LIDER ENGINEERING PLLC
Low Impact Development Engineering Resources
Stormwater and Erosion Control Engineering
WILLIAM M LIDER, PE, CESCL

Dithering = Disaster

Perrinville Creek
Rebuttal Exhibit

Prepared by Lider Engr.,
November 25, 2024

Exhibit B90

Timeline

1872 – National survey effort appears to have mis-located Perrinville Creek (or creek used different ravine historically)

1891 - BNSF 1st rail line constructed

1907 - BNSF 2nd rail line expanded

1952 – Earliest quality historic aerial photograph staff can locate; shows creek discharge through existing BNSF culvert location but different configuration between that culvert and Talbot Road.

1994/1995 – Original construction of diversion structure implemented as part of two-phase project. Schedule B was intended to be Talbot Road Culvert which appears to have been abandoned prior to construction. Diversion built, but not culvert which would have resulted in increased stream flows in lower stretch.

2010 – City pursues "habitat enhancement" project, at least partially to resolve flooding on 8307 Talbot Rd. Project got as far as submitting permit docs to WDFW but was not constructed due to change in property owner willingness to grant property rights.

2012 – Modification to diversion structure create final configuration of system. Portion of upstream drainage system re-routed to bypass system (sub-surface) and "keyhole" weir altered to final configuration.

2013 – City initiates study of ways to reduce sediment in the Creek.

Clip from City Exhibit—2021 DRAFT_Perrinville Creek Timeline Summary ZR_091421.pdf, Page 1

The City's draft timeline omits that its 1991 RW Beck Report (Exhibit B79, Bates No. 896 states:

"In addition to the culvert crossing, portions of the downstream system between Talbot Road and the BNRR crossing were identified as being undersized. Based upon the computer modeling, 10 year peak flow of 123 cfs for future conditions will result in overtopping of the banks."

This information was known to the City, *before* its flow splitter was constructed.

The City cannot provide any documentation that the diversion structure was ever designed by a professional engineer nor is there any documentation that any environmental analysis was done on the impacts of its flow splitter, *before* its construction.

The City withheld the 1991 RW Beck report (Exhibit B79) and did not provide it as a part of any public records request.

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Clip from City Exhibit—2021 DRAFT_Perrinville Creek Timeline Summary ZR_091421.pdf, Page 1

The City's draft timeline also omits that in 2012, it added additional flow into the flow splitter box from 125.75 acres of urban City runoff, via a new 30-inch culvert from Talbot Road.

The 100-year flow from the Talbot Road addition was estimated by Herrera at 30.5 cfs*, or almost 100% of the high flow bypass culvert's flow capacity, leaving almost no flow capacity for Perrinville Creek or its bedload.

Per the 1991 RW Report, this culvert could not even safely convey a 10-year storm.

*Reference Exhibit B39, Table 4, Bates No. 274

The City made the problem much, much worse in 2012 adding additional runoff to an already undersized culvert.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

INSPECTION REPORT
(Continuation)

OMB Approval No.: 2130-0509

Inspector's ID No.	Report No.	Report Date
30510	122	10/17/2023

Item	Initials/Milepost	Equipment/Track #	Type/Kind	49 CFR/ USC	Defect	Subrule	Speed	Class	Train #/Site	SNFR*	RCL**	# of Occ.***	Activity Code
3	0020.58	M2	M	213	0123	B	35	3		N	N	1	MTW

Description
METAL OBJECT BETWEEN THE BASE OF THE RAIL AND THE BEARING SURFACE OF THE TIE PLATE CAUSING A CONCENTRATED LOAD IN CLASS 3 THROUGH 5 TRACK. (MARKED WITH RIBBON)

Seal Applied	Seal Removed	Hazard Class	UN/NA ID

Violation Recommended ☐ Yes ☑ No | Latitude: | Longitude:

Written Notification to FRA of Remedial Action is: ☐ Required ☑ Optional | Railroad Action Code | Date(mm/dd/yyyy): | Comments on back?

Item	Initials/Milepost	Equipment/Track #	Type/Kind	49 CFR/ USC	Defect	Subrule	Speed	Class	Train #/Site	SNFR*	RCL**	# of Occ.***	Activity Code
4	0020.60	M2	M	213	0033	A5	35	3	CULVERT	N	N	1	MTW

Description
DRAINAGE OR WATER-CARRYING FACILITY OBSTRUCTED BY SILTING. (THIS CULVERT NEEDS TO BE CLEANED OUT DUE TO CONCERNS OF SUFFICIENT WATER FLOW)

Seal Applied	Seal Removed	Hazard Class	UN/NA ID

Violation Recommended ☐ Yes ☑ No | Latitude: 47.84225000000 | Longitude: 122.3460900000

Written Notification to FRA of Remedial Action is: ☐ Required ☑ Optional | Railroad Action Code | Date(mm/dd/yyyy): | Comments on back?

Clip from Exhibit B91

BNSF Inspection Reports only report surface defects. Deep-seated loss of rock is not detected by routine inspections.

Gradual loss of rock in the track prism will result in a sudden shift in the rails due to train vibration and loading, resulting in a derailment accident.

BNSF does not inspect beyond the surface and rail gauge measurements that will not detect the forming of a subsurface void.

3.8 Structures: Bridges, drainage structures, track hoppers, retaining walls, etc. shall be designed to carry Cooper E-80 live load with diesel impact. Structures shall be designed per American Railway Engineering and Maintenance of Way Association (AREMA) Manual chapters 1, 7, 8, or 15 as applicable, and designed by a licensed engineer. See AREMA standards for unloading pits (Chapter 15, Section 8.4). All structural plans will need to be reviewed and accepted by BNSF Engineering. Gratings covering open pits must be bolted in place.

If a project creates the need for existing structures (including BNSF's structures) to be modified, the modifications shall be accounted into the customer's scope of work of the project, subjected to BNSF's review and approval. For drainage related structures, additional information is included in "Culverts" section within the "Specifications for Construction of Industry Trackage by Private Contractor" chapter.

Clip from Exhibit B93 Aug 2018 BNSF Guidelines Rail Design

"Drainage structures…shall be designed to carry Cooper E-80 live loads, with diesel impact. Structures shall be designed per American Railway Engineering and Maintenance Way Association (AREMA) Manual chapters 1, 7, 8, or 15 as applicable, and designed by a licensed engineer."

THE CITY CANNOT SHOW THAT THIS WAS DONE

Subpart B - Roadbed

§213.31 Scope

This subpart prescribes minimum requirements for roadbed and areas immediately adjacent to roadbed.

§213.33 Drainage

Each drainage or other water carrying facility under or immediately adjacent to the roadbed must be maintained and kept free of obstruction, to accommodate expected water flow for the area concerned.

Guidance. One of the most essential elements of track maintenance is a comprehensive drainage system. Drainage facilities (bridges, trestles, or culverts) should be given careful detailed consideration during inspections. Openings under the track are used to channel and divert water from one side of the roadbed to the other.

The rule specifies that each drainage structure shall be maintained and the Inspector should note conditions that would affect the integrity of the structure, such as culvert pull aparts or separations, crushing or uneven settlement due to failure of or lack of head walls (in conjunction with frost action), too steep a gradient, and insufficient support.

Drainage openings must also be inspected and notice given where debris has accumulated to such an extent that expected water flow cannot be accommodated.

Most railroad drainage structures have existed for many years and, if properly maintained and kept free of debris, they are considered adequately designed to accommodate expected water flow, even though recent high-water marks may be slightly above the inlet opening.

Culverts designed with submerged inlets are common. Where questions are raised concerning the adequacy of drainage structures, the Regional Track Specialist should be consulted.

Inspectors must take note of the conditions of:

- Right-of-way ditches;
- Culverts, trestles, and bridge inlets;
- Water carrying structures or passageways;
- Outlets or tail ditches;
- Berm ditches;
- Scouring of embankments, piling or piers in channels or at abutments; and
- Filling in of passageways from silting, sand wash, or debris.

Inspectors must notify the track owner of any drainage condition deemed hazardous, or potentially hazardous, to the safety of train operations over the track.

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The City has not provided any documentation of flood damage to an occupied structure.

The only flood damage reported has been to the landscaped backyards constructed in a FEMA mapped AE flood zone.

Fill has been placed in the floodplain displacing storage and the 21.5-ft MLLW (19.5-ft NAVD88) berm was never constructed as required in the 1985 short plat approved by the City. Mudline on the structure is approx. 18-ft NAVD88, or 1.5-ft below the required berm elevation.

City Exhibit: IMG_2174.jpeg

Washington Department of FISH and WILDLIFE

HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: September 26, 2024
Project End Date: October 25, 2024

Permit Number: 2024-4-541+01
FPA/Public Notice Number: N/A
Application ID: 35956

MITIGATION/GRAVEL NOURISHMENT

46. Sand and gravel placed on the beach should be appropriately sized to provide forage fish spawning substrate following the provisions below:

a. For surf smelt spawning beaches, the material placed must be in compliance with the following specifications:

Sieve Size	Percent passing by weight.
5/8-inch	100
3/8-inch	90-100
1/16-inch	40-50
1/100-inch (.25mm)	0-5

47. Placement:

- Material is to be placed to a target depth of 6 inches.
- Material should be placed in the upper beach and then worked lower to the water.
- Material can be placed August 1-31 without a forage fish egg survey. Material can be placed between September 1 and February 14 if a forage fish egg survey is conducted and finds no eggs in the sample. No material can be placed between February 15 and July 31 to protect juvenile salmonids in the nearshore

48. This HPA does not authorize the placement of beach nourishment; a separate standard application will be required to conduct this work.

Clip from Exhibit B87

Clip from Exhibit B87, Expedited HPA permit requiring mitigation/gravel nourishment. The proposed location for this sediment deposition is 2.75 miles away from the Bernhoft tidelands and will provide zero mitigation for the sediment robbed by the City's continual maintenance of the flow splitters.

Even though WAC 220-110-030(9) exempts expedited HPA permits from SEPA, WDFW still required mitigation in this case.

The only harm or hardship resulting from past flooding in lower Perrinville Creek was to landscaping planted in the AE zone floodplain.

The City circumvented SEPA by falsely claiming, "an imminent danger existed" when no such danger existed. This was intentional to avoid having to comply with SEPA

Exhibit B82

From: Clugston, Michael
To: bill liderengineering.com
Cc: Taraday, Jeff; rdbern@frontier.com; dbernhoft@yahoo.com; joe scordino; Phil Olbrechts
Subject: RE: Edmonds/Bernhoft Appeal -- Ruling Granting City"s Motion to Limit Scope and Dismissing Appeal
Date: Tuesday, September 3, 2024 8:48:46 AM
Attachments: image001.png

Good morning,

1. The last day for reconsideration is Thursday, September 12, by 4:00pm.
2. A request for reconsideration costs $314.00. Submit the reconsideration letter through the MBP portal for file PLN2024-0020 and an invoice will be sent for the fee.
3. You are reading ECDC 20.06.140(E) correctly.

Thanks.

Mike Clugston | Acting Planning Manager
City Hall | 121 5th Ave. N | Edmonds WA 98020
425.771.0220 (office) | 425.967.2634 (mobile)
michael.clugston@edmondswa.gov
www.edmondswa.gov

Clip from Exhibit B82

In a September 3, 2024 email, Mr. Clugston confirmed that all permits would be stayed pending the Hearing Examiner's reconsideration decision. Even after the Hearing Examiner found in Appellant Bernhoft's favor, the City nonetheless proceeded to speciously obtain an "expedited" HPA permit to complete work stayed by this appeal.

The issuance of the expedited HPA was withheld from Appellant Bernhoft, until after the work was completed without an adequate SEPA review.

The City acted in bad faith by confirming that, "pursuant ECDC 20.06.140(E), that the timely filing of a request for reconsideration shall stay the hearing examiner's decision on the applicable project permit application, or portion thereof, until such time as the hearing examiner issues a decision on reconsideration."

Exhibit B89

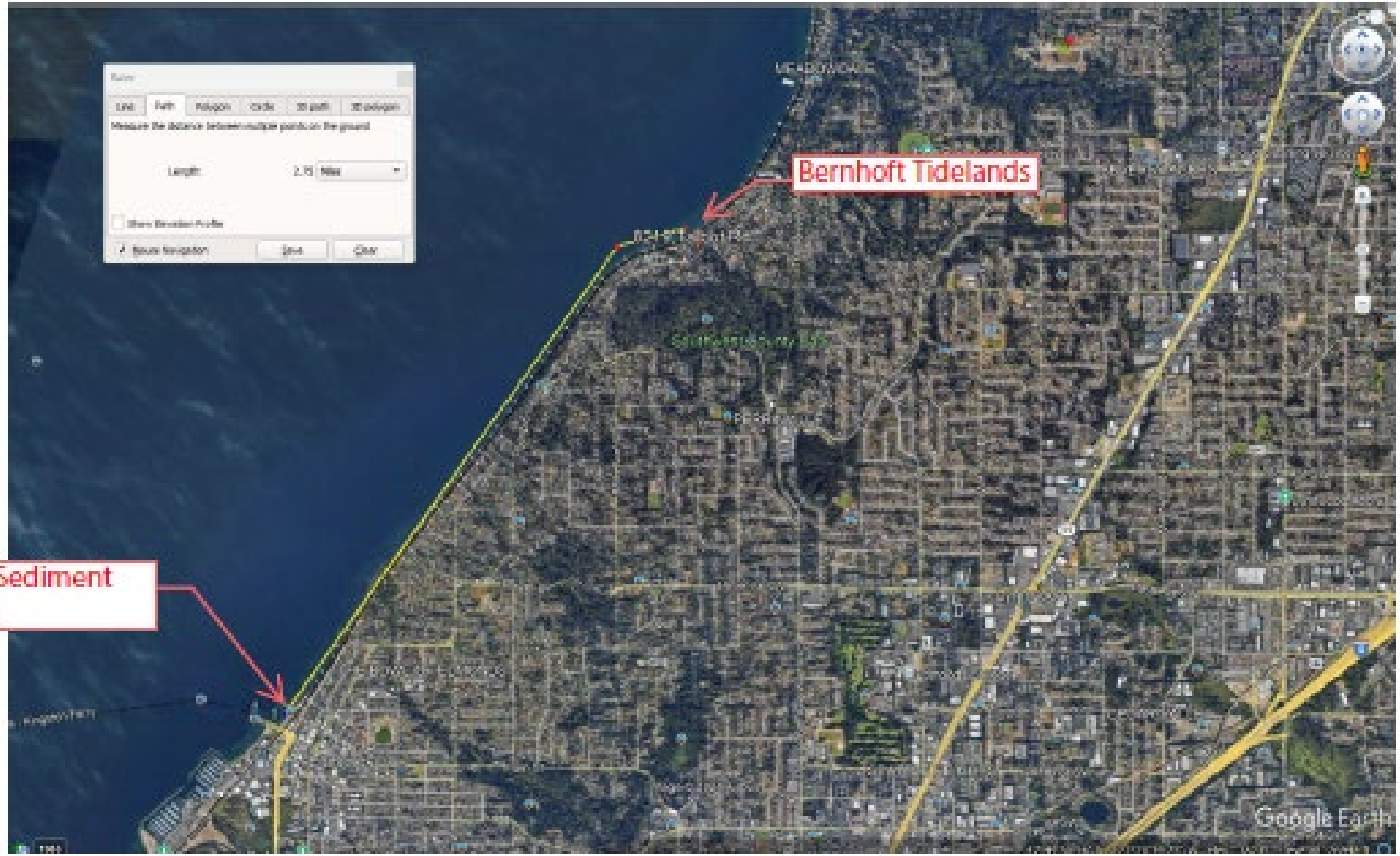

Exhibit 89: Google Earth map showing the Bernhoft tidelands at 8219 Talbot Road, Edmonds location in relationship to the proposed sediment dumping location at the Brackett's Landing Marine Sanctuary, approximately 2.75 miles away.

Exhibit B89 showing the proposed sediment deposition in the Bracketts Landing Marine Sanctuary/City Park. Any mitigation at this site 2.75 miles away will be worthless mitigation to the Bernhoft tidelands.

Exhibit B92

Washington State Department of Transportation

GeoMetrix

SURVEY INFORMATION SYSTEM Report of Survey Mark

Designation:	EDM-01	T.R.S:	27N, 3E, 23	ACCOUNTS INFORMATION	
Monument ID:	6815	Corner Code:		BOOK	PROJECT	INVOICE
NGS Pid:		State Route:		321	MS4466	23-07029
State:	WASHINGTON	Mile Post:				
County:	SNOHOMISH	Station:				
Region:	NW	Offset:				
Nearest Town:	EDMONDS	Owner:	GS			
USGS Quad:	EDMONDS WEST	Bearing:	M			

TO REACH THE STATION FROM THE WASHINGTON STATE FERRY TERMINAL IN EDMONDS, GO NORTHERLY APPROXIMATELY 120 METERS THROUGH THE BRACKETT LANDING PARK PARKING LOT TO THE RESTROOM BUILDING, AND END OF VEHICLE TRAVEL. PARK AND WALK NORTHWEST APPROXIMATELY 90 METERS ALONG THE PAVED PATH TO MARK. IT IS LOCATED IN THE NORTHERLY HALF OF THE VIEWING AREA, 69.9 METERS @ 290 DEGREES FROM A WESTERLY METAL SIGN POST BASE, 54.7 METERS @ 320 DEGREES FROM A 30 CM CONCRETE CULVERT PIPE IN THE SAND (CULVERT UNDER WATER DURING HIGH TIDE), AND 3.8 METERS @ 355 DEGREES FROM A TELESCOPE LOOKOUT PLATFORM WITH A WITNESS STICKER. THE MARK IS AN ALUMINUM CAP CEMENTED INTO A DRILL HOLE AND SET LEVEL WITH THE CONCRETE CURB SURFACE. NOTE: THIS STATION SIGHTS STATIONS EDMONDS AND JEFF RESET.

Survey Control

Datum: NAD 83/07 Date: 10/21/2008

Lat: 47 48 51.057435 N Long: 122 22 57.154274 W Ellips: -19.386 (M) -63.602 (USFt) Geoid: -23.273 (M)

Washington State Plane Zone: North

Northing	Easting	Scale	Comb Factor	Conv Angle
91690.017 (M) 300819.664 (USFt)	383988.061 (M) 1259800.830 (USFt)	0.99995623	0.99995927	-1 09 12.3

Ortho: Date: 06/06/2007

Datum: NAVD 88

Elevation: 3.887 (M) 12.753 (USFt)

Mllw: 1983-2001 4.512 (M) 14.80 (USFt)

Survey Info	Accuracy	Network	Method
Horizontal	2 CM	PRIMARY	GPS
Ellips	5 CM		GPS
Ortho	1 CM	PRIMARY	DIFF LEVELS
Mllw	1 CM		DIFF LEVELS

MLLW = NAVD88 + 2.15-feet

Per WSDOT, the conversion from NAVD88 datum to MLLW (mean lower lower water) datum in now 2.15-feet, or one-tenth of a foot higher due to sea level rise.

It can be anticipated that coastal flooding problems such as in lower Perrinville Creek will become worse with time.

MLLW = NAVD88 + 2.15-feet