Based on scientific evidence at this time *(2009)*, septic systems, whether failing or not, pose a threat to the North Florence Dunal Aquifer, the sole source of drinking water in the UGB. The threat to the groundwater and the surface water from septic systems is documented in the North Florence Dunal Aquifer Study and the EPA Resource Document: For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer, both in Appendix 5 of this Plan. The policies in this Chapter are intended to be proactive and prevent possible future contamination.

It is acknowledged by both the City of Florence and Lane County that Florence's dunal aquifer is unique in Oregon, and thus, highly susceptible to future contamination due to the nature of septic systems in this sensitive aquifer.

It is also acknowledged that inherent in the 19 goals (specifically Goals 1 and 2) established by the Department of Land Conservation and Development, that cities are the logical provider of municipal services, and as such, all areas within Florence's UGB shall ultimately be served by city sanitary sewer.

B. Amendments to Florence Realization 2020 Comprehensive Plan Chapter 14: Urbanization, "Policies:"

- Add a section title "Annexation Policies;" add new policies 1, 2, and 3, *and 4*:

Annexation Policies

1. *The city will not use the "island annexation" provisions allowed by state law.*

2. *For properties within the North Florence Dunal Aquifer that are also within the Urban Growth Boundary, no land divisions shall be allowed prior to annexation to the City. The North Florence Dunal Aquifer boundary is delineated in the EPA Resource Document "For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer," EPA 910/9-87-167, September 29, 1987, Comprehensive Plan Appendix 5.*

- Re-number and amend Policy #1 as follows:

~~1~~3. ~~Conversion~~Annexation of lands within the UGB outside City limits shall be based on consideration of:

a. orderly, economic provision for public facilities and services;
~~b.availability of sufficient land for the various uses to insure choices in the market place;~~

Policy Discussion Draft for January 26, 2009 City Council Meeting

AMENDMENTS TO THE FLORENCE REALIZATION 2020 COMPREHENSIVE PLAN ("COMPREHENSIVE PLAN") TO COMPLETE LANE COUNTY CO-ADOPTION OF THE COMPREHENSIVE PLAN AND FLORENCE PERIODIC REVIEW WORK TASK 8, BY ADOPTING: AMENDMENTS TO COMPREHENSIVE PLAN CHAPTER SIX (6) AIR, WATER AND LAND QUALITY AND CHAPTER FOURTEEN (14) URBANIZATION, AND TO ADOPT HOUSEKEEPING AMENDMENTS TO THE FLORENCE TRANSPORTATION SYSTEM PLAN

Additions to the Realization 2020 Comprehensive Plan are shown in double-underline and deletions in strike-out. Items in italics have been added or changed since November 17, 2008 for this discussion draft.

A. Amendments to Florence Realization 2020 Comprehensive Plan Chapter 6: Air, Water and Land Quality

- Add a new Policy 12:

  12. *Lane County and the City of Florence shall develop and jointly pay for scientifically-based standards and a regular testing program to determine if sewage or chemicals from septic tanks is entering the North Florence Dunal Aquifer in a location that could potentially impact Clear Lake, our current water supply or future water supplies, or impact the beach along the ocean (the "Area of Concern"). A system to spot isolated problems and correct them as soon as possible will be put in place. Such a system may assure safe drinking water and prevent the need for health related annexations and ensure a safe, positive experience for beach recreation.*

  13. *If a problem is identified in the "Area of Concern" and immediate correction is not feasible, the county shall not allow the installation of any new septic system, replacement septic system, or expansion of an existing septic system until the county and city mutually agree on appropriate measures to stop the contamination.*

- Add a new Recommendation 8:

  8. Lane County and the City of Florence will request that the Heceta Water District participate in the testing program of water supplies (Policy 12) in order to ensure monitoring of both Clear Lake and the sole source aquifer which are hydraulically connected.

- Add to background section to describe the problem and the basis for the policy.

amendments are adopted. If someone is currently allowed to install, expand or replace a septic system, s/he will still be allowed to do the same after these policies are adopted. The only new limitations would be that a property owner could not divide land without annexation.

3. ***What happens if the testing of the aquifer or a surface watercourse shows that the groundwater or surface water is contaminated?***
   Once a problem is identified, the City and County would conduct further tests to attempt to identify the cause of the contamination. The City and County would then determine the appropriate "fix" to the problem. In order not to exacerbate the problem, until the fix is identified, the County would put a hold on the issuance of any septic permits within the Florence UGB.

4. ***What is the City trying to achieve with these policies?***
   The proposed policies, in the context of the Comprehensive Plan, attempt to achieve three objectives:
   a. Limit sprawl and premature expansion of the UGB caused by inefficient development at low densities.
   b. Ensure that the City will be able to provide city services in an orderly, economic manner.
   c. Protect the City's current and future water supplies and ocean beach.

TESTING PROGRAM: It is the City's goal to maintain and protect a sustainable drinking water resource, from water quality and water quantity perspectives. The City is interested in protecting its current drinking water supply and protecting future water supplies within all portions of the North Florence Dunal Aquifer. The key elements of a groundwater protection program are:

- Identification of, or refinement of, the source water protection area(s)
- Identification of potential sources of groundwater contamination
- Implementation of control strategies (land use planning, zoning, ordinances) to help prevent releases that could degrade groundwater quality
- Periodic groundwater monitoring to characterize natural conditions and ensure that unacceptable contaminants are not affecting the use of the water for drinking

The City also has concerns about surface water contamination, particularly as it affects Heceta Beach. Thus, the testing program would also include testing of drainages that may indicate areas of septic tank failures. As outlined in a technical memorandum from GSI Water Solutions, up to 19 groundwater locations and six surface locations would be tested for chemical constituents in order to achieve a comprehensive groundwater monitoring program.

- All wells would be analyzed for the common ions, pH, temperature, oxidation reduction potential, conductivity, total organic carbon, and coliform bacteria.
- Wells in the City's commercial areas also would be tested annually for organic chemicals (volatiles and pesticides) for which there are established drinking water standards. The frequency of testing could be reduced if the results are favorable.
- Wells in the northern residential area should be tested once for organic chemicals (fuels, solvents and pesticides) to confirm their absence in the residential area.

REC'D MAR 05 2009

ORD. NO. 7-08
P.A. NO.
DATE:
EXHIBIT NO. 43

Michael J. Lilly
Attorney at Law
6600 SW 92nd Avenue, Suite 280
Portland, OR 97223

Telephone: 503-294-0062
Facsimile: 503-452-4433
Email: mikelilly@michaeljlilly.com

March 3, 2009

Dave Perry, South Coast Regional Rep.
Community Services Division
Oregon Dept. of Land Conservation & Development
Ocean-Coastal Management Program
810 SW Alder, Suite B
Newport, OR 97365

By Mail
Re: Florence and Lane County Septic Tank Review

Dear Mr. Perry:

I enclose the Lane County Staff Report for the Planning Commission meeting on February 17, 2009. Most of the material in the report was submitted by the City Staff. There are line markers on three pages that raise my concerns about the moratorium issue, as explained in the accompanying letter I plan to deliver to Lane County on March 4. I also enclose a copy of my January 26, 2009 letter to Mayor Phil Brubaker and Florence City Council.

Michael J. Lilly

Michael J. Lilly

Enclosures
cc: Sandra Belson – City of Florence
Stephanie Schulz – Lane County

RECEIVED AT WORK SESSION
P.A. NO. 1249 & ORD. 7-08
DATE 2-17 EXHIBIT NO. 42

Michael J. Lilly
Attorney at Law
6600 SW 92nd Avenue, Suite 280
Portland, OR 97223

Telephone: 503-294-0062
Facsimile: 503-452-4433
Email: mikelilly@michaeljlilly.com

February 17, 2009

Lane County Planning Commission
c/o Stephanie Schulz
Lane County Planning Department
125 East 8th Avenue
Eugene, OR 97401

By Facsimile and Hand Delivery
Re: Ordinance No. 7-08—in the Matter Of Amending Chapter 10 of Lane Code (LC10) To Revise And Add Provisions For The Interim Urbanizing Combining District (/U) Applicable Within The Florence Urban Growth Boundary (LC 10.122-10, 10.122-13, 10.122.14, 10.122-15, 10-122-30, 10.122-31) (File No. PA 08-5363, Applicant: Florence)

The staff of the City of Florence has submitted all new material and a completely new approach for this ordinance. Consequently, I am submitting this letter and requesting that the Planning Commission accept it, since the City's staff submitted their new approach on the last day the record was open.

In fact this new approach has not been adopted by the City. It was presented by the staff at a public meeting, but City Council took no vote and has not even held hearings on this new approach. The public was allowed to ask questions at the meeting but no testimony was presented.

This approach is far more than a testing program. The changes would place a freeze on all land divisions inside the Urban Growth Boundary. See Section B. 2:

> *" For properties within the North Florence Dunal Aquifer that are also within the Urban Growth Boundary, no land divisions shall be allowed prior to annexation to the City."*

In addition to the freeze on land divisions, the new proposal would also require the County to impose a moratorium on septic tank systems within the entire Urban Growth Boundary if any "problem" is detected. New systems are

prohibited and old systems could not be replaced. "Problem" is undefined, and the County won't be permitted to evaluate whether or not the problem warrants a moratorium. See Section A. 13 and item 3 from the City's questions and answers:

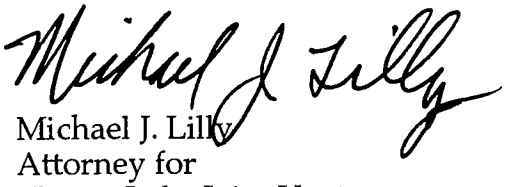
> *"If a problem is identified in the 'Area of Concern' and immediate correction is not feasible, the county shall not allow the installation of any new septic system, replacement septic system, or expansion of an existing septic system until the county and city mutually agree on appropriate measures to stop the contamination."*

> *"3. Once a problem is identified, the City and County would conduct further tests to attempt to identify the cause of the contamination. The City and County would then determine the appropriate 'fix' to the problem. In order not to exacerbate the problem, until the fix is identified, the County would put a hold on the issuance of any septic permits within the Florence UGB."*

These moratoriums are inconsistent with state statutes that regulate moratoriums, ORS 197.505 – 197.540, and DEQ rules that regulate septic tank systems, OAR Chapter 340.

Finally, the city also asks you to make the unwarranted finding that the "septic systems whether failing or not, pose a threat to the North Florence Aquifer, the sole source of drinking water in the UGB." This statement is simply not supported by any of the studies from the City.

In summary, the Planning Commission should not recommend adoption of these drastic provisions. They are inconsistent with state law, and the City Counsel hasn't fully considered them or held public hearings on them. Any action by the Planning Commission is premature.



Michael J. Lilly
Attorney for
Heceta Lake Joint Venture

cc: Mike Van, Heceta Lake Joint Venture
Mayor Phil Brubaker, City of Florence
Sandra Belson, City of Florence, Planning Department
Robert Willoughby, City of Florence, City Manager

SCHULZ Stephanie E

From: LAIRD Matt P
Sent: Tuesday, January 20, 2009 9:33 AM
To: BELSON Sandra (SMTP)
Cc: SCHULZ Stephanie E; mike.miller
Subject: RE: application of OAR 340-071-0160

Sandra,

For a single family dwelling system, we would identify on the GIS that the person was within 300' of the city limits, then ask the person to get in writing (letter or email) from the city that public sewer was not available. We also have the discretion to make the call that it is physically not available, for example on the other side of a major river, however, we would likely still ask the city to confirm.

Matt.

From: Sandra Belson [mailto:sandra.belson@ci.florence.or.us]
Sent: Monday, January 19, 2009 2:35 PM
To: LAIRD Matt P
Cc: SCHULZ Stephanie E; mike.miller
Subject: application of OAR 340-071-0160

Matt, since George Ehlers is no longer employed with Lane County, I'm sending you this question. If someone came to the county to apply for a septic permit, and that property owner met the physical availability requirement of the OARs to the city's sanitary sewer system, how would you evaluate the legal availability requirement if the property was outside the city limits but within the UGB. We're trying to continue to refine the policy language that is going thru the co-adoption process, and understanding how Lane County applies that OAR would be very helpful. --S

Sandra W. Belson
Community Development Director – City of Florence
250 Highway 101 North, Florence, OR 97439
541-997-8237 (phone) 541-997-4109 (fax)

ORD. NO. PA1249 & 7-08
P.A. NO. 08-5363
DATE: _____ EXHIBIT NO. 41

GSI Water Solutions, Inc.

Technical Memorandum

To: Mike Miller, City of Florence

From: Dennis Nelson, RG
Dave Livesay, RG

Date: January 20, 2009

Re: Florence Groundwater Protection Program

The City of Florence (City) derives its drinking water from a single wellfield, comprising eight permanent wells and four seasonal wells. The source of this water is the U.S. Environmental Protection Agency (EPA)-designated Sole Source Florence Dunal Aquifer (Dunal Aquifer). The Dunal Aquifer has this federal designation in part because the aquifer is highly sensitive and vulnerable to potential contaminant sources at the surface. The boundaries of this designation extend to the north and east well beyond the immediate vicinity of the existing wellfield to help protect all portions of the aquifer that may supply water to the City in the future.

The City's existing wellfield is capable of supplying its current drinking water needs, but during times of high usage, the wells are operating near full capacity to meet demand. Realizing that a future increase in water demand soon would surpass the existing wellfield capacity, the City may need to pump water from other areas of the aquifer to meet future long-term drinking water requirements.

It is the City's goal to maintain a sustainable drinking water resource, from water quality and water quantity perspectives. The City is interested in protecting its current drinking water supply and protecting future water supplies within all portions of the Dunal Aquifer. The key elements of a groundwater protection program are:

- Identification of, or refinement of, the source water protection area(s)
- Identification of potential sources of groundwater contamination
- Implementation of control strategies (land use planning, zoning, ordinances) to help prevent releases that could degrade groundwater quality

1600 Western Blvd., Suite 240 Corvallis, OR 97333 P: 541.753.0745 F: 541.754.4211 info@gsiwatersolutions.com www.gsiwatersolutions.com

- Periodic groundwater monitoring to characterize natural conditions and ensure that unacceptable contaminants are not affecting the use of the water for drinking

Project Approach

Source Water Assessment

The original Source Water Assessment conducted by the Oregon Health Division in 2002 did not develop a potential contaminant inventory for any part of the Dunal Aquifer outside the capture zones for the currently operating wellfield. To meet the needs of an aquifer-wide program, the Source Water Assessment would need to be expanded. The existing groundwater flow model would have to be expanded, and the potential contaminant survey refined. The survey would be accomplished by searching the various Oregon Department of Environmental Quality (DEQ) databases, conducting an "on the ground" survey, and gathering available information regarding current and past activities within the boundaries of the Dunal Aquifer. The eventual identification of monitoring well locations would be based in part on this expanded Source Water Assessment to target specific locations and unique land uses that may be potential threats to groundwater quality.

Groundwater Monitoring

The overall goal of a monitoring program is to provide an early warning system to identify and help prevent contamination of groundwater in the Florence aquifer, which the City views as a potential source of municipal drinking water in the future. The monitoring program should be implemented after the expanded Source Water Assessment is complete. A groundwater monitoring network consisting of approximately 10 to 20 monitoring wells would be required for both water quality and static water level monitoring. The attached map shows a distribution of 19 wells. The number of wells could be scaled down to meet budget constraints, and to target only the areas demonstrating the highest potential for water quality problems, rather than the aquifer-wide approach shown on the map. The number of wells directly impacts the analytical costs which is a significant component of the project budget.

The monitoring well network could consist of either existing or newly installed wells, depending on the availability, construction, and access to the wells. The monitoring well network would be strategically located to monitor groundwater quality based on results the expanded Source Water Assessment as described above. These monitoring wells would be located so that they provide water level elevation data that can be used to assess current flow directions and to refine the existing groundwater flow model as needed. Both the water quality and water level data would provide useful baseline information for future permitting of the North Florence Wellfield, if the City decides to pursue that water supply option.

The frequency of monitoring and type of testing are variable and subject to best professional judgment. Listed below is a groundwater monitoring approach that is fairly typical of an aquifer protection program. As described below, the monitoring frequency is reduced after the initial year to help keep the laboratory costs down. Additionally, the sampling could be conducted by City staff if this option is possible.

Water Level Monitoring. The wells would be monitored for static water levels quarterly for 2 years, dropping back to semiannually for future years.
Chemical Monitoring. During the first year of the program, chemical monitoring should be conducted on a quarterly basis at all wells to identify the seasonal trends and variability which will establish baseline conditions for future comparison. After the first year, monitoring frequency can be reduced to semi-annual or once a year depending upon the results of the first year. The following chemical constituents are typically monitored as part of a comprehensive groundwater monitoring program:

- All wells would be analyzed for the common ions, pH, temperature, oxidation reduction potential, conductivity, total organic carbon, and coliform bacteria.

- Wells in the City's commercial areas also would be tested annually for organic chemicals (volatiles and pesticides) for which there are established drinking water standards. The frequency of testing could be reduced if the results are favorable.

- Wells in the northern residential area should be tested once for organic chemicals (fuels, solvents and pesticides) to confirm their absence in the residential area.

- All wells in the residential area would be monitored quarterly for nitrate and coliform bacteria.

- Surface water sources will be tested for water quality parameters, including, coliform bacteria, pH, conductivity, common ions, total organic carbon, and oxidation state.

Detailed descriptions of the analytes, sampling frequencies and costs are provided in the accompanying spreadsheet.

Surface Water Monitoring

Because of the shallow groundwater table in the Florence area, there is hydraulic interconnection between groundwater and surface water features such as local streams, lakes and wetlands. To assess whether groundwater discharges impact surface waters, the monitoring program should include periodic surface water sampling coincident with the groundwater sampling events.

For the purposes of this scope and budget, it is assumed that surface water samples will be collected at six locations which will be identified in the future. Detailed descriptions of the analytes, sampling frequencies and costs are provided in the accompanying spreadsheet. The number of samples could be scaled up or down to meet specific objectives, but this scope provides a basis for the cost estimates. The approach assumes that samples will be collected quarterly during the first year and semi-annually in subsequent years. The constituents that are

monitored are similar to the groundwater chemicals expect the organic chemicals (volatiles and pesticides) which will not be conducted for surface water.

Response Actions

Water quality data collected during routine monitoring will be evaluated by trend analysis and by comparing the results to established water quality criteria. As stated above the primary objective of the monitoring program is to provide an early warning system to identify potential water quality problems. If contamination is identified the likely next steps would include:

- Identify the aerial extent of the problem.
- Identify the probable source(s) of the contamination and implement source control actions, if necessary, to mitigate or eliminate the source(s).
- Notifying appropriate regulatory agencies that will determine whether the impacted water poses a health hazard and take necessary steps to protect public health and safety.

An aquifer protection program, designed to identify and mitigate potential risks to water quality, requires a protocol for identifying risks and taking appropriate action. Establishing water quality 'trigger levels' is an important task for the City's Drinking Water Advisory Committee to complete. Additionally, it is important that the City establish policies and protocol to for response actions and management approaches to address the risks associated with contamination.

Trigger concentrations do not necessarily represent a health threat, but rather are indicators of human impact to water quality. The actual trigger concentrations will vary from one contaminant to another based on risk to human health and natural background levels in the aquifer. Some typical trigger values are given below:

Contaminant	"Trigger Concentration"	Health Concern
E. coli	Presence	Acute response possible
Nitrate	1.0 mg/L*	Acute response possible
Fuels, solvents, etc.	Detection level	Chronic contaminant
Pesticides	Detection level	Chronic contaminant

*Typical background concentration in non-impacted groundwater

Contaminants are considered "acute" if a risk to human health may occur with only a single exposure. Chronic contaminants are those that may produce a health concern after prolonged exposure. Importantly, the first detection of a contaminant does not necessarily represent the full impact, as the concentrations of may increase with time, and there may be associated chemicals present that are not part of the analytical test procedure, e.g., pharmaceuticals.

The responses to reaching these trigger values will vary widely depending upon the location and extent. The initial action may include additional sampling to confirm the detection. If

confirmed, follow-up actions would likely include notification of the appropriate regulatory agencies. In Florence this would include Lane County for E.coli, and the Oregon Department of Environmental Quality for organic contamination. Additionally, the City may wish to pursue additional investigation of the areal extent and probable sources of the contamination and make a response decision based on these findings. Responses could vary from posting warnings regarding exposures to surface water, notifying residents in the area regarding compromised water quality, developing and implementing ordinances regarding minimum lot size, etc.

Agency Participation

To build a credible program and identify possible funding sources, it is important to involve state agencies that oversee the groundwater protection process (i.e., DEQ, Oregon Department of Human Services [DHS], and Oregon Water Resources Department). We recommend that the City consult early and often with these agencies to ensure that the development of the aquifer protection plan will be consistent with established agency policies.

The Dunal Aquifer includes U.S. Bureau of Land Management land, which may be the location of future municipal well sites. The preliminary wellhead protection delineations for these proposed well sites completed by DHS extend into land under the jurisdictional control of the U.S. Forest Service (Siuslaw National Forest). Consequently, it may be necessary to work with the two federal agencies, as appropriate, to ensure that future well development and establishment of protective land use practices are in compliance with the Federal Land Policy and Management Act and other federal regulations.

Public and Stakeholder Participation

The development and implementation of effective drinking water protection strategies typically involve a stakeholders' group to help identify and prioritize the existing and potential land use practices that may pose risks to water quality. The stakeholders' group also helps select appropriate management strategies that can be implemented to effectively reduce those risks.

Estimated Project Cost:

The cost estimate is based on the assumptions and approaches presented in this memo. The approach presented is a thorough and comprehensive and would provide Florence a sound aquifer protection program. However, as stated previously the program can be scaled and adjusted to meet resource constraints or to address source-specific monitoring goals.

Source Water Assessment. We estimate that an expanded source water assessment document can be completed for **$15,000 to $20,000**. This is mostly GSI labor costs plus miscellaneous expenses.

Water Quality Monitoring. A detailed breakdown of analytical costs associated with surface water and groundwater sampling is attached. A summary of the analytical costs are presented below:

- Year 1 (quarterly sampling events): **$16,150.**
- Year 2 and subsequent years (semi-annual sampling events): **$7,150.**

These analytical costs do not include well installations which will be approximately $1000/well, or labor costs to collect samples and manage the results. This work may be done in part or completely by City staff.

Funding for Drinking Water Protection

History tells us that prevention of contamination is always less expensive than having to clean up contamination or to install and maintain treatment of contaminated drinking water. Estimates vary, however, and reasonable cost estimates indicate that investing in prevention is about 10 percent of the costs of having to react to a contamination problem. One estimate involving a small community in Oregon compares the cost of developing a protection plan being $5,000, while the investigation and cleanup associated with a chemical release were in excess of $500,000.

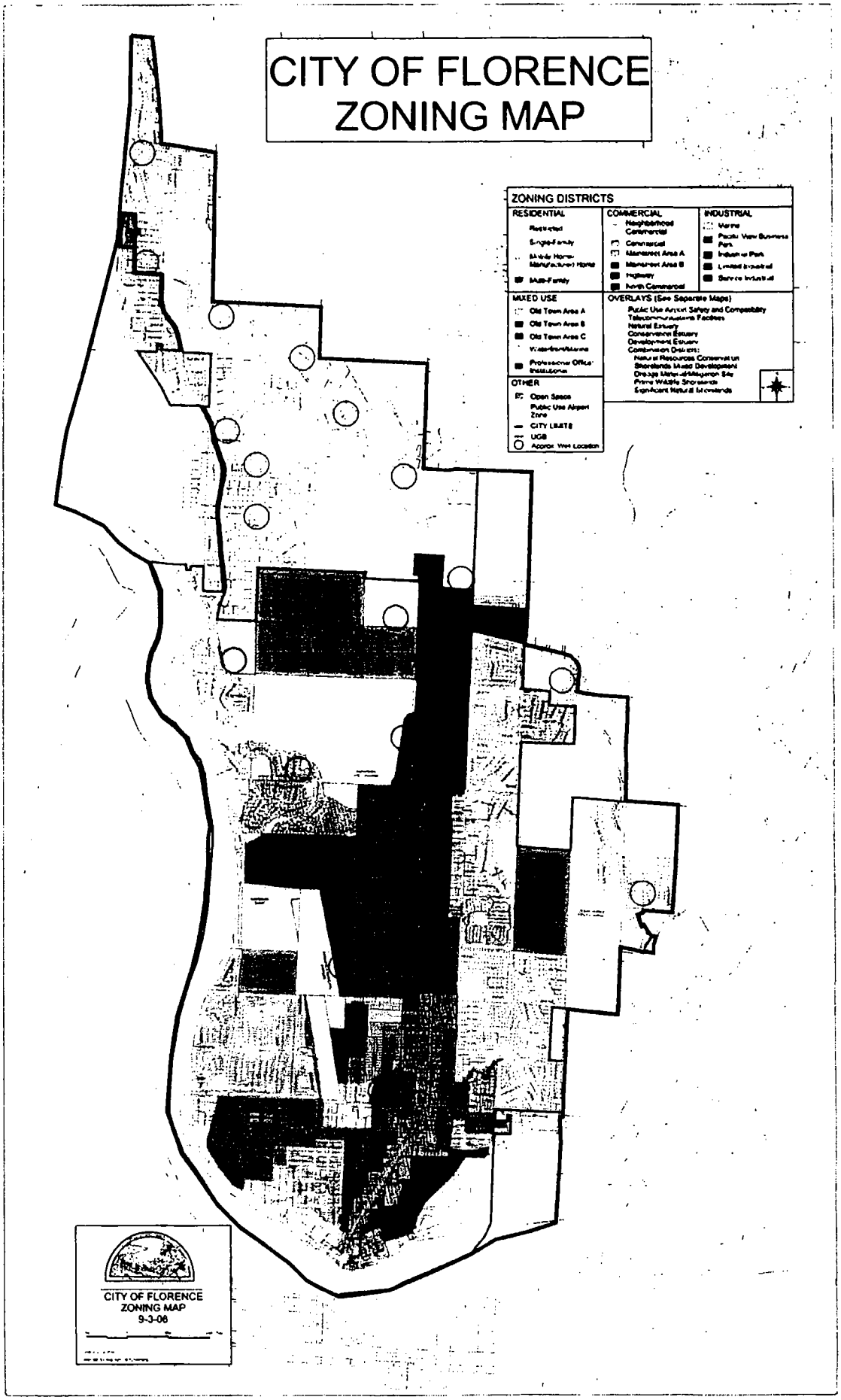
Communities in Oregon and elsewhere have used a variety of tools to pay for or to supplement funds used to develop and implement source water protection for their drinking water supplies. These include:

- Annual per connection fees. For example, if the City implemented a connection fee of $1 per month per connection, more than $40,000 per year would be available for protection.
- Plan review fees (for example, associated with building permits)
- Stormwater fees
- Recreational user fees
- Clean Water Act
    - 319 nonpoint sources grants (www.epa.gov/owow/NPS)
    - 604b water quality management planning grants (www.epa.gov/owm/finan.htm)
- Safe Drinking Water Act (http://www.oregon.gov/DHS/ph/dwp/srlf.shtml)
    - State Revolving Fund low-interest Source Water Protection loans: available in Oregon up to $100,000 per community
    - State Revolving Fund Source Water Protection grants: available in Oregon up to $20,000 per community
- Housing and Urban Development block grants (www.hud.gov/cpd/cdbgfct.html)
- Pollution Prevention Grants (www.epa.gov/internet/oppts)
- Special districts
- Public and private partnerships

Periodically, EPA announces special funding sources (grants or demonstration projects) that can provide funding for drinking water protection.

item 4

CITY OF FLORENCE ZONING MAP



Monitoring Costs Estimate for City of Florence Source Water Protection Program

Land Use/No. Wells	Analyte/Parameter	Package Costs	Year 1 # Samples	Year 1 Cost	Year 2 # Samples (semi annual)	Year 2 Cost
Residential Wells (11 Wells)						
	Field Parameters (Cond/pH/C	$15	44	660	22	330
	Common ions	$40	22	880	22	880
	Total Org Carbon	$30	44	1320	22	660
	Nitrate	$17	44	748	22	374
	Coliform	$25	44	1100	22	550
	VOCs (benzene,TCE, etc.)	$100	11	1100	0	0
	SOCs (pesticides)	$145	11	1595	0	0
Total				$ 7,403.00		$ 2,794.00
				0		0
Comm/Ind (8 Wells)				0		0
	Cond/pH/ORP/T	$15	32	480	16	240
	Common ions	$40	16	640	16	640
	Total Org Carbon	$30	32	960	16	480
	Nitrate	$17	32	544	16	272
	Collform	$25	32	800	16	400
	VOCs (benzene,TCE, etc.)	$100	16	1600	8	800
	SOCs (pesticides)	$145	8	1160	0	0
Total				$ 6,184.00		$ 2,832.00
				0		0
				0		0
Total for Year: Wells				0		0
				0		0
				0		0
Surface Water Sites (6 Locations)				0		0
	Cond/pH/ORP/T	$15	24	360	12	180
	Common ions	$40	12	480	12	480
	Total Org Carbon	$30	24	720	12	360
	Nitrate	$17	24	408	12	204
	Collform	$25	24	600	12	300
Total for Year: Surface Water				$ 2,568.00		$ 1,524.00

Total Cost/Year: Wells and Surface

Year 1 $ 16,155.00 Year 2 $ 7,150.00

TOTAL
$ 23,305.00

SCHULZ Stephanie E

From: Jeff and Michele Andrus [micheleandjeff@comcast.net]
Sent: Tuesday, December 02, 2008 9:25 AM
To: SCHULZ Stephanie E
Subject: RE: Nov 25 Public Hearing Minutes

Thank you,

Jeff

From: SCHULZ Stephanie E [mailto:Stephanie.SCHULZ@co.lane.or.us]
Sent: Tuesday, December 02, 2008 8:34 AM
To: Jeff and Michele Andrus
Subject: RE: Nov 25 Public Hearing Minutes

The entire public record, which is everything that has been submitted in writing, is available for viewing at no cost in the Land Management Division office, basement of the Public Service Building, 125 E. 8th Street, Eugene. This is a hardcopy file, not electronic. copies are available, at 25 cents a page. You can also watch the public hearing on lane county's website, go to the Board of Commissioners Department, and choose meetings, then webcasts, by date.
Stephanie

From: Jeff and Michele Andrus [mailto:micheleandjeff@comcast.net]
Sent: Tuesday, December 02, 2008 7:26 AM
To: SCHULZ Stephanie E
Subject: Nov 25 Public Hearing Minutes

Stephanie, What information is available regarding the Nov. 25 Board of Commissioners public hearing on proposed amendments to the Florence Realization 2020 Comprehensive Plan and Lane County proposed revisions to Lane Code 10.122?

Thank you for your assistance,

Jeff Andrus

IRVING & STOTTER LLP
Attorneys at Law

Christine Irving Stotter
is541@msn.com

541 Willamette St., Ste. 307E
Eugene, Oregon 97401
(541) 345-3800

Daniel J. Stotter
dstotter@qwest.net

ORD. NO.
P.A. NO.
DATE: EXHIBIT NO. 40

December 5, 2008

Lane County Board of Commissioners
125 East 8th Ave.
Eugene, OR 97401

Sent Via Fax To: (541) 682-4616

Copy Sent Via Fax To Stephanie Schulz, Land Management Division: (541) 682-3947

Re: Florence 2020 Comprehensive Plan Amendments - Ordinance No. PA 1249

Dear Lane County Board of Commissioners:

I am writing to express my concerns regarding the proposed annexation amendment policies which are currently being proposed by the City of Florence as a component to the county's co-adoption of the Florence Realization 2020 Comprehensive Plan.

I have been informed that at the Board of Commissioners only public hearing on this matter - held on October 1, 2008 - **there was no public testimony presented** except by the applicant City of Florence and its Staff, despite the fact that there is significant public interest and concern regarding this proposal.

The Land Management Division planner assigned for this matter has indicated that the only notice that was provided and/or required for the Board's 10/1/08 public hearing in this matter was a single legal ad that was placed in the Register Guard newspaper for September 11, 2008, and I have been informed by Staff that no additional notice was ever sent to any of the affected property owners, nor to the Siuslaw News in Florence that serves as the primary local newspaper for many coastal residents that are significantly impacted by this decision. For this reason, I would request that the Board of Commissioners consider re-opening the public hearing in this matter to allow for further public testimony on this issue.

By way of background on this issue, as you may know, Lane County has not yet co-adopted the Florence Realization 2020 Comprehensive Plan that has been approved by the City of Florence, but the county is currently moving towards co-adoption of this plan, a process that requires approval by the County Board of Commissioners to replace the1988 Comprehensive Plan currently applied by the county. The Lane County Planning Commission, after hearing of the strong public interest in "no forced annexations" and upon initially hearing from the City of Florence that the City had already adopted such a policy through City Resolution No. 8, indicated to the City of Florence that it should amend its proposed annexation policies in the Florence Realization 2020 Comprehensive Plan to adopt the "no forced annexation" policies of resolution No. 8. (The Planning Commission also made other suggestions for amending the 2020 Comp Plan that are outside of the scope of the annexation issues I am addressing at this time).

In response to this input, the City of Florence has drafted proposed language to amend the 2020 Comprehensive Plan annexation policies which are currently pending / under review by both the City of Florence and Lane County. **Of particular concern to many members of the public, including myself, is that the current proposed amendment language under review is clearly not a "no forced annexation" policy as suggested by the public and by the Lane County Planning Commission.**

ally support Florence 2020 Comp Plan Annexation Policy #1:

Annexation Policy 1 states. "Unless necessitated by a health hazard as determined by state law, the City will only annex property when requested to do so by a property owner, in accordance with the procedures prescribed by state law existing at the time of annexation."

However, proposed Annexation Policy #2 would create a significant exception / loophole to Annexation Policy #1 by expressly allowing forced annexations by the City of Florence which I strongly oppose. Annexation Policy 2 requires all property owners within the North Florence Dunal Aquifer who wish to either (1) develop or (2) redevelop their property to annex to the city and to also hook up to the city's sanitary sewer system unless they obtain a special exemption from the Florence City Council.

Although the exact language to Annexation Policy #2 is currently being discussed and adjusted by the City of Florence, the underlying premise, mandating forced annexation to county properties that currently use septic systems **(even with no evidence of septic failure or groundwater contamination issues)** for the large area of county lands North of Florence within the North Florence Dunal Aquifer system. The above policy would clearly require forced annexation for many property owners within the UGB North of Florence who seek to develop or redevelop their property - even with outright permitted or allowable uses in their designated zoning -which will result in significant economic hardships and certainly force many rural property owners to have to sell their homes.

What is most troubling to me is that Annexation Policy 2 is being sold under the **pretext** that it is an environmental / groundwater protection measure. However, the reality is that it is being pushed to promote rapid development of the undeveloped property North of Florence to support a few wealthy developers. If the City of Florence really wanted to protect the North Dunal Aquifer, they would seek to restrict or otherwise limit development in this area or impose requirements for "state of the art" septic systems instead of seeking fast track subdivisions and urban sprawl North of Florence.

It is undisputed that there is no evidence of any contamination of the North Dunal Aquifer by septic systems in this area. Moreover, there is already a strong pre-existing State law - ORS 431.705 et. seq. (referenced in Florence 2020 Comp Plan Annexation Policy #1 above) - which expressly requires annexation to prevent health hazards. However, the City of Florence doesn't have evidence to demonstrate the need to prevent an actual health hazard and this pretext is merely a means to allow the City of Florence's expansion and control of county lands North of Florence through forced annexations.

For all of the reasons set forth above, I would urge the Board of Commissioners to adopt Annexation Policy #1 and to reject proposed Annexation Policy #2 of the Florence 2020 Comprehensive Plan at this time.

I would also request that the Board of Commissioners consider re-opening the public hearing in this matter to allow for further public testimony by impacted local coastal residents on this issue.

Respectfully,

Daniel J. Stotter
Attorney at Law

Preferred Choice Sixty-Five

RECEIVED AT HEARING

07-5363

DATE: 11-17-08 EXHIBIT NO. 39

Mr. Bill Hanson — 11-17-08

The City of Florence is trying to pass an ordinance which must be approved by the Lane County Commissioners. This will give the City of Florence the authority to vetto building permits and septic system replacements and partitions. The proposed Code amendments ensure that the aquifer is protected by allowing septic systems only when the Florence City Council grants an exemption from hooking up to the city system due to impractability — They use the argument that this will prevent Nitrates from leaching into the water aquifers —

We ask that all legal lots that have current site inspections be exempt from this regulation —

We have had a cabin on Jasper St. for over 40 years and no problems with water or septic system —

Thank you for your consideration —

Elsbeth Fredricks —
960 W. 16th
Eugene
97402

Preferred Choice Sixty-Five

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November 14, 2008

ORD. NO. 04-5363
P.A. NO. _____
DATE: _____ EXHIBIT NO. 38

Stephanie Schulz
Metro and Small City Planner
Lane County Land Management Division
125 E. 8th Ave. / PSB
Eugene, OR 97401
Fax No. (541) 682-3947

Dear Ms. Schulz,

We became the owners of Lot 2, Heceta South on January 6, 2003. We purchased the lot for the purpose of having our dream home built on it. We are retired and want to eventually move to the Florence area.

The lot was approved for a low pressure distribution septic system on November 22, 1993. Therefore, we believe that we have a right to install a low pressure distribution septic system instead of being required to install a substantially more costly enhanced septic system, if the Florence City Council makes that a condition for an exception.

Nor should we be prohibited from having a home built on our lot until a sewer line is in the street in front of it. Should this occur, we believe this would make our lot unusable for its intended purpose and diminish its value.

For these reasons, we oppose the adoption of proposed Lane County Code 10.122-31 Land Uses. If the Lane County Board of Commissioners wishes to adopt Lane County Code 10.122-31 Land Uses, **we request that they consider a change in the wording so that, if adopted, it reads as follows:**

10.122-31 Land Uses. (1) For land within the Florence UGB that is within the North Florence Dunal Aquifer boundary, as designated by the U.S. Environmental Protection Agency in September, 1987, no land uses that require an expansion or installation of a new septic system will be allowed, unless the applicant provides proof that an exception has been made as evidenced by final written action of the Florence City Council ***or a lot was approved for a septic system prior to adoption of Lane County Code 10.122-31 Land Uses, regardless of whether an installation permit was issued . The type of septic system that was approved for the lot shall be allowed and an enhanced septic system shall not be required.*** Replacement of a failing septic system for existing uses is allowed if consistent with state law.

Thank you for your assistance.

Sincerely,

Joseph T. Raden

Joseph T. Raden

Raquel E. Raden

Raquel E. Raden
1455 N. Park Ave.
Rialto, CA 92376

cc: Lane County Commissioner Bill Fleenor
Fax No. (541)682-4616

Quality & Service
TERRACE HOMES
MANUFACTURED HOMES
2825 Hwy. 101 N. • Florence, Oregon 97439 • 541-997-3144

ORD. NO. 08-5303
P.A. NO. _____
DATE: _____ EXHIBIT NO. 37

November 14, 2008

Lane County Commissioners
125 Ease 8th Avenue
Eugene, OR 97401

Dear Lane County Commissioners,
The City of Florence is trying to pass an ordinance, which must also be approved by the Lane County Board of Commissions that will give the City of Florence the authority to veto any building permits or septic system permits inside of their Urban Growth Boundary. This could include septic system replacements and partitions.
They are justifying this action by saying it is to prevent nitrates from leaching into the water aquifers. Both the city and Heceta Water District test their water on a regular basis. We believe that this could create a great number of problems. The tests show Non-detect for nitrates and are published on their websites and the Oregon Department of Human Services website: http://170.104.158.45/inventory.php3?pwsno=00299

The city water is in compliance with State and Federal standards. Sewage disposal systems are already regulated by Lane County and Oregon D.E.Q.

Please adopt the following language :
All legal lots located in subdivisions that have current county site inspection approvals are exempt from this regulation. This language should be added to Lane County Oridinance no. 7-08 and City of Florence proposed amendment to the Florence Realization 2020 comprehensive plan.

Sincerely,

Art Koning

Art Koning,
Terrace Homes, Inc.

cc: City of Florence,
City Council
Bill Fleenor

November 14, 2008

RECEIVED AT HEARING
P.A. NO. 08-5363
DATE: _____ EXHIBIT NO. 36

Lane County Board of Commissioners
William Fleenor – Commissioner West Lane
125 E. 8th Ave
Eugene, OR 97401

SUBJECT: PROPOSED REVISIONS TO LANE CODE CHAPTER 10

This letter is in response to the recent notice I received concerning proposed revisions to Lane Code Chapter 10. I live in the Florence UGB and own a lot adjacent to my home which is currently considered to be a buildable lot. I strongly object to the proposed revisions to Chapter 10.122-31 Land Uses. The proposed revisions to this part of the Lane Code will severely reduce the value of my property(s) as well as many others in my area (Kla-Ha-Nee and Heceta Beach). My specific objections are itemized below:

1. The proposed revision will turn my currently buildable lot into an unbuildable lot. As a result, it is unlikely that I would be able to sell the property should I need the income. There are many property owners with lots in the UGB who would be similarly affected. Any further decreases in property values would only exacerbate the severe reductions that we have all seen in our property values. As a result, this change would create a financial hardship for those of us in the UGB who are retired and living on fixed incomes.

2. The proposed revision would prevent me from remodeling or expanding my home unless an exception is made by the Florence City Council. Since there are no guidelines for granting these exceptions, property owners have no assurances that they would be granted in a fair and equitable manner.

3. As written, the proposed revision is vaguely worded. For example, does a "septic system" consist of a septic tank and its leach field or just the septic tank itself?

4. If my current septic system fails, it is not clear that I would be able to repair or replace it.

5. The City of Florence has made it clear that it wants to annex the area in the UGB that is north of the city. Those of us in the affected area have all heard that the city will not "force" us to annex; however, this proposed revision appears to be a disingenuous move on the part of the City of Florence to force us into annexation by requiring us to have a sewer system. The costs associated with extending the sewer trunk lines to the UGB northern area and then individual hook-ups would be substantial and possibly prohibitive to many home/lot owners in the affected area.

In closing, during this time of severe economic crisis, it is very disheartening to see such a revision being proposed by our local government leaders. Many of us have already seen our

retirement accounts cut in half, our property values significantly reduced, and our quality of life in our community challenged. For the reasons stated above, I urge you to not move forward with the proposed revisions to Lane Code Chapter 10.

Thank you for considering my comments.

Sincerely,

Gail M. Good
88714 Shoreline Drive
Florence, OR 97439

R EIVED AT HEARING
P.A. NO. 7-08
DATE: 11-25-08 EXHIBIT NO. 35

ABSTRACT from: Jerry

A study of the North Florence Dunal Aquifer was conducted to formulate alternatives for the protection of the aquifer from contamination by on-site sewage disposal. Characterization of the aquifer also allows for the possible formulation of remedial procedures to clean-up future spills or leaks, or protect against contaminant migration. In the current study nitrate-nitrogen was the contaminant/nutrient of primary concern.

The study consisted of a seismic survey to define aquifer boundaries and inhomegenities, a monitoring program to determine current water quality and head variations at various sites and settings on the aquifer, and a modeling effort to characterize the hydrogeologic parameters of flow. Through the use of digital modelling, the response of the aquifer to increased pumpage and drought was examined. Analysis of recharge data and loading rates allowed for definition of loading limits for Nitrate-Nitrogen.

Results of the study include the definition of critical areas of the aquifer for protection as well as the definition of Nitrate-Nitrogen loading limits necessary to stay within the 5.0 mg/L planning standard. The study indicates that most of the aquifer is relatively insensitive to nitrate ~~and accommodate that most of the aquifer is relatively insensitive to nitrate~~ and can accommodate up to 2.9 dwelling units per acre. The Clear Lake Watershed is shown to be very sensitive due to the susceptibility of Clear Lake to algae growth and dwelling unit limitations are calculated at 0.010 units per acre.

NORTH FLORENCE DUNAL
AQUIFER STUDY
JUNE 1982

STUDY AREA DESCRIPTION

The North Florence Dunal Aquifer Study (See figure 1) was initiated as a result of concerns that the primary source of water for consumptive use was possibly being threatened by mans activities on the surface of the aquifer. Concern is centered on three main areas, in order of priority: 1) Clear Lake, the Heceta Water District water source, 2) the City of Florence well-field and 3) the broad area of the aquifer with zoning such that extensive development with on-site disposal systems could be anticipated. All of these areas fall within a portion of the dunal sheet that extends from the Siuslaw River at Florence to Sutton Creek and from the Pacific Ocean to the bedrock ridge east of Clear Lake. These boundaries define the North Florence aquifer study area and are outlined in Figure 2.

Geographic Setting

The study area is located near the northern terminus of a 50 mile long dunal sheet that extends from Coos Bay on the south to Heceta Head on the north (See figure 3). This dunal sheet ranges from less than one mile to greater than three miles in width and is broken only by the major streams (Umpqua and Siuslaw Rivers) which cross it. The broadest portion of the dunal sheet is near Florence. The western border of the dunal sheet is the Pacific Ocean while the eastern boundry is the abrupt rise of the Coast Range.

Throughout the study area the dunal sheet is broad and relatively flat. It has a width in excess of three miles and a general elevation in excess of 80 feet above sea level. The generally flat nature of the sheet reflects its origin where successive layers of sand were built up as deflation plains behind eastward migrating oblique dunes. The remnants of these dunes that have become stabilized, and those which have not, are generally the major topographical features on the smooth dunal sheet surface. The margins of the sheet along the Siuslaw River, (including the North Fork), the Pacific Ocean and Sutton Creek generally approach sea level (or a stream level of less than 30 feet above sea level). A notable exception is along the estuary from near the old Siuslaw Pacific Moorage (just south of 35th Street and Rhododendron Drive) to Heceta Beach where a 50-60 foot high bank rises steeply from sea level up to an old deflation plain. From its margins the dunal sheet rises to a general elevation of about 120 feet above sea level. (See Figure 4)

The dunal sheet within the study area is predominately covered by a shore pine forest with an understory of rhododendron, salal, huckleberry and blueberry and other subordinate shrubs. Extensive areas of open sand exist as a series of migrating oblique dunes. These represent two or more episodes of dune activation on the dunal sheet within the study area (Cooper, 1958). Some plantings of European beach grass have been put on portions of these dunes to attempt stabilization, notably, along 35th Street, near the Heceta Water District storage tank and near the City of Florence pipe line which runs between

ANALYSIS AND FINDINGS

General Findings

1. The Florence dunal sand aquifer is of a generally uniform nature and is approximately 100 feet thick. It is an unconfined aquifer.

2. The North Florence Dunal Aquifer contains only two hydrologically distinct units; the CLear Lake Watershed; and the general North Florence Aquifer.

3. Flow in the aquifer tends to move radially away from a recharge zone about one mile west of Collard Lake. Most flow is toward the Pacific Ocean. The Siuslaw River and Sutton Creek are also boundaries.

4. Annual recharge averages 4.36 feet per year over the aquifer. Recharge water in the dunal sands tends to stack in layers and move vertically, as well as horizontally up to a depth of 100-130 feet. The water from each recharge season is largely unmixed with water from the previous recharge season.

5. The Major controlling factors of the aquifer hydrology are the uniformity of the sands and variations in recharge. Recharge is dependent primarily on rainfall variations and differences in evapotranspiration between vegetation, open sand and water areas.

6. Modeling was useful in predicting the boundaries between the Clear Lake watershed and the general North Florence Aquifer and necessary to predict changes in those boundaries between normal and drought conditions. These watershed boundaries do not change dramatically between normal and drought or increased pumpage conditions.

Water Quality

7. The dunal sand aquifer is a generally uncontaminated aquifer that shows sensitivity to human development.

8. Average nitrate-nitrogen levels range between 0.03 and 0.06 mg/L throughout the aquifer except where influenced by fertilization, on-site sewage and solid waste disposal.

9. Indicators of bacterial contamination are uncommon throughout the aquifer except near sources of local contamination. Most positive tests were at surface sites.

10. Iron concentrations are low (.05-.15 mg/L) in the shallow recharge portions of the aquifer. Discharge area concentrations are in the 0.2 to 0.7 mg/L range. Iron concentrations greater than 0.3 mg/L generally require treatment.

RECOMMENDATIONS

General

1. The existing Oregon Administrative Rule OAR 340-71-400(2) North Florence Dunal Aquifer Area, Lane County should be modified so as to conform to the technical results concerning geographical areas and nitrate loading considerations of the North Florence Dunal Aquifer Study.

2. The Aquifer Study predicts loadings for nitrate-nitrogen to the aquifer such that Oregon DEQ Planning Standards (5.0 mg/L nitrate-nitrogen average) are met. The Regional Rule as well as regional plans should be modified to reflect the Aquifer Study results.

3. It is recommended that the two identified portions of the North Florence Aquifer (the "Clear Lake Watershed" and the "General North Florence Aquifer") be recognized and so designated by the West Lane Planning Commission, the Lane County Commissioners and the Environmental Quality Commission.

4. The Regional Rule should recognize and legally define the "Clear Lake Watershed" and the Rule should be modified to protect this resource according to the findings of the Aquifer Study.

5. It is recommended that the Aquifer Study be reviewed and formally accepted by the following jurisdictions and agencies.

   Oregon Health Division
   Water Resources Department
   Lane COG Board of Directors
   Coastal Ad Noc Advisory

6. It is further recommended that the North Florence Aquifer Study be reviewed and adopted for planning and policy guidance by the following jurisdictions:

   Heceta Water District
   City of Florence
   West Lane Planning Commission
   Lane County Board of Commissioners
   Environmental Quality Commission

Clear Lake Watershed

7. It is strongly recommended that the agencies listed in #6 formally adopt one of the following policies concerning the Clear Lake Watershed.

   A. A commitment will be made to retain Clear Lake as a pristine domestic water supply and to protect and improve its water quality.

unstable rock fragments account for most of the balance.[13] The uniformly sand-sized particles, when saturated, can hold and transmit large quantities of water.

Hydrology

A favorable combination of geologic and climactic factors make the dunal aquifer an immense dynamic reservoir of ground water. Laboratory studies suggest that mobile ground water accounts for 32 to 35 percent of the aquifer volume.[5]. Measured permeabilities range from 270 to 600 gallons per day per square foot.[5] From a water development standpoint, the thick accumulation of porous and permeable sand will yield in excess of 150 gallons per minute to properly constructed wells.[5] Natural recharge and discharge in 1963, when the area was less urbanized, was estimated at 3000 acre feet per year for each square mile of the aquifer.[5] Although ground water withdrawals have increased significantly since then, natural discharge still greatly exceeds consumption.

Approximately 85 percent of the rain which falls upon the sand-covered surface percolates into the water table.[5] Locally, discontinuous buried soil layers and peat beds, both partly cemented by iron oxides, act to retard veritical movement.[5,6] However, on a large scale, ground water moves rapidly and almost uniformly towards a discharge point. In fact, tritium age dating indicates that water in the aquifer replaces itself at least every 30 years.[6]

The North Florence Dunal Aquifer discharges principally into the Pacific Ocean and Siuslaw River. Multiple seeps and springs occur along the coastline and riverbank, although areas of quicksand indicate that the aquifer discharges mostly as underflow.[5] The water table slopes westward at about 10 feet per 1,000 feet and southward at about 5 feet per 1,000 feet from its highest portion, located west of Mercer, Collard, and Clear Lakes.[11] Munsel Creek intercepts some of the ground water flowing towards the Siuslaw River. Likewise, Sutton Creek and Berry Creek intercept some of the westward moving ground water before it discharges into the Pacific.[5,6]

The string of lakes along the eastern boundary of the aquifer are a minor discharge area. However, the aquifer supplies a significant amount of water to the lakes, especially during the summer months when surface water inflow decreases and withdrawals from Clear Lake are increased. Hydrographs comparing lake levels with aquifer levels strongly suggest a hydrologic connection between the surface and ground water supplies.[5] More refined studies estimate that the aquifer supplies at least 27% of Clear Lake's annual water supply and a much higher proportion during the dry season.[14]

Few streams cross the dunal area since most rainfall quickly infiltrates to the water table. Those streams which do flow across the area (Munsel Creek, Sutton Creek, and Berry Creek) originate in upland areas of relatively impermeable bedrock. Where streams flow across the sand they are hydrologically connected with the ground water system. In fact, effluent ground water provide most of the flow of Sutton and Munsel Creeks at their points of discharge.[6]

EPA (AUGUST 1987)

General Aquifer

For the remainder of the aquifer, the nitrate-nitrogen planning limit of 5.0 mg/L is applicable and implies that planning alternatives are unnecessary after revision of the regional rule.

Water Supply Changes

Clear Lake Watershed

If Clear Lake is allowed to degrade in quality it is almost certain that a more complicated and expensive filtration system will be necessary to remove algal turbidity. Taste and odor problems could also occur. If Clear Lake remains at its current quality, the current inexpensive chlorination process may be used for an indefinite period but there is no guarantee that the lake will not change due to other causes or due to factors that currently exist but may have delayed impacts (e.g., existing housing near Collard Lake).

New Well Field

If Clear Lake is abandoned as a water source, new wells will be necessary. It may be possible to locate these wells on the western side of Clear Lake and construct them as a series of shallow wells or infiltration galleries. This appears likely to avoid high iron concentrations and would not require iron filtration. Chlorination would still be required for disinfection. The costs of this option are unknown and a special study would be necessary to determine the number, location and design of these wells.

Florence Well Field

It is possible to expand the Florence Well Field either in its current location or elsewhere in the dunal aquifer. In this case it is likely that several new wells would be required and filtration for iron as well as chlorination would be necessary. Deep wells have been shown to contain high iron concentrations. Special studies would be necessary to determine the number of wells, location and costs of such a new well field.

ALTERNATIVES

Sewage Treatment or Removal

Clear Lake Watershed

As applied to the Clear Lake watershed, treatment alternatives are limited to those which have disposal outside the watershed. This is due to the fact that there is no economic method to remove sufficient nitrate from individual waste systems.

Removal alternatives include standard gravity collection systems or, more likely for reasons of cost and topography, a low pressure collection system with disposal by means of a "package plant" or community drainfield somewhere outside of the aquifer. The most likely locations would be to the northwest of Collard Lake in sand or forest areas and would involve the location of suitable public or leasable private land for such disposal.

Separated composting systems/grey water systems may be acceptable alternative for existing on site replacement, but do not remove sifficient nitrate-nitrogen to allow their widespread use.

General Aquifer

As applied to areas outside the Clear Lake Watershed and beyond the Urban Service Boundary, it is not clear that treatment or removal would provide more benefits that an adequately functioning on-site system. Low pressure distribution systems are currently required by the DEQ. If specific local problems are discovered, low pressure collection and removal to a community drainfield is a viable alternative if available disposal land can be found.

Planning Alternatives

Clear Lake Watershed

For the Clear Lake Watershed, planning restrictions would require that Clear Lake nitrate-nitrogen concentrations not be allowed to exceed current background levels of 0.05 mg/L. In order to provide protection for Clear Lake from algal growth and quality degradation increases cannot exceed 0.01 mg/L nitrate-nitrogen. Using planning alternatives to meet this standard would require dwelling unit density restrictions for development using individual on-site disposal systems, but does not apply to developments which remove wastes outside the watershed. Due to existing development in the Collard Lake area, use of planning alternatives alone are insufficient to protect Clear Lake from degradation.

26. It is recommended that Clear Lake be monitored periodically for nitrate and turbidity levels in order to anticipate necessary modifications in the water supply system.

27. It is recommended that the current water intake be relocated to deeper waters to reduce the impacts of algae growth on the water supply and to prolong the period of use of the current facility.

28. It is recommended that feasibility and cost studies be initiated for evaluation of alternative water supply or water treatment needs.

General North Florence Recommendations

29. Measures should be taken to protect the General North Florence Aquifer from nutrient loadings from individual waste systems such that the State Planning standard of 5.0 mg/L nitrate-nitrogen is not exceeded generally in the aquifer.

30. A nutrient waste loading of 58 lb/acre nitrate-nitrogen per year is predicted by the study as being acceptable and not result in groundwater concentrations in excess of 5.0 mg/L. This waste loading should be adopted as a general standard for the dunal aquifer. This loading is predicted to be adequate to protect water quality in the Florence well field.

31. The current sanitary landfill site is found to be located in an area of discharge with little measurable impact to beneficial uses of ground or surface water. The landfill site should be designated as the accepted long term landfill location to serve coastal area solid waste disposal needs. Requirements should be established such that no well development be allowed between the Landfill site and the estuary.

32. It is recommended that no development be allowed that would increase the annual nitrogen loading to an amount greater than the adopted loading.

33. It is recommended that dune stablization for the protection of lakes, improvements or other valid purposes be permitted only if it can be achieved with an application of fertilizer not to exceed 58 lb/acre nitrate-nitrogen on an annual basis.

11. Analysis of water from deeper levels of the aquifer (below the top 30 feet) showed iron concentrations in excess of 5.0 mg/L.

12. The water quality of surface waters in the area is generally good but shows some indication of bacterial contamination. Clear Lake is generally least contaminated (<1/100 ml). The lakes and streams also show significant seasonal variation in nutrient levels. Clear Lake is the lowest in nitrate and Sutton Lake (Sutton Creek outflow) is the highest. Reduction in water quality appears to be directly related to the increase in human activity on or near those waters.

13. Generally, vegetation appears to contribute only a small portion of the nitrate-nitrogen found in ground or surface waters compared to human waste disposal. Shore pine forests appear to reduce nitrate-nitrogen below background levels.

14. Subsurface disposal of sewage waste is the primary human caused source of nitrate-nitrogen. Except for the landfill, the school district and the golf course, there are no other significant human caused nitrate sources within the North Florence watershed.

Clear Lake Watershed

15. Water flows southeastward into Clear Lake from an aquifer recharge zone one mile west of Collard and Clear Lakes, as well as from the north through the Collard Lake drainage and from runoff on the hills to the east.

16. The Clear Lake Watershed (dunal aquifer plus uplands) comprises approximately 1040 acres with 190 acres of lake area and 850 acres of land area. The Dunal Aquifer portion is 518 acres and the uplands 332 acres in size.

17. Current nitrate-nitrogen levels in Clear Lake average 0.05 mg/L which is 67% greater than the concentrations in the dunal aquifer to the west (.03 mg/L). Indications are that the Collard Lake area and the uplands presently contribute one-half to two-thirds of the nutrient loadings to Clear Lake.

18. Clear Lake is currently marginally "oligiotrophic," meaning that it is on the threshold at which increased nutrient levels will stimulate increased algal growth. Clear Lake is nitrate-limited and has sufficient phosphorous for such increased growth. Best estimates indicate that any nitrate-nitrogen increases beyond the current average of 0.05 mg/L will lead to algal growth.

19. In order to prevent increases to Clear Lake nitrate-nitrogen levels, increases in nitrate-nitrogen concentration in the dunal aquifer or upland watersheds must be less than 0.01 mg/L.

20. Based on a policy of no degradation of Clear Lake a total of 8.7 dwelling units should be allowed on the entire 1040 acre watershed.

(850 acres of land surface). There are currently 30 units in the watershed on septic systems, 10 of which are permanently occupied. The impact from the current systems on nitrate-nitrogen levels in Collard Lake may be only partially seen at this time.

General North Florence Aquifer

21. Throughout much of the remainder of the aquifer, nitrate-nitrogen levels are near background levels of 0.03 mg/L. This level assumes contributions only from rainfall and is represented by the open dune areas.

22. Based on the planning standard of 5.0 mg/L nitrate-nitrogen calculations indicate an additional loading of 58 lbs. per acre per year nitrate-nitrogen will not exceed this value using a stirred tank model. This translates to 2.9 d.u. per acre with on-site systems using loading rates of 20 lbs. per d.u. per year.

23. Nitrate-Nitrogen loading considerations for the Florence Well Field are identical with those for the general North Florence Aquifer.

Landfill

24. Flows in the area of the Florence landfill show that the site is a discharge zone with rapid outlet to the Siuslaw Estuary.

25. Ground water quality downgradient of the landfill shows noticable aquifer degradation from organic materials, ammonia and minerals.

26. There are no current or predicted uses of the groundwater downgradient from the landfill, based on the model prediction of flow channels. The concentration of landfill materials in the ground water does not appear to have a significant impact on the estuary.

FIGURE 20. Ground Water Contour Map of Normal Hydrologic Conditions and Maximum Pumpage from Clear Lake.

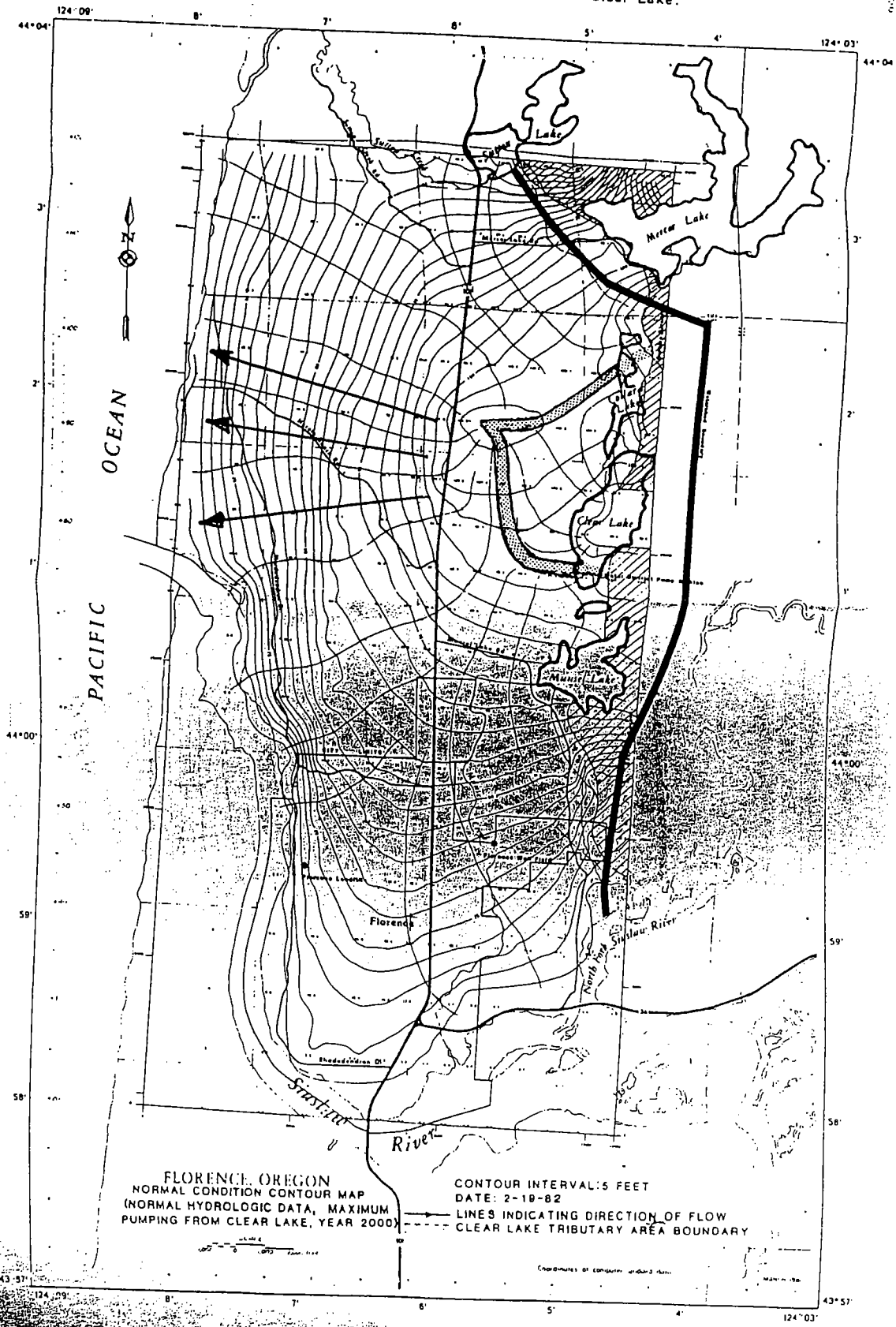
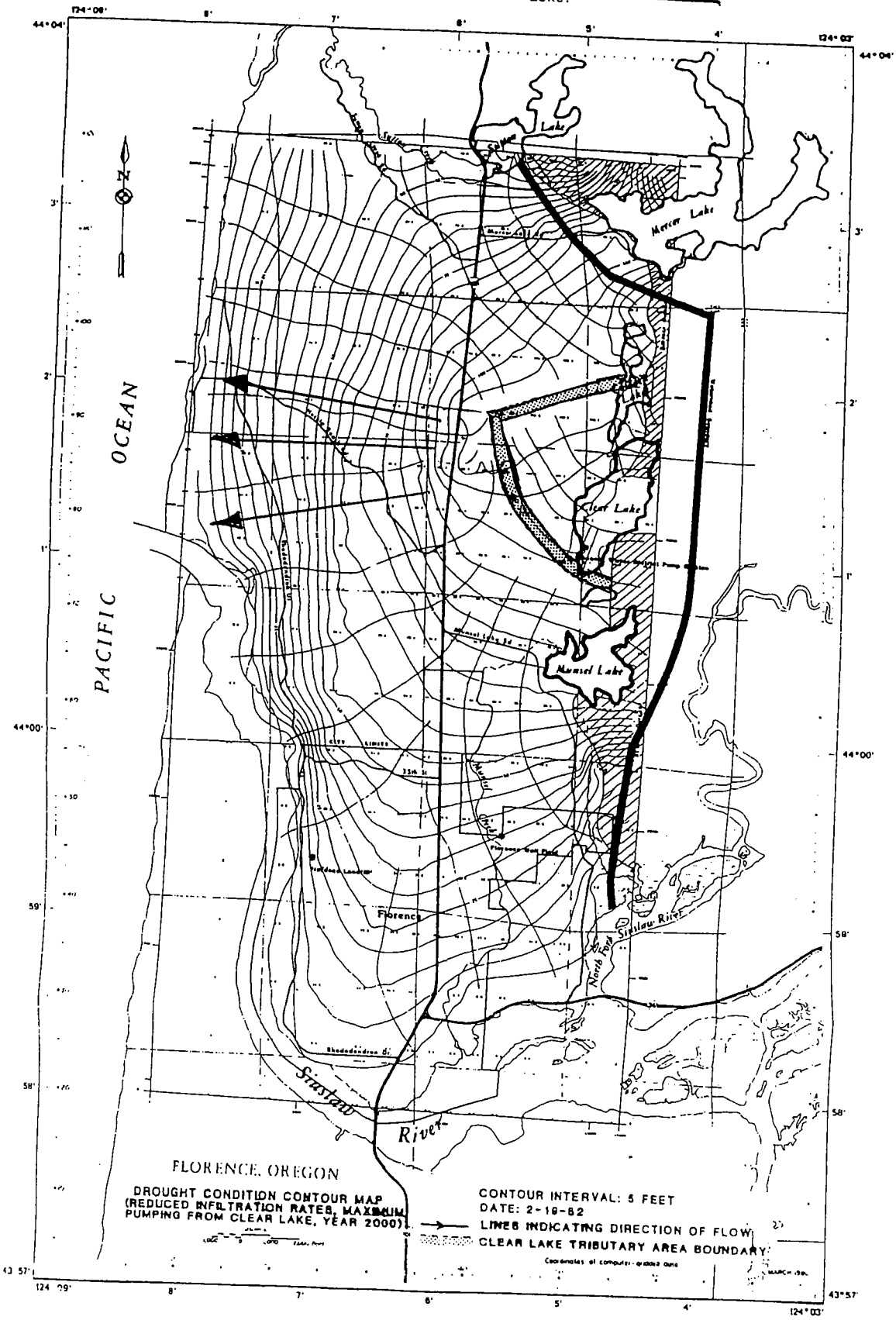


FIGURE 21. Ground Water Contour Map of Drought Conditions and Maximum Pumpage from Clear Lake.



RECEIVED AT HEARING
P.A. NO. 7-08
DATE: 11-25-08 EXHIBIT NO. 34

ANNEXATION POLICY COMPARISON

Proposed Florence Realization 2020 Comprehensive Plan Policies
prepared for Board of County Commissioners Public Hearing on November 25, 2008

Annexation Policy #1

As submitted and reviewed by Lane County Board at October 1, 2008 Public Hearing

Unless necessitated by a health hazard as determined by state law, the City will only annex property when requested to do so by a property owner, in accordance with the processes prescribed by state law existing at the time of annexation.

As being considered by Florence City Council after public hearing process in October/November

Unless necessitated by a health hazard as determined by state law, all annexations must be initiated by property owners and/or electors in accordance with state law existing at the time of annexation. The city will not use the "island annexation" provisions that would result in "forced" annexation.

Annexation Policy #2

As submitted and reviewed by Lane County Board at October 1, 2008 Public Hearing

Property owners within the North Florence Dunal Aquifer who are also within the Urban Growth Boundary who wish to either (1) develop or (2) redevelop must first annex to the city and hook up to the city's sanitary sewer service unless they obtain a special exemption from the City Council.

The North Florence Dunal Aquifer boundary is delineated in the EPA Resource Document "For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer," EPA 910/9-87-167, September 29, 1987, Comprehensive Plan Appendix 5.

As being considered by Florence City Council after public hearing process in October/November

For properties within the North Florence Dunal Aquifer that are also within the Urban Growth Boundary, no land divisions shall be allowed prior to annexation to the City. Within that same area, installation of a new septic system, replacement septic system, or expansion of an existing septic system is not allowed unless an exception is made by the Florence City Council.

The City Council will take into account the following factors when evaluating the merits of an exception:

- the potential environmental impacts of development on a septic system,
- the cost burden to the property owner(s) to connect to the sanitary sewer system,
- the potential of other sanitary sewer connections in the area,
- the ability to meet state annexation requirements, and
- prior agreements to connect to city sewer.

In the event that an exception were to be granted, the new septic systems would require the use of alternate treatment technologies to help mitigate groundwater contamination by pollutants of concern including pathogens and nitrate. This policy does not preclude development of the property or prevent economic use of the property.

The North Florence Dunal Aquifer boundary is delineated in the EPA Resource Document "For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer," EPA 910/9-87-167, September 29, 1987, Comprehensive Plan Appendix 5.

RESULTING CHANGES TO LANE CODE

The following changes would implement the policies as currently being considered by the City Council. Strikeout shows deletions and double-underline shows additions.

10.122-31 Land Uses.

(1) For land within the Florence UGB that is within the North Florence Dunal Aquifer boundary, as designated by the U.S. Environmental Protection Agency in September, 1987, no ~~land uses that require an~~ replacement, expansion or installation of a new septic system will be allowed, unless an exception is made by the Florence City Council. ~~Replacement of a failing septic system for existing uses is allowed if consistent with state law~~. (Revised by Ordinance No. PA 1249, Effective 08)

RECEIVED AT HEARING
P.A. NO. 7-08
DATE: 11-25-08 EXHIBIT NO. 33

As Reviewed by Council on November 18, 2008

AMENDMENTS TO THE FLORENCE REALIZATION 2020 COMPREHENSIVE PLAN ("COMPREHENSIVE PLAN") TO COMPLETE LANE COUNTY CO-ADOPTION OF THE COMPREHENSIVE PLAN AND FLORENCE PERIODIC REVIEW WORK TASK 8, BY ADOPTING: AMENDMENTS TO COMPREHENSIVE PLAN CHAPTER SIX (6) AIR, WATER AND LAND QUALITY AND CHAPTER FOURTEEN (14) URBANIZATION, AND TO ADOPT HOUSEKEEPING AMENDMENTS TO THE FLORENCE TRANSPORTATION SYSTEM PLAN

Additions are shown in double-underline and deletions in strike-out. Items in italics are changes and/or additions since last Board of Commissioners' public hearing on October 1, 2008.

A. Amendments to Florence Realization 2020 Comprehensive Plan Chapter 6: Air, Water and Land Quality

- Add a new Policy 12:

  12. Lane County and the City of Florence shall develop scientifically-based standards and a regular testing program to determine if sewage from septic tanks is entering water supplies. A system to spot isolated problems and correct them as soon as possible will be put in place. Such a system may assure safe water and prevent the need for health related annexations.

- Add a new Recommendation 8:

  8. Lane County and the City of Florence will request that the Heceta Water District participate in the testing program of water supplies (Policy 12) in order to ensure monitoring of both Clear Lake and the sole source aquifer which are hydraulically connected.

- *Add to background section to describe the problem and the basis for the policy.*

  Based on scientific evidence at this time (2008), septic systems, whether failing or not, pose a threat to the North Florence Dunal Aquifer, the sole source of drinking water in the UGB. The treat to the groundwater and the surface water from septic systems is documented in the North Florence Dunal Aquifer Study and the EPA Resource Document: For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer, both in Appendix 5 of this Plan. There is no known contamination of the North Florence Dunal Aquifer from septic systems at this

time. The policies in the Comprehensive Plan to monitor the groundwater quality and require annexation and connection to the City's wastewater system prior to development are intended to be proactive and prevent possible future contamination.

It is acknowledged by both the City of Florence and Lane County that Florence's dunal aquifer is unique in Oregon, and thus, highly susceptible to future contamination due to the nature of septic systems in this sensitive aquifer.

It is also acknowledged that inherent in the 19 goals (specifically Goals 1 and 2) established by the Department of Land Conservation and Development, that cities are the logical provider of municipal services, and as such, all areas within Florence's UGB shall ultimately be served by city sanitary sewer.

B. Amendments to Florence Realization 2020 Comprehensive Plan Chapter 14: Urbanization, "Policies:"

- Add a section title "Annexation Policies;" add new policies 1, 2, and 3, *and 4*:

Annexation Policies

1. *Unless necessitated by a health hazard as determined by state law, all annexations must be initiated by property owners and/or electors in accordance with state law existing at the time of annexation. The city will not use the "island annexation" provisions that would result in "forced" annexation.*

2. *For properties within the North Florence Dunal Aquifer that are also within the Urban Growth Boundary, no land divisions shall be allowed prior to annexation to the City. Within that area, installation of a new septic system, replacement septic system, or expansion of an existing septic system is not allowed unless an exception is made by the Florence City Council. The City Council will take into account the following factors when evaluating the merits of an exception: the potential environmental impacts of development on a septic system, the cost burden to the property owner(s) to connect to the sanitary sewer system, the potential of other sanitary sewer connections in the area, the ability to meet state annexation requirements, and prior agreements to connect to city sewer. In the event that an exception were to be granted, the new septic systems would require the use of alternate treatment technologies to help mitigate*

groundwater contamination by pollutants of concern including pathogens and nitrate. This policy does not preclude development of the property or prevent economic use of the property. The North Florence Dunal Aquifer boundary is delineated in the EPA Resource Document "For Consideration of the North Florence Dunal Aquifer as a Sole Source Aquifer," EPA 910/9-87-167, September 29, 1987, Comprehensive Plan Appendix 5.

3. The City will not provide sewer service outside the City limits. To obtain sewer service, the property must first annex to the city.

- Re-number and amend Policy #1 as follows:

~~1~~4. ~~Conversion~~Annexation of lands within the UGB outside City limits shall be based on consideration of:

a. orderly, economic provision for public facilities and services;
~~b.availability of sufficient land for the various uses to insure choices in the market place;~~
~~c.~~b. conformance with the acknowledged Florence Comprehensive Plan; and
~~d.encouragement of development within urban areas before conversion of urbanizable areas; and~~
~~e.~~c. consistency with state law.

- Add new policies #5 and #6, as follows:

5. The City will send a referral requesting comments on annexations to Lane County. The comments submitted will be considered in any action taken on the annexation request and will become part of the public record of the proceeding.

6. The City will send a referral requesting comments on annexations to the Heceta Water District, for annexations within the District's service boundary. The comments submitted will be considered in any action taken on the annexation request and will become part of the public record of the proceeding.

- Renumber policy #3, as follows:

~~3~~7. Annexed properties shall pay systems development charges as required by

City Code.

- Add a new policy #8, as follows:

  8. As a matter of public policy, Lane County and the City of Florence share a substantial interest in development within the Urban Growth Boundary. Development within the Urban Growth Boundary shall require annexation in order to receive a full range of urban services provided by the City of Florence. However, it is also recognized that until annexation Lane County will retain primary permitting responsibility for those lands.

- Add a new section heading "UGB Policy," and re-number and amend policy #2, as follows:

  UGB Policy

  ~~2~~1. Establishment and change of the UGB shall be a cooperative process between the City and the County. Boundary changes shall be considered only on an annual basis. Applications for boundary changes shall include documentation that the following criteria are met:

  a. The proposed change provides for a demonstrated need to accommodate long-range urban population growth requirements consistent with applicable LCDC goals and administrative rules. UGB expansions to accommodate the need for residential land shall be based on any coordinated population allocations adopted in accordance with state law, including applicable state statutes and administrative rules pertaining to coordinated population allocations.
  b. The proposed change is based on a demonstrated need for housing, employment opportunities and/or livability.
  c. The proposed change is necessary for, and/or will not hinder, orderly and economic provision for public facilities and services and will take into consideration water availability.
  d. Maximum efficiency of land uses within and on the fringe of the existing urban area has already been provided for, and the boundary change will continue to provide maximum efficiency of land use, as prescribed in state law and administrative rules.
  e. An environmental, energy, economic and social consequences analysis has been performed showing that the land is suitable for urbanization at City land uses and densities and that the ultimate

annexation of the UGB expansion area will be cost-effective for the City.

- *Add the following statements to the Background section of Chapter 14*

  Oregon Statewide Planning Goals identify land within the UGB outside city limits as "urbanizable lands", that will eventually be annexed to cities and provided with municipal services following annexation, in accordance with City annexation and public facility extension policies and standards and state law.

  It is acknowledged by both the City of Florence and Lane County that the North Florence Dunal Aquifer is not currently evidencing any contamination from septic systems, but the policies embodied in this Comprehensive Plan are meant to be proactive and prescriptive to future possible contamination.

C. Amendments to Comprehensive Plan Appendix 12: Transportation System Plan

Amend the Florence Transportation System Plan, as follows:

1. Throughout the document, change the term "Scenic Drive" so that it is not defined as a functional class.

2. Make "Access Management" a stand-alone section in the Plan and include it as a separate category of surface transportation management.

3. Change the text in Policy 3, second row on page 17, to insert the word "Code."

4. Page 59-60, Table 12-5-B2: In the 4th column, remove the "C" in the heading, for "Lane County," and delete the "C" from the five projects where it is listed as a funding source.

5. Include the following statement in the financing section of the TSP:

   "Lane County SRS funding expired in 2006 and the Capital Projects Partnership Program has been eliminated. A one-time congressional reauthorization occurred in 2007 and 2008. Beyond 2008, it is almost certain that this funding source will disappear."

6. Amend the tables on the pages after page 60 to include a preamble that states, "The following Tables Show Information about Transportation Project Funding through FY 2005."

7. Page 65: Amend the text on this page to refer to County funding in the past tense.

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