

Coos Bay North Spit Waste Treatment Plant 2

Summary

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July 22, 2015

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I. INTRODUCTION

DBWT is globally recognized for its business leadership, chemical engineering expertise, advanced technology and support for both U.S. and International customers. DBWT has successfully provided business development, planning, design engineering, contract administration, construction, operations and maintenance to its customers for 35 years, and valued at well over a billion dollars. DBWT has long term contracts for Operations and Supply with Koch Industries, Georgia Pacific, DuPont and others. DBWT is ISO 9001 Quality Certified for the Manufacture and Maintenance of Industrial Plants (60272-2009-AQ-USA-ANAB). DBWT is a Licensed, Bonded and Insured Commercial General Contractor CCB#150463. We can be found on the Web at www.dbwt.us where a summary and a full copy of this document will be posted.

Our purpose and goal is improving the water quality of our Coos Bay Estuary by initiating the development of a Regional Wastewater Treatment Plant on the North Spit with an ocean outfall. Our estuary's health is currently subjected to adverse impacts from three waste treatment plants in our community. We propose the City of Coos Bay relocate the proposed new Coos Bay (CB2) Waste Water Treatment Plant (WWTP) 2 from Empire to the North Spit. This North Spit Coos Bay WWTP (NSCB2) will result in savings of \$7,840,000 to Coos Bay's citizens. **NSCB2 will be owned entirely by the City of Coos Bay, along with the property on the North Spit.** The City of Coos Bay and the Port can own the Outfall.

DBWT will build, own and operate a Class A Biosolids plant on DBWT's property to convert all waste sludge from Coos Bay to EPA Class A certified, exceptional quality fertilizer. Health of our citizens and Marine Habitat will be improved, and hazardous Pathogen contaminated Class B sludge will no longer be spread on farm and forest lands.

II. EXECUTIVE SUMMARY

DBWT offers Environmental, Health, and Economic benefits for the "North Spit Coos Bay 2 Alternate Plan" (NSCB2) to locate the new proposed Coos Bay 2 Waste Water Treatment Plant (CB2) to the North Spit. A summary of the benefits of NSCB2 are as follows:

1. *Lower Capital Cost.* Save ratepayers \$7,840,000 in monthly billings, while cost sharing with industry for developing a new ocean outfall.
2. *Lower Operations and Maintenance (O&M) costs.* Removing all sludge processing and provide more competitive bid to Coos Bay on total O&M costs.
3. *Environmentally Better Solution.* Prevent the CB2 effluent from discharging harmful human pathogens as viruses, bacteria, and parasites into our Bay.
4. *A New Ocean Outfall* for CB2, with a future goal of linking CB1 and NB1 for more favorable dilution and dispersion properties.
5. *Relocate CB2 to an Industrial Zone.* Increase property values, health, and livability in a residential and commercial area of Empire. Figure 1 shows the old and proposed new CB2. Figure 2 shows NSCB2. (See full Proposal for Figures)
6. *City of Coos Bay will own NSCB2, NPDS permits,* and will comply with Statewide Planning Goal 11 due to the health hazards demonstrated in this presentation.
7. *Relieve Adverse Impact to ESA "Threatened Species" Coho Salmon.* Also Green Sturgeon and Smelt (Eulachon).
8. *Reduce Negative Impact to Coos Bay's Recreational and Tourism Industry.*
9. *Reduce negative impact to Our Commercial Oyster, Recreational Shellfish Industries and Sports Fishing Industries.*
10. NSCB2 is the start of a Regional Solution producing legacy benefits to marine life in our estuary, our citizens, and future generations.
11. DBWT will follow DEQ's procedures throughout the designing, permitting, and engineering phases in compliance with DEQ for cities under 30,000 people.
12. DBWT will participate in the DEQ Design Build Operate competitive bid process for the construction of NSCB2.

13. DBWT will comply with Bacon-Davis Act union labor standards at plant construction site.
14. In the event that LNG does not materialize then an alternate funding source for the new ocean outfall could be justified by diverting current and future cost of sludge handling and processing by CB1 and CB2

Coos Bay’s citizens have always risen to every occasion to gather the leadership and action for the benefit of the greater community. Here is the opportunity for the City of Coos Bay to lead the city down a better path, resulting in lower current and future public infrastructure costs along with improving our environment.

III. NSCB2 PROJECT ADVANTAGES

A. Capital Cost Comparison and Project Schedule

Summary:

- *The total cost for CB2 is expected to be \$37,400,000 with \$32,450,000 currently needed to complete the proposed plant.*
- *NSCB2’s fixed bid is \$24,610,000, for a total savings of \$7,840,000.(Table 1)*
- *A new ocean outfall is planned within NSCB2 master plan*
- *Industry to support the cost of this outfall. This new outfall is designed to handle the total of CB1, CB2, NB1 and Industry.*
- *The completion schedule for NSCB2 is similar to CB2 and is estimated to be 12/17. (Table 2)*
- *CB2 has been delayed due to recent findings of the 42 year old asphaltic **Asbestos** coated pipe-diffuser failure.*
- *CB2 will provide a temporary fix—Complete fix comes later at substantial higher cost*

B. Engineering/Technology and Land Values

Summary:

- *Empire land values will increase with no CB2 with its odors and potential health issues*
- *Empire will have clean beaches suitable for tourism and local clamming.*
- *NSCB2’s technology and engineering will produce a cleaner effluent than CB2*
- *NSCB2 is engineered to meet Tsunami Code, and CB2 is not.*
- *NSCB2 provides infrastructure for job creation through industrial development on the North Spit*
- *NSCB2 provides infrastructure for receiving future WWTP effluents from CB1 and NB1.*
- *DBWT provides processing all County waste sludge to Class A Biosolids.*
- *DBWT provides lower Operation and Maintenance cost.*
- *NSCB2 can meet Oregon Statewide Planning Goal 11 to locate on the North Spit.*

C. NPDES Permits

Summary:

- *CB1 and CB2 are under DEQ mandates (MAO) and must rebuild or replace to meet their new NPDES criteria.*
- *CB2 is the first to be approved for loans to build an entirely new plant with a new NPDES permit.*
- *CB2 has not obtained approval on their new NPDES and NMF approval is still pending.*
- *NMF preliminary finding is CB2 will “Adversely Impact Threatened Species of Coho Salmon.”*
- *CB2 must resolve the recent findings of the Outfall diffuser and Asbestos coated piping failure, along with diffuser system buried in sand, shown in Figures 5 and 6.*
- *CB2’s recent Outfall issues will delay the project schedule and cost more.*
- *The original design engineer confirmed to DBWT that the pipe is Asphalt lined, corrugated metal, with **Asbestos** Coating on the Outside. The divers confirmed the 5 tapered 6x12 inch nozzles with a velocity range from 2-10 ft/sec are mostly dysfunctional and the corrosion is continuous throughout the observed partially buried pipe. The wood piling after 43 years needs to be replaced along with any cross*

supports. The **Asbestos** may create further issues. The original drawing obtained by DBWT indicates the installation was not done to the drawings specifications shown in Figure 5.

- DBWT would like to bid on the design, build, install, and permitting the temporary replacement along with a bid for the final complete Outfall fix. The temporary fix may cost significantly more than the \$100,000 estimate. The proper and permanent fix will be significantly higher.
- This temporary fix will allow a mixing study to be completed. This mixing study will demonstrate that 1000:1 diffusion recommended by FDA will NOT be met.
- DBWT will achieve a new NPDES using some of the existing CB2 NPDES material and integrate the under Bay drilling; NSCB2 plant; and the drilling of a new Ocean Outfall into one Environmental Analysis (EA).
- NSCB2 will produce a cleaner effluent; in an Industrial zone; with a vastly superior dispersion ocean Outfall—the NPDES should be more acceptable to governmental agencies.
- Our Professional Environmental Consultants inform us it will take 18 months for all permits, which is reasonable.

D. New Ocean Outfall Engineering, Cost, and Industry

Summary:

- FDA recommends 1000:1 minimum dispersion of a WWTP effluent near commercial Shellfish growing areas
- CB1, CB2, or NB1 do **Not** come close to meeting this 1000:1 criteria; it is less than 100:1
- New Ocean Outfall will Discharge 6000 feet Offshore
- New Ocean Outfall removes adverse impacts of CB2 and future CB1 and NB1
- New Ocean Outfall will handle CB1, CB2, NB1, and Industry Wastewater Volumes
- New Ocean Outfall will **Not** cost Coos Bay ratepayers
- NSCB2 provides first step to future North Spit Regional Solution

IV. ADVERSE HEALTH IMPACT TO CITIZENS, FISH, & SHELLFISH

A. CB1, CB2 and NB Effluent Infectious Disease Hazards

Summary:

- CB1, CB2, NB1 receive Harmful Human Pathogens –Table 4
- CB1, CB2, NB1 discharges Harmful Human Pathogens Tables 4 & 8
- CB1, CB2, NB1 discharges Harmful Pathogens thru Sludge, Effluents, and Bioaerosols
- Harmful Human Pathogens as viruses and bacteria are toxic to Humans
- Harmful Human Pathogens Bio accumulates in shellfish (oysters, clams, crab etc.)
- Infectious disease outbreaks can multiply pathogens by the trillions-Figure 7
- Medical antibiotic drugs, infected human waste, street drugs, chemicals, and estrogenic wastes are adversely impacting our fish, shellfish and other marine habitat.

B. CB2 Bioaerosols Potential Hazards

Summary:

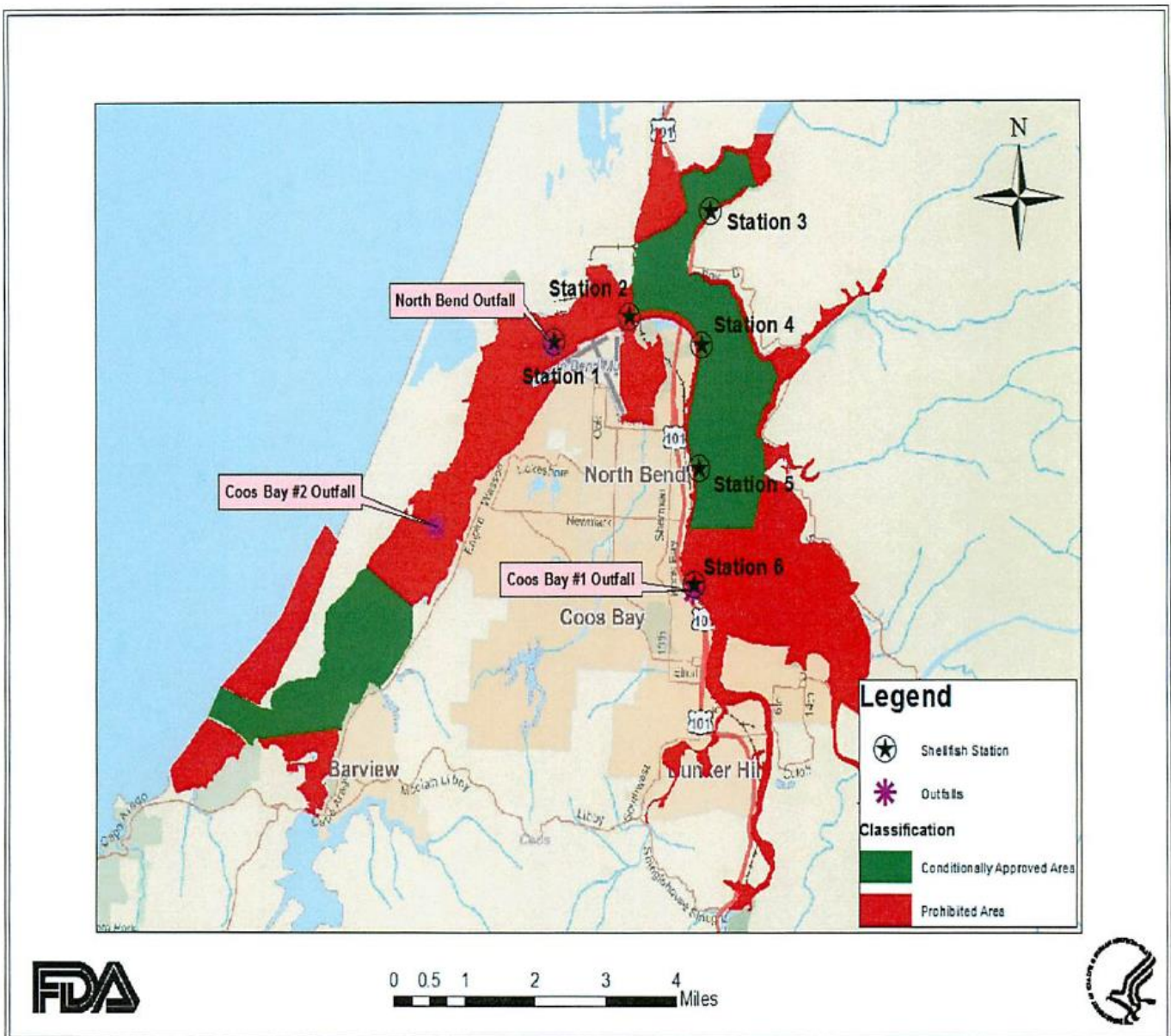
- Bioaerosols from the aeration basin of CB2 contain hazardous viruses and bacteria
- Bioaerosols with viruses and bacteria are most concentrated downwind and at night
- Bioaerosols in Figure 11 shows the path of harmful fugitive emissions from the proposed CB2
- Bioaerosols in Figure 8 shows the adverse health impact from a study in Michigan
- Bioaerosols in Figures 9 and 10 shows the adverse health impact from a study in Chicago.

C. Adverse Impacts to Clams, Oysters, and Other Shellfish

Summary:

- Shellfish are being contaminated with human pathogens from CB1, CB2, NB1
- FDA provided a 16 day scientific study on 2/11/11 verifying contamination in oysters
- Human Pathogen levels in shellfish may be toxic and FDA recommends flushing in clean water as required in Europe. This is not done in the USA. [\[B4\]](#)
- EPA is proposing new future viral testing which will require future NPDES Ambient Water Quality criteria and increasing cost to Ratepayers.
- NSCB2 addresses all of the above issues and eliminates the negative impacts of CB1, CB2, and NB1 discharging into our Estuary.
- **Figure shows impact of Waste Water Treatment Plants on our Estuary.**

FIGURE
FDA Classification for Shellfish in the Coos Bay Estuary ^[B9]



D. Adverse Impacts to Recreation and Tourism

Summary:

- *Our Coos Bay Estuary is polluted mainly by CB1, CB2, and NB1 WWTPs*
- *CB2 and the new CB2 will continue to have an adverse impact to Tourism and our Estuary*
- *NSCB2 will create a Cleaner Bay and open a path to restoration of our Estuary*
- *Coos Bay can set a positive example for our children and visiting Tourists by protecting the environment*

E. Adverse Impacts to Coho Salmon and Other “Threatened Species”

Summary:

- *NSCB2 removes CB2’s “Adverse Impact” to threaten species of Coho Salmon from our Estuary and DBWT offers a solution for removing these Adverse Impacts from CB1 and NB1.*
- *Viruses are infecting wild and aqua-cultured salmon throughout the world. An educational video called Farmed Salmon Exposed shows these viral impacts to salmon and other fish. This video can be found at <http://articles.mercola.com/sites/articles/archive/2010/11/30/farmed-salmon-exposed.aspx> or on YouTube.*
- *Estrogens from WWTP are impacting all fish including salmon by de-masculinization of the male species and preventing procreation. ^[A5]*
- *Specific amino acids from dead spawning salmon are the navigational tool used by salmon to find a particular river.
Perfumes and other odorants from the WWTP effluents interfere with this navigation.*

V. Waste sludge Conversion to Class A Biosolids

Summary:

- *DBWT will build at its own expense own and operate a Class A Biosolids Plant on the North Spit*
- *Class A Biosolids process kills all pathogens and eggs—**Class B does not***
- *All WWTP waste sludge in Coos County can be picked up by DBWT and converted to Class A Biosolids*
- *CB1 and CB2 can eliminate all future capital, operation, and maintenance cost for waste sludge digesting, storage, hauling, and application of Class B sludge.*
- *Eastside Lagoons may be eliminated*
- *DBWT will supply a tank and pumps at CB1 or any other WWTP.*
- *CB1, CB2, NB1 price is \$32 per ton which includes freight to NSCB2*
- *Liability, Health, and environmental issues of Class B sludge are eliminated*
- *Many countries in Europe and Counties in California have banned Class B sludge application to land.*
- *“EPA cannot assure the public that current land application practices are protective of human health and the environment”*

VI. CONCLUSION

We offer this proposal for the purpose of providing a complete solution to the risks of CB2 on its current path. CB2 will cost the taxpayer more now and even more in the future. In addition, the health of the residents in Empire are impacted along with their property values and rightful entitlement to dignity of living standards. CB2 will result in further adverse impacts to the health of the Bay and its many wonderful marine creatures including the Coho salmon, clams, oysters, crab and other shellfish.

DBWT’s effort and goal is for holistic solutions for our community:

- 1. Lower Capital Cost. Save ratepayers \$7,840,000 in monthly billings***
- 2. Produce a cleaner effluent for the environment***
- 3. No longer discharge effluents to the Coos Bay Estuary.***
- 4. Reduce the hazards of Bioaerosols from the aeration basins***

- 5. *Convert all waste sludge to a safe and environmentally friendly Class A fertilizer.***
- 6. *Master plan for removing all waste effluents from our Estuary and hazardous waste sludge from our farms and forest lands***
- 7. *Create Infrastructure for the North Spit to promote future job creation***
- 8. *Improve the quality of life for all Coos County families and tourists***

Seldom has there been a time in the history of our area when there are mutual interests and an opportunity for the Cities, Port, and North Spit Industry to work together and build a better public infrastructure. This legacy project is a win, win and will benefit for citizens and future generation perpetually.

Note: All references, tables and figures may be found in the Full Proposal.