is that proper? This is a standards document. It's not an ordinance and it wasn't created by ordinance either was it? I believe it's been adopted by whatever process.....

Page 6-1 paragraph B. says: "Off-site" and "on-site". These terms aren't clear and there's no definition for them. Clarify.

Page 6-1 paragraph G. says: "If more than one primary structure is connected to the public sewer system by a single connection, a mutually beneficial easement must be granted to the respective properties over the shared portions of the connection..." This is at odds with our intentions that these be public easements. Also, it confuses with what are and are not to be considered sewer mains.

Page 6-5 paragraph L. through Q. refer to "side sewer laterals" which is an undefined term.

Page 6-7 paragraph **6.4 Materials and Testing** introduces definitions for a number of things that seem out of place. Consider the items below and decide where to better place those definitions. Perhaps Title 14 is where they belong as we have similar definitions there?

Page 6-7 paragraph **6.4 Materials and Testing A. Sewer Mains, Laterals and Force Mains** is followed by paragraphs **B. Manholes, C. Side Sewer Laterals and D. Private Side Sewers**. It appears that paragraph A. should be entitled simply "Sewer Mains".

(I didn't find requirements for force mains other than testing.. did I miss it or is it not there?).

Page 6-13 paragraph 1. defines a "side sewer" that is at odds with the long-standing implied definition of Title 14 Section 14.06.

Page 6-13 paragraph D. defines "private side sewer" that is at odds with the long-standing implied definition of Title 14 Section 14.06. And, being outside the "public right of way or public easements" is a subject outside the stated purpose of this document.

Recommendation regarding these aforementioned items: Change them to match Title 14 Section 14.06 and the upcoming additional definitions for Title 14.

In general, the document seems to be directed at *major* developers while perhaps neglecting that "developer" can mean the building of a single family residence. Requirements for levels of insurance, etc. seem too demanding. Perhaps this needs to be clarified enough to exclude the property owner as developer IF the owner's contractor has suitable insurance coverages. I suggest this notwithstanding that the document says that "developer" can mean a contractor as well as a property owner. However, that doesn't let the owner off the hook here and it probably should (in suitable fashion).

CHAPTER 1

INTRODUCTION

These standards shall apply to all improvements within the public right-of-way and/or public easements, to all improvements required within the proposed public right-of-way of new subdivisions, for all improvements intended for ownership, operations on maintenance by the City and for all other improvements (on or offsite) for which the City Code requires approval from the City's Public Works Superintendent, City Planner, Fire Chief, and/or the City Council as appropriate. These standards are intended as guidelines for designers and developers in preparing their plans and for the City in reviewing plans. Where minimum values are stated, greater values should be used whenever practical; where maximum values are stated, lesser values may be used, with City approval, where practical. The developer/proponent is however cautioned that higher standards and/or additional studies and/or environmental mitigation measures may, and will, in all likelihood, be imposed by the City when developing on, in, near, adjacent, or tributary to sensitive areas to include, but not be limited to, steep embankments, creeks, ponds, lakes, certain wildlife habitat, unstable soils, etc.

Alternate design standards will be accepted when it can be shown, to the satisfaction of the City, that such alternate standards will provide a design equal to or superior to that specified. In evaluating the alternate design, the City shall consider appearance, durability, ease of maintenance, public safety and other appropriate factors.

Any improvements not specifically covered herein by these Standards must meet or exceed the current version of the Standard Specification for Road, Bridge & Municipal Construction, State of Washington, and current amendments thereto, revised as to form to make reference to Local Governments. Said specifications shall be referred to hereafter as the "Standard Specifications". Where improvements are not covered by these details, by the Standard Specifications or by the standard details, the City will be the sole judge in establishing appropriate standards. Where these "standards" conflict with any existing City ordinances or discrepancies exist within the body of this text, the higher "standards" shall be utilized as determined by the Public Works Superintendent.

Plans for major improvements in the public right-of-way, within public easements, or improvements to be "deeded" or "gifted" to the City, shall bear an approval signature from the City. Absent such an authorized approval, said attempted transfer of property to the City shall be invalid.

The designer shall submit calculations or other appropriate materials supporting the design of utilities, pavements and storm drainage facilities. The designer shall submit calculations for structures and other designs when requested by the City Engineer and/or

Building Official.

1. Definitions (as used herein)

- (a) "Developer". The party having an agreement with the City to cause the installation of certain improvements, to become a part of the City's utility and/or roadway system upon completion and acceptance. The term shall also include the Developer's contractor employed to do the work or the Contractor's employees.
- (b) "Development" shall mean the construction, reconstruction, conversion, structural alteration, relocation, enlargement, or change in use of any structure or property, or any project which will increase vehicle trips per day during peak hour traffic, or any project which negatively impacts the service level, safety, or operational efficiency of serving roads.
- (c) "Plans" mean drawings, including reproductions thereof, of the work to be done as an extension to the City's water distribution system, prepared by an Engineer licensed in the State of Washington.
- (d) "Specifications" means the directions, provisions, and requirements designated by an Engineer licensed in the State of Washington for the performance of the work and for the quantity and quality of materials, as contained or referenced herein.
- (e) "Performance Bond" means a bond furnished by the Developer and written by a corporate body qualified to write surety in the State of Washington, guaranteeing that the work will be completed in accordance with the plans and specifications.
- (f) "Maintenance Bond" means a bond furnished by the Developer and written by a corporate body qualified to write surety in the State of Washington, guaranteeing that the Developer will repair any defects found in the work within the time period as further identified herein.
- (g) "Contract Documents": The contract documents shall consist of the following and in case of conflicting provisions, the first mention shall have precedence.
 - (1) Developers Agreement
 - (2) City Development Guidelines and Public Works Standards

- (3) Other Applicable City Municipal Codes
- (4) City Right-of-Way Use Permit
- (5) Plans
- (6) Standard Details (WSDOT Specifications)
- (7) Specifications - Conditions and Standards of the Contract (As Approved by City)
- (8) City Approved Addenda
- (9) City Approved Change Orders

These documents shall form the Contract.

- (h) "Work": The labor or materials or both, superintendence, equipment, transportation, and other facilities necessary to complete the Contract.
- (i) "City": City of Ilwaco, Pacific County, Washington, a municipal corporation, existing under and by virtue of the laws of the State of Washington. Actions designated as taken by the City are the acts of the Council acting through the Mayor.
- (j) "Mayor" means mayor of the City of Ilwaco or his/her authorized representative.
- (k) "Contractor" means the Developer's contractor or subcontractor.
- (l) "City Engineer" means the City's Engineer, whether a staff engineer, contacted engineer, or consultant.
- (m) "Public Works Superintendent" means the City's duly appointed Public Works Superintendent, or in his absence, the Mayor.
- (n) "Operations and Maintenance Supervisor" means the City's utilities superintendent, or operations and maintenance supervisor, or Public Works Superintendent.

2. Exclusions

- (a) A one time enlargement of less than 800 square feet of total footprint on any parcel of property, or, a one-time net increase of less than 25% of the total aggregate area of the existing footprint(s) of building(s) on the site, whichever is less.

3. Developer to be Informed: The Developer is expected to be fully informed regarding the nature, quality, and the extent of the work to be done, and, if in doubt, to secure specific instructions from the City.

4. Authority of Mayor: The Mayor or his authorized representative shall have the authority to stop work whenever, in his/her opinion, the same shall be necessary to insure compliance with the plans and specifications, and shall have authority to reject work and materials which do not so conform and to decide questions which may arise in the execution of the work.

5. Authority of the Public Works Superintendent: The Public Works Superintendent or his/her authorized representative shall have the authority to determine the amount, quality, acceptability and fitness of the several kinds of work, material and equipment and to decide all questions relative to the classification of materials and the fulfillment of this Contract, and to reject or condemn all work or material which does not conform to the terms of this Contract. The Public Works Superintendent decision in all matters is the decision of the City, and can only be changed by the City. Moreover, the City has not so delegated, and the Public Works Superintendent or his/her authorized representative(s) does (do) not purport to be a safety expert, is not so engaged in that capacity under this Contract, and has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations or procedures, or to order the stoppage of work for claimed violations thereof but may report flagrant safety violations to proper authorities.

The furnishing by the City of resident project representation and/or inspection shall not be construed by the Contractor or Development that the City is responsible for the identification or enforcement of such laws, rules or regulations.

6. Payment for City Services: The Developer shall be responsible for promptly reimbursing the City for all costs and expenses incurred by the City in the pursuit of project submittal, review, approval, and construction. These costs include, but are not limited to, the utilization of staff and "other" outside consultants as may be necessitated to adequately review and inspect construction of the project(s). All legal, administrative, and engineering fees for project review, meetings, approvals, site visits, construction inspection, etc., shall be subject to prompt reimbursement. The Developer is cautioned that project approval (City acceptance) and occupancy permits will be denied until all bills are paid in full.

CHAPTER 2

PERMITS

2.1 SPECIAL PERMIT PROCESS

No person, firm or corporation shall commence work on the construction, alteration or repair of any facility located either in the public right-of-way or a public easement without any necessary permit or permits first having been obtained from the City.

Any party requesting such permit shall file written application therefore with the City at least twenty-eight (28) days before construction is proposed to start. An application will be deemed complete if the city does not provide a written determination to the applicant that the application is incomplete within twenty-eight (28) days after receiving the application. Such application shall be made on a standard City form provided for that purpose, and shall include:

- (1) The name and address of the applicant (name and address of property owner if different than applicant);
- (2) The name and address of the owner of the property abutting the street where the work is proposed;
- (3) The street location of the proposed work, giving the street address or legal description of the property involved;
- (4) A detailed plan showing the dimensions of the abutting properties and the dimensions and location of all existing and/or proposed facilities and other pertinent features to understand the proposed work;
- (5) The plan shall also show the location of buildings or facilities, including loading platforms and roof overhangs (if significant) being served, or to be served by the new construction.

The City may require, at its discretion, the filing of any other information when in its opinion such information is necessary to properly enforce the provisions of this ordinance.

No permit shall be issued until the proposed work has been approved by the appropriate official. Adjudication of disagreements regarding approvals shall be made by the Public Works Superintendent and his decision shall be final.

No plan shall be approved nor a permit issued where it appears that the proposed work, or any part thereof, conflicts with the provisions of this ordinance or any other ordinance of

the City of Ilwaco, nor shall issuance of a permit be construed as a waiver of a Zoning Ordinance or other ordinance requirements concerning the plan.

A fee of an amount as designated by the City shall accompany all applications for permits.

2.2 VARIANCES

A. GENERAL

The City Council shall have the authority to grant a variance from the requirements of these specifications and from the requirements of this ordinance after considering the matter. The Public Works Superintendent shall upon request of the proponent refer the variance request on to the City Council, and the Council shall sit, in judgment of same, at a public hearing duly called in accordance with the procedures specified in its Municipal Code. No application for a variance shall be granted by the council unless the council finds:

- (1) That special conditions and circumstances exist which are peculiar to the land such as size, shape, topography or location, not applicable to other lands in the same neighborhood, and that literal interpretation of the provisions of this ordinance would deprive the property owner of rights commonly enjoyed by other properties similarly situated in the same neighborhood;
- (2) That the special conditions and circumstances do not result from the actions of the applicant, and are not self-imposed hardships;
- (3) That granting the variance requested will not confer a special privilege to the subject property that is denied other lands in the same neighborhood;
- (4) That the granting of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the neighborhood in which the subject property is situated;
- (5) That the granting of the variance requested will be in harmony with the general purpose and intent of these standards, and any applicable Land Use Ordinance(s); and
- (6) That the purpose of the variance is not merely to permit the subject property to be utilized more profitably by the owner or to economize on the cost of improving the property.

B. CONDITIONS

In granting any variance the City Council may prescribe appropriate conditions and safeguards that will ensure that the purpose and intent of the specifications shall not be violated. Further, the City Council will require the applicant to post a performance bond guaranteeing compliance with such conditions.

C. EFFECTIVE DATE OF VARIANCE

The decision granting or denying a variance shall not become final until the expiration of ten (10) days from the date of entry of such decision in the official records of the City Council.

An aggrieved party may file an appeal of such decision to the Pacific County Superior Court (as applicable) within said ten-day period; if no such appeal is filed, the decision shall thereupon become final.

D. PROCEDURE FOR APPLICATION OF A VARIANCE

Application for a variance shall be filed with the City in writing and shall be accompanied by an appropriate fee as stated in the City's Municipal Code, to pay for the cost of processing the application and the costs of publishing and posting the required public notices. All applications shall be accompanied by a current copy of the Pacific County assessor's record showing the legal owners of all property within five hundred feet (500') of the requested variance area. All applications shall contain a statement as to why the variance is necessary, and why it would meet the criteria of this chapter. The application shall also contain scaled drawings of the variance area, abutting roads, and all property within five hundred feet (500') thereof.

E. PUBLIC NOTICE AND HEARING

Proper notice of a hearing on a variance application before the Council shall be as follows:

- (1) One publication in the official newspaper for the City at least fifteen days prior to the date of hearing;
- (2) Posting of copies of the notice of hearing at least fifteen days prior to the hearing in;
 - (A) Ilwaco City Hall
 - (B) The United States Post Office in the City of Ilwaco, and
 - (C) In a conspicuous place on the property which is the subject matter of the application;

- (3) Written notice mailed to the owner or reputed owners of property within three hundred feet (300') of the property which is the subject matter of the application, which ownership is deemed to be that of the last owner of record in the current files of the Pacific County Assessor, said notice to be mailed at least fifteen calendar days prior to the date of the hearing by the City Planner.
- (4) The City Clerk shall be responsible for the mailing and publication of all required notices. The Clerk shall diligently observe the foregoing requirements, but minor inaccuracies in giving such notice shall not invalidate the proceedings.

CHAPTER 3

PUBLIC WORKS CONSIDERATIONS

3.1 BONDING

Developers and contracts performing work within the public right-of-way or publicly owned easement(s) shall be prepared to satisfy the following two bonding requirements. The City will only accept an assignment of funds as bonds. The funds will be held by the City in an interest bearing account.

- A. Furnishing a performance bond that shall be conditioned upon faithful completion of that portion of the work performed pursuant to the permit which will require completion by the City should the permittee or his contractor default. The amount of such bond shall be 150% of the outstanding value of the improvements. The City engineer shall review and provide approval, as may be applicable of the submitted amount.
- B. Furnishing a Maintenance Bond. All work shall be guaranteed by the Contractor for a two-year period from the time of inspection and final approval of the construction by the City. The maintenance bond shall be equal to 15% of the total cost of the improvements.

3.2 HOLD HARMLESS CLAUSE

The Developer shall indemnify and hold harmless the City and the City Engineer, and their agents and employees, from and against all claims damages, losses, and expenses, including attorney's fees, arising out of or resulting from the performance of the work, and shall, after reasonable notice, defend and pay the expense of defending any suit and will pay any judgment, provided that any such claim, damage, loss, or expense (1) is attributable to bodily injury, sickness, disease, or death, or to injury or destruction of tangible property (other than the work itself), including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission or by any other action giving rise to strict liability of the Developer, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the City or City Engineer, or any of their agents or employees, by any employee of the Developer, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation, or

under workman's compensation acts, disability benefit acts, or other employee's benefit acts.

The obligations of the Developer under this article shall not include the sole negligence of the City or the City Engineer.

3.3 DEVELOPER'S PUBLIC LIABILITY & PROPERTY DAMAGE INSURANCE

The Developer shall not commence work until he has furnished evidence (in duplicate copy) of insurance required hereunder, and such insurance has been approved by the City Attorney; nor shall the Developer allow any contractor or subcontractor to commence work on his contract or subcontract until the same insurance requirements have been complied with by such contractor or subcontractor. Approval of the insurance by the City Attorney shall not relieve or decrease the liability of the Developer thereby.

Companies writing the insurance under this article shall be licensed to do business in the State of Washington or be permitted to do business under the Surplus Line Law of the State of Washington.

The Developer shall maintain, during the life of the Contract, Comprehensive General and Automobile Liability Insurance, as detailed herein. The insurance shall include, as Additional Named Insured, the City of Ilwaco. All insurance policies shall be endorsed to provide that the policy shall not be canceled or reduced in coverage until after ten (10) days prior written notice, as evidenced by return receipt of registered letter has been given to the City of Ilwaco.

Comprehensive General Bodily Injury and Property Damage Insurance shall include:

- a. Premises & Operations;
- b. Developer's Protective Liability;
- c. Products Liability, including Completed Operations Coverage;
- d. Contractual Liability; and
- e. Broad Form Property Damage.

Comprehensive Automobile Bodily Injury and Property Damage Insurance shall include:

- a. All owned automobiles;
- a. Non-owned automobiles; and
- b. Hired automobiles.

The insurance coverage's listed above shall protect the Developer from claims for damages for bodily injury, including death resulting therefrom, as well as claims for property damage, which may arise from operations under this contract, whether such operations be by himself or by any subcontractor or by anyone directly employed by either of them, it being understood that it is the Developer's obligation to enforce the requirements of this article as respects any contractor or subcontractor.

Comprehensive General and Automobile Liability Insurance shall provide coverage for both bodily injury and property damage, as follows:

- A. Comprehensive General and Automobile Bodily Injury Liability Insurance on an occurrence basis of not less than One Million dollars (\$1,000,000.00) for bodily injury, sickness or disease, including death resulting therefrom, sustained by each person; and for limits of not less than One Million Dollars (\$1,000,000.00) for each occurrence;
- B. Comprehensive General Property Damage Liability Insurance on an occurrence as is for limits of not less than One Million Dollars (\$1,000,000.00) for damage to or destruction of property, including loss of use thereof, arising from each occurrence, and in an amount of not less than One Million Dollars (\$1,000,000.00) in aggregate;
- C. Comprehensive Automobile Property Damage Liability Insurance on an occurrence basis for limits of not less than One Million Dollars (\$1,000,000.00) for damage to or destruction of property, including loss of use thereof, arising from each occurrence;
- D. Comprehensive Liability Insurance shall include the City and the as Additional Named Insured;
- E. Comprehensive General Property Damage Liability Insurance shall include liability coverage for damage to or destruction of property of other, including loss of use of property damaged or destroyed, and all other indirect and consequential damage for which liability exists in connection with such damage to or destruction of property of others, and shall include coverage for:
 - ("X") Injury to or destruction of any property arising out of blasting or explosion;
 - ("C") Injury to or destruction of any property arising out of the collapse of/or structural injury to any building or structure due;

- (1) to excavation, including borrowing, filling or backfilling in connection therewith, or tunneling, pile driving, coffer-dam work or caisson work; or
 - (2) to moving, shoring, underpinning, raising or demolition of any building or structure or removal or rebuilding of any structural support thereof;
- ("U")
1. Injury to or destruction of wires, conduits, pipes, mains, sewers or other similar property or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of excavating or drilling; or
 2. Injury to or destruction of property at any time resulting therefrom.

There shall be included in the liability insurance, contractual coverage sufficiently broad to insure the provisions of "Hold Harmless Clause".

Nothing contained in these insurance requirements is to be construed as limiting the extent of the Developer's responsibility for payment of damages resulting from his operations under this Contract.

In the event the Developer is required to make corrections on the premises after the work has been inspected and accepted, he shall obtain, at his own expense, and prior to commencement of any corrective work, full insurance coverage, as specified herein.

The Developer shall furnish, upon request by the City, certified copies of the insurance policy or policies within two weeks of the City's request.

3.4 COMPENSATION & EMPLOYER'S LIABILITY INSURANCE

The Developer shall maintain Workmen's Compensation Insurance or, as may be applicable, Maritime Workmen's Insurance, as required by state or federal statute for all of his employees to be engaged in work on the Project and, in case any such work is sublet, the Developer shall require the contractor or subcontractor similarly to provide Workmen's Compensation Insurance or Maritime Workmen's Insurance for all of the latter's employees to be engaged in such work. The Developer's Labor & Industries account number shall be noted in the Proposal in the space provided.

In the event any class of employees engaged in work at the site of the Project is not covered under the Workmen's Compensation Insurance or Maritime

Workmen's Insurance, as required by state and federal statute, the Developer shall maintain and shall cause each contractor or subcontractor to maintain Employer's Liability Insurance with a private insurance company for limits of at least One Hundred Thousand Dollars (\$100,000.00), each person, and Three Hundred Thousand Dollars (\$300,000.00), each accident, and furnish satisfactory evidence of same.

3.5 NON-INTERFERENCE

The permittee shall be responsible for minimum interference with:

- Traffic Routing
- Fire Facility Clearance
- Adjoining Property
- Utility Facilities
- Natural Surface Drainage

Prior to construction, these items are to be discussed with the City Public Works Department, and/or City Fire and Police Departments and/or the City Building Inspector, and special provisions may be included in any applicable City Permit(s).

3.6 WORK STANDARDS

All work and workmanship performed shall be done in accordance with minimum standards published in the current Standard Specifications for Road, Bridge & Municipal Construction, State of Washington, and current amendments thereto, revised as to form to make reference to Local Governments.

The latest edition of the following additional standards shall be applicable when pertinent, when specifically cited in the standards or when required by state or federal funding authority:

- a. Pacific County Road Standards
- b. Local Agency Guidelines, WSDOT, as amended.
- c. Guidelines for Urban Arterial Program, WSDOT, as amended.
- d. American Water Works Association Standards.
- e. Design criteria of federal agencies including the Federal Housing Administration, Department of Housing and Urban Development, the Federal Highway Administration and Department of Transportation,
- f. A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2001, or current edition when adopted by WSDOT.
- g. Standard Specifications for Highway Bridges, adopted by AASHTO, current edition.

- h. U.W. Department of Transportation Manual on Uniform Traffic Control Devices, "MUTCD", as amended and approved by Washington State Department of Transportation, current edition.
- i. Guide for the Development of Bicycle Facilities, adopted by AASHTO, current edition.
- j. Associated Rockery Contractors (ARC), Standard Rock Wall Construction Guidelines.
- k. American Society for Testing and Materials (ASTM).
- l. Illuminating Engineering Society of America (IES) National Standard Practices for Roadway Lighting, RP-8, Current Edition, as modified herein.
- m. The WSDOT/APWA Standard Plans for Road and Bridge Construction, to be referred to as the "Standard Plans or Standard Details," current edition as amended.
- n. WSDOT Design Manual, current edition as amended.
- o. City and County Design Standards for the Construction of Urban and Rural Arterial and Collector Roads, adopted per RCW 35.78.030 and RCW 43.32.020, May 24, 1989, current edition as amended.
- p. Institute of Transportation Engineers, Traffic Engineering handbook, current edition.
- q. Water System Design Manual, Washington Department of Health, current edition.
- r. Criteria for Sewage Works Design, Washington Department of Ecology, current edition.

3.7 INSPECTION

A. General

The City shall exercise full right of inspection of all excavating, construction, and other invasions of City right-of-way or public easements. The City Public Works Superintendent or designated official shall be notified on the working day prior to commencing any work in the City's right-of-way or public easements. The City Public Works Superintendent and/or his authorized representative is authorized to and may issue immediate stop work orders in the event of noncompliance with this chapter and/or any of the terms and provisions of the permit or permits issued hereunder.

B. Final Inspection

Prior to final approval of construction, a visual inspection of the job site will be made by the City. Restoration of the area shall be complete with all improvements being restored to their original or superior condition. Final approval of construction shall not be given earlier than thirty (30) days after satisfactory completion of construction, as witnessed by the City.

3.8 RECORD DRAWINGS

Permittees or their representatives who install systems within, on, or below the City's public rights-of-way or public easements shall furnish the City with accurate drawings, plans and profiles, showing the location and curvature of all underground structures installed, including existing facilities where encountered and abandoned installations. Horizontal locations of utilities are to be referenced to street centerlines, as marked by survey monuments, and shall be accurate to a tolerance of plus or minus one-half (1/2) foot. The depth of such structure may be referenced to the elevation of the finished street above said utility, with depths to the nearest one-tenth foot being shown at a minimum fifty-foot interval along the location of said utility.

Such record drawings shall be submitted to the City within thirty (30) calendar days after completion of the work. Record drawings shall be stamped, signed and dated by an engineer currently licensed in the State of Washington.

In the event that the permittee or his/her representatives does not have qualified personnel to furnish the record drawings required by this section, he shall advise the City Public Works Superintendent in order that necessary field measurement may be taken during construction for the preparation of record drawings. All costs of such field inspection and measurement, to include the preparation of the record drawings, shall be at the sole expense of the permittee.

Drawing Standards:

Minimum scale - 1" = 50' horizontal; 1" = 5' vertical
Detail scale - Larger as necessary

Record drawings shall be submitted on permanent, stable reproducible mylar with a signature and data, which verifies the "finished" condition of the project. All data as shown on the drawings shall be "fixed line" or ink. Sticky back (glue) reproductions or "sepia" mylars shall not be considered acceptable. Electronic files in the most recent version of "AutoCAD shall be also provided to the City.

The drawings shall be referenced to NGYD 1929 and shall include at a minimum two (2) existing City utility features such as sanitary or storm sewer, manholes, water valves or fire hydrants. Referencing to electrical features such as street lights, telephones or power poles is not acceptable.

3.9 DEVELOPER AGREEMENT REQUIREMENTS

All Contractors, land developers, or others, whether persons or entities, constructing curbs, gutters, storm-drainage systems, streets, water or sewer systems, or additions thereto, to be connected to the storm sewers, sanitary sewer lines and/or water lines of the City of Ilwaco, shall, as a prerequisite to securing approval for the construction of such system, execute a Developer Agreement in the form set forth in the attached documents.

CHAPTER 4

STREET, PATH AND BIKEWAY STANDARDS

4.1 GENERAL CONSIDERATIONS

The overall goal of this chapter is to encourage the uniform development of an integrated, fully accessible public transportation system that will facilitate present and future travel demand with minimal environmental impact to the community as a whole.

- A. Development of properties on or tributary to substandard or unsafe roadways may, depending on the size and type of development, be cause for “off-site” improvements to the substandard or unsafe corridors, to include road drainage facilities. The Public Works Superintendent shall determine when such conditions exist. At a minimum “half street improvements” will be required as a condition of development in and along the entire property as it abuts City rights-of-way. The City shall determine what qualifies as “development”.
- B. This chapter provides minimum street design standards as well as minimum design standards for “stand alone” pedestrian and/or bike trails/paths. Higher design and construction standards may be warranted due to localized design and construction parameters.
- C. Construction and design standards and specifications for streets are contained in the most recent edition of the document entitled “Pacific County Road Standards” and this chapter. All streets must be completed in accordance with these standards.
- D. Curbs, gutters and sidewalks are required in the City’s commercial zones. When required, curbs, gutters, and sidewalks must be constructed according to construction and design standards and specifications for curbs, gutters, and sidewalks contained in the most recent edition of the Pacific County Road Standards.
- E. If a development accesses an existing street or is proposed at the end of an existing street that is not designed to accommodate the expected increase in traffic caused by the new development, then the developer must improve the existing street leading to the development up to the standards required for the expected increase in traffic. Residential developments of up to four units are exempt from this requirement.
- F. In order to conform to minimum standards where developments abut an existing public road or private right-of-way, dedications may be required for extension of the existing public streets or new streets in order to provide continuity with the circulation system.
- G. Easements must be provided for all public facilities and utilities including streets. Additional right-of-way may be required to be dedicated as a condition of development approval.

4.2 PUBLIC STREETS

- A. The term “public street” includes a pre-existing public street as well as a street created by a subdivider that meets the public street standards of this Chapter and is dedicated for public use. The recording of a plat must dedicate the street.

4.3 PRIVATE STREETS

- A. Community street requirements are usually best served by public streets, owned and maintained by the City, private streets may be appropriate in some instances.
- B. Private streets and roads shall be approved only when they are:
1. Permanently established by right-of-way, tract or easement providing legal access to each affected lot, dwelling unit, or business and sufficient to accommodate required improvements, to include provisions for future use by adjacent property owners when applicable; and
 2. Serving properties and development that is zoned R-3; and homeowner’s association of the legal entity made up of all benefited property owners, under provisions of Section 15.74.145D of this ordinance; and
 3. Designed and built to Pacific County Road Standard. Pavement width of all private street shall be 22 feet or more; radius of horizontal curves and vertical grade of private streets shall be based upon the topography of the site: any vertical grade in excess of fifteen (15) percent shall be approved by the City Engineer; design and construction of private streets shall be subject to the same City engineering inspection and approval as for public streets; modifications to these standards may be granted by the City Engineer if adequate consideration of the following factors is made during the plat review;
 - i. Provision of off-street parking
 - ii. Restriction of on-street parking
 - iii. Provision of adequate clearance for emergency vehicles
 - iv. Provision of clear vision at intersections
 - v. Provision of alternative bicycle and/or pedestrian paths
 - vi. Provision of adequate utility easements outside of street
 - vii. Future street revision or extension is not planned, and
 4. Provision is made for private streets to be open at all times for emergency and public service vehicles; an easement or other right of access shall be recorded which runs in favor of the City of Ilwaco; said right of access shall provide the right of ingress and egress for the City and its employees to carry out any lawful City purpose, including but not limited to fire, police, water, and sewer services; said easements shall also provide access

to all other urban service providers such as refuse haulers, television cable operators, electric utility providers, emergency medical services and others; and

5. Private streets shall not obstruct public street circulation; and
 6. At least one of the following conditions exist:
 - i. Existing abutting development precludes the construction of a public street, or
 - ii. Topographic, geological and soil conditions make development of a public street undesirable, or
 - iii. The streets are within a private community with a corporate or a functional identity, or
 - iv. Neighborhood traffic circulation and lot access can be met more logically by private streets than by public streets, or
 - v. Streets are a part of a planned unit development (PUD), or
 - vi. Streets serve commercial facilities where no circulation continuity is necessary, or
 - vii. The City Engineer and Fire Department determine that no other access is available and the private street is adequate.
- C. Notice. The following statement is required on the face of any plat, short plat, site plan, or binding site plan containing a private street:
- “City of Ilwaco has no responsibility to improve or maintain private streets contained within or private streets providing access to the property described in this plat. Any private street shall remain a private street unless it is upgraded to public street standards including standards meeting ADA (Americans with Disabilities Act) requirements at the expense of the subdivider or adjoining lot owners to include hard surface paving and is accepted by the City for public ownership and maintenance.”
- D. Maintenance agreement. The City will not maintain roadways, signs or drainage improvements on private streets. A private maintenance covenant recorded with the County Auditor will be required for any private street. The covenant will set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies, for non-compliance with the terms of the agreement, right of use easements, and other considerations. The covenant shall be submitted to the City Engineer or his designee for approval prior to recording.

All private streets shall be maintained by the owners of the property served by them and kept in good repair at all times. In order to insure the continued good repair, a declaration of covenant and requiring maintenance of the private street shall be recorded with the Pacific County Auditor’s office concurrent with recording of the subdivision plat.

The covenants shall include the following terms:

1. The Covenant shall establish minimum annual assessments in amount adequate to defray costs of ordinary maintenance and procedures for approval of additional needed assessments.
 2. The Covenant shall include a periodic maintenance schedule.
 3. The covenants for maintenance shall be enforceable by any property owner served by the street.
 4. The means shall be established for assessing maintenance and repair costs equitably to property owners served by the private street.
 5. The covenants shall run with the land.
 6. "Maintenance" shall include, but not be limited to street surfacing, shoulders, gates, signs, pavement markings, street lighting, storm drainage facilities and vegetation control.
 7. The City shall have the right to inspect the condition of Private Street and if in the opinion of a licensed professional engineer, the condition of private streets have deteriorated to the level where improvements are needed, the City has the right to order that this work be done. If the property owners associated or the developer do not carry out said improvements in a timely manner, the City has the right to order the improvements.
- E. Street signs. Private street signs with street designations shall be provided by the developer at the intersection of Private Street with private and public streets. Such signs shall meet the specifications of Pacific county Road Standards and, in the case of intersections with public streets, shall be located within the public right-of-way or within a separate maintenance easement. Road signs shall be included in the maintenance agreement.
- F. Inspection. Private streets will be subject to the same inspection schedule as public streets.
- G. Developer maintenance obligation. The developer of a residential plat shall be responsible to insure the maintenance of the private street for a period of two (2) years from the date of recording of the plat or short plat. Thereafter, the developer's maintenance responsibility will depend upon the number of lots under the developer's continuing ownership, as stated in the recorded maintenance agreement.

4.4 STREETS

- A. All street design and construction must provide for the maximum traffic loading and capacity conditions anticipated based upon existing land use and zoning. The width and grade of the pavement must conform to specific standards set forth herein for safety and uniformity.
- B. The design of streets and roads shall depend upon their type and usage. If a street is dedicated to public use, the street must be classified as provided in Table 4-1. Classification will be based on the following considerations:

1. The projected volume of traffic to be carried by the street, stated in terms of the number of trips per day;
2. The number of dwelling units to be served by the street may be used as an indicator of the number of trips but is not conclusive;
3. Whenever a subdivision street continues an existing street that used to end outside the subdivision, the classification of the street will be based upon the street in its entirety, both within and outside of the subdivision.
4. The classification of streets must comply with the most current edition of the Pacific county Roads Standards. Table 4-1 includes road or right-of-way classifications based on the anticipated Average Daily Traffic (ADT) in ten years.

**Table 4-1
Street Classification
(Pacific County Road Standards)**

Average Daily Trips (ADT)	Street Classification
2000+	Major Collector
400 - 2000	Minor Collector
0 - 400	Access Collector
NA	Private Road

- C. Except where these standards provide otherwise, design detail, construction workmanship, and materials shall be in accordance with the current edition of the Washington State Department of Transportation (WSDOT) and American Public Works Association (APWA) Standard Specifications for Road, Bridge, and Municipal Construction and the WSDOT/APWA Standards for Road and Bridge Construction.
- D. All subdivisions and site plans must provide direct access to at least one existing improved and publicly-dedicated street.
- E. The layout of streets shall provide for the continuation of existing arterial streets in adjoining subdivisions or of their proper projection when adjoining property is not subdivided. Local access streets, which serve primarily to provide access to abutting property, shall be designed to discourage through traffic.
- F. The maximum length of residential blocks should be six hundred (600) feet, and minimum length should be three hundred (300) feet, unless existing conditions make this requirement impractical in the judgment of the City Council.
- G. Streets must be laid out so that the lengths, widths, and shapes of blocks adequately address the following:
 1. Provision of adequate building sites suitable to the type of use contemplated;
 2. The zoning requirements are able to be met on future building permits;
 3. The limitations and opportunities of the topography;

4. The needs for convenient access, circulation, control and safety of vehicular and pedestrian traffic are considered.
- H. Lots to be created must comply with the following requirements:
1. Every lot must have access to allow emergency vehicles to enter and exit, as well as, for all those likely to need to desire access to the property in its intended use;
 2. Lot lines must be at right angles to street lines or radial to curvilinear streets, unless a variation will result in a better street or lot plan in the opinion of the decision-making body;
 3. Dimensions of corner lots must be large enough to allow for front yard setbacks off both streets; and
 4. Corner lots must be graded to provide sufficient sight clearance at intersections.
 5. If a driveway connects to a City street, the property owner shall maintain the driveway to where it connects with the City street pavement. All driveways to be constructed connecting to the City street must obtain a permit, must be designed and constructed to City standards. All driveway construction connecting to the City street will be inspected by City staff.
- I. Proposed streets should extend to the boundary lines of the proposed subdivision in order to provide for the future development of adjacent tracts, unless prevented by natural or man-made conditions, or unless an extension is determined to be unnecessary or undesirable by the City. The resulting dead-end street shall be provided with a temporary cul-de-sac. The temporary cul-de-sac shall be appropriately signed as "temporary" and further paved, to include furnishing and installing concrete curbs, gutters and sidewalks and constructed to City standards. Temporary dead-end streets in excess of six hundred (600) feet will not be allowed unless no other practicable alternative is available.
- J. The street system (in residential subdivisions and short subdivisions) shall be laid out with a minimum number of intersections with other arterial streets. Arterials shall not intersect with other arterials at intervals closer than one thousand three hundred twenty feet and no streets shall intersect at intervals closer than one hundred twenty five feet, unless, in the judgment of the Public Works Superintendent, an exception to this rule would be in the public interest and welfare.
- K. Streets shall be laid out so as to intersect as nearly as possible at right angles, and in any event, no street shall intersect with any other street at an angle of less than sixty degrees, without specific written City approval.
- L. Access roadways or driveways must be located to provide the following minimum sight distances:

<u>Existing Speed Limit</u>	<u>Sight Distance</u>
50*	450'
40	320'
30	200'

*This value shall be used for major and minor collectors regardless of existing speed limit unless prior approval is obtained from the City Engineer.

- M. Maintenance of approach roads/driveways shall be the responsibility of the owner whose property they serve.
- N. No approach road/driveway shall be constructed in such a manner that restricts existing drainage or constitutes a hazard to a street lighting standard, utility pole, traffic control device, fire hydrant or other public facility. Relocation shall be arranged through the appropriate agency and the cost shall be borne by the developer.
- O. Whenever possible, proposed intersections along one side of a street must coincide with existing or proposed intersections on the opposite side of such street. In any event, where a centerline offset (jog) must occur at an intersection, the distance between centerlines of the intersecting streets must be evaluated and designed according to accepted traffic safety standards.
- Q. Street profile grade should conform closely to the natural contour of the land. Streets must be designed to facilitate drainage and stormwater runoff, and street grades must conform as closely as practicable to the original topography.
- R. The maximum grade at any point on a street must not exceed fifteen percent (15%) unless no other practicable alternative is available. However, in no case may streets be constructed with grades that create a substantial danger to the public safety in the professional opinion of the City Engineer.
- T. The developer is required to retain a licensed geotechnical engineer to make soils tests and to provide engineering recommendations for design of the sub-base and roadway sections based on "in place" soils, depth of "free draining" structural materials, projected pavement loadings, roadway classification, average daily traffic volume, etc.
- U. In special circumstances, as may be specifically approved or required by the City Council, due to local conditions and/or geometric restrictions, paving widths or improvement standards may be required which are different than those specifically listed herein.
- V. The location and alignment of streets shall generally conform to existing streets and to the City's official street naming policy or ordinance except where, in the opinion of the Public Works Superintendent, topography or some physical features eliminate the possibility of connecting these streets in the future. The County's E-911 Coordinator and the City Council shall approve all street names.
- X. The design of any proposed street that intersects with a state highway shall be submitted to WSDOT for approval. Improvements to the state highway are to be the sole responsibility of the developer.
- Y. Street jogs with centerline offsets less than one hundred twenty-five feet are prohibited.

- Z. In some existing plats in the City a street is being used as a driveway because all of the lots created at the time that the area was platted have not yet been built. In these situations the property owner using the street as a driveway must improve it to City street standards and then dedicate the street to the City.
- AA. Intersecting streets shall be laid out so that blocks between street lines are not more than one thousand three hundred twenty feet in length, except where in the opinion of the Public Works Superintendent extraordinary conditions justify a departure from the maximum.
- BB. Streets shall conform to all requirements of the latest edition of the Uniform Fire Code adopted by the City.
- CC. All street construction plans shall be submitted to the City and shall include the following required information:
1. Plan and profile;
 2. Street name;
 3. Centerline bearings;
 4. Centerline/baseline stationing;
 5. Centerline elevations every fifty feet;
 6. Gutterline elevations every fifty feet if not standard crown;
 7. Slope shall be in percent;
 8. Transverse slope: Two percent standard crown (to be used unless approved/required by City);
 9. Longitudinal slope - see design standard table;
 10. Horizontal and vertical curves shall be required when a change of centerline grade occurs greater than one percent:
 - a. Fifty feet minimum length;
 - b. Elevations required at twenty five feet stations and at the P.C., P.I., P.T. and low point or high point;
 11. Longitudinal gutterline slope - see design standard table;
 12. Pavement cross sections per City standard detail;
 13. Accurate locations of monuments at all centerline intersections, cul-de-sacs, P.C.'s, P.T.'s, and P.R.C.'s;
 14. Length and width of sidewalks and driveways;
 15. The location of all existing fire hydrant within 300 feet of the project shall be indicated;
 16. Curb and gutter;
 17. Wheelchair ramps;
 18. Illumination. (Illumination not required to be shown on same street as on plan/profile, but approval at location of miscellaneous utilities (i.e., gas, power, CATV, cable) as required. Plan shall be submitted to City Engineer for approval prior to installation.)

- a. Luminaries - location, material, height and wattage.
 - b. Service cabinet - location and material.
 - c. Conduits and wire - location, material size and depth.
 - d. Junction boxes - location and material;
19. Channelization and Signing:
- a. Lane markers - location and type.
 - b. Pavement markings - location and type.
 - c. Signs - location and type.
20. Grades (slopes).
- a. Arterials, eight percent maximum.
 - b. Allow an average maximum grade on all other streets as follows: eight percent maximum with the following exceptions: A grade of up to twelve over a distance not to exceed three hundred feet and a maximum grade of fifteen percent for a distance not to exceed seventy-five feet.
 - c. Grades of pedestrian ways or crosswalks shall not be more than eight percent (unless otherwise approved in writing by the Public Works Superintendent).
- DD. All vertically aligned profile grade changes shall be connected with a vertical curve which shall have a minimum sight distance of one thousand feet on arterials, five hundred feet on collector streets and three hundred feet on all other streets.
- EE. At street intersections, property line corners shall be rounded by an arc, the minimum radii of which shall be fifteen feet for alleys, twenty-five feet for local access streets and 30 feet for all other street classifications. In business districts, a chord may be substituted for such arc if specifically approved by the Public Works Superintendent.
- FF. Street intersections with centerline offsets of less than three hundred feet shall not be allowed.
- GG. All topsoil, organic, and structurally unsuitable soils shall be removed from beneath the proposed street section as located between the outside edges of sidewalks.
- HH. All new utility systems such as power, cable TV and telephone shall be buried, except where topography or site conditions prohibit reasonable installation. Design and installation of the system shall be done by the franchised utility company. Design shall be submitted to the Public Works Superintendent for review and approval prior to installation.

- II. Street lighting shall be provided in accordance with Pacific County PUD standards.
- JJ. Any project of sixteen dwelling units or more, accessing off of an arterial road requires a center turn lane and right hand turn lanes.
- KK. Roads are to be saw cut before permanent patch is made or new AC pavement is installed abutting the existing road.
- LL. The General Notes numbered 1 through 6, as shown and further referenced herein, shall be included or referenced on any plans submitted to the City for construction approval dealing with street design.

4.5 GENERAL NOTES (STREET CONSTRUCTION)

1. All workmanship and materials shall be in accordance with current Developer Standards and current amendments hereto, and current WSDOT/APWA Standard Specifications for Road, Bridge, and Municipal Construction and any current amendments thereto, amended as per City Standards.
2. The contractor shall be responsible for all traffic control in accordance with the MUTCD manual. Prior to disruption of any traffic, traffic control plans shall be prepared and submitted to the City for possible approval. No work shall commence until all approved traffic control is in place. Work shall cease when traffic control fails to meet minimum requirements.
3. All curb and gutter, street grades, sidewalk grades, and any other vertical and/or horizontal alignment shall be staked by engineering or surveying firm capable of performing such work. Such firms shall be currently licensed in the State of Washington to perform such work.
4. Where new asphalt joins existing, the existing asphalt shall be cut to a neat vertical edge and tacked with Asphalt Emulsion type CSS-1 in accordance with the standard specifications. The new asphalt shall be feathered back over existing to provide for a seal at the saw cut location and the joint sealed with grade AR-4000W paving asphalt. A sand blanket shall be applied to the surface to minimize "tracking" of same.
5. Compaction of subgrade, rock, and asphalt shall be in accordance with the WSDOT Standard Specifications.
6. Form and subgrade inspection by the City is required before pouring concrete. A minimum forty-eight hours' notice is required to be provided to the Public Works Superintendent for form inspection.

See Section 4.19 for testing and sampling frequencies.

4.6 DESIGN STANDARDS

- A. Pavement and right-of-way width depends upon the street classification. The table of Minimum Street Design Standards, Table 4-2, show the minimum widths allowed. Street widths shall be measured from face of vertical curb to face of vertical curb on streets with cement concrete curb and gutter, and from edge of

pavement to edge of pavement on streets “approved” by the City without concrete vertical curb and gutter.

Table 4-2
Minimum Roadway Dimension

Classification	Average Daily Trips	Right-of-Way Width (feet)	Street Width (feet)	Lane Width (feet)	Shoulder Width ¹ (feet)
Collector - Access	0-400	60	22	11	3
Collector - Minor	400-2000	60	22	11	6
Collector - Major	2,000 +	60	24	12	8
Private Road	NA	Note 2	12	NA	2

1- Minimum shoulder width if curb and gutter are not provided.

2- Right-of-way as required to construct and maintain roadway facility, plus provisions for any utilities unless utilities provided for by separate easement outside roadway easement, but not less than forty (40) feet.

4.7 STREET NAMES

- A. The developer must secure the approval of the City Council regarding the naming of streets; such approval shall not be unreasonably withheld. This should be done at the time the preliminary plat is submitted and again upon approval of the final plat. A private road will be designated “Lane”. The Public Works Superintendent will insure that the name assigned to a new street is consistent with policies of the City and the County Emergency Management Director.
- B. An address number will be assigned to all new buildings at the time the building permit is issued. It is then the owner’s responsibility to see that the house numbers are placed clearly and visibly at the main entrance to the property or at the principal place of ingress.

4.8 SIGNING

- A. The developer is responsible for furnishing and providing all temporary and permanent traffic control signs. Traffic control signing shall comply with the provisions as established by the U.S. Department of Transportation Manual on Uniform Traffic Control devices (MUTCD). Street designation signs, including poles and hardware, shall be furnished and installed by the developer. Street designation signs shall display street names or grid numbers as applicable.

4.9 RIGHT-OF-WAY

- A. Right-of-way is determined by the functional classification of street. Arterials, collectors, and local access streets shall have a right-of-way width of not less than 60 feet. Private roads shall have a right-of-way not less than 40 feet. Private road right-of-way may need to be greater than 40 feet to accommodate utility easements. See Minimum Roadway Dimensions (Table 4-2) for specific additional information.
- B. Additional roadside easements will be required to facilitate future roadway widening at the discretion of the City or as a condition of development approval. In order to conform to minimum standards where developments abut an existing public road or private right-of-way, dedications may be required for extension of existing public roads or new roads to provide continuity with the circulation system.
- C. Right-of-way requirements may be increased if additional lanes, pockets, transit lanes, bus loading zones, operational speed, bike lanes, utilities, schools or other factors are proposed and/or required by the City.
- D. Right-of-way shall be conveyed to the City on a recorded plat or by a right-of-way dedication deed. All costs of same to be borne by the property owner/developer.

4.10 STREET FRONTAGE IMPROVEMENTS

- A. All industrial, commercial, or residential development or redevelopment shall install street frontage improvements at the time of construction. Such improvements shall generally include concrete curb and gutter, concrete sidewalk, street storm drainage, street lighting system, utility relocation, landscaping and irrigation, undergrounding aerial utilities and street pavement widening all per these Standards. Plans shall be prepared and signed by a registered engineer currently licensed in the State of Washington.
- B. All frontage improvements shall be made across the full frontage of the property.
- C. All frontage improvements shall provide for a smooth transition to neighboring property.
- D. Exceptions:
 - 1. When the proponent requests that the City Council evaluate if the required frontage improvements cannot be reasonably performed due to unique conditions, the city council will consider a request from the proponent that an "equal" and voluntary monetary amount be deposited with the City and retained by the City for such use per applicable State law. The equivalent

cost shall be approved by the city and include design, administration, and construction costs.

2. When improvements cannot be reasonably accomplished in a timely manner a recorded agreement (performance bond or equal) on forms provided by the City shall be completed which provide for these improvements to be installed at a later date by the proponent.

4.11 CUL-DE-SAC

- A. A cul-de-sac is required on all dead end access road serving two (2) or more parcels, or an approved turn around for driveway access roads in excess of three hundred (300') feet.
 1. Minimum right-of-way diameter is ninety (90') feet for cul-de-sacs.
 2. Minimum pavement width for cul-de-sacs is seventy (70') feet in diameter.
 3. There shall be no islands in the center of any cul-de-sac without specific approval of the City.
- B. Proposed streets should extend to the boundary lines of the proposed subdivision in order to provide for the future development of adjacent tracts, unless prevented by natural or man-made conditions, or unless an extension is determined to be unnecessary or undesirable by the City. The resulting dead-end street shall be provided with a temporary cul-de-sac. The temporary cul-de-sac shall be appropriately signed as "temporary" and further paved, to include furnishing and installing concrete curbs, gutters and sidewalks and constructed to City standards. Temporary dead-end streets in excess of six hundred (600) feet will not be allowed unless no other practicable alternative is available.
- C. There shall be no islands in the center of any cul-de-sac without specific approval of the City.

4.12 TEMPORARY DEAD ENDS

Where a street is temporarily dead ended, turn around provisions must be provided where the road serves more than one lot. A turn around may be a hammerhead as shown in the Miscellaneous Detail Section of these Standards only if pre-approved by the local fire marshal and the City Council.

4.13 INTERSECTIONS

- A. Traffic control will be as specified in the Manual on Uniform Traffic Control Devices (MUTCD) or as may be specifically modified by the Public Works Superintendent as a result of appropriate traffic engineering studies.
- B. Street intersections shall be laid out so as to intersect as nearly as possible at right angles. Sharp angled intersections shall be avoided. No two streets may intersect at less than sixty (60) degrees.

- C. Not more than two streets may intersect at any one point.
- D. Whenever possible, proposed intersections along one side of a street must coincide with existing or proposed intersections on the opposite side of such street. In any event, where a centerline offset (jog) must occur at an intersection, the distance between centerlines of the intersecting streets must be evaluated and designed according to accepted traffic safety standards.
- E. Spacing between adjacent intersecting streets, whether crossing or “T” should be as follows:

When highest classification involved is:	Minimum centerline offset should be:
Major Arterial	350 feet
Minor Arterial	300 feet
Collector Street	300 feet
Local Access Street	150 feet

- F. When different class streets intersect, the higher standard shall apply on curb radii. Deviations to this may be allowed at the discretion of the Public Works Superintendent.
- G. On sloping approaches at an intersection, landings shall be provided with grade not to exceed one foot difference in elevation for a distance of 30 feet approaching any arterial or collector or 20 feet approaching a local access street, measured from nearest right-of-way line (extended) of intersecting street.

4.14 DRIVEWAYS

- A. Driveway details are located in the Pacific County Road Standards
- B. Residential driveways are those serving less than five (5) single family dwelling units. All others shall be considered commercial.
- C. Residential driveways minimum width is fourteen (14’). Commercial driveways minimum width is twenty-eight (28’) feet.
- D. An access plan shall be submitted for all proposed development for review by the City Engineer. The following guidelines shall be followed for developments using a city road for access from individual lots.
- E. Design Standard:
 - Major Collectors.** Internal collection of traffic will be achieved whenever possible. The number of access points shall be a function of traffic

volume on the major collector, but generally then shall not exceed one (1) access point per nine hundred (900') feet of frontage.

Minor Collectors. The same general guidelines apply as major collectors. The maximum number of access points shall be one (1) access point per seven hundred (700') feet.

Local Access. Internal collection of traffic desirable. Individual driveways will be allowed for roads with 150 ADT or less including projected traffic from development. For roadways with 150 to 400 ADT, individual driveways may be allowed. Roadways with 400 to 10000 ADT will meet the provisions of minor collectors. Roadways with greater than 1,000 ADT will meet the provisions of major collectors.

- F. Access roadways or driveways will be located to provide the following minimum sight distance:

Major and Minor Collectors	450 feet
Local Access (40 mph)	320 feet
Local Access (30 mph or less)	200 feet

- G. Driveways and accesses will approach the City street at ninety degrees (90°) or as close as possible. In no case will an approach angle of sixty degrees (60°) or less be permitted.
- H. All abandoned driveway areas on the same frontage shall be removed and the curbing and sidewalk or shoulder and ditch section shall be properly restored, at the Property Owner's expense.
- I. All driveway approaches shall be constructed of Portland Concrete Cement, and shall be at least 6-inches thick, over a 4-inch crushed surfacing (5/8" minus) top course. Driveways shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.]
- J. Driveways may be constructed of cast in place or precast concrete paving blocks to reduce impervious area as approved by the Public Works Superintendent.
- K. Grade breaks, including the tie to the roadway, shall be constructed as smooth vertical curves. The maximum change in driveway grade shall be 8 percent within any 10 feet of distance on a crest and 12 percent within any 10 feet of distance in a sag vertical curve. The grades of all driveway approaches are to be approved by the City.
- L. No commercial or industrial type driveway shall be constructed, if reasonably possible, where backing onto the sidewalk or street is required.
- M. No driveway aprons shall extend into the street further than the face of the curb.
- N. Generally, the two edges of each driveway shall be parallel.

- O. Every driveway must provide access to a garage, carport, parking area or other structure on private or public property requiring the entrance of vehicles. No public curb shall be cut unless a driveway is installed.
- P. Maintenance of driveway approaches shall be the responsibility of the owners whose property they serve.
- Q. A driveway permit shall be required. No person shall begin work on the construction, alteration, repair or removal of any driveway or the paving of any parking strip on and/or adjacent to any street, alley or other public place in the City without first obtaining a permit from the City. Exceptions to permit acquisition requirements may be granted at the discretion of the Public Works Superintendent and/or Building Official.
- R. No driveway shall be located as to create a hazard to pedestrians, bicyclists or motorists or to invite or compel illegal or unsafe traffic movements.
- S. No driveway shall be constructed in such a manner as to be a hazard to any existing street lighting standard, utility pole, and traffic regulating device or fire hydrant. The cost of relocating any such street structure when necessary to do so shall be paid by the abutting property owner. The relocation of any street structure shall be allowed with the specific written approval of the Owner of the structure involved.
- T. Except as otherwise provided, the width of any residential driveway shall not exceed twenty-four feet (exclusive of the radii of the returns). The maximum width for any commercial driveway shall be sixty feet. The Public Works Superintendent may authorize additional residential driveway widths for three-car garages or for access driveways necessary for off-street parking or recreational vehicles.
- U. The total width of all driveways for any one ownership on a street shall not exceed thirty percent of that ownership along the street. Any driveway which has become abandoned or unused through a change of the conditions for which it was originally intended or which for any other reason has become unnecessary, shall be closed and the owner shall replace any such driveway curb-cut with a standard curb according to the City's standards.
- V. The length of any driveway shall not exceed one hundred fifty feet, without approval of the Public Works Superintendent.
- W. There shall not be more than two driveways on one street for any one ownership except where a single ownership is developed into more than one unit of operation, each unit sufficient in itself to meet the requirements of off-street parking and loading as required by the zoning ordinance and where the necessity

for separate access to the street is evident. In such cases, there shall not be more than two driveways on the street for any one unit of operation.

- X. Driveway slopes or grades shall not exceed eight percent unless otherwise authorized/approved by the Public Works Superintendent in writing. The Public Works Superintendent will consider authorizing driveway slopes exceeding eight percent, up to a maximum of twelve percent, if it is determined that:
 - 1. The driveway is the only economically and environmentally reasonable alternative.
 - 2. The driveway will not present a traffic, pedestrian, bicycle or safety hazard.
 - 3. The police and fire chief concur in allowing the increased driveway slope.
 - 4. The public health, safety and general welfare will not be adversely affected.

- Y. No driveway may access any street within 75 feet (measured along the street) of any other street access on either side.

- Z. No driveway access shall be allowed onto an arterial street within 150 feet of the nearest right-of-way line of an intersecting street. No driveway shall be located within 20 feet of a crosswalk.

- AA. Within the limitations set forth above, access to arterial streets within the City shall be limited to one driveway for each tract of property separately owned, except that automobile service stations may be allowed two driveways as further stated herein.

- BB. Driveways giving direct access onto arterials may be denied if alternate access is available. Deviations of these standards may be permitted by the Public Works Superintendent.

- CC. Parking lot circulation and signing needs shall be met on site. The public right-of-way shall not be utilized as part of a parking lot flow.

- DD. Road approaches and/or ingress and egress tapers may be required in industrial and commercially zoned areas as directed by the Public Works Superintendent.

4.14 SURFACING REQUIREMENTS

- A. All streets in the City of Ilwaco will be paved with either Asphalt Concrete or Cement Concrete, in strict compliance with these standards.
- B. The pavement design shall meet the requirements in the latest publication of the AASHTO Guide for Design of Pavement Structures. The pavement section shall be designed and stamped by an engineer currently licensed in the State of Washington.
- C. One soil sample per each 500 LF of centerline with 3 minimum per project representative of the roadway subgrade shall be taken by the Developer and delivered to a City approved soils lab in order to determine a statistical representation of the existing soil conditions.
- D. Soil tests shall be performed by an engineering firm specializing in soils analysis and currently licensed in the State of Washington.
- E. The soils report, signed and stamped by a soils engineer licensed by the State of Washington, shall be based on actual soils tests and submitted with the plans. All depths indicated are a minimum compacted depth.
- F. Construction of streets paved with Asphalt Concrete shall conform to Section 5-04 of the Washington State DOT Standard Specifications. Pavement material will be HMA Cl. ½" PG 58-22 asphalt concrete and be constructed at least two (2) inches thick (minimum compacted thickness) over the prepared crushed surface, top course, or asphalt treated base. Mechanical spreading and finishing will be as described in Section 5-04.3(9) of the Standard Specifications. Compaction will be performed by the equipment and methods presented in Section 5-04.3(10) of the Standard Specifications, and Surface Smoothness shall satisfy the requirement of Section 5-04.3(13) of the Standard Specifications.
- G. Cement concrete streets will be constructed as specified in Section 5-05 of the Standard Specifications.
- H. Permanent pavement patching will be performed as described in the pavement repair detail listed herein, and in compliance with Section 5-04 of the Standard Specifications. All fill material will be placed in lifts no thicker than six inches and mechanically compacted to 95 percent of standard density, as described in Section 2-03 of the Standard Specifications and to the satisfaction of the Public Works Superintendent.

4.15 TEMPORARY STREET PATCHING

- A. Temporary restoration of trenches shall be accomplished by using 2" HMA Cl. ½" PG 58-22 Asphalt Concrete Pavement when available or 4" medium-curing (MC-250) liquid asphalt (cold mix), 3" Asphalt Treated Base (ATB), or steel plates suitable for H-20 traffic loading conditions. Steel plates shall be provided with a cold mix "lip" to accommodate a smooth transition from pavement to steel plate.
- B. ATB used for temporary restoration may be dumped directly into the trench, bladed and rolled. After rolling, the trench must be filled flush with asphalt concrete pavement to provide a smooth riding surface.
- C. All temporary patches shall be maintained by the contractor until such time as the permanent pavement patch is in place. All temporary patch materials shall be loaded and hauled to waste by the Developer, in compliance with applicable governmental regulations.
- D. If the contractor is unable to maintain a patch for whatever reason, the City will patch it at actual cost plus overhead and materials. The property owner/developer/permittee shall be invoiced for any City expenses incurred to comply with this Contractor requirement.

4.16 TRENCH BACKFILL AND RESTORATION

- A. All trench and pavement cuts shall be made by saw cuts or roller cut if approved by the Public Works Superintendent. The cuts shall be a minimum of 1 foot outside the trench width.
- B. All trenching shall be backfilled with gravel base, Class B, or crushed surfacing materials conforming to Section 4 of the WSDOT Standard Specifications. The trench shall be compacted to 95 percent maximum density, as described in Section 2-03 of the WSDOT Standard Specifications. The City will be the sole judge of approving materials to be utilized for backfill. Typically, crushed rock (5/8-inch minus) or control density fill (CDF) shall be placed and compacted in the trench sections for all right angle (\pm) street crossings.
- C. If the existing material is determined by the City to be suitable for backfill, the contractor may use the native material except that the top 12 inches of the trench section shall be 5/8-inch minus crushed rock or other structurally suitable material as approved by the City Inspector or Engineer. Exceptions may be granted by the City based on site evaluation of excavated materials. All trench backfill materials shall be compacted to 95% density.

- D. Backfill compaction shall be performed in 6 inch lifts, unless otherwise approved by the City.
- E. Replacement of the asphalt concrete or Portland concrete cement shall match existing asphalt concrete or Portland concrete cement depth, except asphalt shall be a minimum compacted thickness of 2 inches and concrete cement shall be a minimum compacted thickness of 6 inches.
- F. Tack shall be applied to the existing pavement and edge of cut and shall be emulsified asphalt grade CSS-1 as specified in Section 9-02.1(6) of the WSDOT Standard Specifications. Tack coat shall be applied as specified in Section 5-04 of the WSDOT Standard Specifications.
- G. Asphalt concrete HMA CL. ½" PG 58-22 shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the WSDOT Standard Specifications, except that longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum of 12 inches unless otherwise approved by the City. Fine and coarse aggregate for asphalt concrete shall be in accordance with Section 9-03.8 of the WSDOT Standard Specifications. Asphalt concrete over 2 inches thick shall be placed and compacted in equal lifts not to exceed 2 inches each.
- H. All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered and shimmed to an extent that provides a smooth-riding connection and expeditious drainage flow for the newly paved surface. Shimming and feathering as required by the City Inspector shall be accomplished by raking out the oversized aggregates from the Class B mix as appropriate.
- I. Surface smoothness shall be per Section 5-04.3(13) of the WSDOT Standard Specifications. The paving shall be corrected by removal and repaving of the trench only.
- J. All joints shall be sealed using paving asphalt AR4000W.
- K. When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition.
- L. The final patch shall be completed as soon as possible and shall be completed within 30 days after first opening the trench. This time frame may be adjusted if delays are caused by inclement paving weather, or other adverse conditions that may exist. However, delaying of final repair is allowable only subject to the Public Works Superintendent's approval. The Public Works Superintendent may deem it necessary to complete the work within the 30 days' time frame and not

allow any time extension. If this occurs, the Contractor shall perform the necessary work as required by the City.

4.17 SURVEY STAKING

- A. All surveying and staking shall be performed by an engineering or surveying firm employed by the Developer and capable of performing such work. The engineer or surveyor performing and directing such work shall be currently licensed by the State of Washington to perform said task.
- B. A pre-construction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- C. The minimum staking of streets shall be as follows:
 - 1. Stake centerline alignment every 25 feet (50 feet in tangent sections) with cuts and/or fills to subgrade.
 - 2. Stake top of ballast and top of crushed surfacing at centerline and edge of pavement every 25 feet.
 - 3. Stake top back of curb at a consistent offset for vertical and horizontal alignment.

4.18 MATERIAL AND CONSTRUCTION TESTING

- A. Testing shall be required at the developer's or contractor's expense. The testing shall be ordered by the developer or contractor and the chosen testing lab shall be preapproved by the City. Testing shall be done on all materials and construction as specified in the WSDOT Standard Specifications and with frequency as specified herein.
- B. In addition, the City shall be notified before each phase that street construction commences (i.e., staking, grading, subgrade, ballast, base, top course, and surfacing).

4.19 SIDEWALKS, CURBS AND GUTTERS

- A. Curbs, gutters, and sidewalks are required in the City's commercial zones. When required, curbs, gutters, and sidewalks must be constructed in accordance with these design standards and the latest ADA and WSDOT/APWA Standard Specifications.
- B. Plans for the construction of sidewalks, curbs and gutters will be submitted as part of the street plans when applicable.

- C. Sidewalks shall be constructed of Portland Cement Concrete, 4 inches thick (6-inch thick at driveway sections) per Section 8-14 of WSDOT Standard Specifications. When the sidewalk, curb and gutter are contiguous, the width of the sidewalk shall be measured from back of curb to back of sidewalk.
- D. Sidewalks will be constructed on a compacted gravel base (Class B) or 5/8-inch minus crushed rock of suitable thickness to provide a firm and unyielding base. Sidewalks will be constructed of Portland Cement Concrete as described in Section 8-14 of the WSDOT Standard Specifications and be designed and constructed in compliance with those details as shown herein. Typically, in commercially zoned areas the sidewalks shall abut the curb. The City Council may vary sidewalk dimensional characteristics and location to meet localized or existing conditions.
- E. Sidewalks shall be at least 4" thick. Those sections of a sidewalk which serve as a driveway shall be at least 6" thick. :
- F. The sidewalks will be divided into five foot lengths by contraction joints and expansion joints will be at intervals of no more than 15 feet. Joints shall be filled with an asphalt mastic material.
- G. Sidewalk width may vary from a minimum of 5 feet to 10 feet in width at the discretion of the City Council in commercial corridors or match existing widths if greater than 10 feet wide.
- K. The design and construction of all sidewalks, curbs, gutters and walkways shall meet or exceed minimum standards.
- L. The design of all sidewalks shall provide for a gradual taper rather than an abrupt transition between sidewalks of different widths or alignments.
- M. A form and subgrade inspection by the City is required before any sidewalks are poured.
- N. Monolithic pour of curb, gutter and sidewalk is not allowed.
- O. Driveway requirements are covered in Section 4.14.
- P. Cement concrete curb and gutter shall be used for all street edges unless otherwise approved by the Public Works Superintendent. All curbs and gutters shall be constructed of Class "B" Cement Concrete in accordance with Section 6-02 of WSDOT Standard Specifications. Curbs shall be of the vertical face type. No rolled curb and gutter profile will be allowed without specific approval of the

Public Works Superintendent. If rolled curbs are approved, all sidewalks within the Plat shall be a minimum 5 inches thick.

- Q. Extruded curb and gutter per WSDOT Standard Specifications is allowed only with the specific approval of the Public Works Superintendent.
- R. Form and subgrade inspection by the City are required before curb and gutter are poured.
- S. Forms, wood or steel, shall be staked securely in place, true to line and grade.
- T. Sufficient support shall be given to the form to prevent movement in any direction, resulting from the weight of the concrete or the concrete placement. Forms shall not be set until the subgrade has been compacted within one inch of the established grade. Forms shall be clean and well-oiled prior to setting in place. When set, the top of the form shall not depart from grade more than one-eighth (1/8) inch when checked with a ten-foot straightedge. The alignment shall not vary more than one-fourth (1/4) inch in ten (10) feet. Immediately prior to placing the concrete, forms shall be carefully inspected for proper grading, alignment and rigid construction. Adjustments and repairs as needed shall be completed before placing concrete.
- U. The subgrade shall be properly compacted and brought to specified grade before placing concrete. The subgrade shall be thoroughly dampened immediately prior to the placement of the concrete. Concrete shall be spaded and tamped thoroughly into the forms to provide a dense, compacted concrete free of rock pockets. The exposed surfaces shall be floated, finished and brushed longitudinally with a fiber hair brush approved by the City's inspector and/or engineer.
- V. The face form of the curb shall be stripped at such time in the early curing as will enable inspection and correction of all irregularities that appear thereon.
- W. Forms shall not be removed until the concrete has set sufficiently to retain its true shape. The face of the curb shall be trowled with a tool cut to the exact section of the curb and at the same time maintain the shape, grade and alignment of the curb. The exposed surface of the curb shall be brushed with a fiber hair brush.
- X. White pigmented or transparent curing compounds shall be applied to all exposed surfaces immediately after finishing. Transparent curing compounds shall contain a color dye of sufficient strength to render the film distinctly visible on the concrete for a minimum period of four (4) hours after application.
- Y. When the curb section is to be placed separately, the surface of the gutter directly underneath the curb section shall be covered with a protective cover to protect that

area from the curing agent when the gutter is sprayed. This cover must remain in place until the curb is placed. Care shall be taken in the placing of this cover to prevent the steel dowels from puncturing the cover.

- Z. If, at any time during the curing period any of the forms are removed, a coat of curing compound shall be applied immediately to the exposed surface. The curing compound shall be applied in sufficient quantity to obscure the natural color of the concrete. Additional coats shall be applied if the City Inspector determines that the coverage is not adequate. The concrete shall be cured for the minimum period of 72 hours' time set forth in Section 8-04 of the Standard Specifications.
- AA. Joints shall be constructed in the manner and at the locations shown in Details SW-1 and SW-2. They shall be cleaned and edged as shown on the drawings. All expansion and contraction joints shall extend entirely through the curb section above the pavement surface. Joint filler in the curb shall be normal to the pavement and in full and constant contact with pavement joint filler.
- BB. High visibility handicap ramps shall be constructed as integral parts of all sidewalks in accordance with the current standards of applicable state law.
- CC. Sidewalks shall be constructed to provide for high visibility handicap ramps in accordance with the current standards of applicable state law. Details provided herein are minimum and subject to change. It is the Developer's responsibility to verify current ADA requirements and install same per current standards even if City has approved of construction drawings with non-compliant ADA requirements.
- DD. Handicap Ramps shall be constructed of Portland Cement Concrete. Form and subgrade inspection by the City are required before handicap ramps are poured.
- EE. All surveying and staking shall be performed by an engineer or surveying firm employed by the Developer and capable of performing such work. The engineering or surveyor directing and/or performing such work shall be currently licensed by the State of Washington to perform said task.
- FF. A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- GG. Stake top back of curb at a consistent offset for vertical and horizontal alignment every 25 feet (50 feet in tangent sections).
- HH. Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT Standard Specifications.

- II. At a minimum, one slump test and 2 test cylinders shall be taken once per day. All other testing frequencies shall be as specified in the Testing and Sampling Table in Section 4B.18.
- JJ. City shall be notified before each phase of sidewalk, curb, and gutter construction commences.

4.20 ILLUMINATION

- A. Illumination shall be required unless otherwise directed by the City Council. All illumination shall be in compliance with the requirements specified by the Pacific County PUD. The style shall be compatible with the structural grade aluminum poles and luminaires presently existing on south First Avenue and Howerton Boulevard. Light pollution shall be avoided.

4.21 SIGNALIZATION

- A. Signalization will be required if warranted as determined by an existing study and/or transportation study performed by the Developer at the request of the City. The developer shall pay the entire cost of signalization if signalization is warranted.

4.22 PARKING LOTS

- A. A building permit is required prior to surfacing any unsurfaced designated parking area.
- B. Storm water detention shall be provided and shall follow the criteria as set forth in Chapter 5 of these standards.
- C. Four sets of plans and specifications shall be required to be submitted for review and approval by the City with respect to storm drainage discharge and on site retention or detention, matching street and/or sidewalk grades, access locations, parking layout, and to check for future street improvement conformity and City zoning regulations.
- D. Parking lot surfacing materials shall satisfy the requirement for a permanent all-weather surface. Asphalt concrete pavement and cement concrete pavement satisfy this requirement and are approved materials. Gravel surfaces are not acceptable. Other surface material types may be approved by the City on a case by case basis.

CHAPTER 5

STORM DRAINAGE STANDARDS

5.1 GENERAL

The standards established by this chapter are intended to represent the minimum standards for the design and construction of storm drainage facilities. Greater or lesser requirements may be mandated by the City due to localized conditions. Storm drainage revisions, additions, modification, or changes shall be made in compliance with City standards, ordinances, and Best Management Practices as identified by the current version of the 2012 Washington State Department of Ecology Stormwater Management Manual for Western Washington (hereinafter called “Stormwater Manual”) or as modified in this chapter. Adequate provisions shall be made for storm drainage, storm sewers, and associated appurtenances sufficient to transmit maximum runoff from the 100 year, 24 hour event.

If warranted based on the condition and capacity of the existing storm drainage infrastructure (or lack thereof) and, impacts caused by the proposed development, off-site improvements may be required, at the Public Works Superintendent’s discretion, to mitigate impacts caused by the proposed development.

5.2 DESIGN STANDARDS

On-site detention or infiltration systems shall be provided to ensure that stormwater flow rates following development do not exceed the pre-development rate in accordance with the Stormwater Manual. The design of storm drainage and detention system shall depend on their type and local site conditions. The design elements of storm drainage systems shall conform to City Standards as set forth herein. The following design considerations shall apply:

- A. The use of commercial parking lots for detention of stormwater will be reviewed by the Public Works Superintendent and approved or denied based on the design, location and general parameters of the project. The detention area shall be situated away from areas of pedestrian movement unless means for rapid closing of the areas is incorporated in the design. The maximum depth of water in parking lot storage shall be limited to 6 inches. Curbs cannot be used for retaining storage.
- B. Maximum catch basin spacing shall be 200 feet on road grades up to 3%, 300 feet when the road grade is 3% or greater and 500 feet maximum on main storm drains between access structures, whether catch basins or manholes. No surface water (unless otherwise approved in writing by the City Engineer) shall cross any roadway. In addition, catch basins shall be placed whenever the length of surface

drainage exceeds 300 feet on road grade, extending either direction from crest or sag on vertical curves. Varied grates shall be employed on street grades exceeding 6% slope.

- C. Plans for storm drainage shall indicate where the stormwater will be treated, detained, and discharged or infiltrated. The plans and drainage calculations must show that the pipes and channels downstream from the discharge point (a minimum of 1/4 mile) can carry the runoff without damage to the adjoining properties or surcharging of the system. The Public Works Superintendent may require that the downstream analysis be continued to incorporate sensitive areas such as steep slopes. Provisions shall be made for detainage and/or retainage of stormwater in order to control the amount of storm runoff to the standards in the Stormwater Manual.
- D. Where storm drains run outside an existing public right-of-way, permanent easements will be required for public or private maintenance as may be required and warranted. Such easement shall be a minimum of 15 feet in width unless otherwise approved or required by the City. Where the City is to maintain the storm drain, a permanent easement will be required having a minimum width of 15 feet. A construction (temporary) easement of suitable width shall also be provided.
- E. Storm Drain Detention Systems shall be, at a minimum, designed and constructed in strict compliance with the Stormwater Manual and any amendments thereto. Local prevailing conditions may warrant higher standards as determined by the Public Works Superintendent. The Developer and/or Homeowners' Association shall enter into a formal, legally binding agreement, as approved by the City Attorney, regarding the landowner's duties and obligations regarding their ownership, operation and maintenance of the system.
- F. The maximum infiltration rate used for design purposes shall be 20-inches/hr unless onsite Pilot Infiltration Tests are performed, as discussed in the Stormwater Manual.
- G. All portions of publicly owned and maintained detention and or infiltration facilities shall be in public right-of-way or dedicated land tracts.
- H. All infiltration systems shall be open at the top to allow for maintenance. No underground, open bottom tanks, vaults, pipes or similar structures are allowed for infiltration.
- I. The General Notes, numbered 1 thru 10, as shown and further referenced herein shall be included or referenced on any plans submitted to the City for construction approval dealing with storm system design.

- J. Storm Drainage Ponds shall have a minimum side slope of 3:1 (H:V). The perimeter fence shall be 4 feet high and landscaped so as to hide the fence.
- K. The downstream analysis shall extend for a distance of one-mile or to the receiving water whichever is less. In no case shall the downstream analysis extend for less than 1/4-mile. Downstream erosion protection may be required at the direction of the Public Works Superintendent.

GENERAL NOTES (STORM DRAIN CONSTRUCTION)

- 1. All workmanship and materials shall be in accordance with City of Ilwaco Standards and the most current version of the State of Washington Standard Specifications for Road, Bridge and Municipal Construction (WSDOT/APWA). Where a conflict between the two standards exists, the more restrictive shall apply.
- 2. Temporary erosion/water pollution measures shall be required in accordance with Section 1-07.15 of the Standard Specifications.
- 3. Comply with all other permits and other requirements by the City of Ilwaco or other governing authority or agency as may be applicable.
- 4. A preconstruction meeting shall be held with the City prior to the start of construction.
- 5. All storm mains, catch basins, curb inlets, culverts, outlet control structures and detention or infiltration areas shall be staked for grade and alignment by an engineering or surveying firm capable of performing such work, and currently licensed in the State of Washington to do so.
- 6. Storm drain pipe shall meet the following requirements:
 - A. PVC pipe shall conform to ASTM D 3034-73 SDR 35 for 4" thru 15" diameter PVC pipe, and shall conform to ASTM F 679 for 18" thru 27" diameter PVC pipe, with joints and gaskets conforming to ASTM D 3212 and ASTM F 477.
 - B. Polyethylene smooth wall pipe per Advanced Drainage Systems (ADS) N-12, bell and spigot, constructed per WSDOT Standard Specifications 7-04. Note: This type of pipe will only be approved with the City's specific written approval. Approval shall be based on site specific conditions and if additional on-site inspection time for witnessing proper pipe installation can be scheduled by the City.

7. Special structures, oil/water separators and outlet controls shall be installed per plans and manufacturers recommendations.
8. Provide traffic control plan(s) as required in accordance with MUTCD.
9. Call underground locate line 1-800-424-5555 minimum 48 hours prior to any excavations.
10. Where connections require "field verifications", connection points will be exposed by contractor and fittings verified 48 hours prior to distributing shut-down notices.
11. Storm drain pipelines shall be installed to the far property line(s) to serve adjacent tributary areas a may be warranted. They shall be appropriately sized to accommodate flows as further identified herein. Pipes shall be designed to facilitate a minimum 3 feet/second flow unless otherwise approved by the Public Works Superintendent.

5.3 CONVEYANCE

- A. Pipe: Storm drain pipe within a public right-of-way or easement shall be sized to carry the 100-year runoff from the contributing tributary area.
- B. The minimum pipe size shall be 12 inches diameter. Runoff shall be computed and, if the flow requires it, a larger pipe shall be used. Nothing shall preclude the City from requiring the installation of a larger sized main if the Public Works Superintendent determines a larger size is needed to serve adjacent areas or for future service.
- C. Storm drain gradients shall in be compliance Table C1-1, Minimum Slopes of Sewers, by Size, Dept. of Ecology "Criteria for Sewage Works Design".
- D. All pipe for storm mains shall be "pre-approved" by the Public Works Superintendent based on localized conditions and comply with one of the following types:
 1. PVC pipe shall conform to ASTM D 3034-73 SDR 35 for 4" thru 15" diameter PVC pipe, and shall conform to ASTM F 679 for 18" thru 27" diameter PVC pipe, with joints and gaskets conforming to ASTM D 3212 and ASTM F 477.
 2. Polyethylene smooth wall pipe per Advanced Drainage Systems (ADS) N-12, bell and spigot, constructed per WSDOT Standard Specifications 7-04.

Note: This type of pipe will only be approved with the City's specific written approval

5.4 CONNECTIONS

- A. Connections of storm drain pipe leading from an existing street inlet location may be made into an existing main storm drain only with a new structure, subject to case-by-case review and approval of the Public Works Superintendent and subject to the following additional requirements:
 - 1. The inletting structure shall be a catch basin and not a simple inlet lacking a catch or drop section.
 - 2. Length of inlet connection shall be as approved by the Public Works Superintendent.

5.5 SURVEY STAKING

- A. All surveying and staking shall be performed by an engineering or surveying firm employed by the Developer and capable of performing such work. The engineer or surveyor directing and/or performing such work shall be currently licensed by the State of Washington to perform said tasks.
- B. A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- C. The minimum staking of storm sewer systems shall be as follows:
 - 1. Stake centerline alignment every 25 feet with cuts and/or fills to bottom of trench.
 - 2. Stake location of all catch basins/manholes and other fixtures for grade and alignment.
 - 3. Stake location, size and depth of retention/detention facility.
 - 4. Stake finished grade of catch basin/manhole rim elevation and invert elevations of all pipes in catch basins, manholes, and those that daylight.

5.6 TRENCH EXCAVATION

- A. Clearing and grubbing where required shall be performed within the easement or public right-of-way as permitted by the City and/or governing agencies. Debris

resulting from the clearing and grubbing shall be disposed of by the owner or contractor in accordance with the terms of all applicable permits.

- B. Trenches shall be excavated to the line and depth designated by the City to provide a minimum of 36-inches of cover over the pipe. Except for unusual circumstances where approved by the City, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space as allowed by the governing agency and in compliance with all safety requirements of the prevailing agencies. The trench shall be kept free from water until joining is complete. Surface water shall be diverted so as not to enter the trench. The contractor shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out.
- C. The contractor shall perform all excavation of every description and whatever substance encountered and boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6 inches below storm line grade. Where materials are removed from below the pipeline grade, the trench shall be backfilled to grade with material satisfactory to the City and thoroughly compacted.
- D. Trenching and shoring operations shall not proceed more than 100 feet in advance of pipe laying without specific written approval of the City, and shall be in conformance with Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) Safety Standard.
- E. The bedding course shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to facilitate the construction of pipe joints.

5.7 BEDDING

- A. Gravel backfill for pipe bedding shall be installed in conformance with Section 2-09 of the Standard Specifications (WSDOT).

5.8 BACKFILLING

- A. Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100 feet is left exposed during construction hours without approval of the City. Selected material shall be placed and compacted around and under the storm drain by hand tools. Special precautions should be provided to protect the pipe to a point 12 inches above the crown of the pipe. The remaining backfill shall be compacted to 95 percent of the maximum density in traveled areas or CDF, 90 percent outside driveway, roadways, road prism, shoulders, parking or

other traveled areas. Where governmental agencies other than the City have jurisdiction over roadways, the backfill and compaction shall be done to the satisfaction of the agency having jurisdiction. Typically, trench sections crossing existing roadways, in roadway "prisms" or beneath traffic bearing areas shall be backfilled and compacted with 5/8-inch minus crushed rock. Due to localized conditions, the City may allow/permit the backfill of the trench section with suitable excavated material, as determined by the City, or if this material is not available from trenching operations, the City may order the placing and compaction of gravel base conforming with Section 9-03.10 of the Standard Specifications (WSDOT) for backfilling the trench. Under certain circumstances, the City may require CDF in lieu of gravel or other back-fill material. Where CDF is required, it shall meet WSDOT standards and requirements. All excess material shall be loaded and hauled to waste.

5.9 STREET PATCHING AND RESTORATION

- A. See Chapter 4 for requirements regarding street patching and trench restoration.

5.10 EROSION CONTROL

- A. The detrimental effects of erosion and sedimentation shall be minimized by conforming to the following general principles:
 - 1. Soil shall be exposed for the shortest possible time;
 - 2. Reducing the velocity and controlling the flow of runoff;
 - 3. Detaining runoff on the site to trap sediment; and
 - 4. Releasing runoff safely to downstream areas.
- B. In applying these principles, the Developer and/or Contractor shall provide for erosion control by conducting work in workable units; minimizing the disturbance to cover crop materials; providing mulch and/or temporary cover crops, sedimentation basins, and/or diversions in critical areas during construction; controlling and conveying runoff; and establishing permanent vegetation and installing erosion control structures as soon as possible.

- C. Trench mulching will be required where there is danger of backfill material being washed away due to steepness of the slope along the direction of the trench, backfill material shall be compacted and held in place by covering the disturbed area with straw and held with a covering of jute matting or wire mesh anchored in place.
- D. Cover Crop Seeding.
1. A cover crop shall be sown in all areas excavated or disturbed during construction that were not paved, landscaped and/or seeded prior to construction. Areas landscaped and/or seeded prior to construction shall be restored to their original or superior condition.
 2. Contact the City Clerk for water charges if use of City water is contemplated and the Public Works Superintendent for use of a hydrant for water in furtherance of seeding.
 3. Hydrants shall only be opened and closed by members of the City crew.
 4. Cover-crop seeding shall follow backfilling operations. The Developer and/or Contractor shall be responsible for protecting all areas from erosion until the cover crop affords such protection.
 5. The cover crop shall be re-seeded if required and additional measures taken to provide protection from erosion until the cover crop is capable of providing protection.
 6. During winter months, the Contractor may postpone seeding, if conditions are such that the seed will not germinate and grow. The Developer and/or Contractor will not, however, be relieved of the responsibility of protecting all areas until the cover crop has been sown and affords protection from erosion.
 7. The cover crop shall be sown at a rate of 10 to 15 pounds of seed per acre using a hand or power operated mechanical seeder capable of providing a uniform distribution of seed.

5.11 FINISHING AND CLEANUP

- A. After all other work on this project is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and

construction areas shall be neatly finished to the lines, grades and cross sections of a new roadway consistent with the original section, and as hereinafter specified.

- B. On water system construction where all or portions of the construction is in undeveloped areas, the entire area which has been disturbed by the construction shall be shaped so that upon completion the area will present a uniform appearance, blending into the contour of the adjacent properties. All other requirements outlined previously shall be met. All pipes, valves, tanks, reservoirs, boost pumps, boost pump stations and building associated therewith shall be cleaned of all debris and foreign material.
- C. Slopes, sidewalk areas, planting areas and roadway shall be smoothed and finished to the required cross section and grade by means of a grading machine insofar as it is possible to do so without damaging existing improvements, trees and shrubs. Machine dressing shall be supplemented by hand work to meet requirements outlined herein, to the satisfaction of the City Inspector and/or the Public Works Superintendent.
- D. Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. All graded areas shall be true to line and grade. Where the existing surface is below sidewalk and curb, the area shall be filled and dressed out to the walk. Wherever fill material is required in the planting area, the finished grade shall be elevated to allow for final settlement, but nevertheless, the raised surface shall present a uniform appearance.
- E. All rocks in excess of one (1) inch diameter shall be removed from the entire construction area and shall be disposed of the same as required for other waste material. In no instance shall the rock be thrown onto private property. Overhang on slopes shall be removed and slopes dressed neatly so as to present a uniform, natural, well-sloped surface.
- F. All excavated material at the outer lateral limits of the project shall be removed entirely. Trash of all kinds resulting from clearing and grubbing or grading operations shall be removed and not placed in areas adjacent to the project. Where machine operations have broken down brush and trees beyond the lateral limits of the project, the Developer and/or Contractor shall remove and dispose of same and restore said disturbed areas at his own expense.
- G. Drainage facilities such as inlets, catch basins, culverts, and open ditches shall be cleaned of all debris, which is the result of the Developer and/or Contractor's operations.
- H. All pavements and oil mat surfaces, whether new or old, shall be thoroughly cleaned. Existing improvements such as Portland cement concrete curbs, curb

and gutters, walls, sidewalks, and other facilities, which have been sprayed by the asphalt cement, shall be cleaned and re-painted where needed, all to the satisfaction of the Public Works Superintendent.

- I. Castings for monuments, water valves, vaults and other similar installations which have been covered with the asphalt material shall be cleaned to the satisfaction of the Public Works Superintendent.

5.12 GENERAL GUARANTEE AND WARRANTY

- A. The Developer shall be required, upon completion of the work and prior to acceptance by the City, to furnish the City a written guarantee covering all material and workmanship for a period of three years after the date of final acceptance and he shall make all necessary repairs during that period at his own expense, if such repairs are necessitated as the result of furnishing poor materials and/or workmanship.
- B. The Developer shall obtain warranties from the contractors, subcontractors and suppliers of material or equipment where such warranties are required, and shall deliver copies to the City upon completion of the work. Delivery of such warranties to the City shall not relieve the Developer of liability under his guarantee.
- C. Easement documents, if applicable, shall be filed and recorded with the County Auditor's office and the documents reviewed by the City prior to project acceptance.

CHAPTER 6

SANITARY SEWER STANDARDS

6.1 GENERAL

- A. The standards established by this chapter are intended to represent the minimum standards for the design and construction of sanitary sewer facilities. Greater or lesser requirements may be mandated by the City due to localized conditions. Washington State Department of Ecology's Design Standards shall also be employed by the City in its review and approval of system connections, extensions, and/or modifications.
- B. "Off-site" improvements may be warranted based on (1) the existing condition and capacity of the existing sanitary infrastructure and, (2) impacts caused by the proposed development. These off-site improvements (in addition to "on-site" improvements as may be warranted) will be as determined by the Public Works Superintendent so as to reasonably mitigate impacts caused by development.
- C. All wastewater mains shall have a capacity at least 150% of the expected maximum size required for the development.
- D. All wastewater systems shall have telemetry satisfactory to the Public Works Superintendent on all associated lines, tanks, reservoirs, pumps, valves, vents, and associated vaults and buildings for sampling and monitoring those items such as essential chemistry, turbidity, pressure, levels, flow, and status, which may be required by the Public Works Superintendent.
- E. If a lot is to have a use on it which requires sewage disposal, the property owner or developer must install a connecting line to the City sewer line.
- F. A building or structure requiring sewage disposal must be connected to a City sewer line before the completion of the construction of a building or structure.
- G. Each service (primary structure) shall have a separate lateral connecting it to the main and a separate clean out. If more than one primary structure is connected to the public sewer system by a single connection, a mutually beneficial easement must be granted to the respective properties over the shared portions of the connection, thus assuring that all properties involved will have perpetual use of the side sewer. Provisions must also be made for maintenance and access for repair. The property owner must:
 - 1. Record the easements(s) with the County Auditor; and

2. give a copy to the City.

6.2 DESIGN STANDARDS

The design of sanitary sewer systems shall be dependent on local site conditions. The design elements of sanitary sewer systems shall conform to minimum City Standards set forth in this Chapter.

- A. Detailed plans which provide the location, size, type and direction of flow of the proposed sewers and the connection with existing sewers shall be submitted for the City's review. These plans shall be separate from water plans.
- B. Project plans should have a horizontal scale of not more than 50 feet to the inch and a vertical scale of not more than 5 feet to the inch. Plan views shall be drawn to a corresponding horizontal scale. Plans and profiles shall show:
 1. Locations of streets, right-of-ways, existing utilities, and sewers;
 2. Ground surface, pipe type, class and size, manhole stationing, invert and surface elevation at each manhole, and grade of sewer between adjacent manholes. All manholes shall be numbered on the plans and correspondingly numbered on the profile. Where there is any question of the sewer being sufficiently deep to serve any residence, the elevation and location of the basement floor, if basements are served, shall be plotted on the profile of the sewer, which is to serve the house in question. The Developer shall state that all sewers are sufficiently deep to serve adjacent basements, except where otherwise noted on the plans;
 3. All known existing structures, both above and below ground, which might interfere with the proposed construction, particularly water mains, gas mains, storm drains, overhead and underground power lines, telephones lines, and television cables;
 4. All utility easements, including County recording numbers; and
 5. Details in scale drawings that clearly show special sewer joints and cross-sections, and sewer appurtenances such as manholes and related items and all other items as required by the City to clearly identify construction items, materials, and/or methods.

- C. Construction of new sewer systems or extensions of existing systems will be allowed only if the existing receiving system is capable of supporting the added hydraulic load. Sewers shall be extended to the far property line(s) to facilitate future extensions of same.
- D. Collection and interceptor sewers shall be designed and constructed for the ultimate development of the tributary areas.
- E. Sewer systems shall be designed and constructed to achieve total containment of sanitary wastes and maximum exclusion of infiltration and inflow.
- F. Computations and other data used for design of the sewer system shall be submitted to the City for approval.
- G. The sewage facilities shall be constructed in conformance with the current version of the Washington State Department of Transportation, Standard Specifications for Road, Bridge, & Municipal Construction, and current amendments thereto, State of Washington, revised as to form to make reference to Local Governments, and as modified by any special City requirements and standards.
- H. Material and installation specifications shall contain appropriate requirements that have been established by the industry in its technical publications, such as ASTM, AWWA, WPCF, UPC and APWA standards. Requirements shall be set forth in the specifications for the pipe and methods of bedding and backfilling so as not to damage the pipe or its joints, impede cleaning operations and future tapping, nor create excessive side fill pressure or ovalation of the pipe, nor seriously impair flow capacity.
- I. All sewers shall be designed to prevent damage from superimposed loads. Proper allowance for loads on the sewer because of the width and depth of trench should be made. When standard-strength sewer pipe is not sufficient, extra-strength pipe shall be used.
- J. All pipe shall be laid in straight lines and at uniform rate of grade between manholes. Variance from established line and grade shall not be greater than one-half inch (1/2"), provided that such variation does not result in a level of reverse sloping invert; provided, also, that variation in the invert elevation between adjoining ends of pipe, due to non-concentricity of joining surface and pipe interior surfaces, does not exceed one-sixty-fourth inch (1/64") per inch of pipe diameter, or one-half inch (1/2") maximum. Any corrections required in line and grade shall be reviewed with the City and/or the Public Works Superintendent and shall be made at the expense of the Developer and/or Contractor.

- K. Deflection tests shall be performed on all PVC sewer mains and the deflection test limit shall be 5.0 percent of the base inside diameter of the pipe.
- L. Prior to final inspection, all pipelines shall be tested, flushed and cleaned and all debris removed. A pipeline "cleaning ball" of the proper diameter for each size of pipe shall be flushed through all pipelines prior to final inspection. Hydrant meters shall be acquired (deposit required) from the City and utilized by the Contractor for all water withdrawn from the City of Ilwaco system for flushing purposes.
- M. Before sewer lines are accepted, the Contractor/Developer shall perform a complete televised inspection of the sewer pipe and appurtenances and shall provide to the City an audio-visual tape recording of these inspections. All equipment and materials shall be compatible with existing City equipment. It shall be the Contractor/Developer's responsibility to confirm equipment compatibility with the City prior to inspection.
- N. At all times during the televised inspection process, the City's Utility Superintendent and/or his designated representative shall be present. The City's Public Works Superintendent shall be notified forty-eight (48) hours prior to any televised inspection.
- O. After all other work is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas shall be neatly finished to the lines, grades and cross sections for a new roadway consistent with the original section.
- P. The Developer shall be required, upon completion of the work and prior to acceptance by the City, to furnish the City with a written guarantee covering all material and workmanship for a period of two years after the date of final acceptance and the Developer shall make all necessary repairs during that period at his own expense, if such repairs are necessitated as the result of furnishing poor materials and/or workmanship. The Developer shall obtain warranties from the contractors, subcontractors and suppliers of material or equipment where such warranties are required, and shall deliver copies to the City upon completion of the work.

6.3 GENERAL REQUIREMENTS

- A. Prior to construction, the sewer plans shall be reviewed and approved by the Department of Ecology and an affidavit stating such be on file at the City's Public Works Department.

- B. Prior to construction, the Contractor shall notify the City for a pre-construction meeting.
- C. Work shall be performed only by licensed and bonded contractors with a demonstrated experience in laying public sewer mains of the type being proposed for construction.
- D. Prior to any work being performed, the Contractor shall contact the Public Works Superintendent and provide the Public Works Superintendent with the Contractor's construction schedule. The Contractor will submit changes in the construction schedule to the Public Works Superintendent in a timely manner.
- E. The Contractor shall obtain approval of materials to be used from the City prior to ordering or delivery of materials.
- F. Sewer mains shall be laid only in dedicated street right-of-way or easements shown on preliminary plats or which have been exclusively granted to the City. A street is normally not officially recognized until the plat, which created it has been filed (recorded) with the County Auditor.
- G. Sewer mains shall run parallel to and 5 feet southerly or westerly of street centerline where possible. Sewer mains shall maintain a minimum 10 foot horizontal separation from proposed or existing water mains.
- H. The maximum distance between manholes shall be 400 feet unless specifically approved otherwise by the Public Works Superintendent.
- I. All pipe shall have a minimum of thirty six (36) inches of cover (18" in the case of a side sewer on private property). The City reserves the right to require a minimum of three feet of cover unless topography, existing facilities or other future improvements prohibit this minimum cover for installation.
- J. The minimum slope for 8" gravity mains shall be 0.5% (except the minimum slope for dead end runs shall be 1.0% for 8" gravity mains) and the minimum slope for 6" side sewer laterals shall be 2.0%.
- K. All side sewer laterals shall be of the same material as the main line.
- L. Each side sewer lateral shall be equipped with a 6" x 6" tee, with an approved water-tight cap, located adjacent to, but within, the public right-of-way, to be utilized as a clean-out. When required by either the City's Inspector or Public Works Superintendent, a watertight six-inch capped stub shall be installed which extends vertically from the 6" x 6" tee to within 18 inches of finished grade.

- M. Each side sewer lateral shall have an approved water-tight cap at the termination of the stub. The cap shall be adequately “blocked” to satisfactorily resist air pressure testing.
- N. Each side sewer lateral shall have a twelve (12) foot long 2” x 4” wood “marker” at the termination of the stub. The “marker” shall extend from the bottom of the trench to above finished grade. Above the ground surface, it shall be painted “white” with “S/S” and the depth, in feet, stenciled in black letters 2” high.
- O. Front lot corners shall be staked by a surveyor prior to construction for side sewer tee location(s).
- P. Side sewers shall generally be located at the lowest property corner and located a minimum of 10 feet from the side lot line and extend a minimum of 10 feet past the street right-of-way line (or property line).
- Q. Side sewer connections if allowed directly into manholes shall be constructed to match the sewer main crown (outlet) and the manhole channeled accordingly.
- R. Manholes, where sewer extension may occur, shall be provided with knock-outs and channeled accordingly.
- S. Manholes shall be provided with a 0.10 foot drop across the channel. Pre-channeled manholes are not allowed.
- T. Locking lids shall be provided for all manholes located outside pavement areas and all manhole lids shall have the word “sewer” cast integrally onto its surface. See Standard Details, attached hereto and incorporated herein for all purposes.
- U. Concrete collars shall be placed around all frames per the Standard Details for manholes located in non-paved areas.
- V. Pipe connections to manholes shall be as follows:
 - 1. PVC Pipe - Cast or grout a watertight manhole coupling (see detail) into manhole wall.
 - 2. D.I. Pipe - Both bell and spigot joints and flexible couplings shall be 12” maximum distance from manhole wall.
 - 3. PVC and D.I. pipe, optional - Core the manhole and connect sewer pipe with a water-tight flexible rubber boot in manhole wall, Kor-N-Seal boot or equal.

- W. Provide the Public Works Superintendent and City Inspector a copy of the cut sheets prior to construction.
- X. Pipe trenches shall not be backfilled until pipe and bedding installation have been inspected and approved by the City's Inspector.
- Y. Final air testing shall not be accepted until after the finished paving is accomplished, all other underground utilities have been installed, and the lines have been flushed, cleaned, and deflection tested.
- Z. Manhole rim and invert elevations shall be field verified after construction by the Developer's engineer(s) and the "record" drawings individually stamped by a Washington State licensed professional engineer or surveyor who shall attest to the fact that the information is correct.
- AA. All commercial, industrial, or school food establishments shall be equipped with an approved grease interceptor. The grease interceptor shall be located to facilitate inspection and maintenance.

6.4 MATERIALS AND TESTING

A. Sewer Mains, Laterals and Force Mains

1. Sewer mains to be installed shall be of material noted below:
 - a. Gravity Sewer and Laterals:
 1. PVC Pipe 3'-25' Cover
 2. DI Pipe (Class 52) <3' cover; 25' and over cover or slopes of 18 percent or greater
 3. HDPE - 3' - 25' Cover
 - b. Force Main:
 1. DI Pipe Class 52
 2. HDPE (SDR 9 - minimum)
2. Gravity PVC pipe (15" diameter and smaller) shall be a minimum Class SDR 35 and be manufactured in accordance with ASTM D3034. The pipe and fittings shall be furnished with bells and spigots, which are integral with the pipe wall. Pipe joints shall use flexible elastomeric gaskets conforming to ASTM D3212. Nominal laying lengths shall be 20 feet and 13 feet.
4. The ductile iron pipe shall conform to ANSI/AWWA C151/A21.51-91 Standards, and current amendments thereto, except the ductile iron pipe

shall be thickness Class 52 for gravity sewers and Class 52 for force mains. Grade of iron shall be a minimum of 60-42-10. The pipe shall be cement lined to a minimum thickness of 1/16", and the exterior shall be coated with an asphaltic coating. Each length shall be plainly marked with the manufacturer's identification, year case, thickness, class of pipe and weight.

5. HDPE pipe shall manufactured in accordance with ASTM D3035 for gravity sewers and AWWA C901/C906 for pressure sewers.
6. Type of joint shall be mechanical joint or push-on type, employing a single gasket, such as "Tyton", except where otherwise calling for flanged ends. Bolts furnished for mechanical joint pipe and fittings shall be high strength ductile iron, with a minimum tensile strength of 50,000 psi.
7. Restrained joint pipe, where required shall be push-on joint pipe with "Fast Tight" gaskets as furnished by U.S. Pipe or equal for 12" diameter and smaller pipe and "TR FLEX" as furnished by U.S. Pipe or equal for 16" and 24" diameter pipes. Mechanical joint pipe with retainer glands (grip rings) as manufactured by "Romac" may also be required at the discretion of the City. The restrained joint pipe shall meet all other requirements of the non-restrained pipe.
8. All pipe shall be jointed by the manufacturer's standard coupling, be all of one manufacturer, be carefully installed in complete compliance with the manufacturer's recommendations.
9. All fittings shall be short-bodied, ductile iron complying with applicable ANSI/AWWA C110 or C153 Standards for 350 psi pressure rating for mechanical joint fittings and 250 psi pressure rating for flanged fittings. All fittings shall be lined and either mechanical joint or flanged, as indicated on the Plans.
10. Fittings in areas shown on the Plans for restrained joints shall be mechanical joint fittings with a mechanical joint restraint device. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1 and shall be EBAA Iron, Inc., MEGALUG, or ROMAC "Grip Ring", as required and approved by the Public Works Superintendent.
11. All couplings shall be ductile iron mechanical joint sleeves.
12. The sewer pipe, unless otherwise approved by the Public Works Superintendent, shall be laid upgrade from point of connection on the

existing sewer or from a designated starting point. The sewer pipe shall be installed with the bell end forward or upgrade. When pipe laying is not in progress, the forward end of the pipe shall be kept tightly closed with an approved temporary plug. Wherever movable shoring (steel box) is used in the ditch, pipe shall be restrained by use of a winch mounted in the downstream manhole and a line of sufficient strength threaded through the pipe and set tight before each move. Any indication that joints are not being held shall be sufficient reason for the City to require restraints, whether or not movable shoring is being used.

13. All pipe shall be laid in straight lines and at uniform rate of grade between manholes. Variance from established line and grade shall not be greater than one-half inch (1/2"), provided that such variation does not result in a level of reverse sloping invert; provided, also, that variation in the invert elevation between adjoining ends of pipe, due to non-concentricity of joining surface and pipe interior surfaces, does not exceed one-sixty-fourth inch (1/64") per inch of pipe diameter, or one-half inch (1/2") maximum. Any corrections required in line and grade shall be reviewed with the Public Works Superintendent and shall be made at the expense of the Developer.
14. All extensions, additions and revisions to the sewer system, unless otherwise indicated, shall be made with sewer pipe jointed by means of a flexible gasket, which shall be fabricated and installed in accordance with the manufacturer's specifications.
15. All joints shall be made up in strict compliance with the manufacturer's recommendations and all sewer pipe manufacture and handling shall meet or exceed the ASTM and CPAW recommended specifications, current revisions.
16. Pipe handling after the gasket has been affixed shall be carefully controlled to avoid disturbing the gasket and knocking it out of position, or loading it with dirt or other foreign material. Any gaskets so disturbed shall be removed, cleaned, relubricated if required, and replaced before the rejoining is attempted.
17. Care shall be taken to properly align the pipe before joints are entirely forced home. During insertion of the tongue or spigot, the pipe shall be partially supported by hand, sling or crane to minimize unequal lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned. Since most flexible gasketed joints tend to creep apart when the end pipe is deflected and straightened, such movement shall be held to a minimum once the joint is home.

18. Sufficient pressure shall be applied in making the joint to assure that it is home, as described in the installation instructions provided by the pipe manufacturer. Sufficient restraint shall be applied to the line to assure that joints once home are held so, until fill material under and alongside the pipe has been sufficiently compacted. Great care shall be exercised when dragging a trench box up or down trench after backfilling to avoid dragging the pipe. Such dragging can result in joint separation. At the end of the work day, the last pipe laid shall be blocked in an effective way to prevent creep during “down time.”
19. For the joining of dissimilar pipes suitable adapter couplings shall be used which have been approved by the City Inspector and/or the Public Works Superintendent
20. All gravity sewer pipe shall be bedded with pea gravel. The PVC pipe shall be bedded from a depth of four (4) inches below the pipe to eight (8) inches above the pipe and ductile iron gravity sewer pipe shall be bedded from a depth of four (4) inches below the pipe to the springline of the pipe. The bedding material shall extend across the full width of the trench and shall be compacted under the haunches of the pipe.
21. Special concrete bedding shall consist of a pipe cradle constructed of Portland cement concrete containing not less than four (4) sacks of cement per cubic yard. Sand, gravel and water proportions are subject to approval by the Engineer. Maximum aggregate size shall be 1-1/2”. Maximum slump shall be 4”. The bottom of the trench shall be fully compacted before the placement of pipe cradle. The Contractor shall protect pipe against flotation and disturbing the horizontal alignment of the pipe during the pouring of the concrete. (Washington State Department of Transportation Standard Specifications for “Class A” concrete bedding will be acceptable.)
22. Clay or Controlled Density Fill (CDF) dams shall be installed across the trench and to the full depth of the granular material in all areas of steep slopes, stream crossings and wetland to prevent migration of water along the pipeline.
23. All backfill shall be placed and compacted in accordance with City, County, or State requirements as may be applicable and copies of the compaction results shall be provided to the Public Works Superintendent.

B. Manholes

1. Manholes shall be of the offset type and shall be precast concrete sections with either a cast in place base, or a precast base made from a 3,000 psi structural concrete. Joints between precast wall sections shall be confined O-ring or as otherwise specified.
2. For connections to existing systems, a concrete coring machine, suitable for this type of work, shall be utilized in making the connection. The existing manhole shall be rechanneled as required. The new pipe connection shall be plugged (water tight) until the new pipe system has been installed and approved. The Contractor shall be responsible for any existing defects in the existing manhole unless these defects are witnessed by a representative of the City prior to any work being performed to make the connection. The Contractor shall be required to remove any and all deleterious material in the existing manhole and downstream reaches as a result of his/her work.
3. The minimum diameter manhole shall be 48 inches to a depth of 20 feet, and 54 inches for a depth greater than 20 feet. The City may require an increased manhole diameter for future connections.
 - a. Manhole sections shall be placed and aligned so as to provide vertical sides and vertical alignment of the ladder steps. The completed manhole shall be rigid, true to dimension, and be water tight. Rough, uneven surfaces will not be permitted.
 - b. The mortar used between the joints in the precast sections and for laying manhole adjusting bricks shall be composed of epoxy grout. All joints and pick holes shall be wetted and completely filled with grout, smoothed both inside and outside to insure water tightness.
 - c. Masonry units (manhole adjusting brick) shall conform to the ASTM C-32, Grade MA. The outside and inside of manhole adjusting bricks and the joints of precast concrete sections shall be plastered and troweled smooth with 1/2" (minimum) of mortar in order to attain a watertight surface.
 - d. Manhole steps shall be polypropylene, Lane International Corp. No. P13938 or equal. Ladders (maximum 3 foot length) shall be polypropylene Lane International Corp. or equal, and shall be compatible with steps.
 - e. Grade Adjustment. Where work is located in public right of way, not less than 18" or more than 26" shall be provided between the top of the cone or slab and the top of the manhole frame.

- f. Channels shall be field poured and made to conform accurately to the sewer grade and shall be brought together smoothly with well rounded junctions, satisfactory to the City Inspector. The channels shall be field poured after the inlet and outlet pipes have been laid and firmly grouted into place at the proper elevation. Allowances shall be made for a one-tenth foot (0.1') drop in elevation across the manhole in the direction of flow. Channel sides shall be carried up vertically from the invert to three-quarters of the diameter of the various pipes. The concrete shelf shall be warped evenly and sloped 3/8" per foot to drain. Rough, uneven surfaces will not be permitted. Channels shall be constructed to allow the installation and use of a mechanical plug or flow meter of the appropriate size.
- g. Drop manholes shall, in all respects, be constructed as a standard manhole with the exception of the drop connection as further detailed herein.
- h. All lift holes shall be completely filled with expanding mortar, smoothed both inside and outside, to insure water tightness.
- i. All steel loops shall be removed, flush with the manhole wall. The stubs shall be covered with mortar and smoothed. Rough, uneven surfaces will not be permitted.
- j. Frames and covers shall be ductile iron. Castings shall be free of porosity, shrink cavities, cold shuts or cracks, or any surface defects which would impair serviceability. Repair of defects by welding, or by the use of "smooth-on" or similar material, will not be permitted. Frames and covers shall be machine finished or ground on seating surfaces so as to assure non-rocking fit in any position and interchangeability of covers. Frames and covers shall be provided with three bolt locking lids. Rings and covers shall be positioned so one of the three locking bolts is located over the manhole steps and shall be adjusted to conform to the final finished surface grade of the street or easement to the satisfaction of the City or agent for the City. Manhole frames and covers shall be as manufactured by "Sather" Manufacturing Company, Model No. 6024-R, or City approved equal.

C. Side Sewer Laterals

1. A side sewer lateral is considered to be that portion of a sewer line that will be constructed between a main sewer line and a property line or easement limit line.
2. All applicable specifications given herein for sewer construction shall be held to apply to side sewer laterals.
3. Side sewers shall be for a single connection only and be a minimum six inch (6") diameter pipe. Side sewers shall be connected to the tee, provided in the sewer main where such is available, utilizing approved fittings or adapters. The side sewer shall rise at a maximum of 45° and a minimum of 2%, from the sewer main.
4. Where there are no basements, the minimum side sewer depth shall be six (6) feet below existing curb line and five (5) feet below ground at the property line, except where existing improvements, proposed improvements or topography may dictate additional depth. The elevations of the side sewer connections shall be of sufficient depth to serve all existing and potential future basements.
5. The Contractor shall provide for each 6 inch side sewer service a twelve (12) foot long 2 inch x 4 inch wooden post which extends from the invert of the end of the 6 inch pipe to above the existing ground. The exposed area of this post shall be painted white and shall have selected thereon in two inch letters (black paint) "S/S" and shall also indicate the depth of the sewer service stub from finished grade.
6. Where no tee or wye is provided or available, connection shall be made by machine-made tap and saddle, only with specific written authorization of the City. The City shall review the exact location and material, list in its evaluation.
7. The maximum bend permissible at any one fitting shall not exceed forty-five degrees (45°). The maximum bend of any combination of two adjacent fittings shall not exceed 45° unless straight pipe of not less than three (3) feet in length is installed between such adjacent fittings, or unless one of the fittings is a wye branch with a cleanout provided on the straight leg.

D. Private Side Sewers

1. Private side sewers are the extension of side sewer laterals located outside of the public rights-of-way or easements granted to the City of Ilwaco.

2. Side sewer pipe located on private property shall be 4" (larger if specifically approved by the City), ductile iron or PVC ASTM D3034 pipe, and shall be installed at a 2% minimum grade (1/4 inch fall per foot). Construction on private property may be performed by owner, but requires a permit and approval by the City.
3. Pipe shall be bedded with pea gravel or clean free draining sand.
4. Six inch sewer pipe is required in the street right-of-way and shall have a 2% minimum grade. Construction in street rights-of-way shall be performed by a licensed side sewer contractor and requires a permit.
5. Side sewer shall be inspected by the City Inspector and/or Public Works Superintendent prior to backfilling. Side sewer shall be plugged and tested in the presence of the City Inspector by filling with water. Leakage rate shall not exceed 0.31 gal./hr. for 4 inch pipe and 0.47 gal./hr. for 6 inch pipe, per 100 feet of pipe.
6. On private property, minimum cover shall be 18" over top of pipe from the point, which is 30" out from house and continuing to the connection with the City's sewer system.
7. Parallel water and sewer lines shall be a minimum of 10 feet apart horizontally wherever possible and have a vertical separation of at least 18" if a vertical crossing is necessary.
8. No more than 100 feet is allowed between cleanouts. Cleanouts are required for bends equal to or greater than 45°. Cleanout shall be a watertight plugged gasketed tee or wye lateral.
9. All pipe joints shall be rubber gasket type.
10. Provide "grease trap" of a size and type approved by the City at all such locations as may be deemed necessary by the City.

E. Testing Gravity Sewers for Acceptance

1. The Contractor and/or Developer shall furnish all facilities and personnel for conducting tests under the observation of the Public Works Superintendent and/or City Inspector. Methods other than Part "B" shall be subject to the approval of the Public Works Superintendent.
2. By way of preparation for testing for leakage, the Contractor and/or Developer shall be required, prior to testing, to clean and flush all gravity sewer lines with an approved cleaning ball and clean water. The

completed gravity sewer, including side sewer stubs, after completion of backfill and cleaning shall be televised inspected. This will be permitted prior to paving.

3. The sewer shall then be tested by the low pressure air test method and/or an infiltration test but only after all utilities are installed and the project paved. Except, however, that in certain conditions an exfiltration test may be required by the Public Works Superintendent.
4. The first section of pipe not less than 300' in length installed by each crew shall be tested, in order to qualify the crew and/or the material. A successful installation of this first section shall be a prerequisite to further pipe installation by the crew. At the Contractor's option, crew and/or material qualification testing may be performed at any time during the construction process after at least two (2) feet of backfill has been placed over the pipe.
5. Before the test is performed, the pipe installation shall be cleaned. The Contractor shall furnish an inflatable diagonally ribbed rubber ball of a size that will inflate to fit snugly into the pipe to be tested. The ball may, at the option of the Contractor, be used without a tag line, or a rope or cord may be fastened to the ball to enable the Contractor to know and control its position at all times. The ball shall be placed in the last cleanout, or manhole on the pipe to be cleaned, and water shall be introduced behind it.
6. The ball shall pass through the pipe with only the pressure of the water impelling it. All debris flushed out ahead of the ball shall be removed at the first manhole where its presence is noted. In the event cemented or wedged debris or a damaged pipe shall stop the ball, the Contractor and/or Developer shall remove the obstruction, and/or repair any damaged pipe. All visible leaks showing flowing water in pipelines or manholes shall be stopped even if the test results fall within the allowable leakage. The cleaning shall be carried out in such a manner to not infiltrate existing facilities. Precautions shall be taken to prevent any damage caused by cleaning and testing. Any damage resulting shall be repaired by the Contractor and/or Developer at his own expense. The manner and time of testing shall be subject to approval of the Public Works Superintendent.
7. Deflection tests shall be performed on all PVC gravity sewer mains by pulling a mandrel through the pipe and the deflection test limit shall be 5.0 percent of the base inside diameter or for example 7.28 inches for 8-inch diameter pipe. The sewer lines shall be thoroughly cleaned prior to the deflection test.

8. The sewer pipe shall be air tested for leaks in the following manner (unless the method in paragraph 9 and 10 below is approved):
- a. Immediately following the pipe cleaning and televised inspection, the pipe installation shall be tested with low pressure air. Air shall be slowly supplied to the plugged pipe installation until the internal air pressure reaches 4.0 pounds per square inch greater than the average back pressure of any ground water that may submerge the pipe. At least two minutes shall be allowed for temperature stabilization before proceeding further.
 - b. The rate of air loss shall then be determined by measuring the time interval required for the internal pressure to decrease from 3.5 to 2.5 pounds per square inch greater than the pipe section's average adjacent groundwater back pressure.
 - c. The pipeline shall be considered acceptable, when tested at an average pressure of 3.0 pounds per square inch greater than the pipe section's adjacent groundwater back pressure if the total time of air loss from any section tested in its entirety between manholes, cleanouts or pipe ends does not exceed the following table:

AIR TESTING PERFORMANCE
(Test time in minutes and seconds)

Length of 8" Pipe (ft)	Length of 6" Pipe (ft)								
	0	50	100	150	200	250	300	350	400
0	0	0:40	1:20	1:58	2:38	3:18	3:58	4:38	5:16
50	1:10	1:50	2:30	3:10	3:48	4:28	5:08	5:48	5:56
100	2:20	3:00	3:40	4:20	5:00	5:38	6:14	6:12	6:08
150	3:32	4:10	4:50	5:30	6:10	6:30	6:26	6:22	6:18
200	4:42	5:22	6:00	6:40	6:44	6:38	6:34	6:30	6:26
250	5:52	6:32	6:48	6:58	6:50	6:44	6:40	6:36	6:32
300	7:02	7:20	7:10	7:02	6:56	6:50	6:44	6:40	6:36
350	7:34	7:22	7:14	7:06	7:00	6:54	6:50	6:44	6:42
400	7:34	7:24	7:16	7:08	7:02	6:58	6:52	6:48	6:44

- d. Test times will be provided by the Public Works Superintendent upon request for combinations other than 8-inch mains and 6-inch laterals.

- e. If the pipe installation fails to meet these requirements, the Developer and/or Contractor shall determine at his own expense the source or sources of leakage, and he shall repair (if the extent and type of repairs proposed by the Developer and/or Contractor appear reasonable to the Public Works Superintendent) or replace all defective materials or workmanship. The completed pipe installation shall meet the requirements of this low pressure air test or the alternative water exfiltration test before being considered for acceptance.
 - f. Plugs used to close the sewer pipe for the air test shall be securely braced to prevent the unintentional release of a plug which can become a high velocity projectile. Gauges, air piping manifolds and valves shall be located at the top of the ground. No one shall be permitted to enter a manhole where a plugged pipe is under pressure. Air testing apparatus shall be equipped with a pressure release device such as a rupture disk or a pressure relief valve designed to relieve pressure on the pipe under test at 6 psi.
9. Exfiltration Test (if approved by City)
- a. All pipe shall be cleaned before the exfiltration test. Prior to making exfiltration leakage tests, the Developer and/or Contractor may fill the pipe with clear water to permit normal absorption into the pipe walls; provided however, that after so filling the pipe he shall complete the leakage test within twenty-four (24) hours after filling.
 - b. Leakage shall be no more than 0.15 gallons per hour per inch of diameter per one hundred (100) feet of sewer pipe, with a minimum test pressure of six (6) feet of water column above the crown at the upper end of the pie or above the active groundwater table, whichever is higher as determined by the City. The length of pipe tested shall be limited so that the pressure on the invert of the lower end of the section tested shall not exceed sixteen (16) feet of water column. For each increase in pressure of two (2) feet above a basic six (6) feet measured above the crown at the lower end of the test station, the allowable leakage shall be increased by 10 percent.
 - c. The Developer and/or Contractor shall furnish all equipment, materials, and labor necessary for making test. The equipment shall be to the approval of the City Public Works Superintendent and/or City Engineer. The manner and time of testing shall be

subject to approval of the Public Works Superintendent. It shall be the Developer's and/or Contractor's responsibility to determine the level of the water table at each manhole. If leakage exceeds the allowable amount, corrective measures shall be taken and the line then be retested to the satisfaction of the City's designated inspector.

10. Infiltration Test (if approved by City)

- a. Infiltration testing shall take place during jetting of backfill, except when the natural groundwater table is above the crown of the higher end of the test section.
- b. The maximum allowable limit for infiltration shall be 0.15 gallon per hour per inch of internal diameter per 100 feet of length with no allowance for external hydrostatic head.

F. Testing Force Main

1. The Developer and/or Contractor shall conduct preliminary tests to assure the section to be tested is in an acceptable condition before requesting the City Inspector and/or Public Works Superintendent to witness the test.
2. Final testing of all force mains shall be done tested prior to acceptance of work. All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished, installed and operated by the Contractor. Feed for the pump shall be from a barrel or other container within the actual amount of "makeup" water, so that it can be measured periodically during the test period.
3. The pipeline shall be backfilled sufficiently to prevent movement of the pipe under pressure. All thrust blocks shall be in place and time allowed for the concrete to cure before testing. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking.
4. The pipeline shall be subjected to a pressure and leakage test of a minimum of 150 pounds per square inch for a period of not less than one (1) hour. The test pressure shall be applied at the low end of the section tested.
5. The quantity of water lost from the main shall not exceed the number of gallons per hour determined by the formula:

$$L = \underline{ND(P)}^{0.5}$$

7,400

in which

L = Allowable leakage, gallons/hour

N = Number of joints in the length of pipeline tested

D = Nominal diameter of the pipe in inches

P = Average test pressure during the leakage test, psi

6. Defective materials or workmanship, discovered as a result of the tests, shall be replaced by the Contractor at the Contractor's expense. Whenever it is necessary to replace defective material or correct the workmanship, the tests shall be re-run at the Contractor's expense until a satisfactory test is obtained.

7. All fittings shall be blocked with concrete in order to prevent movement and separation of pipe joints. Timber will not be permitted as permanent blocking. Sufficient time shall be allowed for concrete to set before commencement of pressure tests. The type and size of blocks and anchors shall be in accordance with the standards set forth by the AWWA and designed by the Developer's engineer. **They shall be constructed to the minimum dimensional configuration as shown herein.** A visqueen barrier shall be provided to protect glands, bolts, and other miscellaneous materials required for this type of connection from the concrete.

6.5 VIDEO TAPING

After the gravity sewer lines have been cleaned, flushed and manhole channeled, the Developer shall provide a complete televised inspection.

The Developer shall perform a complete televised inspection of the sewer pipe and appurtenances and shall provide to the City, a DVD color audio-visual recording of the inspections together with a written log of the television inspection. The camera shall be a pan and tilt type equipped with adequate light and focusing to allow inspection of sewer main, side sewers and full circumference inspection of main line joints and fittings. The City shall determine if the quality of the televising is acceptable.

Immediately prior to the televised inspection, the Developer shall run water through each sewer line for 5- to 10-minutes to provide water for detection of any adverse grade sections visible by the presence of ponded water. The camera shall be stopped periodically at the ponded areas and the depth of water shall be measured with a ball of known diameter on the pull line. During the inspection, all tees and other fittings shall be logged as to exact location within 1 percent maximum error in measurement, wherein accuracy is checked with various fittings and the terminating manhole.

The City shall be notified 48 hours prior to any television inspection and this work shall be performed on a schedule to allow the City to witness the inspection.

Any defects in material or installation identified by the television inspection shall be repaired as required by the City at the Developer's expense.

6.6 STATE HIGHWAY CROSSINGS

All state highway and stream crossings shall be encased with a steel casing or ductile iron or PVC sleeve, as approved by the City and prevailing regulatory agencies. The welded steel casing or sleeve shall be of sufficient diameter, size and strength to enclose the sewer pipe and to withstand maximum highway or railroad loading. Sizing and wall thickness of casing is subject to approval by the Public Works Superintendent. Sand backfill or grout fill between the casing and the sewer pipe shall be required. In order to prevent the sand from being washed from the casing the ends of the casing shall be bricked and cemented after installation, backfill and testing of the pipe are completed. The ductile iron sleeve shall be completed with restrained joints within the casing.

6.7 STAKING

- A. All surveying and staking shall be performed by an engineering or surveying firm employed by the Developer and which firm shall be capable of performing such work. The engineer or surveyor directing or performing such work shall be currently licensed by the State of Washington to perform said tasks.
- B. A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- C. The following minimum staking of sanitary sewer systems shall apply:
 - 1. Stake centerline alignment at a minimum of fifty foot intervals unless otherwise approved by the City;
 - 2. Stake location of all manholes and side sewer laterals for grade and alignment;
 - 3. Provide a copy of "cut sheets" to City inspector; and
 - 4. Stake finished manhole rim elevation and invert elevations of all pipes in manholes.

6.8 TRENCH EXCAVATION

- A. Clearing and grubbing where required shall be performed within the easement or public right-of-way as permitted by the City and/or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the owner or contractor in accordance with the terms of all applicable permits.
- B. Trenches shall be excavated to the line and depth as shown on the City approved drawings, or as otherwise designated in the field by the City Inspector so as to provide a City approved minimum depth of cover over the pipe. See Construction Details as applicable. Except for unusual circumstances, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space as mandated by the regulatory agency and in compliance with all safety requirements of the prevailing agencies. The trench shall be kept free from water until joining is complete. Surface water shall be diverted so as not to enter the trench. The owner shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out.
- C. The contractor shall perform all excavation of every description and whatever substance encountered and boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6 inches below sewer line grade. Where materials are removed from below pipe grade, the trench shall be backfilled to grade with material satisfactory to the City and thoroughly compacted.
- D. Trenching and shoring operations shall not proceed more than 100 feet in advance of pipe lying without specific written approval of the City, and shall be in conformance with Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) Safety Standard.
- E. The bedding course shall be constructed to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to make up the joint.

6.9 BEDDING

- A. Gravel backfill for pipe bedding shall be installed in conformance with Section 2-09 of the Standard Specifications (WSDOT).
- B. Gravel backfill for rigid pipe bedding shall consist of crushed, processed, or naturally occurring granular material. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have

such characteristics of size and shape that it will compact readily and shall meet the following specifications for grading and quality:

<u>Sieve Size</u>	<u>Percent Passing*</u>
3/4" Square	100
3/8" Square	95-100
U.S. No. 8	0-10
U.S. No. 200	0-3
Sand Equivalent	35 MIN.

*All percentages are by weight.

- C. Gravel backfill for flexible pipe (P.V.C. pipe) bedding shall consist of crushed, processed, or naturally occurring granular material. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact readily and shall meet the following specifications for grading and quality:

<u>Sieve Size</u>	<u>Percent Passing*</u>
3/4" Square	100
3/8" Square	95-100
U.S. No. 8	0-10
U.S. No. 200	0-3
Sand Equivalent	35 MIN.

*All percentages are by weight.

- D. Native Material shall not be used for bedding, unless approved by the Public Works Superintendent.

6.10 BACKFILLING

Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100 feet is left exposed during construction hours without approval of the City. Selected backfill material shall be placed and compacted around and under the sewer pipe by hand tools. Special precautions shall be provided to protect the pipe to a point 12 inches above the crown of the pipe. The remaining backfill shall be compacted to 95 percent of the maximum density in traveled areas and road "prisms", 90 percent outside driveway, roadways, road prism, shoulders, parking or other traveled areas. Where governmental agencies other than the City have jurisdiction over roadways, the backfill and compaction shall be done to the satisfaction of the agency having jurisdiction. Typically, all utility trenches located in roadway sections, roadway "prisms", or beneath traffic bearing

areas shall be backfilled with 5/8-inch minus crushed rock, or other City approved structural material. Due to localized conditions, the City may allow/permit the backfill of the trench section with suitable excavated material, as determined by the City Inspector, or if suitable native material is not available from trenching operations, the City may order the placing and compaction of gravel base conforming to Section 9-03.10 of the Standard Specifications (WSDOT) for backfilling the trench. All excess material shall be loaded and hauled to waste.

6.11 SANITARY SEWER LIFT STATIONS

- A. Lift stations and ancillary equipment shall not be constructed in City rights-of-way, unless otherwise approved by the City. The station site shall be paved and fenced and a dedicated access to the lift station provided with a minimum width of 20-feet.
- B. The Developer shall submit to the City for review and approval, complete sewage lift station plans and design which provide for the lift station, electrical service/controls and telemetry system, and auxiliary generator/transfer switch together with all accessories for a complete, automatically operating installation per Chapter 9. Odor control and/or corrosion control facilities may also be required.
- C. Design material and drawings shall provide all civil, mechanical and electrical details and align with all applicable codes and regulations, and good engineering practice. The Developer shall be required to acquire all permits and approvals for the installation/construction of this facility as required from regulatory agencies.

6.12 STREET PATCHING AND RESTORATION

See Chapter 4.15 and 4.16 for requirements regarding street patching and trench restoration.

6.13 EROSION CONTROL

- A. The detrimental effects of erosion and sedimentation shall be minimized.
 - 1. Soil shall be exposed for the shortest possible time;
 - 2. Reducing the velocity and controlling the flow of runoff;
 - 3. Detaining runoff on the site to trap sediment; and
 - 4. Releasing runoff safely to downstream areas.

- B. The Developer and/or Contractor shall provide for erosion control by conducting work in workable units; minimizing the disturbance to cover crop materials; providing mulch and/or temporary cover crops, sedimentation basins, and/or diversions in critical areas during construction; controlling and conveying runoff; and establishing permanent vegetation and installing erosion control structures as soon as possible.
- C. Trench mulching shall be used where there is danger of backfill material being washed away due to steepness of the slope along the direction of the trench. Backfill material shall be compacted and held in place by covering the disturbed area with straw and held with a covering of jute matting or wire mesh anchored in place.
- D. Cover-Crop Seeding
 - 1. A cover crop shall be sown in all areas excavated or disturbed during construction that were not paved, landscaped and/or seeded prior to construction. Areas landscaped and/or seeded prior to construction shall be restored to their original or superior condition. Cover-crop seeding shall follow backfilling operations.
 - 2. The Developer and/or Contractor shall be responsible for protecting all areas from erosion until the cover crop affords such protection. The cover crop shall be re-seeded if required and additional measures taken to provide protection from erosion until the cover crop is capable of providing protection.
 - 3. During winter months, the Contractor may postpone seeding, if conditions are such that the seed will not germinate and grow. The Developer and/or Contractor will not, however, be relieved of the responsibility of protecting all areas until the cover crop has been sown and affords protection from erosion.
 - 4. The cover crop shall be sown at a rate of 10 to 15 pounds of seed per acre using a hand or power operated mechanical seeder capable of providing a uniform distribution of seed.

6.14 ADJUSTMENT TO GRADE

- A. All new and existing utility structures encountered on the project shall be constructed and/or adjusted to finished grade.
- B. On asphalt concrete paving projects, the manholes shall not be adjusted until the pavement is completed, at which time the center of each manhole lid shall be

relocated from references previously established by the Developer and/or Contractor. The pavement shall be cut as further described and base material removed to permit removal of the cover. The manhole shall then be brought to proper grade.

- C. Prior to commencing adjustment, a plywood and visqueen cover as approved by the City Inspector shall be placed over the manhole base and channel to protect them from debris.
- D. The asphalt concrete pavement shall be cut and removed to a neat circle, the diameter of which shall not exceed 48" or 14" from the outside diameter of the ductile iron frame, whichever is smaller. The ductile iron frame shall be brought up to desired grade, which shall conform to surrounding road surface.
- E. Adjustment to desired grade shall be made with the use of concrete or bricks. No cast or ductile iron adjustment rings will be allowed. An approved class or mortar (one part cement to two parts of plaster sand) shall be placed between manhole sections; adjustment rings or bricks and ductile iron frame to completely fill all voids and to provide a watertight seal. No rough or uneven surfaces will be permitted inside or out. Adjustment rings or brick shall be placed and aligned to provide vertical sides and vertical alignment of manhole steps and ladder.
- F. Manhole specifications for minimum and maximum manhole adjustment and step requirements will be met. Special care shall be exercised in all operations in order not to damage the manhole, frames and lids or other existing facilities.
- G. As soon as the street is paved past each manhole, the asphalt concrete mat shall be scored around the location of the manhole, catch basin, meter boxes or valve box. After rolling has been completed and the mat has cooled, it shall be cut along the scored lines. The manholes, catch basins, meter boxes and valve boxes shall then be raised to finished pavement grade and the annular spaces filled with cement concrete to within 1-1/2 inches of the finished grade. The remaining 1-1/2 inches shall be filled with asphalt concrete Class B to give a smooth finished appearance. See detail in Project Plans.
- H. After pavement is in place, all joints shall be sealed with hot asphalt cement (AR 4000W). A sand blanket shall be applied to the surface of the AR 4000W hot asphalt cement binder to help alleviate "tracking".
- I. Asphalt concrete patching shall not be carried out during wet ground conditions or when the ambient air temperature is below 50°F. Asphalt concrete mix shall be at required temperature when placed. Before making the asphalt concrete repair, the edges of the existing asphalt concrete pavement and the outer edge of the casting shall be tack coated with hot asphalt cement. The remaining 2" shall then be

filled with Class B asphalt concrete and compacted with hand tampers and a patching roller.

- J. The completed patch shall match the existing paved surface for texture, density and uniformity of grade. The joint between the patch and the existing pavement shall then be carefully painted with hot asphalt cement or asphalt emulsion and shall be immediately covered with dry paving sand before asphalt cement solidifies. All debris such as asphalt pavement, cement bags, etc., shall be removed and disposed of by the Developer and/or his Contractor.
- K. Prior to acceptance of a project, manholes shall be cleaned of all debris and foreign material. All manhole steps and ladders shall be cleaned free of grout. Any damage occurring to the existing facilities due to the Developer's and/or Contractor's operations shall be repaired at his/her own expense.
- L. Manholes in easement areas shall be adjusted to insure drainage away from the manhole frame and cover. The manhole frame and cover shall be set approximately 0.1 foot above finished grade. Concrete collars shall be set about the structure, as detailed herein, in all non-paved areas.
- M. Adjustment of valve box castings (force main valving) shall be made in the same manner as for manholes.

6.15 FINISHING AND CLEANUP

Before acceptance of sewer system construction, all pipes, manholes, catch basins, and other appurtenances shall be cleaned of all debris and foreign material. After all other work on this project is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas shall be neatly finished to the lines, grades and cross sections of a new roadway consistent with the original section.

- A. On sewer construction where all or portions of the construction is in undeveloped areas, the entire area which has been disturbed by the construction shall be shaped so that upon completion the area will present a uniform appearance, blending into the contour of the adjacent properties. All other requirements outlined previously shall be met.
- B. Slopes, sidewalk areas, planting areas and roadway shall be smoothed and finished to the required cross section and grade by means of a grading machine insofar as it is possible to do so without damaging existing improvements, trees and shrubs. Machine dressing shall be supplemented by handwork to meet

requirements outlined herein, to the satisfaction of the City Inspector and/or the Public Works Superintendent.

- C. Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. All graded areas shall be true to line and grade. Where the existing surface is below sidewalk and curb, the area shall be filled and dressed out to the walk. Wherever fill material is required in the planting area, the finished grade shall be elevated to allow for final settlement, but the raised surface shall present a uniform appearance.
- D. All rocks in excess of one (1) inch diameter shall be removed from the entire construction area and shall be disposed of the same as required for other waste material. In no instance shall the rock be thrown onto private property. Overhang on slopes shall be removed and slopes dressed neatly to present a uniform, natural, well-sloped surface.
- E. All excavated material at the outer lateral limits of the project shall be removed entirely. Trash of all kinds resulting from clearing and grubbing or grading operations shall be removed and not placed in areas adjacent to the project. Where machine operations have broken down brush and trees beyond the lateral limits of the project, the Developer and/or Contractor shall remove and dispose of same and restore said disturbed areas at his own expense.
- F. Drainage facilities such as inlets, catch basins, culverts, and open ditches shall be cleaned of all debris, which is the result of the Developer and/or Contractor's operations.
- G. All pavements and oil mat surfaces, whether new or old, shall be thoroughly cleaned. Existing improvements such as Portland cement concrete curbs, curb and gutters, walls, sidewalks, and other facilities, which have been sprayed by the asphalt cement, shall be cleaned to the satisfaction of the City Inspector and/or Public Works Superintendent.
- H. Castings for manholes, valves, lamp holes, vaults and other similar installations, which have been covered with the asphalt material, shall be cleaned to the satisfaction of the City.
- I. All curb and pavement markings such as, but not limited to, crosswalks, bike lanes, and handicapped symbols shall be preformed fused thermoplastic or as approved by the Public Works Superintendent.

6.16 FINAL ACCEPTANCE

- A. Prior to final inspection, all pipelines shall be flushed and cleaned and all debris removed.
- B. A pipeline “cleaning ball” of the proper diameter for each size of pipe shall be flushed through all pipelines prior to final inspection.
- C. Each sanitary sewer line shall be “videotaped” in its entirety using a remote controlled camera.
- D. Acceptable “As Built Drawings”, signed, stamped and acknowledged by a licensed engineer, shall be delivered to the City.
- E. Operations and Maintenance manual, where applicable, shall be delivered to the City.

6.17 GENERAL GUARANTEE AND WARRANTY

- A. The Developer shall be required, upon completion of the work, and acceptance by the City, to furnish the City a written guarantee covering all material and workmanship for a period of three years after the date of final acceptance. The Developer shall make all necessary repairs during that period at Developer’s sole expense, if such repairs are necessitated as the result of furnishing, poor materials and/or workmanship. The Developer shall obtain warranties from the contractors, subcontractors and suppliers of material or equipment where such warranties are required, and shall deliver copies to the City upon completion of the work. The existence of such warranties does not relieve the Developer from liability under Developer’s guarantee.
- B. Easement documents, if applicable, shall be filed and recorded with the County Auditor’s office and the documents reviewed by the City and/or its Attorney prior to project acceptance.

CHAPTER 7

WATER SYSTEM STANDARDS

7.1 GENERAL

- A. The standards established by this chapter are intended to represent the minimum standards for the design and construction of water system facilities. Greater or lesser requirements may be mandated by the City due to localized conditions. Extensions, connections or modifications to the existing system shall be in compliance with the requirements of the State Department of Health and the Department of Ecology as applicable.
- B. Off-site improvements to the existing system may be warranted based on (1) the condition and capacity of the existing water system and (2) impacts caused by the proposed development. These off-site improvements (in addition to “on-site improvements”) shall be completed as determined by the Public Works Superintendent to mitigate impacts caused by the development.
- C. All water mains shall have a capacity at least 150% of the expected maximum size required for the development.
- D. All water systems shall have telemetry satisfactory to the Public Works Superintendent on all associated lines, tanks, reservoirs, pumps, valves, and associated vaults and buildings for sampling and monitoring those items such as chlorination, turbidity, pressure, levels, flow, and status, which may be required by the Public Works Superintendent.
- E. All water booster pump stations shall be equipped with on-site auxiliary power capability sufficient to ensure the station is operable during a power outage.
- F. Every principal use and every lot within a subdivision or in any existing plat must be served by a water supply system that:
 - 1. Is adequate to accommodate the reasonable needs of the use or subdivision lot; and
 - 2. Complies with all laws of the Washington State Department of Health and all City ordinances.
- G. The following criteria must be met, unless otherwise waived by the City Engineer, before water facilities are conveyed to the City.

1. A public utility easement of adequate dimensions must be concurrently granted to the City.
2. The facilities must be inspected for conformance with the standards specified in the most current edition of the Department of Health Water System Design Manual and the facilities meet bacteriological testing.
3. The applicant has paid all required fees.
4. A maintenance bond to cover the cost of replacing or repairing the improvements and to warrant against defects in labor and material and against any damage or defects caused by construction activity on the site for a period of two years from acceptance of the improvement by the City.

7.2 DESIGN STANDARDS

- A. The design of water system improvements shall depend on their type and local site conditions. The design elements of water system improvements shall conform to the standards as set forth in this Chapter.
- B. Detailed plans which provide the locations, size, and type of the proposed water system and points of connection shall be submitted for the City's review. These plans shall be separate from sewer plans.
- C. Project plans shall have a horizontal scale of not more than 50 feet to the inch. Plans shall show:
 1. Locations of streets, right-of-ways, existing utilities, and water system facilities;
 2. Ground surface, pipe type and size, water valves, and hydrants stationing;
 3. All known existing structures, both above and below ground, which might interfere with the proposed construction, particularly sewer lines, gas mains, storm drains, telephone lines, television cables, and overhead and underground power lines; and
 4. All utility easements, and applicable County recording number(s).
 4. Computations and other data used for design of the water system shall be submitted to the City for approval.
- D. The water system facilities shall be constructed in conformance with the current version of the WSDOT/APWA Standard Specifications for Road, Bridge, & Municipal Construction and current amendments thereto, and State of Washington Department of Health Water System Design Manual, revised as to form to make reference to Local Governments and as modified by the City's requirements and standards.
- E. Material and installation specifications shall contain appropriate requirements that have been established by the industry in its technical publications, such as ASTM, AWWA, WPCF, and APWA standards. Requirements shall be set forth in the

specifications for the pipe and methods of bedding and backfilling so as not to damage the pipe or its joints.

- F. Except as otherwise noted herein, all work shall be accomplished as recommended in applicable American Water Works Association (AWWA) Standards, and according to the recommendations of the manufacturer of the material or equipment concerned.
- G. The location of the water mains, valves, hydrants, and principal fittings including modifications shall be staked by the Developer. No deviation shall be made from the required line or grade. The Contractor shall verify and protect all underground and surface utilities encountered during the progress of this work.
- H. Prior to final inspection, all pipelines shall be tested and disinfected.
- I. Before acceptance of the water system by the City, all pipes, assemblies, and other appurtenances shall be cleaned of all debris and foreign material. After all other work is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas shall be neatly finished to the lines, grades and cross sections for a new roadway consistent with the original section.
- J. The Developer shall be required, upon completion of the work and prior to acceptance by the City, to furnish the City with a written guarantee covering all material and workmanship for a period of three years after the date of final acceptance and he shall make all necessary repairs during that period at his own expense, if such repairs are necessitated as the result of furnishing poor materials and/or workmanship. The Developer shall obtain warranties from the contractors, subcontractors and suppliers of material or equipment where such warranties are required and shall deliver copies to the City upon completion of the work.

7.3 GENERAL REQUIREMENTS

- A. Prior to construction, the Contractor shall schedule a pre-construction meeting with the Public Works Superintendent, stakeholders, and all other interested parties.
- B. Work shall be performed only by contractors experienced in laying public water mains.

- C. Prior to any work being performed, the Contractor shall contact the Public Works Superintendent to set forth his proposed work schedule.
- D. Contractor shall obtain approval of materials to be used from the Public Works Superintendent prior to ordering of materials.
- E. Water mains shall be laid only in dedicated street, rights-of-ways or easements shown on preliminary plats or which have been granted to the City. A street is normally not considered dedicated until the plat which created it has been officially filed with the County Auditor.
- F. All water main distribution pipeline construction shall have a minimum 36" cover from finished grade and 42-inch cover over transmission mains (Standard Detail W1). Mains shall generally be located parallel to and 10 feet northerly or easterly of street centerline. Water mains shall be extended to the far property line(s) of the property being served. Off-site extensions may be required to hydraulically loop existing and new systems. Oversizing of water mains may be required to be installed per City's current Water System Plan.
- G. Minimum distance between sewer and water lines shall be 10 feet horizontally and 1 foot vertically. Refer to Standard Detail G4 for requirements regarding utility separation and crossing.
- H. Water main pie and service connections shall be a minimum of 10 feet away from building foundations and/or roof lines.
- I. Air relief valves are required at high points in water lines. Air relief valves shall be installed in accordance with Standard Detail W9.
- J. Fire hydrants are generally required approximately every 600 feet in residential areas, and every 300 feet in commercial areas. However, fire hydrants shall be furnished and installed at all locations as specifically mandated by the local fire marshall and/or per City Building Code. Refer to Standard Details W2 and W4 for information regarding fire hydrant installation.
- K. Fire hydrants on dead end streets and roads shall be located within approximately 300 feet from the frontage center of the farthest lot. Distances required herein shall be measured linearly along street or road.
- L. Pipes connecting hydrants to mains shall be at least 6 inch in diameter and be less than 17 feet in length.
- M. Dead end lines are not permitted except where the Developer can demonstrate to the City's satisfaction that it would be impractical to extend the line at a future date. Water mains on platted cul-de-sacs shall extend to the plat line beyond the

cul-de-sac to neighboring property for a convenient future connection, and extended off-site to create a hydraulic loop, or, as minimum, have a four (4") inch blow off assembly installed at the termination point (Standard Detail W7).

- N. All materials shall be new and undamaged.
- O. Unless otherwise approved or required by the Public Works Superintendent, the water main shall be HDPE or C-900 PVC. Ductile iron pipe may be appropriate in special circumstances and must receive specific approval from the Public Works Superintendent. The minimum nominal size for water mains shall be 8 inches, unless otherwise approved/required by City.

EXCEPTION: 6-inch hydrant spools and pipelines located beneath rock or retaining walls shall be Class 53 ductile iron.
- P. Fittings shall be compatible with HDPE, C-900 PVC, and ductile iron as appropriate. Ductile iron fittings shall be cement-lined.
- Q. Provide bends in field to suit construction and in accordance with pipe manufacturer's recommendations so as not to exceed allowable deflection at pipe joints.
- R. Provide thrust blocking and/or restrained joints at all fittings and bends in accordance with the City standards and conditions (Standard Details G2 and G3). Blocking is to be designed by Developer's Engineer.
- S. Provide anchor blocking at all up-thrust vertical bends in accordance with City standards (Standard Detail G1). Blocking is to be designed by Developer's Engineer.
- T. Water valves shall be located in clusters when possible and shall be located so that each leg of the main line system can be isolated separately.
- U. All water valve marker posts shall be painted blue and marked with the distance to valve being referenced (Standard Detail W14).
- V. Residential water service pipe shall be one-inch diameter copper or PE pipe (no joints beneath pavement areas), meeting or exceed ASTM D2239, SDR-7 as manufactured by Driscopipe (CL 200), or City approved equal (Standard Details W10A and W10B).

- W. Minimum size service lines between the water main and the water meter shall be 1 inch unless otherwise specified (W-D8). All service lines shall be the minimum size otherwise specified by the Uniform Plumbing Code in accordance with fixture units, unless otherwise specified.
- X. Meter services and meter boxes shall be set to final grade and all adjustments shall be made prior to final pressure testing of the system, centerline of service inlets shall be located to match bottom elevation of meter box in such a manner that meter inlet and outlet will be the same elevation as bottom of meter box. Refer to Standard Details 10A and 10B for required materials and installation information for water services 1" and smaller, Standard Details 11A and 11B for water 1-1/2" and 2". Refer to Standard Details W12A and W12B for required materials and installation information for water services 3" and larger.
- Y. All water services shall end within road right-of-way or easements.
- Z. All meters shall be installed by the City, and the Developer shall pay the current meter installation charge.
- AA. All meters shall be compatible with the radio-read meter system used by the City.
- BB. Contractor shall install water sampling stations. Contractor shall furnish the location of water sample stations to City Utilities Department. One station is required for development in size of 1 to 10 lots. One additional station is required for each additional 50 lots or portions thereof.
- CC. All new buildings and residences shall include in their water service a suitable pressure reducing valve to protect the plumbing from excessive pressures, unless waived on the application form of the City. Refer to Standard Detail W18A for installation requirements for pressure reducing stations.
- DD. All new construction shall comply with the "Accepted Procedure and Practice in Cross Connection Control Manual" as published by the Pacific Northwest Section of the American Water Works Committee", November 1995, Sixth Edition, and current amendments thereto. A copy of such is available for review at the City office. Where required, backflow and cross-control devices will be installed.
- EE. Cut in connections shall not be made on Fridays, holidays or weekends. All tapping sleeves and tapping valves shall be pressure tested prior to making connection to existing mains.
- FF. Contractor shall notify the Public Works Superintendent and obtain approval from him prior to any water shut-off or turn-on, affecting the water system, a minimum of 48 hours in advance.

- GG. Biological test samples will be taken by the City and paid for by the contractor.
- HH. All water mains and appurtenances shall be hydrostatically tested at 200 psi in accordance with City Standards.
- II. Resilient seated wedge gate valves shall be used for 10-inch mains and smaller. Butterfly valves shall be used for mains greater than 10 inches.
- JJ. Road restoration shall be in accordance with City, County and State design and construction standards, as may be applicable. Developer and Contractor shall become familiar with all City, County and State conditions of required permits, and shall adhere to all conditions and requirements.

7.4 MATERIALS

A. Water Mains & Fittings

1. Water mains to be installed shall be HDPE or if approved by the Public Works Superintendent, C-900 PVC. Under special circumstances the Public Works Superintendent may approve the limited use of ductile iron of an appropriate class.

B. HDPE Pipe and Fittings

1. HDPE pipe for water mains shall be manufactured from PE 3408.3608 resin conforming to ASTM D3350. 4" and greater pipe shall be IPS/DIPS, DR9 conforming to ASTM F714, AWWA C906, NSF. ½" through 3" pipe shall be IPS, DR9, conforming to D3035, AWWA C901, NFS.
2. All HDPE molded fittings and fabricated fittings shall be fully pressure rated to match the pipe DR pressure rating to which they are made. All fittings shall be molded or fabricated by the manufacturer. No Contractor fabricated fittings shall be used unless approved by the City.
3. The manufacture of the HDPE pipe shall supply all HDPE fittings and accessories as well as any adapters and/or specials required to perform the work.
4. All fittings shall be installed using butt-fused fittings, thermo-fused fittings/couplings, or flanged adapters and must be approved by the City.
5. All transition from HDPE pipe to ductile iron or PVC shall be made per the approval of the City and per the HDPE pipe manufacturer's recommendations and specifications. A molded flange connector adapter

within a carbon steel back-up ring assembly shall be used for pie type transitions. Ductile iron back-up rings shall mate with cast iron flanges per ANSI B16.1. A 316 stainless steel back-up ring shall mate with a 316 stainless steel flange per ANSI B16.1.

C. PVC Pipe and Fittings

1. PVC pipe for water mains shall C-900 be made from material conforming to ASTM C1784. The pipe shall be DR 18 and conform to ANSI/AWWA C900 specification, with gaskets meeting ASTM F477 and joints in compliance with ASTM D3139. Pipe joints shall be gasketed. Solvent-cement joints are not acceptable.
2. PVC Schedule 80 fittings shall conform to ASTM D 2467. PVC Schedule 80 threaded fittings shall conform to ASTM D 2464. Pipe and fittings shall be manufactured as a system and be the product of one manufacturer. Pipe and fittings shall conform to National Sanitation Foundation (NSF) Standard 61 or the health effects portion of NSF Standard 14.

D. Ductile Iron Pipe and Fittings:

1. If approved, ductile iron pipe shall conform to ANSI/AWWA C151/A21.51-91 Standards, and current amendments thereto, except the ductile iron pipe shall be thickness Class 52 for 4" through 14" diameter pipe (except for 6-inch hydrant spools which shall be Cl. 53) and Class 50 for 16" and larger. Grade of iron shall be a minimum of 60-42-10. The pipe shall be cement lined to a minimum thickness of 1/16", and the exterior shall be coated with an asphaltic coating. Each length shall be plainly marked with the manufacturer's identification, year case, thickness, class of pipe and weight.
2. If approved, ductile iron joints shall be mechanical joint or push-on type, employing a single gasket, such as "Tyton", except where otherwise calling for flanged ends. Bolts furnished for mechanical joint pipe and fittings shall be high strength ductile iron, with a minimum tensile strength of 50,000 psi.
3. If approved, restrained ductile iron joint pipe, where shown on the plans shall be push-on joint pipe with "Fast Tight" gaskets as furnished by U.S. Pipe or equal for 12" diameter and smaller pipe and "TR FLEX" as furnished by U.S. Pipe or equal for 16" and 24" diameter pipes. The restrained joint pipe shall meet all other requirements of the non-restrained pipe.

4. All ductile iron fittings shall be short-bodied and comply with applicable ANSI/AWWA C110 or C153 Standards for 350 psi pressure rating for mechanical joint fittings and 250 psi pressure rating for flanged fittings. All fittings shall be lined and either mechanical joint or flanged, as indicated on the plans.

- E. All pipe shall be jointed by the manufacturer's standard coupling, be all of one manufacturer, and be carefully installed in complete compliance with the manufacturer's recommendations.

- F. Joints shall be "made up" in accordance with the manufacturer's recommendations. Standard joint materials, including rubber ring gaskets, shall be furnished with the pipe. Material shall be suitable for the specified pipe size and pressures.

- G. Fittings in areas shown on the plans for restrained joints shall be mechanical joint fittings with a mechanical joint restraint device. The mechanical joint restraint device shall have a working pressure of at least 250 psi with a minimum safety factor of 2:1 and shall be City approved.

- H. The pipe and fittings shall be inspected for defects and prepped prior to installation. HDPE and PVC piping shall be wiped clean. If ductile iron has been approved, all lumps, blisters and excess coal tar coating shall be removed from the bell and spigot end of each pipe, and the outside of the spigot and the inside of the bell shall be wire-brushed and wiped clean and dry, and free from oil and grease before the pipe is laid.

- I. Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and pipe forced home and brought to correct line and grade. The pipe shall be secured in place with select backfill tamped under it. Precaution shall be taken to prevent dirt from entering the joint space. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a water-tight plug. If water is in the trench when work resumes, the seal shall remain in place until the trench is pumped completely dry. No pipe shall be laid in water or when trench conditions are unsuitable.

- J. The cutting of pipe for inserting fittings or closure pieces shall be done in a neat and workmanlike manner, without damage to the pipe or lining, and so as to leave a smooth end at right angles to the axis of the pipe. Pipe shall be laid with bell ends facing in the direction of the laying, unless directed otherwise by the City. Wherever it is necessary to deflect pipe from a straight line, the amount of deflection allowed shall not exceed pipe manufacturer's recommendations.
- K. For connection of mechanical joints, the socket, plain end of each pipe and gasket shall be cleaned of dirt before jointing, and shall be jointed according to manufacturer's directions. Bolts shall be tightened alternately at top, bottom and sides, so pressure on gasket is even.
- L. For connection of "Tyton" joints, the jointing shall be done according to manufacturer's recommendations, with special care used in cleaning gasket seat to prevent any dirt or sand from getting between the gasket and pipe. Lubricant to be used on the gasket shall be non-toxic and free from contamination. When a pipe length is cut, the outer edge of the cut shall be beveled with a file to prevent injury to the gasket during jointing.
- M. Valves, fittings, plugs and caps shall be set and jointed to pipe in the manner as required. All dead ends on new mains shall be closed with dead end M.J. caps and thrust blocks.
- N. Fittings shall be "blocked" with poured-in-place concrete, with a firm minimum bearing against an undisturbed earth wall per Standard Detail G2 or Standard Detail G3. Thrust blocks shall be poured as soon as possible after setting the fittings in place to allow the concrete to "set" before applying the pressure test. The concrete thrust blocks shall be in place before beginning the pressure test. Anchor blocks shall be allowed to set sufficiently to develop the necessary bond strength between the reinforcing rods and the concrete anchor before beginning the pressure test.
- O. All of the new piping, valves and blocking shall have been installed, disinfected and tested up to the point of cutting into existing lines before the crossover is made. The crossover to the existing system shall be in full readiness, including the cut and sized specials. Forty-eight (48) hour notice shall be given the City in advance of the planned "cut-ins".
- P. Valves
1. All valves larger than 10" shall generally be furnished and installed as butterfly valves. All valves 10" and smaller shall generally be furnished and installed as resilient seat gate valves.

Q. Resilient-Seated Gate Valves.

1. All gate valves shall conform to ANSI/AWWA C509-87 Standards for resilient-seated, high strength, bronze stemmed gate valves. The valves shall be iron-bodied, iron disk completely encapsulated with polyurethane rubber and bronze, non-rising stem with "O" ring seals. The polyurethane sealing rubber shall be fusion bonded to the wedge to meet ASTM tests for rubber to metal bond ASTM D429. The valves shall open counter-clockwise and be furnished with 2-inch square operating nuts except valves in vaults shall be furnished with handwheels. All surfaces, interior and exterior shall be fusion bonded epoxy coated, acceptable for potable water.
2. For applications with working pressure above 175 psi, a ductile iron valve rated as 250 psi or higher shall be used.
3. The valves shall be set with stems vertical. The axis of the valve box shall be common with the axis projected off the valve stem. The tops of the adjustable valve boxes shall be set to the existing or established grade, whichever is applicable.
4. Valves shall be Dresser, M&H, Waterous, or Mueller.

R. Butterfly Valves.

1. Butterfly valves shall be ductile iron body of the tight closing rubber seat type with rubber seat either bonded to the body or mechanically retained in the body with no fasteners or retaining hardware in the flowstream. The valves shall meet the full requirements of AWWA C504, Class 150B except the valves shall be able to withstand 200 psi differential pressure without leakage. The valves may have rubber seats mechanically affixed to the valve vane. Where threaded fasteners are used, the fasteners shall be retained with a locking wire or equivalent provision to prevent loosening. Rubber seats attached to the valve vane shall be equipped with stainless steel seat ring integral with the body, and the body internal surfaces shall be epoxy coated to prevent tuberculations buildup, which might damage the disc-mounted rubber seat.
2. No metal-to-metal sealing surfaces shall be permitted. The valves shall be bubble-tight at rated pressures with flow in either direction, and shall be satisfactory for applications involving valve operations after long periods of inactivity. Valve discs shall rotate ninety (90) degrees from the full open position to the tight shut position. The valve shall be Henry Pratt Company "Groundhog", or owner approved equal.

S. Tapping Sleeves & Tapping Valves

1. Connections to existing water mains typically shall be wet taps through a tapping tee and tapping valve and shall be made by a city approved contractor. The tapping sleeves shall be rated for a working pressure of 250 psi minimum and furnished complete with joint accessories. Refer to Standard Detail W5 for detailed information regarding tapping sleeves.
2. Size-on-size tapping sleeves shall be stainless steel. Stainless steel sleeves only shall be used on AC pipe. Ductile iron tapping tees shall be allowed if tap is at least 2" smaller in diameter than the existing water main.
3. Cut in connections shall not be made on Fridays, holidays or weekends.
4. All tapping sleeves and tapping valves shall be pressure tested to a minimum of 200 psi prior to making connection to existing mains.

T. Pressure Reducing and Relief Valves.

1. Pressure reducing valves in the water service pipe are required when street main pressure exceeds 80 psi, as follows:
2. When street main pressure exceeds 80 psi, an approved pressure reducing valve with an approved pressure relief device shall be installed in the water service pipe near its entrance to the building to reduce the pressure to 80 psi or lower, except where the water service pipe supplies water directly to a water-pressure boost system, an elevated water gravity tank, or to pumps provided in connection with a hydro pneumatic or elevated gravity water-supply tank system. Pressure at any fixture shall be limited to no more than 80 psi under no-flow conditions. Refer to Standard Details W18A and W18B – Pressure Reducing Stations.

U. All Valves

1. All valves with operating nuts located more than 42" below finished grade shall be equipped with extension stems to bring the operating nut to within 18" of the finished grade. Cast iron or PVC adjustable valve boxes shall be provided for all valves.
2. At the top of the extension stem, there shall be a two-inch (2") standard operating nut, complete with a centering flange that closely fits the five-inch (5") pipe encasement of the extension stem. The valve box shall be

set in a telescoping fashion around the five-inch (5") pipe cut to the correct length to allow future adjustment up or down.

V. Fire Hydrants

1. All fire hydrants shall be Mueller Super Centurion – 250, Model A-421 in conformance with AWWA Standard Specification C-502. Each hydrant shall be equipped with one (1) 4-1/2" and two (2) 2-1/2" hose ports with permanent Storz hydrant adaptor and Storz blind cap. Refer to Standard Detail W-D2 for fire hydrant details.
2. The hydrant shall be prime coated with Steelcote SR53 Heavy Duty brush type enamel. Top coat shall be two coats of Sherwin/Williams blue industrial enamel (#B54W101) or Krylon Industrial Rust Tough blue enamel.
3. A blue reflective pavement marker shall be furnished and installed 6 to 12 inches off center on the hydrant side of the road adjacent to the hydrant.
4. The holding spools between the gate valve and fire hydrant shall be made from six-inch (6") Class 52 ductile iron pipe, 3 foot minimum length and 17 foot maximum length without restrained joints.

W. Blow-offs & Air Relief Assemblies

1. Two (2") or Four (4") inch blowoff assemblies shall be installed at the terminus of all dead end water mains (Standard Detail W-D7). Blowoffs utilized by the Contractor for flushing the water main shall be sufficient size to obtain 2.5 feet per second velocity in the main. Temporary blow-offs shall be removed and replaced with a suitably sized watertight brass plug.
2. Two (2") inch air and vacuum release valves shall be installed at principal high points in the system (Standard Detail W-D4 and Standard Detail W-D5).
3. The installation of these items shall include connection piping, gate valve, valve box, and all accessories. Valve markers shall be installed.

X. Water Sampling Station

1. One water sampling station shall be provided to the City for each development in size of 1 to 10 lots. One additional sampling station shall be provided for each additional 50 lots or portion thereof. The water

sampling station shall be furnished and installed at a location as determined by the Public Works Superintendent.

7.5 WATER PIPE TESTING & DISINFECTING

- A. A water hydrant meter shall be required and procured from the City for all water utilized for flushing pipelines. All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished, installed and operated by the Contractor.
- B. Feed for the pump shall be from a barrel or other container within the actual amount of "makeup" water, so that it can be measured periodically during the test period.
- C. The pipeline shall be backfilled sufficiently to prevent movement of the pipe under pressure. All thrust blocks shall be in place and time allowed for the concrete to cure before testing. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking.
- D. As soon as pipe is secured against movement under pressure, it may be filled with water. Satisfactory performance of all valves shall be checked while the line is filling.
- E. Contractor shall preflush all water mains after water has remained in the main for 24 hours and before pressure testing the main.
- F. After the pipe is filled and all air expelled, it shall be pumped to a test pressure of 250 psi, and this pressure shall be maintained for a period of not less than thirty (30) minutes to insure the integrity of the thrust and anchor blocks. **The contractor/developer is cautioned regarding pressure limitations on butterfly valves.** All tests shall be made with the hydrant auxiliary gate valves open and pressure against the hydrant valve. Hydrostatic tests shall be performed on every complete section of water main between two valves, and each valve shall withstand the same test pressure as the pipe with no pressure active in the section of pipe beyond the closed valve.
- G. In addition to the hydrostatic pressure test, a leakage test shall be conducted on the pipeline. The leakage test shall be conducted at 150 psi for a period of not less than one (1) hour. The quantity of water lost from the main shall not exceed the number of gallons per hour determined by the formula:

$$L = \frac{ND(P)^{0.5}}{7,400}$$

in which

L = Allowable leakage, gallons/hour
N = Number of joints in the length of pipeline tested
D = Nominal diameter of the pipe in inches
P = Average test pressure during the leakage test, psi

- H. Defective materials or workmanship, discovered as a result of the tests, shall be replaced by the Contractor at the Contractor's expense. Whenever it is necessary to replace defective material or correct the workmanship, the tests shall be re-run at the Contractor's expense until a satisfactory test is obtained.
- I. As sections of pipe are constructed and before pipelines are placed in service, they shall be sterilized in conformance with the requirements of the State of Washington Department of Health Services.
- J. The Contractor shall be responsible for flushing all water mains prior to water samples being acquired. The water mains shall be flushed at a rate to provide a minimum 2.5 feet per second velocity in the main.
- K. In all disinfection processes, the Contractor shall take particular care in flushing and wasting the chlorinated water from the mains to assure that the flushed and chlorinated water does no physical or environmental damage to property, streams, storm sewers or any waterways. The Contractor shall chemically or otherwise treat the chlorinated water to prevent damage to the affected environment, particularly aquatic and fish life of receiving streams.
- L. Chlorine shall be applied in one of the following manners, listed in order of preference, to secure a concentration in the pipe of at least 50 ppm.
1. Injection of chlorine-water mixture from chlorinating apparatus through corporation cock at beginning of section after pipe has been filled, and with water exhausting at end of section at a rate controlled to produce the desired chlorine concentration;
 2. Injection similarly of a hypochlorite solution;
 3. Other City pre-approved method(s) selected by the Developer and/or Contractor.
 4. After the desired chlorine concentration has been obtained throughout the section of line, the water in the line shall be left standing for a period of twenty-four (24) hours. Following this, the line shall be thoroughly flushed and a water sample collected. The line shall not be placed in service until a satisfactory bacteriological report has been received.

- M. Only City employees only will be allowed to operate existing and new tie-in valves. The Contractor, his subcontractors, and their respective employees are expressly forbidden to operate any valve on any section of line which has been accepted by the City.

7.6 BACKFLOW PREVENTION AND SPRINKLER SYSTEMS

- A. All water systems connected to the public water system shall have backflow prevention as required by WAC 248-54-285. Refer to Standard Detail W19 regarding Reduced Pressure Backflow Assembly ¾" to 2" and Standard Detail W20 regarding Reduced Pressure Backflow Assembly 2-1/2" and Larger.
- B. Fire sprinkler systems as mandated, proposed, or required by the local Fire Marshal and/or City Ordinance that have a fire department connection shall have backflow prevention as required by WAC 248-54-285. Refer to Standard Detail W23 regarding Fire Line Connection.
- C. Building sprinkler systems may be required based on Building Codes and Fire Marshall requirements.

7.7 STAKING

- A. All surveying and staking shall be performed by an engineering or surveying firm employed by the Developer and capable of performing such work. The engineer or surveyor directing and/or performing such work shall be currently licensed by the State of Washington to perform said tasks.
- B. A preconstruction meeting shall be held with the Public Works Superintendent prior to commencing staking. All construction staking shall be inspected by the City prior to construction.
- C. The minimum staking of water systems shall be as follows:
 - 1. Provide staking sufficient to satisfy Public Works Superintendent. In new plat development roadway centerline staking must be readily identifiable; and
 - 2. Stake locations of all proposed fire hydrant, blow-off, air-vac, valves, meters, etc.

7.8 TRENCH EXCAVATION

- A. Clearing and grubbing where required shall be performed within the easement or public right-of-way as permitted by the City and/or governing agencies. Debris

resulting from the clearing and grubbing shall be disposed of by the owner or contractor in accordance with the terms of all applicable permits.

- B. Trenches shall be excavated to the line and depth designated by the City to provide a minimum of 36 inches of cover over the pipe. Except for unusual circumstances where approved by the City, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space as allowed by the governing agency and in compliance with all safety requirements of the prevailing agencies. See Standard Detail W1. The trench shall be kept free from water until joining is complete. Surface water shall be diverted so as not to enter the trench. The owner shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out.
- C. The contractor shall perform all excavation of every description and whatever substance encountered and boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth 6 inches below the pipeline grade. Where materials are removed from below the pipeline grade, the trench shall be backfilled to grade with material satisfactory to the City and thoroughly compacted.
- D. Trenching and shoring operations shall not proceed more than 100 feet in advance of pipe laying without approval of the City, and shall be in conformance with Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) Safety Standard.
- E. The bedding course shall be finished to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to make up the joint.

7.9 BACKFILLING

- A. Backfilling and surface restoration shall closely follow installation of pipe. The City, based on the location of construction, shall designate the amount of trenching which may be left exposed. In no case shall more than 100 feet be left exposed during construction hours without approval of the Public Works Superintendent.
- B. Selected material shall be placed and compacted around and under the storm drain by hand tools. Special precautions should be provided to protect the pipe to a point 12 inches above the crown of the pipe. The remaining backfill shall be compacted to 95 percent of the maximum density in traveled areas and road prisms, 90 percent outside driveway, roadways, road prism, shoulders, parking or other traveled areas. Where governmental agencies other than the City have jurisdiction over roadways, the backfill and compaction shall be done to the

satisfaction of the agency having jurisdiction. Typically, all trenches located in roadway sections, roadway "prisms", and in traffic bearing areas shall be required to be backfilled and compacted with 5/8-inch minus crushed rock.

- C. Due to local conditions, as may be specifically approved by the Public Works Superintendent, suitable excavated backfill material or sand, as determined by the Public Works Superintendent, may be utilized as backfill, or if such material is not available from trenching operations, the Public Works Superintendent may order the placing of CDF or gravel base conforming with Section 9-03.10 of the Standard Specifications (WSDOT) as appropriate for backfilling the trench. All excess material shall be promptly loaded and hauled to waste.

7.10 STREET PATCHING AND RESTORATION

- A. See Chapter 4 and Standard Details for requirements regarding street patching and trench restoration.

7.11 EROSION CONTROL

- A. The detrimental effects of erosion and sedimentation shall be minimized by conforming to the following general principles:
 1. Soil shall be exposed for the shortest possible time;
 2. Reducing the velocity and controlling the flow of runoff;
 3. Detaining runoff on the site to trap sediment; and
 4. Releasing runoff safely to downstream areas.
- B. In applying these principles, the Developer and/or Contractor shall provide for erosion control by conducting work in workable units; minimizing the disturbance to cover crop materials; providing mulch and/or temporary cover crops, sedimentation basins, and/or diversions in critical areas during construction; controlling and conveying runoff; and establishing permanent vegetation and installing erosion control structures as soon as possible.
- C. Trench mulching will be required where there is danger of backfill material being washed away due to steepness of the slope along the direction of the trench, backfill material shall be compacted and held in place by covering the disturbed area with straw and held with a covering of jute matting or wire mesh anchored in place.

D. Cover Crop Seeding.

1. A cover crop shall be sown in all areas excavated or disturbed during construction that were not paved, landscaped and/or seeded prior to construction. Areas landscaped and/or seeded prior to construction shall be restored to their original or superior condition.
2. Contact the City Clerk for water charges if use of City water is contemplated and the Public Works Superintendent for use of a hydrant for water in furtherance of seeding.
3. Hydrants shall only be opened and closed by members of the City crew.
4. Cover-crop seeding shall follow backfilling operations. The Developer and/or Contractor shall be responsible for protecting all areas from erosion until the cover crop affords such protection.
5. The cover crop shall be re-seeded if required and additional measures taken to provide protection from erosion until the cover crop is capable of providing protection.
6. During winter months, the Contractor may postpone seeding, if conditions are such that the seed will not germinate and grow. The Developer and/or Contractor will not, however, be relieved of the responsibility of protecting all areas until the cover crop has been sown and affords protection from erosion.
7. The cover crop shall be sown at a rate of 10 to 15 pounds of seed per acre using a hand or power operated mechanical seeder capable of providing a uniform distribution of seed.

7.12 FINISHING AND CLEANUP

- A. After all other work on this project is completed and before final acceptance, the entire roadway, including the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas shall be neatly finished to the lines, grades and cross sections of a new roadway consistent with the original section, and as hereinafter specified.
- B. On water system construction where all or portions of the construction is in undeveloped areas, the entire area which has been disturbed by the construction shall be shaped so that upon completion the area will present a uniform appearance, blending into the contour of the adjacent properties. All other requirements outlined previously shall be met. All pipes, valves, tanks, reservoirs,

boost pumps, boost pump stations and building associated therewith shall be cleaned of all debris and foreign material.

- C. Slopes, sidewalk areas, planting areas and roadway shall be smoothed and finished to the required cross section and grade by means of a grading machine insofar as it is possible to do so without damaging existing improvements, trees and shrubs. Machine dressing shall be supplemented by hand work to meet requirements outlined herein, to the satisfaction of the City Inspector and/or the Public Works Superintendent.
- D. Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. All graded areas shall be true to line and grade. Where the existing surface is below sidewalk and curb, the area shall be filled and dressed out to the walk. Wherever fill material is required in the planting area, the finished grade shall be elevated to allow for final settlement, but nevertheless, the raised surface shall present a uniform appearance.
- E. All rocks in excess of one (1) inch diameter shall be removed from the entire construction area and shall be disposed of the same as required for other waste material. In no instance shall the rock be thrown onto private property. Overhang on slopes shall be removed and slopes dressed neatly so as to present a uniform, natural, well-sloped surface.
- F. All excavated material at the outer lateral limits of the project shall be removed entirely. Trash of all kinds resulting from clearing and grubbing or grading operations shall be removed and not placed in areas adjacent to the project. Where machine operations have broken down brush and trees beyond the lateral limits of the project, the Developer and/or Contractor shall remove and dispose of same and restore said disturbed areas at his own expense.
- G. Drainage facilities such as inlets, catch basins, culverts, and open ditches shall be cleaned of all debris, which is the result of the Developer and/or Contractor's operations.
- H. All pavements and oil mat surfaces, whether new or old, shall be thoroughly cleaned. Existing improvements such as Portland cement concrete curbs, curb and gutters, walls, sidewalks, and other facilities, which have been sprayed by the asphalt cement, shall be cleaned and re-painted where needed, all to the satisfaction of the Public Works Superintendent.
- I. Castings for monuments, water valves, vaults and other similar installations which have been covered with the asphalt material shall be cleaned to the satisfaction of the Public Works Superintendent.

7.13 GENERAL GUARANTEE AND WARRANTY

- A. The Developer shall be required, upon completion of the work and prior to acceptance by the City, to furnish the City a written guarantee covering all material and workmanship for a period of two years after the date of final acceptance and he shall make all necessary repairs during that period at his own expense, if such repairs are necessitated as the result of furnishing poor materials and/or workmanship.
- B. The Developer shall obtain warranties from the contractors, subcontractors and suppliers of material or equipment where such warranties are required, and shall deliver copies to the City upon completion of the work. Delivery of such warranties to the City shall not relieve the Developer of liability under his guarantee.
- C. Easement documents, if applicable, shall be filed and recorded with the County Auditor's office and the documents reviewed by the City prior to project acceptance.

Chapter 8

SEWAGE LIFT STATIONS

8.1. OBJECTIVE

This chapter is intended to present information and provide an outline of the minimum general standards to be accomplished in planning a sewage lift station or grinder pump installation within the City of Ilwaco service area.

The Developer shall submit to the City for review and approval, complete sewage lift station or grinder pump plans and design which provide for the lift station, electrical service, SCADA controls, and auxiliary generator/transfer switch together with all accessories for a complete, automatically operating installation. The City, at its option, may direct the City's Engineer to prepare a feasibility study, at the Developer's expense and under a separate agreement with the Developer, prior to granting conceptual approval for the use of a lift station. This feasibility study will address specific design and planning issues identified by the City as necessary for evaluation of the proposal.

The grinder pump standards contained herein are intended to apply to a typical residential grinder pump station and to express the City's general policy with regard to standardization of grinder pump station design and operation. The grinder pump standards are supplemental to the general standards for sanitary sewer systems presented in Chapter 6 of these standards.

The lift station standards contained herein are intended to apply to a typical duplex sewage lift station within the typical size range for developer-constructed stations and to express the City's general policy with regard to standardization of lift station design and operation. At the City's discretion, stations with non-typical service requirements, such as high flows, high head pressures, flow monitoring, multiple pump operation, critical service or unusual site constraints, may be subject to additional or alternative design requirements.

The lift station standards are supplemental to the general standards for sanitary sewer systems presented in Chapter 6 of these standards.

Due to the inherent complexity of lift station design, and the associated health and safety risks, the lift station design shall be prepared by a professional engineer registered in the State of Washington and with demonstrable experience in lift station design. At the request of the City, the Developer shall provide a resume for the proposed lift station designer, listing similar projects designed by that individual, with references and phone numbers. After the lift station design is complete and has been approved by the City, the design engineer shall remain responsible for the preparation of all design documents, including the design report, plans, specifications and permit submittals. The design

engineer shall also be responsible for construction management-related engineering duties, including the coordination of submittals and shop drawings for City review, and the preparation of field change requests, record drawings, control description, and maintenance and operation materials. Engineering responsibilities shall not be reassigned by the Developer without the City's approval.

Design material and drawings shall provide all civil, mechanical and electrical details and align with all applicable codes and regulations, and good engineering practice.

8.2 GRINDER PUMP STATION

The minimum requirements for a residential sewage pumping system connecting a single residence to the City's system are specified as follows. The City accepts no responsibility for the design, operation and maintenance of such privately owned and operated systems.

- A. All equipment and accessories shall be standard manufactured items and those coming in contact with sewage shall be specifically manufactured for sewage use.
- B. Lift station must be located outside the building. If the station is completely buried, install 48" I.D. manhole with frame and cover over station for access.
- C. The pump shall be a custom designed, integral, vertical rotor, submersible grinder progressing cavity type pump with a single mechanical seal, as manufactured by Environment One Corporation. The manufacturer supplied station shall be completely factory-built and tested wetwell grinder pump station consisting of a grinder pump suitably mounted in a basin constructed of high-density polyethylene (HDPE) with a minimum 70 gallon capacity, NEMA 6P electrical quick disconnect (EQD), pump removal system, stainless steel discharge assembly/shut-off valve, anti-siphon-valve/check valve, each assembled in the basin, electrical alarm panel and all necessary internal wiring and controls.
- D. The grinder pump station shall be either a wired model (cable connects the motor controls to the level controls through a watertight penetration) or wireless model (wireless technology – "radio frequency identification" – communicates between the level controls and the motor controls.
- E. Wetwell shall be equipped with factory installed 4-inch diameter inlet grommet and 1.25-inch NPT female thread discharge connection.
- F. A factory supplied stainless steel check valve must be installed between the grinder pump station and the street main to protect against backflow from the sanitary sewer.
- G. A factory supplied NEMA 4X, corrosion-proof, thermoplastic enclosure shall include an audible alarm with manual silence, manual run feature and run

indicator, redundant start function with high-level alarm, a generator receptacle with auto transfer switch and GFCI receptacle.

8.3. LIFT STATION

8.3.1 DESIGN CALCULATIONS:

- A. The Developer shall perform a study and make the determination to assure that the lift station installation is sized to serve the overall sewage flows generated within the potential service area. The flow study shall include the Developer's plat boundary area as well as adjacent and future service areas. The service areas shall be the areas within that which could be served by the installation of the lift station(s).
- B. The station's design flow capacity shall be based on an average daily per capita flow with related peaking factors and inflow/infiltration allowances.
- C. Documentation of present and future service area flow rates for lift station size and capacity determination shall be provided to the City.
- D. The effects of the minimum flow conditions shall be estimated to be sure that retention of the sewage in the wet well will not create a nuisance and that pumping equipment will not operate too infrequently. The wet well shall be sized to provide full submergence on the pumps as recommended by the pump manufacturer and a minimum of three (3) minutes between pump cycles at pump design capacity.
- E. Lift station capacity shall meet the maximum rate of flow expected. The capacity of the receiving sewer shall also match the flow expected. At least two (2) pumping units shall be provided at each lift station installation. The pump shall have sufficient capacity and capability to efficiently handle the peak design flow with one (1) pump out of service and to ensure a minimum velocity of three (3) feet per second velocity in the force main.
- F. The force main shall be sized for a minimum velocity of three (3) feet per second and a maximum of eight (8) feet per second. The minimum diameter of the force main shall be six (6) inches.
- G. Three (3) copies of the Design Calculations shall be submitted to the City for review. As a minimum, the report shall include.
 - 1. Project description
 - 2. Projected flows
 - 3. Connection point with downstream capacity
 - 4. Wet well sizing

5. Run time calculations based on peak hourly and average annual flows for start-up and ultimate design conditions
 6. Cycle time calculations to verify pump start frequency is within allowable limits, including operation on backup float control
 7. Pump station head calculation to establish system curve
 8. Pump selection
 9. Force main size, length and material, local high and low points, and air/vacuum relief valve locations
 10. Generator and fuel supply sizing
 11. Odor potential calculations
 12. Wet well buoyancy calculations
- H. The above calculations and evaluation shall be provided for City review and approval in the form of a design report prior to, or together with, the plans for the developer extension, which shall be stamped by a professional engineer licensed in the State of Washington.
- I. A geotechnical evaluation of the proposed site shall be provided by the Developer, and shall be stamped by a licensed geotechnical engineer. Site or project characteristics to be evaluated shall include, but are not necessarily limited to: steep slopes; groundwater; erosion hazards; unusual drainage conditions; unstable soils; proposed construction on fill; proposed retaining wall construction; wet weather construction; recommendation for backfill, subgrade and foundation materials; and a determination of seismic potential in accordance with local building code. The geotechnical evaluation may be submitted as a supplement to the geotechnical report for the underlying plat, and shall include a minimum of one boring at the proposed wet well/dry well site to a minimum depth of 15 feet below the deepest structure foundation.

8.3.2 LOCATION:

- A. The Developer shall furnish a site layout for the lift station installation. The site plan shall clearly show the existing and proposed facilities as specified herein.
- B. The lift station shall be located as far as practicable from present or proposed built-up residential areas, and an asphalt concrete access road shall be provided. Access to the lift station should be directly from a street or road. Sites for sewage lift stations shall be of sufficient size for future expansion or addition, if applicable.
- C. The easement for the lift station site shall be submitted to the City for review prior to construction of the lift station. Lift station sites not located within the plat boundary shall be deeded to the City of Ilwaco.
- D. As a minimum, the site shall provide for the following:

1. Lift station, including wet well, effluent valving and emergency bypass pump connection
2. Auxiliary power, including automatic transfer switch
3. Electrical service and distribution
4. Telemetry/SCADA
5. 3/4-inch water service with reduced pressure backflow preventor and hose bib installed in an above ground slab enclosure on concrete. Furnish 50 feet of 3/4-inch heavy-duty rubber hose.
6. Odor control, as applicable for location and capacity.
7. Cuts and fills to provide level site for maintenance.
8. Asphalt or cement concrete pavement for access and maintenance areas.
9. Six (6') foot high black powder coated chain link fence with vertical vinyl slats in-laid for screening, enclosing the site and a 12-foot wide access gate. Landscaping may be incorporated on site for screening to eliminate the vinyl slats.
10. Overhead weather protection for all electrical panels normally accessed by City personnel for system maintenance and operation; weather protection shall extend over the electrical equipment but without blocking vector access to the wet well, and over the generator unit where feasible.
11. Area lighting as required by the City
12. Site drainage in accordance with City or County standards
13. Adequate clearances between equipment items and other facilities as required by all applicable codes, and as necessary for reasonable access for maintenance and repair, including access through all doors, hatches and lids
14. Separation from easements for stormwater detention facilities and other major utility structures

8.3.3. LIFT STATION REQUIREMENTS:

- A. The sewage lift station shall be Flygt submersible, centrifugal, nono-clogging pumps and a Flygt Mix-Flush valve as approved by the City. Construction shall be in compliance with O.S.H.A., U.L., A.S.T.M., N.E.C. and other applicable codes and regulations. The station shall be constructed and anchored to comply with Seismic Zone 3 requirements.
- B. The lift station shall have, as a minimum, two sewage pumps. The pumps shall have sufficient capacity and capability to efficiently handle the peak design flow with one pump and to ensure a minimum velocity of 3 feet per second in the force main. Design calculations and pump curves indicating the same shall be provided with the submittal information.

- C. The sewage lift station supplier shall check the station during installation to determine if the installation is correct. Written confirmation of each visit and recommendations shall be provided to the City.
- D. All pumps shall be tested to ensure that the vibration limits are within the standards of the current Hydraulic Institute Standards. Rotating assemblies shall be spin balanced by the pump station manufacturer prior to vibration testing. Factory test results shall be provided to the District prior to station delivery. Following installation of the pump station at the site and prior to startup, the pumps shall be retested for vibration by the pump station manufacturer. Copies of all test results shall be included in the maintenance and operation information.
- E. The sewage lift station supplier shall provide a minimum of four (4) hours of training for City personnel at the station site during start-up.
- F. The sewage lift station supplier shall provide four (4) complete copies of maintenance and operation material to the City. Maintenance and operation material shall include a complete discussion of pump control strategy in narrative form, including operational troubleshooting procedures, startup and reset procedures, and the calibration, set up and testing of level set points, gauges and alarms.
- G. At a minimum, the station shall include the following:
1. 6-foot diameter wet well.
 2. Aluminum double leaf locking wet well hatch positioned to allow removal of pumps and access to wet well.
 3. Wet well access ladder with ladder up safety post.
 4. Hoist socket installed adjacent to wet well.
 5. Stainless steel guide rails and supports.
 6. Discharge connection elbow and frame.
 7. Grip eye system consisting of a sufficient length of nylon line for the application, short length of high tensile strength proof-tested 316 stainless steel chain and forged steel "grip eye" for use with mechanical lifting device. System shall be appropriately sized of for the weight of the pump to be lifted.
 8. All wet well and valve vault hardware must be 316L stainless steel.
 9. Valve vault including resilient seat gate valves and pressure gauge.
 10. Aluminum double leaf locking valve vault hatch.
 11. Valve vault access ladder with ladder up safety post.
 12. Ductile iron piping between wet well and valve vault.
 13. Intrinsically safe circuits for intrusion switches and level switches.
 14. Intrusion alarm that will be triggered upon opening of the primary lid. Wire intrusion switches to be open-circuited in the hatch open position.
 15. Explosion proof J-box mounted on a vertical wall of the valve vault.

16. The wet well, valve vault and seal off vault shall be considered classified environments.
17. NEMA 4X stainless steel central control panel with circuit breakers and intrinsically safe circuits.
18. Control panel, electric meter, transfer switch, and motor starters installed in a building or mounted on single aluminum plate. If equipment is located out-of-doors the equipment must be covered with a roof structure with minimum 3-foot overhang.
19. Yard lighting.
20. Extended warranty – 24 months from start-up or 30 months from time of shipment whichever is first.
21. Document certifying the lift station is in compliance with the NEC.
 - Convenience receptacles, white, duplex, 20A, GFCI, in cast aluminum weatherproof boxes with full in-service covers. NEMA 3R GFI duplex receptacle.
 - 3/4" conduit connection in electric panel for connection to the telemetry sub panel.
22. A permanent davit base shall be provided that is compatible with the City's portable jib crane.
23. Spare parts each pump:
 - Replacement pump shaft seal
 - Filter element for the seal filters
 - Volute gaskets
24. Touch up paint kit.

8.3.4. MOTORS

- A. The pump and motor shafts shall be the maximum diameter available for these units.
- B. Pump motors shall be 3-phase, 60-cycle, 480-voltage. Motors larger than 25 HP shall be furnished with soft start or variable frequency drives equipped with start rated bypass contactors. Where motors are used with VFDs, the motors shall be inverter duty rated and shall meet the applicable requirements of NEMA MG1.
- C. The motors shall have 1.15 service factor and be non-overloading for the full range of the curve unless otherwise approved by the City.

8.3.5. WET WELL:

- A. The wet well shall be precast concrete manhole sections and shall conform to manhole specification per Chapter 6 of these Standards, as modified herein. Joints between precast wall sections shall be confined O-ring or as otherwise approved.

- B. The wet well shall be provided with polypropylene manhole steps as specified for manholes.
- C. The wet well shall be checked to ensure all joints are watertight to prevent infiltration into and exfiltration from the wet well.
- D. The wet well floor, walls and underside of the top shall be coated to comply with the following:

Surface Preparation: Allow 28 days cure time for concrete. Sweep blast to provide a surface profile. Surface shall be clean, dry and free of contaminants.

Primer: Tnemec Series 201 Epoxoprime Applied at 6.0 to 8.0 mils dry film thickness.

Intermediate Filler and Surfacer: Tnemec Series 201 Filler and Surfacer. Applied as needed. After the application of the prime coat, the bugholes and surface voids shall be filled to ensure that the finish coat is monolithic and pinhole free.

Finish: Tnemec Series 280 Tneme-Glaze Applied at 8.0 to 10.0 mils dry film thickness.

Total System: 14.0 to 18.0 mils dry film thickness.

- E. The wet well shall provide for the volute of the pumps to be fully submerged and a minimum of three (3) minutes between pump cycles at pump capacity. The high water alarm shall be set a minimum of seven (7) inches below the invert of the lowest gravity sewer inlet pipe, or at an elevation as may be set by the City.
- F. The wet well shall be of pre-cast concrete construction with aluminum hatch covers for access. The flat slab concrete cover shall be provided with a 4-inch vent which is "hooked and screened".

8.3.6. CONTROLS:

- A. The control panel shall include:
- Main disconnect
 - Panel mounted running light for each pump
 - Panel mounted overtemp light for each pump
 - Panel mounted prime fail light for each pump
 - Panel mounted ammeter for each pump to read percentage of load
 - Panel mounted running time meter for each pump

- Panel mounted HOA switches for each pump
- Spare contact on HOA switches to remotely indicate when the switch is in Auto position.
- Operator- in-Trouble push button, located on the panel outer door within 3 feet of the ground .
- Contact to allow remote start (same as hand operation – not auto off).
- HOA switches to be Cuttler Hammer and in hand mode not to be spring return.
- Mounting bracket for telemetry sub panel in station (size: 13 ½” L x 10” W x 6 ½” Deep).
- Local/Remote contact for the following alarms:
 - a) Low Alarm
 - b) High
 - c) Power/Phase Failure (single & 3-phase)
 - d) Pump Failure
- Panel mounted wet well gauge. Minimum 3” dial and read for depth of wet well
- Voltage monitor relays to protect the pump motors from single-phase reversal and low voltage
- Discharge check valve limit switches on each pump discharge
- Pump alternator, each cycle
- Panel mounted digital level displays connected in the loop outputs for each of the two pressure transmitters
- Panel mounted pressure transmitter “active” (green) and “available” (yellow) lights, one set for each pressure transmitter (energized by remote contacts).
- Uninterruptible power supply (UPS) of adequate capacity to maintain the connected alarm load in the control panel for a period of at least 10 minutes
- Control relays as required for pump starting, pump protection, and alarming functions; plus space for mounting 20% additional relays
- Twenty percent spare terminals for future use.

B. A terminal cabinet shall be provided within the pump station enclosure for the wet well mounted pump station for connection of all 120V/240V single phase circuits between the control panel and the pump station, to include:

- Sufficient terminals for connection of all 120V/240V circuits to the pump station, with 20% additional spare terminals, minimum
- Key activation/deactivation switch for the intrusion alarm, located on the outer door of the enclosure

8.3.7. ELECTRICAL SERVICE/CONTROLS & TELEMETRY SYSTEM:

- A. Codes and regulations exist at the federal, state, and local level dictating minimum acceptable requirements for electrical systems. The following standards shall be used as a basis for design and review.
- National Electric Code (NEC)
 - Occupational Safety & Health Act (OSHA)
 - State & Local Building Codes
 - National Electrical Code (NEC)
 - National Electrical Manufacturers Association (NEMA)
 - Underwriters' Laboratory (UL)
 - Insulated Power Conductor Engineering Association (IPCEA)
 - American National Standards Institute (ANSI)
 - Institute of Electrical & Electronic Engineers (IEEE)

8.3.8. ELECTRICAL SERVICE

- A. The local electric utility will be the primary source of electrical power. The Developer shall ascertain proper coordination between the nominal secondary delivery voltage supplied by Pacific County P.U.D. No. 2 and the connection to the lift station equipment. The electrical service shall be 4-wire, 3-phase, 60 hertz, with a solid neutral terminal at the disconnect or as may otherwise be required by Pacific County P.U.D. No. 2. This shall be confirmed with the Pacific County P.U.D. No. 2 and confirmed by the suppliers.
- B. All installation shall be approved by Pacific County P.U.D. No. 2 and shall be in conformance with the N.E.C. (current issue) U.L., O.S.H.A. and County and State electrical codes. Particular attention is directed to the fact that the State of Washington requires that electrical equipment and electrically powered equipment be listed or labeled by a testing laboratory (U/L or other Nationally Recognized Testing Laboratory) acceptable to the Washington State Department of Labor and Industries.
- C. The City shall be furnished with a certificate of final inspection by the inspecting agency.
- D. All wire shall be copper.
- E. All exposed conduit shall be rigid galvanized. All underground conduits shall be PVC with rigid galvanized PVC-coated elbows and rigid galvanized PVC coated transitions to exposed conduit.

- F. All underground conduits shall be marked with polyethylene tape placed 6-inches below finished grade and directly above the conduit.
- G. All conduit shall have a minimum of 24 inches of cover.
- H. Heating strips shall be provided for outside electrical enclosures.
- I. A service entrance shall be provided with a pedestal on which shall be mounted, as a minimum, the following equipment:
 - 1. Meter and meter can (as required by the P.U.D.)
 - 2. Meter C.T.S. (as required by the P.U.D.)
 - 3. Main disconnect circuit breaker in a NEMA, 3R, enclosure, with padlock to City standards.
 - 4. Service voltage shall be 277/480 volts, 3 phase, 4-wire, except as required by Pacific County P.U.D. NO. 2.
 - 5. Single phase services shall be 240/120 volt, 3 wire. Panels shall conform with NEMA 3R.
 - 6. A 120-volt duplex in NEMA 3R enclosure with padlock to City standards.
 - 7. Ground rod and connector wire in conduit to N.E.C. standards.
 - 8. Telemetry panel in a NEMA 3R enclosure with locking 3-point latch with PLC and radio, operator interface, annunciator, and auto dialer installed.
 - 9. Spread spectrum radio (Cellnet Series 4) and antenna, 902-928 MHz frequency range, tuned to 915 MHz of the type and length required to provide a signal compliant with the City's present radio system.
 - 10. Provide electrical single-line diagram showing all components and control between pedestal, lift station and generator with wire and conduit sizes.
 - 11. The City shall be provided with a complete reproducible set of as-constructed plans and details showing final location of all equipment, conduit and wire.

8.3.9. CONTROLS

- A. Control and instrument system plans shall thoroughly and completely depict system design. The plans, in conjunction with the specifications, shall define the type of control system, the type of components in the system, set points and the interface between the instrumentation and control system and the lift station system. To accomplish this, the control and instrument plan(s) shall include, as a minimum, the following:
 - 1. Control and instrumentation system legend and general notes
 - 2. Control, instrumentation and distribution diagram
 - 3. Plans showing location of all control, instrument, and distribution system equipment and components, both electrical and pneumatic
 - 4. All equipment and installation details

- B. The power, control and instrumentation systems shall be designed with both operational reliability and maintainability. Use standard products wherever possible.
- C. All components within the lift station system, including both internally and face-mounted instruments and devices, shall be clearly identified with phenolic nameplates of black background with white letters.
- D. All wiring between cabinet, equipment and components shall be marked and multiple color coded where applicable.
- E. All pump motors shall have an independent circuit breaker located within the lift station and the lift station shall have a main circuit breaker located outside the lift station.
- F. The pump controls shall be ultrasonic level controller type or pressure transducer type with float level sensor back-up, and shall provide for both pumps to operate at high water conditions. The control elevations shall be indicated on the plans, i.e., on-off, first pump on, second pump on, and high water alarm.
- G. The single-phase transformer for the lift station shall be as required for proper operation of the single phase side system.
- H. The lift station electrical circuit shall include generator starting and telemetry.
- I. A complete set of spare fuses shall be provided for all fused equipment.

8.3.10. TELEMETRY

- A. The City's telemetry system utilizes RUG9 RTUs for SCADA functions related to the wastewater collection systems. The RTUs report to a master unit at the City Wastewater Treatment Plant (WWTP). The master unit communicates with a personal computer running Wonderware *Intouch* software to allow Supervisory Control and Data Acquisition functions to take place.
- B. The RTUs shall be provided in enclosures with auxiliary equipment to facilitate connection of external signals to the RTU, and to monitor voltage and similar status signals. Communication with the RUG9 PLC at the WWTP must be via leased telephone lines to the City's WWTP office. Provide an OID complementary to the RUG9 PLC that matches existing Rugid pump station hardware used through the City of Ilwaco water/wastewater system. OID shall allow local display and change of all set points. It shall display all alarms and allow for Reset/Acknowledge functions. The OID shall be mounted in the face of the control panel and be rated such that the panel's UL rating shall be maintained.

C. For each new lift station the Developer shall provide a RUG9 RTU that matches existing Rugid pump station hardware used throughout the City of Ilwaco water/wastewater system along with an enclosure, power supply, relays, surge protection devices for power and telephone lines, and other auxiliary devices as required for proper operation of the system. Typical discrete inputs for a station include:

- Commercial Power Fail
- Three Phase Power Fail
- Generator Run
- Generator Fail
- Wet Well High Level
- Wet Well Low Level
- Pump No. 1 Run
- Pump No. 2 Run
- Pump No. 1 Fail
- Pump No. 2 Fail
- Station High Temperature
-
-
-

D. Typical discrete outputs include:

- Start Generator (with an interposing relay driven by the RTU)

E. Typical analog inputs include:

- Pump No. 1 Amperes
- Pump No. 2 Amperes
- Wet Well Level
- Flow

F. Provisions shall also be made for additional I/O signals by providing 20% spare terminals within the telemetry panel.

G. The telemetry panel and all items contained therein shall be provided by Calvert Technologies, (509) 244-1839.

H. The Developer shall also be responsible for correct set-up of the RTU with respect to the existing system configuration. This includes coordinating configuration parameters such as:

- RTU addressing
- Master unit configuration
- RTU configuration,
- I/O point configuration (enable/disable format)
- Debounce time
- NO/NC inputs
- Percent change reporting
- High/low alarm limits
- Accumulator sampling rates
- Momentary/latched outputs
- Signal adjustments (receive gain, transmit gain).
- Incorporate pump station into the Wonderware computer screens at the WWTP.

- I. The Developer shall coordinate with the telephone utility and the City for obtaining proper telephone service to the site. The developer shall be responsible for obtaining, installing, and starting up the RTU for the new lift station. The Developer shall coordinate obtaining, installing and starting up the RTU with the City to ensure that the station is properly configured and functions correctly in conjunction with the existing system.
- J. All major components, including relays, timers, and power supplies shall be identified using phenolic or vilam engraved labels.
- K. Provide a 600 ohm impedance matching transformer for the telephone line.
- L. A line (surge) protector unit shall be provided for the telemetry equipment. The unit shall protect the equipment from transient and electrical surges on the telephone line. Protection shall include line fuses and clamps for voltages over 25 volts, gas tubes shall be provided as an integral part of the lighting protection unit.

8.3.11. .AUXILIARY POWER SYSTEM:

- A. Emergency power generation equipment shall be provided at the lift station site which will operate the lift station in the event of a commercial power outage.
- B. It is essential that the emergency system be designed with capacity and rating to carry safely the entire connected lift station load, including all pumps and ancillary loads unless otherwise approved by the City.
- C. The auxiliary power unit shall be complete in every respect and shall include, but not be limited to, the following:
 - 1. Generator, control panel & circuit breaker.

2. Engine, radiator & exhaust system.
 3. Fuel tank. (Capacity for 24 hours full load plus 25%.)
 4. Generator set enclosure, lockable to City Standards.
 5. Automatic transfer switch.
 6. Block Heater
 7. Battery & rack.
 8. Battery charger.
 9. Conduit, wire and piping.
- D. The generator set and transfer switch shall be Cunnins/Onan complying with the latest edition of Onan Corporation standard specifications and with the City Standards.
- E. The generator set shall be spark-ignited, liquid propane, or diesel if approved by the City, 60 Hertz, 1800 RPM, 3-phase, 277/480 volt standby power.
- F. The generator set shall include the following:
1. **Engine**
 - a. Single phase, 1500 watt coolant heater (115 VAC)
 2. **Generator Set**
 - a. Mainline circuit breaker
 - b. Weather-protective enclosure with mounted silencer (maximum noise level of 68 dBA at 23 feet)
 - c. 5-year basic power warranty
 3. **Accessories**
 - a. Batteries
 - b. Battery Charger, 2 AMP, 12 VDC, 120 VAC Input
 - c. Vibration Isolators, Pad Type
 4. **Control Panel**
 - a. Annunciator relays (12)
 - b. Run relay package (3)
 - c. Low coolant level shutdown
 - d. Anti-condensation space heater, 120 VAC
 - e. Oil temperature gauge
 - f. Wattmeter
 - g. Emergency stop switch
 5. **Fuel Systems**
 - a. Liquid LPG or diesel if approved by the City
 6. **Alternator**

- a. Anti-condensation heater, 120 VAC

7. Exhaust System

- a. Exhaust silencer (68 dBA at 23 feet)

8. Control Features

- a. Run-stop-remote switch
- b. Remote starting, 12-volt, 2 wire
- c. Coolant temperature gauge
- d. Field circuit breaker
- e. DC voltmeter
- f. Running time meter
- g. Lamp test switch
- h. Oil pressure gauge
- i. Fault reset switch
- j. Cycle cranking
- k. 12-light engine monitor with individual 1/2 amp relay signals and a common alarm contact for each of the following conditions:
 - i. Run (Green Light)
 - ii. Pre-Warning For Low Oil Pressure (Yellow Light)
 - iii. Pre-Warning For High Coolant Temp (Yellow Light)
 - iv. Low Oil Pressure Shutdown (Red Light)
 - v. High Coolant Temperature Shutdown (Red Light)
 - vi. Overcrank Shutdown (Red Light)
 - vii. Overspeed Shutdown (Red Light)
 - viii. Switch Off (Flashing Red Light- Indicates Generator Set Not In Automatic Start Mode)
 - ix. Low Coolant Temperature (Yellow Light)
 - x. Low Fuel (Yellow Light)
 - xi. Two Customer Selected Faults (Red Light)

9. AC Meter Package

- a. Order with NFPA 110 monitor to meet code requirements.
- b. AC voltmeter (dual range)
- c. AC ammeter (dual range)
- d. Voltmeter/ammeter phase selector switch with an off position
- e. Dual scale frequency meter/tachometer
- f. AC Rheostat (panel mounted) for + 5% voltage adjust

10. Transfer Switch

- a. The transfer switch shall include the following:
 - i. Sized for full station and auxiliary equipment load plus 25%.
 - ii. Delayed transition, including dry contacts for signaling the generator to start on commercial power failure.

- iii. Contacts for signaling commercial power fail, generator power fail, connected to utility power, and connected to generator power.

11. Pole Configuration

- a. Poles - 3 (Solid Neutral)

12. Frequency

- a. 60 Hertz

13. Application

- a. Appl - Utility to Genset

14. System Options

- a. Three phase, 3-wire or 4-wire

15. Enclosure

- a. B002 Type 3R; Intended for outdoor use (dustproof and rainproof)

16. Listing

- a. Listing - UL 1008

17. Programmed Transition

- a. Programmed Transition, 1-60 sec.

18. Exerciser Clock

- a. 7-day solid-state exerciser clock, programmable as to day and time of day for generator exercising.

19. Applications Modules

- a. Monitor - Phase Sequence/Balance

G. Suitable guards shall be provided on all electrical parts to minimize the personal shock hazard.

H. Generator shall be broken-in sufficiently to permit application of full load immediately upon installation.

I. Generator supplier shall provide all tools for the generator set as recommended and required by the manufacturer.

J. Generator installation shall be checked by the supplier after installation to determine that the installation is correct. Written confirmation shall be provided to the City. Generator supplier shall perform a full load test for two (2) hours after installation is complete. Provide resistive load bank for this test.

- K. Generator supplier shall provide a minimum of four (4) hours of training for City personnel at the station site during start-up.
- L. Generator manufacturer shall provide four (4) copies of the maintenance and operation manual. These manuals shall be complete and shall include all information necessary to allow City personnel to maintain the generator.
- M. Generator mounting pad shall be reinforced concrete to carry the weight of the unit and shall extend a minimum of 3 inches beyond generator housing. Chamfer all edges 3/4-inch.
- N. Propane tank support pad shall be as above.
- O. Diesel tanks (if diesel generator is approved by the City) shall be a subbase tank.
- P. The generator shall be provided with a 2 year service agreement and set of manufacturer's recommended spare parts, including filters, belts, hoses, and similar items.

8.3.12. FORCE MAIN

- A. The force main shall be a minimum 6-inch diameter ductile iron Class 52 polyethylene or epoxy lined or high density polyethylene (HDPE) and provided with a continual positive slope. There shall be no intermediate high point between the pump station and the force main discharge point (depth shall be a minimum of 4'-0"). All pipes (gravity and pressure) entering and leaving the wet pit or dry pit shall have flexible couplings within 18-inches of the structure.
- B. Discharge of the force main to the gravity sewer shall be made at a manhole with the force main penetration core drilled and the force main aligned to discharge towards the downstream pipe. The invert of the force main shall be 0.1 – foot above the invert of the downstream pipe. Channel the manhole as required.
- C. An emergency pump connection equipped with a Cam Lock fitting and cap shall be located near the wet well.

8.3.13. LIFT STATION TEST PROGRAM

- A. The Developer shall perform, as a minimum, the following tests and provide the City written documentation of the date performed and results obtained. Pump tests shall meet or exceed specified capacity. The City shall be informed of the testing schedule 48 hours prior to the test.

1. Demonstrate proper station operation under normal operating and individual alarm conditions
 2. Pump capacity by drawdown test, for each pump operating alone and each combination of multiple pump operation. Record amperes and furnish pressure gauge to record static head and total dynamic head for each condition, across a representative wet well range as specified by the City's Engineer
 3. Ultrasonic level sensor or pressure transducer operation, float switch operation
 4. Generator load test
 5. Automatic transfer to and from auxiliary power; generator load test; generator operation under pump load
 6. Telemetry control to terminal strip
 7. Sewage pump vibration test
- B. Fill water for testing shall be obtained in accordance with the cross-connection policies of the local water purveyor.
- C. Documentation of satisfactory installation shall be provided for the pump station and the auxiliary generator. Documentation of satisfactory installation shall be in the form of a notarized manufacturer's affidavit submitted by the manufacturer or an authorized representative, certifying that:
1. the equipment has been properly installed and lubricated,
 2. the equipment is in accurate alignment,
 3. the manufacturer was present when the equipment was placed into operation,
 4. the manufacturer has checked, inspected, and adjusted the equipment as necessary,
 5. the equipment is free from any undue stress imposed by connecting piping or anchor bolts,
 6. the equipment is not imposing any undue stress on any connecting members,
 7. the equipment has been operated satisfactorily under full load conditions,
 8. the manufacturer has inspected his equipment during the operational demonstrations and system validation tests to the extent specified, and the equipment is fully covered under the terms of the guarantee.

8.3.14. OPERATIONS AND MAINTENANCE INFORMATION:

- A. Record (as-constructed) information for the lift station shall be recorded by the Contractor on site during construction, and shall be incorporated into the record drawings for the developer extension. In addition, the Developer shall submit operations and maintenance information for the lift station equipment.

- B. The following information shall be furnished for all items of equipment installed on the project requiring operational and/or maintenance procedures, and for any additional items indicated by the Engineer. Level of detail and format shall conform to current City specifications.
1. Lubrication Information: This shall consist of the manufacturer's recommendations regarding the lubricants to be used and the lubrication schedule to be followed.
 2. Drawings and Diagrams: Drawings shall include record (as-constructed) version of dimensional outline drawings in either full-size (22"x34") or half-size (11"x17") format. Diagrams shall include record (as-constructed) versions of schematic electrical and connection diagrams, showing points of connection, numbers of circuits, size and number of conduits and conductors.
 3. Start-Up Procedures: These instructions shall consist of equipment manufacturer's recommendations for installation, adjustment, calibration, and troubleshooting.
 4. Operating Procedures: These instructions shall consist of the equipment manufacturer's recommended step-by-step procedures for starting, operating, and stopping the equipment under specified modes of operation.
 5. Preventive Maintenance Procedures: These instructions shall consist of the equipment manufacturer's recommended steps and schedules for maintaining the equipment.
 6. Overhaul Instructions: These instructions shall consist of the manufacturer's directions for the disassembly, repair and reassembly of the equipment and any safety precautions that must be observed while performing the work.
 7. Parts List: This list shall consist of the generic title and identification number of each component part of the equipment. Component equipment items provided by other manufacturers shall be identified with the manufacturer's name, part description, and part number.
 8. Spare Parts List: This list shall consist of the manufacturer's recommendations of number of parts and quantities that should be stored by the Owner and any special storage precautions that may be required. Note spares provided.
 9. Exploded View: Exploded or cut views of equipment shall be provided if available as a standard item of the manufacturer's information. When

exploded or cut views are not available, plan and section views shall be provided with detailed callouts.

10. Copies of factory test results, startup check lists, manufacturer's affidavits of proper installation, initial equipment set points and related documentation
 11. Maintenance Information Summaries as specified herein.
- C. A minimum of two preliminary review copies of the manufacturer's equipment O&M manuals shall be submitted to the City for review at the time of equipment delivery and not later than 7 days prior to product training. Additional copies may be submitted to expedite review or if return of markups is desired. A minimum of two preliminary copies of the manuals will be retained (one by the City and one by the Engineer) until the final versions of the manual are approved. Allow 14 days for Engineer's review.
- D. Four (4) copies of the final acceptable operational and maintenance materials shall be submitted to the Engineer prior to project acceptance.
- E. Maintenance Information Summaries (MIS) shall be provided for the following component equipment items, within the appropriate section of the equipment manuals, prepared according to the format specified herein:
1. non-clog pumps
 2. sump pumps
 3. heating and ventilation equipment
 4. standby generator
 5. valves (larger than 1" in size)
- F. Maintenance information summaries shall contain the following information compiled from manufacturer's recommendations in the order shown.
1. Description or name of item of equipment.
 2. Manufacturer.
 3. Name, address, and telephone number of local manufacturer's representative.
 4. Serial number (where applicable).
 5. Equipment nameplate data including model number.
 6. Recommended maintenance procedures:
 - i. Description of procedures.
 - ii. Maintenance frequency required.
 - iii. Lubricant(s) or other materials required (where applicable), including type of lubricant, lubricant manufacturer, and specific compound.

- iv. Additional information as required for proper maintenance.
- 7. Spare parts provided (where applicable).

- G. All operation and maintenance information shall be comprehensive and detailed, and shall contain information adequately covering all normal operation and maintenance procedures. The information shall be organized in high quality D-style 3-ring binders. The binders shall be provided with spine labels, cover inserts, a table of contents and tab sheets to permit easy location of desired information. Each volume shall contain an index for the entire set. Sheets shall be 3-hole punched, and not otherwise punched for comb binding or spiral binding.

- H. All information shall be specifically for items of equipment installed in the Project. Material not directly applicable shall be removed, neatly lined out, or omitted from catalogs or other printed information.

- I. Lubricants shall be described in detail, including type, recommended manufacturer, and manufacturer's specific compound to be used.

- J. If manufacturer's standard brochures and manuals are used to describe operating and maintenance procedures, such brochures and manuals shall be modified to reflect only the model or series of equipment used on this project. Extraneous material shall be crossed out neatly or otherwise annotated or eliminated.

CHAPTER 9

MISCELLANEOUS UTILITY SERVICES AND ADDITIONAL DEVELOPMENT REQUIREMENTS

9.1 GENERAL

The standards established by this chapter represent the minimum standards for the design and construction of additional facilities. More restrictive standards may be mandated by the City due to localized conditions. The following design and construction considerations shall apply.

9.2 UTILITY SERVICES

All utility lines, including electric, telephone, fire alarm and television cables shall be placed underground prior to paving. Easement for maintenance of all utilities, both on and off-site, shall be provided as applicable to the satisfaction of the Public Works Superintendent.

9.3 STREET LIGHTING

Street lighting shall be provided by the Developer to the guidelines established by the Public Works Superintendent. All costs of such, including, but not limited to, design, underground wiring, light standard base and luminaire shall be borne by the developer. The City shall approve of all street lighting plans as furnished by the developer to include size, spacing, height and type of pole/illuminare.

9.4 CABLE TELEVISION

Service lines (suitable empty conduits placed and capped) for cable television shall be installed underground (location as approved by the Public Works Superintendent) on all subdivisions regardless of whether or not cable television service is currently available.

9.5 STREET NAME AND TRAFFIC SIGNS

All street name signs and traffic directional signs shall be approved by the County E-911 Coordinator in conjunction with the City. All costs of providing the signs, to include the installation, labor, materials, and other relevant costs associated with determining the type, location, and associated work items shall be invoiced to and paid by the developer. Preference will be given to short easily understood names which do not bear resemblance to similar street and place names within the area.

9.6 LANDSCAPING

Street landscaping shall be provided by the developer and a landscaping plan shall be submitted as part of the plan package for City review and approval.