



Meeting Notice

Please note that there will not be a 6:00 p.m. Newport Planning Commission work session meeting held prior to the regular 7:00 p.m. session on **Monday, February 25, 2013.**





AGENDA & NOTICE OF PLANNING COMMISSION MEETING

The Planning Commission of the City of Newport will hold a meeting at 7:00 p.m. Monday, February 25, 2013, at the Newport City Hall, Council Chambers, 169 SW Coast Hwy., Newport, OR 97365. A copy of the meeting agenda follows.

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired, or for other accommodations for persons with disabilities, should be made at least 48 hours in advance of the meeting to Peggy Hawker, City Recorder, 541-574-0613.

The City of Newport Planning Commission reserves the right to add or delete items as needed, change the order of the agenda, and discuss any other business deemed necessary at the time of the meeting.

NEWPORT PLANNING COMMISSION Monday, February 25, 2013, 7:00 p.m. AGENDA

- A. Roll Call.**
- B. Approval of Minutes.**
 - 1. Approval of the Planning Commission work session and regular session meeting minutes of January 28, 2013, and the work session minutes of February 11, 2013.
- C. Citizens/Public Comment.**
 - 1. A Public Comment Roster is available immediately inside the Council Chambers. Anyone who would like to address the Planning Commission on any matter not on the agenda will be given the opportunity after signing the Roster. Each speaker should limit comments to three minutes. The normal disposition of these items will be at the next scheduled Planning Commission meeting.
- D. Consent Calendar.**
- E. Public Hearings.**
 - 1. File No. 2-UGB-12. Consideration of an application to expand the Newport Urban Growth Boundary by approximately 381 acres to include the City's domestic water storage reservoirs, along with the associated access road and water infrastructure (including a portion of the City's water treatment plant). The additional acreage also includes land for a regional park with a looped trail around the reservoirs. The land would be placed under a "Public" Comprehensive Plan designation with P-1/"Public Structures" and a P-3/"Public Open Space" zoning. The Planning Commission will make a recommendation to the City Council on this matter.
- F. New Business.**
- G. Unfinished Business.**
- H. Director Comments.**
- I. Adjournment.**



Draft MINUTES
City of Newport Planning Commission
Work Session
Newport City Hall Conference Room 'A'
Monday, January 28, 2013

Planning Commissioners Present: Glen Small, Mark Fisher, Rod Croteau, Jim McIntyre, and Gary East.

Planning Commissioners Absent: Jim Patrick and Bill Branigan (*both excused*).

Citizens Advisory Committee Members Present: Suzanne Dalton.

Citizens Advisory Committee Members Absent: Lee Hardy and Bob Berman (*both excused*).

City Staff Present: Community Development Director (CDD) Derrick Tokos and Executive Assistant Wanda Haney.

In the absence of the Chair, Vice-Chair Small called the Planning Commission work session to order at 6:00 p.m. and turned the meeting over to CDD Tokos.

A. New Business.

1. Conceptual framework for workforce housing initiative. Tokos noted that the Commission had put time into the housing needs study and recommendations. One top priority was to put in a land bank where the City would make property available for housing for those between 60 and 120 percent of median family annual income. That was also a City Council goal. Tokos said that what this concept has is a recommendation on how to put that land bank in place. This is something that has been discussed with the Land Trust, the Community Services Consortium, and Lincoln County; and all of them are on board at this point. The City will contract with the Land Trust. It will be a five-year contract for construction of at least six units. They will be owner-occupied. The Land Trust model is that once the unit is built, the home is sold to a buyer. The land is put into a 99-year renewable lease controlled by the Land Trust. That program is uniquely suited for the City's objectives. If the City is giving away property out of our inventory, we want to make sure it will be available for affordable housing. Tokos noted that the Land Trust is relatively young. He is one of the board members. There are three units in Lincoln City at this point. There was federal money available for acquisition of properties in distressed areas, and Lincoln City was identified as distressed. Those funds are no longer available. This program would effectively be a contract with the Land Trust. Because of the Trust's age, there would be a backup intergovernmental agreement with CSC. CSC covers a three-county area and provides staff resources to the Trust. As a backup guarantee, they would serve if the Trust was no longer able to act. The City would make the property available, and the Land Trust would be responsible for putting a house on that. The City has a revolving fund that would be available, which originated from the sale of city-owned property. This would be an on-going commitment. The language would say if we choose not to fund operating contributions to the Trust what the ramifications are to that. The Trust would put out for bid, and the work would be done by building contractors; and there is a private sector element as well.

Small noted that the City is putting in \$10,000, but asked if the other entities also are putting anything into these funds. Tokos said that right now the cities within the County contributed toward general operating expenses. On projects, the Land Trust is putting \$9-10 thousand a pop into these houses in terms of staff work. They would have the choice of either running into the sales price or using this money as general operating support. Tokos noted that this is flexible. Tokos has looked at the City's inventory to make sure we have enough properties. He noted that there are a number of sites; some would include site preparation work. Small asked what the process would be for choosing properties. Tokos said it would be vetted to the Planning Commission and the City Council.

McIntyre noted that this concept talks about a 99-year lease and wondered who is going to be making the lease payments. Tokos said it would be the home buyer, but the lease would be pretty small at something like \$100 a month. McIntyre asked if the cost of the ground is being taken out of the cost of the building to keep the price down, and Tokos confirmed that was the case. McIntyre had a question about who is sharing equity. Tokos thought that the shared equity concept has more to do with the land lease than to the home. When the home is sold, there are restrictions on how much of an increase they can sell the unit for. They would receive full benefit from the proceeds of the sale of the house. The owner gets all equity in the house. McIntyre noted that the lender usually shares a portion of equity as payment for taking a risk of holding the contract. Tokos said he can get additional details on how that works.

Fisher asked about the SDCs, and Tokos said that we have no capacity to waive that.

Dalton asked about the timeline. Tokos said there would be six units over a 5-year period. They hope to have the agreement in place over the next couple of months. The Trust serves the entire county. They are trying to get one in Toledo. There should be an average of one unit every ten months.

East mentioned the Aqua Vista development in Yachats that is similar to this. Tokos said that was under a planned development, and the Trust didn't want to tackle that at this point.

Tokos noted that these homes are for anybody in the community that falls within the 60-120% median family income. By itself, this is not enough homes to support the needs of Newport.

Croteau said that he assumed the Trust already has selection procedures in place for the dwelling. He wondered if the price is going to be set or competitive for a group of people. Tokos said the price will be set depending on the parcel and how it is developed. That will be brought forward to the Council. The price will be set when the Trust goes out looking for a contractor. Croteau noted that this is restricted to median income for qualified buyers, but wondered if it is like any other real estate financing; first come first served. Tokos said that buyers go through a home-buyer educational course. Income requirements are verified. There is legal review of the lease with the buyer. The Trust is responsible for overseeing the sale of the property. He noted that the Trust is to the point of having three properties under development and have a pretty good model going. They also borrow from a large land trust in the Portland area.

Small wondered, after a house is built and the initial owner decides to sell, how we make sure the next purchaser falls under those qualifications. Tokos said he believes that is in the purchase agreement initially. He can bring back additional information on that in terms of future buyers. Fisher said that part of it would be that how much they can sell for will dictate keeping it in this income level. Small said that this house would be sold below market value, and who wouldn't like to buy at that level. He said there should be something saying that future buyers have to have income within those marks. McIntyre agreed that the framework will have to guarantee that. Tokos said those guarantees are in place, and he will have to bring that to the Commission.

East said that in the past, the Commission has talked about City fees and prorating to the size of the house on a square footage basis to control costs. He wondered if we could talk about that again. Fisher noted that SDCs are expensive right now. Tokos said that SDCs for a single-family home are \$10,600 now; but that is not the total development cost. It is about \$17,000-\$18,000 when looking at a water meter, the school construction excise tax, etc. The capital projects SDCs are intended to fund are expensive too. Croteau said it sounds like something the City should do.

Tokos said he will bring back details in terms of how the sales agreement works for buyers and what exactly guarantees future buyers will be in that 60-120% median so the City's objectives are guaranteed to go forward in years to come.

Small said he could image a great waiting list of potential buyers and wondered how they will be qualified. McIntyre said there would have to be some restrictions to prevent people from speculating and turning around and renting the houses. Small noted that it is owner-occupied. Fisher said that HUD essentially requires the owner to live there a year. Tokos said the Trust has experience to date with one sold unit, one on the market, and one almost finished. They haven't had huge lists. It could be lack of familiarity. It's not a conventional sale. They can't sell at market rate. They don't own the land; they own only the house. They are restricted on the resale. That does away with speculation. Those within the 60-120% MFI can't afford anything else. This is the only way they can get a house of that size in that type of price range. East wondered if there would be a certain square footage or number of bedrooms requirement. Tokos said that is why he left it as units. Depending on the properties, they might be more suitable for duplexes. McIntyre asked if they could be condominiums, and Tokos said potentially; but not likely. Based on what we have in inventory, they will be more single-family or duplex type development. McIntyre wondered how you establish ownership on a duplex, and Tokos said common wall. Fisher said they would be more of a townhouse. Tokos said they would have to bring those proposals before the Planning Commission. McIntyre asked if they open bids to builders, and Tokos confirmed that.

Dalton said that she is imagining lessons could be learned from other communities and is imagining connecting with them. She asked that as things come up, if Tokos will alert the Commission to those things.

Tokos said that the way this arrangement is set up, the Planning Commission and City Council review proposals brought forward by the Trust consistent with the housing agenda. Goals were put in place in terms of long term affordability. McIntyre wondered who would be vetting the builders and their proposals, and Tokos said that would be the Trust. McIntyre wondered if the Trust would develop a list of approved contractors. Tokos said they have to be licensed; other than that, it's a competitive bidding process. Fisher wondered why individuals couldn't do the construction themselves. Tokos said having the Trust overseeing the construction is a way to insure the final sales price is consistent with the targeted range of 60-120% MFI. The Trust has to be very selective on what materials they select in order to hit that price range. Someone building to suit

might go with custom cabinets that don't fit within the price range. The Trust has the land long term and is involved and has the relationships to make sure contractors are using long-term products.

Small wondered if the Trust selects the floor plans; and Tokos confirmed that they do. The buyers come in when the house is finished and get a finished product. Small asked if contractors are building an established set of plans. Tokos said there may be some flexibility in floor plans submitted. East agreed it has to be flexible. He said construction costs will influence the cost of the house and the size. There has to be a lot of flexibility until they have done it long enough that they know a certain square foot set of plans will meet that price range. McIntyre said he thought the Trust staff will be looking at plans and sees the type of house they can build and then gets bids on that once a house is designed; then builders build to that design. Tokos said it is the role of the Trust staff to have enough detail that they are comfortable it will work on that site.

Croteau wondered who would manage the revolving fund. Tokos said they would make that request to the City Council. Then it is paid back on the sale of the house.

Small noted that this mentions employee families, but he asked what about the retired or the disabled. He wondered if there was a definition of workforce housing. Tokos said that he didn't know if we pinned that down that tight in the City's policies. He said that to the extent we define that, we want to be consistent with what we did in the policies. He can take a look at that. Fisher wondered if it had to be the gainfully employed. The disabled would qualify but are not in the workforce. Tokos said that he doesn't recall defining workforce, but just targeting it at the 60-120% MFI.

Tokos said that he can bring some additional information about shared equity, how this plays out for future buyers, and if this is for anybody or more targeted to the workforce. Tokos asked, and the Commissioners said that they think that the framework looks okay.

2. Summary Building/Land Use Activity (2012). Tokos had provided an overview of what was done in the last year and where things stand. At the next meeting, he would like to do an update of the actual work program as we did in the past so that we can have goals conversation. The City Council will set goals later in February. Tokos noted that in terms of permit traffic, building permits were up a little over last year. Electric permits were up considerably. Plumbing permits were down. Construction value was down. Land use actions were on par. The increase in land use fees were still going through the 4-year phase-in, so that is why they were quite a bit higher. The memo includes charts showing land use reviews and building permits over the last 10 years. 2008 and 2009 were tough on building; and 2012 was not so bad. Land use reviews were on the lower end. There were fourteen single-family dwelling permits in each of the last two years, which is relatively modest. There were a fair amount of industrial construction; with research and institutional, such as NOAA, Aquarium Science, Port of Newport; and LCSO. Commercial construction has been pretty steady with renovations; with the bigger ones being Walmart, and Fred Meyer. Commercial looks like it will continue. Walgreens went out last year in December. Safeway will be doing a renovation and are looking to start construction toward the end of March. They are locked in a lease and are confined to the existing footprint.

Dalton noted that sometimes Safeway and Fred Meyer do gas stations; but not in Newport. Tokos noted that Fred Meyers tried to find a location. It is just a lack of sites. Safeway hasn't talked to the City yet. Tokos noted that Umpqua Bank is planning to submit plans to rebuild where the bank burned down. They anticipate having plans in February. O'Reilly Auto Parts already submitted plans are in review. They are waiting for the structural fill next door to be done first. Small wondered if any of these would lead to something coming before the Planning Commission. Tokos said these are all pretty straight-forward unless there is something like an exception or adjustment to parking or structure height. Tokos noted that the Teevin Brothers Log Yard is moving forward, which is one of the largest industrial developments we've seen in a long time. Residential will probably remain pretty steady as it has been.

Tokos noted that the Teevin development is controversial. There are folks that either want to see it or those that don't. Fisher noted that their operation is an outright use for that facility. He said that when he was on the Port Commission, there was a log yard there. Because the port dock went upside down, they left; and it hasn't been used for a while. Tokos noted that Teevin will be subject to a DEQ permit. They have a \$300,000 investment in a storm drainage system to deal with that. He said that everything associated with their project is located upland; there is nothing in the Bay. Tokos talked about the debarking operation. He said it is noisy, but will be set back and will adhere to the noise ordinances. Tokos said that Teevin has their Traffic Impact Analysis (TIA) in with the City. We are requesting additional information. It is in the public comment period, and he is getting lots of letters; but a lot have nothing to do with the criteria. He said there is a very high chance that the Planning Commission will see an appeal on this. He received a request for appeal forms before this even hit the streets. The Commission may have multiple TIAs to look at. Fisher talked about the log operation that was there before.

Fisher asked about the sign code amendments that the Commission went through and passed on to the Council. He wondered in the end how much different the ordinance was than what the Commission came up with, and Tokos said not materially

different. He said that there was a big debate by the Council whether to consider it at all, whether electronic message signs make sense, and dealing with sign massing along the highway. The majority thought it was fine. There was just some cleanup.

Tokos went over the legislative items shown on the back of his memo. He said that it was a pretty productive year in terms of legislative actions. We wrapped up things that had been in process for multiple years; like the TSP, of which the County is still working on their piece. That had been some 5-6 years in the works. The VRD and B&B update is complete and is being implemented. Most units have been inspected. There have been a lot of corrections in terms of people addressing safety issues. That was positive. Tokos said we have 85 or so endorsement applications. The companies associated with rentals are all tuned in with it. The Economic Opportunity Analysis was finished on phase 1. We are working with the TAC on wrapping up the recommendation for the upcoming budget for the business recruitment/retention position. The Tree City ordinance was accomplished. The Parks Department submitted the application. Coho/Brant was completed and was rolled into the submittal to ODOT for the STIP project that involves the intersection at 35th and cleanup of Ferry Slip. Tokos said it looks like we will get that funding from ODOT to help with the Urban Renewal funds. \$1.5 million came out of Urban Renewal. The modification of the zoning ordinance that we have been working on for years was finally taken care of.

Tokos noted that ongoing legislative initiatives include the amendments that the Planning Commission will consider tonight in regular session to clean up the rules for UGB expansion. Then there will be the UGB expansion itself. The city-wide erosion control has gone slowly. Tokos is not sure we have the capacity in the building department to implement that. He said that stormwater could go in sync with that. He said it is still a priority.

Tokos said issues for the coming year include annexation strategy for South Beach industrial areas, concepts for formation of a north-side Urban Renewal Area district that will probably be budgeted by the City Council in the upcoming year and with which the Planning Commission will have to get involved. There is the scheduled review of the Nye Beach Design Review Overlay. Assuming that the UGB expansion goes through, it will have to be annexed. The City Center is working on design guidelines. Tokos noted that the City just met with ODOT on the 25th to talk about bridge replacement. He said that discussion is just getting started; but the fact that they are on board to talk about it is a big deal. As mentioned earlier, we still have the park model issue out there. Development of standards for stormwater runoff is still out there as well. Tokos said that the Territorial Sea Plan may come up. He noted that plan amendments were approved by LCDC authorizing offshore development. It was a little more generous to the wave industry than the advisory committee wanted. But for Newport, because we secured the grid-connected test facility and have the non-grid-connected test facility, it doesn't look like we will see commercial deployment within the territorial seas (3 miles out).

B. Adjournment. Having no further discussion, the work session meeting adjourned at 7:00 p.m.

Respectfully submitted,

Wanda Haney
Executive Assistant

Draft Minutes
City of Newport Planning Commission
Regular Session
Newport City Hall Council Chambers
Monday, January 28, 2013

Commissioners Present: Jim McIntyre, Rod Croteau, Glen Small, Mark Fisher, and Gary East.

Commissioners Absent: Jim Patrick and Bill Branigan (*both excused*).

City Staff Present: Community Development Director Derrick Tokos and Executive Assistant Wanda Haney.

A. Roll Call. In the absence of the Chair, Vice-Chair Small presided over the meeting. Small called the meeting to order in the Council Chambers of Newport City Hall at 7:06 p.m. On roll call, McIntyre, Croteau, Small, Fisher, and East were present. Patrick and Branigan were absent but excused.

B. Approval of Minutes.

1. Approval of the Planning Commission work session and regular session meeting minutes of January 14, 2013.

MOTION was made by Commissioner Fisher, seconded by Commissioner Croteau, to approve the Planning Commission minutes as presented. McIntyre had noted some wording that he thought might be incorrect; but upon reviewing it, he found it to be okay and withdrew his comment. The motion carried unanimously in a voice vote.

C. Citizen/Public Comment. No comments on non-agenda items.

D. Consent Calendar. Nothing on the consent calendar.

E. Public Hearings.

Legislative Actions:

1. **File No. 3-CP-12:** Consideration of proposed text amendments to the Urbanization and Public Facilities elements of the Newport Comprehensive Plan to update standards against which a Urban Growth Boundary amendment is evaluated (i.e. implementation of Goal 14, effective 2006), establish that it is city policy to acquire lands within its municipal watershed, acknowledge structural deficiencies in the city municipal water reservoirs, and outline steps the city will take to resolve the deficiencies. The Planning Commission will make a recommendation to the City Council on this matter.

Vice-Chair Small opened the public hearing for File No. 3-CP-12 at 7:10 p.m. He read the summary of the action from the agenda. He noted that this was a legislative hearing and asked the Commissioners for declarations of any conflicts of interest; and nothing was declared. He called for objections to any of the Planning Commissioners or the Commission as a whole hearing these matters; and no objections were raised. Small called for the staff report. Tokos noted that this was a legislative hearing where the Commission is considering amendments to two elements of the Comprehensive Plan. One is the Urbanization element for the rules by which the City evaluates changes to the UGB. The other is the Public Facilities element, which includes the policies on infrastructure. The changes to the Urbanization element are updates to the City standards so they are current with the most current State law on how a jurisdiction goes about doing UGB amendments. He noted that the packet included a draft ordinance with exhibits and a series of attachments. There was a "Dam Assessment" presentation provided by HDR. Attachment 'C' was the DEQ Source Water Assessment. Attachment 'D' was Statewide Planning Goal 14 (Urbanization), which was adopted in 2006 and is the current standards for urbanization. Attachment 'E' was part of the '93 Parks System Master Plan. Attachment 'F' was the public notice information. Attachment 'G' was the markup copies showing where the two different elements were modified. The Urbanization amendments bring that up to the current State law, which has a needs assessment requirement for evaluating when a jurisdiction can expand the UGB. We need to demonstrate the need to bring in public facilities, housing, or whatever urban-type use it might be. We have to show that there is no alternative to accommodate that use. Then if there is no alternative site, is there some rural exception land that could be used. Then it goes to Timber zones. There are standards that require us to demonstrate compliance with Statewide Planning Goals. Tokos noted that there was a recommended change to language in the proposal. That was on the one-piece memo that was distributed to the Commissioners tonight. In the proposed findings that have to be made, finding 5(c) currently states: "Statewide Planning Goal 2 exception criteria." The City Attorney is recommending that should be changed to: "Compliance with applicable Statewide Planning Goals, unless an exception is taken to a particular goal requirement." The modified language is more consistent with OAR 660-024-0020, which lists requirements for amending urban growth boundaries. Tokos said this is something that is important in terms of the change. He said that in our view, the Administrative Rule is very clear that cities have the right to seek exception to Statewide Planning Goals, and that is a path for

expanding the UGB. This is an alternative path. Tokos said that the changes to the Public Facilities element incorporate or acknowledge work done since the last master plan in 2008. For Big Creek Reservoir, there has been enough analysis done by HDR that we understand it will require work if we have any kind of earthquake. What these changes do is acknowledge that this is a new condition we didn't know about to begin with. We will work to fully understand the full range of options and come up with a plan to address that over time; including not only what the solution is, but how to finance the solution and things of that nature. There is also the acknowledgment that it is the City's policy to acquire lands within its watershed, which is not a policy now. The City is going to take the steps it can to protect water quality in the watershed. DEQ says to do that we should be targeting land within 1,000 feet of the reservoirs. Tokos said that is the nature of the proposed revisions, and they really do set the table for what we are planning to bring forward; the proposal the Planning Commission authorized to be initiated in order to bring in the reservoir property. Small asked if this was driven by the analysis of the condition of the reservoirs. Tokos said the changes to the public facilities are driven by that.

Small read the statement of rights and relevance and called for testimony.

Proponents: Patrick Wingard, Northwest Regional Representative for DLCD, 4301 3rd St, Tillamook, Oregon, spoke in support of the proposed amendments but not exactly to the criteria. He thought that staff has been very patient. DLCD has shared their opinion on much of the work the Commission is looking at tonight; but more for next month's hearing. Wingard said staff did a good job of modernizing Goal 14 rules. His department has reviewed this and has no objections to anything in the findings for text amendments. DLCD supports everything except one particular section. He said that the memo Tokos had provided makes the language somewhat better; but in DLCD's opinion it is not necessary. They feel they are additional findings that are not required; not alternative findings. It is their understanding that the City would have to make findings against all of those if seeking goal exception. He said that is probably the only thing he would raise at this point. He said that hopefully over the next couple of weeks they will provide the City with comment on the actual UGB proposal. As far as what the Commission is doing tonight, DLCD supports it and thinks it is a very good idea. What it offers is an easier path than what the old Goal 14 had where goal exceptions were part of the old rule. Wingard said that in conversation with his colleagues, they feel that one of the reasons for changing from the old Goal 14 rules to the new rules in 2006 was to remove the requirement to have to go through the exception process. He noted that the City's view may be that there is an opportunity if the local government so chooses to apply for goal exception; but he said that DLCD's viewpoint is different. They think that applies to other rules, like Goal 7 or Goal 16. He said that is their understanding but doesn't affect their support tonight.

Tokos said that the City's and the City Attorney's view is that applies to Goal 14 also. He said that in our view, the value of having language in there that says that complies with applicable Statewide Goals unless exception is taken is that we have more than one path to pursue the UGB amendment. We have the avenue of taking an exception. Wingard said that is the City's prerogative so long as Goal 14 is met. Tokos said that the language for finding 5(c) before the Planning Commission is almost verbatim in the OAR. Wingard thought that language was better, although DLCD would offer that it is not necessary at all. In answer to a question from Croteau, Wingard said that the way it was explained to him by their urban specialist is that the new rules in 2006 removed that exception to be taken. If an exception were taken, it would be for another aspect of the Statewide Planning Goals; not the needs assessment, which is mandatory. Wingard mentioned that the State is working on this issue because they realize that UGB amendments are challenging.

There were no other proponents wishing to testify.

Opponents or Interested Parties: There were no opponents or interested parties wishing to testify.

Small closed the hearing at 7:29 p.m. for Commissioner deliberation. McIntyre said that he had reviewed it all and the Commission has discussed this for some time now. He said it looks fine to him. Croteau said this sets essential ground work. He said it was sensible and he was comfortable with it. Fisher and East agreed. Small agreed also. He said this puts the framework into place to move ahead and address the real concerns and must be addressed.

MOTION was made by Commissioner Croteau, seconded by Commissioner McIntyre, to forward a favorable recommendation to the City Council on File No. 3-CP-12 involving revisions to the Urbanization and the Public Facilities elements of the Newport Comprehensive Plan with the language change to finding 5(c) that Tokos provided in his memo. The motion carried unanimously in a voice vote.

F. New Business. No new business items to discuss.

G. Unfinished Business. No unfinished business.

H. Director's Comments.

1. **LCDC action on Territorial Sea Plan (TSP).** Tokos noted that, as mentioned in work session, LCDC took action on January 24th on proposed amendments to the TSP to facilitate wave energy off the coast of Oregon within the territorial sea (3 miles out). What they adopted allowed a little broader use for wave energy than recommended. He noted that, with Newport having the grid-

connected testing facility and the non-grid test facility, our territorial sea should be reserved for test use only and not commercial deployment.

2. Teevin Bros./Port Taskforce Update. Tokos said that Teevin Bros. Logging has their Traffic Impact Analysis (TIA) submitted, and it is out for public comment until February 1st at 5:00 p.m. He has been collecting public comments. He said we have to be clear that TIA comments should be directed toward approval criteria and traffic generated. Comments about whether it is a good idea or not are not suitable. This is a permitted use, so that question has been answered for this site. The question is if the roads are in a condition capable of handling additional truck traffic or if they can be mitigated to handle it. He said that Teevin is working on changes to their submittal to address the identified deficiencies. A decision will be prepared that is subject to appeal to the Planning Commission and beyond that to the City Council. He said he would not be surprised if that is appealed. There are strong feelings on both sides.

3. Memo of Understanding (MOU) with OMSI. Tokos said he will work on a MOU with OMSI where the City spells out to what degree they need to do public road improvements for their project. Public Works helps get improvements in place that benefit other properties, not only OMSI. Tokos said this isn't dealing with what the Planning Commission deals with on a day-to-day basis, but he will be happy to bring this information to a work session.

Fisher asked about Safe Haven Hill accessibility. Tokos explained that the interim improvements are pretty much finished. Just to have basic accessibility, the City crews graveled the access, cleared out dead fall, and took out homeless camps. Actual permanent improvements would include path extensions along Abalone, forest trails, sidewalk along 101, actual paved access to the top, a pad at the top for a storage unit to hold emergency supplies, and wiring for power. The City submitted for a FEMA grant for that, and it has been months into FEMA for review. Tokos received an email today from our liaison with emergency management that the grant is in the formal moving process. There should be an agreement in the next few weeks to get that money obligated so we can do the phase 1 work. There is a lot of geo-technical work. By authorizing phase 1, they will automatically do phase 2 as well.

Croteau noted that at work session, the Commission had talked about the workforce housing issue. He said there had been other things the Commission had looked at to get entry level costs for houses. Tokos said there were regulatory things the Commission had talked about looking at; such as skinny streets, reducing minimum lot size, allowing park models, and accessory dwellings. Croteau asked if there was any hope of adjusting SDCs, which are a big chunk of the cost. Tokos said that formally changing SDCs to account for square footage would help significantly. That will have to be on the table if we open up changes to the SDCs. He noted that SDCs are a very small fraction of the funding for capital projects, but they are still a viable source for that kind of work.

I. Adjournment. Having no further business to discuss, the meeting adjourned at 7:40 p.m.

Respectfully submitted,

Wanda Haney
Executive Assistant



Draft MINUTES
City of Newport Planning Commission
Work Session
Newport City Hall Conference Room 'A'
Monday, February 11, 2013

Planning Commissioners Present: Glen Small, Bill Branigan, Gary East, Mark Fisher, Jim Patrick, Rod Croteau, and Jim McIntyre.

Citizens Advisory Committee Members Present: Lee Hardy and Bob Berman

Citizens Advisory Committee Members Absent: Suzanne Dalton (*excused*).

City Staff Present: Community Development Director (CDD) Derrick Tokos and Executive Assistant Wanda Haney.

Chair Patrick called the Planning Commission work session to order at 6:00 p.m. and turned the meeting over to CDD Tokos.

A. Unfinished Business.

1. Follow-up discussion on Newport Workforce Housing Initiative. Tokos had provided responses from Lincoln Community Land Trust to questions that were raised at the last meeting. He noted that the City Council has also conducted a work session on this. Tokos is putting together the detailed documents and anticipates those will be ready in late March or early April. They will have to be reviewed by legal counsel. The Land Trust will be meeting on February 19th to discuss this. He said that he doesn't expect any issues.

B. New Business.

1. Goals Discussion. Tokos noted that the City Council will be doing their goals discussion February 19th and 20th. He said that basically this update is the same as the Council will get in terms of status of goals. He said that there are two goals under economic development. The first is to maintain and implement economic development strategies. He said that we have made some progress. We have developed a lot of strategies that will help to further those objectives. Tokos said that his sense is that the Council will have to have a discussion whether they want to fund the Business Retention and Recruitment position that is proposed to be housed with the Chamber of Commerce. The EOA TAC made that recommendation. The budget for that position will run between \$80-100 thousand. He said that \$50 thousand is the best the City could contribute. The Chamber and the Port will have to make up the difference if they want this to move forward. The City Council can earmark money for that purpose. If the additional funding comes in, a person can be hired for that position; if not, it doesn't happen. This is an on-going position, and that is why this needs to have a stable funding source; one-time grants won't work. The TAC was in agreement that this needs to be a full-time position in order to work well. Tokos said that he could send the Commissioners the job description. He explained that this person will actually work and engage with existing businesses. They will work with commercial and industrial land owners to find ways to better position their properties to develop or redevelop them for the target industries. There will be a certain amount of coordination with the county and utilities for companies that are looking to locate in Newport. This person will maintain a database and web portal. They will make contacts with property owners so that we have a good handle on inventory. Tokos noted that with the economic opportunity analysis we talked about opportunity sites where this person might be able to offer marketing of someone's property for target industries if that person is willing to limit it to those industries. Tokos said that there certainly is enough work to go around for that position. The question is whether enough funding will fall into place. Tokos said the next steps would be putting concepts together for a north side URA showing where the boundary would be, what the range of activities could look like, and what tax increments would look like. We will need to have those types of concepts to share with the other taxing entities to make sure they are comfortable with a north side district and will work with their funding sources. Tokos said that one additional economic development piece he sees out there is the TSP update pertaining to loosening ODOT's vehicle capacity limits on US 101 in South Beach. He noted that the County is holding their first hearing in March. Then we would do an overlay, set a trip budget, and all of that.

Tokos said that as far as other goals, we are working with the City Center on urban renewal. They are working on design guidelines kind of on their own. Tokos said we took a shot at corridor planning; but there is still some work

that needs to be done. There are questions like whether to continue on-street parking, and will the streetscape look like it does now? We will have a discussion about replacement of the bridge.

Tokos said that the fiscal year 2012/2013 goals include working with the City Center Newport Association. He said the CCA is kind of doing their own thing in trying to come up with design guidelines, which probably wouldn't be a regulatory thing, but just to show what deco looks like. The City Center parking district could use those funds for sidewalk or beautification. The EOA and Economic Development Plan were finalized. Tokos said that a conversation that needs to be had is about annexation and land supply issues. How to pursue annexation of industrial sites in South Beach where they are receiving sewer service is not expressed in the City's policies right now. Tokos said we are going to purchase the subsurface rights on that property up north where we already own the surface rights. That is moving forward. It is not in the UGB, but we decided to go the conditional use permit route because of the timing with Hancock and the tank is substantially designed. So that UGB expansion is being dropped for the time being. The reservoir UGB expansion piece is being worked on, and the Planning Commission will see that on February 25th. Tokos noted that the State has not been real cooperative on that one. The State is saying that the test to bring in property is greater than what the OAR requires. They don't like to see UGB expansions. He said the Commission will have plenty of time on the 25th to work on that one. There will be a letter prepared by the City and the City Attorney, and the Commission will see the full findings and the State's letter and the City's response. Tokos said that the sewer work from 40th to 50th is effectively done. They are just doing punch work. Once that service is available to them, we will have to have the annexation discussion.

In terms of Community Development goals, Tokos said he thinks we have done fairly well in terms of citizen involvement on the legislative items. He said we had pretty good public involvement on significant legislative things we worked on, such as the TSP, Coho/Brant Infrastructure, and the VRD/B&B code. Advisory Committees were attached to them. In processes where the City didn't quite control the process, like the TSP, there were still a number of open houses to make sure the key stakeholders had a chance to weigh in.

Berman noted that the charter for Teevin Brothers wasn't broad enough. He thought that the City Council and Port directed their committee that they could look at certain things but it was almost that some things couldn't be considered; such as impact on the neighborhood. He suggested that when something like this is set up, we want to make it as broad as possible. Tokos said that they couldn't consider the impact on the neighborhood because it is an outright permitted use. The only discretionary thing is the TIA. We have to find that the transportation system is adequate to support the number of vehicles. He thought that will probably end up before the Planning Commission on appeal. We have a traffic engineer hired by Teevin and one by opponents that will be competing. He noted that Teevin is getting additional information on their TIA; and until we have that from them, he can't lock down a timeline for this.

McIntyre asked if Tokos had timing on expansion of the bridge. Tokos said the hope is to get ODOT to commit funds in the next couple of years to do a feasibility analysis; but we don't expect bridge construction in the next twenty years.

Tokos said that in terms of ongoing goals, our department has agreed to help get the City's records cleaned up in terms of leases and things. That will extend into next year. In response to a question, Tokos explained that once we have enough remonstrance agreements on a street, we can have an LID go through; as long as 2/3 are on board. Answering another question, Tokos said the City has to decide how to collect these. We can finance them or assess against the property. That is part of the reason why Public Works hasn't done it. The City's LID code is out of date. He said that at least now that they are inventoried on the GIS we can see where they are. Patrick wondered if we want citizen input on the LID for which way they prefer to have them done. Tokos thought that was totally fair. He doesn't think the City has a thought yet on what that process should look like. We need to answer questions like how it is financed, and who is paying to drag out those payments. Small asked if it is the Planning Commission's responsibility to update those LID codes. Tokos said it is within the scope of what the Planning Commission could be involved in. He said not to be surprised if it came to the Planning Commission. He thought that the Council would probably love to have the Commission vet it for them. Patrick thought it would be a good idea. Tokos said that it might be a tough one to generate public interest in. Tokos said that the building records are scanned and available for viewing on line, but it's not the time to tackle the goal of automating addressing records yet because that will require some GIS work. One goal involves the workforce housing piece, which is moving forward. The fourth community development goal for FY 2012/13 regards achieving the "Tree City USA" designation. Tokos

noted that we just received the Tree City designation, and there will be some sort of celebration. Hardy asked what the benefit of that is. Tokos said that there is a certain amount of PR. The real benefit of the exercise is that the Parks and Rec. committee worked on a management plan for how to manage plantings in the rights-of-way and that what we are planting in parks is native and appropriate to this area. Architects and developers will have a resource. The value is getting our own house in order. The fifth goal is to develop an open space policy and plan. Tokos said he is unsure what this was. Lots of things the Council talked about got on the list of goals. We had the Forest Park issue that we dealt with. Tokos said that the City needs to set money aside to deal with the Parks Master Plan; it is old. We deal with it on an ad-hoc basis. Tokos said it will take some money; but if it is a priority of the Commission, he can pass it along to the Council. He noted that there is no grant money for the Parks Plan. Patrick thought we should put a number on it, and if they come up with money we will do it. Croteau wondered what the role of the Parks and Rec. committee is. Tokos said it is significant. He said perhaps the Parks and Rec. committee and the Planning Commission would hold meetings together to work on this. Parks and Rec. can be doing the leg work doing the citizen engagement side of it. Tokos said we were at \$60 thousand on the Coho/Brant project. If we go with charettes for an entire city parks plan, we may be looking at \$80 thousand. We may get by with half of that; but it would just not be as nice a plan. He said that you do want a lot of graphics or mocking up concepts with parks. Patrick said that maybe the Commission should suggest to the Council to set aside money out of two to three year's budgets to get to where it needs to be. He agrees that an update needs to be done because the plan is old. McIntyre asked what the old plan looks like. Tokos said there are some statistics, but they are out of date. It has a general concept for what the City should be doing. South Beach is in bad shape because it was the least developed back then. The plan should include the swimming pool and replacement of the pool. It should even include the rec. center. It should show the conceptual alignment for connection of trails. Another example is that the skate park does not take up but a third of the property there. What should the balance of that be used for? Tokos thought it was a good idea to emphasize that they need to start setting money aside to update the plan. The plan is twenty years old. It doesn't have a good inventory, the service level, and where new parks should go. Updating the plan could lead to recommendations for by-products of the plan, such as parks SDCs, etc. It is hard to say where it would go. The sixth community development goal was to adopt a city-wide erosion control code. Tokos said that we want to sync that up with storm water. He said that he has staffing problems in the building department. We don't want to do this until we have a full-time Building Official because a full-out erosion control will generate a fair amount of permit traffic that we have to respond to. There would be a lot of these permits on sites without a building permit. He said it is something that we have to make sure our resources are adequate to implement in a way the public will be okay with. Patrick noted that there are areas that we don't want to put water in the ground. Tokos agreed that we don't want to do this until we look at our watersheds. He can work with Public Works on that to get a sense of when they can tackle that. The last community development goal was to work on a common design theme for South Beach. He thought that Coho/Brant is as far as we are going at this point. Coho/Brant was what was called for in the Urban Renewal Plan. That has been taken care of. Marine Science Drive has been taken care of. There is just a little bit on Ferry Slip, which will be handled when we get the 35th Street and Hwy. 101 intersection funding. The one thing that is there is tackling the highway corridor for properties not in the City, but he doesn't see community desire. If there is no community desire, it doesn't go. Patrick said maybe it could be revisited in ten years.

Fisher asked about a time line for OMSI. Tokos said that they say their fundraising is going so slowly that they desperately need the City to build the infrastructure. OMSI is saying 2016 at this point. Tokos said that 35th and 101 project is in the hopper; it is in STIPP review. We made the first check and are in the 150% review. We'll see where we stand once they cut it down to 100%. We requested the 2016 STIPP. We will be in a position to borrow for that in 2016. We will be okay in 2018, but our funding shuts down in 2020.

One to Five Year Goals include coordinating with FEMA on flood plain and wetland regulations. Tokos said we will probably have some new FEMA regulations in late 2013 or early 2014 that we will have to take through the process; and we will want to engage people. It is anticipated that more coastal properties will be picked up because they are changing the methodology for how they calculate due to storm surges. We haven't seen the new maps yet, but they are warning us that it will show more coastal properties. It will probably pick up more of South Beach. They will increase inundation areas of the Bay. Now it is only the Bay Front side of Bay Road, not the slope side. In the new maps, all will probably get picked up. There will be more commercial properties. On the north side, he doesn't see a whole lot of additional properties. Tokos noted that this is associated with the endangered species act. It is in settlement right now. There are requirements that wetlands be preserved when doing redevelopment in the flood plain. Another goal is that the Commission can expect that there will be work on a transition plan for building

services. A couple of other goals were one, to develop strategies for property acquisitions and sales; and second, to develop a plan for park models and ADUs. The property has been handled on an ad-hoc basis, and nothing has been done on the park models and ADUs.

Tokos said that at the last meeting, he had provided a list of issues coming up in the next year. He had provided that list in the packet for this meeting. At the last meeting, we talked about a number of those items. Nye Beach Design Review Overlay is scheduled. It is written into the rules to be re-evaluated next year, so we may have to do that. Tokos said that it can be simple or involved. If you are generally happy with it, it can be relatively simple; or it could be more involved. We need to do outreach. We have to wait to see if resources are there to do something major at this time.

Tokos said that for City Council in terms of goals, he has the parks process, and LID process. Setting money aside for park land might be a priority. Patrick said the only other thing he thinks of is ADUs. Tokos said we had skinny streets and whether that gets applied city-wide. We did them in Coho/Brant. Patrick said we need to see what it looks like there. Tokos said that if skinny streets are offered, developers will do them because of less cost. It was thought of for workforce housing because it would make the development costs less. Tokos said we could put something in there that they can do skinny streets if they are building homes in the 60-100% MFI. Patrick said he would be in favor of a trade off. He noted that the Coho/Brant area already had skinny streets. Tokos added that the density was not as high there either. The Commissioners said they would like to see developing a code for ADUs and park models as a priority for next year. Patrick said that the Commission has more than enough to do. Tokos noted that the Commission did quite a bit of legislative work over the last 2-3 years. .

Tokos said in terms of development, commercial and institutional have not been slow, but residential has been. He thinks the commercial pace this year will be at least as good as last year. Institutional will start to slow down because major projects are tapped out, but there will still be some. Residential will be flat. Tokos said that Slaydon Construction, who has the property out by Little Creek Apartments, has contacted him to see what their options are. So, they are thinking about moving on their property. Several major residential properties are thinking about getting something going.

McIntyre talked about lighting on the bridge. Branigan asked if undergrounding utilities was still on the list. Tokos said that PUD's numbers are a lot higher than ours.

2. Reminder to Planning Commissioners of Annual Ethics Commission Filing. The packet included the memo the Commissioners had received from City Recorder Hawker reminding them to file the annual Statement of Economic Interest (SEI) with the Oregon Government Ethics Commission (OGEC) once they receive it by mail.

C. Adjournment. Having no further discussion, the work session meeting adjourned at 7:00 p.m.

Respectfully submitted,

Wanda Haney
Executive Assistant

PLANNING STAFF MEMORANDUM
FILE No. 2-UGB-12

I. Applicant: City of Newport. (Initiated pursuant to authorization of the Newport Planning Commission).

II. Request: Application to expand the Newport Urban Growth Boundary by approximately 353 acres to include the City of Newport's domestic water storage reservoirs, along with the associated access road and water infrastructure (including a portion of the City's water treatment plant). The additional acreage also includes land for a regional park with a looped trail round the reservoirs. The land will be placed under a "Public" Comprehensive Plan designation with a "P-1/Public Structures" zoning designation.

III. Planning Commission Review and Recommendation: The Planning Commission will review the proposed amendments and provide a recommendation to the City Council. At a later date, the City Council will hold an additional public hearing prior to any decision on the amendments.

Staff suggests that the Commission use this hearing as an opportunity to ask questions about the proposal and draft findings and to take public testimony. The hearing could then be continued to March 25, 2013, at which time a more refined set of findings and draft ordinance could be presented for consideration and recommendation to the City Council.

IV. Findings Required: Required findings are contained in the "Urbanization" element of the Newport Comprehensive Plan (pages 273 - 284), as amended by Ordinance No. 2049, effective March 21, 2013. Additional findings are listed under the "Administration of the Plan" element of the Comprehensive Plan (pages 285 - 292). Key findings are summarized as follows:

- A. **Land Need:** Establishment and change of urban growth boundaries shall be based on the following:
 - 1. Demonstrated need to accommodate long-range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and
 - 2. Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets, and roads, schools, parks and open space, or any combination of the need categories in this subsection.

- B. **Boundary Location:** The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:
 - 1. Efficient accommodation of identified land needs;
 - 2. Orderly and economic provision of public facilities and services;
 - 3. Comparative environmental, energy, economic, and social consequences; and
 - 4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

- C. Compliance with applicable Statewide Planning Goals, unless an exception is taken to a particular goal requirement.

These findings are addressed in Attachment "D" to this report.

V. Planning Staff Memorandum Attachments:

- Attachment "A" - Ordinance No. 2049, with Exhibits A and B (required findings)
- Attachment "B" - Letter from Patrick Wingard, DLCD, dated February 8, 2013
- Attachment "C" – City of Newport response to DLCD letter, dated February 19, 2013
- Attachment "D" Draft findings in support of the UGB expansion, dated February 21, 2013
- Attachment "E" Notice of public hearing
- Attachment "F" 11"x17" color copy of the UGB expansion area

VI. Notification: Notification for the proposed amendments included notification to the Department of Land Conservation & Development (DLCD) in accordance with the DLCD requirements on January 18, 2013. Notice of the Planning Commission hearing was published in the Newport News-Times on February 13, 2013 (Attachment "E").

VII. Comments: As of February 20, 2013, the only written comments received were from DLCD. A copy of their letter is enclosed (Attachment "B") along with the City's response (Attachment "C").

VIII. Discussion of Request: The City of Newport is considering an Urban Growth Boundary (UGB) amendment and subsequent annexation to include all of the City's water treatment plant (which is only partially within the city limits) and the City water storage reservoirs for domestic water supply. In general terms, the rationale underlying the proposed UGB expansion is twofold:

1. To include the City's water storage and treatment facilities in the UGB. The City may be forced to reconstruct one or both of the water storage reservoirs in the coming years to address structural deficiencies. The reconstruction would include new water intake facilities, distribution lines, pumping stations, and a radio transmission tower for the municipal water metering system.
2. To include a regional city park in the UGB. The subject property is well-suited for use as a public park and is identified in the City's adopted *Parks Master Plan* and the Parks Element of the City *Comprehensive Plan* as a site for a regional park.

It is also a goal of the City to establish at least a 1000' foot buffer around the reservoirs for water quality purposes consistent with a "Surface Water Evaluation" report prepared by the Oregon Department of Environmental Quality/Oregon Health Department. This goal will be accomplished through non-regulatory strategies including land acquisition and other voluntary measures.

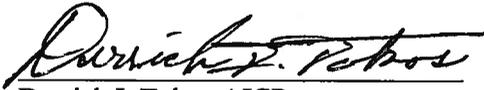
Under the Oregon land use system, the justification for a UGB amendment is a two-step process: (1) demonstrate land need; and (2) analyze potential boundary locations. Local governments must address both parts in the UGB application and associated findings. Moreover, the City must address applicable City and County criteria.

The proposal includes an amendment to the *Newport Comprehensive Plan Map* and the Lincoln County *Comprehensive Plan Map*, which amends the Newport UGB, expanding it by approximately 353 acres. The proposed boundary expansion includes (1) all of the City's water treatment plant (which is currently only partially within the city limits), the City water storage reservoirs for domestic water supply, and the access road to the reservoirs in a manner that allows a concise legal description and minimizes impacts to privately held lands; and (2) approximately 75 acres for development of a regional City park.

In November 2012, the City initiated a separate process to make text amendments to the *Newport Comprehensive Plan*, which makes the Urbanization Element consistent with changes in Goal 14 adopted in 2006, and amendments to the public facilities element that recognizes the reservoir's structural deficiencies. Those amendments were adopted by the Newport City Council on February 19, 2013.

The draft findings (Attachment "D") justify the City's action in two ways: (1) the standard Goal 14 need/boundary location analysis; and (2) an exception to Goal 14 as allowed by OAR 660-024-0020(1)(a).

IX. Conclusion and Recommendation: The Planning Commission should review the proposed amendments and make a recommendation to the City Council. As this is a legislative process, the Commission may recommend changes to the amendments if the Commission chooses to do so. The City Council may also make changes to the proposal prior to adoption of a final decision.



Derrick I. Tokos AICP
Community Development Director
City of Newport

February 21, 2013

CITY OF NEWPORT

ORDINANCE NO. 2049

**AN ORDINANCE REPEALING AND REPLACING THE PUBLIC
FACILITIES AND URBANIZATION ELEMENTS OF THE NEWPORT
COMPREHENSIVE PLAN ORIGINALLY ADOPTED
BY ORDINANCE NO. 1621
(Newport File No. 3-CP-12)**

Summary of Findings:

1. On December 10, 2012 the Newport Planning Commission initiated amendments to the "Public Facilities" and "Urbanization" elements of the Newport Comprehensive Plan to update standards against which an Urban Growth Boundary (UGB) amendment is evaluated; establish policies to acquire lands and protect water quality within the city's municipal watershed; acknowledge structural deficiencies in the City's municipal water reservoirs; and outline steps the City will take to resolve the structural deficiencies.
2. Newport City Council desires to expand the UGB to include Big Creek Reservoir #1 and Big Creek Reservoir #2, which are the City's primary storage facilities for its domestic water supply. This expansion is desirable because placing the land under a "Public" Comprehensive Plan and zoning designation will make it easier for the City to modify its water infrastructure in response to known structural deficiencies at the reservoirs and to construct a future regional park as envisioned in the 1993 Park System Master Plan.
3. Repealing and replacing the "Public Facilities" element of the Newport Comprehensive Plan sets the table for an expansion proposal. Preliminary geotechnical analysis, prepared by HDR Consultants, describes the nature of structural deficiencies inherent to Big Creek Reservoir #1 and Big Creek Reservoir #2, and supports the adoption of policies describing how the City should respond to this threat to its domestic water supply. Proposed policies provide direction for completing necessary engineering studies to ascertain the full scope of the problem, financing future construction and land acquisition, and protecting water quality consistent with a source water assessment performed by the Oregon Department of Environmental Quality and Oregon Health Department.
4. Similarly repealing and replacing the "Urbanization" element of the Newport Comprehensive Plan sets the table for an expansion proposal and is necessary because it updates outdated criteria for evaluating such requests to that the standards conform to current state law, namely Statewide Planning Goal 14, amended April of 2006.

5. The Newport Comprehensive Plan element entitled "Administration of the Plan" lists factors that must be met to amend the document, such factors being listed explicitly in the Planning Staff Memorandum dated, January 23, 2013 and incorporated herein.

- a. The revised "Public Facilities" element satisfies the listed factors in that it updates technical inventories related to the structural integrity of Big Creek Reservoir #1 and Big Creek Reservoir #2 and the quality of the water within the municipal watershed, and puts in place policies and implementation strategies that respond to the new information.
- b. The revised "Urbanization" element satisfies the listed factors in that it updates the City's criteria for evaluating UGB amendment proposals to be consistent with current state law.

6. Repealing and replacing the "Public Facilities" and "Urbanization" elements of the Newport Comprehensive Plan are consistent with applicable Statewide Planning Goals in that the changes:

- a. Have been developed and vetted with the City of Newport Planning Commission and its Advisory Committee consistent with Statewide Planning Goal 1, Public Involvement; and
- b. Update the Newport Comprehensive Plan's technical inventory (with respect to the condition of the reservoirs and water quality) and criteria (with respect to UGB amendments) that facilitate a land use planning process and policy framework that provides an adequate factual basis for decision making consistent with Statewide Planning Goal 2, Land Use Planning; and
- c. Ensure that the Newport Comprehensive Plan contains accurate information about the condition of the City's water infrastructure as encouraged by Statewide Planning Goal 11, Public Facilities and Services; and
- d. Put in place standards for amending the Newport Urban Growth Boundary consistent with ORS 197.298 and the following factors (1) efficient accommodation of identified land needs; (2) orderly and economic provision of public facilities and services; (3) comparative environmental, energy, economic and social consequences; and (4) compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB, as set out in Statewide Planning Goal 14, Urbanization.

7. No other Statewide Planning Goals are applicable to the proposed changes to the "Public Facilities" and "Urbanization" sections of the Newport Comprehensive Plan.

8. The Newport Planning Commission reviewed the proposed changes to the "Public Facilities" and "Urbanization" sections of the Newport Comprehensive Plan, as they were

being developed, at work sessions on October 8, 2012, October 22, 2012, November 26, 2012, and December 10, 2012. The Planning Commission held a public hearing on January 28, 2013, and voted to recommend adoption of the amendments.

9. The City Council held a public hearing on February 19, 2013 regarding the question of the proposed revisions, and voted in favor of their adoption after considering the recommendation of the Planning Commission and evidence and argument in the record.

10. Information in the record, including affidavits of mailing and publication, demonstrate that appropriate public notification was provided for both the Planning Commission and City Council public hearings.

THE CITY OF NEWPORT ORDAINS AS FOLLOWS:

Section 1. The Public Facilities element of the Newport Comprehensive Plan, originally adopted by Ordinance No. 1621 (as amended) is repealed and replaced with the text at Exhibit A, attached to this Ordinance.

Section 2. The Urbanization element of the Newport Comprehensive Plan, originally adopted by Ordinance No. 1621 (as amended) is repealed and replaced with the text at Exhibit B, attached to this Ordinance.

Section 3. The document titled "Big Creek Dam No. 1 and No. 2, Preliminary Geotechnical Investigation and Seismic Evaluation" and prepared by HDR Consultants in February of 2013, attached as Exhibit C, is included as support for this ordinance.

Section 4. The Planning Staff Memorandum dated January 23, 2013, attached as Exhibit D, is included as support for this ordinance.

Section 5. This Ordinance shall take effect 30 days after passage.

Date adopted and read by title only:

February 19, 2013

Signed by the Mayor on

February 20, 2013.

Sandra Roumagoux
Sandra Roumagoux, Mayor

ATTEST:

Margaret M. Hawker
Margaret M. Hawker, City Recorder

GOALS AND POLICIES **PUBLIC FACILITIES ELEMENT**

GENERAL

Goal: To assure adequate planning for public facilities to meet the changing needs of the City of Newport urbanizable area.

Policy 1: The city shall develop and maintain public facilities master plans (by reference incorporated herein). These facility plans should include generalized descriptions of existing facilities operation and maintenance needs, future facilities needed to serve the urbanizable area, and rough estimates of projected costs, timing, and probable funding mechanisms. Public facilities should be designed and developed consistent with the various master plans.

Policy 2: In order to assure the orderly and cost efficient extension of public facilities, the city shall use the public facilities master plans in the capital improvement planning.

Policy 3: The city shall work with other providers of public facilities to facilitate coordinated development.

Policy 4: Essential public services should be available to a site or can be provided to a site with sufficient capacity to serve the property before it can receive development approval from the city. For purposes of this policy, essential services shall mean:

- > Sanitary Sewers
- > Water
- > Storm Drainage
- > Streets

Development may be permitted for parcels without the essential services if:

- > The proposed development is consistent with the Comprehensive Plan; and
- > The property owner enters into an agreement, that runs with the land and is therefore binding upon future owners, that the property will connect to the essential service when it is reasonably available; and
- > The property owner signs an irrevocable consent to annex if outside the city limits and/or agrees to participate in a local improvement district for the essential service.

Policy 5: Upon the annexation of territory to the City of Newport, the city will be the provider of water and sewer service except as specified to the contrary in an urban service agreement or other intergovernmental agreement.

WATER

Goal: To provide the City of Newport with a high quality water system that will supply residents and businesses with adequate quantities for consumption and fire protection.

Policy 1: The city will comply with state and federal laws concerning water quality and will take appropriate steps consistent with those laws to protect and maintain drinking water source areas.

Implementation Measure 1: The City shall work to establish a source water protection buffer in the Big Creek Watershed. The City declares the Big Creek Watershed a public facility consistent with the definition of Public Facility Systems in OAR 660-011-0005(7)(a)(A). The City will work to establish a source water protection buffer that is consistent with the findings of the Oregon Department of Environmental Quality / Oregon Health Department source water assessment report (PWS #4100566).

Policy 2: The water system will be designed and developed to satisfy the water demand of the various users under normal and predictable daily and seasonal patterns of use, and at the same time provide sufficient supplies for most emergency situations.

Policy 3: The city may extend water service to any property within the city's urban growth boundary, and may extend water service beyond the urban growth boundary if the extension of service is not inconsistent with an urban service agreement or other intergovernmental agreement. The city may require a consent to annexation as a condition of providing water service outside the city limits.

Policy 4: The city will acquire lands within the municipal watershed when available or necessary to protect water quality or improve its water system.

Policy 5: The city will reconstruct its municipal raw water storage and distribution facilities to address identified structural deficiencies to Big Creek Dam #1 and Big Creek Dam #2.

Implementation Measure 1: The city shall conduct necessary and appropriate engineering studies to determine the safest and most cost-effective approach to ensure the integrity of the municipal water supply. The studies shall identify the cost and timing of needed capital projects to address identified structural deficiencies and comply with Policy 2 of this section.

Implementation Measure 2: The city shall explore financing mechanisms, and prepare a financing plan to fund construction needed to resolve the structural deficiencies by 2030.

Implementation Measure 3: The city shall use data and findings from Implementation Measures 1 and 2 of this section to update the Water Supply section of the Public Facilities element of the Newport Comprehensive Plan to reflect new information as a result of the engineering and finance studies.

WASTEWATER

Goal: To provide a wastewater collection and treatment system with sufficient capacity to meet the present and future needs of the Newport urbanizable area in compliance with State and Federal regulations.

Policy 1: On-site sewer systems shall not be allowed unless the city's sanitary sewer system is greater than 250 feet away. In any case, a subsurface permit from the Lincoln County Sanitarian must be obtained prior to any development that will rely on an on-site sewer system.

Policy 2: City wastewater services may be extended to any property within the urban growth boundary. Except for the very limited circumstances allowed by state law and regulations, the city will not generally provide wastewater services outside the urban growth boundary. The city may require a consent to annexation as a condition of providing wastewater service outside the city limits. Nothing in this policy obligates the City to provide wastewater services outside of the city limits. For property outside the city limits but within the urban growth boundary, wastewater services may be provided at the City's discretion only for:

- a) residentially zoned lands as allowed by county zoning without full services, and
- b) commercial and industrial zoned lands to existing lawful uses as of the date (9/4/07) of this amendment.

Policy 3: The city will design and develop the wastewater collection and treatment system in a way that addresses the demands of the various users under normal and predictable daily and seasonal patterns of use.

TRANSPORTATION

Transportation Goals and Policies repealed by Ordinance No. 1802 (January 4, 1999).

STORM WATER DRAINAGE

Goal: To provide a storm water drainage system with sufficient capacity to meet the present and future needs of the Newport urbanizable area.

Policy 1: The city will comply with state and federal laws concerning water quality.

Policy 2: The city will use existing, natural drainage systems to the greatest extent possible.

AIRPORT

Goal: To provide for the aviation needs of the City of Newport and Lincoln County.

Policy 1: The city will ensure through zoning and subdivision ordinance provisions that the airport will be able to operate safely and efficiently.

Policy 2: The city will cooperate with state and federal agencies in the development of the airport.

URBANIZATION

The Newport urban area includes lands within the city limits. It becomes necessary, however, to identify lands outside those limits that will become available for future growth. With that in mind, the City of Newport and Lincoln County have agreed upon a site specific boundary that limits city growth until the year 2031.

The urban growth boundary (UGB) delineates where annexations and the extension of city services will occur. Converting those county lands within the UGB requires coordination between the county, the property owners, and the city. This section provides the framework and the policies for those conversions and service extensions. The decision makers can also use this section as a guide for implementation of the urbanizing process.

The city and county made the policies of this section as part of a coordinated effort. Involved in the process were the governing bodies and planning commissions of both jurisdictions. The Citizen's Advisory Committee, concerned citizens, and other affected agencies also participated in the process.

Newport Urban Growth Areas:

Land forms are the most important single determinant of the directions in which Newport can grow. Newport is bounded on the west by the Pacific Ocean and on the east by the foothills of the Coast Range. In addition, the city is divided by Yaquina Bay. The only suitable topography for utility service and lower cost urban development is along the narrow coastal plain. Some development has occurred in the surrounding foothills and along the Yaquina River and creek valleys, but this is generally rural development of low density without urban utilities. The following inventory describes areas evaluated as to their suitability to accommodate expected growth.

A. Agate Beach Area (North Newport/390 Acres):

Inventory. This study area consists of both urbanized and undeveloped land (see map on page 283). Of the 390 acres available for residential development, 225 lie within the unincorporated area of the UGB, and 165 acres are within Newport's city limits. (The urbanized area contains approximately 60 acres.)

The urbanized area was platted in the 1930's, with growth occurring gradually since that time. The area is primarily residential and has a mixture of houses, mobile homes, trailers, and some limited commercial uses along U.S. Highway 101. The area was previously served by the Agate Beach Water System, which frequently failed to meet federal water quality standards and had inadequate line size and pressure to serve existing customers and projected growth. The City of Newport rebuilt the water system and installed a sewer system at the cost of approximately \$1.4 million.

The unincorporated portions of this study area have been included in Newport's UGB to help meet anticipated need for residential land. The land is relatively level, water services

and road access are immediately adjacent, and sewer is available. The area has been urbanized to a degree already and is suitable for continued residential development. Much of this area has been platted into 5,000 square foot lots, which are both suitable for mobile home placement and "buildable" as sewer is extended.

Analysis. Because most of this area has been previously platted into 50 x 100 foot lots, land costs can be expected to be lower than in newly platted areas of the city. Many mobile homes and trailers currently exist in this area, and smaller lots are appropriate for mobile homes.

Finding. This area is suitable for continued residential development and is designated residential. In addition, because of the smaller lot sizes and the existence of many mobile homes in the area, a mobile home overlay zone is desirable and compatible with existing uses. Areas of larger acreage on both the east and west side are suitable for high density residential use with the mobile home overlay so that new mobile home parks may be built in the area as outright uses, as well as allowing apartments. Existing commercial development along U.S. Highway 101 should be allowed to remain.

B. Agate Beach Golf Course and Little Creek Drainage Area (North Newport/93 acres):

Inventory. This area lies south and east of the golf course, west of the west line of Section 33, and east of Highway 101, all of which is within the city limits (see map on page 283). The area is generally undeveloped, and it slopes steeply toward Little Creek.

The area has been planned to be served by city water and sewer and a major new road. It is zoned for low and high density residential development.

Analysis. Because of the steep slopes, this is the type of area where a planned development is often appropriate. It borders a mobile home park to the south and is geographically well separated from other areas of conventional housing; therefore, mixed residential development can be considered for the property with little possible conflict.

Finding. Because of the topography, either low density residential development with a planned development overlay or high density residential development would be appropriate designations. However, the former would insure more open space in the long range.

C. West Big Creek Drainage Area (North Newport/40 acres):

Inventory. This area lies south of the Pacific Beach Club, east of U.S. Highway 101, and west of Lakewood Hills (see map on page 283). It has not yet been developed.

Analysis. Much of the area is in a flood plain. However, it has been studied for a planned development and is suitable for high density residential use.

Finding. High density residential will be the designation for this property. The land may be suitable for a planned unit development.

D. East Big Creek Drainage Area (City Reservoir):

Inventory. This area drains into the city reservoir, and the city owns the majority of the land (see map on page 283). There are several smaller private parcels with houses and livestock.

Finding. This area could eventually be used as a large city park or residential area once the reservoir is no longer used for the city water supply. During the planning period, this area should be protected from further residential development.

That land which is not needed for public park land shall be considered for return to the private sector for housing.

E. Jeffries Creek Drainage Area (Northeast Newport/220 Acres):

Inventory. This area is south of the city reservoir, north of Old Highway 20, east of Harney Street, and west of the eastern half of Section 4 (see map on page 283). This area contains the Terrace Heights, Virginia Additions, Kewanee Addition, and the Beaver State Land property. There is very little development in the area as yet. Fifty-five acres lie within Newport's city limits.

Analysis. Platted around the turn of the century, this area has long been planned for low density residential development. Little has occurred so far due to more accessible development closer to Newport. This is no longer the case, and this land is now needed for housing.

Finding. This area has steep slopes, no existing utilities as yet, and will be expensive to develop. However, much of the property will have ocean or bay view. The area is appropriate for low density development.

F. Harbor Heights Area (Southeast Newport/267 Acres):

Inventory. This study area lies east of Harbor Heights to the urban growth boundary and north of Bay Road to the urban growth boundary (see map on page 283). Of its 267 acres, approximately 44 are within Newport's city limits.

Analysis. This is an area where lot sizes might well be raised to a higher minimum to encourage the maintenance of the vegetation that helps stabilize the entire area. This would be a high cost housing area with very low density development.

Finding. The area is steep with some slide potential. Dotted with residential uses, the area commands a view of the bay and is in heavy demand. A low density residential designation is appropriate for this area.

G. Idaho Point Area (South Beach/120 Acres):

Inventory. This area stretches from South Bay Street to the Idaho Point Marina and from S.E. 32nd Street south to the forest lands (see map on page 283).

Analysis. The existing water system is inadequate and is being replaced, along with city sewer. Some of the area is in demand for its bay view, and much of the land could be developed for medium to high cost housing. The topography varies from flat to steeply sloping, with most in the in between category; therefore, development costs will vary.

Finding. The topography in the area varies from flat to steeply sloping, with most of it moderately sloping. The existing water system is inadequate and sewer is not yet available. Some low density residential uses currently exist, and the area has been planned for a mix of low and high density residential.

H. South Beach (South of Newport/560 Acres):

Inventory. The area extends from S.E. 32nd Street to the southern boundary of the Newport Municipal Airport and from the southerly extension of Bay Street to U.S. Highway 101 (see map on page 283).

Analysis. The area has long been planned for urban development and is currently coming along in that manner. Newport has planned for many years to encourage industrial development in South Beach.

Finding. It is the only area for which the city has planned industrial development that would allow non-water related or non-water dependent industrial development. The area will need city sewer and other city services.

I. Wolf Tree Destination Resort (South of Newport/1,000 Acres):

Inventory. The city extended its urban growth boundary and the city limits to include about 1,000 acres for the Wolf Tree Destination Resort consistent with Goal 8 (see map on page 284). The area includes about 800 acres south of the Newport Municipal Airport, with another 200 acres lying east of the airport. The region has a special plan and zoning designation that limits the land for a destination resort.

Analysis. Currently undeveloped except for a few scattered residences, the area has been planned for a destination resort since 1987. The south area is presently in the city limits, but the easterly 200 acres is not. The Wolf Tree property was brought into the UGB and annexed to the city only after a Goal 8 Destination Resort analysis and a limitation on

the property to the development of a destination resort. Many state and federal agencies were involved in the process that brought this property into the UGB and the city limits.

Finding. The project complies with Goal 8/"Destination Resort." The property cannot be developed except as a destination resort consistent with state and city law.

Finding. The City of Newport has established its urban growth boundary as indicated on the city's Comprehensive Plan Map (available in the city's Planning Department office), in accordance with the following findings and as demonstrated in the inventory:

- > The projected population growth requirements of the City of Newport, as demonstrated in the inventory, cannot be met within the existing city limits.
- > In order to provide adequate housing opportunities and needed employment and to plan for a livable environment, there is a need for additional acreage beyond that currently available within the Newport city limits.
- > The City of Newport has planned for the urbanization of the UGB area based upon the city's long-range plan and capacity to extend needed facilities and service during the planning period.
- > In determining the most appropriate and efficient land uses and densities within the UGB, the City of Newport has considered current development pattern limitations posed by land forms, as well as the city's needs during the planning period.
- > In establishing its UGB, the City of Newport has considered and accounted for environmental, energy, economic, and social consequences as demonstrated in the inventory.
- > There are no agricultural lands adjacent to the Newport urban growth boundary.
- > What alternative locations within the area have been considered for the proposed needs.

GOALS/POLICIES/IMPLEMENTATION MEASURES
URBANIZATION

Goal: To promote the orderly and efficient expansion of Newport's city limits.

Policy 1: The City of Newport will coordinate with Lincoln County in meeting the requirements of urban growth to 2031.

Implementation Measure 1: The adopted urban growth boundary for Newport establishes the limits of urban growth to the year 2031.

- 1.) City annexation shall occur only within the officially adopted urban growth boundary.
- 2.) The official policy shall govern specific annexation decisions. The city, in turn, will provide an opportunity for the county, concerned citizens, and other affected agencies and persons to respond to pending requests for annexation.
- 3.) Establishment of an urban growth boundary does not imply that all included land will be annexed to the City of Newport.

Policy 2: The city will recognize county zoning and control of lands within the unincorporated portions of the UGB.

Implementation Measure 2: A change in the land use plan designations of urbanizable land from those shown on the Lincoln County Comprehensive Plan Map to those designations shown on the City of Newport Comprehensive Plan Map shall only occur upon annexation to the city.

- 1.) Urban development of land will be encouraged within the existing city limits. Annexations shall address the need for the land to be in the city.
- 2.) Urban facilities and services must be adequate in condition and capacity to accommodate the additional level of growth allowed in the city's plans. Those facilities must be available or can be provided to a site before or concurrent with any annexations or plan changes.

Policy 3: The city recognizes Lincoln County as having jurisdiction over land use decisions within the unincorporated areas of the UGB.

Implementation Measure 3: All such decisions shall conform to both county and city policies.

- 1.) Unincorporated areas within the UGB will become part of Newport; therefore, development of those areas influences the future growth of the city. Hence, the city has an interest in the type and placement of that growth. Lincoln County shall notify the city of any land use decision in the UGB lying outside the city limits. The county shall consider recommendations and conditions suggested by the city and may make them conditions of approval.
- 2.) The city shall respond within 14 calendar days to notifications by the county of a land use decision inside the adopted UGB. The county may assume the city has comments only if they are received inside of that 14 days.

Policy 4: The development of land in the urban area shall conform to the plans, policies, and ordinances of the City of Newport.

Implementation Measure 4a: The City of Newport may provide water and wastewater services outside the city limits consistent with the policies for the provision of such services as identified in the applicable Goals and Policies of the Public Facilities Element of the Comprehensive Plan.

Implementation Measure 4b: Amendments to UGB Boundaries or Policies. This subsection delineates the procedure for joint city and county review of amendments to the urban growth boundary or urbanization policies as the need arises.

1.) **Major Amendments:**

a.) Any UGB change that has widespread and significant influence beyond the immediate area. Examples include:

(1) Quantitative changes that allow for substantial changes in the population or development density.

(2) Qualitative changes in the land use, such as residential to commercial or industrial.

(3) Changes that affect large areas or many different ownerships.

b.) A change in any urbanization policy.

2.) **Minor Boundary Line Adjustments:** The city and county may consider minor adjustments to the UGB using procedures similar to a zone change. Minor adjustments focus on specific, small properties not having significant impact beyond the immediate area.

3.) **Determination of Major and Minor Amendments:** The planning directors for the city and county shall determine whether or not a change is a minor or major amendment. If they cannot agree, the planning commissions for the city and county shall rule on the matter. The request shall be considered a major amendment if the planning commissions cannot agree.

4.) **Initiation, Application, and Procedure:** Individual or groups of property owners, agencies that are

affected, the planning commissions, or the city or county governing bodies may initiate amendments. Applicants for changes are responsible for completing the necessary application and preparing and

submitting the applicable findings with the application. The planning commissions for the city and county shall review the request and forward recommendations to the Newport City Council and the Lincoln County Board of Commissioners.

The city and county governing bodies shall hold public hearings on the request. Amendments become final only if both bodies approve the request.

- 5.) Findings shall address the following:
- a.) Land Need: Establishment and change of urban growth boundaries shall be based on the following:
 - 1.) Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and
 - 2.) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks and open space, or any combination of the need categories in this subsection;
 - b.) Boundary Location: The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:
 - 1.) Efficient accommodation of identified land needs;
 - 2.) Orderly and economic provision of public facilities and services;
 - 3.) Comparative environmental, energy, economic, and social consequences; and
 - 4.) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.
 - c.) Compliance with applicable Statewide Planning Goals, unless an exception is taken to a particular goal requirement.
- 6.) Correction of Errors: Occasionally an error may occur. Errors such as cartographic mistakes, misprints, typographical errors, omissions, or duplications are technical in nature and not the result of new information or changing policies. If the Newport City Council and the

Lincoln County Board of Commissioners become aware of an error in the map or text of this adopted urbanization program, either body may cause an immediate amendment to correct the error. Both bodies must, however, agree that an error exists. Corrections shall be made by ordinance after a public hearing. The governing bodies may refer the matter to their respective planning commissions, but that is not required.

Policy 5: The city is responsible for public facilities planning within its urban growth boundary.



Oregon

John A. Kitzhaber, MD, Governor

Department of Land Conservation and Development

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www.lcd.state.or.us

February 8, 2013

Derrick I. Tokos
Community Development Director
City of Newport
169 SW Coast Hwy
Newport, OR 97365



Delivered via email: d.tokos@newportoregon.gov

**RE: Urban Growth Boundary (UGB) amendment application for City water treatment plant and water storage reservoirs (2-UGB-12)
DLCD File No. 001-13**

Dear Derrick:

We appreciate having the opportunity to work with you on this proposal. The City of Newport is a highly valued partner in Oregon's Coastal Management Program and an economic engine for the region. Local governments offer few services more important to their constituents than the delivery of clean reliable drinking water and we laud the City for its efforts to maximize efficiencies in this area of critical concern. Your willingness to meet with and maintain an open dialogue with the Department on this application speaks to the strong relationship held between the City of Newport and DLCD and we look forward to continued collaboration on many future community and economic development endeavors.

The City's proposal to add 381 acres to its UGB would encompass the City's existing water reservoirs and treatment facilities plus an area for future expansion of the reservoirs. The proposal also includes room for a buffer along the shoreline of the expanded reservoirs to accommodate a regional park facility. While most of the land proposed for the UGB expansion is owned by the City of Newport, approximately 70 acres of the land to be added is privately owned forest land.

The City must justify expansion of its UGB under the provisions of Statewide Planning Goal 14, governing urban growth boundaries. Goal 14 requires, first, that the City justify the need for the amount of land in the expansion area, and, second, the specific location of the expansion area. The two need factors are:

- (1) Demonstrated need to accommodate the long range urban population, consistent with a 20-year population forecast coordinated with the affected governments; and
- (2) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space, or any combination of these need categories.

The primary question facing the City of Newport with this proposal is whether there is a "need" to place water supply-related public facilities needed to provide adequate amounts and quality of domestic water service to current and future City residents within the City's UGB.

Because of their location relative to water sources and the nature of water distribution systems, water service facilities for cities in Oregon are often not located within that city's urban growth boundary. Most notably, water intake facilities and large reservoirs are often located at a source of water that is of suitable quality for municipal use, generally in watersheds that are designated rural forest lands. For that reason, the state's rules for allowed uses in forest lands, found in Oregon Administrative Rule 660-006-0025, make specific provisions for water intake facilities, related treatment facilities, pumping stations, and distribution lines, and also reservoirs and water impoundments. These are all allowed conditionally in a forest zone, based upon three necessary findings:

- (a) The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;
- (b) The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel; and
- (c) A written statement recorded with the deed or written contract with the county or its equivalent is obtained from the land owner that recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules.

In Oregon's coastal and Willamette Valley region several other cities have larger impoundments for water reservoirs similar to Newport's existing and proposed reservoir.

1. Astoria's reservoir is located several miles southeast of the city, and is located on rural forest land.
2. The Coos Bay/North Bend water reservoir is located southeast of Coos Bay, and is contained within the Coos Bay urban growth boundary.
3. McMinnville Water & Light, a utility providing water service to McMinnville and smaller Yamhill County cities, has two reservoirs located in the coast range to the west of the city, not within any urban growth boundary.
4. Silverton's water reservoir is located outside of the city's urban growth boundary, less than one mile to the east.

The Department has two specific concerns with the proposal from Newport to add 381 acres to the City's urban growth boundary:

1. The City must clearly demonstrate the need to bring this land into the UGB. While the draft findings make clear the need for the City to have a safe and sufficient domestic water supply, the City must also provide clear justification for the need to have its water facilities within the urban growth boundary, especially given the accommodation allowed by the Oregon Administrative Rules governing uses on forest land for various facilities providing city water service. The three conditions for approval of such water facilities cited above do not seem to present an insurmountable impediment to a planned expansion of the City's water facilities onto rural forest land, as demonstrated by the number of such facilities on rural forest land in other parts of Oregon.
2. The proposed UGB expansion includes 70 privately-owned acres of forest land. The proposal appears to have the intent of designating and planning these private holdings for watershed protection, which is appropriate. However, eliminating the current owners' ability to use these properties for forest practices through restrictive city zoning may open the City to claims under ORS 195.300 to 195.336, more commonly known as the Measure 49 statutes. ORS 195.305(1) specifically allows a property owner to apply for compensation based upon a local government regulation that restricts forest practices. If the property owner can prove a reduction in property value based upon the regulation, the local government must either compensate the owner for the reduction in property value or waive the regulation. We would recommend that the City not include any privately owned lands in the proposed expansion until the City acquires ownership of these properties, which we understand is the City's eventual intention.

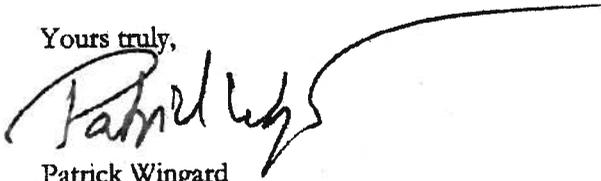
We also suggest that the City consider two alternatives to the proposed UGB expansion:

1. The City should consider annexing the properties but leaving them outside of the urban growth boundary. This would require the City to adopt a new rural forest zoning district to encompass the area, but would give the city regulatory authority to approve necessary conditional use permits in the future for needed water facilities. There is no statute or rule that prevents a city from annexing rural lands and keeping them designated for rural uses.
2. The City should also consider processing necessary conditional use permits through Lincoln County, which would be required if the city took no action to either add these lands to the urban growth boundary or annex them to the City. Other Oregon cities process such conditional use permits through a county as necessary for their municipal water facilities that are located outside of a city on rural forest resource lands.

We request that this letter be entered into the record of the proceedings. If you have questions or need clarification on anything contained in this letter, please do not hesitate to contact me at (503) 812-5448 or via email at patrick.wingard@state.or.us. I plan to attend the upcoming Planning Commission and City Council public hearings and would be happy to meet with you beforehand to

discuss these issues further. Thank you very much for your time and consideration and for the opportunity to comment on this proposal.

Yours truly,

A handwritten signature in black ink, appearing to read "Patrick Wingard". The signature is fluid and cursive, with a long, sweeping horizontal line extending to the right from the end of the name.

Patrick Wingard
North Coast Regional Representative

Copy. Gordon Howard, DLCD Urban Planning Specialist
Onno Husing, Lincoln County Community Development Director

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NEWPORT, OREGON 97365

COAST GUARD CITY, USA



ATTACHMENT 'C'

<http://newportoregon.gov>

mombetsu, japan, sister city

February 19, 2013

Patrick Wingard
North Coast Field Representative
Department of Land Conservation & Development
635 Capital Street NE
Salem, Oregon 97301

**RE: Urban Growth Boundary (UGB) amendment application for City water treatment plan and water storage reservoirs (2-UGB-12)
DLCD File No. 001-13**

Dear Patrick,

This letter is in response to comments provided by the Department of Land Conservation and Development (DLCD) regarding the City's proposed urban growth boundary (UGB) expansion for the Newport municipal water treatment plant and water storage reservoirs. We appreciate the Department's involvement at this early stage and wish to continue our dialogue regarding this proposed land use action.

The Department expresses two key concerns at this juncture: (1) that the City has not adequately demonstrated need for the expansion as required by the two Goal 14 need factors; and (2) that the City's proposal will lead to City regulation of private forest lands that could subject the City to legal challenge. We would like to take the opportunity to clarify the City's rationale and intent for the proposed UGB expansion prior to our scheduled evidentiary hearings.

Concern 1: Demonstrated need to bring land into the UGB

The Department's correspondence implies that the City has not adequately demonstrated need for the expansion in the application. Specifically, the Department raises the following concerns in its letter:

The City must clearly demonstrate the need to bring this land into the UGB. While the draft findings make clear the need for the City to have a safe and sufficient domestic water supply, the City must also provide clear justification for the need to have its water facilities within the urban growth boundary, especially given the accommodation allowed by the Oregon Administrative Rules governing uses on forest land for various facilities providing city water service. The three conditions for application of such water facilities cited above do not seem to present an insurmountable impediment to a planned expansion of the City's water facilities onto rural forest land, as demonstrated by the number of such facilities in other parts of Oregon.

The interpretation of Goal 14 inherent in this comment would require a city to demonstrate that an identified need cannot be met on rural land. However, Goal 14 requires that a city's 20-year needs be accommodated within its UGB. Goal 14 Need Factor 2 explicitly includes public facilities as a specific category of urban land need. Moreover, need must be based on current and expected population. To illustrate, in the case of housing, it seems unlikely (and illogical) that the Department would suggest that a municipality meet its housing needs on rural lands, even though those lands might in some instances be suitable and available for such development (e.g., exception areas). The City water treatment and storage facilities are comparable in that they commit rural lands to an urban use. Where need for an urban use is demonstrated, if possible, the need should be accommodated within the UGB, not outside it.

The existing water storage and treatment facilities, as well as supporting infrastructure such as roads and the municipal watershed, constitute a public facility under Goal 11 and OAR 660-011-0005(7)(a). The City initiated development of the Newport water storage facilities on Big Creek in the 1950s. The lands used for the Newport water storage and treatment facilities, including the roads, have been committed to urban public facility uses since their development. The City and County agree that these facilities are needed to serve Newport's 20-year population. We believe that this need fits squarely within Goal 14 mandates.

The Department's letter also implies that the existence of any alternative path to meet the City's public facility need, short of a UGB expansion, is sufficient to trump the City's need argument. The specific threshold implied is whether an alternative exists that is "insurmountable." Depending on one's interpretation of "insurmountable" this could be an extremely high threshold. We disagree with that characterization of Goal 14 and division 11. We request that the Department provide the regulatory basis for the implication described above and, perhaps, a meeting to discuss it.

If such a nexus exists, the City asserts that the current pathway to developing the facilities presents barriers that create unacceptable uncertainties that could quickly become insurmountable. It is worth reiterating that rebuilding the water storage facilities to current seismic standards will likely require hundreds of thousands of dollars of engineering and millions of dollars of construction expense. An alternative path suggested by DLCDC requires the City to maintain its water facilities under Lincoln County's jurisdiction. This would require the City to apply for one or more conditional use permits through Lincoln County. Not only is this an inefficient way to provide public facilities, but we include specific sections of the county code below and then provide comments on how those provisions create uncertainties that could become insurmountable.

The specific process for Conditional Uses is found in sections 1.1601 through 1.1630 of the Lincoln County Code. The excerpts below are from Sections 1.1605.

(2) In approving a conditional use request or the modification of a conditional use, the Planning Division or Planning Commission may impose, in addition to those standards and requirements expressly specified by this Section, additional conditions which are considered necessary to protect the best interests of the surrounding area or the County as a whole. These conditions may include, but are not limited to the following:

- (a) Increasing the required lot size or yard dimensions.*
- (b) Limiting the height of buildings.*
- (c) Controlling the location and number of vehicle access points.*
- (d) Increasing the street width.*
- (e) Increasing the number of required off-street parking spaces.*

- (f) Limiting the number, size, location, and lighting of signs.*
- (g) Requiring fencing, screening, landscaping, diking, or other facilities to protect adjacent or nearby property.*
- (h) Designating sites for open space.*
- (i) Setting a time limit for which the conditional use is approved.*
- (j) Site reclamation upon discontinuance of use.*
- (3) In the case of a use existing prior to February 12, 1974, and classified in this chapter as a conditional use or a non-conforming use, change in use or in lot area or an alteration of structure shall conform with the requirements for conditional use.*
- (4) The Planning Commission may require or authorize the Planning Division to require that the applicant for a conditional use furnish the County with a performance bond of up to the value of the cost of the improvements to be guaranteed by such bond, in order to ensure that the conditional use is completed according to the plans as approved by the Planning Commission or the Planning Department.*
- (5) Any permit granted hereunder shall be subject to revocation by the Planning Commission if it is ascertained thereby that the application includes or included any false information, or if it is determined that the conditions of approval have not been complied with or are not being maintained, or the conditional use becomes detrimental to public health, safety, or welfare.*

Of particular concern to the City are the conditions that the County could impose on the engineering and construction of the facilities, on the length of use, the potential to require a performance bond, and the ability to revoke the permit. Moreover, standards of approval are outlined in section 1.1630 and 1.375 of the Lincoln County. These standards are highly discretionary and, aside from imposing county control over the City's facility work, the standards provide the opportunity for appeal to LUBA and beyond.

Sections 1.1375(3) of the Lincoln County Development Codes states:

(3) Limitations on Conditional Uses:

The Planning Director or Commission shall determine whether a use other than a dwelling authorized by subsection (2) of this section meets the following requirements. These requirements are designed to make the use compatible with forest operations and agriculture, and to conserve values found on forest lands:

- (a) The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;*
- (b) The proposed use will not significantly increase fire hazard, significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel; and*
- (c) A written statement recorded with the deed or written contract with the county or its equivalent is obtained from the land owner which recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and paragraphs (e), (l), (r), (s) and (v) of subsection (2) of this section.*

The first two standards are highly discretionary, which introduces uncertainty into the process in terms of potential impacts to the design, engineering and construction of the facilities. Further the risk of appeal makes it difficult to hold to a schedule, which for a project of this scale could result in substantial cost overruns that a jurisdiction of our size could not weather.

This is a critical point: no matter how robust the City's process is in engaging the public in planning and designing these improvements, there is always a chance that someone will challenge it. Change and delay in the construction plans for needed public facilities can be catastrophic. Goal 14 does not support an arrangement that keeps needed urban facilities outside of City jurisdiction.

Elimination of the County's CUP process for water facility improvements on the subject land will not decrease opportunities for public involvement. It will simply move that opportunity to a more appropriate point in the planning process. The City has adopted a policy that will require updating of the City's Water Supply Master Plan—a process that will require public involvement. Financing the reconstruction of the reservoirs will likely require the City issue General Obligation (GO) bonds—a process that will require additional public involvement. The proposed UGB expansion and any subsequent annexation, redesignation and/or rezoning, will require hearings by both the City and County. In short, Newport area residents will have ample opportunity to engage in decisions related to this action.

In summary, the City's position is that the potential for restrictive conditions and the uncertainties created through the public process of a conditional use permit are unacceptable and potentially insurmountable in terms of the efficient provision of public facilities to Newport's citizens, as mandated by Goals 11 and 14. Note that the alternative courses suggested by the Department do not ameliorate these risks.

Concern 2: Impacts to private forest lands

The Department also expressed concerns that the proposed expansion will lead to later City regulation that could be challenged. The Department articulates those concerns as follows:

The proposed UGB expansion includes 70 privately-owned acres of forest land. The proposal appears to have the intent of designating and planning these private holdings for watershed protection, which is appropriate. However, eliminating the current owners' ability to use these properties for forest practices through restrictive city zoning may open the City to claims under ORS 195.300 to 195.336, more commonly known as the Measure 49 statutes. OR 195.305(1) specifically allows a property owner to apply for compensation based upon a local government regulation that restricts forest practices. If the property owner can prove a reduction in property value based upon the regulation, the local government must either compensate the owner for the reduction in property value or waive the regulation. We recommend the City not include any privately owned lands in the proposed expansion until the City acquires ownership of these properties which we understand is the City's eventual intention.

We appreciate and share the Department's concerns with respect to private forest lands. To clarify, the Department misinterprets the City's intent with respect to the inclusion of privately-held lands as part of the UGB expansion proposal. First, the reconstruction and expansion of the upper reservoir to the 115-foot elevation line will inundate some privately held lands. The City is aware that it must negotiate acquisitions or condemn these lands.

Based on the Department's comments, the City is reviewing the proposed boundary and anticipates modifying the boundary to further minimize the acreage of privately-owned land included in the UGB. However, as stated above, it will not be possible to entirely eliminate privately-held land from the proposal.

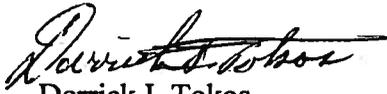
Finally, as we stated in our January meeting, upon annexation, the City has no intention of adopting zoning restrictions that would eliminate, or even limit, current owners' ability to use their properties for forest practices. Further, the City would not annex private lands until the time of reconstruction. Moreover, the City has existing policies that specifically allow forest practices within the UGB. Chapter 3 of the Newport Comprehensive Plan addresses forest lands within the UGB. Policy 5 in that chapter states:

Policy 5: Forested lands in the UGB but outside Newport city limits which may be currently suitable for commercial forest uses may be used for those purposes regardless of current zoning when done in accordance with applicable forest management practices and regulations.

In summary, the action would not create any barriers to forest activities on privately held lands.

We intend to reflect the above information in the findings of fact associated with this action.

Sincerely,



Derrick I. Tokos
Community Development Director

Copy: Gordon Howard, DLCD Urban Specialist
Onno Husing, Lincoln County Community Development Director
Carrie Connelly, Speer-Hoyt
Emily Jerome, Speer Hoyt
Bob Parker, ECONorthwest

**CITY OF NEWPORT COMMUNITY DEVELOPMENT
DEPARTMENT**

**FINDINGS FOR URBAN GROWTH BOUNDARY
AMENDMENT**

Draft, February 21, 2013

Project Number:	2-UGB-12
Project Type:	Urban Growth Boundary Amendment
Procedure Type:	UGB Amendment: Type IV Comprehensive Plan Map (Major Amendment)
Applicant:	City of Newport

1 OVERVIEW:

The City of Newport is considering an Urban Growth Boundary (UGB) amendment and subsequent annexation to include all of the City's water treatment plant (which is only partially within the city limits) and the City water storage reservoirs for domestic water supply. In general terms, the rationale underlying the proposed UGB expansion is twofold:

1. To include the City's water storage and treatment facilities in the UGB. The City may be forced to reconstruct one or both of the water storage reservoirs in the coming years to address structural deficiencies. The reconstruction would include new water intake facilities, distribution lines, pumping stations, and a radio transmission tower for the municipal water metering system.
2. To include a regional city park in the UGB. The subject property is well-suited for use as a public park and is identified in the City's adopted *Parks Master Plan* and the Parks Element of the City *Comprehensive Plan* as a site for a regional park.

It is also a goal of the City to establish at least a 1000' foot buffer around the reservoirs for water quality purposes consistent with the Oregon Department of Environmental Quality/Oregon Health Department "Surface Water Evaluation" (see Attachment F). This goal will be accomplished through non-regulatory strategies including land acquisition and other voluntary measures.

Under the Oregon land use system, the justification for a UGB amendment is a two-step process: (1) demonstrate land need; and (2) analyze potential boundary locations. Local governments must address both parts in the UGB application and associated findings. Moreover, the City must address applicable City and County criteria.

The proposal includes an amendment to the *Newport Comprehensive Plan Map* and the Lincoln County *Comprehensive Plan Map*, which amends the Newport UGB, expanding it by approximately 353 acres. The proposed boundary expansion includes (1) all of the City's water treatment plant (which is currently only partially within the city limits), the City water storage reservoirs for domestic water supply, and the access road to the reservoirs in a manner that allows a concise legal description and minimizes impacts to privately held lands; and (2) approximately 75 acres for development of a regional City park.

In November 2012, the City initiated a separate process to make text amendments to the *Newport Comprehensive Plan*, which makes the Urbanization Element consistent with changes in Goal 14 adopted in 2006, and amendments to the public facilities element that recognizes the reservoir's structural deficiencies. Those amendments were adopted by the Newport City Council on February 19, 2013.

This findings document justifies the City's action in two ways: (1) the standard Goal 14 need/boundary location analysis; and (2) an exception to Goal 14 as allowed by OAR 660-024-0020(1)(a).

2 AUTHORITY AND CRITERIA:

The authority, review procedures, and locally adopted criteria for the amendments are provided in the *Comprehensive Plan* as specified below. Criteria for the amendments are also provided in applicable state law. Those criteria are addressed together with the local criteria, which are similar to applicable state law, in Section V of this application.

2.1 STATE CRITERIA

State law that governs the locational analysis and needs for the UGB amendment include the following:

- Statewide Planning Goal 14 (OAR 660-015-0000(14))
- ORS 197.298
- Goal 14 Administrative Rule (OAR 660 Division 24)

Statewide planning Goal 14 (Urbanization) requires that urban growth boundary amendments be a cooperative process:

“Establishment and change of urban growth boundaries shall be a cooperative process among cities, counties and, where applicable, regional governments. An urban growth boundary and amendments to the boundary shall be adopted by all cities within the boundary and by the county or counties within which the boundary is located, consistent with intergovernmental agreements...”

Goal 14 breaks the UGB amendment process into two parts: (1) Land Need; and (2) Boundary Location. Local governments must address both parts in the UGB application and associated findings.

2.1.1 Goal 14: Urbanization

Land Need

Establishment and change of urban growth boundaries shall be based on the following:

(1) Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and

(2) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space, or any combination of the need categories in this subsection

In determining need, local government may specify characteristics, such as parcel size, topography or proximity, necessary for land to be suitable for an identified need. Prior to expanding an urban growth boundary, local governments shall demonstrate that needs cannot reasonably be accommodated on land already inside the urban growth boundary.

OAR 660-024-0040 provides additional guidance on determining land need.

Boundary Location

The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:

(1) Efficient accommodation of identified land needs;

(2) Orderly and economic provision of public facilities and services;

(3) Comparative environmental, energy, economic and social consequences; and

(4) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

2.1.2 ORS 197.298: Priority of land to be included within urban growth boundary.

(1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).

(d) If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands.

Note that Newport does not have Urban Reserves as defined in OAR 660-021.

2.1.3 Goal Exceptions

Statewide Planning Goal 2 describes instances when Goal exceptions are allowable. In general, Goal 14 exempts UGB actions from the Goal 2 exception process. OAR 660-024-0020(1)(a) allows local governments to address exceptions as an alternative path:

(a) The exceptions process in Goal 2 and OAR chapter 660, division 4, is not applicable unless a local government chooses to take an exception to a particular goal requirement, for example, as provided in OAR 660-004-0010(1);

Because of the nature of this application, the City of Newport elected to address the Goal 2 exception criteria and take an exception to Goal 14 for the existing water storage and treatment facilities under Exception Avenue (a). Goal 2 identifies three potential avenues for a goal exception:

A local government may adopt an exception to a goal when:

(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

2.2 LOCAL CRITERIA

UGB amendments must comply with applicable local criteria as outlined in the City of *Newport Comprehensive Plan and Development Code*, as well as the Lincoln County *Comprehensive Plan and Development Code*.

2.2.1 City of Newport Criteria

The City process for expanding the UGB is described under Policy 4 (Urbanization) of the *Newport Comprehensive Plan*. UGB amendments are broken into two categories: minor and major. The City and County Planning Director's must agree on the designation of the proposed application. Attachment G (letter to city and county planning directors) shows that the City and County concur this proposal constitutes a major UGB amendment.

In Newport, UGB amendments can be initiated by individuals or groups, the City or County Planning Commissions, or the Newport City Council or Lincoln County Board of Commissioners. This action was initiated by the City of Newport Planning Commission. Consistent with Statewide Planning Goal 14 and Policy 4.4 of the *Newport Comprehensive Plan*, both the city and county governing bodies are required to hold public hearings and both must agree for an amendment to become final.

Chapter 8 of the *Newport Comprehensive Plan* specifies three types of procedures for map amendments. The proposed amendment is considered a "major" amendment. Findings related to local policy are similar to those required for Goal 14 and are addressed in Section V.

A. Major Amendments:

- 1.) *A significant change in one or more goal or policy; and*
- 2.) *A demonstrated need for the change to accommodate unpredicted population trends, to satisfy urban housing needs, or to assure adequate employment opportunities; and*
- 3.) *The orderly and economic provision of key public facilities; and*
- 4.) *Environmental, energy, economic, and social consequences; and*
- 5.) *The compatibility of the proposed change with the community; and*
- 6.) *All applicable Statewide Planning Goals.*

The Urbanization Element requires that the process be initiated by the Newport Planning Commission, and that changes shall be considered by the Planning Commission and City Council at public hearings. Notices and other procedural requirements shall be made in accordance with Section 2-6-1 of the Zoning Ordinance. Moreover, the Urbanization Element requires findings of fact be developed in support of the decision and outlines the requirements for findings.

3 SUMMARY OF EVIDENCE:

The City provides the following evidence in support of the application.

- Attachment A: Final HDR Seismic Report, February 2013
- Attachment B: HDR Dam Assessment Presentation, August 2, 2012
- Attachment C: Parks Capital Improvement Program
- Attachment D: Excerpts from the Newport Park System Master Plan identifying need for a 75-acre regional park and concept plan for a regional park at the Big Creek Reservoir site
- Attachment E: Upper Big Creek Reservoir 2070 Inundation map
- Attachment F: DEQ/OHS Surface Water Assessment
- Attachment G: Letter to County/City Planning Directors regarding population forecast

4 PROCEDURE:

- A. City Public Works staff commissioned an engineering evaluation of the city water storage facilities which concluded the facilities have structural deficiencies (see Attachment A and Attachment B).
- B. Staff conducted a work session with the Newport Planning Commission on October 5, 2012 to discuss the issues and potential options for addressing the capital projects required to address the structural deficiencies.
- C. Staff recommended a comprehensive plan text amendment to make Urbanization Policy 4.5 consistent with amendments to statewide planning Goal 14 that were adopted in 2006. The text amendment was adopted by the Newport City Council on February 19, 2013.
- D. The Newport Planning Commission directed staff to further evaluate an urban growth boundary amendment to include the water storage facilities and water treatment plant into the Newport UGB.
- E. Staff conducted a work session on November 19, 2012 to discuss options related to the form of the UGB expansion. The Planning Commission directed staff to proceed with a boundary that includes an approximate 1,000 foot buffer around the water storage area consistent with the Surface Water Assessment conducted by the Oregon Department of Environmental Quality (DEQ) and the Oregon Health Division (OHD). See Attachment F.

- F. The Newport Planning Commission held the first evidentiary hearing on February 25, 2013.

5 GENERAL FINDINGS - BACKGROUND AND DISCUSSION:

5.1 NATURE OF THE PROPOSAL

As stated in Section I, recent engineering studies concluded that the City of Newport's water storage facilities have structural deficiencies and may fail in the event of an earthquake along the Yaquina Fault or the Cascadia Subduction Zone (see Attachments A [HDR Seismic Report] and B [HDR dam assessment presentation]). This information came to light after the City updated the *Water System Master Plan* in 2008.

The City owns about 510 acres of the watershed that encompass the water storage and treatment facilities (see Attachment E). The remainder of the watershed is in private ownership. All of the land affected by this proposal is zoned Timber-Commercial (T-C) and designated as forestland in the Lincoln County *Comprehensive Plan*.

Additional details regarding the application include:

- A. City-owned land that is included in a boundary amendment will be annexed following the UGB action. Lands in other ownerships would be annexed as they become available.
- B. All lands included in the proposal will be designated "public" and will only be available for public uses at the time of the expansion and in perpetuity. In short, the City does not desire to allow urban development (housing or employment) to occur in the expansion area now or at any time in the future.
- C. The City desires to meet all of the 75-acre deficit of regional parkland identified in the *Comprehensive Plan* and *Parks Master Plan* at the reservoir site (see Attachments C [Parks capital improvement program] and D [Excerpts from the Newport Park System Master Plan]).
- D. The City will develop the parkland with urban park amenities (such as flush toilets). Developing park facilities on resource land (e.g., land outside the UGB) will severely restrict the types of facilities the City can build and will potentially preclude connection to urban services such as drinking water and wastewater treatment through the City systems.
- E. It is a long-term goal of the City to acquire privately-held lands within any areas included in the boundary amendment.
- F. Information about the structural deficiencies of the dams came to light after the 2008 *Water System Master Plan* was completed. The water system projects

will be identified in the *Water System Master Plan* as long-range projects within the next 20 years, as required in 660-011-0020 and 660-011-0025, during the next update of the Master Plan. The timing of the project is based on the condition of the facilities as well as long-term population growth, consistent with 660-011-0025(1).

5.2 RATIONALE FOR THE PROPOSAL

The City's rationale for this application is as follows:

1. The existing water storage and treatment facilities, as well as supporting infrastructure such as roads and the municipal watershed, constitute a public facility under Goal 11 and OAR 660-011-0005(7)(a). The City initiated development of the Newport water storage facilities on Big Creek in the 1950s. The lands used for the Newport water storage and treatment facilities, including the roads, have been committed to urban public facility uses since their development. As urban facilities, these lands should be included within the Newport UGB.
2. As described in the public facilities element of the *Newport Comprehensive Plan* and the *Newport Water System Master Plan*, the water storage and treatment facilities are critical facilities for both current and future residents and businesses of Newport.
3. An engineering assessment by HDR Engineering (see Attachments A and B) identified two potential seismic hazards that affect the water storage facilities: (1) the Yaquina Fault; and (2) the Cascadia Subduction Zone. The assessment identified structural deficiencies that may force the City to reconstruct one or both of the water storage reservoirs in the coming years to address the structural deficiencies. The reconstruction would include: new water intake facilities, distribution lines, pumping stations, and a radio transmission tower for the municipal water metering system. As stated in the conclusions section of the HDR final assessment (Attachment A):

As simplified analysis results indicated, however, the downstream slope of BC No. 2 is susceptible to significant damage and would likely experience a stability failure due to a seismic event originating on either the Yaquina fault or Cascadia Subduction Zone (CSZ). Either fault system can generate large earthquakes, but the CSZ is of greater concern because of the relatively long duration of strong shaking from subduction type earthquakes. The critical potential failure surface identified in these evaluations suggest that an overtopping breach of the dam would occur releasing the full contents of the reservoir.

4. Based on the HDR assessment, the water storage facilities, as currently developed, present a hazard to the community. A failure would not only eliminate the City's water supply, it would potentially harm life and property.

5. The City declares an emergency related to the water storage facilities and has initiated a process to systematically evaluate and address the structural deficiencies and other issues. The UGB proposal is part of that program.
6. The City adopted *Comprehensive Plan* policies that require the City to address the structural deficiencies by updating the *Water System Master Plan* and developing a financing strategy to pay for the improvements by 2030.
7. The City's *Water System Master Plan* identifies a long-term need for additional water storage due to population growth. The plan envisions an expanded Upper Reservoir that would top out at 115' above sea level at full pool. This would expand the capacity of Upper Big Creek Reservoir from approximately 970 acre-feet to 1,483 acre-feet, adding an additional 513 acre-feet of storage capacity. This will increase the City's water delivery capacity to over 1,102 million gallons per day – enough capacity to meet projected need until 2070.
8. While the City has not yet completed its analysis on the full scope of the steps necessary to address the structural deficiencies, at this juncture it is clear the City will need to take steps to address the structural deficiencies. The specific steps necessary will be determined upon completion of the seismic analysis and related studies. What is known at this juncture is that Big Creek Reservoir #1 (the lower reservoir) has sedimentation and water quality issues. Given the proposed expansion of Reservoir #2 (upper Big Creek Reservoir), the City anticipates that it will be necessary to remove the dam on Reservoir #1 and not rebuild the facility. Under this scenario, all of the future water storage needs would be met with the expansion of Reservoir #2. (see Attachment E)
9. The land for the water storage and treatment facilities, and the related infrastructure including roads, is already committed to uses inconsistent with the T-C zone. A goal exception under the "committed" provision of Goal 2 can be justified on this basis.
10. The proposal intends to increase certainty of development of the water storage facilities and the regional park for the City. Reconstruction of the water facilities represents a multi-million dollar investment for the City. Any delays in permitting or construction could significantly add to those costs. Including the land in the UGB and city limits assures the City control over the process and increases certainty.
11. The proposal will improve water treatment efficiency. The water intake and storage facilities are urban facilities; including the properties in the UGB will improve the efficiency of public works operations now and in the future.
12. The City desires to develop a 75-acre regional park and trail system adjacent to the reservoirs, as identified in both the Newport Comprehensive Land Use Plan

as well as the adopted *Parks Master Plan*. Those improvements include restrooms that are connected to the City wastewater treatment system and potentially other uses that are not allowable in a forest zone. In short, the improvements envisioned by the *Parks Master Plan* are not possible if the lands are not within the UGB.

5.3 SUMMARY OF PROPOSED ACTION

This application includes an amendment to the City of Newport Urban Growth Boundary and city limits to include approximately 353 acres to include the City water treatment plant, the City water storage reservoirs, access road to the reservoir. The land needs are as follows:

Table 1. Summary of Land Needs

Facility	Approximate Acreage
Water Storage and Treatment	278
Regional Park	75
Total	353

Note: the watershed buffer is approximately 1000' around Upper Big Creek Reservoir

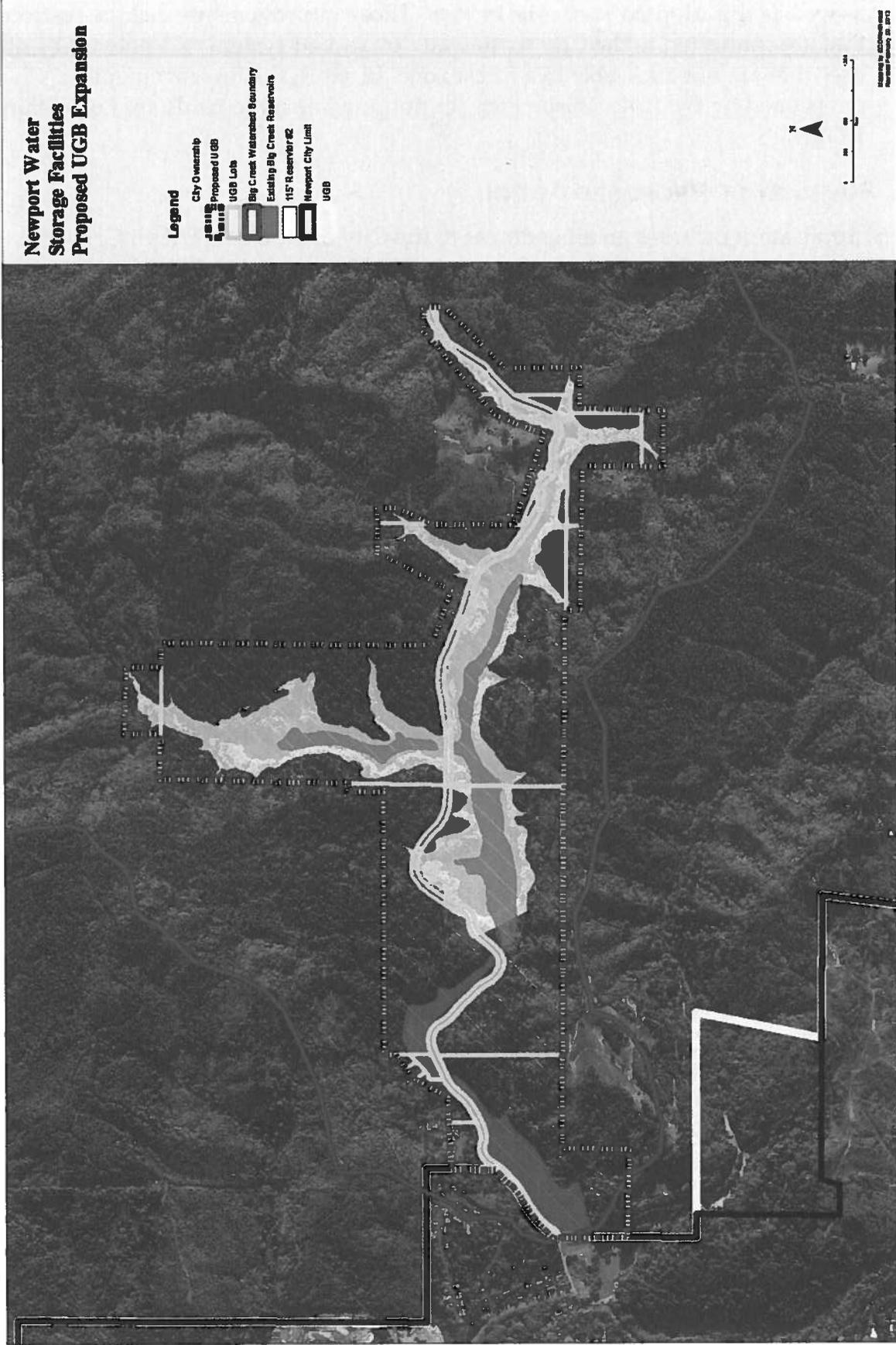
The City took care to draw the boundary in a manner that minimizes impacts to private properties, but allows for an accurate legal description of the boundary. The proposal includes approximately 310 acres of lands owned by the City of Newport and approximately 43 acres in private ownership. The application involves approximately 353 acres of property as shown in Map 1 and summarized in Table 2.

Table 2: Summary of properties proposed for inclusion in the Newport UGB

Parcel ID	Owner	Property Classification	Property Class Description	Total Acres	Proposed UGB Acres
10-11-33-00-00300-00	ETHERINGTON ROBERT N &	401	Tract - Improved	4.2	3.1
10-11-33-00-00302-00	ETHERINGTON ROBERT CHRIS &	401	Tract - Improved	2.0	0.1
10-11-00-00-01900-00	NESTUCCA FORESTS LLC	640	Forest - No Improvement	397.2	5.3
10-11-33-00-00200-00	BRAXLING ARTHUR	640	Forest - No Improvement	40.9	2.3
10-11-33-00-00801-00	WARREN MICHAEL B	640	Forest - No Improvement	41.5	0.2
10-11-33-00-00802-00	WARREN MICHAEL B	640	Forest - No Improvement	15.0	0.2
10-11-34-00-00200-00	NESTUCCA FORESTS LLC	640	Forest - No Improvement	75.3	1.8
10-11-34-00-00400-00	MERIWETHER NW OR LND & TBR LLC	640	Forest - No Improvement	98.9	13.7
10-11-34-00-00500-00	NESTUCCA FORESTS LLC	640	Forest - No Improvement	80.0	2.9
10-11-34-00-00600-00	FERBER FAMILY TRUST &	641	Forest - Improved	16.6	9.0
10-11-34-00-00300-00	JOHNSTON MATHEW C &	661	Forest - Small Tract Improved	29.1	4.4
10-11-33-00-00900-00	CITY OF NEWPORT	940	Public - No Improvement	157.3	102.0
10-11-34-00-00100-00	CITY OF NEWPORT	940	Public - No Improvement	311.8	166.9
10-11-33-00-00201-00	CITY OF NEWPORT	941	Public - Improved	1.2	0.4
10-11-33-00-00600-00	CITY OF NEWPORT	941	Public - Improved	62.9	41.1
TOTAL				1333.9	353.3

Note: Not all of the area of all tax lots in Table 1 will be included in the proposed expansion. The last two columns of the table provide the total acres of each tax lot and the acreage proposed to be included in the UGB. All lands not owned by the City of Newport are privately held.

Map 1: Properties included in the UGB expansion application



6 FINDINGS:

This section presents findings addressing key elements of state land use policy pertaining to UGB expansions. Applicable state goals, statutes and administrative rules for the Urban Growth Boundary (UGB) amendment include:

- Goal 1: Citizen Involvement
- Goal 2: Land Use Planning
- Goal 14: Urbanization
 - ORS 197.298: Priority of land to be included within urban growth boundary
 - OAR 660-024: Urban Growth Boundaries

The findings are organized broadly around the Goal 14 Need and Locational requirements. Other relevant state policy is referenced within this framework. The remainder of this section presents findings for each goal and related statute or administrative rule.

6.1 GOAL 1: CITIZEN INVOLVEMENT

The intent of Goal 1 is to ensure that citizens have meaningful opportunities to participate in land use planning decisions. As stated in the Goal, the purpose is:

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Goal 1 has five stated objectives that are relevant to the UGB boundary amendment:

Citizen Involvement – To provide for widespread citizen involvement.

Communication – To assure effective two-way communication with citizens.

Citizen Influence – To provide the opportunity for citizens to be involved in all phases of the planning process.

Technical Information – To assure that technical information is available in an understandable form.

Feedback Mechanisms – To assure that citizens will receive a response from policy-makers.

Finding: Satisfied. The City conducted several Planning Commission worksessions to discuss the proposed action. The worksessions resulted in refinements to the proposal. The City provided property owner notification prior to the first evidentiary hearing consistent with requirements of the Newport Development Code (Section

14.43). The City conducted a public hearing of the Newport Planning Commission on February 28, 2012 where public testimony was allowed.

6.2 GOAL 2: LAND USE

Goal 2 requires all incorporated cities to establish and maintain comprehensive land use plans and implementing ordinances. It also requires cities to coordinate with other affected government entities in legislative land use processes. The purpose of Goal 2 is:

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Finding: Satisfied. Newport has an established land use process and policy framework. That process, as outlined in the Newport Comprehensive Plan and Development Code was followed throughout this action.

With respect to coordination, Lincoln County is the only other affected government entity. Since UGB boundary amendments require both city and county approve, the City consulted with County staff throughout this process. Moreover, evidentiary hearings must be held by the Lincoln County Planning Commission and Board of Commissioners.

6.3 GOAL 14: URBANIZATION

The Goal 14 findings are broken out by specific criteria. Goal 14 provides two 'Need Factors' and four 'Location Factors.' Goal 14 and the related statutes and rules establish a specific method and hierarchy for boundary review. The findings that follow are organized according to that hierarchy.

6.3.1 Goal 14 Need Criteria

Goal 14 notes that establishment and change of urban growth boundaries shall be based on the following:

Goal 14 Need Factor 1: Demonstrated need to accommodate long range urban population growth, consistent with a 20-year population forecast coordinated with affected local governments.

Goal 14 Need Factor 2: Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space.

Finding: Satisfied. Sections 6.3.1.1 and 6.3.1.2 outline how the proposal complies with Goal 14 need factors 1 and 2.

6.3.1.1 Goal 14 Need Factor 1

In 2011, ECONorthwest assisted the City with a housing needs analysis. That study required a population forecast. Counties are required to coordinate population forecasts among the cities and unincorporated areas within the County (ORS 195.036). As of 2011, Lincoln County did not have a coordinated, adopted population forecast for the cities within the County. As a result, Newport developed a population forecast for the urban growth boundary (UGB).

OAR 660-024 provides "safe harbor" approaches for forecasting population in cities that do not have a coordinated, adopted population forecast. A city may adopt a 20-year population forecast based on the Oregon Office of Economic Analysis's (OEA) population forecast for the County, assuming that the urban area's share of the forecast population will remain constant over the planning period (OAR 660-024-0030(4)(b)).

Based on the revised PSU estimates, Newport's 2010 population accounted for 21.7% of Lincoln County's population. Table 3 shows a population forecast for Newport for the 2011 to 2031 period based on the assumption that Newport continues to account for 21.7% of Lincoln County's population over the 20-year period. Table 3 also extrapolates the 2011 to 2031 forecast to the 2013 to 2033 time period. This provides a 20-year forecast to support the UGB proposal consistent with the requirements of OAR 660-024-0040(2).¹ The 2013 to 2033 forecast is for an increase of 1,486 persons for a 2033 UGB population of 11,909 persons.

¹ OAR 660-024-0040(2) states: "If the UGB analysis or amendment is conducted as part of a periodic review work program, the 20-year planning period must commence on the date initially scheduled for completion of the appropriate work task." Because the proposed expansion is in excess of 50 acres, the City must follow the process "in the manner of periodic review" as required by OAR 660-024-0080.

Table 3. Population forecast, Newport, 2011 to 2031, extrapolated to 2013-2033

Year	Lincoln County (OEA)	Newport
2011	47,306	10,285
2013	47,941	10,423
2031	54,051	11,751
2033	54,776	11,909
Change 2013 to 2033		
Number	6,835	1,486
Percent	14%	14%
AAGR	0.7%	0.7%

Source: ECONorthwest, based on the Office of Economic Analysis forecast for Lincoln County

Note: Population for 2011 and 2031 was extrapolated based on the growth rates used between 2010-2015 (for 2011) and 2030-2035 (for 2031).

Note: AAGR is average annual growth rate

The City adopted the population forecasts along with the housing needs analysis and related policies in 2011. The City makes the following findings about the population forecast:

1. The population forecast is a coordinated forecast. The City provided notification to Lincoln County and its incorporated municipalities in January 2013 regarding coordination of the figures. This notification is consistent with the consultation requirements of ORS 195.034(3)(a).
2. The City intends to complete work on the UGB proposal in 2013. As such, the required planning period is 2013-2033. The City extrapolated the coordinated population forecast for the 2013-2033 period to be consistent with OAR 660-024-0040(2)(a).
3. The City constructed the water storage, treatment and distribution to serve current and future Newport residents and businesses. The development of the facilities is based on existing population and expected population growth consistent with Goal 11 requirements.

6.3.1.2 Goal 14 Need Factor 2

Goal 14 Need Factor 2 addresses specific types of land need. For this proposal, the City intends to meet the demonstrated need for **public facilities, parks and open space**. The proposal to meet specific types of land need is allowable under OAR 660-024-0040(3):

“A local government may review and amend the UGB in consideration of one category of land need (for example, housing need) without a simultaneous review and amendment in consideration of other categories of land need (for example, employment need).”

6.3.1.2.1 Need for Water Storage and Treatment Facilities

The public facility need derive from the following factors:

- A. The existing water storage and treatment facilities, as well as supporting infrastructure such as roads and the municipal watershed, constitute a public facility under Goal 11 and OAR 660-011-0005(7)(a). The City initiated development of the Newport water storage facilities on Big Creek in the 1950s. The lands used for the Newport water storage and treatment facilities, including the roads have been committed to urban public facility uses since their development. As urban facilities, these lands should be included within the Newport UGB.
- B. The water storage facilities present a threat to life and property in the event of a Yaquina Fault or Cascadia subduction zone earthquake. Earthquakes are one type of natural hazard that is required to be inventoried by Statewide Planning Goal 7. The City's proposal to include the lands in the UGB and rebuild the reservoirs derives from requirements by Statewide Planning Goals 7 and 11.
- C. Statewide Planning Goal 11 and OAR 660-006-0020 through 0030 require municipalities to: (1) address public facilities in local comprehensive land use plans, and (2) adopt functional plans for public facilities. Chapter 5 of the *Newport Comprehensive Plan* addresses public facilities. Moreover, the Public Facilities Element specifically recognizes the structural deficiencies of the water storage facilities and includes policies and implementation measures to address them:

Policy 4: *The city will acquire lands within the Upper Big Creek municipal watershed when available or necessary to protect water quality or improve its water system.*

Policy 5: *The city will reconstruct its municipal raw water storage and distribution facilities to address identified structural deficiencies to Big Creek Dam #1 and Big Creek Dam #2.*

Implementation Measure 1: *The city shall conduct necessary and appropriate engineering studies to determine the safest and most cost-effective approach to ensure the integrity of the municipal water supply. The studies shall identify the cost and timing of needed capital projects to address identified structural deficiencies and comply with Policy 2 of this section.*

Implementation Measure 2: *The city shall explore financing mechanisms, and prepare a financing plan to fund construction needed to resolve the structural deficiencies by 2030.*

Implementation Measure 3: *The city shall use data and findings from Implementation Measures 1 and 2 of this section to update the Water Supply section of*

the Public Facilities element of the Newport Comprehensive Plan to reflect new information as a result of the engineering and finance studies.

The policies and implementation measures clearly articulate the City's approach to addressing the facilities. While the current *Water System Master Plan* does not include specific analysis of how the City will address the problems, Implementation Measure 3 describes how the City will use information from the ongoing seismic assessment to update the *Water System Master Plan*. Because the deficiencies came to light in 2012, the City has not had the opportunity to conduct the studies necessary to update the *Water System Master Plan*.

- D. Planning to address the structural deficiencies is part of the City's effort to address Goal 7 (Natural Hazards) requirements. Section A.1 of Goal 7 states:

Local governments shall adopt comprehensive plans (inventories, policies and implementing measures) to reduce risk to people and property from natural hazards.

The City adopted specific policies and implementation measures into the *Newport Comprehensive Plan* that recognize the risks associated with the facilities and outline specific studies and steps the City will take to mitigate the risks. Those policies require the City to conduct appropriate studies related to reconstruction of the facilities, to update the *Water System Master Plan* based on the findings, and to identify funding sources to pay for the improvements (see policies under item C above).

- E. The land for the water storage and treatment facilities, as well as the supporting infrastructure such as roads, is already committed to uses inconsistent with the County T-C zone. A goal exception under the "committed" provision of Statewide Planning Goal 2 can be justified on this basis.
- F. Given the level of public investment involved (probably in the millions of dollars or \$10's of millions), the City desires control over the construction process. Any permitting delays could be extremely costly to the City.
- G. City finds that the current pathway to developing the facilities presents barriers that create unacceptable uncertainties that could quickly become insurmountable. It is worth reiterating that rebuilding the water storage facilities to current seismic standards will likely require hundreds of thousands of dollars of engineering and millions of dollars of construction expense. An alternative path suggested by the state Department of Land Conservation and Development (DLCD) would require the City to maintain its water facilities under Lincoln County's jurisdiction. This would require the City to apply for a conditional use permit through Lincoln County. Not only is this an inefficient

way to provide public facilities, but we include specific sections of the county code below and then provide comments on how those provisions create uncertainties that could become insurmountable.

The specific process for Conditional Uses is found in sections 1.1601 through 1.1630 of the Lincoln County Code. The excerpts below are from Sections 1.1605.

(2) In approving a conditional use request or the modification of a conditional use, the Planning Division or Planning Commission may impose, in addition to those standards and requirements expressly specified by this Section, additional conditions which are considered necessary to protect the best interests of the surrounding area or the County as a whole. These conditions may include, but are not limited to the following:

- (a) Increasing the required lot size or yard dimensions.*
- (b) Limiting the height of buildings.*
- (c) Controlling the location and number of vehicle access points.*
- (d) Increasing the street width.*
- (e) Increasing the number of required off-street parking spaces.*
- (f) Limiting the number, size, location, and lighting of signs.*
- (g) Requiring fencing, screening, landscaping, diking, or other facilities to protect adjacent or nearby property.*
- (h) Designating sites for open space.*
- (i) Setting a time limit for which the conditional use is approved.*
- (j) Site reclamation upon discontinuance of use.*

(3) In the case of a use existing prior to February 12, 1974, and classified in this chapter as a conditional use or a non-conforming use, change in use or in lot area or an alteration of structure shall conform with the requirements for conditional use.

(4) The Planning Commission may require or authorize the Planning Division to require that the applicant for a conditional use furnish the County with a performance bond of up to the value of the cost of the improvements to be guaranteed by such bond, in order to ensure that the conditional use is completed according to the plans as approved by the Planning Commission or the Planning Department.

(5) Any permit granted hereunder shall be subject to revocation by the Planning Commission if it is ascertained thereby that the application includes or included any false information, or if it is determined that the conditions of approval have not been complied with or are not being maintained, or the conditional use becomes detrimental to public health, safety, or welfare.

Of particular concern to the City are the conditions that the County could impose on the engineering and construction of the facilities, on the length of use, the potential to require a performance bond, and the ability to revoke the permit. Moreover, standards of approval are outlined in section 1.1630 and 1.375 of the Lincoln County. These standards are highly discretionary and, aside from imposing county control over the City's facility work, the standards provide the opportunity for appeal to LUBA and beyond.

Sections 1.1375(3) of the Lincoln County Development Codes states:

(3) Limitations on Conditional Uses:

The Planning Director or Commission shall determine whether a use other than a dwelling authorized by subsection (2) of this section meets the following requirements. These requirements are designed to make the use compatible with forest operations and agriculture, and to conserve values found on forest lands:

(a) The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;

(b) The proposed use will not significantly increase fire hazard, significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel; and

(c) A written statement recorded with the deed or written contract with the county or its equivalent is obtained from the land owner which recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and paragraphs (e), (l), (r), (s) and (v) of subsection (2) of this section.

The first two standards are highly discretionary, which introduces uncertainty into the process in terms of potential impacts to the design, engineering and construction of the facilities. Further the risk of appeal makes it difficult to hold to a schedule, which for a project of this scale could result in substantial cost overruns that a jurisdiction of our size could not weather. Change and delay in the construction plans for needed public facilities can be catastrophic. Goal 14 does not support an arrangement that keeps needed urban facilities outside of City jurisdiction.

In summary, the City's finds that the potential for restrictive conditions and the uncertainties created through the public process of a conditional use permit are unacceptable and potentially insurmountable in terms of the efficient provision of public facilities to Newport's citizens, as mandated by Goals 11 and 14.

6.3.1.2.2 Need for Regional Park

The Parks and Recreation Element of the *Newport Comprehensive Plan* includes a capital improvement program (CIP) for recreational facilities. Table 1 on page 194 specifically identifies the need for a regional park and improvements at the Big Creek Reservoir site. Priority #4 is for the Big Creek Reservoir Trail development and priority #7 is for Big Creek Park upgrade and expansion.² The CIP includes cost estimates and identifies potential funding sources (see Attachment D).

The park need is also justified by the 1993 Newport Park System Master Plan. The Plan identifies the City-owned reservoir site (535 acres) as "other city lands" on page III-5. The Plan establishes a level-of-service standard for regional parks of 6.0 acres per 1,000 persons and identifies a need for 75 acres. The Plan also identifies the reservoir site as a potential site to meet the need (under the comments section on page V-8; see attachment D):

The recommended standard of 6.0 acres per 1,000 population means that by the near 2010, there will be a need for approximately 75 acres of land. This additional need could be satisfied by developing a portion of the land around the reservoir into a regional park.

Moreover, a conceptual plan for the regional park is included on page VII-12 of the Port System Master Plan (see attachment D). The City proposes to include restrooms that are connected to the municipal wastewater treatment system and potentially other uses that are not allowed in forest zones.

6.3.2 Goal 14 Boundary Location Analysis

Several statewide policies relate to the boundary location analysis. These include ORS 197.298 which establishes a priority scheme for lands included in UGBs, OAR 660-024-0060 which defines the requirement elements of a boundary "alternatives analysis," and the four Goal 14 locational factors. Additionally, the Goal 2 requirements for justifying exceptions to forest uses come into play, as well as the provisions of OAR 660-006 that relate to forest zone exceptions.

This section addresses the requirements of ORS 197.298, OAR 660-024-0050 and OAR 660-024-0060. Specifically, the boundary alternatives analysis and supporting findings must:

1. Demonstrate that the land needs cannot be met within the existing Newport UGB;
2. Demonstrate that the needs cannot be met on exceptions lands; and

² The Newport Parks System Master Plan indicates the current Big Creek Park facility has an area of approximately 2.5 acres.

3. Demonstrate that the needs cannot be met on sites on forest land that has a lower productivity classification than the existing reservoir site.

Once the City makes those determinations, it will need to conduct a more detailed analysis of the four Goal 14 boundary location factors.

The remainder of this section is organized as follows:

B.1 – Site Suitability Requirements

B.2 – Boundary Location Analysis/ Alternatives Analysis

Finding: Satisfied. Sections 6.3.2.1 and 6.3.3 address site suitability requirements and the alternatives analysis as required by ORS 197.298 and OAR 660-024-0050 and OAR 660-024-0060.

6.3.2.1 Site Suitability Requirements

The identified land needs have specific siting characteristics. In other words, the proposed water storage and treatment facilities and regional park cannot be met on every land type—the facilities have specific land suitability characteristics. As explained in OAR 660-024-0060(5) related to need determination:

“If a local government has specified characteristics such as parcel size, topography, or proximity that are necessary for land to be suitable for an identified need, the local government may limit its consideration to land that has the specified characteristics when it conducts the boundary location alternatives analysis and applies ORS 197.298.”

Moreover, the ORS 197.298(3)(a) recognizes that certain land uses may have specific site needs:

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

The following sections describe the site requirements for the proposed water storage and treatment facilities and the regional park.

6.3.2.1.1 Site Requirements for Water Storage and Treatment Facilities

If the local government identifies specific characteristics that are necessary to meet the identified need, OAR 660-024-0060(1)(e) requires the government to consider these suitability characteristics when evaluating and determining the alternative boundary location.

(1) When considering a UGB amendment, a local government must determine which land to add by evaluating alternative boundary locations. This determination must be consistent with the priority of land specified in ORS 197.298 and the boundary location factors of Goal 14, as follows:

(e) For purposes of this rule, the determination of suitable land to accommodate land needs must include consideration of any suitability characteristics specified under section (5) of this rule, as well as other provisions of law applicable in determining whether land is buildable or suitable.

The current sources of Newport's municipal water system are Blattner Creek, Big Cree, and the Siletz River. During the winter, water from these sources flows into and is stored in the Big Creek Reservoir #1 and #2. Newport's peak water usage occurs in the summer months, when the City draws water from the Siletz River and from Big Creek.³

This proposal involves identifying areas appropriate for City water storage facilities, including a buffer to maintain water quality. The characteristics of suitable land for water storage facilities are:

1. **Water treatment capacity.** The site must be located within a watershed with enough capacity to supply Newport with drinking water. The 2008 *Water System Master Plan* summarized water demand as follows:

Total annual demand has ranged from 776 to 795 million gallons with an average (AAD) of 785 million gallons. Peaks occur in the summer (June, July, August) as is typical for most communities. Maximum month flows ranged from 100 to 117 million gallons per month, always in July, resulting in a MMD range of 3.2 to 3.9 mgd. The average daily demand (ADD) for the period is 2.15 mgd.

Based on the forecast for population growth in Newport, peak demand for water is expected to increase, as summarized below.⁴

With the projected increase in system EDUs from the current 11,270 to a total of 15,970 EDU in the year 2030 the maximum day water demand is projected to increase to 5.8 MGD from the current 4.1 MGD. This becomes the primary planning demand for this Master Plan (20 year MDD).

In summary, Newport requires a watershed with the ability to provide the quantity of water identified in the *Water System Master Plan*.

2. **Water quality.** The site should be located within a watershed with relatively high quality water, so that water requires less treatment. Newport's raw water requires treatment for pH, disinfection (adding chlorine), iron and manganese,

³ *City of Newport Water System Master Plan (2008)*

⁴ *City of Newport Water System Master Plan (2008)*

and taste and odor (especially in the summer). The site should be located in a watershed with similar or higher water quality than the City's current facilities have.

3. **Water storage capacity.** The site should have enough water storage capacity to at least meet Newport's peak summer water demand. Current demand in summer is approximately 6.0 cubic feet per second (cfs). Based on the forecast for population growth in Newport, peak demand for water is expected to increase from 4.1 mgd to 5.8 mgd by 2030.⁵
4. **Size and configuration.** The site should be large enough to accommodate one or more reservoirs capable of holding 1,000 + acre-feet of water. Depending on topography, a 1,000 acre-foot reservoir would have a surface area of 100 to 150 acres. The configuration and topology of the site should be appropriate for storing water to maintain high quality of water. Water stored in a shallow reservoir may have lower water quality because of increased turbidity, higher water temperatures, and growth of weeds and other plants.
5. **Buffer.** The site should include a buffer of approximately 1,000 feet around the City's storage reservoir to preserve water quality. The analysis in Section A.2.2 summarizes the justification for a watershed buffer.
6. **Proximity and access to facilities.** The site should be located in a place reasonably close to and existing City water system facilities, specifically existing storage for raw water and the water treatment plant. The site should have access to the City water system facilities, if possible through the existing pipe network.

The City has made a considerable public investment in the existing water storage and treatment facilities. If the City moves raw water storage and treatment from the existing site, the City will need to entirely replace these facilities. The cost of replacing the City's two reservoirs, intake from the Siletz River, water treatment plant, and other water facilities would cost millions or tens of millions of dollars.

7. **City ownership.** The proposed uses are public in nature and cannot be accommodated on privately held lands. The City would be required to condemn lands that are directly affected by development of public facilities.

Preliminary Suitability Analysis: According to the Newport Water Supply Master Plan, the City of Newport holds seven water use permits allowing for a total of 19.24 cfs

⁵ *City of Newport Water System Master Plan (2008)*

from various streams (Table 2). Map 2 illustrates the location of the various water rights held by Newport and the approximate location of their points of diversion.

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Map 2. City of Newport Water Rights

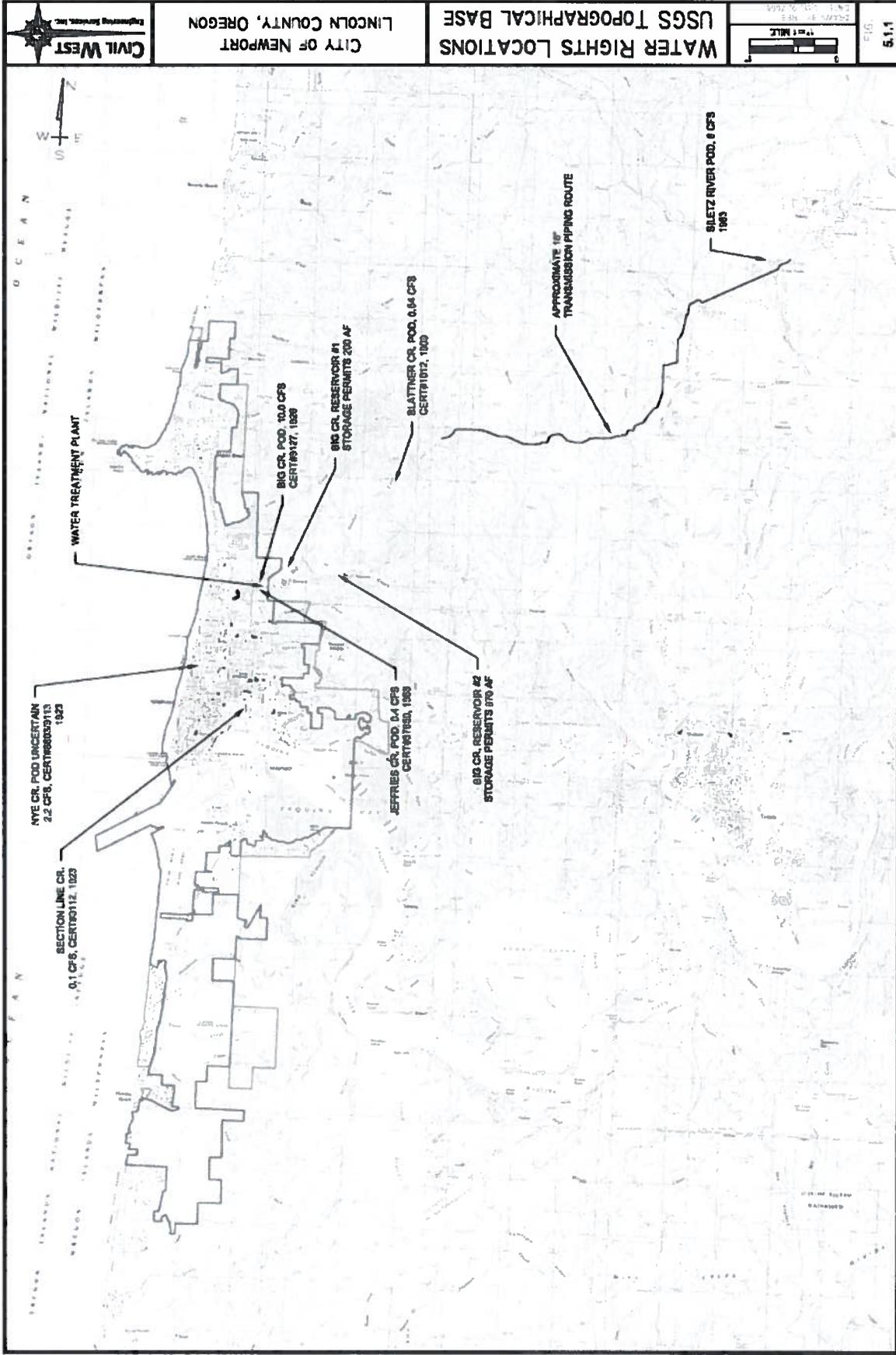


Table 2. Newport Water Rights Summary

Source Name	Application	Permit	Certificate	Priority Date	POD Rate (cfs)
Blattner Creek	S72	S20	1012	5/10/1909	0.54
Nye Creek	S8970	S5882	8603	5/14/1923	1.5
Nye Creek	S9224	S6197	9113	10/15/1923	0.7
Hurbert Creek	S9221	S6194	9112	10/15/1923	0.1
Big Creek	S11156	S7722	9127	10/27/1926	10.0
Siletz River	S39121	S29213	~	9/24/1963	6.0
Jeffries Creek	S44381	S33151	57650	1/9/1968	0.4
					19.24

Storage	Application	Permit	Certificate	Priority Date	Storage (acre-feet)
Big Creek Res. #1	S26388	S20703	21357	8/31/1951	200
Big Creek Res. #2	S43413	S33127	48628	3/24/1967	310
Big Creek Res. #2	S43413	S33127	48628	6/5/1968	35
Big Creek Res. #2	S52204	S38220	~	7/19/1974	625

Source: Table 5.1.1 Newport Water System Master Plan, Page 5-1.

The Newport Water System Master Plan summarizes the status of City water rights as follows (Page 5-1):

Currently, the City can only utilize the Blattner Creek, Siletz River, and Big Creek water rights. The Nye Creek and Hurbert Creek rights from 1923 are no longer in use and cannot be practically implemented due to their distance from the treatment plant and nature of development. In the past the City has set up pumping and diversion equipment to divert part or all of their Jeffries Creek water right but has not done so for several years.

Storage rights are held for two reservoirs on Big Creek upstream from the water treatment plant. The Blattner Creek water right flows into Big Creek Reservoir #2 (upper reservoir) by gravity. The Siletz right is diverted and pumped into the Big Creek Reservoir #2 through over 5 miles of piping. Water from the upper Reservoir #2 flows into the lower Reservoir #1 where the Big Creek Pump Station is located to pump all available water rights to the treatment plant.

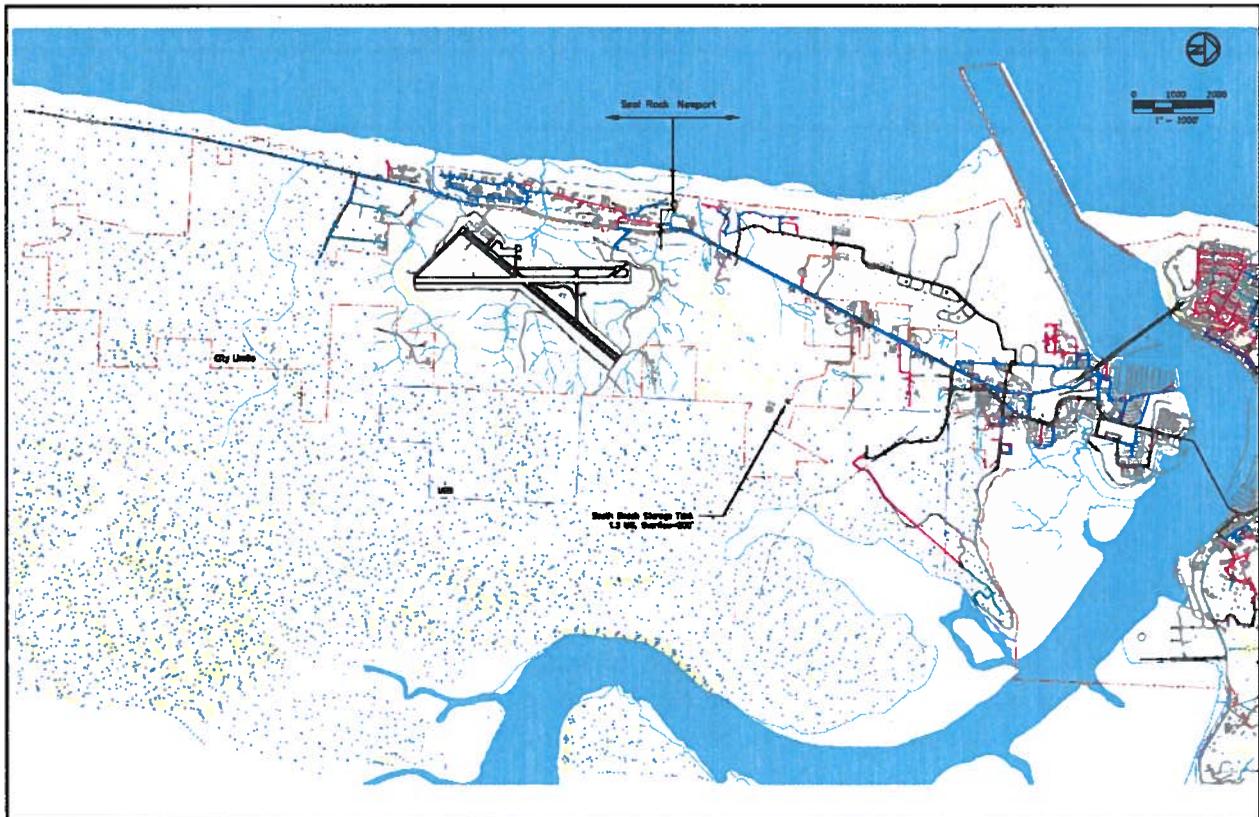
During the heart of the summer months, the only water right that is currently capable of providing the City with a supply of raw water is the 6.0 cfs right on the Siletz River due to inadequate flows in Big Creek and Blattner Creek. System demand in excess of 6.0 cfs is met at these times through the use of water in the Reservoir's which was stored during previous wetter months.

Map 2 shows that all of the City water rights are in drainages north of the Yaquina River. The City has made significant investment in the acquisition of water rights as well as the water storage, treatment and delivery systems. Map 3 shows existing water

distribution infrastructure south of Yaquina Bay. The City has limited infrastructure available, and has yet to provide service to areas south of the Newport Airport, including the Wolf Tree Destination Resort area.

As a result, the City finds all areas south of Yaquina Bay unsuitable for the purpose of constructing water storage facilities with the capacity of approximately 1,000 acre-feet.

Map 3. Water Distribution Infrastructure South of Yaquina Bay



Source: City of Newport Water System Master Plan

The remainder of this analysis will focus on areas north of Yaquina Bay. Map 4 shows the watersheds that will be further evaluated in the alternatives analysis (streams highlighted in light blue). These include (from north to south):

- Johnson Creek
- Spencer Creek
- Wade Creek
- Coal Creek
- Moolack Creek
- Schooner Creek
- Little Creek

- Big Creek (including tributaries – Blattner Creek, Anderson Creek, and Jefferies Creek)
- Nye Creek

6.3.2.1.2 Site characteristics of land for parks

Newport's adopted *Park System Master Plan* documents the need for regional parks to serve residents of the City and beyond. The *Park System Master Plan* concludes that the appropriate level of service standard for Newport for regional parks is 6.0 acres per 1,000 people and that Newport has a deficit of approximately 75 acres of land for a regional park.

The characteristics of suitable land for a regional park are:

1. **Size.** The park should be approximately 75 acres in size.
2. **Location.** The park should be located adjacent to or within the City's UGB and city limits. The City's adopted *Park System Master Plan* proposed locating the regional park at Big Creek Reservoir in several small activity nodes along the Reservoir. The City's adopted *Capital Improvement Plan for Park, Open Space, and Trail Development* identified two priority projects at Big Creek Reservoir: (1) trail development and (2) park upgrade and expansion.
3. **Water and wastewater access.** The City will only be able to provide water and wastewater services to portions of the park located within the UGB, without a Goal 11 exception. If the regional park is located at Big Creek Reservoir, the park will need access to Newport's water and wastewater services, to avoid disrupting or polluting the Big Creek Reservoirs.
4. **Transportation access.** The park should be accessible via an improved road, suitable for use by passenger cars and city parks maintenance vehicles.
5. **Recreational facilities.** The park should be able to accommodate a range of activities and have sufficient facilities to facilitate these activities. Possible facilities for a regional park could include: paved and unpaved trails, fishing dock and piers, group picnic areas and shelters, parking areas, restroom facilities, and open grass play areas.
6. **City ownership.** The proposed uses are public in nature and cannot be accommodated on privately held lands. The City would be required to condemn lands that are directly affected by development of public facilities.

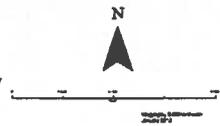
Map 4. Watersheds North of Yaquina Bay Considered as part of the Alternatives Analysis



Newport Water Storage Facilities Proposed UGB Expansion

Streams Included in UGB Alternatives Analysis

- Legend**
- Streams over 10 cfs
 - Streams between 2 and 10 cfs
 - Streams
 - Newport City Limit
 - UGB
 - Exception Area
 - Big Creek Watershed Boundary
 - Proposed UGB



Preliminary Park Site Suitability Evaluation: The City finds areas south of Yaquina Bay unsuitable for a regional park based on criteria 2, 3, 5, and six as follows:

Siting Criteria	Evaluation
1. Size. The park should be approximately 75 acres in size.	Sites of 75 acres exist south of Yaquina Bay.
2. Location. The park should be located adjacent to or within the City's UGB and city limits. The City's adopted <i>Park System Master Plan</i> proposed locating the regional park at Big Creek Reservoir in several small activity nodes along the Reservoir.	Based on the adopted parks system master plan and the comprehensive plan, the City has determined that areas near Big Creek Reservoir are best suited for the facilities. Other locations are possible, but less desirable.
3. Water and wastewater access. The City will only be able to provide water and wastewater services to portions of the park located within the UGB, without a Goal 11 exception. If the regional park is located at Big Creek Reservoir, the park will need access to Newport's water and wastewater services, to avoid disrupting or polluting the Big Creek Reservoirs.	Larger areas south of Yaquina Bay are designated for industrial, airport or destination resort uses. The parks master plan does not identify a need for a regional park in these areas. Moreover, areas south of the Airport do not have water or wastewater service.
4. Transportation access. The park should be accessible via an improved road, suitable for use by passenger cars and city parks maintenance vehicles.	Transportation access could be provided to sites south of Yaquina Bay.
5. Recreational facilities. The park should be able to accommodate a range of activities and have sufficient facilities to facilitate these activities. Possible facilities for a regional park could include: paved and unpaved trails, fishing dock and piers, group picnic areas and shelters, parking areas, restroom facilities, and open grass play areas.	The master plan identifies facilities that are conducive to freshwater based recreation. No significant fresh water bodies (e.g. lakes or reservoirs) exist south of Yaquina Bay.
6. City ownership. The proposed uses are public in nature and cannot be accommodated on privately held lands. The City would be required to condemn lands that are directly affected by development of public facilities.	The only area of 75 acres or larger in City ownership is the Newport Airport. Recreational facilities are incompatible with this use.

6.3.3 Boundary Location Analysis/Alternatives Analysis

ORS 197.298 establishes the following priorities for inclusion of land within an expanded UGB:

(1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).

(d) If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands.

Note that Newport has not established urban reserve areas and therefore has no priority 1 land to review. Lincoln County is not a marginal land county, therefore no priority 3 lands exist.

6.3.3.1 Evaluation of Lands within the UGB

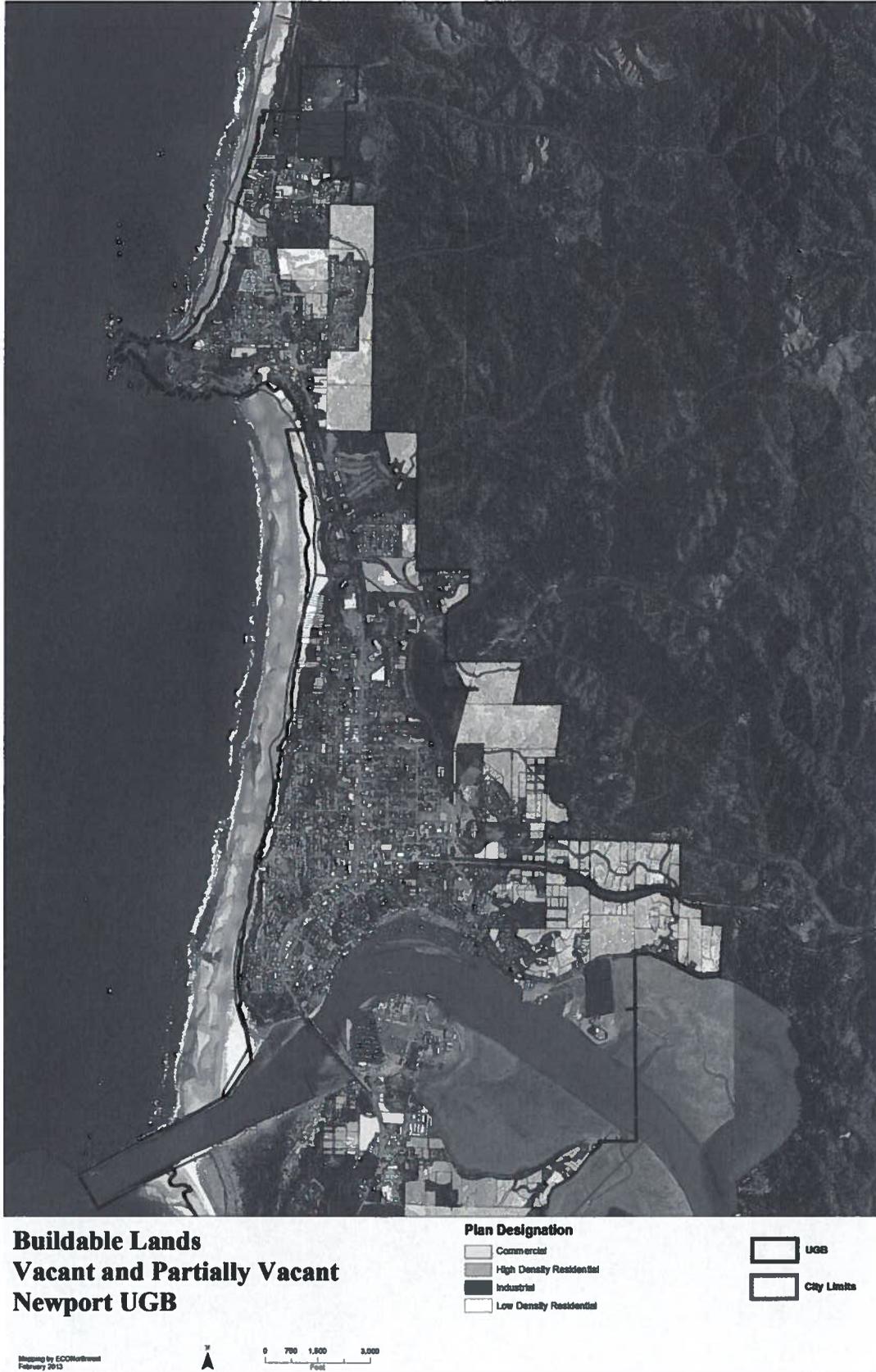
The City conducted buildable lands inventories of the entire UGB as part of the 2011 Housing Needs study and the 2012 Economic Opportunities Assessment. A cursory review of the inventory suggests that no areas are suitable for the proposed uses based on the site suitability criteria.

Map 2 shows buildable lands within the Newport UGB. The data are derived from the 2011 Newport Housing Study (residential land) and the 2012 Newport Economic Opportunities Analysis (employment land). As shown on map 2, the only area within the Newport UGB that includes a watershed of sufficient size to meet Newport's domestic water supply needs is the southernmost area of the UGB known as the Wolf Tree destination resort site.

6.3.3.1.1 Water Storage and Treatment Facilities

Section 6.2.3.1.1 describes the site suitability characteristics for the water storage facilities. Section 6.2.3.1.1 also presents findings that conclude areas south of Yaquina Bay are unsuitable for the water storage facilities. Thus, land within the northern portions of the UGB are further evaluated against the suitability criteria. Map 5 shows the location of buildable land within the Newport UGB. It also shows the location of streams that are adjacent to, or run through the city.

Map 5. Buildable Lands Within the Newport UGB



The City finds vacant and partially vacant lands within the Newport UGB are not suitable for the water storage facilities based on the site requirements outlined in section 6.3.2.1.1. The City makes the following findings with respect to suitability.

Criteria	Evaluation
1. Water treatment capacity	No watersheds or waterways within the UGB meet the capacity requirements. None are large enough to meet the city's water treatment capacity. Moreover, the City does not have water rights that provide the required capacity outside of Big Creek. The City requires 6 cfs to meet current demand.
2. Water quality	Other waterways within the UGB could meet the water quality standard. The City would need to conduct water quality evaluations to make this determination.
3. Water storage capacity	Map 2 shows that Jefferies Creek is the only other waterway that has vacant land (0.4 cfs).
4. Size and configuration	No other areas could accommodate a 100- to 150-acre surface area for a reservoir.
5. Buffer	No watersheds within the UGB could provide the 1,000 foot buffer recommended by DEQ and OHD.
6. Proximity and access to facilities	No other watersheds have access to the existing water storage and treatment infrastructure.
7. City ownership	No other watersheds have the level of City ownership necessary to construct the facilities. Acquiring lands would require complex real estate negotiations, or condemnation.

Moreover, the City finds that the following watersheds do not meet the siting criteria for water storage and treatment facilities:

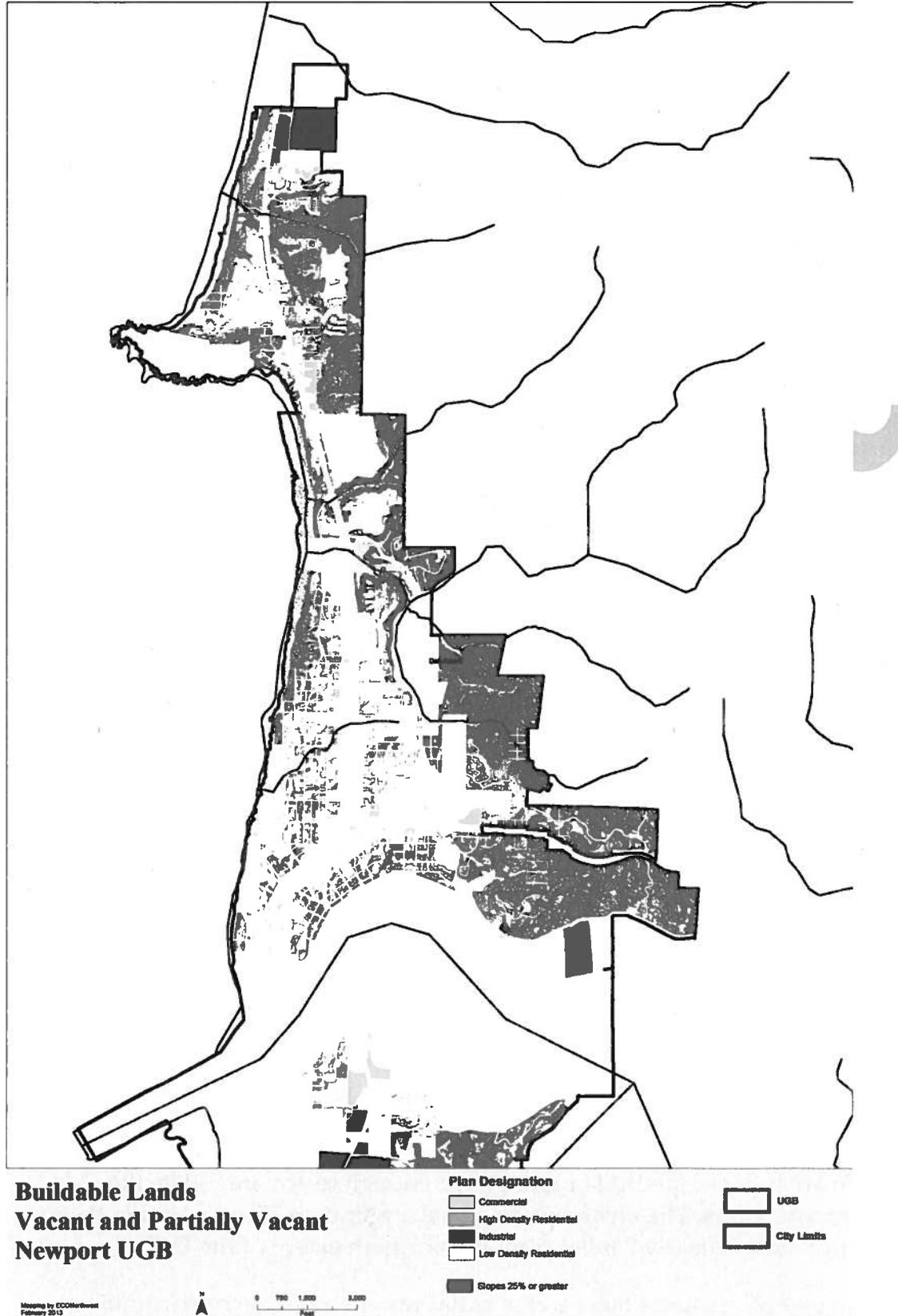
- Nye Creek - does not have the discharge capacity or enough buildable area for the facilities.
- Schooner Creek - does not have the discharge capacity or enough buildable area for the facilities.
- Jefferies Creek - does not have the discharge capacity or enough buildable area for the facilities.
- Little Creek - does not have the discharge capacity or enough buildable area for the facilities.

6.3.3.1.2 Regional Park Facilities

Preliminary Park Site Suitability Evaluation: The City finds vacant areas within the UGB unsuitable for a regional park based on criteria 2, 5, and 6 as follows:

Siting Criteria	Evaluation
1. Size. The park should be approximately 75 acres in size.	Sites of 75 acres exist north of Yaquina Bay within the UGB.
2. Location. The park should be located adjacent to or within the City's UGB and city limits. The City's adopted <i>Park System Master Plan</i> proposed locating the regional park at Big Creek Reservoir in several small activity nodes along the Reservoir.	Based on the adopted parks system master plan and the comprehensive plan, the City has determined that areas near Big Creek Reservoir are best suited for the facilities. Other locations are possible, but less desirable. Map 6 shows that virtually all of the undeveloped land within the UGB is slope constrained (significant areas with slopes of 25% or greater).
3. Water and wastewater access. The City will only be able to provide water and wastewater services to portions of the park located within the UGB, without a Goal 11 exception. If the regional park is located at Big Creek Reservoir, the park will need access to Newport's water and wastewater services, to avoid disrupting or polluting the Big Creek Reservoirs.	Vacant areas can be serviced with water and wastewater, however, slope constraints will add considerable cost.
4. Transportation access. The park should be accessible via an improved road, suitable for use by passenger cars and city parks maintenance vehicles.	Transportation access could be provided to sites north of Yaquina Bay.
5. Recreational facilities. The park should be able to accommodate a range of activities and have sufficient facilities to facilitate these activities. Possible facilities for a regional park could include: paved and unpaved trails, fishing dock and piers, group picnic areas and shelters, parking areas, restroom facilities, and open grass play areas.	The master plan identifies facilities that are conducive to freshwater based recreation. No significant fresh water bodies (e.g. lakes or reservoirs) exist on vacant sites in the UGB north of Yaquina Bay.
6. City ownership. The proposed uses are public in nature and cannot be accommodated on privately held lands. The City would be required to condemn lands that are directly affected by development of public facilities.	No city-owned sites of 75 acres or larger exist within the UGB north of Yaquina Bay.

Map 6. Buildable Lands North of Yaquina Bay with Slopes 25% or Greater



6.3.3.2 Evaluation of Exceptions Areas

The City has no priority 1 lands (Urban Reserves). Thus, the next priority is exceptions areas. Map 4 shows the location of exceptions areas near the Newport UGB north of Yaquina Bay. Map 3 shows that exceptions areas are generally clustered adjacent to the Newport UGB or along the coast north of the UGB.

6.3.3.2.1 Water Storage and Treatment Facilities

The City finds exceptions areas are unsuitable for the water storage facilities for the following reasons:

- A. No areas of exceptions lands are large enough to accommodate the proposed uses.
- B. Exceptions areas typically have pre-existing development (hence the rationale for them being granted an "exception" from resource land goals). The siting requirements and City objectives related to the public facilities make exceptions areas inappropriate. The City does not desire additional development in the watershed and lands with pre-existing development would require the City to condemn them for public uses.
- C. The City finds the following watersheds not suitable for the water storage and treatment facilities due to inadequate discharge (according to data provided the Oregon Department of Forestry, none of these watersheds has a discharge of greater than 10 cfs):
 - a. Johnson Creek
 - b. Wade Creek
 - c. Coal Creek
 - d. Moolack Creek

6.3.3.2.2 Regional Park Facilities

The City finds exceptions areas are unsuitable for the regional park facilities for the following reasons:

- A. No areas of exceptions lands are large enough to accommodate the proposed uses. The on exception parcel larger than 75 acres within the study area is nearly 2 miles from the northern extent of the UGB.
- B. No exceptions areas have access to flat water recreation opportunities.

- C. Exceptions areas typically have pre-existing development (hence the rationale for them being granted an "exception" from resource land goals).
- D. Exceptions areas are not appropriate for development of a regional park. Because of the proposed public uses, the City would be required to condemn the lands.

Thus, exceptions areas are not suitable because none meet siting criteria, 2, 3, 4, 5, or 6.

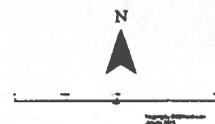
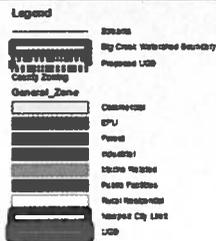
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Map 4. Exceptions areas near the Newport UGB



**Newport Water Storage Facilities
Proposed UGB Expansion**

County Zoning



6.3.3.3 Evaluation of Resource Areas

The analysis in Section 6.3.1 and 6.3.2 rules out meeting the identified land needs in existing exceptions areas. Therefore, the City has justification to evaluate resource lands. ORS 197.298(2) and (3) outlines the requirement for evaluation of resource lands:

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

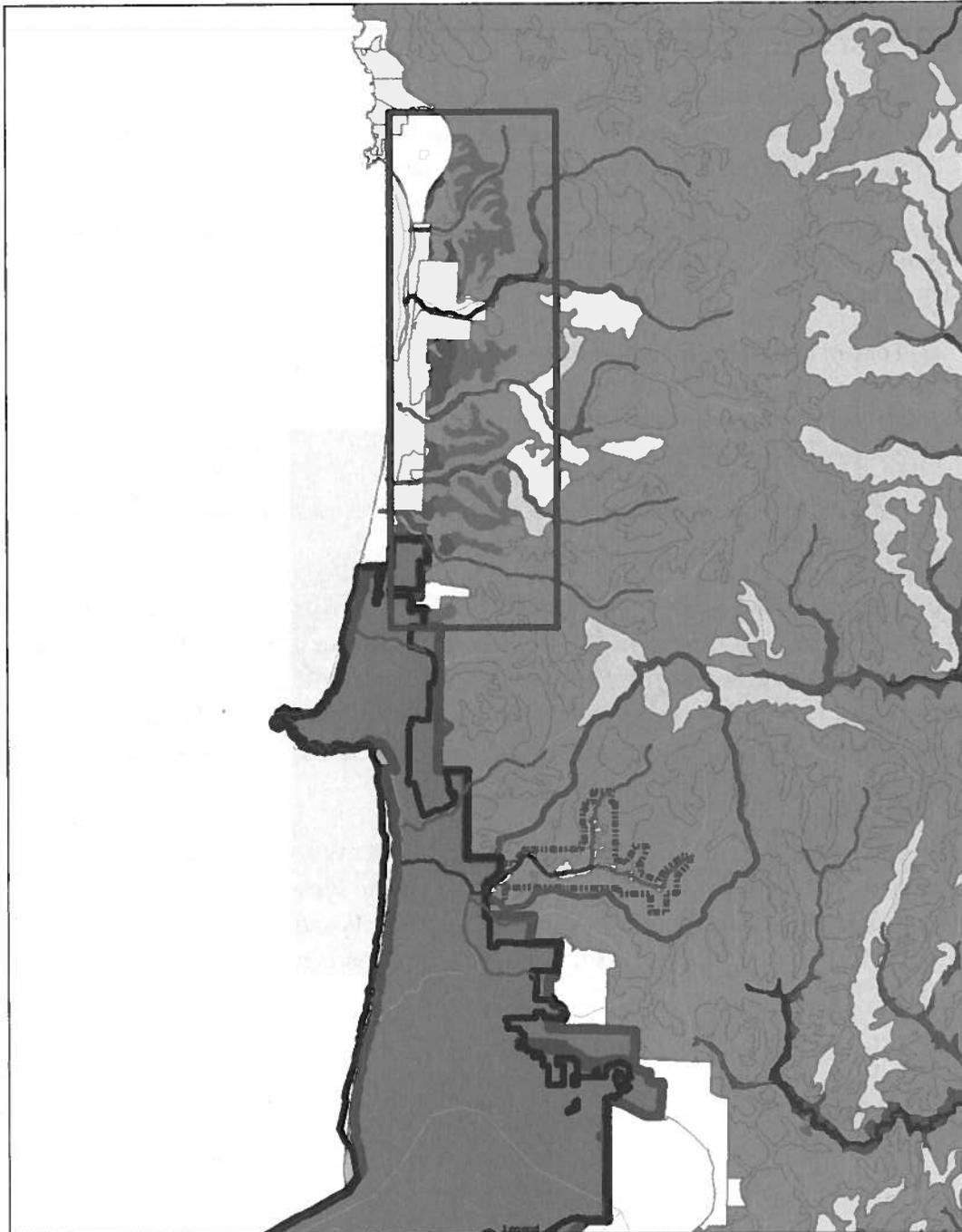
(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

As described in the preceding findings, ORS 197.298(3) provides the rationale for why the City must look at resource lands to meet the identified water storage and treatment needs. The next step is to review resource lands (all in Forest zones) adjacent to the Newport UGB based on capability classification or cubic foot site class. The City was unable to find a standardized data source for cubic foot site class, so it uses soil classification as a proxy for cubic foot site class.

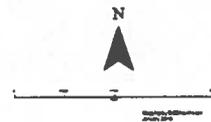
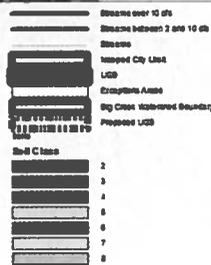
Map 5 shows soil classifications for areas adjacent to the Newport UGB north of Yaquina Bay. The soils map shows that most areas east of the Newport UGB have Class 6 or 7 soils. Areas north of the UGB have higher soil suitability classes – Class 2 and 3. Note that areas in yellow are exceptions areas where soil class is not relevant.

Map 5. Land by Soil Productivity Classification



**Newport Water Storage Facilities
Proposed UGB Expansion**

Soils Classifications



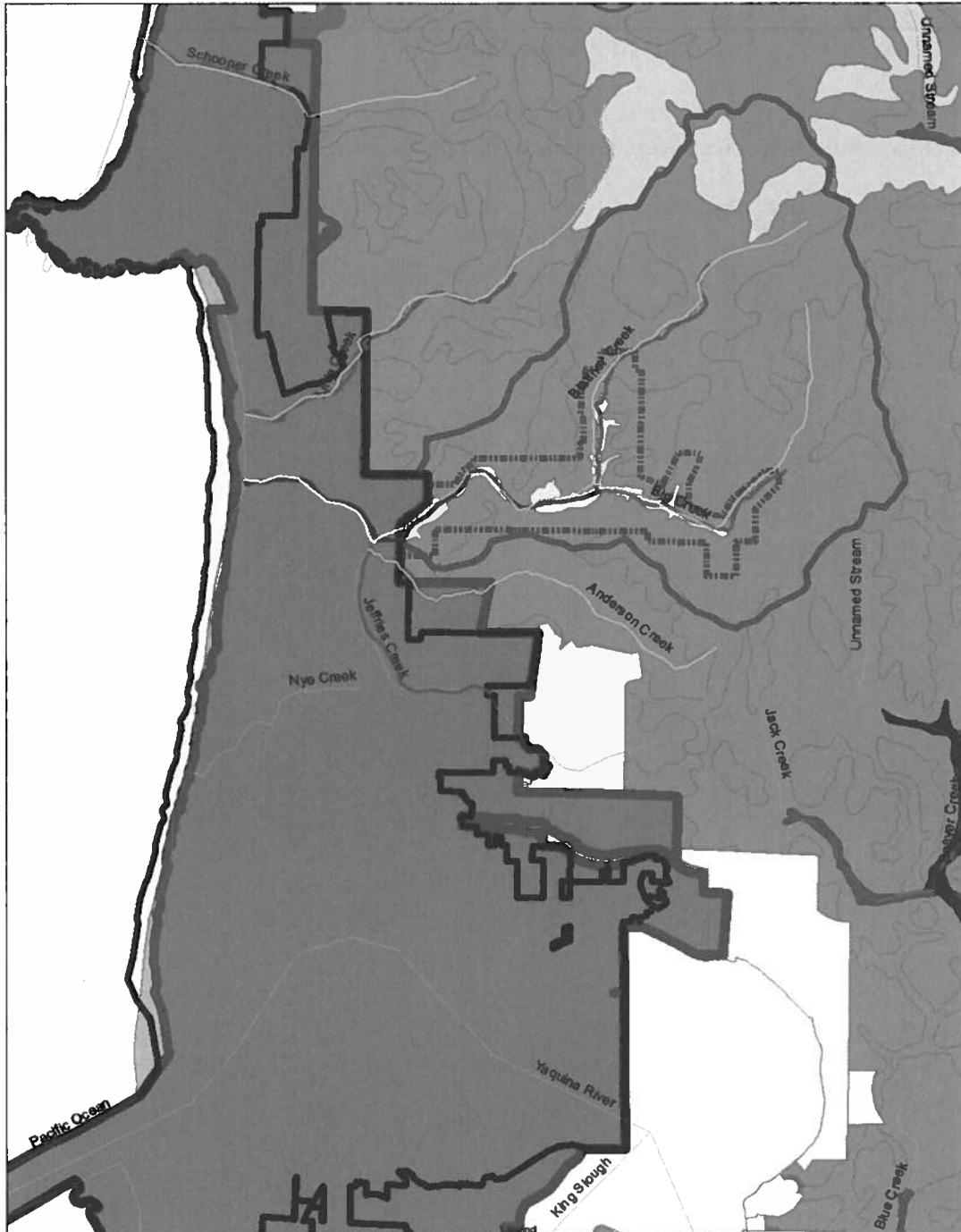
Based on soil classifications and the requirements of ORS 197.298(2), the City finds that areas north of the UGB are lower priority. The City eliminates these areas from further consideration (areas outlined in red on Map 5).

Map 6 shows the remaining areas that must be evaluated for suitability (the areas are highlighted in light blue). This includes the following watersheds:

- Blattner Creek/Big Creek

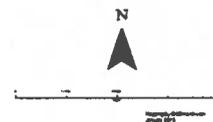
Nye Creek and Jefferies Creek were eliminated from further consideration in the evaluation of areas within the UGB and exceptions areas. Yaquina Bay is unsuitable due to saltwater.

Map 5. Land by Soil Productivity Classification



**Newport Water Storage Facilities
Proposed UGB Expansion**

Soils Classifications



6.3.4 Goal 14 Boundary Location Factors (factors 1-4)

Goal 14 establishes four boundary location factors that must be considered when reviewing alternative boundaries:

The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:

- (1) Efficient accommodation of identified land needs;*
- (2) Orderly and economic provision of public facilities and services;*
- (3) Comparative environmental, energy, economic and social consequences;
and*
- (4) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.*

The following sections provide a preliminary evaluation of the proposed lands.

Based on the preceding analysis, the Big Creek/Blattner Creek Watershed is the only watershed that is suitable for the water storage and treatment facilities and the proposed regional park. The following sections evaluate the proposed UGB expansion area (Map 1) against the four Goal 14 locational factors.

6.3.4.1 Goal 14 Location Factor 1: Efficient accommodation of identified land need

The proposed expansion provides the most efficient accommodation of the identified land need due to the existing public facilities. Moving the facilities would simply move the impact of the facilities from the existing location to a new location. Moreover, the existing and expanded Big Creek reservoirs are the only location that can provide the desired water-based recreational activities described in the Newport Parks System Master Plan.

6.3.4.2 Goal 14 Location Factor 2: Orderly and economic provision of public facilities and services

The proposed expansion provides the most orderly and economic provision of public facilities and services. The City has made considerable investment in land acquisition and development of public facilities in the Big Creek watershed for more than 50 years. Moving these facilities would be extremely costly to the City and would not provide any service improvements to Newport residents and workers. The proposed park facilities make appropriate use of the City's investments in dam and road infrastructure.

All other locations would require additional investments and would impact other resource lands unnecessarily.

6.3.4.3 Goal 14 Location Factor 3: Comparative environmental, energy, economic and social consequences

Locating the water storage and treatment facilities and the recreational facilities in another watershed would have larger negative impacts than the proposed expansion in the Big Creek watershed. Development of the facilities in a different watershed would have negative environmental consequences due to construction activity. Development of new facilities elsewhere would be more energy intensive than the current location, would be more costly, and would result in more substantial costs that Newport residents and businesses would have to bear.

6.3.4.4 Goal 14 Location Factor 4: Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

The reservoir and parkland uses do not create any inherent compatibility issues with nearby forest activities.

6.4 EXCEPTION TO STATEWIDE PLANNING GOAL 14 (URBANIZATION)

This section evaluates the proposed UGB expansion areas as an exception to Goal 14 as allowed by Goal 2 and OAR 660-024-0020(1).

6.4.1 Goal 2: Land Use Exceptions Process

Goal 2 requires all incorporated cities to establish and maintain comprehensive land use plans and implementing ordinances. It also requires cities to coordinate with other affected government entities in legislative land use processes. The purpose of Goal 2 is:

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Newport has an established land use process and policy framework. The applicable sections of that framework are addressed in this findings document. Goal 14 exempts UGB actions from the Goal 2 exception process. OAR 660-024-0020(1)(a) allows local governments to address exceptions as an alternative path:

(a) The exceptions process in Goal 2 and OAR chapter 660, division 4, is not applicable unless a local government chooses to take an exception to a particular goal requirement, for example, as provided in OAR 660-004-0010(1);

Because of the nature of this application, the City of Newport elected to address the Goal 2 exception criteria. Goal 2 identifies three potential avenues for a goal exception:

A local government may adopt an exception to a goal when:

(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;

(b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or

(c) The following standards are met:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

The proposal involves expanding the UGB to add the City water storage and treatment facilities (including supporting infrastructure such as roads), and approximately 75 acres for a public park. The proposal would designate the lands in the "Public" plan designation, and zone the land P-1 (Public Structures) – a zone that allow water utility infrastructure and public parks as an outright use. Because the existing County zoning on the land (TC – Timber/Commercial) adopted in accordance with Statewide Planning Goal does not allow these uses, the City must take an exception to Goal 4 (Forest Lands).

Goal 2 and ORS 197.732 establish the process for Goal exceptions. Goal 2 identifies three types of exceptions – each with a different standard. A "developed" exception occurs when a property is physically developed to the extent that it is no longer available for uses allowed by the applicable goal (Goal 4). Portions of the property – including land where public facilities exist as well as areas inundated by the reservoirs and lands for access roads qualify under this provision. Thus, the City provides findings in the following section that justify those lands under the exceptions provision (Goal 4 section 'a' above).

The lands proposed for the regional park are justifiable under the “reasons” exception as described in section ‘c’ of the Goal 2 exceptions process. To justify a reasons exception the City must establish reasons that justify why the state policy embodied in the applicable goal should not apply. The specific requirements are found in Oregon Administrative Rule (OAR) 660-014-0040, which requires analysis of Environmental, Social, Energy and Economic (ESEE) impacts of the proposal.

Goal 2 and ORS 197.732 establish the process for Goal exceptions. Goal 2 identifies three types of exceptions – each with a different standard. A “developed” exception occurs when a property is physically developed to the extent that it is no longer available for uses allowed by the applicable goal; Goal 4. Portions of the property – including land where public facilities exist as well as areas inundated by the reservoirs qualify under this provision. Thus, the city provides findings in the following section that justify those lands under the *exceptions* provision (Section ‘a’ above).

The remainder of the proposed lands are proposed for a *reasons* exception as described in section ‘c’ of the Goal 2 exceptions process. To justify a reasons exception the City must establish that reasons justify why the state policy embodied in the applicable goal should not apply. The specific requirements are found in Oregon Administrative Rule (OAR) 660-014-0040, which requires analysis of Environmental, Social, Energy and Economic (ESEE) impacts of the proposal.

6.4.2 Committed Lands

Finding: Lands within the reservoir inundation zones and used for existing public facilities can be considered “committed” under the Goal 2 (a) process. Reservoir #1 was constructed in the 1950s and Reservoir #2 was constructed in 1976. In short, these lands meet the definition of “committed” lands in Goal 2:

(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal;

6.4.3 Justification for a “Reasons” Exception for a Regional Park

This section provides a preliminary analysis to justify a “reasons” exception for the proposed regional park.

Standard (1): Reasons justify why the state policy embodied in the applicable goals should not apply

The City cites the following reasons to justify an exception to Statewide Planning Goal 4:

- A. The City has identified a need for a 75-acre regional park in the Big Creek watershed in both the City’s Comprehensive Land Use Plan as well as the City’s Park System Master Plan.

Standard (2): Areas which do not require a new exception cannot reasonably accommodate the use

See analysis in Section 6.3.3 above.

Standard (3): The long-term environmental, economic, social and energy consequences resulting from the use of the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site

Locating the facilities in another watershed would have larger negative impacts than the proposed expansion in the Big Creek watershed. Development of the facilities in a different watershed would have negative environmental consequences due to construction activity. Development of new facilities elsewhere would be: more energy intensive than the current location, would be more costly, and would result in more substantial costs that Newport residents and businesses would have to bear. In short, the proposed expansion is the best alternative for all criteria.

Standard (4): The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts

The Big Creek site proposed for the regional park intends to make use of opportunities for water-related recreation activities. The inclusion of the park in the UGB will allow the City to develop urban level facilities such as flush toilets connected to the municipal wastewater treatment facility that are necessary to mitigate potential water quality impacts. A municipal sewer connection is more desirable from a water quality protection perspective given that the facilities will be located near the City's domestic drinking water supply.

6.5 CITY OF NEWPORT CRITERIA

This section reviews the proposed UGB expansion against relevant City criteria. That includes criteria for major plan text or map amendments as described in Policy 4.5 of the Newport Comprehensive Plan:

5.) Findings shall address the following:

a.) Land Need: Establishment and change of urban growth boundaries shall be based on the following:

- 1.) Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and*
- 2.) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks and open space, or any combination of the need categories in this subsection;*

b.) Boundary Location: The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:

- 1.) Efficient accommodation of identified land needs;*
- 2.) Orderly and economic provision of public facilities and services;*
- 3.) Comparative environmental, energy, economic, and social consequences; and*
- 4.) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.*

c.) Statewide Planning Goal 2 exception criteria.

6.5.1 Criteria 4.5.a: Land Need: Establishment and change of urban growth boundaries shall be based on the following:

- 1. Demonstrated need to accommodate long range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and**
- 2.) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks and open space, or any combination of the need categories in this subsection;**

Finding: Satisfied. The analysis of Goal 14 need factors 1 and 2 in Section 6.3.1 of these findings clearly demonstrate the need for the facilities based on population trends and public facility demands created by current and future population.

6.5.2 Criteria 4.5.b: Boundary Location: The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors:

- 1. Efficient accommodation of identified land needs;**
- 2. Orderly and economic provision of public facilities and services;**
- 3. Comparative environmental, energy, economic, and social consequences; and**
- 4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.**

Finding: Satisfied. The findings in section 6.4.3.1 through 6.5.3.4 of this document conclude the proposed expansion is the most appropriate when evaluated against the four Goal 14 location criteria.

7 GOAL COMPLIANCE:

This section addresses compliance with applicable Statewide Planning Goals.

7.1.1 Goal 1 Citizen Involvement

Goal 1 calls for the opportunity for citizens to be involved in all phases of the planning process. The City held worksessions with the Newport Planning Commission, provide notification to affected property owners, and held public hearings to take public testimony.

In conclusion, the City's public and agency review process complies with Goal 1.

7.1.2 Goal 2 Land Use Planning

Goal 2 (Land Use Planning) outlines the basic procedures of Oregon's statewide planning program, stating that land use decisions must be made in accordance with comprehensive plans and that effective implementation ordinances must be adopted. In the process of developing the UGB proposal and findings, the City complied with Goal 2.

All pertinent documentation has been made available to all interested parties. Goal 2 has been properly addressed.

7.1.3 Goals 3 Agricultural Lands and 4 Forest Lands

As stated in 660-024-0020(b), Goals 3 and 4 are not applicable when establishing or amending an urban growth boundary. No further analysis is required.

7.1.4 Goal 5 Open Spaces, Scenic and Historic Areas & Natural Resources

Goal 5 requires local governments to inventory and protect natural resources. There are no inventoried significant Goal 5 resources in any of the areas included within the proposed expansion areas with the exception of riparian areas. The City owns the property around the reservoirs and has adopted policies that encourage acquisitions of land within the municipal drinking water supply watershed for the purpose of establishing a water quality buffer. .

Thus, Goal 5 has been properly addressed.

7.1.5 Goal 6 Air, Water and Land Resources Quality

Goal 6 requires local comprehensive plans and implementing measures to be consistent with state and federal regulations. By complying with applicable air, water and land resource quality policies in the Newport Comprehensive Plan, Goal 6 will be properly addressed.

7.1.6 Goal 7 Areas Subject to Natural Disasters and Hazards

Goal 7 requires that jurisdictions apply appropriate safeguards when planning development in areas that are subject to natural hazards such as flood hazards. Meeting the intent of Goal 7 is a major component of this action. Moreover, the City has taken appropriate steps to address new information regarding seismic hazards and their potential impact on the water storage and treatment facilities.

Thus, Goal 7 has been properly addressed.

7.1.7 Goal 8 Recreation Needs

Goal 8 requires governmental organizations with responsibilities for providing recreational facilities plan for recreational facilities. Newport adopted a Parks System Master Plan in 1993. That plan inventoried existing facilities, established a level of service standard, and identified park needs.

The UGB expansion proposal includes a 75-acre site for a Regional Park which meets a need identified in the Newport Parks System Master Plan. Thus, Goal 8 has been properly addressed.

7.1.8 Goal 9 Economy of the State

The proposal does not involve employment lands, therefore Goal 9 is not applicable.

7.1.9 Goal 10 Housing

The proposal does not involve lands for residential uses, therefore Goal 10 is not applicable.

7.1.10 Goal 11 Public Facilities and Services

The City adopted a Water System Master Plan in 2008. That plan meets the requirements of Goal 11 and 660-011. Subsequent studies identified structural deficiencies with the City's water storage and treatment facilities. The City recognizes these deficiencies and amended the Water Element of the Newport Comprehensive Plan to include policies and implementation measures to address the deficiencies.

The provisions of public facilities and services consequences have been considered in the Goal 14 alternatives analysis process.

For the above reasons, the City finds that Goal 11 has been addressed for purposes of this customized periodic review and that, therefore, the proposed amendments are in compliance with Statewide Planning Goal 11.

7.1.11 Goal 12 Transportation

Goal 12 encourages the provision of a safe, convenient and economic transportation system. This goal also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in coordination with urban and rural development (OAR 660-012-0060(1)). For purposes of the proposed amendments, the Transportation Planning Rule (TPR) requires additional analysis if the proposed amendments would significantly affect an existing or planned transportation facility, as defined in OAR 660-001-0060(1).

The first step is to determine whether the proposed zone change would "significantly affect" an existing or planned transportation facility. If the answer is yes, then the TPR applies and further consideration or possible mitigation is required. If the answer is no, then no further consideration is required. This initial TPR evaluation can be accomplished through a comparison of the potential number of trips which could be generated from allowed uses under the current designations and zoning against trips which could be generated by allowed uses under the proposed designations and zoning. Even if increased trip generation could result, this may not result in significant affects to City transportation facilities. See, *Griffith v. City of Corvallis*, 50 Or LUBA 588, 596-97 (2005).

A TPR analysis of transportation facility impacts caused by urban growth boundary expansions may be deferred by administrative rule. OAR 660-024-0020(d), specifically states:

“the transportation planning rule requirements under OAR 660-012-0060 need not be applied to an urban growth boundary amendment if the land added to the urban growth area is zoned as urbanizable land, either by retaining the zoning that was assigned prior to inclusion in the area or by assigning interim zoning that does not allow development that would generate more vehicle trips than development allowed by the zoning assigned prior to inclusion in the boundary.”

The City chooses to apply this deferral option, and has informed ODOT of its choice.

Based on this analysis, Goal 12 has been met.

7.1.12 Goal 13 Energy

Goal 13 requires land and uses developed on the land to be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles. Energy consequences of the proposed urban growth area amendment have been considered in the Goal 14 alternatives analysis ESEE process. Therefore, Goal 13 has been adequately addressed.

7.1.13 Goal 14 Urbanization

Goal 14 has been complied with as demonstrated in Sections 2 through 6 of this report.

7.1.14 Goal 15 through 19

Goals 15 through 19 are related to the Willamette Greenway and coastal resources. As such, these goals do not apply to the subject sites and no further analysis is required.

APPENDIX A: LINCOLN COUNTY CRITERIA AND FINDINGS

The Lincoln County criteria for urban growth boundary amendments are outlined in Section 1.0030 (Urbanization Policies) of the Lincoln County Comprehensive Plan.

1.0030 Urbanization Policies

(l) Lincoln County shall work with citizens and cities of Lincoln County in the establishment, maintenance and amendment of urban growth boundaries. Establishment and change of the boundaries shall be based upon consideration of the following factors:

(a) Demonstrated need to accommodate long-range urban population growth requirements consistent with LCDC goals;

Finding: Satisfied. Section 6.3.1.1 of the City’s findings address criteria a.

(b) Need for housing, employment opportunities, and livability;

Finding: Satisfied. Section 6.3.1.2 addresses criteria b.

(c) Orderly and economic provision for public facilities and services;

Finding: Satisfied. Section 2 of the City's findings outlines the City's rationale for the proposal, which includes orderly and economic provision for public facilities and services. Section 6.3.3 (Goal 14 Boundary Location Analysis) provides additional findings related to criteria c.

(d) Maximum efficiency of land uses within and on the fringe of the existing urban area;

Finding: Satisfied. Section 2 of the City's findings outlines the City's rationale for the proposal, which includes orderly and economic provision for public facilities and services. Section 6.3.2 (Goal 14 Boundary Location Analysis) provides additional findings related to criteria c.

(e) Environmental, energy, economic and social consequences;

Finding: Satisfied. Section 6.3.4.3 of the City's findings address criteria e.

(7) Within urban growth boundaries and outside of city limits, the Lincoln County land use designations shall apply prior to annexations. After annexations, the city land use designations shall apply.

Finding: Satisfied. The current County zoning on lands in the expansion area (T-C) will apply until the lands are annexed by the City.

(9) Lincoln County shall coordinate with cities and special districts on plans, public facility extensions and urban services delivery. Where necessary this will be done through intergovernmental agreement.

Finding: Satisfied. The City and County held several meetings on this matter prior to formal action. Moreover, the boundary amendment requires County action and public hearings with the County Planning Commission and County Board of Commissioners.

FINAL

Big Creek Dam No. 1 and No. 2

Preliminary Geotechnical Investigation and Seismic Evaluation

City of Newport, Oregon



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Table of Contents

List of Acronyms and Abbreviations	v
Executive Summary	vii
Regional and Site Geology	vii
Seismic Hazards	vii
Subsurface Conditions	vii
Seepage and Stability Analysis Results	vii
Recommendations	viii
1.0 Introduction	1
2.0 Site Conditions.....	2
3.0 Description of Existing Dams	3
3.1 BC No. 1.....	3
3.2 Big Creek No. 2.....	4
4.0 Field Exploration	5
4.1 Geotechnical Drilling	5
4.2 Cone Penetration Testing.....	6
4.3 Geophysical Testing.....	6
5.0 Laboratory Testing.....	8
6.0 Geologic and Seismic Setting.....	9
6.1 Geologic Setting	9
6.2 Seismic Setting	9
6.3 Other Geologic Hazards.....	11
7.0 Subsurface Conditions	12
7.1 Subsurface Stratigraphy.....	12
7.2 Engineering Property Characterization	16
8.0 Seismic Hazards and Ground Motions.....	20
8.1 Seismic Sources	20
8.2 Probabilistic Seismic Hazard Analysis (PSHA)	20
8.3 Ground Motions.....	20
8.4 Ground Motion Time Histories.....	21
9.0 Seismic Response	22
9.1 Evaluation Procedure.....	22
9.2 Cyclic Softening Evaluation Methodology	23
9.3 BC No. 1.....	25
9.4 BC No. 2.....	25
10.0 Embankment Seepage and Slope Stability Analysis Results	26
10.1 Embankment Seepage Analysis Results	26



10.2 Embankment Stability Analysis Results	26
11.0 Conclusions and recommendations	29
11.1 Conclusions.....	29
11.2 Recommendations	30
12.0 References.....	31

Tables:

Table 1. Mean Magnitude/Distance Pairs for Principal Earthquake Sources
Table 2. Deaggregated Earthquake Motions
Table 3. Exploration Survey Data and Completion Depths
Table 4. Estimated Depth to top of Siltstone Bedrock
Table 5. BC No. 1 Stratigraphy Based on Simplified Interpretation of Soil Boring CPTu Data
Table 6. Basic Soil Properties, Dams BC No. 1 and BC No. 2
Table 7. Ranges of Permeability Values Considered for Preliminary Seepage, Stability, and Seismic Response Evaluations of the Big Creek Dams
Table 8. Permeability Values used in Seepage Analyses, BC No. 1 and BC No. 2
Table 9. Strength Values for Pre-Earthquake Static (Steady-State) Slope Stability Analysis, Dam BC No. 1
Table 10. Strength Values for Post-Earthquake Slope Stability Analysis based on BC1-CPT-3Embankment and Foundation Conditions at BC No. 1
Table 11. Strength Values for Post-Earthquake Slope Stability Analysis, BC1-CPT-4 Profile, Dam BC No. 1
Table 12. Strength Values for Pre-Earthquake Static (Steady-State) Slope Stability Analysis, Dam BC No. 2 (Oregon, 1978)
Table 13. Undrained Strength Values for Post-Earthquake Slope Stability Analyses used in 1974 analyses by CH2MHill, Dam BC No. 2
Table 14. Estimated Undrained Strength Values for Slope Stability Analyses, based on results of CPTu Soundings BC2-CPT-1, BC2-CPT-2, and BC2-CPT-3, Dam BC No. 2
Table 15. Steady State Seepage Analysis Cases
Table 16. Slope Stability Analysis Results for Big Creek Dam No. 1
Table 17. Slope Stability Analysis Results for Big Creek Dam No. 2

Figures:

- Figure 1. Project Location and Tsunami Hazard Map
- Figure 2. Big Creek No. 1 Original Construction (1951)
- Figure 3. Big Creek No. 1 Original and Current Typical Cross-Section
- Figure 4. Big Creek No. 1 Subsurface Profile (Facing Downstream)
- Figure 5. Big Creek No. 2 Typical Cross-Section and Profile (1969)
- Figure 6. Big Creek No. 2 Typical Cross-Section after Modification in 1976
- Figure 7. Big Creek No. 2 Typical Cross Section
- Figure 8. Big Creek No. 2 Subsurface Profile (Looking Downstream)
- Figure 9. Big Creek No. 1 Exploration Location Plan
- Figure 10. Big Creek No. 2 Exploration Location Plan
- Figure 11. CPT Soil Behavior Index (I_c), BC1-CPT-3
- Figure 12. CPT Cone Resistance and Normalized Pore Pressure, BC1-CPT-3
- Figure 13. CPT Cone Resistance and Normalized Pore Pressure BC1-CPT-1
- Figure 14. CPT Cone Resistance and Normalized Pore Pressure BC1-CPT-4
- Figure 15. CPT Interpreted Stratigraphy and Shear Strength; BC1-CPT-3
- Figure 16. CPT Interpreted Stratigraphy and Undrained Shear Strength; BC1-CPT-4
- Figure 17. Residual Shear Strength of Liquefied Sand
- Figure 18. Post-Earthquake Strength Liquefiable Sandy Soils, BC1-CPT-3
- Figure 19. Cyclic Simple Shear Test Result Sample Depth 30.3 ft
- Figure 20. CPT Interpreted Stratigraphy and Undrained Shear Strength, BC2-CPT-1
- Figure 21. CPT Interpreted Stratigraphy and Undrained Shear Strength, BC2-CPT-2
- Figure 22. CPT Interpreted Stratigraphy and Undrained Shear Strength, BC2-CPT-3
- Figure 23. Average Response Spectra Yaquina Crustal Fault Source
- Figure 24. Average Response Spectra CSZ Fault Source
- Figure 25. FOS Against Liquefaction and Cyclic Softening Exploration: BC1-B-1
- Figure 26. FOS Against Liquefaction and Cyclic Softening Exploration: BC1-B-1/BC1-CPT-3
- Figure 27. FOS Against Liquefaction and Cyclic Softening Exploration: BC1-B-1/BC1-CPT-3
- Figure 28. Factor of Safety Against Cyclic Softening, BC1-CPT-4
- Figure 29. FOS Against Liquefaction and Cyclic Softening Exploration: BC2-B-3
- Figure 30. FOS Against Cyclic Softening Exploration: BC2-CPT-1
- Figure 31. Pre-Earthquake FOS, BC No. 1
- Figure 32. Post-Earthquake FOS, BC1-CPT-3, BC No. 1
- Figure 33. Post-Earthquake FOS, BC1-CPT-4, BC No. 1
- Figure 34. Pseudostatic Yield Acceleration Values, BC No. 1
- Figure 35. Pre-Earthquake FOS, BC No. 2
- Figure 36. Post-Earthquake FOS, BC No. 2



Appendices:

Appendix A Existing Conditions

Appendix B Exploration Data

B.1 Boring Logs

B.2 CPTu Data

B.3 Geophysical Survey Report

Appendix C Laboratory Data

C.1 Northwest

C.2 Fugro

C.3 Beta Analyses

Appendix D Seismic and Ground Motion Review Report

Appendix E Liquefaction Analysis

Appendix F Seepage and Slope Stability Analyses



LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
BC	Big Creek
bpf	blows per foot
BOSC	Board of Senior Consultants
B_q	normalized pore pressure ratio
C-L	clay-like
cm/sec	centimeters/per second
CPTu	cone penetrometer test with pore pressure measurement
CRR	Cyclic Resistance Ratio
CSR	Cyclic Stress Ratio
CSZ	Cascadia Subduction Zone
DOGAMI	Oregon Department of Geology and Mineral Industries
EL	elevation
FLAC	fast lagrangian analysis of continua
FOS	factors of safety
ft/s	feet per second
g	acceleration due to gravity
I_c	soil behavior type index
km	kilometer(s)
ksf	kips per square foot
k_v	vertical permeability
k_h	horizontal permeability
LL	liquid limit
M	magnitude
MH	elastic silt (high plasticity)
ML	silt (low plasticity)
MSF	Magnitude Scaling Factor
MSL	Means Sea Level
NAVD88	North American Vertical Datum of 1988
NGA	Northwest Geophysical Associates, Inc.
N_k	cone factor
NP	nonplastic
OH	organic silt
OWRD	Oregon Water Resources Department
pcf	pounds per cubic foot
PEER	Pacific Earthquake Engineering Research Institute
PGA	peak ground acceleration(s)
PHGA	peak horizontal ground acceleration



PI	plasticity index
psf	pounds per square foot
PSHA	site-specific probabilistic seismic hazard analysis
q_t	cone tip resistance
S-L	sand-like
SM	silty sand
SPT	Standard Penetration Test
S_u	undrained shear strength
S_v	total overburden pressure
S_v	vertical effective stress
USCS	Unified Soil Classification System
USGS	United States Geological Survey
UU	unconsolidated undrained
V_s	shear wave velocity



EXECUTIVE SUMMARY

HDR Engineering, Inc. (HDR) has completed an initial assessment of the static and seismic stability of Big Creek Dam No. 1 (BC No. 1) and Big Creek Dam No. 2 (BC No. 2) for the City of Newport (City). This assessment included a limited site characterization program of 1) seismic hazard evaluation, 2) borings, 3) cone penetration testing, and 4) laboratory testing along with 5) appraisal level engineering analyses. The initial findings from this evaluation are summarized below:

Regional and Site Geology

The dam sites are at a geologic boundary where normal stream channel and estuarial formation processes have influenced the development of foundation soils above a siltstone bedrock. Initial site characterization studies have shown these soils to be composed of high plasticity silts and sands of low density and prone to a loss of strength when subjected to cyclic loading.

Seismic Hazards

The dam sites are at a location where their long-term performance can be significantly impacted by several seismic hazard sources including nearby active crustal faults and the Cascadia Subduction Zone (CSZ). The hazard potential of the CSZ is relatively unique in terms of the magnitude of the ground motions (peak ground accelerations) and the duration of strong shaking that can occur. The CSZ hazard will be the controlling event for both dam safety evaluations and any required rehabilitation design going forward. While the understanding of the CSZ hazard has grown significantly over the past 20 years, recent similar hazard events off the coast of Chile and Japan have greatly increased the database of information that can be used to identify ground motion records suitable for detailed seismic response evaluations and design. This information will be available to HDR in the coming months and used to update ground motion information developed as part of this study.

Subsurface Conditions

Borings and cone penetration testing supported by laboratory test results have shown that the embankment and foundation soils above bedrock and beneath both dams generally consist of relatively low density and high plasticity clayey and very silty sands, sandy and slightly clayey silts, and silts. Alternative potential stratigraphic models of each site have been identified. However, significant uncertainties exist with the models and the corresponding engineering properties of the foundation and embankment soils. Further evaluations are recommended to help refine the subsurface stratigraphic models of the sites, confirm the mineralogical origin of the soils and the corresponding reasons for the low densities, and further refine the understanding of engineering properties of the soils for engineering analyses and design.

Seepage and Stability Analysis Results

BC No. 1 – Records indicate that this dam was originally constructed with a limited internal drainage system. Subsequently, a berm of soil was added over the downstream toe area. Results of both seepage and stability evaluations indicate that both these features are important in providing for the safety and performance of the downstream slope of the dam during an earthquake event. Additional evaluations are indicated to determine if the internal drainage system is functioning. The post-earthquake factors of safety suggest that the overall safety of the dam is marginal. Additional site characterization and engineering evaluations may indicate that only minor modifications are required to retain the benefit of this structure in the Newport water supply system. Alternatively and as discussed with the City, it may be



desirable to transfer a portion, or all of the storage in this facility to the upper dam if significant costs are required to rehabilitate the dam and associated water supply structures and pipes.

BC No. 2 – Results of seepage and stability evaluations indicate that a significant safety deficiency exists and that modification of the dam and related hydraulic structures is required to increase post-earthquake stability factors of safety and limit deformations during and immediately following a large earthquake event. Similar to the findings at the lower dam, additional site characterization and engineering evaluations are recommended to refine the stratigraphic and engineering models of the structure, reduce uncertainties related to engineering properties, and identify the most reasonable and cost effective modification requirements.

Recommendations

Supplemental Site Characterization – A program of supplemental site characterization including an update of the appropriate ground motions for engineering evaluation and design, cone penetration tests, borings with undisturbed and disturbed sampling, laboratory testing, along with some groundwater monitoring instrumentation is recommended to further refine stratigraphic models of the structures, reduce uncertainties related to engineering properties and to support preparation of alternative rehabilitation design concepts.

Update of Time Histories for Engineering Evaluations – HDR has held initial meetings with the Pacific Earthquake Engineering Research Institute (PEER) at Berkeley, California and will be updating ground motions for future engineering evaluations based on information from recent similar hazard earthquakes in Japan and Chili. Use of updated ground motion records for detailed seismic response evaluations and design will provide for the most up-to-date safety evaluation and decision making by the City.

Laboratory Testing - Supplemental laboratory testing should include petrographic examination and testing of the embankment and foundation soils, and bedrock materials at the site to further evaluate the root cause of the low density of the soils; index; consolidation; direct and cyclic simple shear; and triaxial shear.

Engineering Analyses – Safety concerns and any rehabilitation design completed during subsequent engineering evaluations should include both simplified assessments based on empirically based seismic response models and more complex numerical simulations using advanced computer models such as FLAC (fast lagrangian analysis of continua).

Corrective Actions – A broad range of design and construction methods may be suitable to achieve the desired post-earthquake factors of safety and limited deformations of the dams and structures during earthquake events. The next phase of evaluation should evaluate a range of rehabilitation concepts and methods including removal and replacement of materials, stability berms, and insitu densification and strengthening.



1.0 INTRODUCTION

HDR Engineering, Inc. began working with the City of Newport in 2009 on the design and construction of a new water membrane filtration treatment plant. The water treatment plant is supplied with water stored in two man-made reservoirs in Big Creek, denoted BC No. 1 and BC No. 2. BC No. 1 is adjacent to the new treatment plant, and BC No. 2 is located approximately 1 mile upstream. These reservoirs were formed by the construction of an earthen dam at each location.

During construction of the new plant, geotechnical explorations were performed for design of a new intake structure located in the BC No. 1 reservoir. Borings were drilled on the dam crest near the intake structure and near the downstream toe of the dam. The borings indicated the subsurface soils consist of very loose, saturated silty sand and sandy silt, which exhibits the potential for liquefaction during a seismic event.

As a result of this discovery, the City requested HDR perform a seismic evaluation of the embankment dams for both BC No. 1 and No. 2 reservoirs. This evaluation consisted of a limited site investigation to characterize the dams' earthen and foundation materials, a probabilistic seismic hazard analysis (PSHA), a geologic hazard assessment, and geotechnical analyses to determine the stability of the dams in the event of potential seismic events.

The site investigation consisted of a site visit by geotechnical engineers from HDR, exploratory borings, laboratory testing, and a surface geophysical survey. A limited topographic survey was performed to locate the field explorations and determine the dam cross-section at one location for each dam.

The PSHA was performed to evaluate the regional seismicity and potential ground motions at the dam sites. Information from the PSHA was used in soil liquefaction analyses and to evaluate the seismic stability of the dams.



2.0 SITE CONDITIONS

The reservoirs are located at the western foot of the Coast Range east of Highway 101 near the northern end of the City of Newport as shown on Figure 1 (all figures provided at the end of the report). The upper and lower reservoirs (BC No. 2 and No. 1, respectively) were formed by construction of the two dams within Big Creek. Big Creek meanders through the Coast Range generally from east to west and is fed by Blattner Creek, as well as numerous smaller drainages. The banks of Big Creek are covered with vegetation ranging from grass and low growing brush to alder and fir trees generally less than 12 inches in diameter.



3.0 DESCRIPTION OF EXISTING DAMS

3.1 BC No. 1

A plan view and typical cross-section of the original BC No. 1 dam design is shown on Figure 2. Based on the 1978 inspection report prepared by the Oregon Water Resources Department (OWRD, 1978), the dam was constructed in 1951 using clayey soil obtained from the stream channel immediately upstream of the dam. The elevations shown on Figure 2 are relative to mean sea level (MSL). At this location, MSL is 3.3 feet lower than the North American Vertical Datum of 1988 (NAVD88) that is used for vertical control datum in the United States. The pertinent data for the dam from the inspection report includes:

Pertinent Data for BC Dam No. 1	
Minimum Crest Length	315 feet
Crest Elevation (EL)	42.3 feet MSL (45.6 NAVD88)
Height from Original Ground	21 feet
Crest Width	12 feet
Side Slopes	3V:1H upstream 2V:1H downstream
Type of Construction	Modified homogeneous earthen fill dam
Internal Drainage	Filter blanket at downstream toe
Principal Spillway EL	38.0 feet MSL 41.3 feet NAVD88 (4.3 feet below dam crest)
Emergency Spillway EL	40.8 feet MSL (44.1 NAVD88)

Source: OWRD, 1978

Based on the limited topographic survey performed as part of this investigation, the dam crest is at about EL 47.1 feet (NAVD88); this is 1.5 feet higher than the original construction. A comparison of the original dam cross-section to the current cross-section is shown on Figure 3. The current profile is shown on Figure 4. Based on the current dam topographic survey, the dam is about 19 feet high relative to the reservoir bottom elevation along the upstream toe of the dam, but only about 14 feet high relative to the ground surface elevation along the downstream toe of the dam. Based on this cross-section, it appears about 8 feet of fill was placed on the downstream toe of the dam sometime after dam construction. This fill is detrimental to the operation of the dam since it prevents the exit of seepage from the blanket drain and creates the potential for developing excess pressures at the base of the dam. The impact of this is discussed in Section 11.0.

Based on the original design, the reservoir storage at normal pool is about 190 acre feet. The normal pool elevation is the principal spillway elevation of 41.3 feet NAVD88.



3.2 Big Creek No. 2

The BC No.2 dam was originally constructed in 1968 to a crest elevation of 73.0 feet MSL; a typical section through the dam centerline for the original construction is shown on Figure 5. In 1976, the embankment was raised to EL 87 to 88 feet MSL as shown on Figure 6 based on the 1978 inspection report (OWRD, 1978). The current cross-section and profile are shown on Figure 7 and Figure 8, respectively. The dam is a zoned embankment with the embankment fill materials for the dam raise derived from siltstone from access road and spillway excavations. The original dam was constructed from clayey silt and sandy silt from a borrow area upstream from the dam. The pertinent data for the BC No. 2 dam from the inspection report includes:

Pertinent Data for BC Dam No. 2	
Crest Length	455 feet
Crest EL	88.0 feet MSL (91.2 NAVD88)
Height from Natural Ground	56 feet (as measured from the foundation of the dam)
Crest Width	20 feet
Side Slopes	3V:1H upstream 2V:1H downstream
Internal Drainage	Inclined and horizontal graded gravel filters
Principal Spillway EL	80.1 feet MSL (83.4 NAVD88)
Emergency Spillway EL	84.0 feet MSL (87.3 NAVD88)

Source: OWRD, 1978

Based on the limited topographic survey performed as part of this investigation, the dam crest is at about EL 91 feet NAVD88; this is essentially the same elevation as the construction completed in 1976. The height of the dam relative to the downstream toe is about 41 feet and relative to the upstream toe the dam height is 31 feet. It appears about 15 feet of sediment has accumulated in the reservoir. Based on the typical embankment cross-section in the 1978 inspection report, the dam height relative to the downstream toe is about 41 feet and 46 feet to the upstream toe when measured from the lowest portion of the foundation excluding the cutoff trench.

Based on the expanded embankment size, the estimated reservoir storage at normal pool is about 970 acre feet. The normal pool elevation is at the principal spillway elevation, 7.9 feet below the dam crest.

4.0 FIELD EXPLORATION

The field investigation consisted of three components: geotechnical drilling (mud rotary and hollow stem auger), cone penetrometer testing, and a surface geophysical survey. The exploration locations are shown on Figure 9 and Figure 10 for BC No. 1 and BC No. 2, respectively.

4.1 Geotechnical Drilling

One boring was drilled at the BC No. 1 dam (BC1-B-1) and three borings were drilled at the BC No. 2 dam (BC2-B-1 through BC2-B-3) from December 12 through December 15, 2011 and on January 5, 2012 by Western States Drilling. The exploration locations were surveyed by Ward Northwest, Inc. and the survey data is shown in Table 3; exploration completion depths are also shown.

The boreholes were advanced using a combination of truck- and track-mounted drill rigs using mud rotary and hollow stem auger drilling techniques. The borings were advanced through the existing dams using the hollow stem auger technique to prevent the possibility of hydraulic fracturing of the embankment. The borings were continued using the mud rotary techniques beneath the embankment. Boring logs are included in Appendix B.1.

Samples were obtained at 5-foot intervals within the embankment dams and at 2.5-foot intervals thereafter. Disturbed samples were obtained with a standard penetration test (SPT) split-spoon sampler in accordance with Unified Soil Classification System (USCS) American Society for Testing and Materials (ASTM) D1586. The hammer energy for the SPT driving system was measured for each drilling rig to obtain the actual energy transfer ratio for the driving system (GeoDesign, 2012). The SPT N-value blow counts (as defined in ASTM D1586) were obtained for each sample and recorded on the boring log; the corrected blow counts (i.e., 60% efficiency) based on the measured energy transfer ratio is also shown on the logs. As shown on the boring logs, undisturbed soil samples were obtained with 3-inch-diameter thin-walled Shelby tube samples at selected depths in the borings in accordance with ASTM D1587. HQ wire-line coring methods were used in boring BC2-B-1 to core the siltstone bedrock in accordance with ASTM D2113. HQ (96 mm outside diameter) wire line coring consists of a 2.5-inch inner diameter triple-walled core barrel advanced in maximum 5-foot runs. Core samples were boxed and retained for further review.

As shown on Figure 9, boring BC1-B-1 at BC No. 1 was drilled from the dam crest, approximately 150 feet from the southern end, near the deepest section of the original creek channel. The purpose of this boring was to evaluate the strength and consistency of the fill material within the dam and soils underlying the dam. The boring was drilled to a depth of 85 feet where decomposed siltstone bedrock was encountered, then drilled to a depth of 86.5 feet; the interpreted depth to and corresponding elevation of the siltstone bedrock is shown in Table 4.

Borings BC2-B-1 and BC2-B-2 were drilled from the dam crest as shown on Figure 10. The purpose of these borings was to establish the consistency and depth of the embankment fill, and evaluate the soils underlying the dam. BC2-B-1 was drilled at the estimated deepest section of the original channel and BC2-B-2 was drilled approximately 140 feet from the northern end of the dam; borings BC2-B-1 and BC2-B-2 were drilled to depths of 80 and 71.5 feet, respectively.

BC2-B-3 was drilled to a depth of 41.5 feet near the southern end of the dam, at the downstream toe approximately 100 feet from the dam centerline. The purpose of this boring was to establish the depth of fill and determine the properties of the alluvial soils that underlie the dam. Decomposed siltstone was encountered at a depth of 30 feet.



The boreholes were continuously logged during drilling. The boring logs in Appendix B.1 were prepared based on a review of the field logs, an examination of the soil samples, and results of the laboratory testing.

4.2 Cone Penetration Testing

Four cone penetration test with pore pressure measurements (CPTu) soundings were advanced at the BC No. 1 dam (BC1-CPT-1 through BC1-CPT-4) and three were advanced at the BC No. 2 dam (BC2-CPT-1 through BC2-CPT-3). The location of the CPT tests are shown on Figure 9 and Figure 10 and summarized in Table 3.

The CPT tip resistance, sleeve friction, and pore water pressure was measured at 2-inch increments as the CPT instrument was pushed at a constant rate of 2 centimeters/second (ASTM D5778). Shear wave velocity and pore water pressure dissipation measurements were conducted at selected depths in BC1-CPT-3, BC1-CPT-4, BC2-CPT-1, and BC2-CPT-2. All CPTs were terminated in decomposed to highly weathered siltstone. BC2-CPT-2 was advanced approximately 20 feet into the siltstone, whereas the other CPTs were typically advanced 5 to 10 feet into the siltstone.

BC1-CPT-1 and BC1-CPT-2 were advanced near the downstream toe of the BC No. 1 dam to a depth of approximately 50 feet; BC1-CPT-3 and BC1-CPT-4 were advanced from the crest of the dam to a depth of approximately 83 feet. BC1-CPT-3 was located adjacent to boring BC1-B-1 to provide a correlation with the soil boring information.

All CPTs at BC No. 2 were advanced from the dam crest. BC2-CPT-1 was located adjacent to boring BC1-B-1 to provide a correlation with the soil boring information and extended to a depth of 85 feet. BC2-CPT-2 was located near the center of the dam, and extended to a depth of 95 feet and BC2-CPT-3 was located about 80 feet from the northern end of the dam and extended to a depth of 63 feet.

CPT data for each sounding, shear wave velocity plots, and pore pressure dissipation plots are included in Appendix B.2.

4.3 Geophysical Testing

A seismic refraction geophysical survey was conducted at the BC No. 1 and BC No. 2 sites on December 20 and 21, 2011 by Northwest Geophysical Associates, Inc. (NGA, 2012). The purpose of the survey was to estimate the depth to bedrock and define the bedrock subsurface profile.

The surface seismic refraction survey was performed using a seismograph to record data and sledge hammer to generate a seismic compression wave at regular intervals along and at the end of each line. The time required for a seismic wave to travel from a source to a receiver was measured, and the seismic velocity and depth to the underlying soil and rock strata were estimated based on this time period.

The locations of the seismic lines are shown on Figure 9 and Figure 10 for BC No. 1 and 2, respectively. A total of three seismic lines were performed; one at BC No. 1 and two at BC No. 2. Seismic line 1 (SL-1) was run on the crest of BC No. 1. SL-2 and SL-3 were run in opposing orientations radiating outward from the downstream toe at BC No. 2 due to conflicts with the stream, fish ladder, and wetlands.

In general, relatively slow compression or P-wave velocities of 700 to 1,200 feet per second (ft/s) were recorded to a depth of 42 feet at BC No. 1, which suggest relatively weak soil material below the dam crest. At a depth of about 42 feet, a seismic wave velocity of 3,700 ft/s was measured. The NGA report states that this zone is likely representative of sediments that are saturated to a greater degree than the



overlying sediment. This is the most plausible explanation of this faster velocity zone since BC1-B-1 and CPTu soundings BC1-CPT-3 and BC1-CPT-4 encountered siltstone at depths ranging from 82 to 85 feet. In addition, the NGA geophysicist stated that the short seismic line length and the low signal to noise ratio may have limited the ability to detect bedrock at depths of 80 feet and generally affected the quality of the survey.

Relatively slow P-wave velocities (800 to 1,100 ft/s) were recorded to a depth of 10 feet at BC No. 2, with faster velocities (4,300 to 5,600 ft/s) recorded below. Again, this is likely representative of sediments that are saturated to a greater degree than the overlying sediment since boring BC2-B-3 encountered siltstone at a depth of about 30 feet at the downstream toe of the dam. In HDR's opinion, and the opinion of NGA, the geophysical survey results were not successful in defining the bedrock profile. Therefore the refraction surveys were not used as part of the geotechnical site characterization.

The geophysical report is included in Appendix B.3.



5.0 LABORATORY TESTING

Northwest Geotechnical, Inc. conducted laboratory index testing on selected samples from each of the geotechnical borings. Testing consisted of water content, Atterberg limits, gradation analysis, bulk density, and unconfined compressive strength. The results are included in Appendix C.1. Tables C.1-1 and C.1-2 present data for dams BC No. 1 and BC No. 2, respectively.

Additional soil testing consisting of index, unconsolidated undrained (UU) triaxial compression, one-dimensional consolidation, and monotonic and cyclic simple shear tests were conducted on selected samples by Fugro Consultants, Inc. in Houston, Texas. The results are included in Appendix C.2.

Radiocarbon dating of a wood fragment from Boring BC1-B-1 was performed by Beta Analysis, Inc. in Miami, Florida. The laboratory test results are presented in Appendix C.3 and discussed in the following sections.

6.0 GEOLOGIC AND SEISMIC SETTING

6.1 Geologic Setting

The Big Creek dams lie at the western margin of the Oregon Coast Range physiographic province which consists of a moderately high mountain range and coastal headlands interspersed with shallow bays, estuaries, beaches, and dunes. The site is located approximately 2 miles north of Yaquina Bay and 0.5 mile inland from Agate Beach. Review of available geologic information indicates the bedrock in the area is Miocene Era Marine Sedimentary Rock. Snively, MacLeod, Wagner, and Rau (1976) mapped the bedrock formation as Nye Mudstone consisting of sandy siltstone and fine- to medium-grained marine siltstone and sandstone. The marine sedimentary rock is overlain with alluvial streambed material consisting of sands and silts. The bedrock outcrops at the abutments for both dams, and it appears the alluvial sediment is deepest at the location of the current Big Creek stream channel.

The alluvial material found in the borings is generally a silt or clay with varying amounts of sand. Wood fragments and some organics were encountered in some of the borings indicating the material is relatively young geologically. A carbon14 dating test was performed to estimate the age of the sediment. The test results for a wood fragment from a depth of 50 feet from boring BC1-B-1 indicated the age of the sample was about 4,100 years (Appendix C.3). This indicates the alluvial sediments are Holocene in age (i.e., less than 12,000 years). There are some distinct differences between the dam foundations at BC No. 1 and BC No. 2. The BC No. 1 site is geomorphically a drowned stream valley with its base at about EL -40 feet NAVD88. Based on Boring BC1-B-1 the upper 31 feet (EL 23.9 to -7.1 feet NAVD88) of the alluvium consists of primarily high plasticity silt (MH) with varying amounts of sand and clay. The lower 30.5 feet of alluvium from EL -7.1 to -37.6 feet NAVD88 is primarily silty sand (SM) with one interval of low plasticity silt with sand (ML) and one interval of organic silt (OH). The bottom 15 feet of this lower zone of alluvium has scattered coarse sand and rounded gravel. The constituents of the lower zone of alluvium are that of an alluvial depositional environment. The upper zone of alluvium is more indicative of a lower energy near shore depositional environment such as an estuary or delta. In addition to the particle size difference, the high plasticity and moisture content data from the upper 32.5 feet of the alluvium indicate the possible presence of ash or other mineral characteristics typical of high plasticity silt and relatively high insitu void ratios. The sources of ash in Holocene alluvium can vary from the erosion of the local tuffaceous siltstone to syn-depositional volcanic events such as the 7,700-year-old Mazama eruption approximately 200 miles to the southwest. The identification of the source(s) of ash is not as critical as identification of the chemical and structural makeup of this zone of alluvium as these characteristics may be important with respect to behavior during cyclic softening under seismic loading.

At BC No. 2 located about 3,000 feet upstream from BC No. 1 the stream has transitioned to a more typical stream cut valley configuration with bedrock at about EL 0 feet NAVD88. The amount of alluvium at the BC No. 2 site is minimal compared to the BC No. 1 site. Alluvium was drilled in BC2-B-3 from EL 40.1 to 20.1 feet NAVD88 and consists of an upper zone of up to 5 feet of sandy high plasticity silt (MH) then is consistently silty sand (SM) to the top of the bedrock (decomposed siltstone) at EL 20.1 feet NAVD88.

6.2 Seismic Setting

The regional tectonic setting of the project area lies within a zone of active convergence between the Juan de Fuca Oceanic plate and the North American Continental plate. Compressive forces on a global scale are forcing the denser Juan de Fuca plate beneath the lighter North American plate. This process is referred to as "subduction." Within this regional tectonic setting there are three general types of earthquakes that could generate ground motions at the site. Two are related to the subduction zone



(interface and intraplate earthquakes), and the third involves shallow crustal earthquakes within the North American plate. Only the interface and crustal earthquakes were found to generate significant seismic shaking. Crustal faults are generally located in the upper 20 miles of the earth's crust and typically have some surface expression related to the movement of the fault. The CSZ interface is generally considered to be located at a depth of 50 to 75 miles below the surface.

Known active faults in the region have been mapped by the United States Geological Survey (USGS, 2012) using information from a number of sources. The location of the faults and information related to them are available through the USGS Earthquake Hazard Program. The Quaternary Fault Map and associated database is available at <http://earthquake.usgs.gov/hazards/qfaults/>. Locations of earthquakes along the central Oregon coast during the period 1841 through 2002 are shown on Figure 1 of the Cornforth "Seismic Review and Ground Motion Development" Report (Cornforth, 2012, Appendix D). The Quaternary faults and folds of the region are shown on Figure 2 of the Cornforth Report. Quaternary faults are faults that have occurred during the last 2.6 million years and are considered potentially active. Two significant sources of seismic hazard were identified for the dam sites. The first source is the Yaquina Fault which is located approximately 1.9 miles north of the two dams. The Yaquina Fault is a crustal fault approximately 8 miles long. The Yaquina Fault has the potential of producing a magnitude (M) 6.1 earthquake. Due to the close proximity of the fault to the dams the peak ground acceleration (PGA) at the site of the dams is expected to range from 0.52g (acceleration due to gravity) to 1.10g with an average of 0.83g for a recurrence interval of 2,475 years. There have been no recorded earthquake events attributed to this fault, but geologic evidence suggests the fault is active. The second source is the CSZ located approximately 14 miles off the coast in the Newport area. The CSZ has the potential of producing a M 9.0 earthquake, but due to its distance the PGA was determined to be 0.56g with a recurrence interval of 2,475 years. The CSZ is believed to have generated an approximate M 9.0 earthquake on January 29, 1700. Geologic evidence suggests that there have been several events related to the CSZ over the last few thousand years, and that the events have been occurring for several million years.

Based on additional information not included in the Cornforth report, recent studies of turbidite deposits along the Cascadia margin indicate the CSZ can be subdivided into a northern and southern section with three potential rupture modes: full length, 50 to 70 percent of the southern section, and smaller seismic events for short reaches of the southern section (Goldfinger, et al., 2012). For a full length rupture, an average return period for a great earthquake has been estimated to be about 500 to 530 years. The average return period for the southern section of the CSZ based on analysis of the turbidite deposits is approximately 240 years. Therefore, a great earthquake on the full length CSZ could be expected to occur within the next 200 years and a large earthquake of a lesser magnitude on the southern section could occur at any time since it has been 300 years since the last recorded CSZ earthquake. Additional discussion of the estimated seismic hazards at the dam sites is provided in Section 8.0.

In addition to evaluation of the earthquake hazard at the site as described above, potential ground motions that would be associated with both the crustal and CSZ sources were recommended as part of the CCI studies (see Section 8.0). Ground motion time histories were not used in explicit seismic response evaluations completed under the current study but will be used for subsequent seismic response evaluations once the site characterization model is at a suitable level of understanding. It should be further noted that a significant effort is underway at the PEER to collect, evaluate and synthesize over 1,000 time history records obtained during the 2011 Tohoku earthquake off the northeastern shore of Japan. Once completed, the database of time histories that can be accessed and used for seismic response analysis of subduction zone earthquake events will be substantially improved. HDR has had discussions with the Executive Director of PEER and will be working with him during the next phase of work to update the evaluation of potential time histories that will be considered for the Newport dams and obtain



the appropriate information needed for input to seismic response models of the CSZ events. The time histories developed and presented in Appendix D will be suitable for use during the next phase of evaluation.

Finalizing the CSZ ground motions early in the next phase of work will be an important step for the project as HDR's experience with the seismic response analyses recently completed at Reclamations nearby Scoggins Dam has shown that the CSZ hazard will control the site response and safety of the dam. Currently, available information suggests that the CSZ earthquake events can have very large durations (100 to 400 seconds) and there can be significantly different remediation concepts and costs associated with this range of ground shaking durations. It is anticipated that the new information from PEER will increase the confidence in the ground motions used for evaluation and design and to help justify the shortest ground motion duration that is reasonable for the site.

6.3 Other Geologic Hazards

Given the location of BC No.1 and BC No. 2 near the Oregon coast and within the Oregon Coast Range, the geologic hazards of Tsunami inundation and landslides are possible. However, the Tsunami inundation hazard map (Figure 1) shows the downstream toe of the lower dam east and outside of the inundation line indicating that inundation during a tsunami is not likely to occur. A review of the State Wide Landslide Information Map produced by Oregon Department of Geology and Mineral Industry (DOGAMI, 2012) (<http://www.oregongeology.org/slido/index.html>) shows two landslides within the last 16 years within 1 kilometer of the dam sites. In addition, a large area of highly erodible Quaternary material is mapped adjacent to and north of the dam sites. This area has the potential for producing large volumes of sediment during periods of heavy rainfall. An existing or nascent landslide has the greatest potential to affect the stability of the dams if it occurs within any of the abutments. Another geologic hazard is the presence of liquefiable soils. Non-cohesive silts and silty sands are known to exist in the foundation at both sites. These materials, where they exist, are subject to liquefaction under seismic loading as discussed in Section 6.2.



7.0 SUBSURFACE CONDITIONS

7.1 Subsurface Stratigraphy

BC No. 1

As discussed in Section 4.0, a series of explorations were performed at the BC No. 1 dam site including: one boring and two CPTu soundings from the embankment crest, two CPTu soundings near the downstream toe, and a seismic refraction geophysical survey line across the crest of the dam from abutment to abutment. As previously noted, the seismic refraction surveys were of limited value and not included in development of the subsurface model at the BC No. 1 dam site. As shown on boring log BC1-B-1 in Appendix B.1, clayey silt (MH, defined as elastic silt with high plasticity) embankment fill was encountered from just beneath the dam crest (EL 45.4) to EL 23.5 feet. The embankment fill is underlain by sandy silt and clayey silt (EL 23.5 to -4.6 feet), and silty sand alluvium (EL -4.6 to about EL -37.6 feet) where weathered bedrock consisting of decomposed siltstone was encountered. Unless otherwise indicated, all elevations noted in this report are NAVD88.

Siltstone bedrock outcrops north and south of the embankment dam abutments. Based on the results of the boring, and CPTs (summarized further below), a general concept for a geologic model of the BC No. 1 site was developed. Using this concept, a typical cross-section through the maximum section of the dam was developed and is shown on Figure 3. A subsurface profile along the alignment of the crest of the dam is shown on Figure 4.

Following is a description of the materials (in accordance with the USCS ASTM D2487) encountered in boring BC1-B-1 and drilled from the crest of the dam. It should be noted that the embankment and foundation soils found at the site appear to be similar to materials of volcanic origin and hence display some unusual characteristics (i.e., high void ratio and water contents, moisture contents in excess of the liquid limit) These characteristics are not necessarily indicative of problematic soils but of the need for proper handling, testing, and evaluation procedures as the project progresses through future evaluation and construction phases.

Clayey SILT with some Sand (Dam Fill): The dam fill material generally consists of low to medium plasticity clayey silt with some fine sand. As discussed in Section 3.0, the plans for the original dam construction in 1951 indicate up to 21 feet of clayey silt fill was placed to construct the embankment. This is consistent with the conditions found in boring BC1-B-1 where fill appeared to extend from EL 47.4 to EL 23.9 feet (23.5 feet below the crest of the dam). SPT N-values ranging from 0 to 4 indicate the relative consistency of the fill is very soft to soft. Results of laboratory index testing on selected samples showed a plasticity index (PI) ranging from 20 to 28 (MH), water contents near the liquid limit (LL), and a fines (silt and clay) percentage near 50 percent.

Sandy SILT with some Clay (Alluvium): Alluvial material consisting of low to medium plasticity sandy silt with fine sand was encountered in BC1-B-1 below the dam fill, extending to EL 17.4 feet (depth of 30 feet). SPT N-values ranged from 0 to 5, indicating the relative consistency of the alluvium is very soft to medium stiff. Results of laboratory index testing on selected samples showed a PI of 14, LL of 49 which is a borderline low to high plasticity silt (ML-MH), water content above the LL, and fines percentage of 62 percent.

Clayey SILT with some Sand (Alluvium): This material was encountered from EL 17.4 to -4.6 feet (depth of 30 to 52 feet). Atterberg limit testing results showed this silt has a PI ranging from 14 to 41 (MH), LL



ranging from 54 to 87, and water contents at or slightly below the liquid limit. The SPT N-values recorded in this layer ranged from 0 to 2, indicating the soil is very soft to soft.

Silty SAND (Alluvium): Alluvial material consisting of low plasticity silty sand with isolated lenses of medium plasticity sandy silt and organic silt was encountered beneath the clayey silt from EL -4.6 to EL -37.6 feet (depth of 52 to 85 feet). SPT N-values ranged from 0 to 3, indicating the relative density is very loose. Laboratory testing indicates these soils generally have low plasticity with PI ranging from 0 (non-plastic) to 8 (ML) with few layers ranging from 22 to 28, LL ranging from 42 to 57, and fines percentage ranging from 22 to 53 percent. Scattered organics and wood chips/debris were encountered throughout this layer.

Siltstone (Marine Sedimentary Rock): The boring terminated in decomposed to weathered siltstone. In the decomposed condition, the siltstone consisted of stiff to hard, clayey silt. Results from the CPT penetrations also suggested that decomposed to weathered siltstone was encountered providing a basis to estimate the bedrock surface profile at the BC No. 1 site. The elevation of the siltstone layer that was found in each of the exploration borings or CPT soundings is summarized in Table 4 and shown on Figure 3 and Figure 4. The elevation of the siltstone layer varies from -16 to -38 feet with the lowest elevation near the original creek channel and highest siltstone elevation (i.e., shallowest) occurring beneath the northern and southern ends of the dam. Siltstone bedrock outcrops north and south of the embankment dam were identified in the field and surveyed with a handheld Global Positioning System (GPS) unit.

Soil samples are not obtained with a CPTu sounding; therefore it is generally accepted practice to establish a correlation between at least one soil boring and CPTu soundings during site characterization investigations. BC1-CPT-3 was performed adjacent to boring BC1-B-1 (see Figure 9) to allow a correlation of the CPTu data with the soil boring data, and to use this correlation to interpret the results from the other three CPTu soundings at the BC No. 1 dam site. The correlation with the soil boring is required primarily to determine if the CPTu derived soil classifications (i.e., sandy or clayey soils) match the soil classifications determined from visual classification and laboratory soil sample index testing. SPT N-values measured in the boring also can be compared to the CPTu data as well as laboratory measured undrained shear strength (S_u) values to develop a site specific correlation between both SPT and CPT measurements, and the shear strength of the embankment and foundation soils.

For seismic response evaluations, it is important to delineate materials that may be subject to liquefaction verses those that may soften due to cyclic loading. This is typically done by identifying materials that will behave as “sand-like” (potentially liquefiable) from those that will behave as “clay-like” (potentially susceptible to cyclic softening). For purposes of this study, the recommendations of Boulanger and Idriss (2004), and Bray and Sancio (2006) were used to identify these behavior characteristics. The primary soil property used for this characterization is the soil PI. The percentage of silt/clay in the soil matrix is also a consideration in this designation. As discussed in Section 7.0, “sand-like” soils generally have a PI less than 7 and may be potentially liquefiable. “Clay-like” soils generally have a PI equal to or greater than 7 and may be potentially susceptible to cyclic softening. A minimum fines content of between 35 and 50 is also considered for the “clay-like” designation.

Soil categorization based on a specific PI value (i.e., 12) and consideration of fines content is not possible without laboratory soil sample testing. For the purpose of the preliminary seismic evaluation, an attempt was made to use the CPTu soundings to classify soils as “clay-like” and “sand-like”. Additional soil borings and laboratory testing will be required during future study phases and design to determine the PI of the soils and the appropriate soil behavior characteristics during and immediately following an earthquake.



Identification of potentially liquefiable soils that are non-plastic or have low plasticity from more plastic soils using cone penetrometer test data generally can be established using the soil behavior type index. Robertson and Wride (1998) developed this method specifically to evaluate the liquefaction potential of soils based on CPT data. Based on their method, soils are considered to have liquefaction potential if the soil behavior type index (I_c) is less than 2.6. With this method, specific PI values for the soil are not addressed.

The I_c profile for BC1-CPT-3 is plotted on Figure 11. The I_c values are generally greater than 2.6 below EL 39 feet (depth of 8 ft); therefore, based on this method, the soils should not be potentially liquefiable. However, based on the laboratory index testing results and evaluation of the boring BC1-B-1 drilling log, the silty-sand soils from EL -5 to -37 feet are primarily non-plastic or have a low PI (≤ 7), have less than 35 to 50 percent fines, and should be considered potentially liquefiable. As shown on Figure 11, the I_c values from the CPTu are about 3 to 3.2 for the silty sand layer. In fact, the I_c values in the silty sand layer are not appreciably different from the I_c values for the medium plasticity clayey silt soils in BC1-B-1 between EL 20 and -4.6 feet. Based on this comparison, I_c does not appear to be a good indicator of liquefiable sand-like soil versus non-liquefiable clay-like soil for the soils encountered at the BC No. 1 dam site. Therefore, I_c was not used as a means to identify soils that are potentially liquefiable ($PI(\leq 7)$) at this time. As previously noted, the foundation alluvial soils have some unusual characteristics that are similar to materials associated with materials that originate from volcanic ash. I_c will continue to be considered during future investigation to identify any adjustments that are appropriate for a potential liquefaction designation in the seismic response evaluations

For this project, a simple methodology was established to delineate sand-like soils from clay-like soils by comparing the CPTu cone resistance (q_t) to the normalized pore pressure ratio (B_q). This method only provides an estimate for this preliminary seismic evaluation and additional borings and laboratory testing will be required to accurately delineate soils with a PI less than or greater than 7. As shown on Figure 12, generally when the q_t values were relatively low and uniform during penetration through the very soft to soft MH soils and the B_q was positive, the soils had a higher plasticity as confirmed by Atterberg limit testing of the samples from boring BC1-B-1 (Appendix C.1). There was a discrepancy between the interpretation using this method and boring BC-B-1 between EL +5 and -5 feet. In this interval, the CPTu interpretation would indicate the soils are sand-like, but the laboratory testing indicated the soils were an MH with a PI greater than 7. To be conservative, soils below an elevation of 0 feet were considered as potentially liquefiable in our post-earthquake stability analyses.

This technique was applied to each CPTu profile and the results are shown on Figure 13 and Figure 14 for BC1-CPT-1 and BC1-CPT-4, respectively. Thin apparently sand-like soil layers that occurred within the clayey layers were not differentiated if the sand-like layers were thinner than about 5 feet. The same criterion was applied for thin clayey layers that occurred within a sandy layer.

The q_t and B_q values for BC1-CPT-4 are considerably different from the BC1-CPT-3 profile; the CPTu soundings are approximately 100 feet apart along the crest of the dam. The q_t for BC1-CPT-4 below about EL 0 feet is much less than encountered in BC1-CPT-3. Also, the B_q values are relatively high for BC1-CPT-4 compared to negative values for BC1-CPT-3. The proximity of BC1-CPT-3 and BC1-B-1 to the original creek channel may explain why these materials appear to be sand-like as compared to BC1-CPT-4.

The results of this evaluation and the stratigraphy interpreted from the explorations are summarized in Table 5. The CPTu soundings indicate the delineation of sand-like and clay-like soils vary across the dam site. For this preliminary seismic evaluation, the soil profile for BC1-B-1/BC1-CPT-3 and the interpreted soil profile for BC1-CPT-4 were used for the seismic evaluation and geotechnical analyses. For the BC1-



B-1/BC1-CPT-3 profile, an elevation of 0 feet was selected for the top of the potentially liquefiable silty sand layer.

BC No. 2

A series of explorations were also performed at the BC No. 2 dam site; three borings, three CPTu soundings, and two seismic refraction survey lines. Two of the borings and the three CPTu soundings were performed on the embankment crest. Boring BC2-B-3 was performed near the downstream toe of the embankment. As previously noted, the seismic refraction survey results were of limited value and not used in the development of the subsurface model at the BC No. 2 dam site.

About 67 feet of MH embankment fill was encountered to EL 24.6 feet in boring BC2-B-1. About 42 feet of silty sand (SM) and clayey high plasticity silt (MH) embankment fill was encountered to EL 49.2 feet in boring BC2-B-2. These two borings confirmed information presented on the 1968 construction drawings and preliminary design report for the dam modifications (CH2MHill, 1974), indicating that the alluvium was removed to the top of weathered siltstone bedrock for the construction of the cutoff trench as shown on Figure 8.

A typical cross-section through the dam and foundation compiled from the available design and exploration information obtained during this study is shown on Figure 7. The location of this cross-section is shown on Figure 10. Upstream and downstream of the cutoff trench, the embankment fill is probably underlain by alluvium as represented by the foundation soils encountered in boring BC2-B-3. In general, HDR believes that the embankment fill and alluvial sediment are underlain by decomposed to weathered siltstone bedrock encountered in the borings, CPT soundings, and outcrops north and south of the embankment dam.

The following is a description of the materials encountered in boring BC2-B-1. These descriptions, excluding the reference elevation information, are similar to the materials found in boring BC2-B-2:

Clayey SILT with some Sand (Dam Fill): The dam fill material generally consisted of high plasticity clayey silt with some fine sand that extends to EL 26.6 feet, 65.0 feet below the crest of the dam. The fill is generally stiff to very stiff with typical SPT N-values of 10 to 13; however, lower N-values were obtained to a depth of about 15 feet below the crest of the dam and in the bottom 10 feet of the fill. Laboratory testing on two samples indicates a PI of 10 to 18 (MH), with a water content below the liquid limit.

Silty Sand (Fill): A 2-foot-thick layer/lense of nonplastic silty fine sand was found in the BC2-B-1 embankment fill between EL 26.6 and 24.6 feet. An N-value of 2 indicates the relative consistency of this fill material is very loose.

Siltstone (Marine Sedimentary Rock): Decomposed Siltstone (Clayey silt) was encountered from EL 24.6 feet to the boring termination at EL 11.6 feet. From EL 24.6 to 19.6 feet, the decompressed siltstone is hard with N-values of 30 and 32. The siltstone could be sampled with rock coring methods from EL 19.6 to 11.6 feet. The bedrock in the core samples was generally highly weathered and for the two core runs completed were 100 and 93 percent, respectively.

In boring BC2-B-3 drilled near the downstream toe of the embankment, the following foundation alluvium materials were encountered:

Silty SAND to sandy silt with some clay (Fill): The fill extended to a depth of 10 feet (EL 40 feet). It was unclear whether this fill was placed as part of the original construction or as part of a later dam



modification in 1976. The SPT tests in this layer showed the fill is loose to medium dense with SPT N-values ranging from 4 to 14. Laboratory testing of two samples indicated a USCS designation of ML/SM with a PI ranging from 12 to 14. The fines percentage ranged from 48 to 52 percent. Since the PI is greater than or equal to 7, the material was classified as clay-like for the seismic analyses.

Sandy SILT and Silty SAND (Alluvium): The sandy silt (MH) and silty sand (SM) extended 20 feet below the base of the fill to the surface of decomposed siltstone at EL 20 feet and is generally loose with SPT N-values ranging from 2 to 9. The soil generally has 35 to 64 percent fines content and a PI ranging from non-plastic (i.e., sand-like) to 19.

Siltstone (Marine Sedimentary Rock): Decomposed siltstone extended from EL 20 feet to the termination of the boring at EL 8.6 feet. The siltstone had a stiff consistency and gradationally classified as a borderline ML/MH to SM material. There were some scattered gravel and wood fragments in the siltstone.

7.2 Engineering Property Characterization

The following sections summarize the engineering properties of the embankment and foundation soils/bedrock that are required to assess seepage conditions and associated water pressures and gradient in the dam and foundation, along with the potential for liquefaction or cyclic strength degradation and the corresponding shear strength values to be used in slope stability analyses.

Basic Soil Parameters

The basic soil parameters summarized in Table 6 were developed for input to the geotechnical analyses including the total unit weight and volumetric water content.

Permeability (K)

An estimate of the steady-state seepage phreatic water surface through the dam and foundation is required for stability and seismic response evaluations. To estimate the location of the phreatic surface, the vertical permeability (K_v), horizontal permeability (K_h), and the ratio of vertical to horizontal permeability of the embankment and foundation soils at the site are required. Laboratory permeability tests were not performed for this preliminary seismic response evaluation of the Big Creek Dams. Instead, permeability values were selected for the different soil types included in the models based on a variety of published sources of information including values developed through extensive testing for major levee improvements in the Sacramento River basin near Sacramento, California (Board of Senior Consultants [BOSC], 2010). A summary of estimated permeability values for a wide range of soil types adopted for these evaluations are shown in Table 7. The suggested model layer colors also shown in this table were established to provide for consistency in presentation of model layer characteristics as the project progresses.

The soil classifications and fines content determined from laboratory testing of samples obtained from the borings completed at BC No. 1 and BC No. 2 are summarized in Tables C.1-1 and C.1-2, respectively (Appendix C). As noted above, the foundation soils at both sites are predominantly high plasticity silt (MH) and silty fine sand (SM). Embankment materials are predominantly MH materials. In addition to the soil materials in the embankment and foundation, there is a blanket drain in both dams. A review of the available construction documents found that there were no specifications for this material. Further, blanket drain materials were not sampled during the recent site exploration program. For the analyses, HDR has assumed that the blanket drains were constructed from slightly silty fine sand (3 to 7 percent fines).



A summary of the selected permeability values and K_v/K_h ratios are presented in Table 8. In addition to these presumptive values, permeability values were also estimated based on CPTu pore pressure dissipation tests. One dissipation test performed in BC1-CPT-3 at a depth of 39.7 feet indicated a K of 5×10^{-8} centimeters per second (cm/sec) in the clayey silt material and a test in the silty sand material at a depth of 59.7 feet yielded a value of 3×10^{-7} cm/sec. These values are lower than the typical values summarized in Table 7 and Table 8, and hence were selected as the lower bound values used in the analyses.

Soil Strength Parameters

Shear strength parameters for the existing static (pre-earthquake) and post-earthquake loading conditions were selected for each soil type in the typical BC No. 1 and BC No. 2 cross-sections shown on Figure 3 and Figure 7, respectively. For BC No. 1, the static and post-earthquake strength parameters were developed from interpretation of the CPTu data, laboratory testing, and correlations with soil index properties. For BC No. 2, the strength parameters were based on the interpretation of CPTu data, SPT N -values, and strength data included in the CH2MHill preliminary design report (1974).

As discussed further in Section 8.0, below, an evaluation of the SPT $N_{1,60}$ values and liquefaction potential of the sand-like soils at both dam sites indicates that SM and ML materials will liquefy due to an earthquake on either the Yaquina faults (M6.1) or CSZ (M9.0). These materials have reasonably good strength under static loading conditions, however, they will lose significant strength during an earthquake event. Similarly, there will be cyclic softening and loss of strength of some of the “clay-like” MH embankment and foundation soils during and immediately following either earthquake loading condition.

BC No. 1 Dam

For BC No. 1 dam, information from boring BC1-B-1 and the four CPTu soundings were used to assess the static and post-earthquake shear strength of the soils used in stability evaluations as summarized below.

Static Shear Strength. Estimated minimum factors of safety (FOS) for the static loading condition (long-term steady state seepage conditions), were performed using estimates of drained (effective stress) strength parameters (e.g., USACE, 2003). The effective stress friction angle for the clayey-silt soils were estimated based on laboratory PI determinations (Mitchell, 1976). For an average PI of 30 for the clayey silt embankment soils in BC1-B-1, a drained friction angle of 28 degrees was selected. For the silty sand foundation soils in boring BC1-B-1, the drained friction angle was estimated using equivalent $N_{1,60}$ values estimated from the CPTu profiles. For an average $N_{1,60}$ of 4 blows per foot (bpf), a drained friction angle of 28 degrees was also estimated (Mayne et al, 2001). A cohesion of 0.1 kips per square foot (ksf) was included for both the embankment and foundation soils to reflect the expected curvature of the failure envelope in the low effective stress range and minimize the influence of shallow (infinite slope) failure surfaces on the estimates of the location and minimum FOS during stability analyses. A summary of the drained shear strength parameters used for BC No. 1 static stability evaluations is presented in Table 9.

Post-Earthquake Strength. Post-earthquake strengths were developed in a two-step process. First, a general determination was made on an expected “sand-like” or “clay-like” behavior as previously discussed. For those embankment and foundation materials that are expected to have a “clay-like” behavior, estimates of the peak undrained shear strength (S_u) of the embankment and foundations soils were made based on the results from the CPTu tests (see Figure 15 and Figure 16). Using the estimates of peak strength and results of laboratory cyclic simple shear tests, an estimate of the amount of strength degradation was made to establish the “post-earthquake” shear strength input to the stability analysis models. For the foundation materials that are estimated to have a more “sand-like” response to

earthquake loads, the post-earthquake residual strength (also referred to as post-earthquake steady state strength) for the potentially liquefiable sand-like soils was estimated using the relationship proposed by Seed and Harder (1990) as shown on Figure 17. Seed (2010) calculated a least squares fit through the Seed and Harder (1990) data, and this relationship (red dashed curve) was used to estimate the post-earthquake strength of the sand-like soils ($PI < 7$). The CPTu derived $N_{1,60}$ values adjusted for fines content were used with the Seed and Harder (1990) relationship to estimate the post-earthquake undrained strength as shown on Figure 18 for BC1-CPT-3. A value of 0.2 ksf (200 pounds per square foot) was selected for the post-earthquake stability analyses of BC No. 1.

As shown on Figure 15 and Figure 16, shear strength values for MH embankment and foundation materials encountered in the BC1-CPT-3 and BC1-CPT-4 soundings were estimated using the CPTu q_t values and a cone factor (N_k) of 15. N_k can vary from about 10 to 20; however, a value of 15 is typically used for estimating the shear strength for these soil types (Robertson, 2009). The interpreted S_u values for BC1-B-1/BC1-CPT-3 and BC1-CPT-4 are summarized in Table 10 and Table 11, respectively.

The interpreted undrained shear strength for both the BC-1 soundings generally decreased with depth. The S_u value for the embankment fill is about 1 ksf. For BC1-CPT-3, the S_u value decreases to about 0.75 ksf and for BC1-CPT-4 it decreased to about 0.5 ksf. The S_u values below EL -25 feet for BC1-CPT-4 were considerably less than what would be expected for a normally consolidated soil with an S_u/S'_v ratio of 0.22 (S'_v is the vertical effective stress) and a normal range of void ratio and corresponding effective stress. The S_u/S'_v ratio is based on an average PI of 30 for the MH soils in BC1-B-1. This relatively low strength however, is reasonably consistent with the high void ratios (low unit weights) encountered, particularly in the foundation soils at the site. The relatively high normalized pore pressure ratios and low q_t values for BC1-CPT-4 (Figure 14) may indicate some influence of an artesian groundwater pressure near the top of the siltstone layer.

For the clayey silt soil, results from the laboratory static and cyclic simple shear tests were used to develop strength reduction factors to apply to the insitu CPTu strengths to account for the loss in strength due to cyclic loading. The result for the cyclic simple shear test for the undisturbed clayey silt soil sample from BC1-B-1 is shown on Figure 19. The test was performed at a cyclic strength ratio of 0.8 and the sample failed after 27 cycles of loading. As shown, the test result agrees with the published data presented by Boulanger and Idriss (2007).

Immediately after completion of the cyclic test, a monotonic simple shear test was performed to determine the post-cyclic undrained shear strength. This test showed that the undrained shear strength of the clayey soil was reduced by 33 percent due to the effects of cyclic loading. Therefore, the S_u profiles shown on Figure 15 and Figure 16 were reduced by 33 percent to account for the effect of cyclic loading; these values are included in Table 10 and Table 11 for profiles from BC1-CPT-3 and BC1-CPT-4, respectively.

BC No. 2

Static Shear Strength. As discussed in Section 7.1, the soils for BC No. 2 consisted of the clayey-silt fill soil within the embankment and cut-off trench and the alluvial soils outside the cut-off trench as represented by boring BC2-B-3. Estimated minimum FOS for the static loading condition (long-term steady state seepage conditions), were also performed using estimates of drained (effective stress) strength parameters (e.g. USACE, 2003). Estimates of the drained shear strength properties for the various embankment and foundation soils were obtained from the CH2MHill 1974 preliminary design report and are summarized in Table 12. A conservative value of 35 degrees was assumed for the gravel filters and a relatively low total unit weight of 82.4 pounds per cubic foot (pcf) with zero strength was assumed for the approximate 15 foot thickness of reservoir sediment.



Post-Earthquake Strength. The undrained shear strength parameters used as part of the CH2MHill 1974 preliminary design are shown in Table 13.

The estimated peak undrained shear strength based on three CPTu sounding results are shown for “clay-like” soils on Figure 20 through Figure 22. The interpreted values are somewhat erratic; however, the undrained shear strength values are generally between 1 and 3 ksf.

The post-earthquake strength values used for BC No. 2 were selected based on the results of the liquefaction and cyclic softening analyses discussed in Section 8.0, below. As shown in Table 13, the post-earthquake undrained shear strength for the clay-like embankment dam soils soundings was reduced to 66 percent of the pre-earthquake strength if the factor of safety against cyclic softening was less than 1.2. For boring BC2-B-3, post-earthquake residual undrained (steady state) shear strength was calculated for the liquefiable sand-like soils based on SPT blowcounts as described for BC No. 1.



8.0 SEISMIC HAZARDS AND GROUND MOTIONS

As previously noted in Section 6.2, above, a seismic hazard evaluation including the identification of representative of ground motions for the dam sites was performed as part of these studies (Cornforth, 2012) and is included in Appendix D. Specifically, this portion of the current study included the following:

- Identification of the principal seismic sources that contribute to the seismic hazard,
- Development of site specific response spectra,
- PSHA to identify peak ground accelerations as a function of recurrence interval for the identified seismic sources, and
- Identification of representative time histories for the identified seismic sources to use in seismic response evaluations.

8.1 Seismic Sources

The primary seismic sources identified that could impact the dam sites are the shallow crustal earthquakes within the North American tectonic plate and the CSZ. As shown in Table 1 of the Cornforth (2012) report, the Yaquina fault located 2.4 km (1.5 miles) from the site can generate a M 6.1 earthquake and the CSZ located about 24 km (15 miles) can generate a megathrust M 9.0 earthquake. These hazard sources are applicable to both dams since the distance of the sources to the dams is similar.

Several earthquakes about M 4.9 or smaller have occurred in the vicinity of the Big Creek dams in the last 170 years. In addition, recent research has strongly suggested a notable estimated M 9.0 megathrust (interface) earthquake event that occurred around January of 1700 on the CSZ.

8.2 Probabilistic Seismic Hazard Analysis (PSHA)

A PSHA was performed to develop estimates of peak ground motions at the dam sites that correspond to return periods of 475 to 2,475 years utilizing the USGS 2008 Interactive Deaggregation's web site. As shown in Table 2A of the Cornforth report, the CSZ would contribute 67 percent and the Yaquina fault 33 percent to the PGA hazard (0.0 second) for an earthquake with a return period of 2,475 years. Based on the USGS deaggregation, the magnitude and distance for the principal seismic sources are provided in Table 1 (all tables are provided at the end of this report):

8.3 Ground Motions

A number of factors need to be considered in the selection of the ground motion return period for safety evaluations and design including: regulatory requirements, potential loss of life, economic damage, and the need to maintain water supply after the seismic event. For purposes of these evaluations, ground motions for a 2,475-year return period were selected for the initial seismic evaluation of the BC No. 1 and BC No. 2 dams; this corresponds to a 2 percent probability of exceedance for a 50-year time interval.

The deaggregated earthquake ground motion hazards determined from the analysis for a 2,475-year return period and the corresponding PGAs are shown in Table 2.

The PGA values were determined using attenuation relationships applicable to each seismic source. The 84th percentile ground motion corresponds to the value that is one standard deviation above the mean value. For the Yaquina fault source earthquake, this resulted in estimated PGA values of 0.52g to 1.10g



for the different attenuation relationships with an average of 0.83g for a M 6.1 reverse fault rupture event. For the CSZ interface-megathrust source, four attenuation relationships were used and a weighted average was applied to estimate the 0.56 PGA value that would occur in the 0.4- to 2-second period range. The average response spectra for the 2,475-year return period are shown in Figure 23 and Figure 24 for the Yaquina and CSZ seismic sources, respectively.

8.4 Ground Motion Time Histories

Available records were searched to select appropriate ground motion time histories that can be used in explicit seismic response evaluations. The selection of an appropriate time history is typically based on similar geologic conditions, earthquake magnitudes, fault mechanism, and distance to fault rupture. The selected time histories were provided in Excel format and accompanied the Cornforth (2012) report. For the CSZ earthquakes, a limited database of ground motions are available; however, as previously noted, numerous seismic records from the recent Tohoku, Japan, and Chili subduction zone earthquake are being evaluated by the PEER. This is important because the duration of intense ground shaking during a CSZ event is uncertain and evaluation of time histories from a similar subduction type earthquake will improve this understanding and the basis for updated safety evaluations and design.



9.0 SEISMIC RESPONSE

9.1 Evaluation Procedure

Evaluating the potential response of embankment dams to significant ground shaking events is a complex process and requires an understanding of the seismic hazard, site characteristics, and the corresponding material properties of the embankment and foundation relative to static and seismic loading conditions as discussed in the preceding sections of this report. Experience has shown that the most difficult aspect of predicting the response of structures to seismic loading is characterizing the shear strength of foundation and embankment materials, particularly if they are of low density (contractive) and subject to the loss of strength under rapid loading conditions that are typical during large earthquake events.

The standard of care for completion of seismic response evaluations generally consists of a series of increasingly complex site investigations, laboratory testing, and seismic response evaluations. Initial evaluations tend to be more conservative. If these initial evaluations determine that the structures will respond favorably to seismic loads, safety evaluations can be terminated with relatively simple and inexpensive evaluations. However, if the initial (and simplified) evaluations identify potential safety concerns or deficiencies, supplemental site characterization and seismic response evaluations are typically undertaken to reduce the conservatism of the simplified evaluation procedures. Supplemental investigations and evaluations typically result in either; 1) elimination of safety concerns, or 2) minimization of the safety modification requirements and costs should a deficiency be confirmed.

The simplified evaluation completed for this initial evaluation of the Big Creek Dams consisted of the following:

1. Development of simplified geologic model of the sites including representative dam axis profiles and cross-sections for engineering evaluation (Sections 2 through 7).
2. Identification of the seismic hazards at the site (Section 6.2 and 8.0)
3. Estimation of engineering properties including permeability and shear strength of the various embankments and foundation materials in the cross-section models (Section 7.2).
4. Estimation of any shear strength reduction that may occur during and/or immediately following an earthquake due to liquefaction (typical of loose, contractive "sand-like" material behavior), or cyclic softening (typical of low density, and saturated "clay-like" material; Section 0).
5. Perform steady state seepage and stability analyses using estimated water pressures and drain shear strength properties to estimate minimum static FOS for each dam (Section 10.1).
6. Perform "post-earthquake" stability analyses using any appropriate strength reduction to estimate minimum "post-earthquake" stability FOS (Section 10.2).

Results of the initial site characterization including *in situ* testing, laboratory testing, evaluation of the material characteristics including seepage and shear strength properties of the embankment and foundation materials at each site along with the potential for shear strength reduction have been discussed in previous sections of this report. In the sections that follow, results of additional evaluations of strength reduction potential, particularly of the high plasticity clayey silts found in the dams and dam foundations are presented. The initial site characterization included limited direct sampling and testing for correlation to CPTu results. The one set of cyclic direct simple shear laboratory test results showed cyclic softening and strength reduction. Further evaluation of the CPTu tests discussed below support estimates of strength reduction that may occur in the "clay-like" embankment and foundation soils at the site.



Finally, the results of the steady state (static) stability, and post-earthquake stability analyses (using the estimates of shear strength reduction due to liquefaction or softening) are presented in Section 10.

In a simplified evaluation procedure, the overall safety of the dams is assessed based on the estimated minimum stability FOS under both static and “post-earthquake” conditions. The minimum required FOS under static loading conditions are well established and documented under state and federal dam safety guidelines. In general, a minimum static factor of safety of 1.5 is required for significant and high hazard dams. Guidelines for “post-earthquake” FOS are more variable under state and federal safety guidelines. However, minimum “post-earthquake” FOS values are generally interpreted as follows:

1. Values that are less than 1.0 are indicative of a significant potential for a flow failure of the structure.
2. Values between 1.0 and 1.2 are generally indicative of a potential for large structure deformations. For this condition, additional seismic response evaluations using empirical to advanced numerical modeling methods will likely be required to assess potential deformations, available freeboard following an earthquake, and the potential for either an overtopping or seepage (through cracks) potential failure mode development.
3. Values greater than 1.2 are generally acceptable except for special conditions which may require further evaluation. Such conditions may include dams with limited available freeboard, long duration earthquakes (such as the CSZ events) that may produce abnormally large deformations, or unusual site or design conditions (steep abutments) where cracking could result in development of a failure mode even for relatively small deformations.

9.2 Cyclic Softening Evaluation Methodology

Boulanger and Idriss (2006) state that soils with a PI less than 7 may be susceptible to liquefaction while Bray and Sancio (2006) state that soils with a PI less than 12 is susceptible to liquefaction. Bray and Sancio include an additional condition that the ratio of water content to liquid limit should be greater than 0.85 for the soils to be susceptible to liquefaction. For purposes of this study, materials with a PI less than 7 were considered as sand-like and potentially liquefiable. All other soils with a PI greater than 7 to 12 were considered as subject to cyclic softening.

A discussion of the materials in the dams and foundations that are “sand-like” and may be subject to liquefaction have been presented in Section 7.0. The associated drained and undrained “post-earthquake” residual (steady state) shear strength for these materials have been estimated based on direct insitu SPT testing or indirect correlations between CPT and SPT blowcounts normalized to an overburden pressure of 1 ton per square foot, a hammer efficiency of 60 percent, and corrected for fines content ($N_{1,60}$). A comparison of the SPT $N_{1,60}$ values from the soil boring BC1-B-1 or $N_{1,60}$ values based on the CPTu q_t profile in BC1-CPT-3 is shown on Figure 25, Results for BC No. 2 including boring BC2-B-3 are presented in Appendix E. No further evaluations of the sand-like materials were performed to support the estimates of post-earthquake strength reduction that may occur.

For clay-like soils, the potential loss in strength was evaluated using the methodology proposed by Boulanger and Idriss (2007). Their method is based on the original simplified procedure by Seed and Idriss (1982) for estimating cyclic stress ratio (CSR) and comparing this value to the cyclic resistance ratio (CRR) to estimate a factor of safety (FOS) against cyclic softening (also liquefaction) where:

$$\text{FOS} = \text{CRR}/\text{CSR}$$

An FOS less than one indicates softening could occur.



The CSR is used to quantify the stresses that may develop insitu during cyclic earthquake loading based on the following equation:

$$CSR = 0.6 * (a_{max}/g) * (S_{vo}/S'_{vo}) * r_d * K_0 * K_a$$

a_{max} = peak ground acceleration

g = acceleration of gravity

S_{vo} = Total overburden stress

S'_{vo} = Effective overburden stress

r_d = stress reduction coefficient

K_0 = Overburden stress correction factor

K_a = Ground slope correction

The CSR values were calculated using the PGA values determined for the Yaquina M 6.1 and CSZ M 9.0 deaggregated earthquake motions.

The procedure also requires an estimate of the CRR of the soils. To estimate CRR, first an estimate of the $CRR_{(M=7.5)}$ for clay-like soil is made from the following equation:

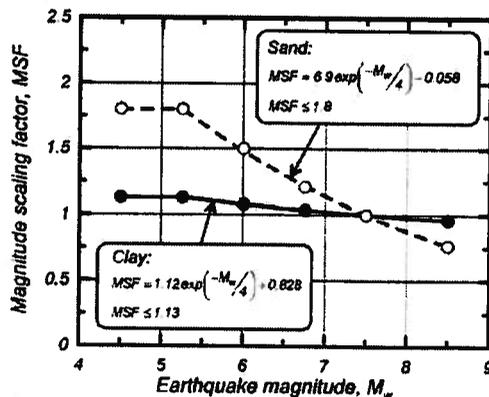
$$CRR_{(M=7.5)} = 0.8 * S_u/S'_{vo}$$

The CRR value is then adjusted for the earthquake magnitude as follows:

$$CRR = CRR_{(M=7.5)} * MSF$$

MSF = Magnitude scaling factor

The MSF is estimated based on the graph provided below. As can be seen, the MSF values for clay-like soils are less dependent on earthquake magnitude than sand-like soils.





9.3 BC No. 1

The FOS against cyclic softening for BC1-CPT-4 is shown on Figure 28. The FOS is acceptable to a depth of about 15 feet within the embankment, but decreases significantly in the relatively soft clay-like alluvial soils. This was expected based on the relatively low undrained shear strength values derived from the CPTu profile.

9.4 BC No. 2

The FOS against cyclic softening for BC2-CPT-1 is shown on Figure 29. The upper part of the embankment appears to be acceptable, but the lower portion above the siltstone has a relatively low factor of safety.



10.0 EMBANKMENT SEEPAGE AND SLOPE STABILITY ANALYSIS RESULTS

10.1 Embankment Seepage Analysis Results

The seepage analyses of BC No. 1 and BC No. 2 were performed using the finite element GeoStudio 2007 version 7.17 computer program. The purpose of these analyses was to estimate the location of the phreatic surface in the steady-state condition for use in slope stability and for yield acceleration analyses. To obtain the sensitivity of the phreatic line to the hydraulic conductivities, the seepage analyses were performed for the combination of the lower bound and upper bound permeabilities (referred to as hydraulic conductivity in Appendix F) of the foundation and embankment materials.

Analysis Cases

The seepage analyses were performed for the idealized cross-sections based on the results of CPTu borings BC1-CPT-3 and BC1-CPT-4, and geotechnical boring BC2-B-1, as previously discussed. The long-term or steady state seepage study cases are presented in Table 15. Due to the uncertainties in the functionality of the buried toe drain at BC No. 1, the seepage analysis was conducted for two cases of with and without toe drain. The toe drain for the BC No. 2 was assumed to be functional. A more detailed presentation and discussion of the analysis study cases and results are included in Appendix F.

Geometry and Boundary Conditions

The geometry of the embankment and soil stratification was developed from the current topography maps and geotechnical investigation of the project. The reservoir water levels in the models are summarized in Table 15. The potential seepage boundary condition with zero flux is applied to the downstream face of the embankment as well as the ground surface downstream of the toe of the dam in all models.

Material Properties

The material properties selected for the different material types are discussed in Section 7.0 and presented in Tables 2 through 5 in Appendix F. The material types are identified by color on the model cross-sections on Figures 1 through 6 in Appendix F.

The permeability curves of the partially saturated materials such as embankment and foundation soils were estimated using the Fredlund and Xing method in the SEEP/W manual (GeoSlope, 2010) up to a maximum matrix suction of 10,000 psf. The residual water content of the materials was also estimated using the method indicated in the SEEP/W 2007 manual.

SEEP/W Results

The output plots of the analysis are presented in Appendix F on Figures 7 through 14 for BC No. 1 and Figures 15 and 16 for BC No. 2. Analysis results indicate that the location of the phreatic surface would be similar for the lower and upper bound permeability values used in the analyses. The results also indicate that a functioning toe drain for the BC No. 1 dam would have a significant impact on the location of the phreatic surface (see Figures 9, 10, 13, and 14 in Appendix F). The pore water pressure values from the SEEP/W analyses were transferred to SLOPE/W models for estimating the slope stability FOS.

10.2 Embankment Stability Analysis Results

Slope stability analyses were performed using the GeoStudio 2007 version 7.17 computer program to estimate the FOS for static and post-earthquake loading conditions for BC No. 1 and BC No. 2. Static and post-earthquake shear strength values presented in Section 7.0 and discussed further in Section 9.0 above



were utilized. The Spencer's method of slices was used to perform the analyses since it satisfied both force and moment equilibrium of each slice. The geometry of the stability analysis models were the same as the geometry of the models used in the seepage analyses.

BC No. 1

The results of the stability analysis are summarized in Table 16. The minimum FOS values, estimated for the static loading conditions at BC No. 1, exceed 1.5 for both Study Case 1 (without toe drain) and Study Case 2 (with toe drain). An example of the results for the downstream slope at the BC1-CPT-4 cross section for Study Case 2 and drained strength parameters are shown on Figure 31.

Post-earthquake analysis results using reduced shear strength values are also summarized in Table 13. Undrained Strength Values for Post-Earthquake Slope Stability Analyses used in 1974 analyses by CH2MHill, Dam BC No. 2. As can be seen, the minimum post-earthquake FOS values are significantly lower than the static values. The greatest reduction in the estimated minimum FOS occurs using the cross-section characteristics and reduced shear strength values for BC1-CPT-3. The most critical potential failure surface corresponding to the estimated minimum FOS of 1.08 is shown on Figure 31 and extends into the liquefiable, sand-like soil foundation soils. The failure surface extends to a daylight location below the reservoir water surface elevation suggesting that an overtopping failure mode could develop if deformations become large enough. The minimum post-earthquake FOS results using the cross-section and reduced strength values for BC1-CPT-4 are 1.44. The critical potential failure surface corresponding to this minimum FOS value is shown on Figure 33. These results are also highlighted yellow. In both cases, the results suggest that additional evaluations of the downstream slope of BC No. 1 should be performed to further refine the cross-section properties and estimate deformations of the structure using more advanced numerical modeling methods to determine the potential for an overtopping or a cracking/seepage related failure mode to develop during a large earthquake event. Based on our experience, HDR believes that the ground motions associated with a CSZ M 9.0 megathrust event will be the critical safety and design event for this dam.

One of the significant characteristics of subduction zone earthquakes around the world is the occurrence of significant after shock events a relatively short time after the primary event occurs. The strength reduction to the clay-like soils associated with the BC1-CPT-4 cross section would likely occur during the initial and primary earthquake event. Pore water pressures that would develop in the high plasticity clayey silt materials in the embankment and foundation of the dam would not likely dissipate for several weeks allowing a corresponding return to a higher shear strength and minimum FOS conditions. Hence, any subsequent earthquake response would begin at the condition of reduced shear strength and additional significant deformations may be induced to the structure.

To make an initial assessment of this concern, a pseudostatic seismic analysis was performed to estimate the yield acceleration (i.e., FOS=1.0) for each case using the reduced shear strength parameters. The results for the downstream slope using strength values for BC1-CPT-3 are shown on the upper portion of Figure 34. The estimated yield acceleration for BC1-CPT-3 is about 0.006g (upper graph). This low yield acceleration (the acceleration to cause additional structure deformation) is expected because the post-earthquake minimum FOS was only 1.06. For BC1-CPT-4 conditions, (lower graph), the yield acceleration is only 0.04g, even though the post-earthquake minimum FOS was 1.49. These results suggest that aftershocks will be a significant consideration in the assessment of the overall safety of BC No. 1 and design of any remediation treatments.



BC No. 2

The results of the stability analysis are summarized in Table 17. The minimum FOS value of 1.83 estimated for the static loading condition of the downstream slope of BC No. 2 also exceed 1.5. The critical potential failure surface associated with this minimum FOS is shown on Figure 35.

Post-earthquake analysis results using reduced shear strength values are also summarized in Table 17. As can be seen, the minimum post-earthquake FOS value of 0.4 is less than 1.0 suggesting a significant potential for a stability failure of the structure during a large earthquake. The location of the critical failure surface associated with this minimum FOS value is shown on Figure 36. The failure surface daylights substantially below the reservoir and sediment levels strongly suggest the corresponding development of an overtopping failure mode releasing the full contents of the reservoir at the time of the earthquake. The minimum FOS value for the downstream slope results are highlighted red in Table 17. It should be noted that the minimum FOS value for the upstream slope is well above 2.0 suggesting that only the safety of the downstream slope requires further evaluation and corrective action. Similar to BC No. 1, based on our experience, HDR believes that the ground motions associated with a CSZ M 9.0 megathrust event will be the critical safety and design event for this dam.



11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 Conclusions

BC No. 1

The minimum FOS identified for BC No 1 (lower) indicates that this structure meets acceptable stability criteria and is stable under static loading conditions using the estimated static strength of the soils.

The BC No. 1 clay-like embankment soils are not well compacted, and the relatively loose sand-like and clay-like foundation soils extend up to 60 feet below the embankment. Based on the limited geotechnical explorations that were performed for this preliminary seismic evaluation, liquefaction of the relatively loose sand-like soils would result in a considerable loss of soil shear strength during a large earthquake event. The strength of the clay-like embankment and foundation soils would also be reduced in a seismic event. Simplified post-earthquake stability analysis results using the estimated reduced shear strength of these materials (that would occur during an earthquake) indicated that BC No. 1 could be susceptible to damage due to a large seismic event originating on either the Yaquina fault or CS Z. The dam may be subject to further and significant damage associated with aftershocks. Either fault system can generate large earthquakes, but the CSZ is of greater concern because of the relatively long duration of strong shaking from subduction-type earthquakes.

Field studies completed as part of this evaluation identified that the discharge end of the drainage blanket under the downstream embankment slope is not exposed as originally designed and constructed. This drain appears to be covered by up to 8 feet of clay-like soil fill (Figure 3). While the soils covering the drain discharge may slightly enhance the stability of the downstream slope, the drain is likely not functioning resulting in an increase in the water pressures in the dam and foundation materials beneath the downstream slope. The available records do not indicate when and why this fill was placed. Restoration of the drainage blanket function should be considered as part of future evaluation and remediation designs.

BC No. 2

The minimum FOS value identified for BC No. 2 (upper) indicates that this structure meets acceptable stability criteria and is stable under static loading conditions using estimated static strength of the soils.

As simplified analysis results indicated, however, the downstream slope of BC No. 2 is susceptible to significant damage and would likely experience a stability failure due to a seismic event originating on either the Yaquina fault or CSZ. Either fault system can generate large earthquakes, but the CSZ is of greater concern because of the relatively long duration of strong shaking from subduction type earthquakes. The critical potential failure surface identified in these evaluations suggest that an overtopping breach of the dam would occur releasing the full contents of the reservoir.

The BC No. 2 clay-like embankment soils are generally well compacted; however, loss in strength of some of the clay-like embankment soils, particularly in the lower portions of the embankment and cutoff trench could still occur because of the intensity of ground shaking that is possible. Based on the available design and construction records, it appears that most of the alluvial soils were removed for construction of the cutoff trench; however, outside of the relatively narrow cutoff trench the embankment dam was constructed on the alluvial foundation soils that also appear to have the potential for significant strength loss during earthquake loading. One boring drilled near the downstream toe of the embankment dam (BC2-B-3) also revealed a relatively loose layer of potentially liquefiable sand-like soil. Liquefaction of this relatively loose layer of sand-like soil would also result in a considerable loss of soil strength.



11.2 Recommendations

The preliminary seismic evaluation of the BC No. 1 and BC No. 2 dams presented in this report has indicated significant safety concerns with each dam. It is noted however, that these evaluations were based on limited site characterization information and a simplified analyses procedure. Safety concerns as well as any remediation design are sensitive to the characterization of the embankment dam and foundation soils. The differentiation between the sand-like liquefiable soils and the clay-like soils and the corresponding post-earthquake strength of materials that may be susceptible to liquefaction or cyclic softening is a critical consideration and is dependent on the density and PI of the soils. The loss of strength of sand-like soils due to liquefaction during seismic loading is the more acute consideration at the site.

Based on the results of this evaluation and experience on similar projects including the nearby Scoggins Dam evaluations underway by the U.S. Bureau of Reclamation, HDR recommends that an additional phase of site characterization studies including additional sampling and testing of the embankment and foundation soils along with correlation of soil properties to existing and additional CPT soundings be completed. Further, we recommend that more advanced numerical modeling of the dams be performed to support the safety assessment and for development of remediation concepts. Laboratory testing of soil samples is the only means to reliably classify the soil as either sand-like or clay-like and to support the development of estimates of peak and reduced undrained shear strength.

Additional Field Exploration and Laboratory Testing

To properly characterize the soils, HDR recommends drilling three additional borings at BC No. 1 and four additional borings at BC No. 2. Each boring would be drilled at least 10 feet into the decomposed/weathered siltstone. Since the foundation soils are highly variable, soil samples spaced on 2.5-foot intervals is required. At each boring location, a boring will be drilled utilizing the SPT sampler to obtain disturbed samples to determine the soil PI. Based on the field classification of the soils, a companion boring will be drilled next to the SPT boring to obtain undisturbed samples with a hydraulic fixed-piston sampler. This will provide the highest quality undisturbed samples for laboratory testing. Such a program will target samples from the optimum depth and will result in the minimum number of required undisturbed samples and laboratory testing. Laboratory testing of the undisturbed samples should include consolidation, static triaxial, and static and cyclic direct simple shear.

Dam Repair Alternatives Analysis

The seismic evaluation of each dam would be revised based on the results of the additional boring and laboratory test data. If these results indicate that the dams are still vulnerable to damage during a seismic event, repair alternatives should be developed. Based on the workshop held at HDR's Portland office on August 2, 2012, it is understood that the City of Newport may not want to repair BC No. 1 even if the analysis indicates the dam could fail during a seismic event. HDR recommends that alternatives be developed for BC No. 1 that include a conceptual design and cost estimate to allow the City to then decide if the cost to repair BC No.1 is prohibitive and if storage from the BC No. 1 reservoir should be moved to BC No. 2 with a corresponding enlargement of that dam and reservoir.

Repair of BC No. 1 Drainage Blanket

As previously noted, restoration of the downstream embankment drainage blanket function should be considered as part of future evaluation and remediation designs.



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Engineering Manual M 1110-2-1902, Slope Stability, October 31, 2003.
- U.S. Geologic Survey Earthquake Hazard Program. 2012.
“Quaternary Fault Map and associated database” <http://earthquake.usgs.gov/hazards/qfaults/>.
Accessed on September 5, 2012.



CITY OF NEWPORT, OR
Big Creek Dam #1 & #2

Attachment B
Newport Reservoir
UGB Expansion
(File No. 2-UGB-12)



Presentation

Dam Assessment

August 2nd 2012

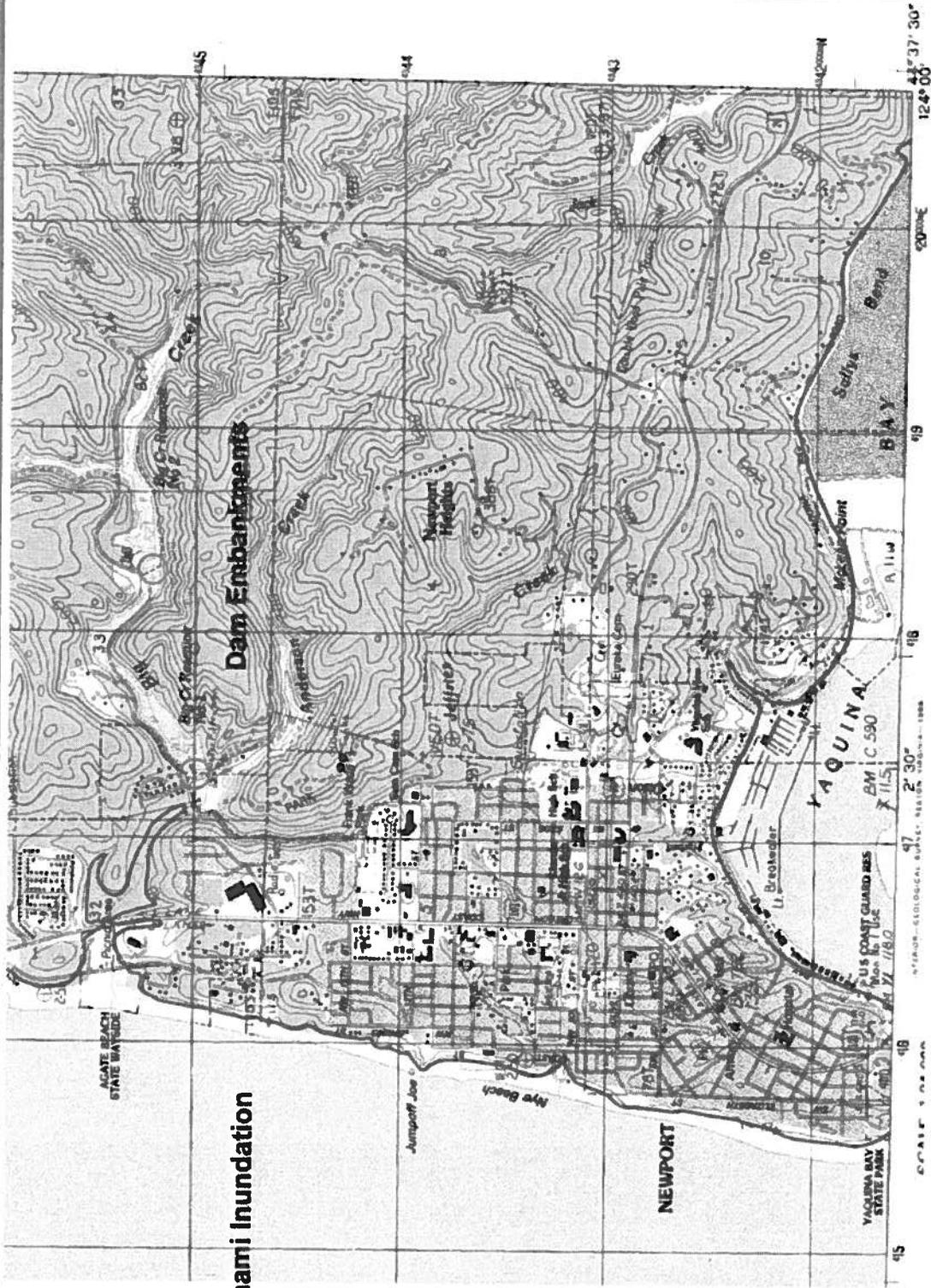
Verena Winter, Barry Meyer, Rich Hannan

HDR

Overview

- Site Geology
- Earthquake History
- Dam Construction Characteristics
- State of Earthquake Practice/Seismic Design
- Site Specific Earthquake Characteristics
- Site Specifics
 - Soil Characterization
 - Lab Testing
 - Analytical Results
- Summary
- Conclusion / Recommendations

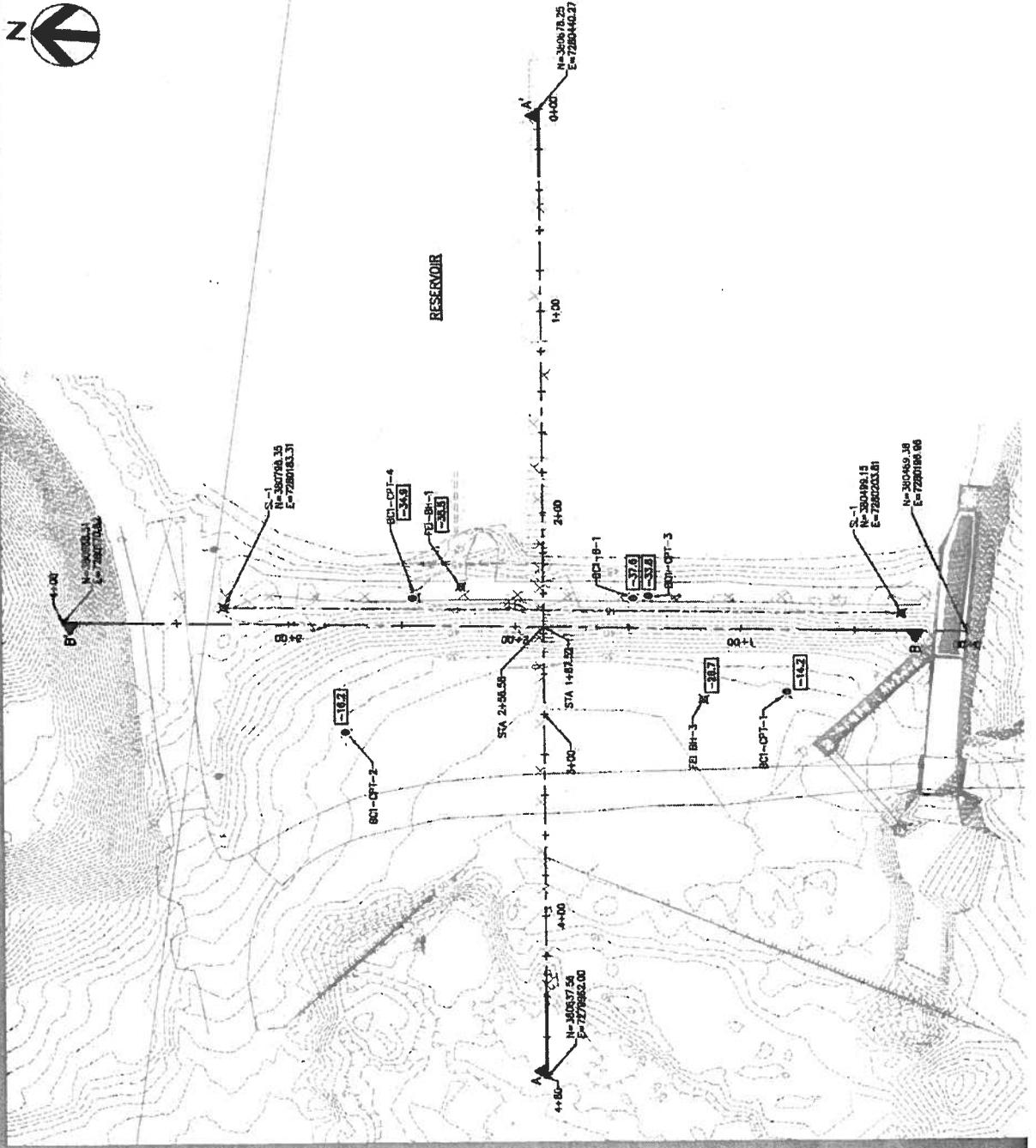
Site Location Map



Open File report O-95-28
Tsunami hazard Map of the Newport Quadrangle, Lincoln County, Oregon

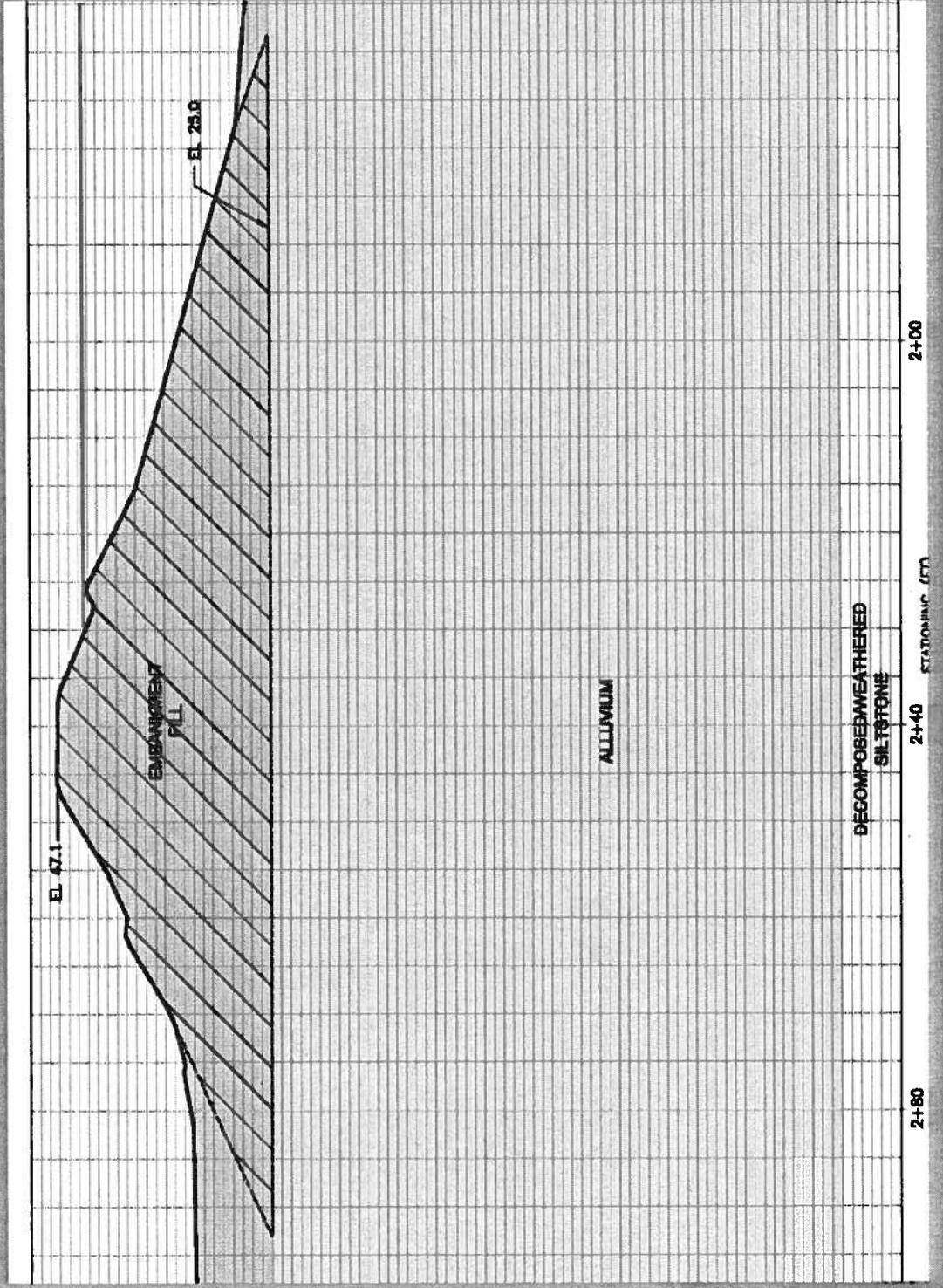
Site Boring Location Plan

Big Creek #1



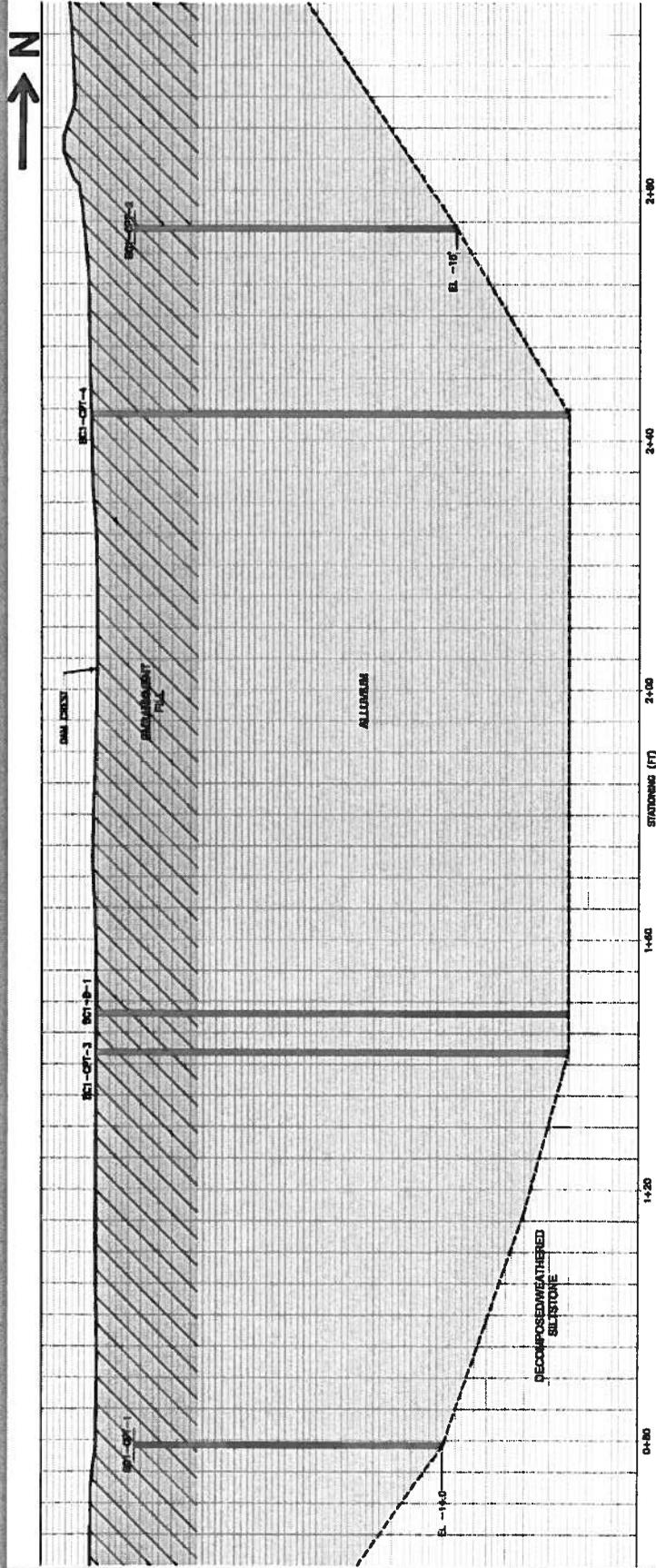
Site Geology

Big Creek #1



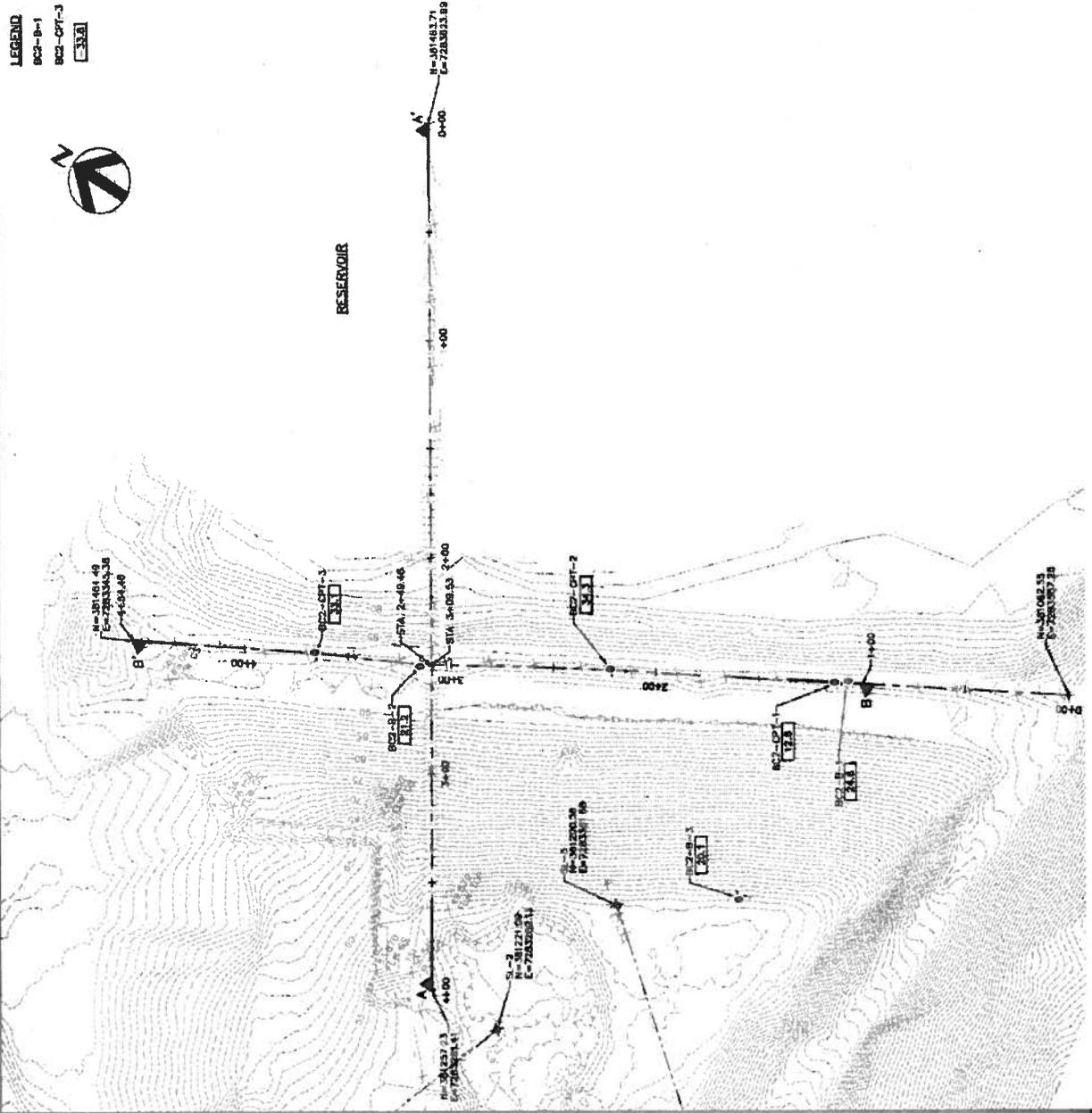
Site Geology

Big Creek #1



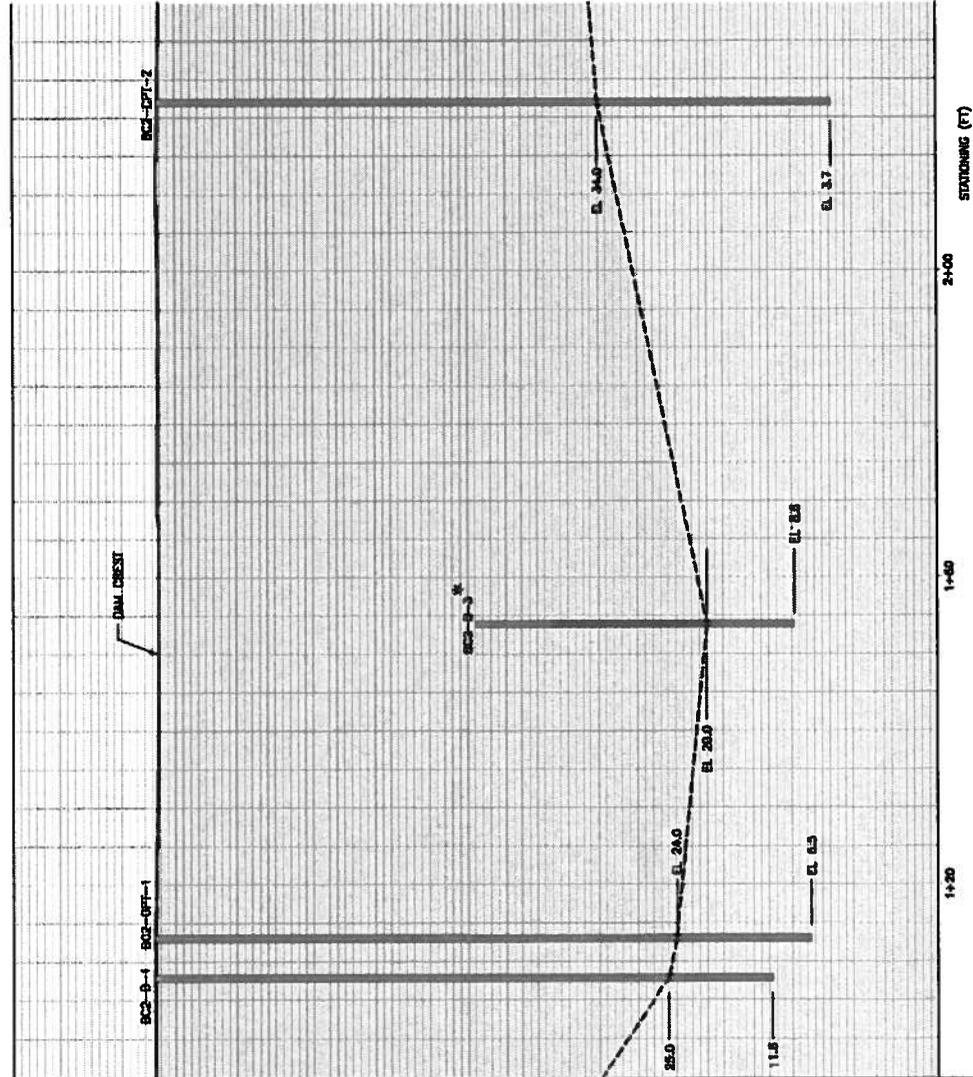
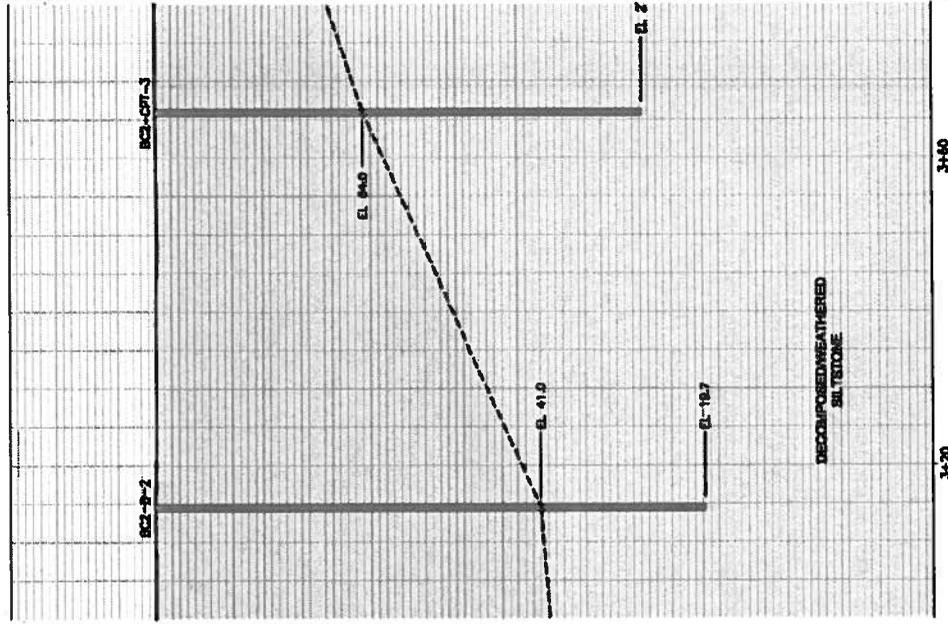
Site Boring Location Plan

Big Creek #2

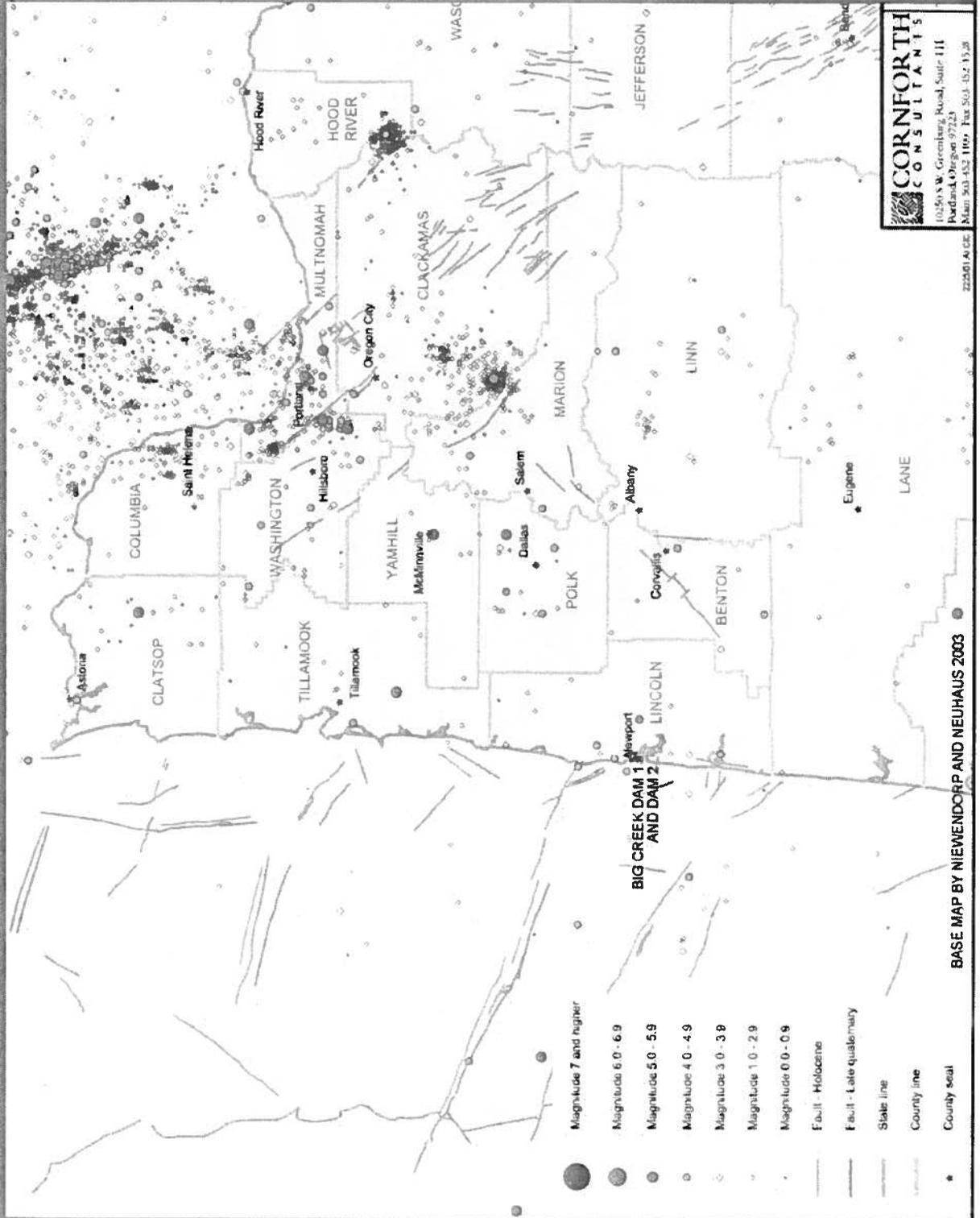


Site Geology

Big Creek #2



Regional Seismicity



CORN FORTH
CONSULTANTS

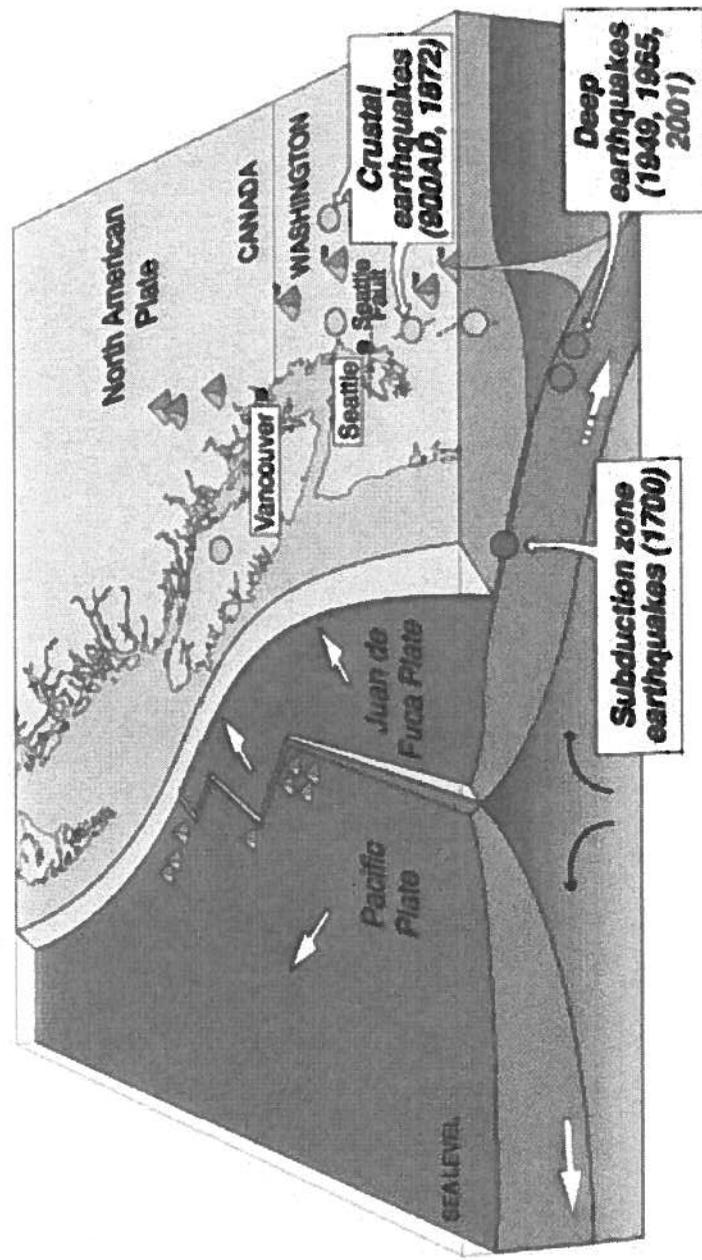
10250 N.W. Greenberg Road, Suite 111
Portland, Oregon 97223
Main 503-452-1100 Fax 503-452-1528

22501 A.C.C.

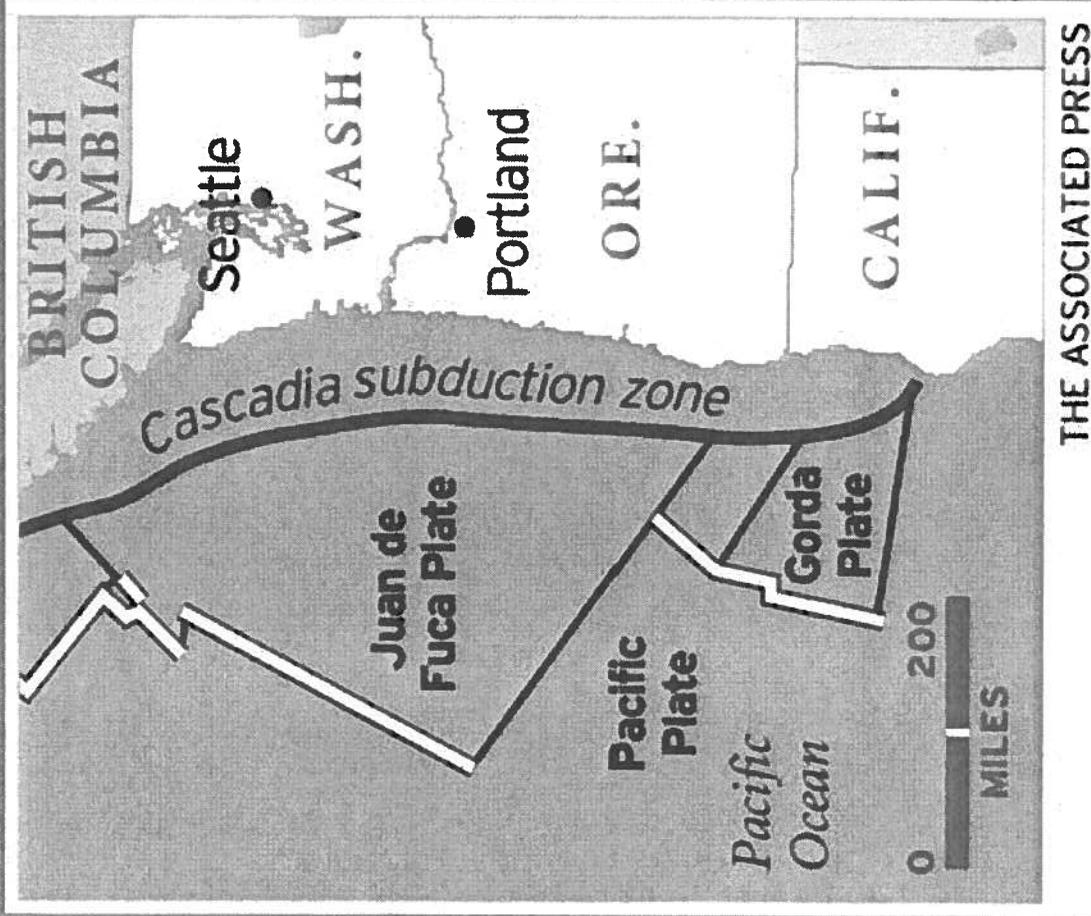


Regional Seismicity

Cascadia earthquake sources



Regional Seismicity



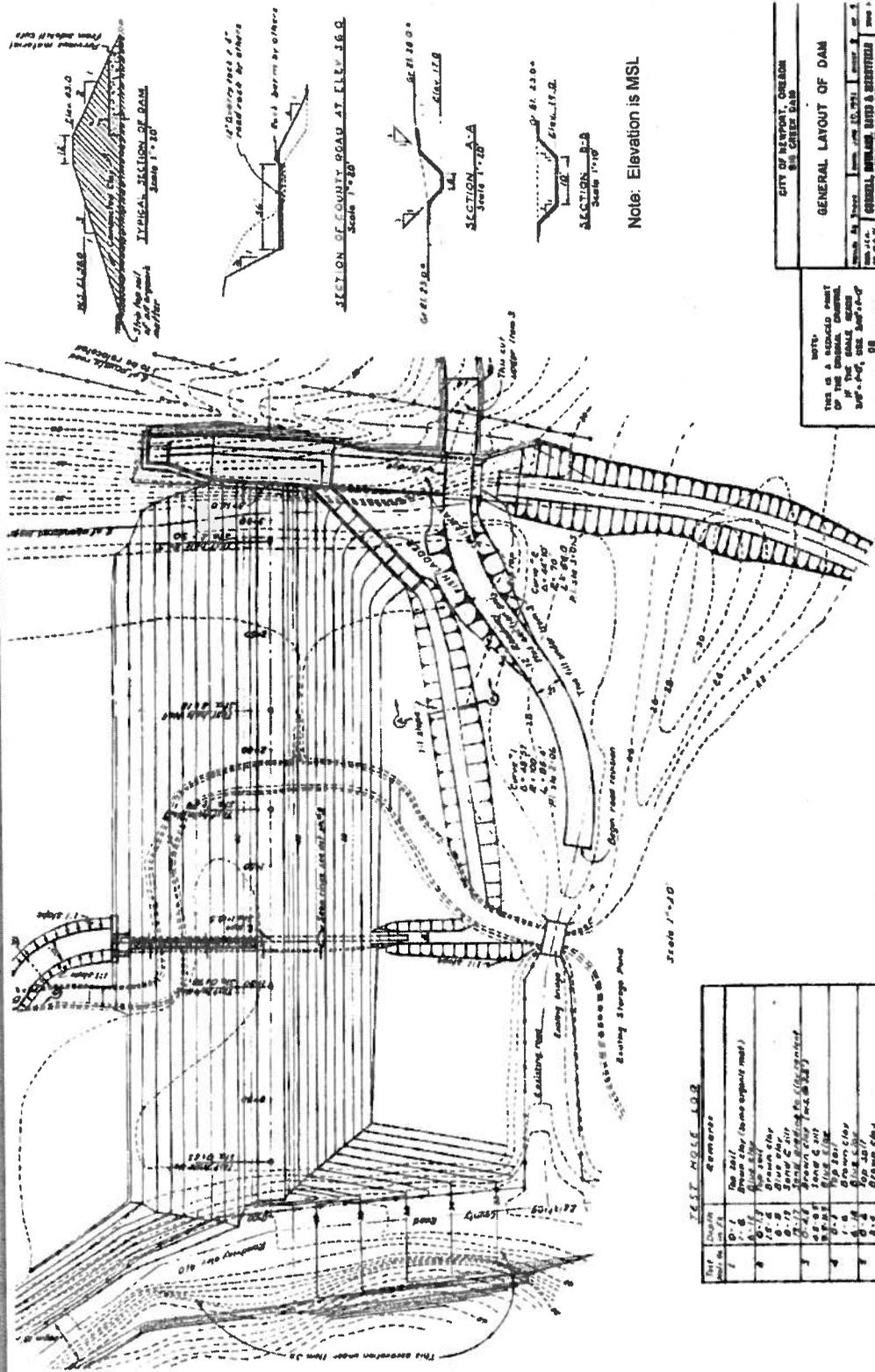
THE ASSOCIATED PRESS

Oregonian Aug 2, 2012

HDR

Dam Construction Characteristics

Big Creek #1 1951



TEST HOLE LOG

Station	Remarks
1	Top soil
2	Gravelly sand (some silt)
3	Gravelly sand
4	Gravelly sand
5	Gravelly sand
6	Gravelly sand
7	Gravelly sand
8	Gravelly sand
9	Gravelly sand
10	Gravelly sand
11	Gravelly sand

CITY OF MARYSVILLE
 BIG CREEK DAM
 GENERAL LAYOUT OF DAM

DATE: 10/10/51
 DRAWN BY: [Name]
 CHECKED BY: [Name]

NOTE:
 THIS IS A REDUCED COPY
 OF THE ORIGINAL DRAWING
 FOR THE DAM PROJECT
 SEE DRAWING NO. [Number]

**State of Earthquake Practice / Seismic
Design**

Keith Mills

HDR

Site Specific Earthquake Characteristics

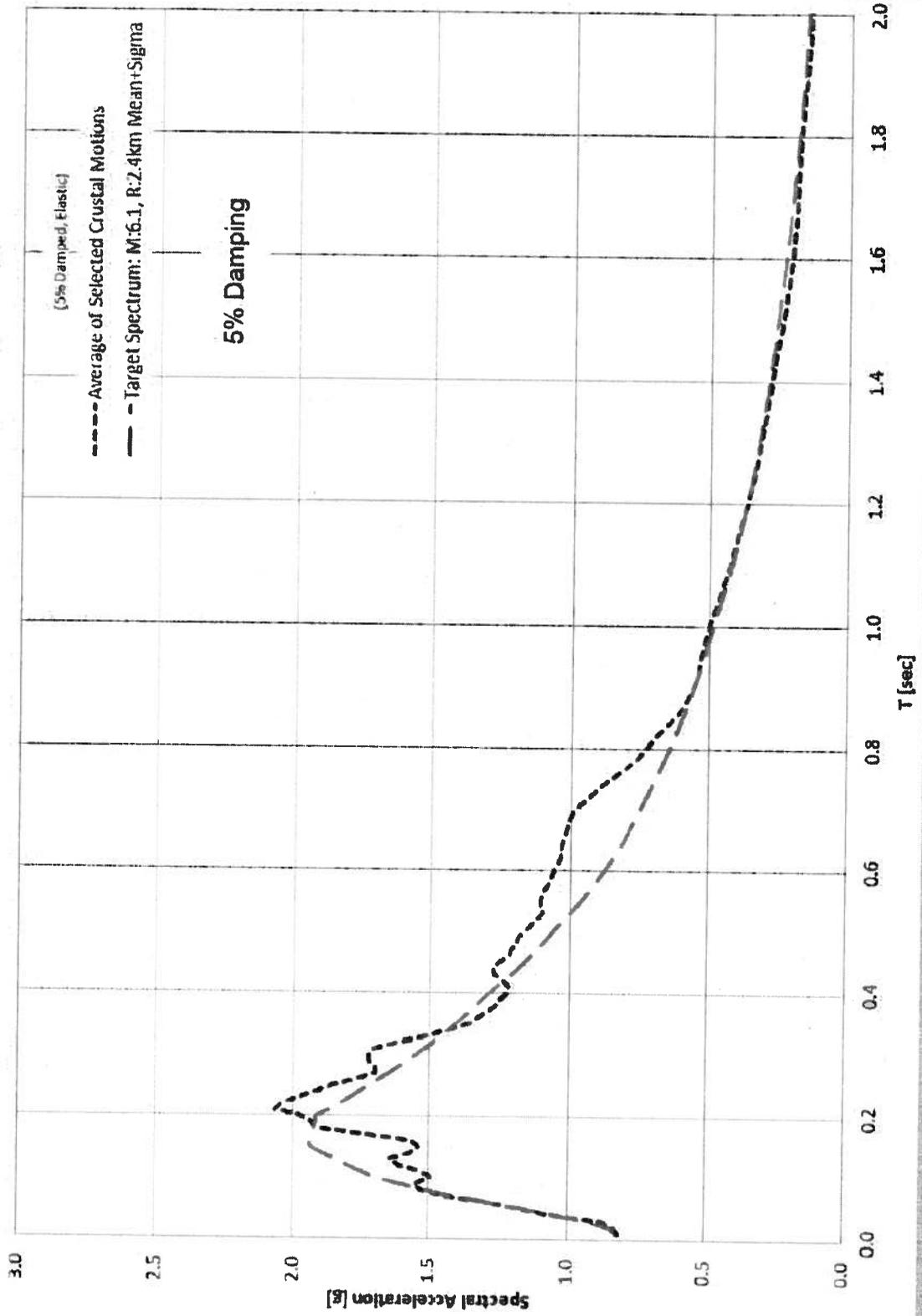
Deaggregated Earthquake Motions

Earthquake Source	Motion Percentile	Period Range(s)	Geology	Earthquake Magnitude	Distance (km)	PGA ¹ (g)
Yaquina Faults	84 th	0 to 0.6	Rock Site	6.1	2.4	0.83
CSZ Interface	84 th	0.4 to 2	Rock Site	9.0	23	0.56

¹PGA based on attenuation relationships

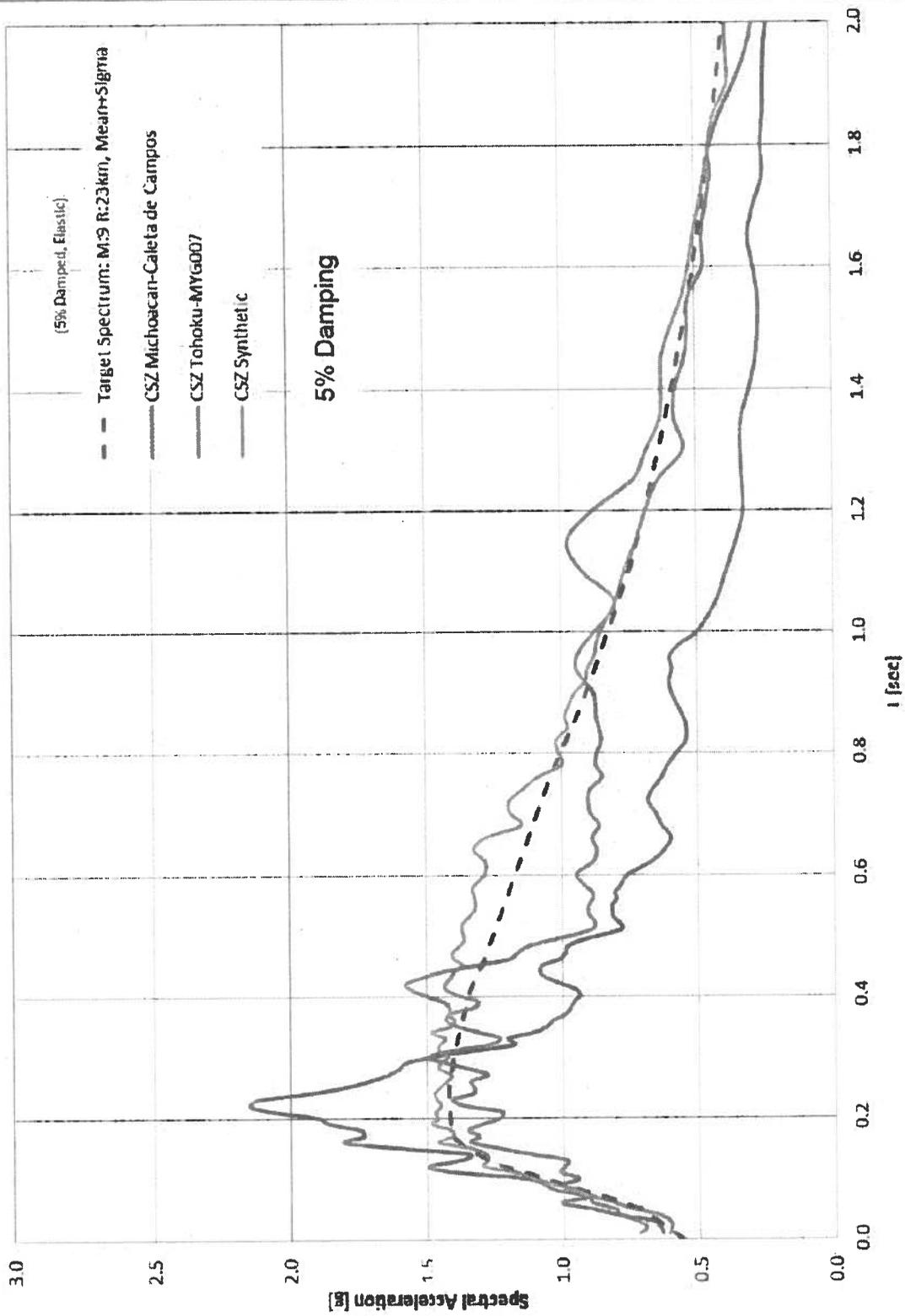
Site Specific Earthquake Characteristics

Average of Selected Crustal Source Ground Motions and Target Response Spectra



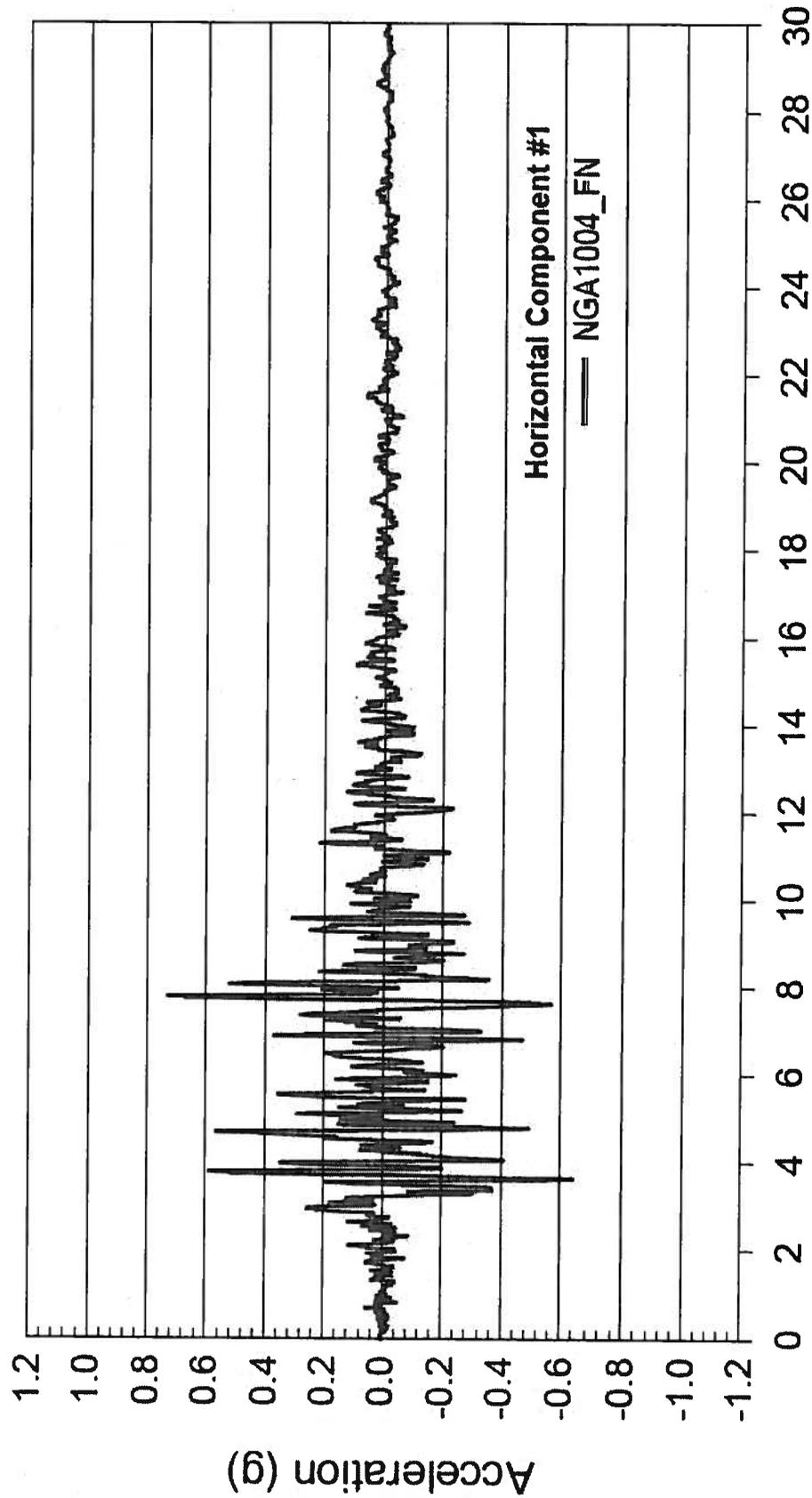
Site Specific Earthquake Characteristics

Selected Subduction Zone Ground Motions and Target Response Spectra



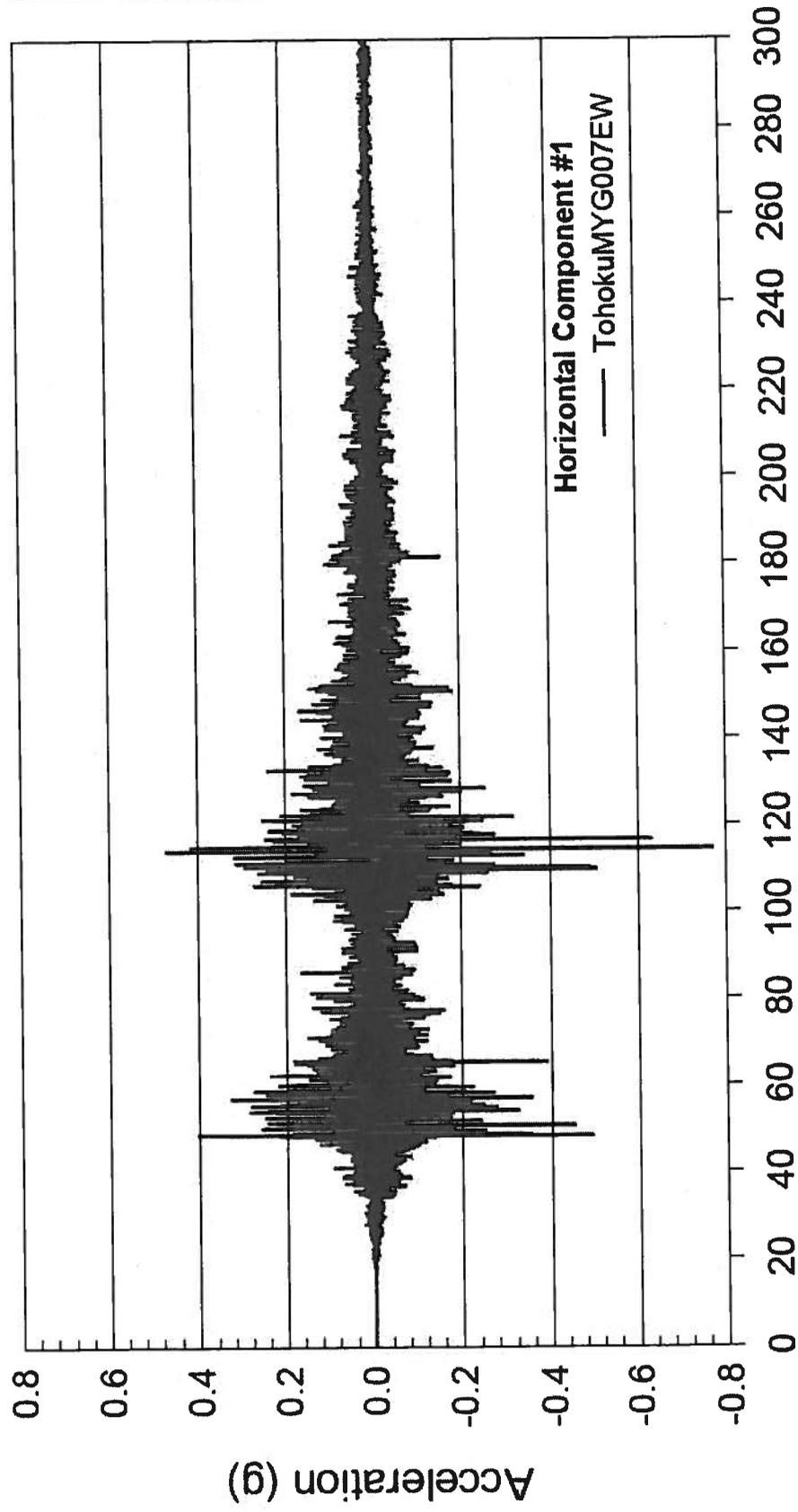
Site Specific Earthquake Characteristics

Northridge (1994), LA - Sepulveda VA Hospital



Site Specific Earthquake Characteristics

Tohoku (2011), Toyosato (MYG007)
(Scaled and Stretched)



Site Characterization

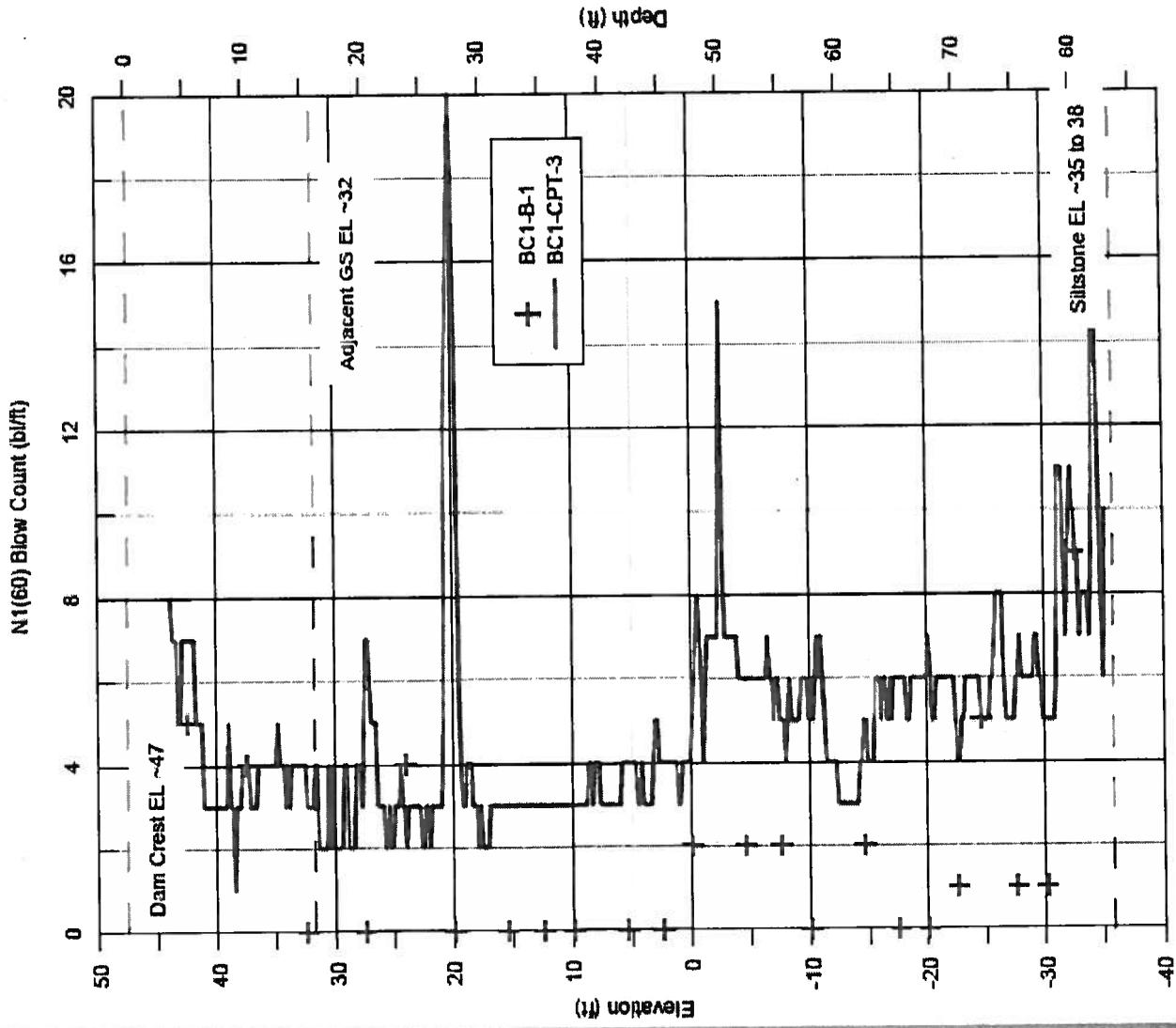
Field Explorations

- Soil Borings
- Cone Penetrometer Soundings (CPTu)
- Geophysical Survey

Lab Testing

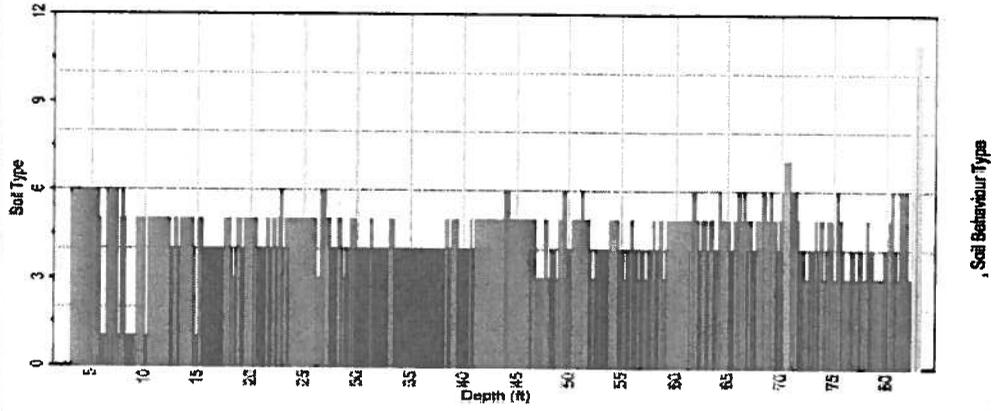
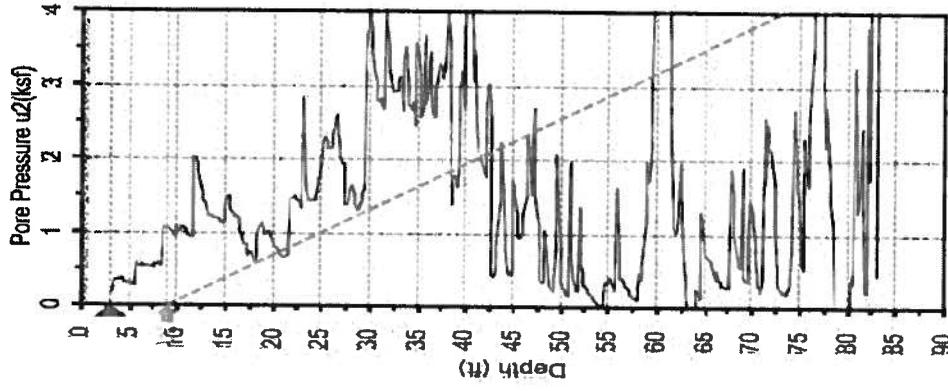
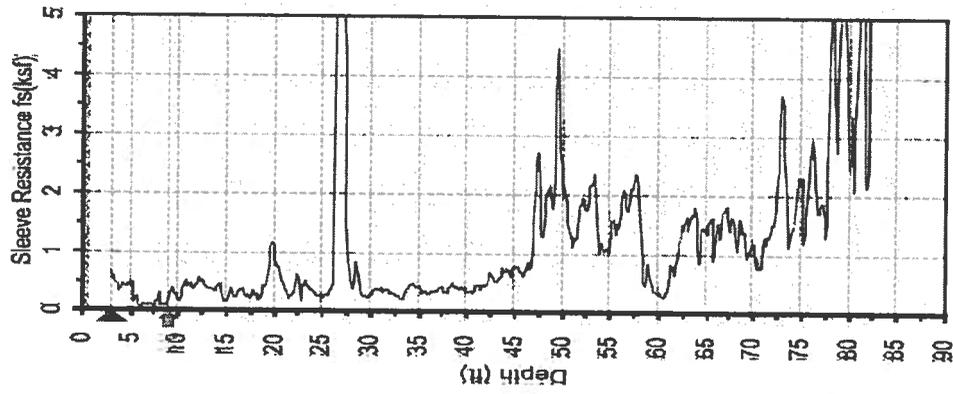
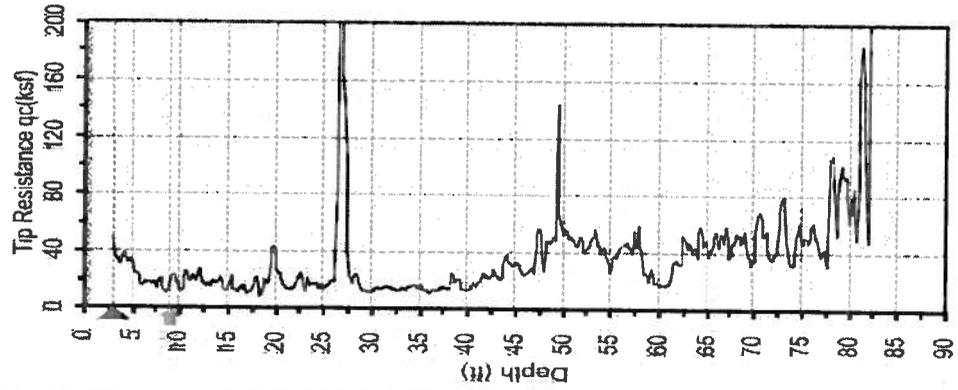
- Classification Tests
- Consolidation
- Triaxial Compression
- Static, and Cyclic Simple Shear
- Carbon Dating

Site Specifics - Soil Borings

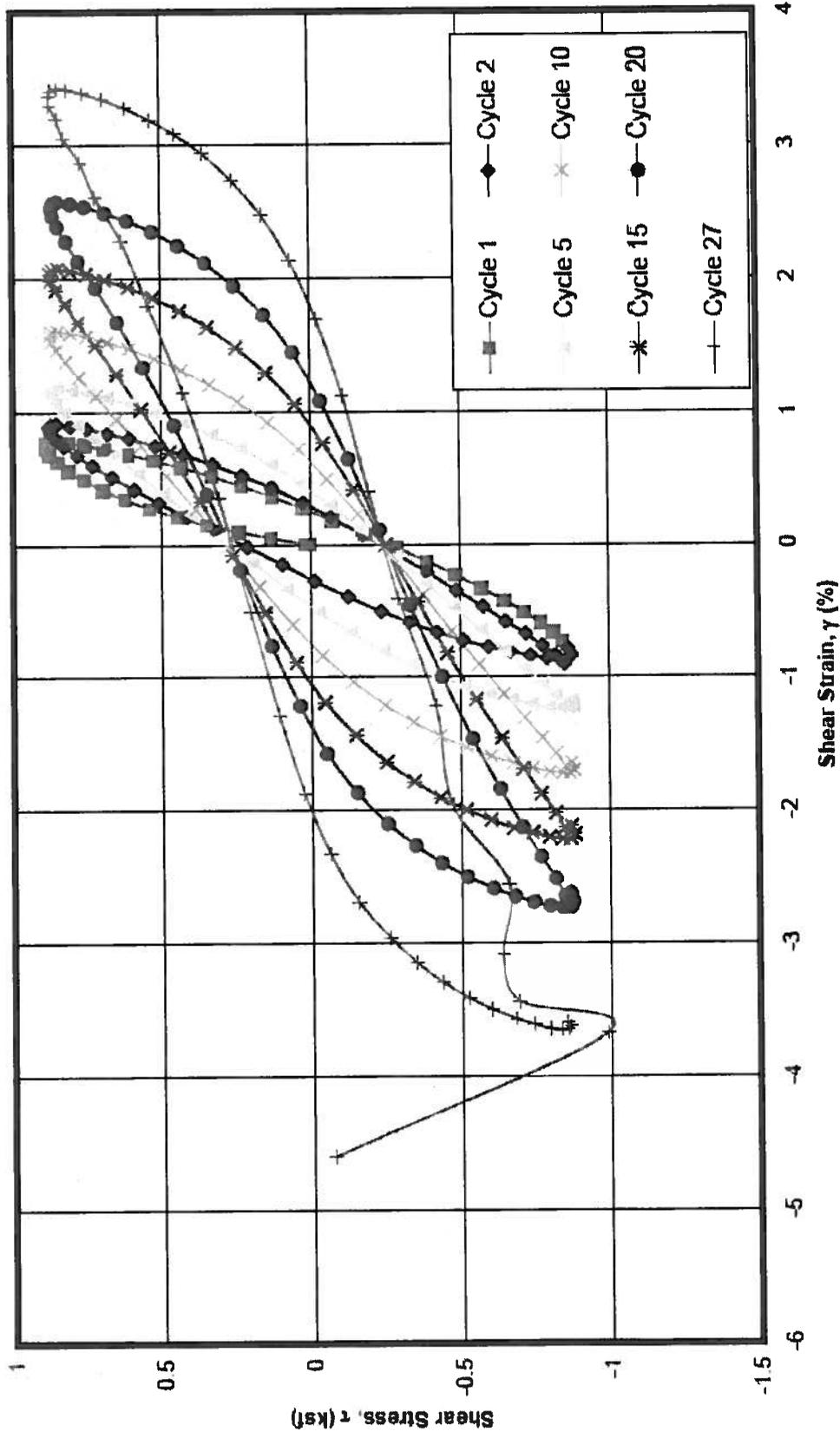


Note: N1(60) values based on correlations with CPTu data (Jefferies and Davies 1993)

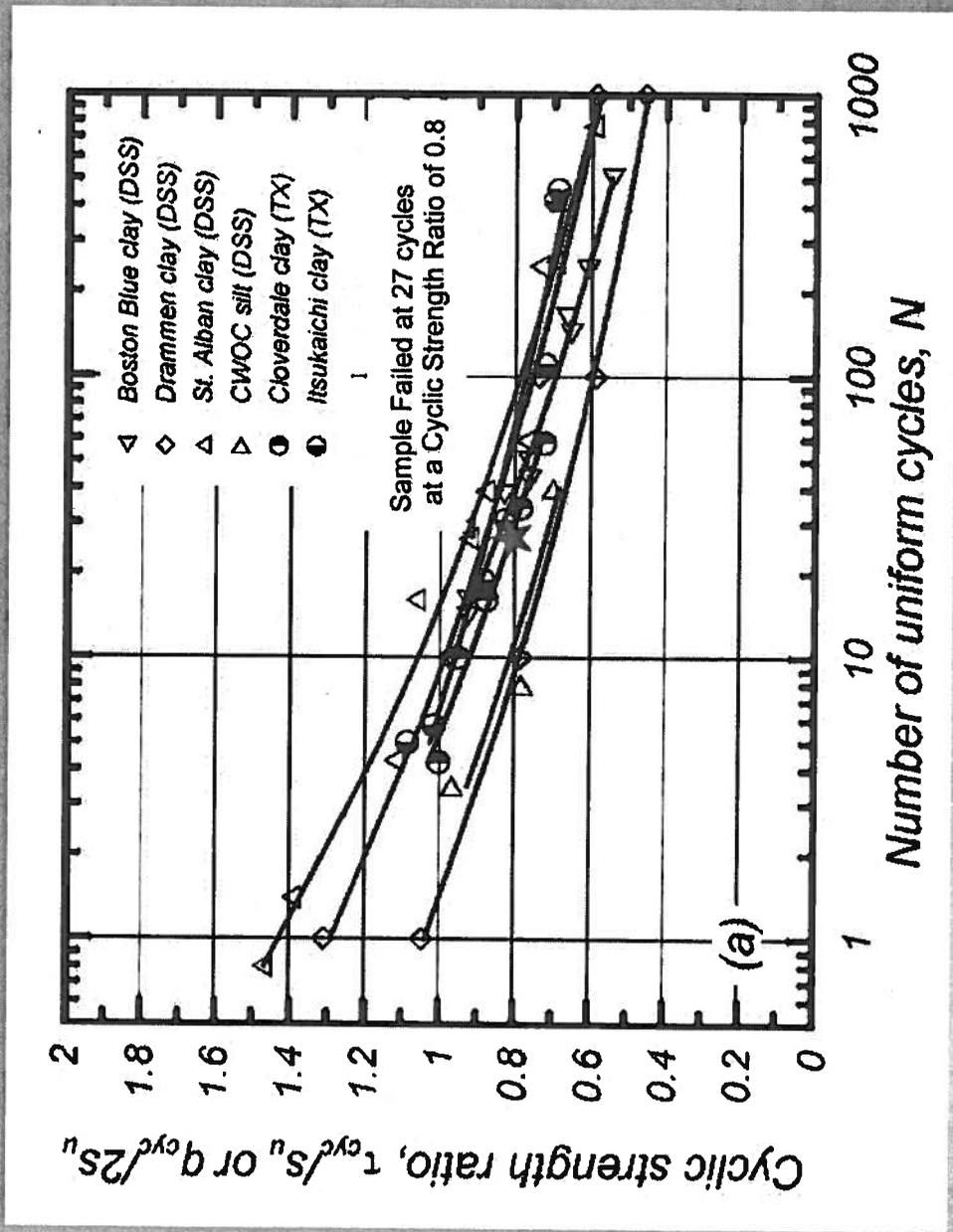
Site Specifics - CPT Results



Site Specifics - Lab Testing

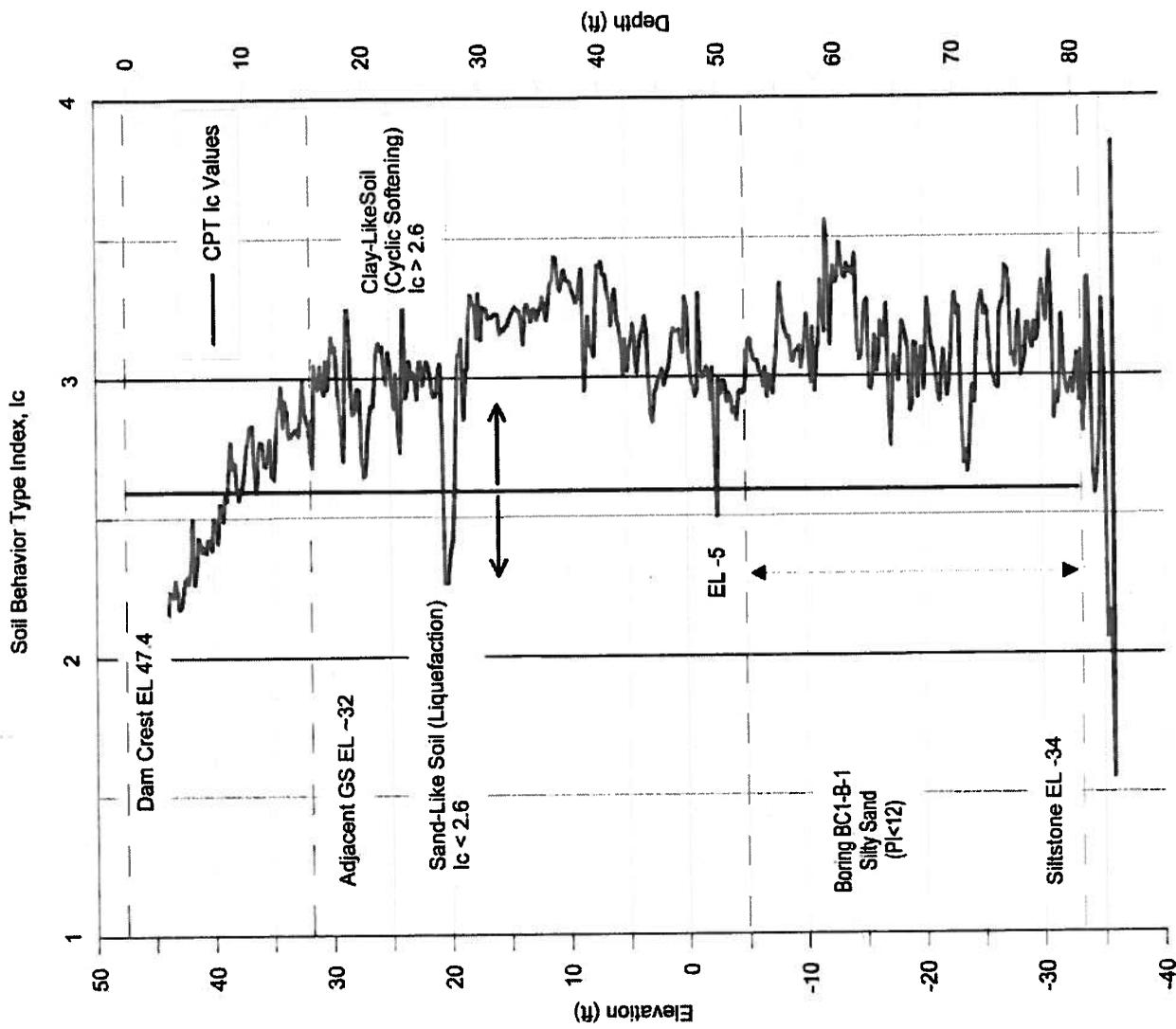


Site Specifics – Lab Testing Results



Site Specifics - Analysis / Modeling

BC1-B-1/BC1 - CPT-3



Note: Robertson and Wride (1998) identified potentially liquefiable soils with Soil Behavior Index, $I_c < 2.6$

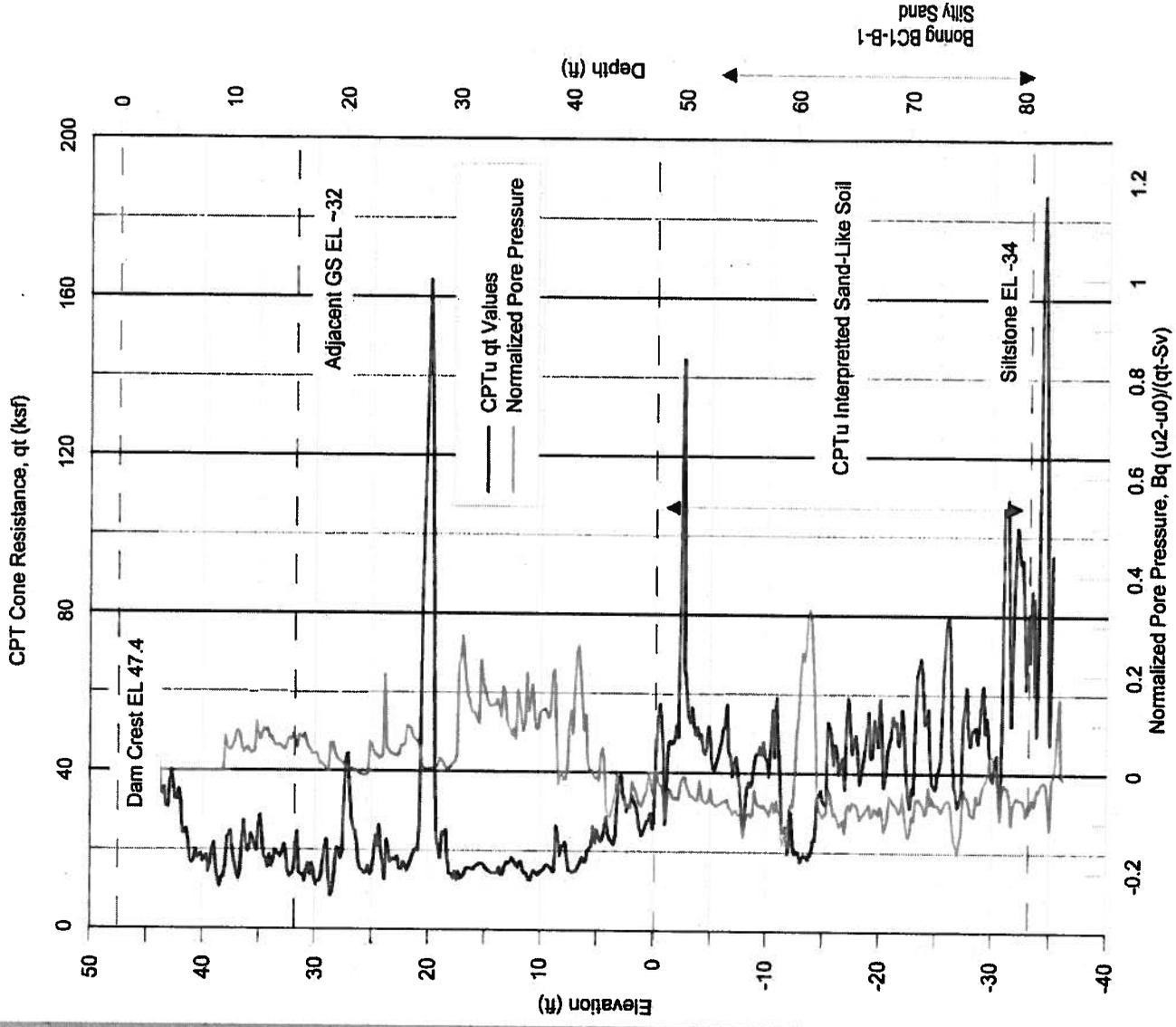
Site Specifics - Analysis / Modeling

BC1-B-1/BC1 - CPT-3

Sand-Like = $PI < 12$
Clay-Like = $PI > 12$

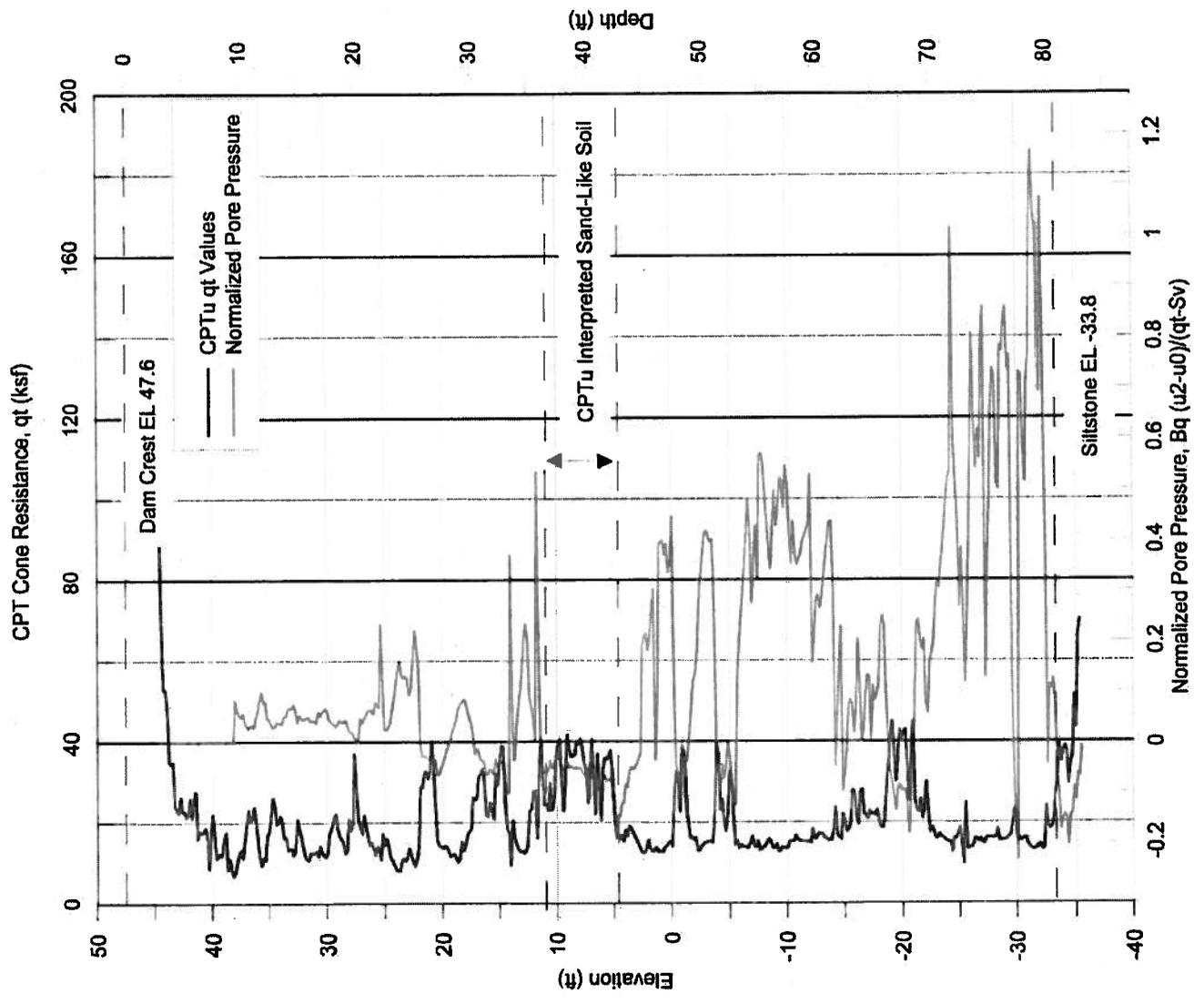
PI = Plasticity Index

HDR



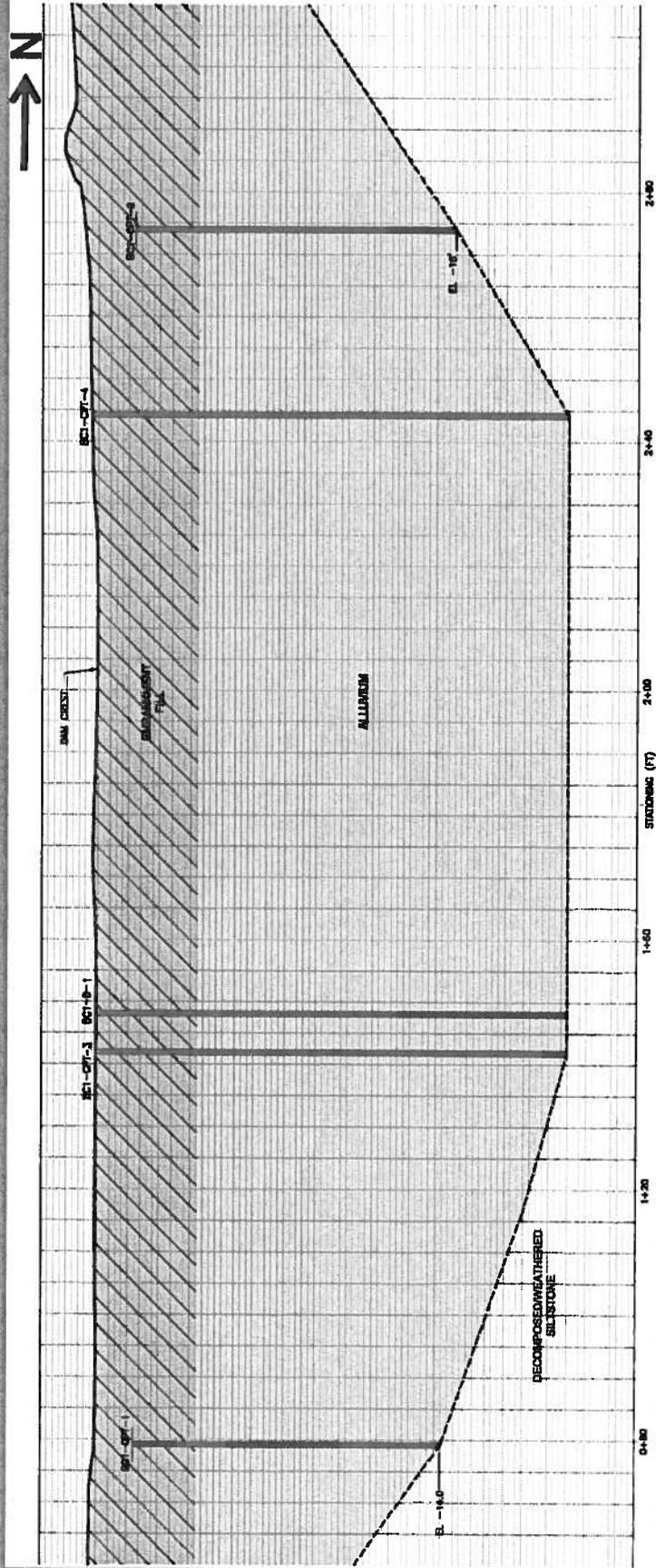
Site Specifics - Analysis / Modeling

BC1 - CPT - 4



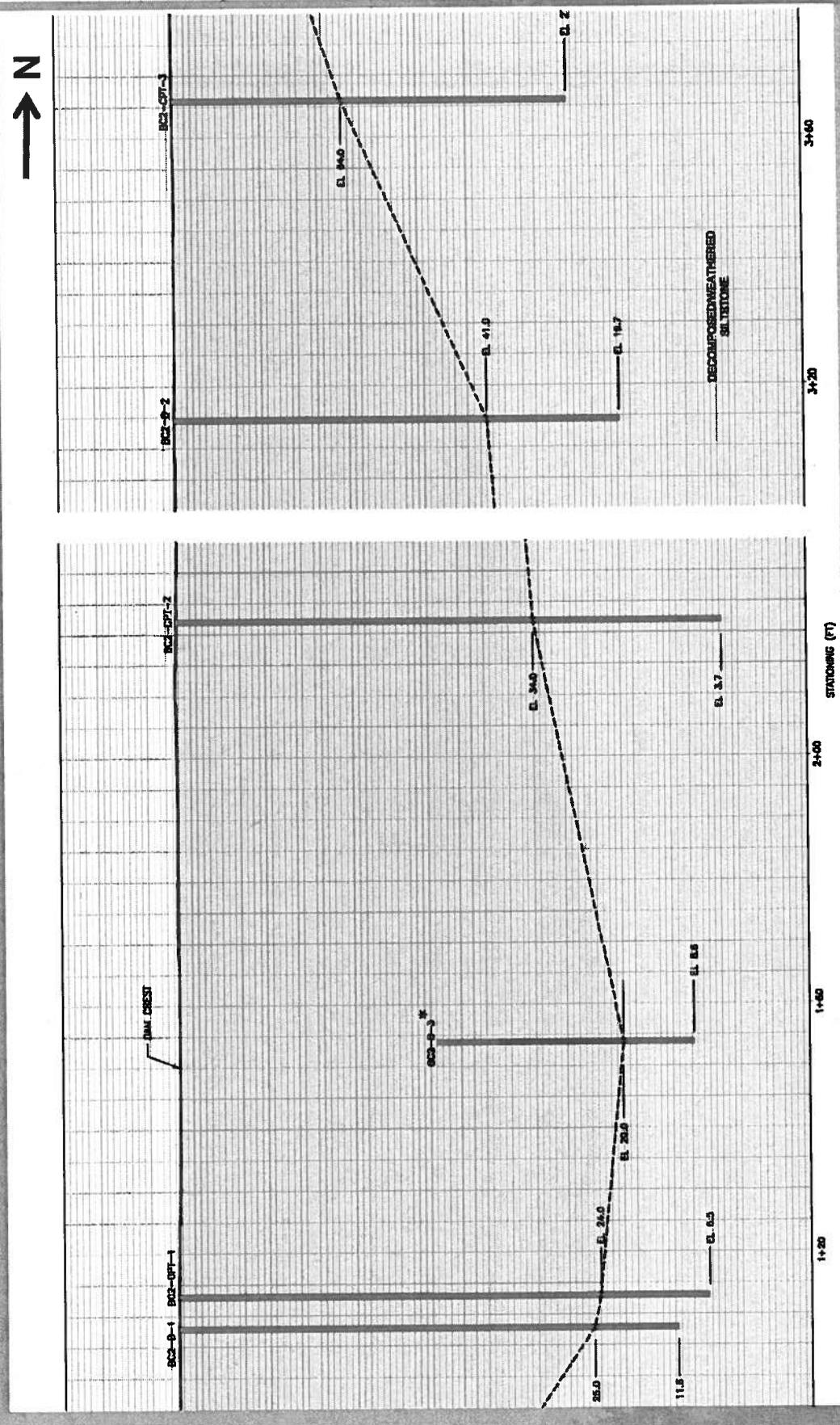
Site Geology

Big Creek #1



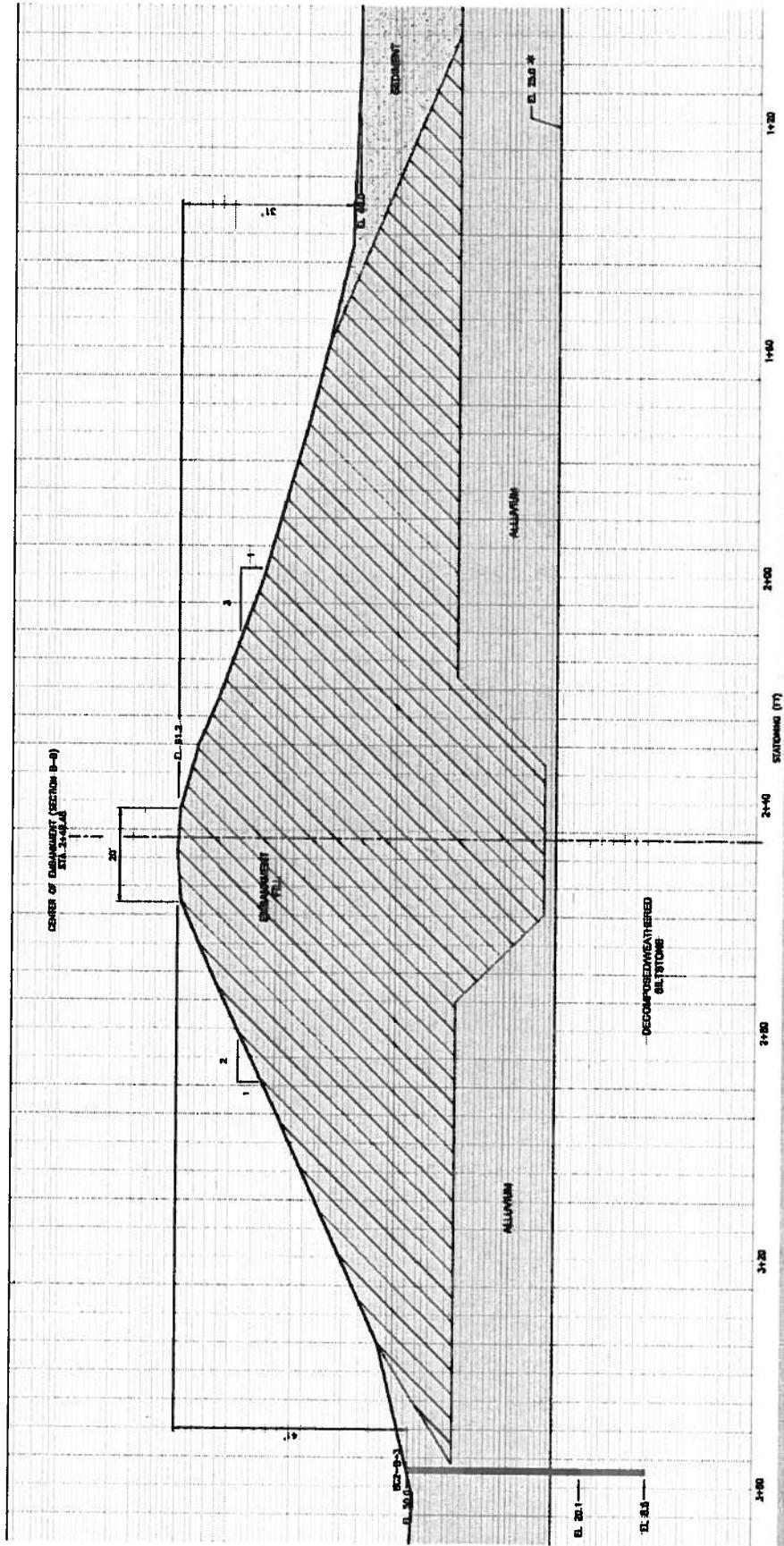
Site Geology

Big Creek #2

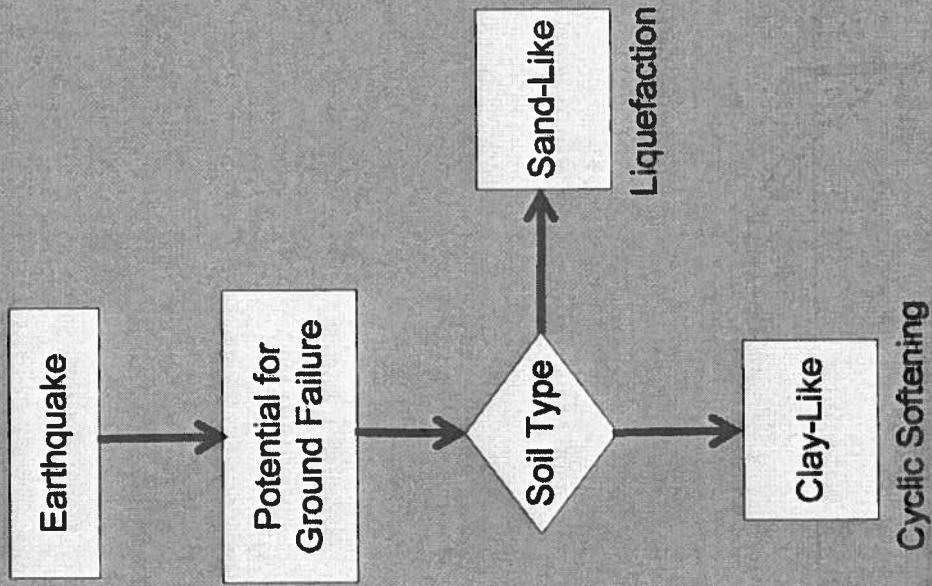


Dam Construction Characteristics

Big Creek #2



Procedure for Ground Failure Analysis



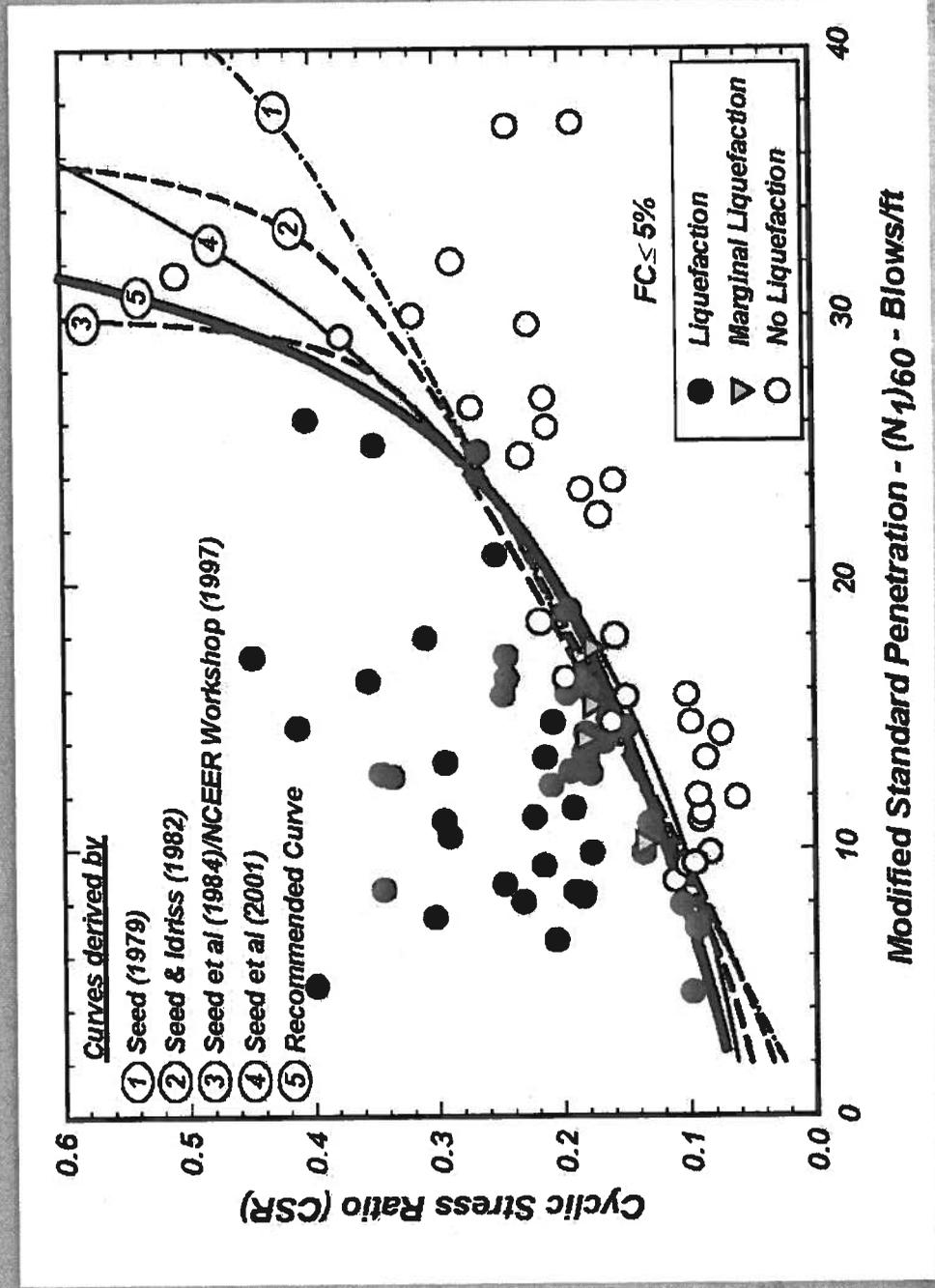
Procedure for Ground Failure Analysis

- Characterize Soil – Sand-Like or Clay-Like
- Cyclic Stress Ratio (CSR)
 - $CSR = 0.6 * (a_{max}/g) * (S_{v0}/S'_{v0}) * r_d * K_s * K_a$
- Cyclic Resistance Ratio (M7.5)
 - Sand-Like : Liquefaction

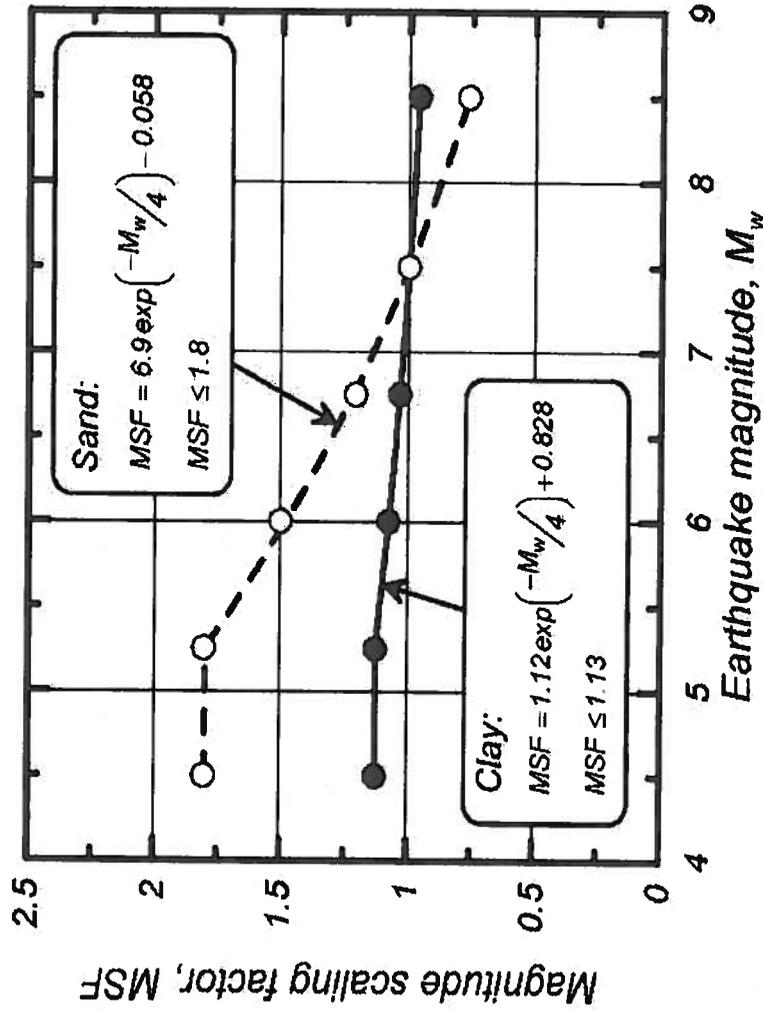
$$CRR = exp \left\{ \left[\frac{(N_r)_{60CS}}{14.1} + \left(\frac{(N_r)_{60CS}}{126} \right)^2 \right] - \left[\left(\frac{(N_r)_{60CS}}{23.6} \right)^3 + \left(\frac{(N_r)_{60CS}}{25.4} \right)^4 \right] - 2.8 \right\}$$

- Clay-Like : Cyclic Softening
 - $CRR_{(M=7.5)} = 0.8 * S_{v0}/S'_{v0} * K_a$
- $CRR = CRR_{(M=7.5)} * MSF$

General Procedure for Ground Failure Analysis

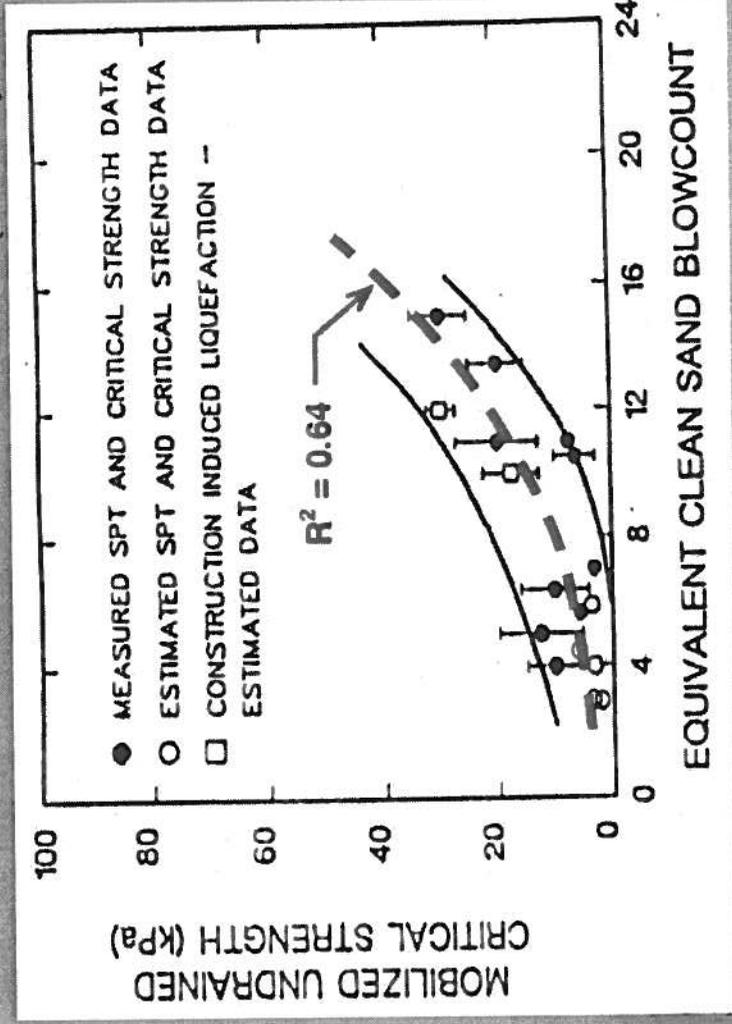


General Procedure for Ground Failure Analysis



Procedure for Ground Failure Analysis

- Calculated Factor of Safety
 - $FOS = CRR/CSR$
- Determine Post-Earthquake Strength
 - Sand-Like : Seed and Harder (1990)



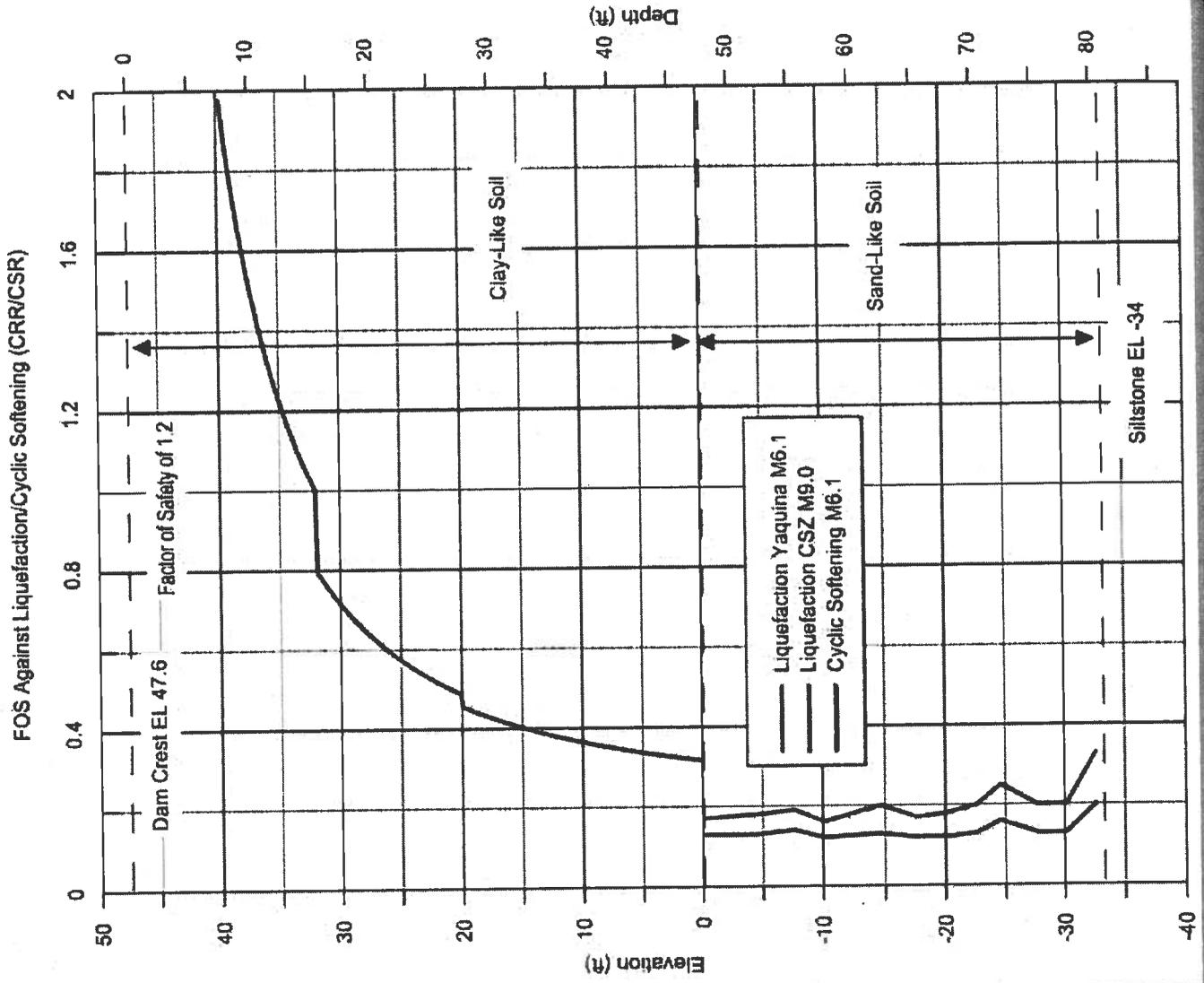
Procedure for Ground Failure Analysis

- Determine Post-Earthquake Strength
 - Clay-Like : Results of Laboratory Testing
 - Based on One Simple Shear Test:
 $S_u (\text{Post-Earthquake}) = 0.66 * S_u (\text{Pre-Earthquake})$
- Perform Post-Earthquake Stability Analyses

Results of Ground Failure Analysis

BC1 - B-1/
BC1-CPT-3

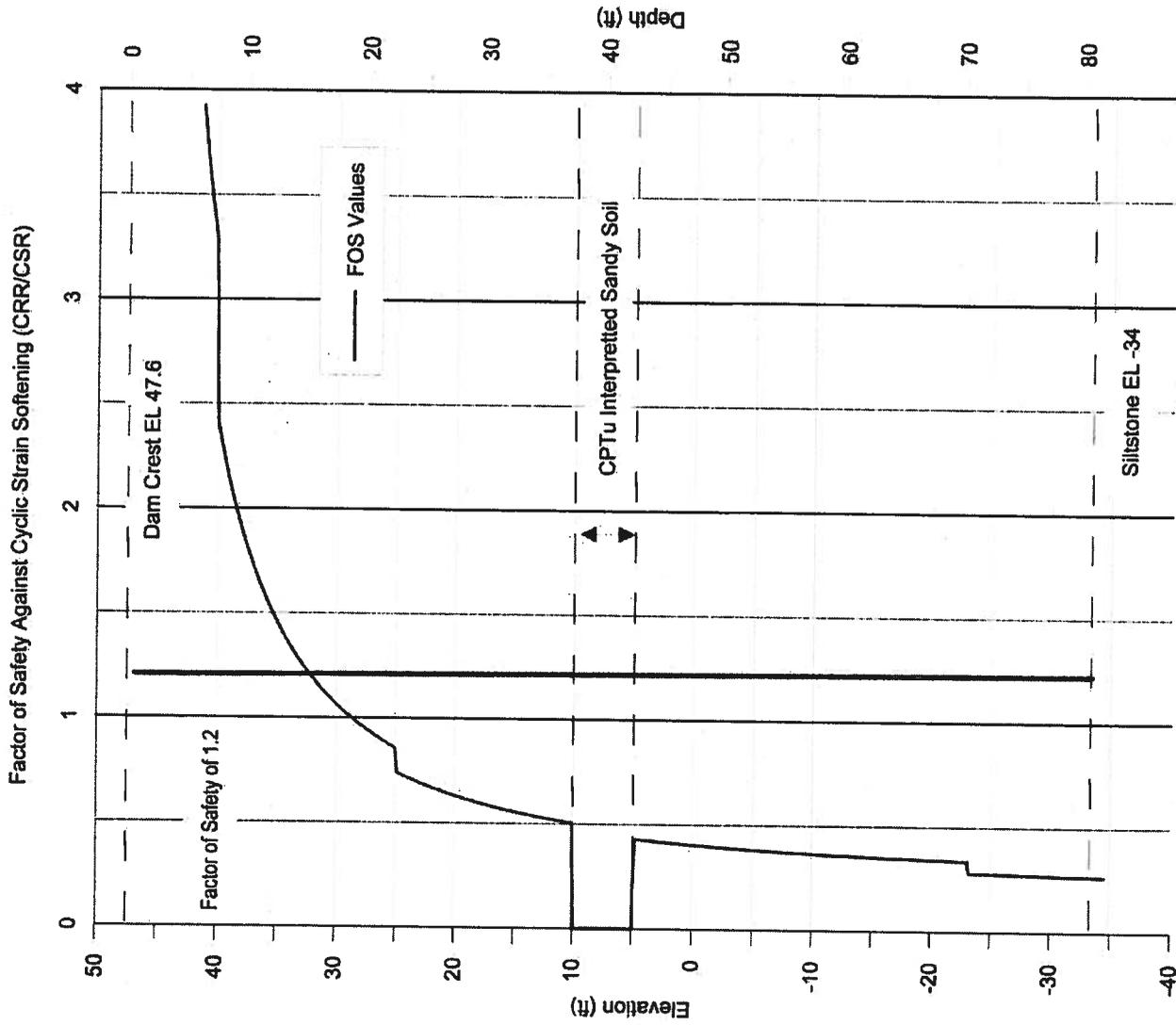
HDR



Results of Ground Failure Analysis

BC1-CPT-4

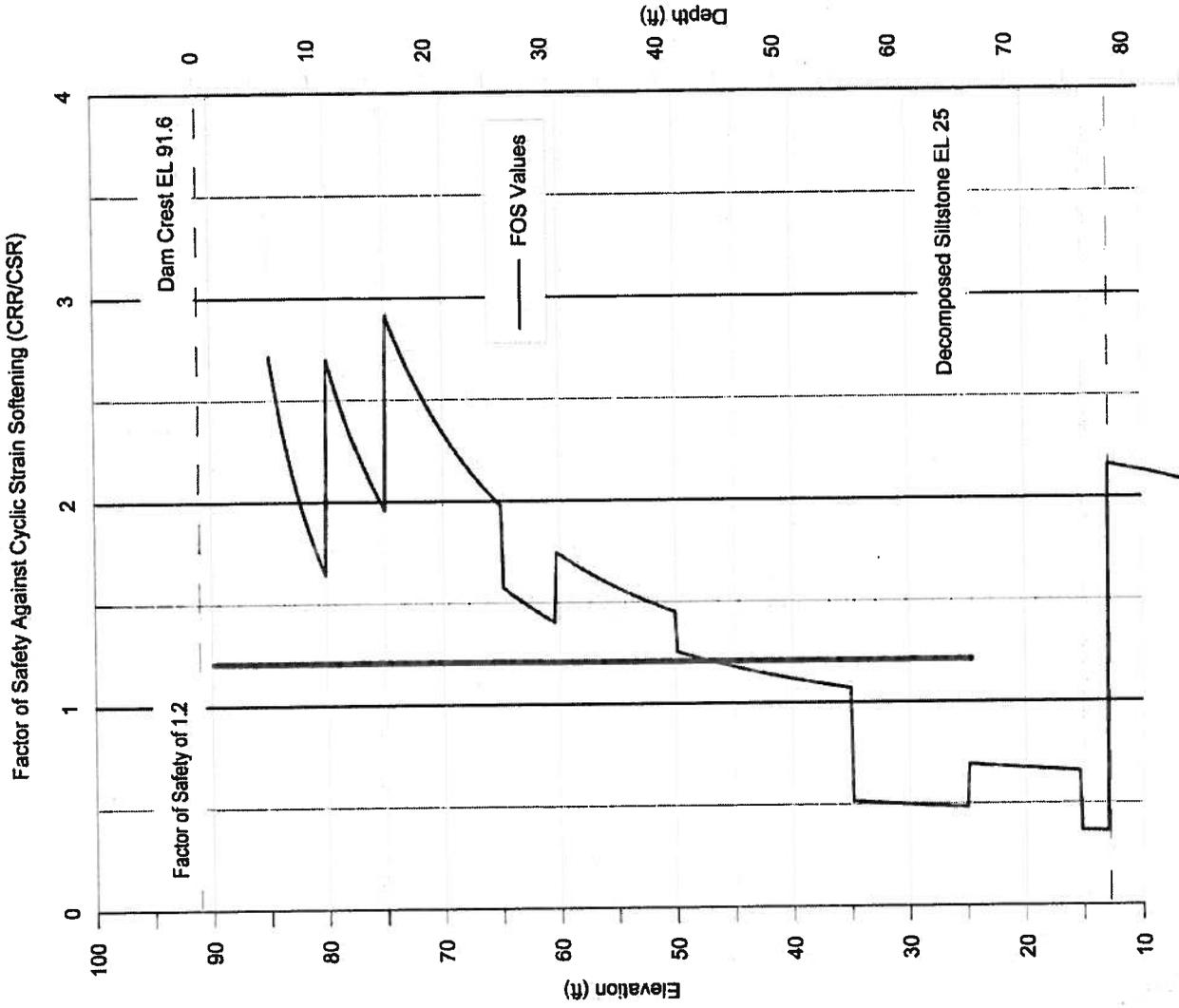
HDR



Results of Ground Failure Analysis

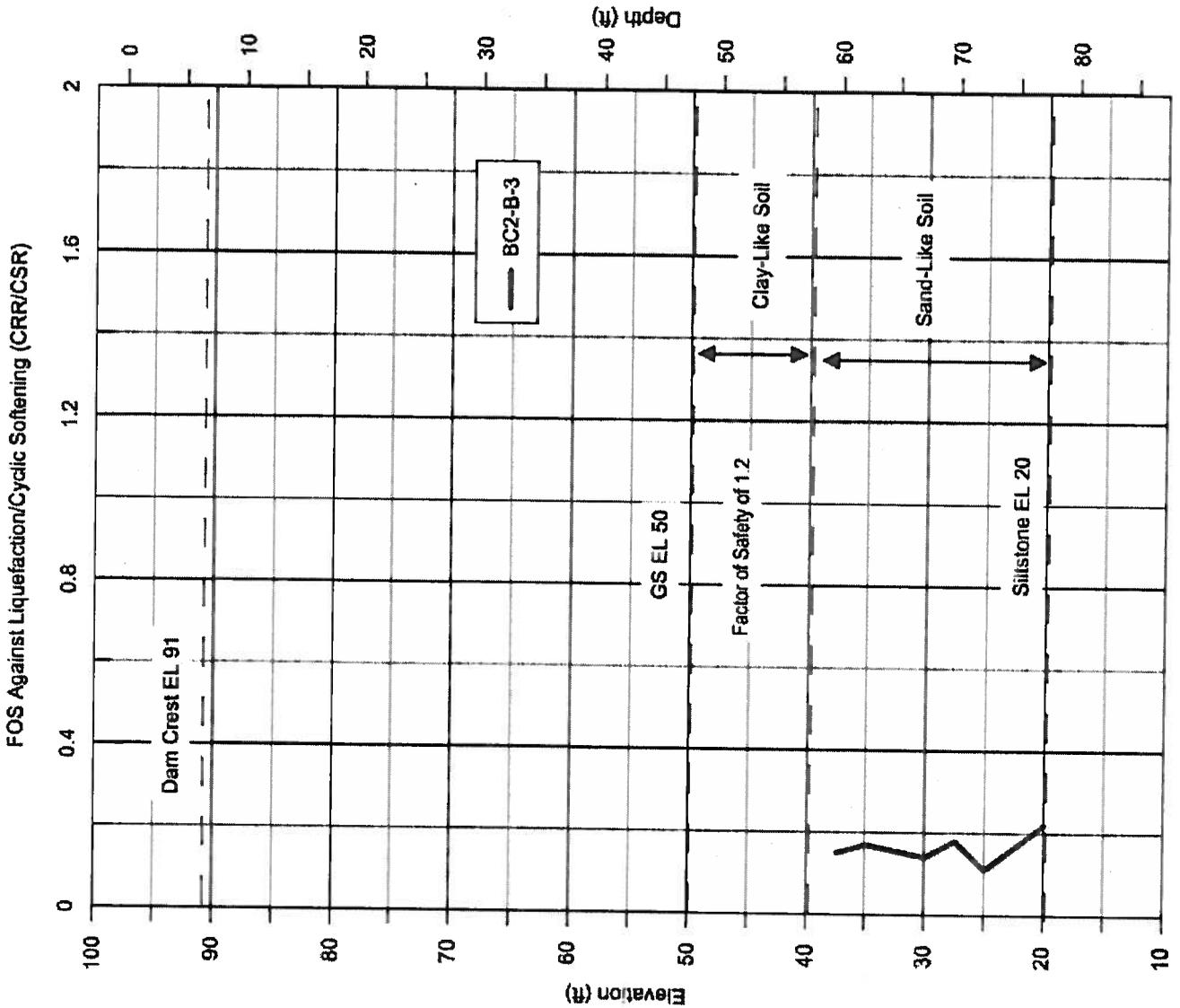
BC2 - CPT-1

HDR



Results of Ground Failure Analysis

BC2 - B-3



Slope Stability Analysis

BC1 - CPT-3

FOS = 1.06

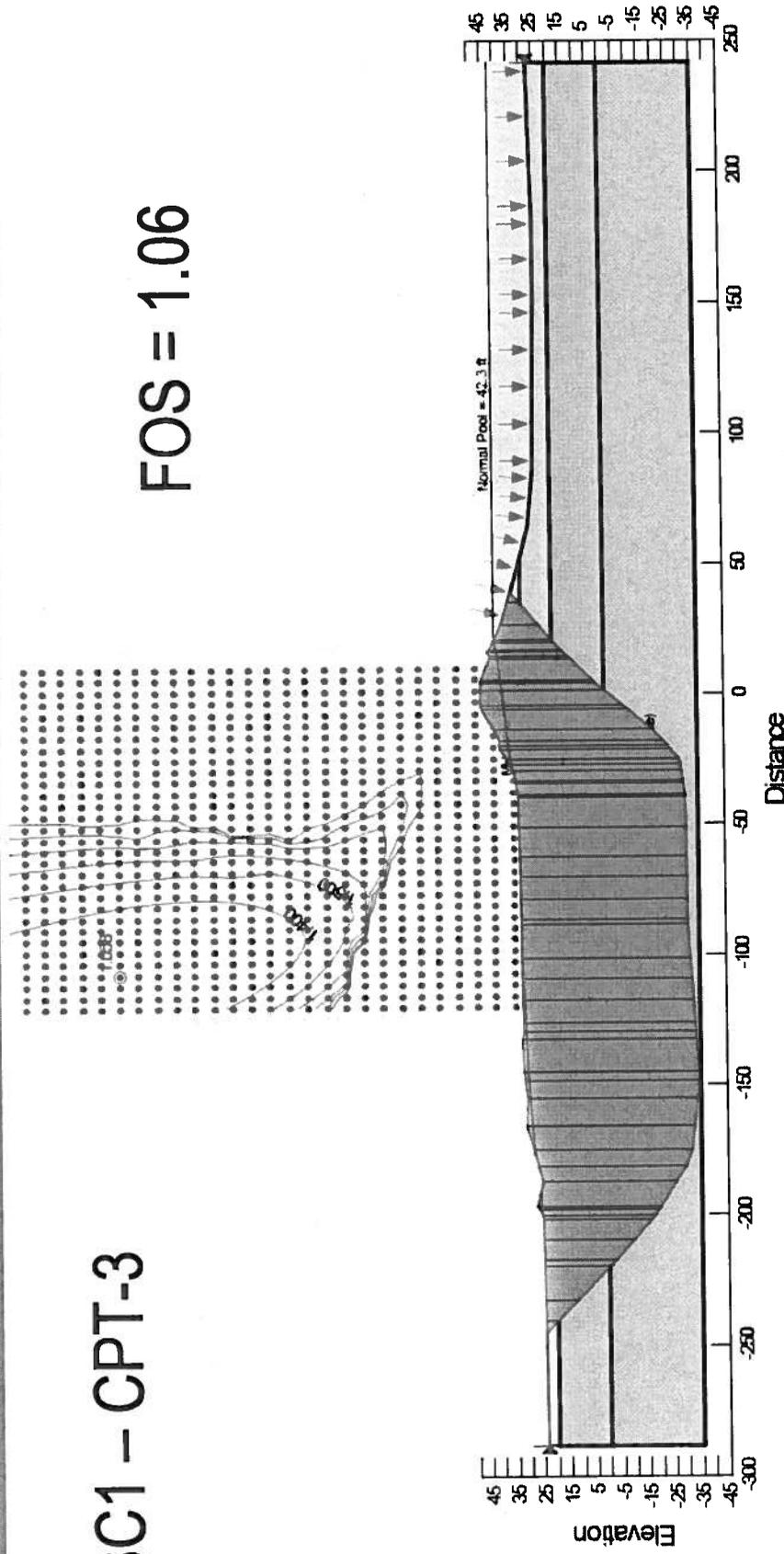


Fig. 21 Post Earthquake FOS of the downstream slope of Big Creek Dam # 1, Section BC1-CPT3 without toe drain (Case 1)

Slope Stability Analysis

BC1 - CPT3

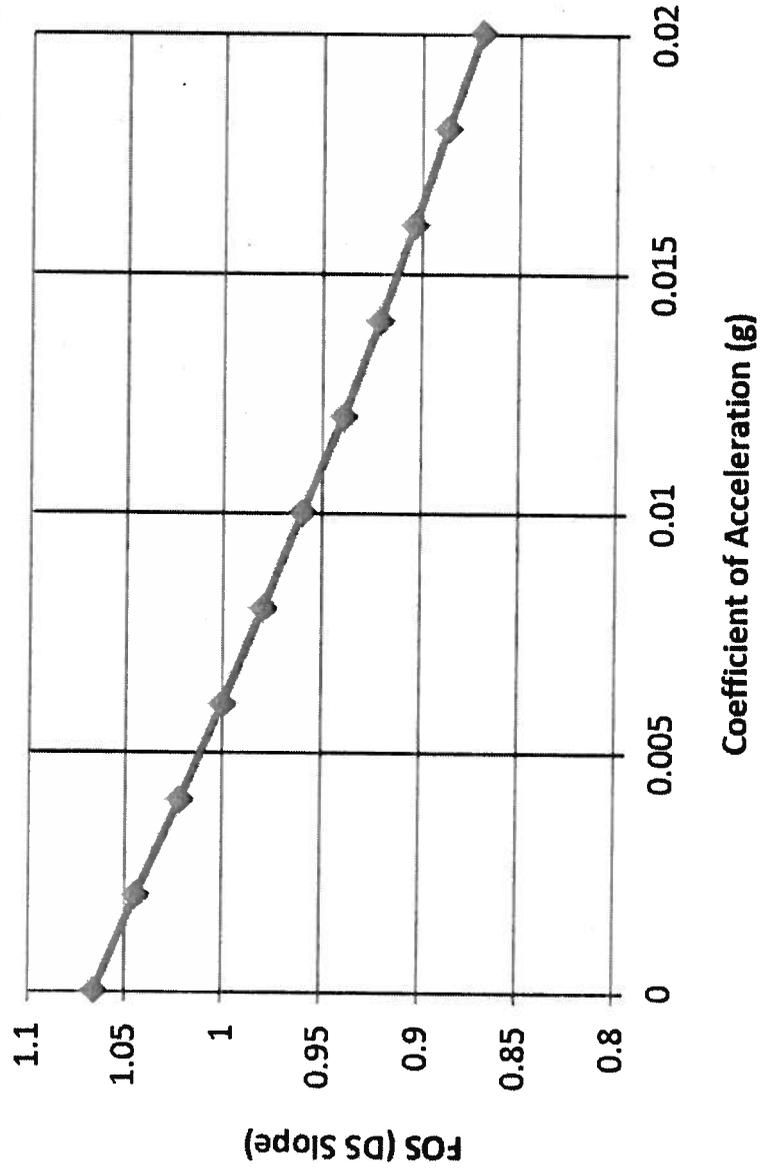


Fig. 49 FOS vs. coefficient of acceleration for the downstream slope of Big Creek Dam #1 Cross-section

BC1-CPT3

Slope Stability Analysis

BC1 - CPT-4

FOS = 1.44

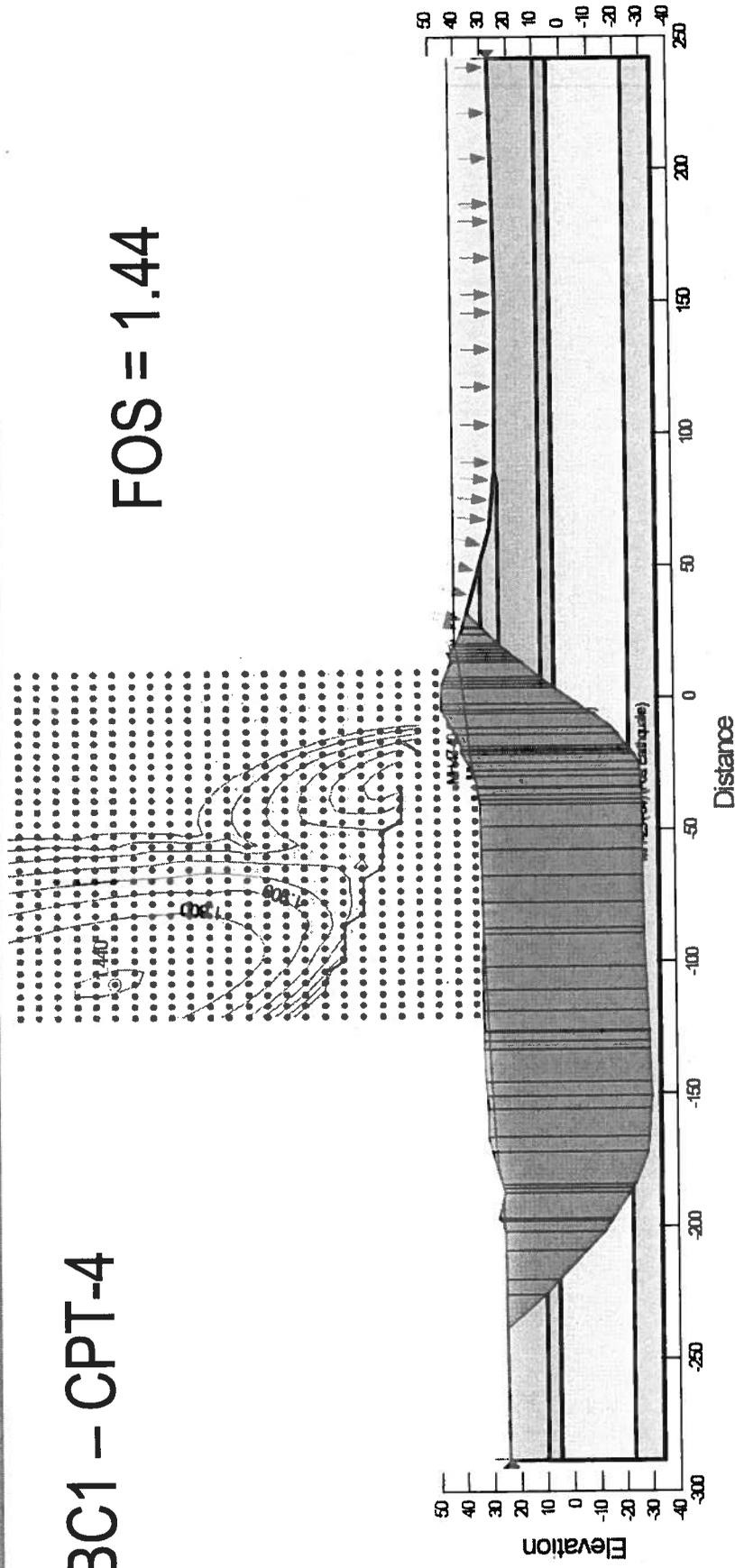
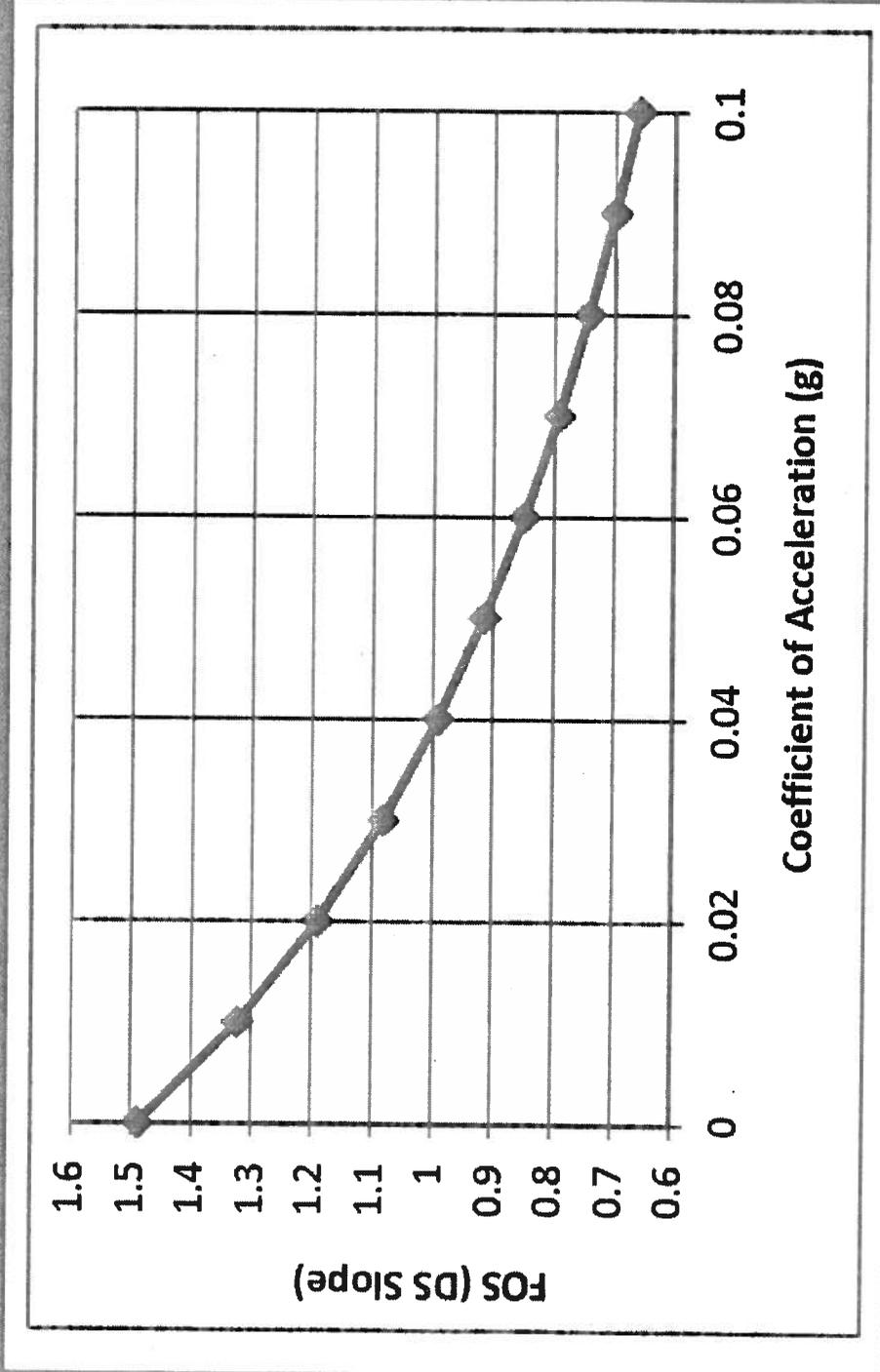


Fig. 33 Post Earthquake FOS of the downstream slope of Big Creek Dam # 1, Section BC1-CPT4 without toe drain (Case 1)

Slope Stability Analysis

BC1 - CPT4



Slope Stability Analysis

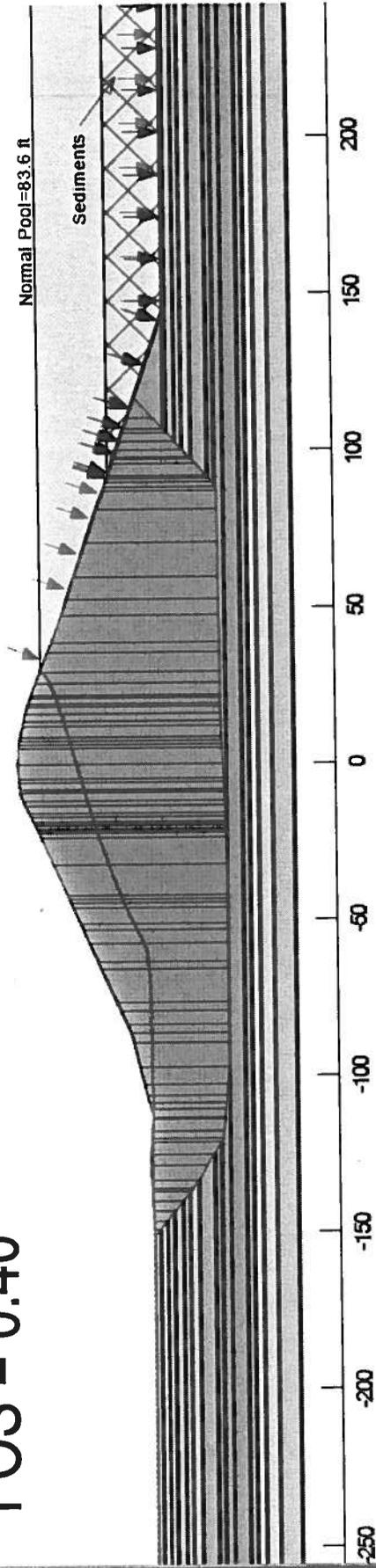
BC2

FOS = 0.40

0.402

Normal Pool=83.6 ft

Sediments



HDR

Conclusions

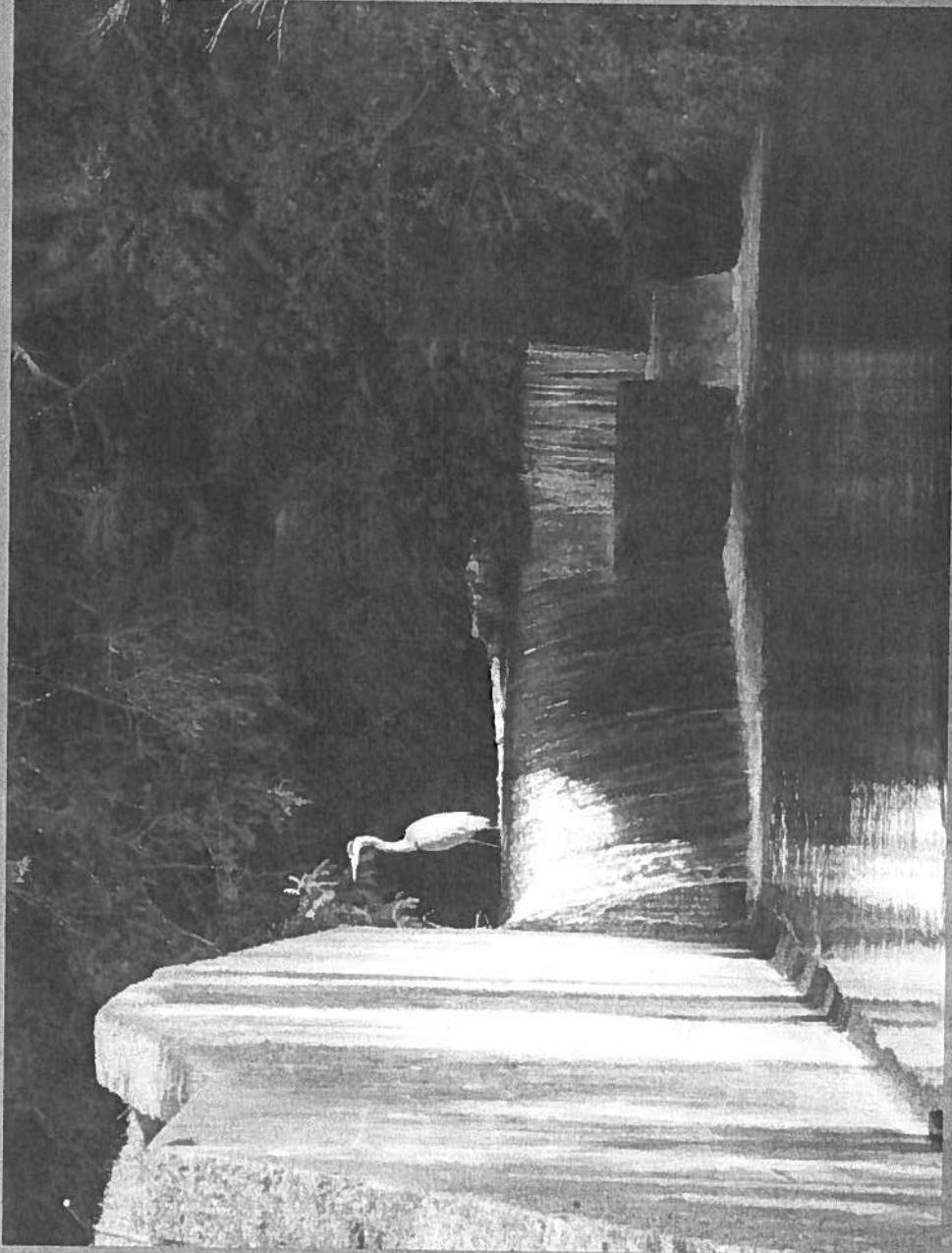
- Proper Characterization of Soils "Sand-Like or Clay-Like" is Essential for Seismic Evaluation
- For Both Dams, Sand-Like Soils Will Liquefy and Majority of Clay-Like Soils will Lose Strength
- Based on Embankment Stability Analysis Both Dams Could Fail for Either Yakima or CSZ Earthquake
- Industry Understanding of CSZ Earthquake is Changing Based on Tohoku Earthquake

Recommendations

- Additional Site Characterization is Required to Improve Understanding of Soil Behavior Due to Seismic Loading
- Define Dam Failure Consequences
- Develop Dam Repair Alternative Analysis

Questions?

Discussion



HR

Table 7.4.1 – Parks CIP Project Summary List

Project No.	Project Description	Project Cost	Project Cost Date	ENR Index of Estimate	Current ENR Index	Adjusted Cost Estimate (current)
1	West Agate Beach Park Development	\$297,200.00	Jan-94	5408	8007.48	\$425,249.31
2	Sam Moore Park Upgrade	\$189,800.00	Jan-94	5408	8007.48	\$281,031.75
3	Yaquina Bay Park Development	\$100,000.00	Jan-94	5408	8007.48	\$148,067.31
→ 4	Big Creek Reservoir Trail Development)	\$250,000.00	Mar-07	7880	8007.48	\$254,044.42
5	Sport Complex Design	\$20,000.00	Mar-07	7880	8007.48	\$20,323.55
6	Frank Wade Park Upgrade	\$177,100.00	Jan-94	5408	8007.48	\$262,227.20
→ 7	Big Creek Park Upgrade/Expansion	\$302,400.00	Jan-94	5408	8007.48	\$447,755.54
8	Coho Street Park Acquisition	\$500,000.00	Mar-07	7880	8007.48	\$508,088.83
9	Hatfield Park Upgrade	\$400,000.00	Mar-07	7880	8007.48	\$406,471.07
10	Ocean-to-Bay Trail Acquisition	\$100,000.00	Mar-07	7880	8007.48	\$101,617.77
11	Mombelsu Park Upgrade	\$80,000.00	Mar-07	7880	8007.48	\$81,294.21
12	Coho Street Park Development	\$189,800.00	Jan-94	5408	8007.48	\$281,031.75
13	Ocean-to-Bay Trail Development	\$250,000.00	Mar-07	7880	8007.48	\$254,044.42
14	South Beach Trail Acquisition	\$250,000.00	Mar-07	7880	8007.48	\$254,044.42
15	Southeast 40th Street Area Park Acquisition	\$500,000.00	Mar-07	7880	8007.48	\$508,088.83
16	South Beach Trail Development	\$350,000.00	Mar-07	7880	8007.48	\$355,662.18
17	Southeast 40th Street Area Park Development	\$350,000.00	Mar-07	7880	8007.48	\$350,000.00
18	Newport Aquatic Facility	\$8,000,000.00	Mar-07	7880	8007.48	\$8,129,421.32
19	Performing Arts Center Park	\$350,000.00	Mar-07	7880	8007.48	\$355,662.18
20	Sports Complex Construction	\$1,000,000.00	Mar-07	7880	8007.48	\$1,016,177.66
					Total	\$14,440,303.72

7.5 SDC Eligibility Summary

The SDC methodology must include a discussion of the percentage of each project's cost that can be attributed as necessary for growth and, therefore, be considered SDC eligible. As discussed previously, SDC's must be based on a project's costs or the portion of a project's cost that is necessary to add system capacity in response to or in anticipation of growth.

Section 7.4 above includes a brief description of each project along with a discussion of each project's SDC eligibility. A summary of the SDC eligibilities for each project is provided below in table 7.5.1.

PARKS AND RECREATION SECTION¹

Introduction:

The Park System Master Plan for the City of Newport, Oregon, hereby included in this document by reference, outlines a plan for providing parks, open space, and trail systems for the City of Newport. The purpose of this plan is to establish policies and direction for improving existing parks in Newport and to provide guidelines for the acquisition and development of new parks, waterfront access areas, and trail facilities.

Specifically, the Park System Master Plan provides:

- 1.) An analysis of existing parks, open space, and trail facilities.
- 2.) An analysis of existing park operations.
- 3.) An assessment of recreation and facility needs.
- 4.) The development of park and facility standards.
- 5.) Recommendations for the acquisition and development of parks, open space, and trail systems.
- 6.) Recommendations for managing the park system.
- 7.) Recommendations and strategies for funding and implementing the plan.
- 8.) Development of a Six Year Capital Improvement Plan.

Regional Recreational Facilities:

In addition to the city facilities, many county, state, and federal recreational opportunities exist within the city's urban growth boundary. For a complete inventory of those facilities, see the Park System Master Plan.

Capital Improvement Plan:

The priority of improvements for major capital projects in Newport is shown on the next page.

¹ Amended in its entirety by Ordinance No. 1686 (October 4, 1993).

Table 1

Capital Improvement Plan
Park, Open Space, and Trail Development
City of Newport

Site #	Priority	Project	Estimated	
			Funding	Technique
			Cost	
N-1	1.	Proposed west Agate Beach park development	\$ 287,200	2, 7, 10
N-4	2.	Sam Moore Park upgrade	189,800	1, 2
M-3	3.	Proposed Yaquina Bay Park development	100,000	1, 2
	4.	Big Creek Reservoir Trail development	50,000	1, 2
	5.	Sport Complex Site Acquisition Study	10,000	1, 2
C-1	6.	Frank Wade Park upgrade	177,100	1, 2
N-3	7.	Big Creek Park upgrade/expansion	302,400	1, 2, 10, 21
N-10	8.	Proposed Spring Street Park acquisition	80,000	1
N-6	9.	Hatfield Park upgrade	70,300	1, 2
	10.	Ocean-to-Bay Trail acquisition	10,000	2, 8, 20
N-7	11.	Proposed Yaquina Bay Beach Park acquisition	150,000	2
N-5	12.	7th Avenue site development	189,800	2, 10
S-13	13.	Mombetsu Park upgrade	24,000	1, 21
N-10	14.	Proposed Spring Street park development	189,800	2
N-7	15.	Proposed Yaquina Bay Beach Park development	474,500	4
	18.	Ocean-to-Bay Trail development (Phase 1*) 70,000	8, 20	
	17.	South Beach Trail acquisition	14,300	8, 20

N-9	18.	Proposed South Beach Airport Park acquisition 50,000 2		
C-2	19	Proposed South Newport Park acquisition 150,000 4		
	20.	South Beach Trail development (Phase 1**) 159,400 8, 20		

* From Big Creek Park to Fairgrounds [paved trail]

** From South Jetty to Marine Science Center to 35th Street [paved trail]

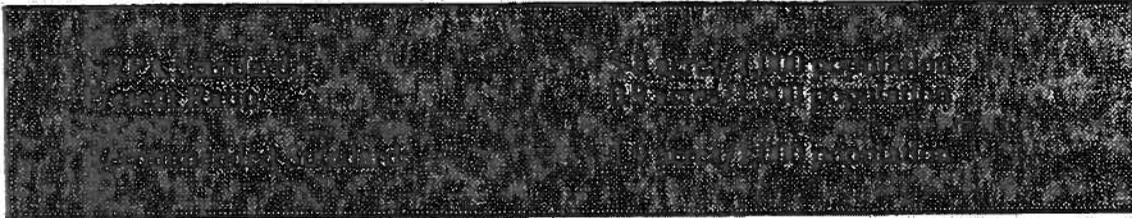
GOALS/POLICIES/IMPLEMENTATION
PARKS AND RECREATION

Goal: The city shall pursue implementation of the **Parks System Master Plan**, as adopted and made a part of this Comprehensive Plan by the Planning Commission and City Council.

Policy 1: The City of Newport shall periodically review and update the Capital Improvements section of the **Park System Master Plan**.

Policy 2: The city shall cooperate with other local and state agencies in the establishment of recreation trails.

Recommendation: (Community Parks)



Comments:

The recommended standard of 1.9 acres per 1,000 population represents an increase in community park land. Based on this recommended standard, an additional 9 acres is presently needed and an additional 15 acres will be needed by the year 2010.

Regional Park

Definition:

Regional parks are large recreation areas that serve the City and areas beyond. They are usually large in size and often include areas suitable for outdoor recreation activities such as golfing, picnicking, boating, fishing, swimming, camping and hiking. If located within an urban area, they sometimes offer a wider range of facilities and activities orientated more towards the community itself.

Analysis:

Currently, there are two regional parks in the Newport planning area plus the Pacific Ocean beaches. Yaquina Bay State Park and South Beach State Park are owned and managed by the Oregon Department of Parks and Recreation.

Pacific Ocean Beaches	177.0 Acres
South Beach State Park	310.0 Acres
Yaquina Bay State Park	32.0 Acres
TOTAL	519.0 Acres

Determination of the standard:

1. **Comparison to other standards:** The NRPA recommends 5-10 acres per 1000 population. Because the State parks are orientated towards users outside of the area, Newport does not have a regional park for its residents.
2. **Service area:** The service area of a regional park depends upon the facilities and activities it offers.

3. **Survey/Workshops:** The participants of the recreation survey and community workshop meetings indicated a desire to develop the city's reservoirs into a passive use area designed for trail related activities and fishing. At the same time, they were concerned about this type of park being used by the tourist.
4. **User trends:** Opportunities to develop large regional parks seldom occur. A city should consider itself fortunate to have two of these types of parks within the city limits.

Recommendation: (Regional Parks)

NEA Standard Park Ratio	210 acres / 1,000 population None
Recommended Standard	6.0 acres / 1,000 population

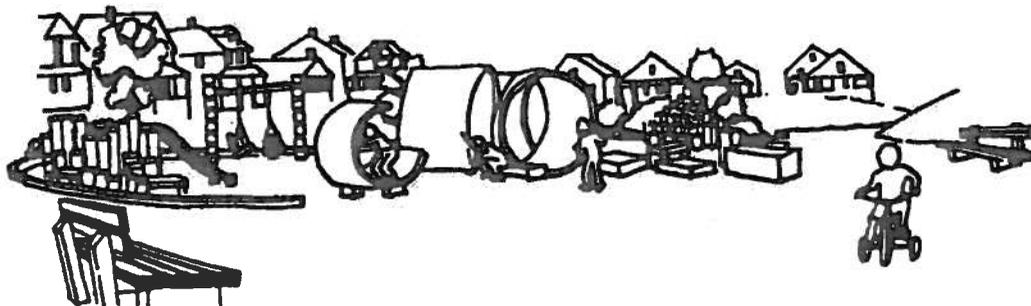
Comments:

The recommended standard of 6.0 acres per 1,000 population means that by the year 2010, there will be a need for approximately 75 acres of land. This additional need could be satisfied by developing a portion of the land around the reservoir into a regional park.

Special Use Areas

Definition:

Special use areas are miscellaneous public recreation areas or land occupied by a specialized facility. Some of the uses that fall into this classification include small or special landscaped areas, community gardens and single purpose sites used for field sports.



5. **Parking requirements:**
 - **Dependent upon the activities: Use a minimum of 50 spaces per ballfield and 5 spaces per acre of active use.**
6. **Site selection criteria:**
 - **The site should be reasonably central to the area it serves.**
 - **The park should be located on an arterial or collector street.**
 - **If possible, the site should have a natural area or heavy landscaped setback to help buffer active uses from adjacent residential areas.**
7. **Prior to the addition of any community parks, the City should prepare a detailed maintenance cost analysis to determine its impact upon the maintenance system.**

REGIONAL PARKS

Definition:

Regional parks are large recreational areas that serve an entire region. They are usually large in size and often include one specific use or feature that makes the park unique. Most of these parks are limited to passive uses only and can attract large numbers of people from a wide region.

Policies and Development Criteria:

1. **The regional park should be designed to meet a wide range of activities and interests but should emphasize the features that make it unique.**
2. **If the site will attract large volumes of traffic, access should be via an arterial street.**
3. **Facilities in the park will be dependent upon its natural features and its intended use. Possible facilities could include:**
 - **Viewpoints**
 - **Trail systems**
 - **Special or unique physical natural features, such as a lake or river**
 - **Picnic areas**
 - **Open play areas**
 - **Nature interpretative areas**
 - **Group picnic areas**

4. **Parking requirements will be dependent upon the activities offered.**
5. **Location criteria:**
 - **Location is most often determined by the features it can offer.**
 - **Access should be from an arterial street if traffic volumes are high.**
 - **Environmentally sensitive areas are appropriate if protected from active visitor use.**
 - **These parks can contain heavily wooded or environmentally sensitive areas as long as they are protected from visitor use.**
6. **Prior to the addition of any regional parks, the City should prepare a detailed maintenance cost analysis to determine its impact upon the maintenance system.**

SPECIAL USE AREAS

Definition:

Special use areas are public recreation land occupied by a single purpose facility or activity that does not fit into any of the other categories. Some of the present facilities that fall into this classification include special landscaped areas, sports fields, indoor facilities, waterfront access points, etc.

Policies and Development Criteria:

1. **Prior to the addition of any special use area, the City should prepare a detailed maintenance cost analysis to determine its impact upon the maintenance system.**

NATURAL OPEN SPACE

Definition:

Natural open space is land left in an undeveloped state where public use is limited. In many cases, environmentally sensitive areas are considered as open space and include wetlands, wildlife habitats, river and creek corridors or land containing unique or endangered plant species.

Policies and Development Criteria:

1. **Prior to acquiring an open space site, a thorough site analysis should be made to determine if unique qualities and conditions exist that warrant the open space designation.**
2. **Where feasible, public access into these areas should be encouraged but environmentally sensitive areas protected from public over-use.**

Regional Parks

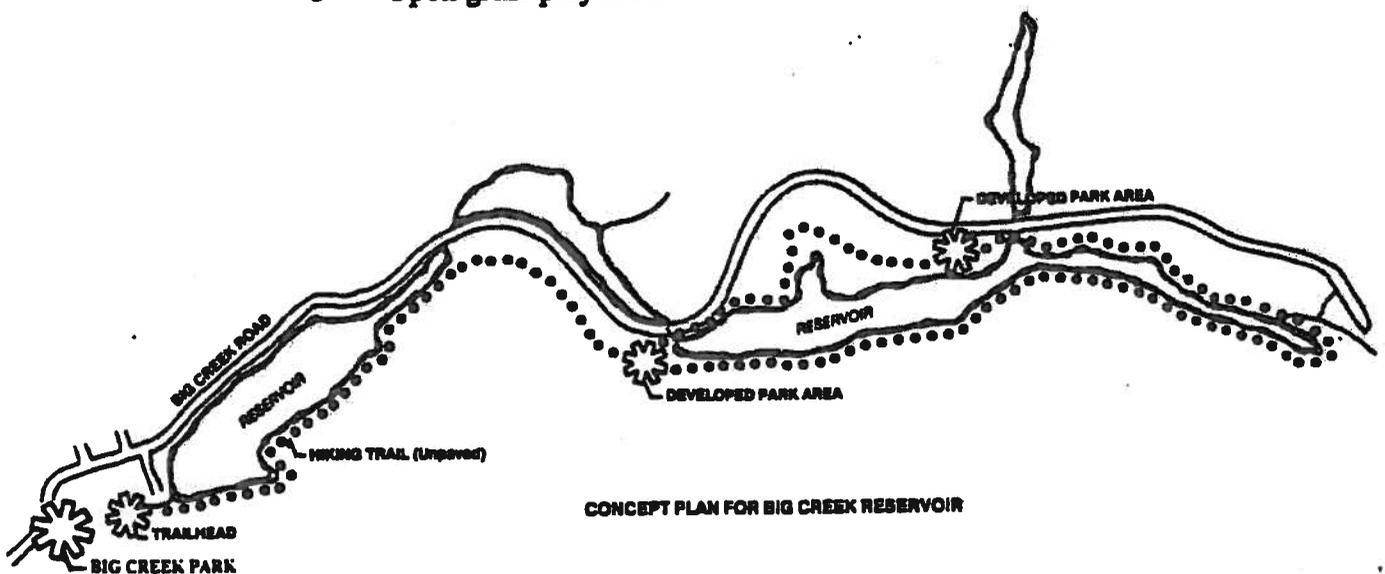
Newport has several regional parks within the area. However, these sites are mostly oriented towards the non resident. The intent of the plan is to develop a regional park facility orientated towards the local residents.

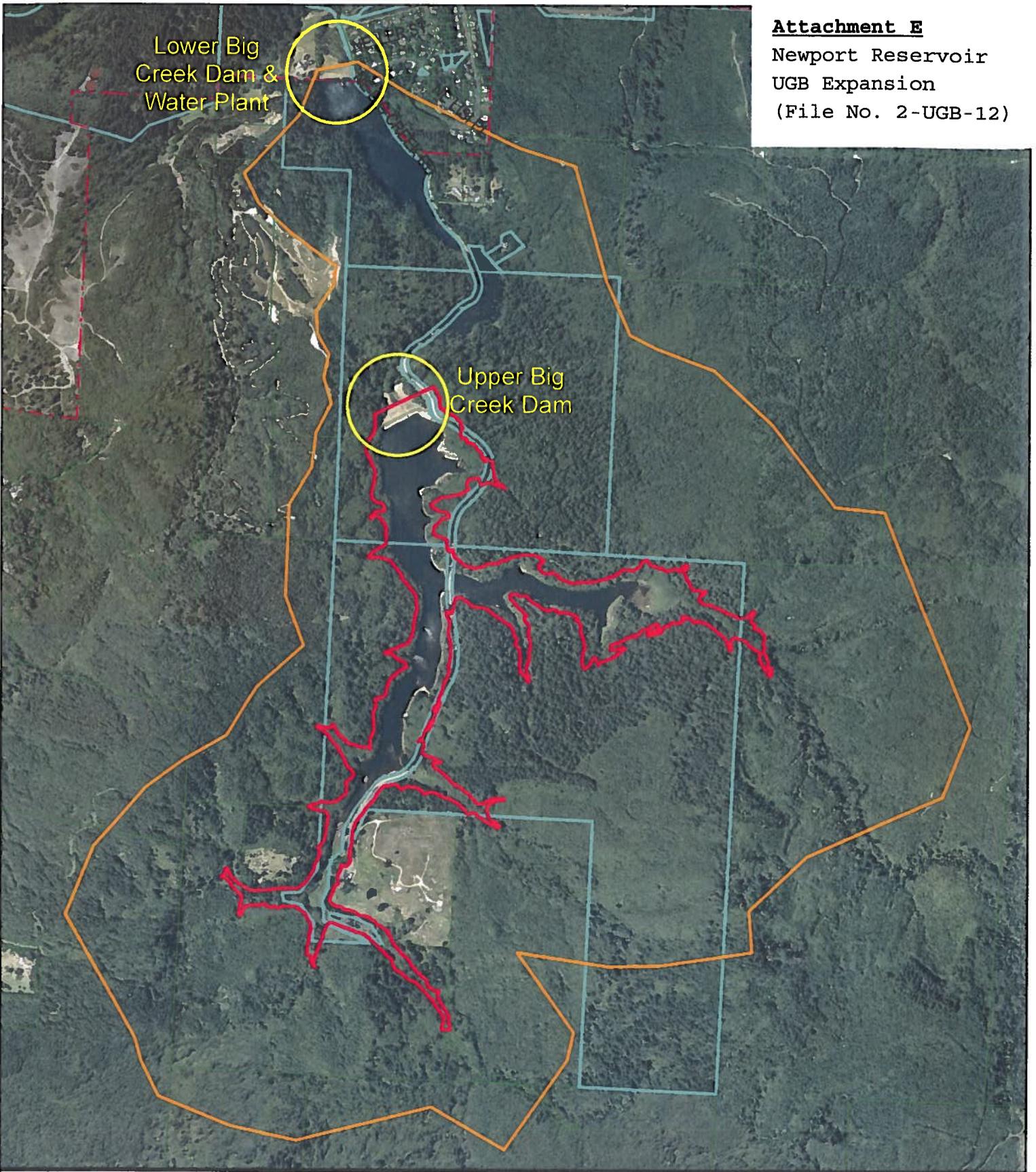
Proposed Big Creek Reservoir Park Site R-1 * 75.0 Acres

Big Creek Reservoir is a 535 acre site located just east of the city limits and consists of three large earth reservoirs and the surrounding watershed. While a majority of the site consists of steep terrain, there are several flat areas along the perimeter of one of the reservoirs that could provide some recreational space. Although the City has not encouraged the use of these reservoirs, they are used informally for fishing. One of the reasons the City has discouraged use in this area is the narrow access road along the edge of a portion of one of the reservoirs. Widening the road could prove to be costly.

Even with the access problem, it is recommended that the City develop a portion along one of the reservoirs into a day use regional park. Because of the terrain, the amount of flat land along the perimeter of the reservoir is limited. Rather than developing one large area, it is recommended that several smaller activity nodes be developed. Each of these areas would be connected by an unpaved trail that completely encircles the three reservoirs and creates a series of loops. Possible facilities for this park could include:

- Paved and unpaved trails
- Fishing dock and piers
- Group picnic areas and shelters
- Parking areas
- Restroom facilities
- Open grass play areas





City of Newport - Upper Big Creek Dam Expansion Inundation Area



**City of Newport
Engineering Department**

169 SW Coast Highway
Newport, OR 97365

Phone: 1.541.574.3386
Fax: 1.541.265.3301

-  2070 Proposed Inundation Area (115 Contour)
-  Drainage Boundary
-  Newport City Boundary
-  City Owned Property



This map is for informational use only and has not been prepared for, nor is it suitable for legal, engineering, or surveying purposes. It includes data from multiple sources. The City of Newport assumes no responsibility for its compilation or use and users of this information are cautioned to verify all information with the City of Newport Engineering Department.

SOURCE WATER ASSESSMENT SUMMARY BROCHURE

CITY OF NEWPORT PWS # 4100566

WHAT IS A SOURCE WATER ASSESSMENT?

The Source Water Assessment was recently completed by the Department of Environmental Quality (DEQ) and the Oregon Health Division (OHD) to identify the surface areas (and/or subsurface areas) that supply water to City of Newport's public water system intake and to inventory the potential contaminant sources that may impact the water supply.

WHY WAS IT COMPLETED?

The Source Water Assessment was completed to provide information so that City of Newport's public water system staff/operator, consumers, and community citizens can begin developing strategies to protect the source of their drinking water, and to minimize future public expenditures for drinking water treatment. The assessment was prepared under the requirements and guidelines of the Federal Safe Drinking Water Act (SDWA).

WHAT AREAS ARE INCLUDED IN CITY OF NEWPORT'S DRINKING WATER PROTECTION AREA?

The drinking water for the City of Newport is supplied by intakes on the Siletz River and Big Creek. This public water system serves approximately 10,200 citizens. The combination of the geographic areas contributing to the Siletz River and Big Creeks intakes make-up Newport's drinking water protection area. The boundaries of the Drinking Water Protection Area are illustrated on the figure attached to this summary.

In addition, the protection areas for the Siletz River upstream of Newport's Siletz River intake are also included in the drinking water protection area. This source water assessment addresses only the geographic area providing water to Newport's Siletz River intake between Newport's intake and the upstream intake for City of Siletz. In addition, the Toledo Water Utilities drinking water intake is located on the

Siletz River downstream of Newport's intake. Activities and impacts in the Newport and Siletz drinking water protection area have the potential to also impact downstream users. A schematic of Siletz-Yaquina Sub-Basin Drinking Water Protection Areas is shown in this summary brochure.

Newport's Siletz River intake is located in the Lower Siletz River Watershed and the Big Creek intake is located in the Moolack Creek Watershed. Both watersheds are located in the Siletz-Yaquina Sub-Basin of the Northern Oregon Coastal Basin. The Siletz River and Big Creek intakes are located at approximate elevations of 100 feet and 45 feet, respectively. The streams that contribute to the Big Creek intake extend upstream a total of approximately 11.4 miles (including reservoir centerline) and encompass a total area of approximately 3.2 square miles. The Siletz River within Newport and Siletz's protection areas extends upstream approximately 480 miles from the Siletz River intake and the watershed includes approximately 206 square miles. The Siletz and Newport protection area within an 8-hour travel time from the Siletz River intake extends approximately 16 miles upstream of the intake.

WHAT ARE THE POTENTIAL SOURCES OF CONTAMINATION TO CITY OF NEWPORT'S PUBLIC DRINKING WATER SUPPLY?

The primary intent of this inventory was to identify and locate significant potential sources of contaminants of concern. The delineated drinking water protection area is primarily dominated by managed forestlands. The potential contaminant sources identified in the Big Creek delineation include upstream reservoirs, rural homesteads, a water treatment plant, clear cuts, recreation areas, and future development areas. The potential contaminant sources identified within the Siletz River delineation include rural homesteads, Highway 229, grazing animals, and clear cuts. This

provides a quick look at the existing potential sources of contamination that could, if improperly managed or released, impact the water quality in the watershed.

WHAT ARE THE RISKS FOR OUR SYSTEM?

A total of ten potential contaminant sources were identified in City of Newport's drinking water protection area. Nine of these are located in the sensitive areas and are high- to moderate-risk sources within "sensitive areas". The sensitive areas within the City of Newport drinking water protection area include areas with high soil permeability, high soil erosion potential, high runoff potential and areas within 1000' from the river/streams. The sensitive areas are those where the potential contamination sources, if present, have a greater potential to impact the

water supply. The information in this assessment provides a basis for prioritizing areas in and around our community that are most vulnerable to potential impacts and can be used by the City of Newport community to develop a voluntary Drinking Water Protection Plan.

NEED MORE INFORMATION?

City of Newport's Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at:

Contact the City of Newport staff if you would like additional information on Newport's Source Water Assessment results.

TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES

PWS#	4100666	NEWPORT, CITY OF	Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (1)	Potential Impacts	Comments
1				Wells/Abandoned Wells	Rural	Along the west side of Siletz River-North of	Siletz	Field-Observation	Within sensitive	Moderate	Improperly installed or maintained wells and abandoned wells may provide a direct conduit for contamination to groundwater and drinking water source.	
				Homesteads - Rural - Septic Systems (< 1/acre)						Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater	
2				Transportation - Freeways/State Highways/Other Heavy Use Roads	State Highway	Runs along east side of Siletz River	Siletz	Field-Observation	Within sensitive	Higher	Vehicle use increases the risk for leaks or spills of fuel & other haz. materials. Road building, maintenance & use can increase erosion/slope failure causing turbidity. Over-application or improper handling of pesticides/fertilizers may impact water.	
3				Grazing Animals (> 5 large animals or equivalent/acre)	Grazing Animals	East side of Siletz River. Northeast of intake	Siletz	Field-Observation	Within sensitive	Moderate	Improper storage and management of animal wastes may impact drinking water supply. Concentrated livestock may contribute to erosion and sedimentation of surface water bodies.	Grazing animals in close proximity to the Siletz River. Risk reduced to Moderate because -a very small number of animals observed.
				Crops - Nonirrigated (inc. Christmas trees, grains, grass seed, pasture)						Lower	Over-application or improper handling of pesticides/fertilizers may impact drinking water. Some agricultural practices may result in excess sediments discharging to surface waters, but non-irrigated crops are generally considered to be a low risk.	Grazing animals in close proximity to the Siletz River. Risk reduced to Moderate because -a very small number of animals observed.
4				Managed Forest Land - Clearcut Harvest (< 35 yrs.)	Clear Cuts	Southeast of intake	Siletz	Field-Observation	Within sensitive	Higher	Cutting and yarding of trees may contribute to increased erosion, resulting in turbidity and chemical changes in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water source.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary)

TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES

PWS# 4100566 NEWPORT, CITY OF

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (1)	Potential Impacts	Comments
5	Upstream Reservoirs/Dams	Big Creek Reservoirs	East of intake	Newport	Field-Observation	Within sensitive	Moderate	During major storm events, reservoirs may contribute to prolonged turbidity for downstream intakes for drinking water. Construction, fluctuating water levels, and heavy waterside use can increase erosion and turbidity in reservoir/drinking water source.	Two reservoirs are located east of intake.
6	Wells/Abandoned Wells	Rural	Northwest of intake	Newport	Field-Observation	Within sensitive	Moderate	Improperly installed or maintained wells and abandoned wells may provide a direct conduit for contamination to groundwater and drinking water source.	Four homes on septic/wells
	Homesteads - Rural - Septic Systems (< 1/acre)						Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater	Four homes on septic/wells
7	Drinking Water Treatment Plants	Newport Water Treatment Plant	Just Outside DWPA	Newport	Database (2) Field-Observation	Outside sensitive areas.	Moderate	Treatment chemicals and equipment maintenance materials may impact groundwater or surface water source.	Site is located beyond DWPA, but it may impact the DWPA.
8	Managed Forest Land - Clearcut Harvest (< 35 yrs.)	Clear Cuts	Throughout DWPA	Newport	Field-Observation	Within sensitive	Higher	Cutting and yarding of trees may contribute to increased erosion, resulting in turbidity and chemical changes in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water source.	
9	River Recreation - Heavy Use (inc. campgrounds)	Recreation	Big Creek Reservoir 1 and 2	Newport	Field-Observation Interview	Within sensitive	Moderate	Inadequate disposal of human wastes may contribute bacteria and nutrients to the drinking water supply. Heavy use may contribute to streambank erosion causing turbidity. Fuel spills and emissions may also contribute to contamination.	Oregon Dept Fish and Wildlife stocks both reservoirs with fish. Main recreation is fishing, no motor boats allowed.

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

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TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES

PWS#	4100566	NEWPORT, CITY OF							
Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (1)	Potential Impacts	Comments
10	Other - Trail	Future Land Development	Around both reservoirs	Newport	Field-Observation	Within sensitive	Moderate	The impacts of this potential contaminant source will be addressed during the enhanced inventory.	City of Newport proposing to put a trail system around both reservoirs. Contact indicates concern about increase numbers of visitors to lake and

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

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CITY OF NEWPORT
169 SW COAST HWY
NEWPORT, OREGON 97365



Attachment G
Newport Reservoir
UGB Expansion
(File No. 2-UGB-12)

COAST GUARD CITY, USA

January 18, 2013

Larry Lewis, Contract Planner
City of Yachats
Yachats Commons Room 2
441 Hwy 101 N.
P O Box 345
Yachats, OR 97498

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Lewis,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

**Table 4. Population forecast,
Newport, 2011 to 2031**

Year	Lincoln County (OEA)	Newport
2011	47,308	10,285
2031	54,051	11,751
Change 2011 to 2031		
Number	6,745	1,466
Percent	14%	14%
AAGR	0.7%	0.7%

Source: ECONorthwest, based on the Office of Economic Analysis forecast for Lincoln County
Note: Population for 2011 and 2031 was extrapolated based on the growth rates used between 2010-2015 (for 2011) and 2030-2035 (for 2031).
Note: AAGR is average annual growth rate

Chapter 660, Division 24 of the Oregon Administrative Rules provides "safe harbor" approaches for forecasting population in cities that do not have a coordinated, adopted population forecast. A city may adopt a 20-year population forecast based on the Oregon Office of Economic Analysis's (OEA) population forecast for the County, and assume that its share of the forecasted population will remain constant over the planning period (OAR 660-024-0030(4)(b)). This approach was used to develop Newport's population forecast.

Sincerely,

A handwritten signature in black ink, appearing to read "Derrick I. Tokos".

Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

CITY OF NEWPORT
169 SW COAST HWY
NEWPORT, OREGON 97365



phone: 541.574.0629
fax: 541.574.0644
<http://newportoregon.gov>

COAST GUARD CITY, USA

mombetsu, japan, sister city

January 18, 2013

Stuart Cowie, Contract Planner
Community Planning & Development
City Hall
206 N. Main Street
P.O. Box 220
Toledo, Oregon 97391

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Cowie,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

**Table 4. Population forecast,
Newport, 2011 to 2031**

Year	Lincoln County (OEA)	Newport
2011	47,306	10,285
2031	54,051	11,751
Change 2011 to 2031		
Number	6,745	1,466
Percent	14%	14%
AAGR	0.7%	0.7%

Source: ECONorthwest, based on the Office of Economic Analysis forecast for Lincoln County
Note: Population for 2011 and 2031 was extrapolated based on the growth rates used between 2010-2015 (for 2011) and 2030-2035 (for 2031).
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Sincerely,

Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

CITY OF NEWPORT
169 SW COAST HWY
NEWPORT, OREGON 97365

COAST GUARD CITY, USA



phone: 541.574.0629
fax: 541.574.0644
<http://newportoregon.gov>

mombetsu, japan, sister city

January 18, 2013

Onno Husing, Director
Lincoln County Planning Dept.
210 SW 2nd Street
Newport, Oregon 97365

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Husing,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

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Sincerely,


Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

CITY OF NEWPORT
169 SW COAST HWY
NEWPORT, OREGON 97365



phone: 541.574.0629
fax: 541.574.0644
<http://newportoregon.gov>

COAST GUARD CITY, USA

mombetsu, japan, sister city

January 18, 2013

Larry Lewis, City Planner
Waldport Planning Department
PO Box 1120
Waldport, OR 97394

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Lewis,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

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Newport, 2011 to 2031**

Year	Lincoln County (OEA)	Newport
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Sincerely,

A handwritten signature in black ink, appearing to read "Derrick I. Tokos".

Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

CITY OF NEWPORT

169 SW COAST HWY

NEWPORT, OREGON 97365

COAST GUARD CITY, USA



phone: 541.574.0629

fax: 541.574.0644

<http://newportoregon.gov>

mombetsu, japan, sister city

January 18, 2013

Larry Lewis, Contract Planner
Depoe Bay Planning Dept.
P.O. Box 8
570 SE Shell Avenue
Depoe Bay, OR 97341

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Lewis,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

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Sincerely,

Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

CITY OF NEWPORT
169 SW COAST HWY
NEWPORT, OREGON 97365



phone: 541.574.0629
fax: 541.574.0644
<http://newportoregon.gov>

COAST GUARD CITY, USA

mombetsu, japan, sister city

January 18, 2013

Richard Townsend,
Planning / Community Development Director
City Hall, Third Floor
801 SW Hwy 101
Lincoln City, Oregon 97367

RE: City of Newport's 20 Year Population Forecast

Dear Mr. Townsend,

Consistent with ORS 195.034, please be advised that on June 20, 2011 the City of Newport adopted Ordinance No. 2015, amending the "Population Growth and Characteristics" element of the Newport Comprehensive Plan to include a new 20-year population forecast as follows:

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Sincerely,

Derrick I. Tokos, AICP
Community Development Director
City of Newport
ph: 541-574-0626

NOTICE OF A PUBLIC HEARING

The City of Newport Planning Commission will hold a public hearing on Monday, February 25, 2013, at 7:00 p.m. in the City Hall Council Chambers to review and make a recommendation to the Newport City Council on File No. 2-UGB-12, an application to expand the Newport Urban Growth Boundary by approximately 381 acres to include the City's domestic water storage reservoirs, along with the associated access road and water infrastructure (including a portion of the City's water treatment plant). The additional acreage also includes land for a regional park with a looped trail around the reservoirs. The land would be placed under a "Public" Comprehensive Plan designation with P-1/"Public Structures" and a P-3/"Public Open Space" zoning. An update of the "Urbanization" element of the Newport Comprehensive Plan is well underway. Those provisions have yet to be adopted but will be prior to action being taken on this proposed amendment. Those provisions require findings regarding the following for the proposed amendment: A.) Land Need: Establishment and change of urban growth boundaries shall be based on the following: 1.) Demonstrated need to accommodate long-range urban population, consistent with a 20-year population forecast coordinated with affected local governments; and 2.) Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets, and roads, schools, parks and open space, or any combination of the need categories in this subsection. B.) Boundary Location: The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors: 1) Efficient accommodation of identified land needs; 2) Orderly and economic provision of public facilities and services; 3.) Comparative environmental, energy, economic, and social consequences; and 4.) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB. C.) Compliance with applicable Statewide Planning Goals, unless an exception is taken to a particular goal requirement. Testimony and evidence must be directed toward the request above or other criteria, including criteria within the Comprehensive Plan and its implementing ordinances, which the person believes to apply to the decision. Testimony may be submitted in written or oral form. Oral testimony and written testimony will be taken during the course of the public hearing. The hearing may include a report by staff, testimony from proponents, testimony from opponents, and questions and deliberation by the Planning Commission. Written testimony sent to the Community Development (Planning) Department, City Hall, 169 SW Coast Hwy, Newport, OR 97365, must be received by 5:00 p.m. the day of the hearing to be included as part of the hearing or must be personally presented during testimony at the public hearing. Material related to the proposed amendment may be reviewed or a copy purchased at the Newport Community Development (Planning) Department (address above). Please note that this is a legislative public hearing process and changes to the proposed amendment may be recommended and made through the public hearing process and those changes may also be viewed or a copy purchased. Contact Derrick Tokos, AICP, Newport Community Development Director, (541) 574-0626, email address d.tokos@newportoregon.gov (mailing address above).

(For Publication Once on Wednesday, February 13, 2013)

which could've been reason apprehension, was a 51-nd at the end of the third er. The ultra-explosive played coy, waited for perfect moment to strike, then they erupted all over Bulldogs. Waldport stuck their guns by spreading the t with their four-corner of and revealed Culver's of quickness in the post by ng the uber-athletic Fisher Bullock bounce around and e plays at the hoop. Fisher the Irish's steady influ- in the third, scoring 12 of 16 points in the crucial pe- Bullock finished with 19 ts and eight rebounds. they gave us match-ups we d take advantage of, and we : just able to beat them on d. That third quarter, I felt game started to open up and ything started falling for said Fisher. "It feels great been a really long time e Waldport moved on in the offs. We just have to stick that we've been doing, our zone defense, and then ad the floor out. Right now e playing really good team and we're going to stick to "

er Johnson said they knew er was going to come out ly to play in the third quarter a comeback in mind, but Irish were able to match the dogs' intensity and build that to get the lead back up n. In the fourth, Culver cut deficit to eight, but Dalton wn's streamline, ankle- ping crossover hoop, and

"We didn't really get nervous because that would've shifted the momentum of the game, and it would've been downhill," said Bullock. "I stayed even-keeled the whole time. We settled down, that was a big key: staying calm and not losing control. We did what we had to do, we came out played strong and played team basketball. We believed in each other, and that's what we've been saying the whole year."

Waldport and Central Linn split the regular season series with the Irish taking the latest contest at home after getting hot from the outside. If the Cobras go man-to-man, Waldport can use their pick-and-roll or triangle offense for hoops, and if Central Linn resorts to zone, the Irish have three guys in Dalton Brown, Tyler and Chris Johnson who have shot more than 40 percent from the three-point line.

"The guys deserve this. A lot of these guys were here as freshmen when I don't think we put together a win that season, and we've just been building from there. It's been a lot of hard work and effort on these guys' parts to get themselves to this point. It was the 800-pound gorilla in the room, but we're really trying to talk about not worrying what's next," said head coach Mick Bitlick. "The next important game is Wednesday night. There's nothing past Wednesday so we have to focus on that. The guys know what's at stake, but I think they're doing a good job of staying focused on what they need to do right now."



Waldport senior small forward T.J. Fisher scored 12 of his 16 points in the decisive, go-ahead third quarter for the Irish who pulled away Culver on Monday, 67-55. (Photos by Jovita Ballentine)



Waldport senior point guard Shane McNeese's defense and finishing ability were huge for the Irish in their TRC playoff win over Culver on Monday. McNeese had six points and three steals. Waldport goes on the road to Central Linn for the next round of the TRC playoffs.

PUBLIC NOTICES

LEGAL DEADLINES

PUBLIC SALE
Feb. 22 at 2:30 pm a public sale will be held at the following address: 134 NE Siletz OR We have the right to reject or a b/s/sales. Contents of unit #17025 rented by Linda A. Dyer St. Toledo, OR 97140. Min bid \$50. CASH ONLY. The aforementioned party can contact us prior to the sale at the address above or 541-336-9811 F-6, 13 (8-13)

NOTICE
A regular meeting of the Board of Directors of Central Linn PUD will be held at 8:00 a.m. on Wednesday, February 20, 2013, at the Newport office, beginning with an Executive session in accordance with ORS 192.660(2)(a) to consider the employment of a public utility employee. All interested parties are invited to attend. After the Executive session, the Board will discuss the Financial Condition, and Review/Board of Directors Policy, pp. 20-24. The Board will discuss other business as presented. A copy of this notice is filed with the Board of Directors at the address above or 541-336-9811 F-6, 13 (8-13)

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NOTICE OF A PUBLIC HEARING
The City of Newport Planning Commission will hold a public hearing on Monday, February 25, 2013, at 7:00 p.m. in the City Hall Council Chambers to review and make a recommendation to the Newport City Council on File No. 2013-012, an application to expand the Newport Urban Growth Boundary by approximately 361 acres to include two domestic water storage reservoirs, along with the associated access roads and water infrastructure (including a portion of the City's water treatment plant). The additional acreage also includes land for a regional park with a dog park and a "Public Open Space" zoning. An update of the Urbanization Element of the Newport Comprehensive Plan is well underway. These provisions have yet to be adopted but will be prior to action being taken on this proposed amendment. The following provisions require findings regarding the following for the proposed amendment: A) Land Need: Establishment and change of urban growth boundaries shall be based on the following: 1) Demographic long-range urban population growth with a 20-year popu-

lation forecast coordinated with affected local governments; and 2) Demographic need for employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks and open space, or any combination of the need categories in this subsection. B) Boundary Location: The location of the urban growth boundary and changes to the boundary shall be determined by evaluating alternative boundary locations consistent with ORS 197.298 and with consideration of the following factors: 1) Efficient accommodation of identified land needs; 2) Orderly and economical provision of public facilities and services; 3) Comparative environmental, energy, economic, and social consequences; and 4) Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest lands within the UGB. C) Compliance with applicable Statewide Planning Goals, as set forth in this notice. F-13 (8-13)

WEDNESDAY EDITION: 5:00PM Thursday Prior

FRIDAY EDITION: 5:00pm Tuesday Prior

NOTICE:
In the matter of the forfeiture of \$10,095.00 in U.S. Currency. Notice to all Potential Claimants: Read this Notice Carefully. The property described above has been seized for civil forfeiture. If you have an interest in that property, you must claim that interest or you will automatically lose that interest. To claim an interest you must file a legal paper called a "claim" with the forfeiture counsel named below. The claim must be signed by the claimant or a duly authorized agent of the claimant. The claim must include: (a) The true name of the claimant, (b) The address at which the claimant will accept future mailings from the court or the court clerk, and (c) A statement that the claimant has an interest in the seized property. The claim must be filed with the forfeiture counsel no later than 21 days after the date of publication of this notice. If you do not file a claim by the deadline, the property described above will be sold to the highest bidder. For more information, please contact the forfeiture counsel at the address above or call 503-251-1111. F-13 (8-13)

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CITY OF NEWPORT Notice of Supplemental Budget Hearing

A public hearing on a proposed supplemental budget for the City of Newport, Lincoln County, State of Oregon, for the fiscal year July 1, 2012, to June 30, 2013, will be held City Hall, 169 SW Coast Highway, Newport, Oregon. The hearing will take place on February 19, 2013, at 7:00 pm. A copy of the supplemental budget document may be inspected or obtained on or after February 13, 2013, at the Finance Department, City Hall, 169 SW Coast Hwy, Newport, Oregon between 8 a.m. and 5 p.m.

Summary of Supplemental Budget (General Fund)

← Resources →		Amount	← Requirements →		Amount
Loan Proceeds		250,000	Capital Outlay-Building		\$ 257,851
			Loan Expenses		\$ 2,139
Loans and Purchase of North Side Fire Station					
General Fund			General Fund		
Contingency	15,498		NS Fire Station-Principal		7,897
			NS Fire Station-Interest		8,533
			NS Fire Station-Loan Charge		48
To appropriate debt payments due to loan/purchase of North Side Fire Station					
General Fund			Grant Revenue		100,000
			Contingency		95,000
To record potential receipt of SAFER Grant revenue					
General Fund			Beginning Fund Balance		26,723
			R-9 Revenue		5,000
			Contingency for R-9 Augmentation		10,000
			Traffic Citation Assessment		21,723
To adjust balances in these accounts.					
General Fund			Beginning Fund Balance		30,000
			Cost Center 3000- Personal Services		30,000
To transfer additional resources for Personal Services forecast to exceed Adopted Budget					

Summary of Supplemental Budget (All Other Funds)

← Resources →		Amount	← Requirements →		Amount
Contingency		173,473	Housing Fund		
			Misc Sales and Services		173,473
From School Fish Plantation Bay Front					
Grant Revenue		62,000	Alipant Fund		
			Grant Expenses		162,000
To record possible receipt of AIP 18/19 Revenue					
Grant Revenue		1,100,000	Grant Expenses		1,100,000
To record possible receipt of AIP 20/21 Revenue					

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Coast Hwy (PO) Box 110 Newport, OR 97365. The District will receive all proposals by 9:00 am on Friday, March 22, 2013. The Lincoln County School District Board reserves the right to accept a proposal which it deems most favorable to the interest of the School District and the right to re-eval and/or all proposals or any portion of a proposal within their discretion or in the best interest of the School District. A meeting to consider the proposed director's salary will be held at 8:00 a.m. on Friday, February 27, 2013 at the Board Facilities Improvement Center. Each proposal will be allowed up to 400 words. Representatives, including the proposed director, are invited to attend the meeting for the purpose of this meeting is to answer questions and to provide a program and to provide

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a tour of 3 representative school sites. This will be the only traveling field trip. F-13 (8-13)

Pg. C-2 News-Items 2/13/13



Newport Water Storage Facilities Proposed UGB Expansion

ATTACHMENT 'F'

- Legend**
- City Ownership
 - Proposed UGB
 - UGB Lots
 - Big Creek Watershed Boundary
 - Existing Big Creek Reservoirs
 - 115' Reservoir #2
 - Newport City Limit
 - UGB

