

TRANSMITTED BY EMAIL TO
michael.clugston@edmondswa.gov

May 31, 2024

Mike Clugston, AICP, Acting Planning Manager
City of Edmonds
121 5th Avenue North
Edmonds WA 98020
michael.clugston@edmondswa.gov

SUBJECT: Notice of Appeal, DNS decision dated May 14, 2024
8229 – Talbot Road, Edmonds, WA
Continued Maintenance of Fish-Killing Flow Splitter
File No.: PLN2024-0020

Appellant Robert Bernhoft (Bernhoft) appeals the subject City of Edmonds (City) Determination of Non-Significance (DNS) issued for the continuation maintenance on a City owned fish-killing, flow splitting diversion structure located in the Perrinville Creek stream channel at 8229 Talbot Road, Edmonds, WA in accordance with Edmonds City Code ECC 20.06.030.

1. Appellant's name, address, email address, and phone number:

Robert Bernhoft
8219 Talbot Road
Edmonds, WA 98020
rdbern@frontier.com
206-931-5192

2. Statement describing appellant's standing to appeal:

Appellant Bernhoft's home is located at 8219 Talbot Road, Edmonds, WA and Bernhoft's property abuts the property with the City's fish-killing flow splitter/diversion structure. Perrinville Creek flows across a portion of Bernhoft's property, including the plunge pool below the outfall of the City owned Talbot Road culvert, that is also fish impassable.

Bernhoft's home and very life and property are threatened by the City's continued maintenance of the fish-killing flow splitting diversion structure, the failing 42-inch ductile iron pipe under the railroad tracks, as well as his enjoyment of observing spawning salmon that has been destroyed by the dewatering of 300-feet of Perrinville Creek caused by the City's impassible, fish-blocking structures downstream of the Bernhoft property.

Therefore, Bernhoft has standing to bring this appeal.

3. Identification of the application which is the subject of the appeal:

The DNS, file number PLN2024-0020 the subject of this appeal, was issued on May 14, 2024 to continue the business as usual, maintenance of a city diversion structure in Perrinville Creek at 8229 Talbot Road, Edmonds, WA. A copy of this SEPA decision is attached to this Appeal.

4. Appellant's statement of grounds for appeal and the facts upon which the appeal is based:

Applicant City of Edmonds (City) seeks to renew its Hydraulic Project Approval (HPA) permit to remove sand and gravel sediment under a HPA permit that expired on or about February 14, 2024, and that has not been reissued by the Washington State Department of Fish and Wildlife (WDFW). The fish-killing flow splitter that is the subject of this appeal was constructed circa 1995; however, the actual date of the flow splitter's installation, including a 42-inch high-flow bypass ductile iron pipe (DIP) installed underneath the Burling Northern-Santa Fe (BNSF) railroad is unclear, because the City failed to keep accurate records or As-Built drawings of the flow splitter installation.

On or about October, 2012 the City added additional stormwater flow from 125.75 acres estimated at 30.5-cubic feet per second in a 100-year storm event, via a 30-inch stormwater pipe into the flow splitter, under Perrinville Creek. The 2012 Talbot Road stormwater pipe connection did not receive an HPA permit and was not designed to prevent fish passage in accordance with WAC 220-110-170. Currently any returning salmonids entering Perrinville Creek via the 42-inch DIP outfall will continue up the 30-inch Talbot Road culvert to die.

In December 2020, a significant storm event added additional sediment rock bedload from Perrinville Creek that the fish-killing diversion structure could not convey. In turn the City allowed this sediment to completely block off and dewater the lower 300-feet of Perrinville Creek. The diversion boxes no longer function to split the high flows from Perrinville Creek. Currently all Perrinville Creek flows through the fish-killing flow splitter boxes and into Puget Sound.

Portions of the 42-inch DIP under the BNSF have failed due to saltwater corrosion. Holes have opened up in this pipe large enough to allow railroad ballast rock to enter the pipe, threatening to undermine the railroad foundation and contribute to a catastrophic rail failure that endangers neighbors life safety, property, and poses an extreme hazard to Puget Sound and the eel grass beds located at the outfall of Perrinville Creek. BNSF frequently uses these tracks to transport rail tanker cars with explosive, hazardous, and toxic materials impinging Cooper E-80 rail loads on the failing 42-inch DIP.

A July, 2023 video inspection commissioned by the City of its 36-inch HDPE pipe between the fish-killing flow splitter manhole on the easterly side of the BNSF tracks to be 25% blocked with sediment; and that holes large enough for railroad ballast rock to fall through have opened up between the manhole and Puget Sound in the 42-inch DIP under the BNSF rail tracks.

Manning equation flow calculations prepared by Lider Engineering, PLLC, using estimated 100-year stream flow data provided by the City have demonstrated that the pipes exiting the fish-killing flow splitters are undersized by an order of magnitude (factor of 10).

The property downstream of the fish-killing flow splitters is designated as a FEMA Flood Insurance Rate Map (FIRM) flood zone AE and is designated as a high risk 100-year flood area. Public Works Director Antillon has correctly identified that maintaining these fish-killing flow splitters will place the safety of City maintenance workers at risk.

Because the City's pipe exiting the fish-killing flow splitters and downstream piping are incapable of conveying 100-year storm event, continued maintenance of the flow splitters for flood protection of two private properties is irrelevant and constitutes a gift of public funds. The two downstream properties will flood again during the next major storm event, with or without maintenance of the fish killing flow splitters.

The fish killing flow splitters rob the mouth of Perrinville Creek from bedload sediment necessary for beach replenishment. In turn, this loss of sediment has the likely potential to harm federally listed, threatened juvenile Chinook salmon. The City has no plan or intention of depositing bedload sediment excavated by the maintenance of the fish-killing flow splitters at the mouth of Perrinville Creek. The City's continued maintenance of its failed stream diversion, fish impassible structures have destroyed the historic salmon run on Perrinville Creek.

All of the foregoing are significant environmental impacts, yet the City proposes via this DNS, to continue business as usual, until such time that there is another catastrophic event. The City has no budget, no schedule, and no approved design to remedy this ongoing problem. Indeed, the City has taken active steps to hide this hazard from the public as stated by Public Works Director Antillon, "I don't want to highlight the fact that we created this problem and have struggled to fix it."

In turn, because the City is unwilling to raise revenue to remove the fish-killing flow splitters, address its corroded 42-inch DIP, and restore the 300-feet of dewatered Perrinville Creek, it now places the lives of its citizens at great risk as well as threatening the health of Puget Sound by a catastrophic derailment of explosive, toxic, and hazardous materials.

5. The specific relief sought:

- 5.1 Vacate the DNS issued for the continued maintenance of the fish-killing, flow splitter diversion structures;
- 5.2 Order entry of a Determination of Significance, initiate scoping and prepare draft and final Environmental Impact Statements in accordance with procedural SEPA requirements for removal of the fish-killing diversion structures and restoration of the lower 300-feet of Perrinville Creek that was dewatered by the City's actions;
- 5.3 Require compliance with stormwater standards (State Hydraulics Code WAC 220-110, the City adopted 2019 *Stormwater Management Manual for Western Washington*, and

Code of Federal Regulations 49 CFR part § 213.33) in the environmental impact statement process consistent with this appeal;

5.4 Require removal of all City owned fish blockage culverts and structures on lower Perrinville Creek and require all structures be designed in accordance with the Hydraulic Code WAC 220-110 to allow fish passage, where beneficial for fish; or to prevent fish passage, where access would be harmful to fish, such as entering the 30-inch Talbot Road culvert;

5.5 Allow natural sediment to flow into Puget Sound that will be beneficial to aquatic life in the nearshore environment, that will also eliminate the City's maintenance requirements costs to remove and transport natural sediment; and

5.6 Enter such additional and further relief as may be appropriate.

6. Appellants statement:

Appellant Robert Bernhoft has read this appeal and believes the contents to be true and accurate to the best of his knowledge; and that the facts and evidence presented in this DNS appeal, as shown in Attachment B, Lider Engineering PowerPoint, rev. March 24, 2024 and as supported by additional proof at hearing, will demonstrate issuance of the continued maintenance of this fish-killing diversion structure's SEPA determination and DNS determination to be erroneous.

Signed in Edmonds, WA this 31st day of May, 2024.

x 

Robert Bernhoft, Appellant

Attachment A: DNS Issued May 14, 2024

Attachment B: Lider Engineering PowerPoint, rev. March 24, 2024



CITY OF EDMONDS

121 5TH AVENUE NORTH, EDMONDS, WA 98020 (425) 771-0220

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: This proposal covers maintenance of a stormwater diversion structure at 8229 Talbot Road by the City of Edmonds Public Works Department for the next three years. The work will consist of a variety of actions to maintain flow including trimming of vegetation in and around the structure, cleaning of trash racks, and removing accumulated sediments and debris. The maintenance is needed to reduce the potential for flooding within the City.

Proponent: City of Edmonds

Location of proposal, including street address if any: 8229 Talbot Road, Edmonds

Lead agency: City of Edmonds

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

The City of Edmonds has determined that the requirements for environmental analysis and protection have been adequately addressed in the development regulations and comprehensive plan adopted under chapter 36.70A RCW, and in other applicable local, state, or federal laws or rules, as provided by RCW 43.21C.240 and WAC 197-11-158 and/or mitigating measures have been applied that ensure no significant adverse impacts will be created.

_____ There is no comment period for this DNS.

_____ This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

 X This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by May 28, 2024.

Project Planner: Mike Clugston, AICP, Acting Planning Manager

Responsible Official: Mike Clugston, AICP, Acting Planning Manager

Contact Information: City of Edmonds | 121 5th Avenue North, Edmonds WA 98020 | 425-771-0220

Date: May 14, 2024

Signature:

 XX You may appeal this determination to Mike Clugston, AICP, Acting Planning Manager, at 121 5th Ave. N, Edmonds, WA 98020, by filing a **written appeal** citing the specific reasons for the appeal with the required appeal fee no later than June 4, 2024. You should be prepared to make specific factual objections. Contact Mike Clugston to read or ask about the procedures for SEPA appeals.

 XX Posted on May 14, 2024, at City Hall and the Edmonds Public Safety Building. Published in the Everett Herald. Uploaded to the Department of Ecology SAW.

 XX Distribute to "Checked" Agencies below.

The SEPA Checklist, DNS, and any associated documents can be obtained online at: https://www.edmondswa.gov/services/public_involvement/public_notices by searching for permit number PLN2024-0020, and by emailing the project planner (michael.clugston@edmondswa.gov), or by calling the City of Edmonds at 425-771-0220.

Distribution List: This DNS and SEPA checklist were distributed to the following:

- | | | |
|--|---|--|
| <input type="checkbox"/> Applicant | <input checked="" type="checkbox"/> Dept. of Ecology | <input type="checkbox"/> City of Everett |
| <input type="checkbox"/> Parties of Record | <input type="checkbox"/> Dept. of Ecology - Shorelands | <input checked="" type="checkbox"/> City of Lynnwood |
| <input checked="" type="checkbox"/> US Army Corps of Engineers | <input checked="" type="checkbox"/> Dept. of Natural Resources | <input type="checkbox"/> City of Mountlake Terrace |
| <input checked="" type="checkbox"/> US Fish and Wildlife | <input type="checkbox"/> Dept. of Commerce | <input type="checkbox"/> City of Mukilteo |
| <input type="checkbox"/> Puget Sound Energy | <input type="checkbox"/> WSDOT | <input type="checkbox"/> City of Shoreline |
| <input type="checkbox"/> Snohomish PUD | <input type="checkbox"/> WSDOT – Ferries | <input type="checkbox"/> Town of Woodway |
| <input type="checkbox"/> Olympic View Water & Sewer | <input checked="" type="checkbox"/> Dept. of Fish & Wildlife | <input type="checkbox"/> Snohomish Co. Public Works |
| <input type="checkbox"/> Alderwood Water District | <input type="checkbox"/> Dept. of Health – Drinking Water | <input type="checkbox"/> Snohomish Co. PDS |
| <input type="checkbox"/> Edmonds School District | <input checked="" type="checkbox"/> Dept. of Arch. & Historic Pres. | <input type="checkbox"/> Snohomish Co. Health Dist. |
| <input type="checkbox"/> Port of Edmonds | <input type="checkbox"/> Dept. of Parks and Rec. Commission | <input type="checkbox"/> King County - Transit |
| <input type="checkbox"/> South County Fire | <input type="checkbox"/> Puget Sound Clean Air Agency | <input type="checkbox"/> King County – Environ. Planning |
| <input type="checkbox"/> Swedish Hospital | <input type="checkbox"/> Puget Sound Regional Council | |
| <input type="checkbox"/> Community Transit | <input type="checkbox"/> Puget Sound Partnership | |
| | <input checked="" type="checkbox"/> Tulalip Tribe | <input type="checkbox"/> Other |

pc: File No.
SEPA Notebook

LIDER ENGINEERING PLLC

Low Impact Development Engineering Resources
Stormwater and Erosion Control Engineering

WILLIAM M LIDER, PE, CESCL

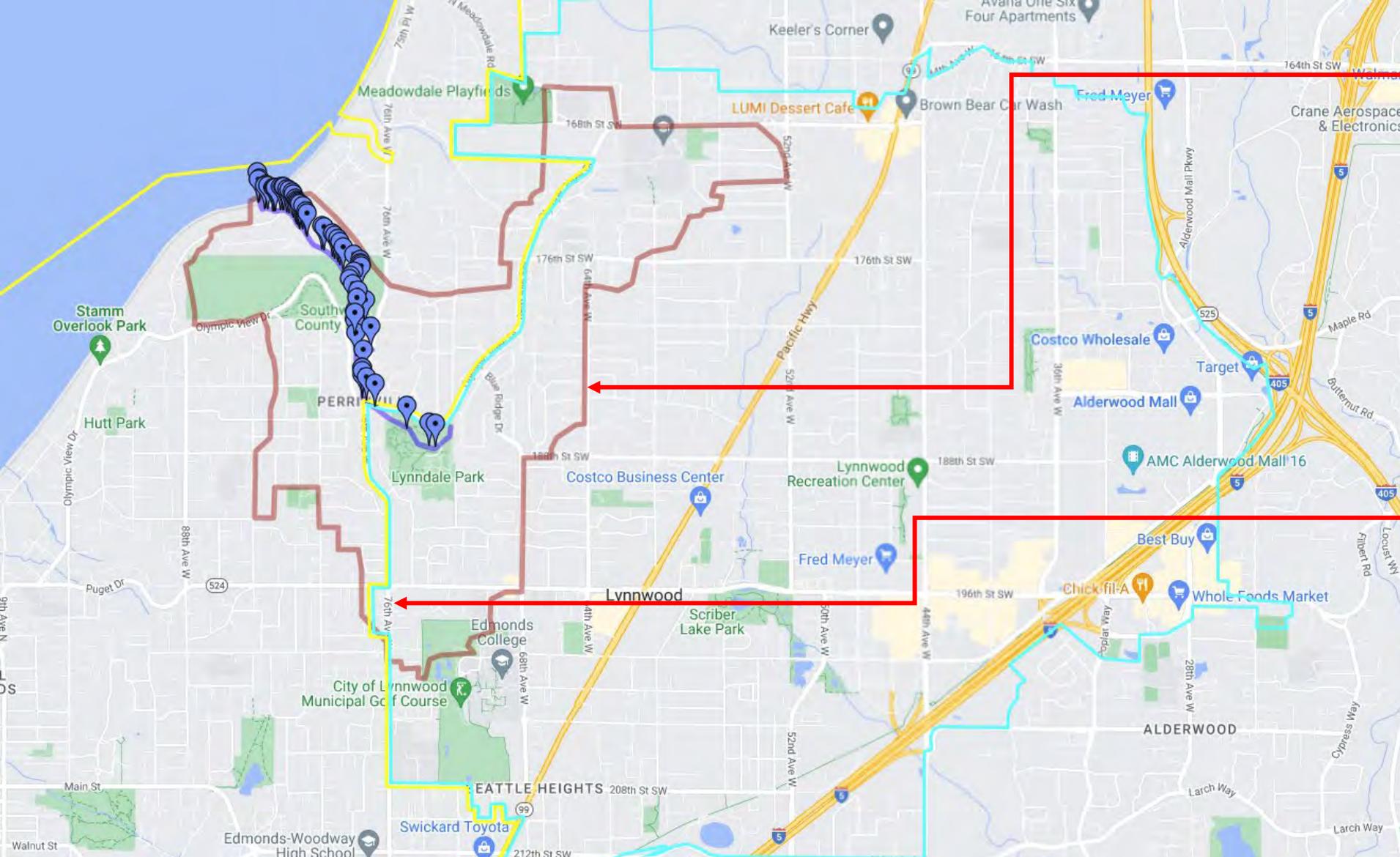


Dithering = Disaster

Perrinville Creek
Failed Culverts and Flow
Splitter threaten BNSF Rail
Tracks,
Puget Sound
Edmonds, WA

Prepared by Lider Engr.,
Rev. March 24, 2024

Photo: Edmonds Public
Works December 2020



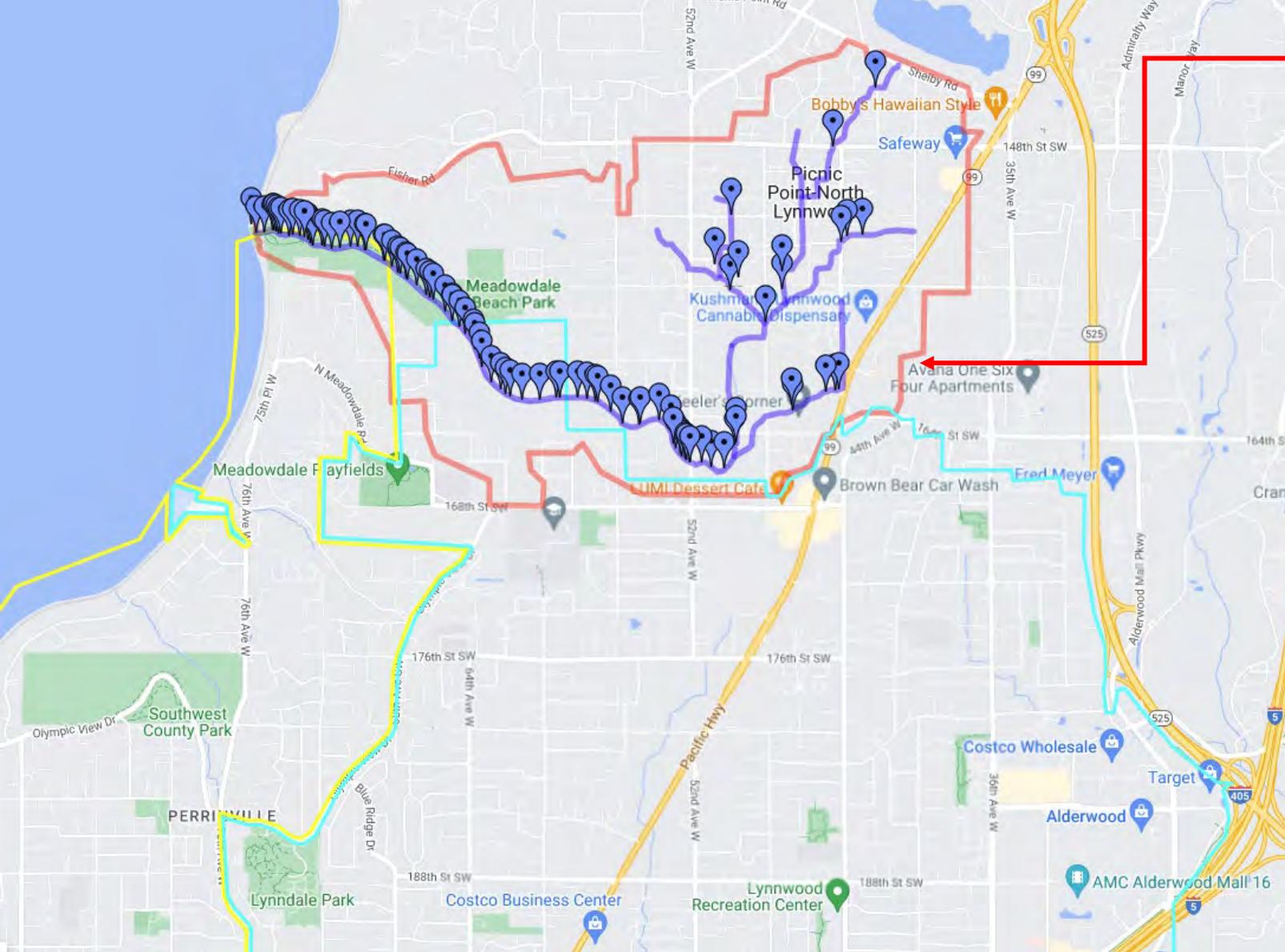
Perrinville Creek Drainage Basin is an orphan stream basin, that is about half is in Edmonds, about half in Lynnwood, with a small portion in unincorporated Snohomish County. No one wants to claim full responsibility.

Yellow-Green line is Edmonds-Lynnwood City Limits

Perrinville Creek Drainage Basin Area = 2.94 Square Miles (1,882 acres)

VICINITY MAP

Source: Adopt a Stream Foundation

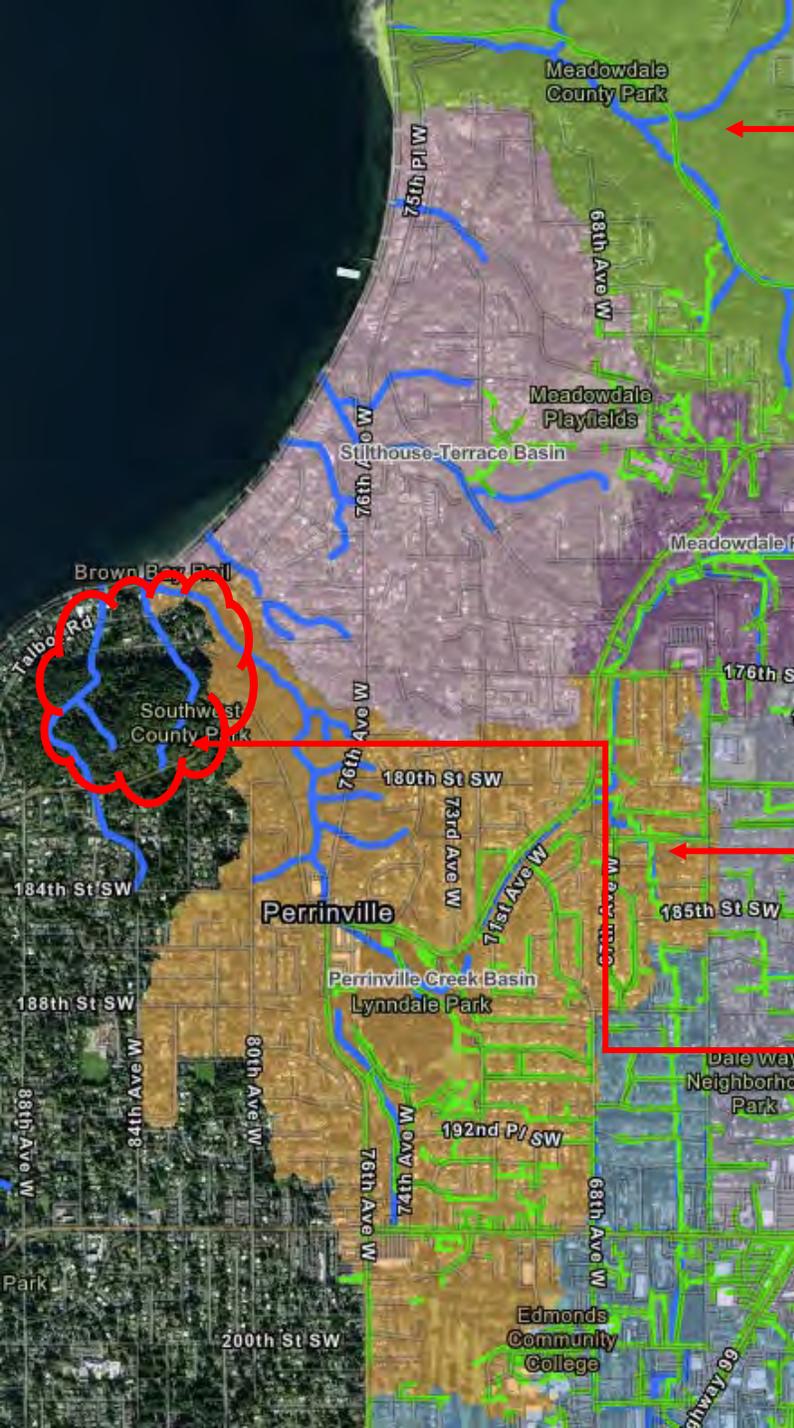


For comparison purposes, BNSF recently completed a bridge over Lund's Gulch Creek to increase flow and bedload transport and provide public access.
 Lund's Gulch Creek Drainage Basin Area = 5.46 Square Miles (3494 acres)



Map Source: Adopt a Stream Foundation

Photo: Lider Engr., June 14, 2023

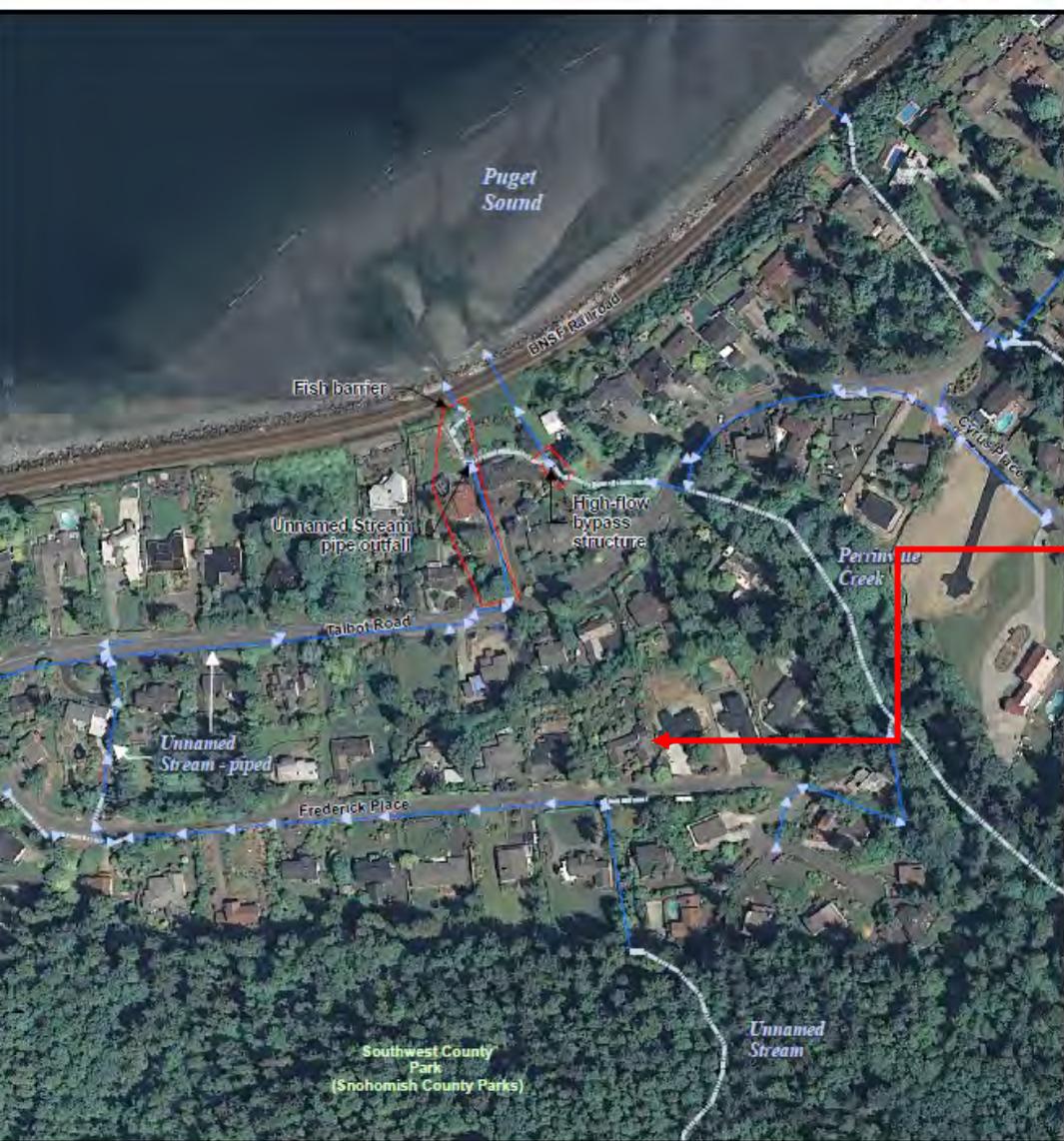


Lund's Gulch Creek Drainage Basin
Area = 5.46 Square Miles (3494 acres)

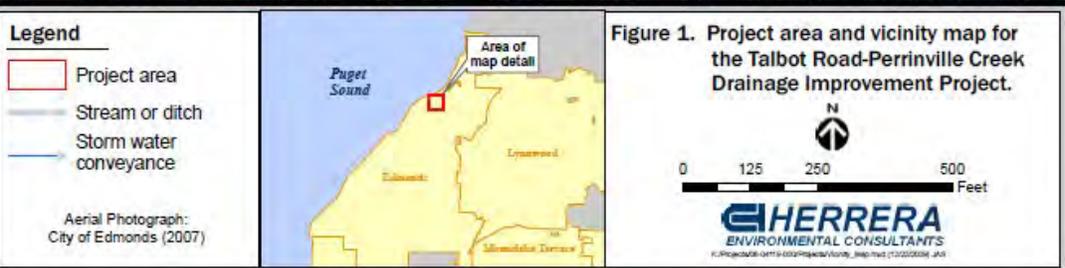
Perrinville Creek Drainage Basin
Area = 2.94 Square Miles (1,882 acres)

Additional 0.20 square mile area added
to Perrinville Creek outfall via 30-inch
pipe constructed in 2012 by the City of
Edmonds.

Source: City of Lynnwood GIS



A portion of the additional area added to Perrinville Creek outfall via 30-in pipe constructed in 2012 and connected to flow splitter adding 30.5 cubic feet per second flow.



Source: Edmonds Public Works

BROWNS BAY

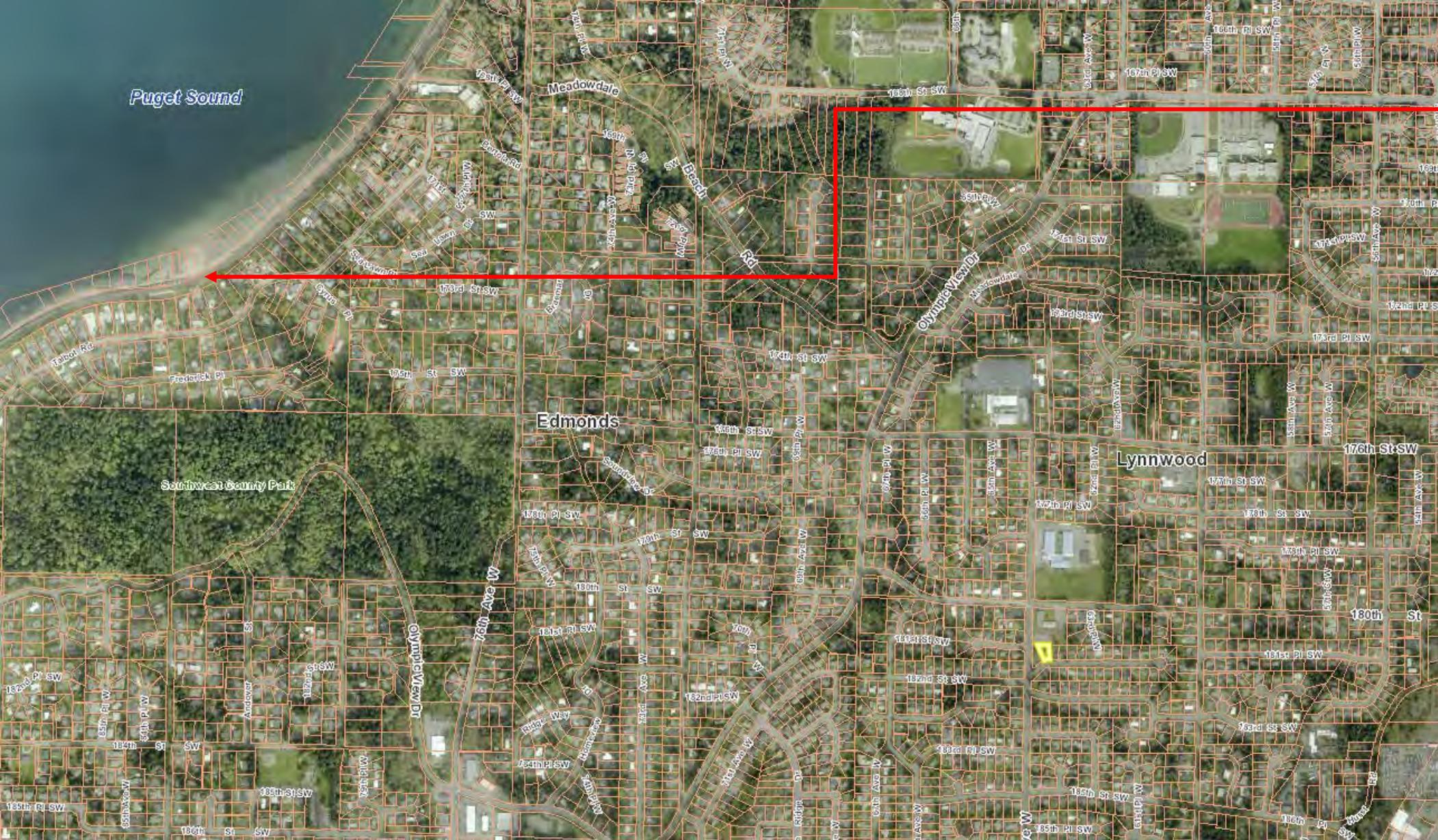
Perrinville Creek Outfall

BNSF Tracks

Olympic View Drive



7-27-4



Perrinville Creek
Outfall

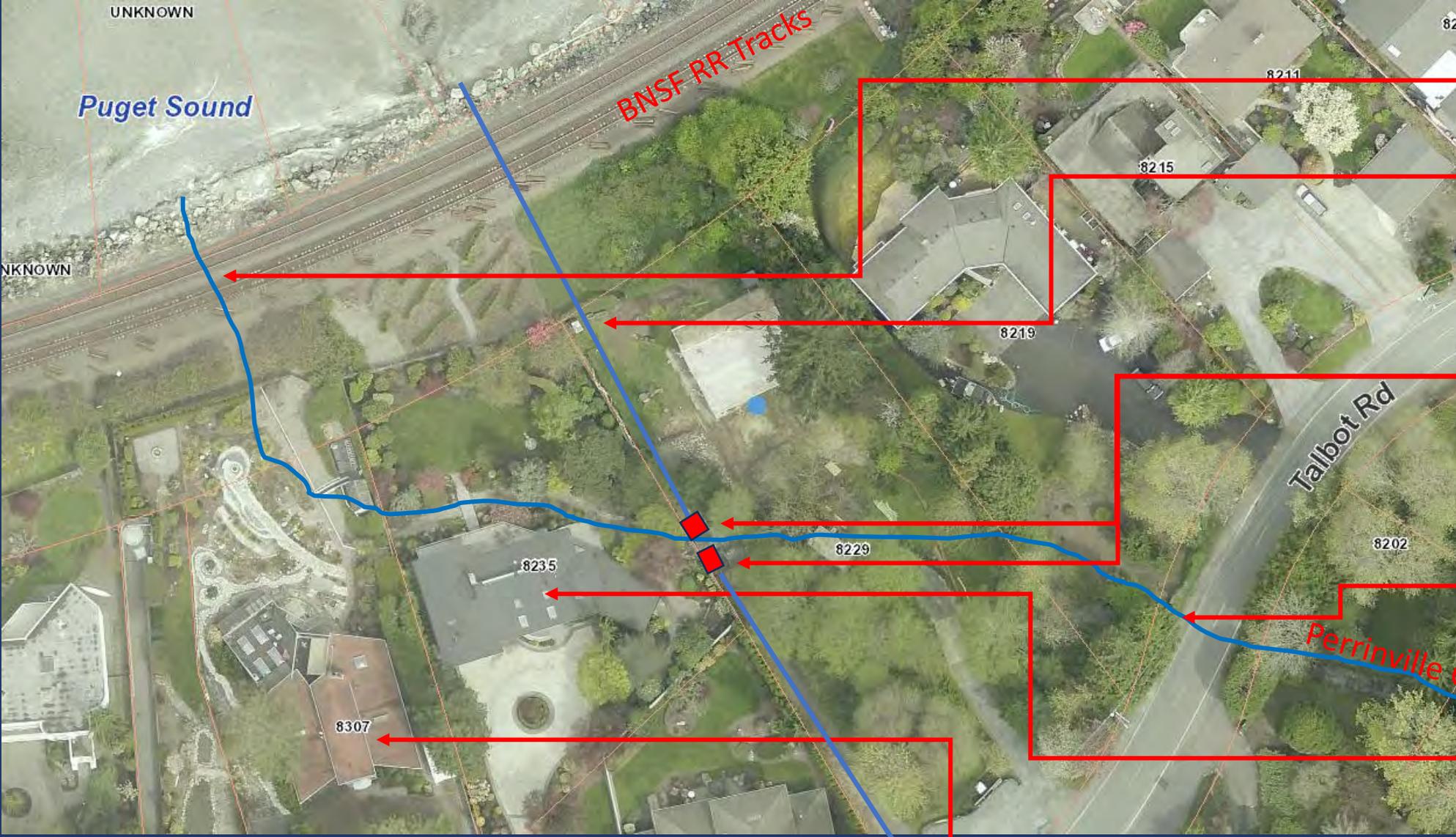
Puget Sound

Edmonds

Lynnwood

Current Vicinity Map

Source: SCOPI Aerial Map 2022



FOUR ISSUES:

Issue 1: BNSF 30" Conc. Pipe

Issue 2: City of Edmonds 42" DIP high flow bypass installed circa 1995.

Issue 3: Fish barrier flow splitters constructed 1995 (and 30" RCP added in 2012)

Issue 4: Talbot Road fish barrier, undersized culvert

House 8235 Talbot Rd constructed 1986

House 8307 Talbot Rd constructed 1975

Lower Perrinville Creek Outfall 4-Issues

At the June 7, 2022, City Council meeting, the awarded a professional services agreement to consultant ESA in the amount of \$906,919. Per the Public Works staff narrative:

“The long-term management of this basin will be most successful if both the City culvert under Talbot Road and the culvert under the BNSF railroad, are replaced with fish passable structures and a channel realignment/reconstruction along this reach is accomplished.”

Reinforced Concrete Pipe (RCP)

Ductile Iron Pipe (DIP)

Flow Splitter

Fish Barrier Talbot Road Culvert

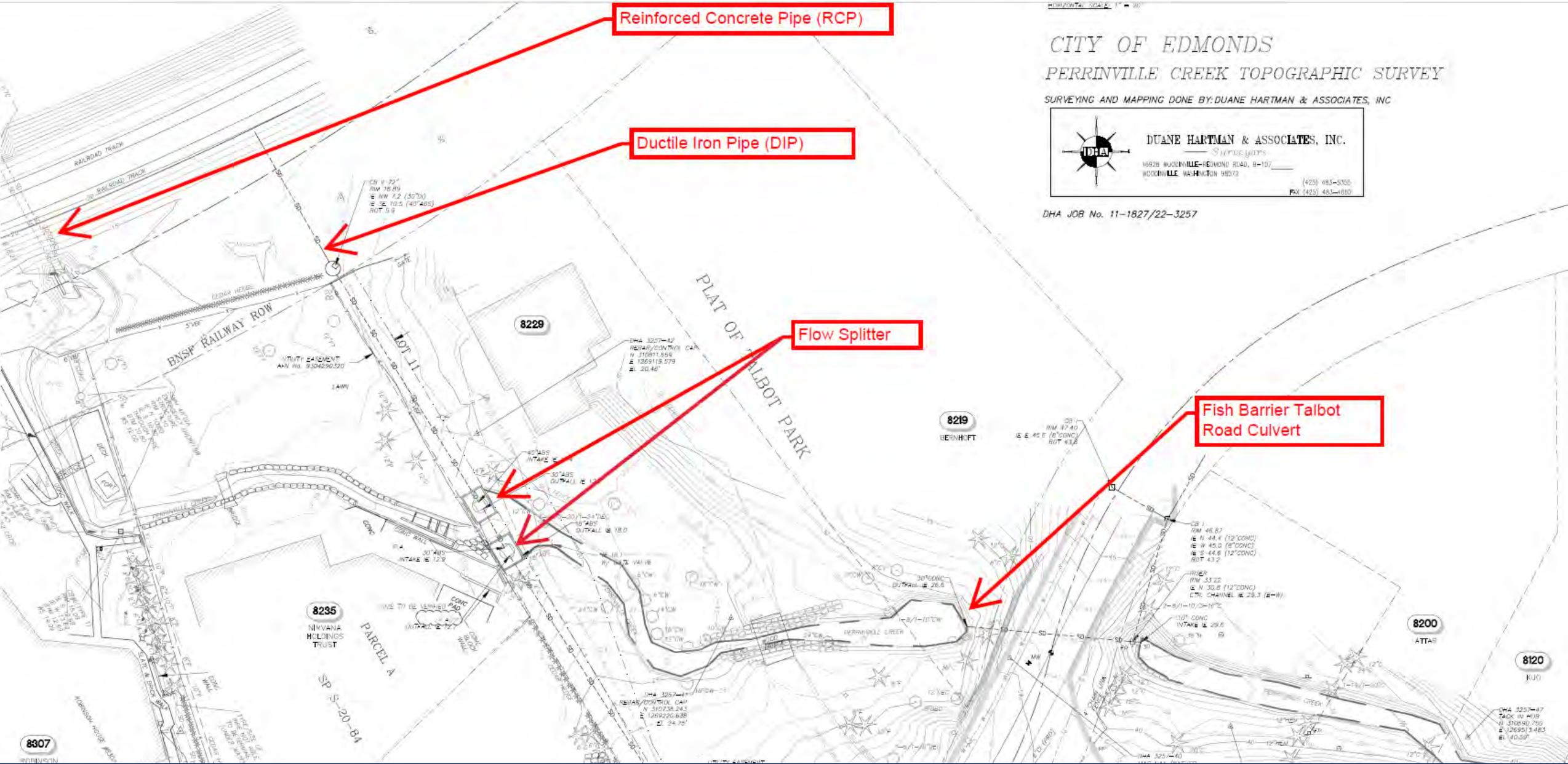
CITY OF EDMONDS
PERRINVILLE CREEK TOPOGRAPHIC SURVEY

SURVEYING AND MAPPING DONE BY: DUANE HARTMAN & ASSOCIATES, INC



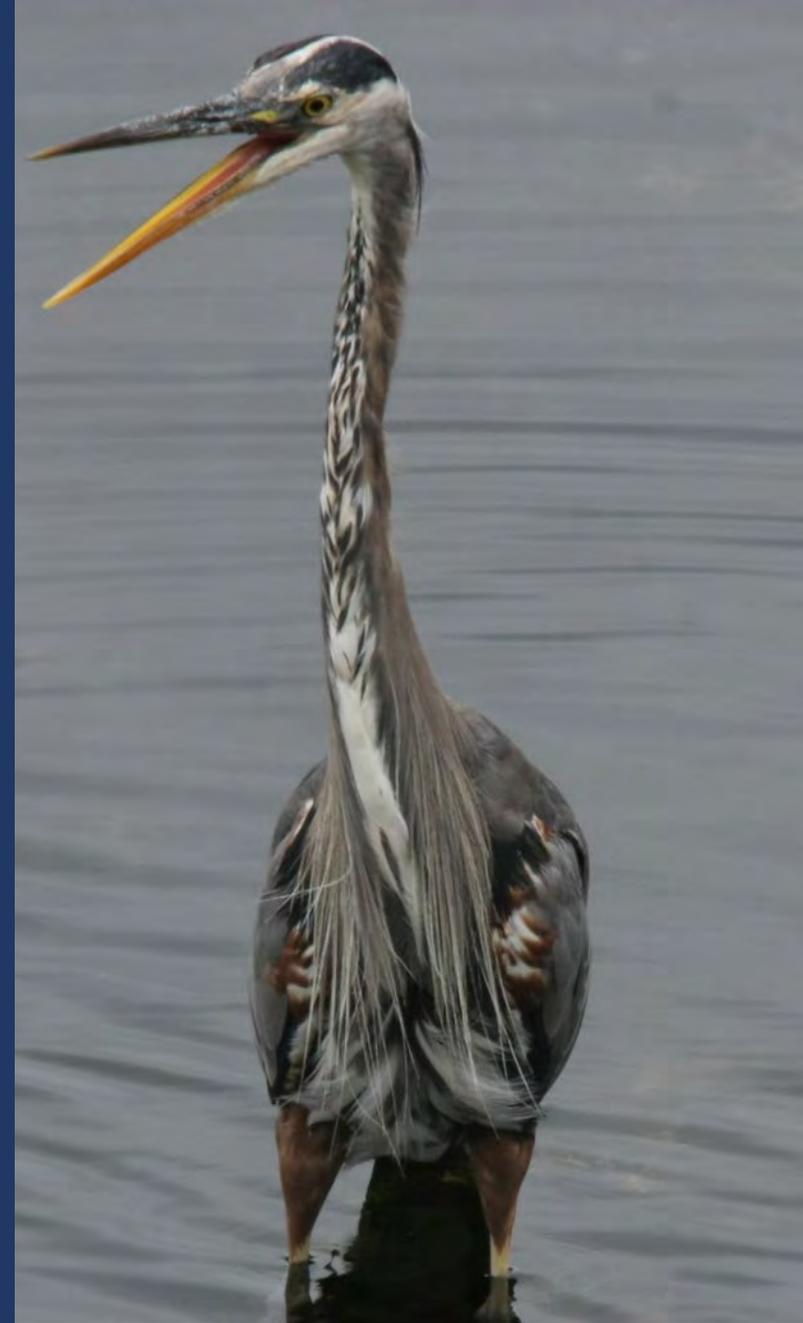
DUANE HARTMAN & ASSOCIATES, INC.
Surveyors
1928 AUBURNVILLE-EDMOND ROAD, B-197
WOODVILLE, WASHINGTON 98073
(425) 483-5355
FAX (425) 483-4680

DHA JOB No. 11-1827/22-3257



This *draft* Utility Topography Map, unsealed, undated, and with errors is the only plan produced by the Edmonds Public Works after nearly 2-years and \$900,000 approved by the Edmonds City Council

ISSUE 1: BNSF 30-INCH CONCRETE CULVERT





30" BNSF Culvert outfall
to Puget Sound over a
decade ago.

Culvert flowing half-full
in June is not a good
sign!



Current BNSF
design standards
require a minimum
36-inch culvert.

Source Lider Engr
June 22, 2012



Video of reinforced concrete 30" culvert. Video was made after 2012 Lider Engineering report:

Broken pipe joint in 30" conc pipe will wash out pipe bedding.

Video did not record distance, the City did not release this video until June 2023.

Source: City of Edmonds Public Works Jan. 8, 2013



Pipe has settled 6"-12" and railroad ballast rock is visible at the crown of the pipe per the City's inspection report.

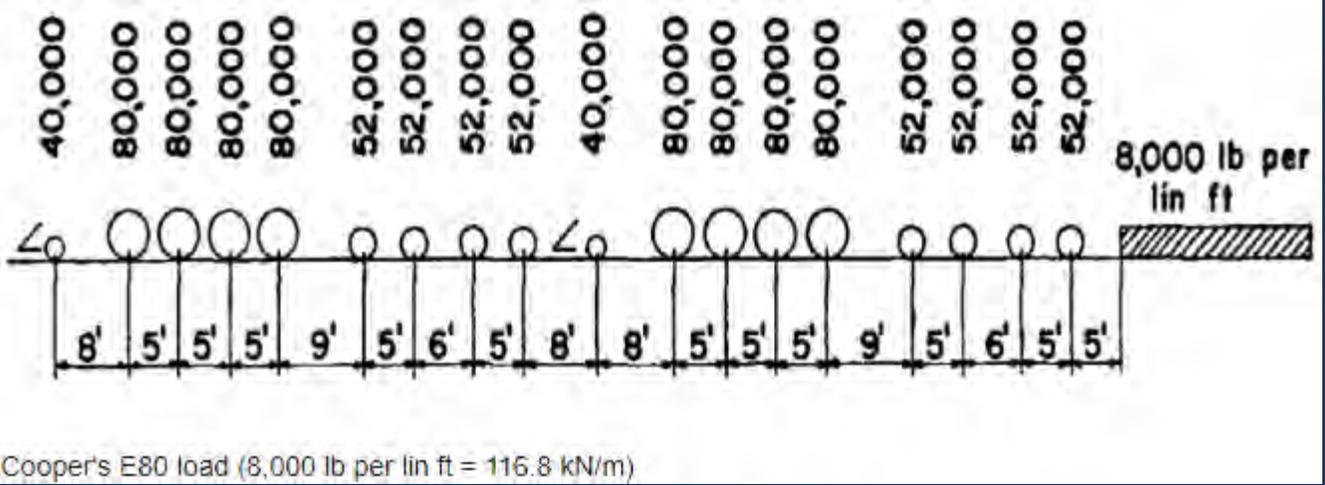
Large diameter pipe is allowed a 2.5° joint deflection. 12" is > than a 7° deflection.

Note rebar is exposed to saltwater corrosion corrosion/chloride ion attack.

Pipe bedding has been washed away allowing point loads on the pipe.

NOTE: 10-years has passed since any inspection was done, as far as I know.

Source: City of Edmonds Public Works Jan. 8, 2013

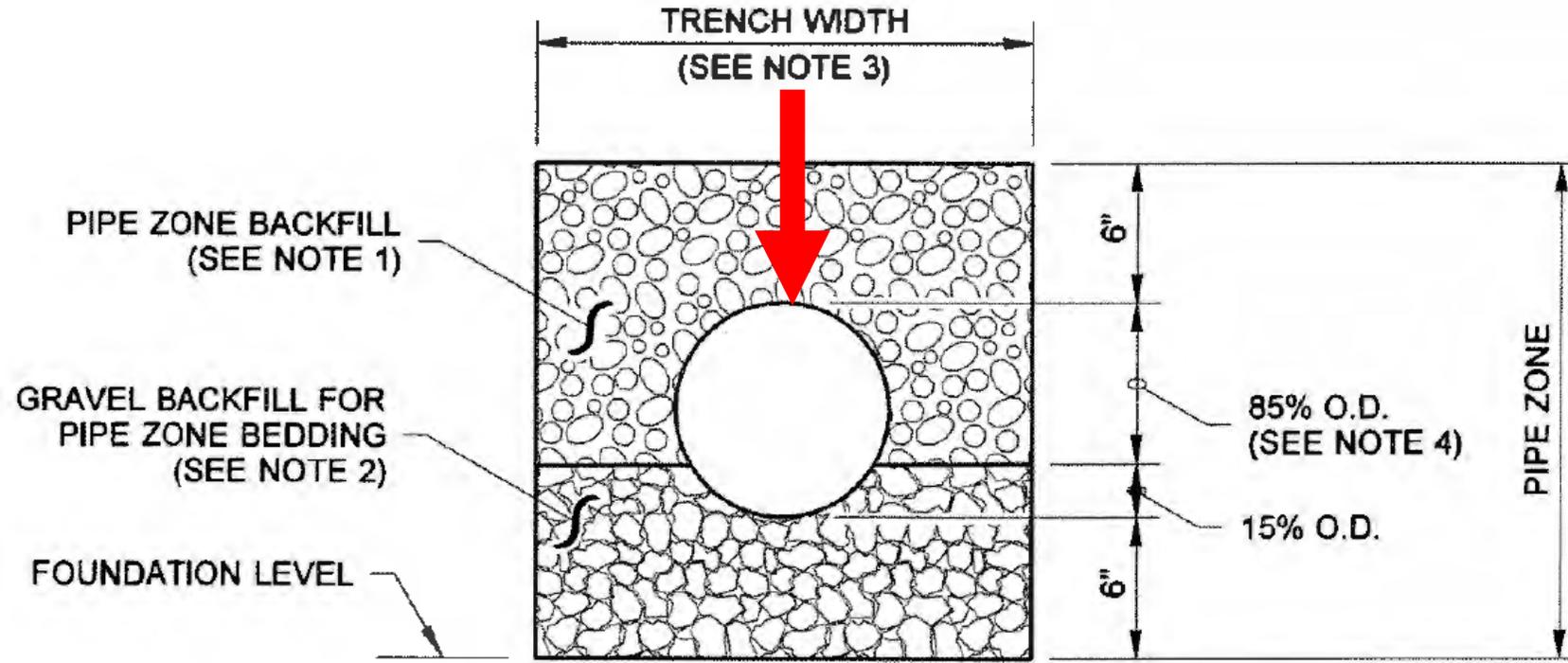


Proper pipe bedding is critical to distribute loads around the pipe. Pipe bedding is even more critical with railroad loads.

Railroad ballast rock is angular rock about the size of your fist and will put point loads on the pipe causing it to crack.

Cracking exposes pipe rebar to saltwater.

Railroad Loads >> Street Loads



CONCRETE AND DUCTILE IRON PIPE

Source: WSDOT Std. Plan B-55.20-00 PIPE ZONE BEDDING AND BACKFILL & BNSF GUIDELINES FOR INDUSTRY TRACK PROJECTS, Aug. 2018



There is no flow whatsoever out of the 30-inch concrete culvert since the Dec. 2020 storm. The pipe is entirely clogged with unconsolidated material.

The pipe needs to be cleaned and filled with engineered controlled density fill (CDF) to safely convey rail loads.

49 CFR part § 213.33 Drainage:

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

Source: Concerned Neighbor Photo
July 26, 2023



BNSF 30" CULVERT OUTLET

November 2023 jetted out 30-inch BNSF reinforced concrete culvert outfall to Browns Bay. Note, there is no stream flow is currently reaching this culvert. Only a small amount of tidal groundwater flow is visible in the pipe.

All Perrinville Creek flow is currently diverted upstream into the City owned 42-inch DIP at the fish-killing flow splitters.

This culvert is undersized by about a factor of 10 to convey the Perrinville Creek 100-year storm flow.

Source: Concerned Neighbor Photo
November 16, 2023



BNSF 30" CULVERT INLET

Culvert cleaned Nov. 2023, but not video inspected. Currently there is no flow through this culvert as all Perrinville Creek flow is via the City owned 42-inch DIP culvert.

Separated pipe joint. Note rust staining from corroded rebar

This culvert is undersized by about a factor of 15 to convey Perrinville Creek 100-year storm flow and bedload and does not conform to 49 CFR part § 213.33 Drainage

Source: FRA Inspector Brian Altiero
photograph November 2023



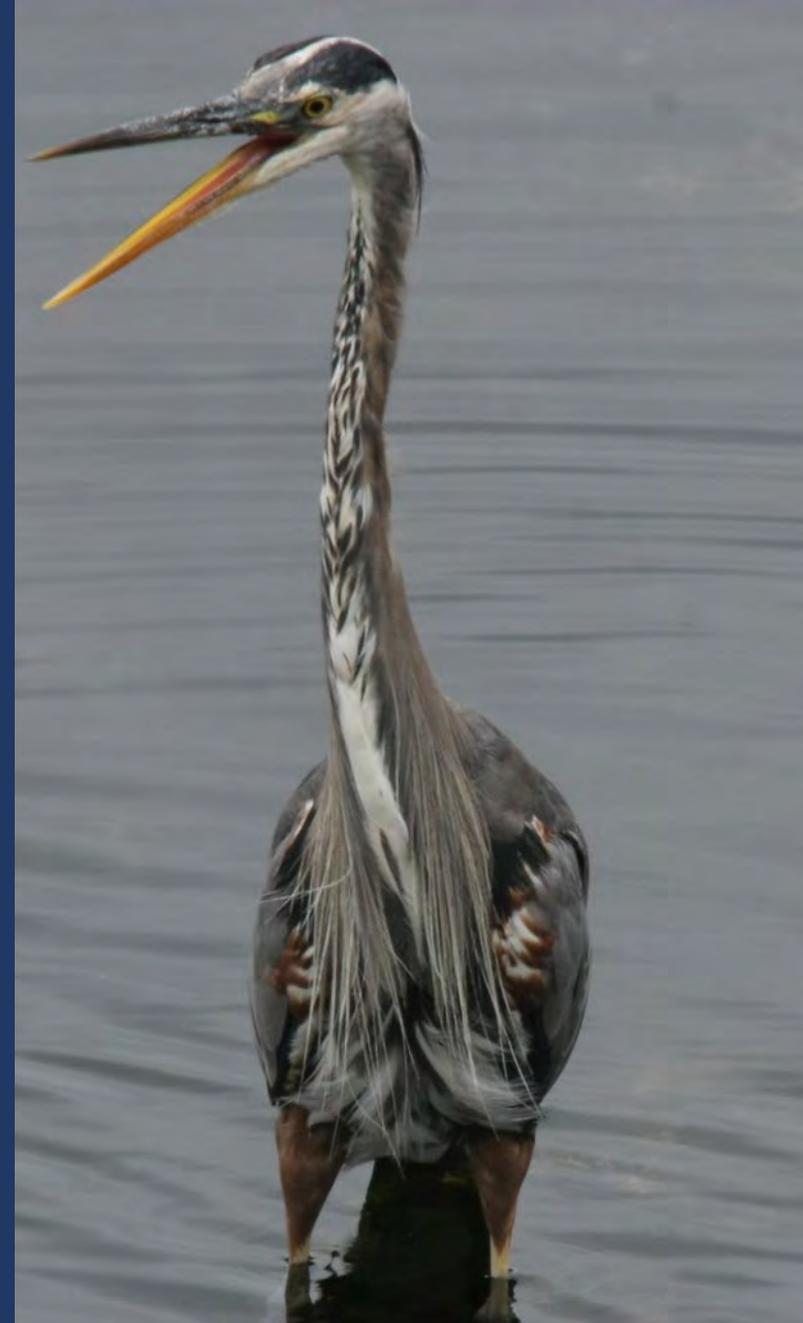
View looking east at the inlet to the BNSF 30-inch concrete culvert. The Perrinville Creek stream channel has been obliterated and currently there is no stream flow entering the BNSF 30-inch concrete pipe.

The gardens of properties at 8235 and 8307 Talbot Road are shown in the background. These properties will be flooded during the next major storm event because the City of Edmonds ductile iron pipe is undersized by a factor of 10 to convey the Perrinville Creek, 100-year storm flow.

Perrinville Creek channel has been obliterated.

Source: Concerned Neighbor Photo
November 16, 2023

ISSUE 2: CITY OF EDMONDS 42-INCH DUCTILE IRON PIPE (DIP)





42" DIP high flow
bypass overflow pipe
into Browns Bay.

This pipe is owned and
maintained by the City
of Edmonds.

Source: Lider Engr
June 22, 2012



Saltwater corrosion has delaminated the DIP, reducing its thickness and strength.

Lider Engr. recommends replacement.

NOTE: No holes in the pipe in 2012.

Source: Lider Engr
June 22, 2012



This video of the interior of the DIP was made after the 2012 Lider Engineering report filed with the City of Edmonds.

42" DIP video showing rust boils and incipient opening in the pipe. Much of the video was out of focus or under water.

While the City's consultant recommended annual reinspection, no inspection has occurred to this date.

Source: City of Edmonds
Video January 8, 2013



Looking north towards
Whidbey Island/Brown's Bay

Note Brant Geese are a sign
of important eel grass habitat
and critical habitat for
threatened Chinook salmon.

10-years later, delaminated
pipe steel has completely
rusted through, with a visible
transverse crack in the pipe.

Source: Lider Engr
February 15, 2022



A hole the size of a business card has opened up in the 42" DIP.

A transverse crack has opened in the DIP.

This pipe section is not capable of safely supporting rail loads.

Source: Lider Engr
February 15, 2022



Current photos of 42" DIP. Note barnacles up to about the spring line of the pipe. Barnacles do not grow above elev. 11+/- MLLW, which is the Army Corps permit limit.

→ Approx. Extreme High Tide Elev. Significant vibration occurs in the track bed approx. 9-feet above the DIP. It is not unusual for two freight trains carrying hazardous cargo to cross over the DIP.

Source: Concerned Neighbor
July 26, 2023

8229 Talbot Rd Edmonds pipe 411
2-205 -> outfall 7/27/2023.
Circular 42inch Ductile Iron Pipe

Railroad ballast rock entering 42-inch DIP at 93.14-feet east of Manhole 2-205.

DIP crown is approx. 9-feet below BNSF railroad tracks.

DIP has separated at a welded joint.

Barnacle growth. Pipe is regularly submerged in tidal saltwater accelerating corrosion and increases surface roughness.

Source: City of Edmonds Video, July 27, 2023

93.14 ft

Aqualis Inspection Report

July 27, 2023

Inspection report

Date: 7/27/2023	Work Order:	Weather: Dry	Surveyed By: Joel Vasey	Certificate Number: 70402652	Pipe Segment Ref.: pipe 411
Year laid:	Pre-cleaning: No Pre-Cleaning	Direction: Downstream	Pipe Joint Length:	Total Length: 116.9'	Length Surveyed: 116.9'

City: Edmonds	Drainage Area:	Upstream MH: 2-205
Street: 8229 Talbot Rd	Media Label:	Up Rim to Invert: 0.0
Location Code:	Flow Control:	Downstream MH: outfall
Location Details:	Sheet Number:	Down Rim to Invert: 0.0
Pipe shape: Circular	Sewer Use: Other	Total gallons used: 0.0
Pipe size: 42"	Sewer Category: SEC	Joints passed: 0
Pipe material: Ductile Iron Pipe	Purpose:	Joints failed: 0
Lining Method:	Owner:	

Additional Info:



No mention of railroad ballast entering the pipe at 93-feet west of MH 2-205.

Public Works never responded to inquires as to why this significant structural deficiency was never identified.

From: [Antillon, Oscar](#)
To: [Delilla, Mike](#); [English, Robert](#)
Subject: Project Description for Lower Perrinville Creek
Date: Wednesday, June 14, 2023 5:42:49 PM

Mike, Rob,

I don't want to highlight the fact that we created this problem and have struggled to fix it. I want to highlight that this is a restoration project and focus on the requirements to restore the fish habitat and storm water flow capacity. Please review and let me know if you have concerns with this language, feel free to add change.

“I don't want to highlight the fact that we created this problem and have struggled to fix it.”

Oscar Antillon email June 14, 2023, referring to Lower Perrinville Creek

From: [Antillon, Oscar](#)
To: [Buckshnis, Diane](#); [Teitzel, Dave](#)
Subject: Perrinville creek
Date: Friday, August 25, 2023 7:58:07 AM

Diane, Dave

The progress on this is not possible without the property owners cooperation. Here is a quick update, please call me or let me know if you want to schedule a meeting for you and Dave to brief you on it:

1. We met with BNSF and rep Larsen's office.
 - a. We (The City) completed an inspection of our pipe and is in good condition. (the pipe is not the problem)
 - b. BNSF inspects the rail line and the structure almost daily, and they have no concerns

“We (The City) completed an inspection of our pipe and is in good condition. (the pipe is not the problem)”

SECTION 3.0

DESCRIPTION OF EXISTING SITE BARRIERS

1. BNSF Culvert, the 32" culvert is undersized, historically when the creek flowed freely it would create a lake behind the railroad track, the culvert is not a fish passage friendly structure, although there is anecdotal sightings of fish in the creek the structure will need to be removed to fully support improved fish habitat and storm drain capacity.
2. City of Edmonds Storm Water System. A diversion structure was installed to minimize the high flows and prevent flooding in the adjacent properties. The diversion structure consists of two concrete boxes with a weir. This structure has not performed as expected. The amount of debris and sediment during high storm events overwhelms it and requires significant effort to clear. There has been instances when the crews can't keep up with it and flooded of the yards in the neighborhood has happened.
3. City of Edmonds Talbot Rd culvert. The culvert under Talbot Road is not a fish passage friendly structure and has two problems that prevent fish passage and adequate storm water flows, (one) it is undersized and during high storm events acts as a choking point creating a lake behind Talbot road and overflowing into the road, and (two) it has an elevation change that prevents fish from able to navigate up stream. This structure also presents a hazardous condition for storm drainage maintenance, it clogs easily and requires significant work to clear.

DRAFT ACTION MEMORANDUM for
TIME-CRITICAL REMOVAL OF FISH
PASSAGE BARRIERS AT PERRINVILLE
CREEK City of Edmonds WA October
13, 2023.

“BNSF Culvert, the 32” [SIC] culvert is undersized”

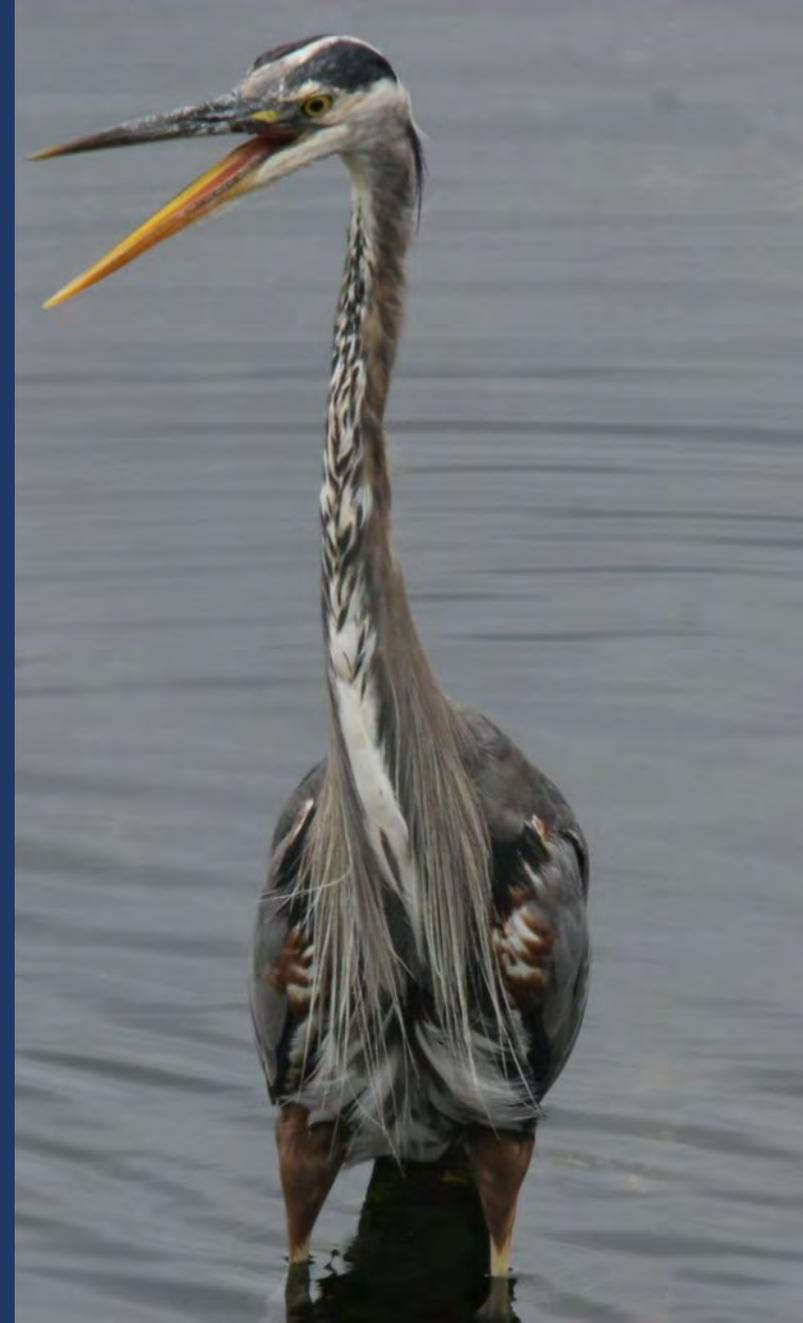
“City of Edmonds Talbot Rd culvert....is
undersized”

It is not known if the City ever finalized this
draft memorandum.

THE CITY WAS AWARE THAT

1. That the City owned 42-inch ductile iron pipe has a large hole in it under the BNSF railroad tracks that is allowing the rock ballast to fall through, potentially undermining the track;
2. That it is a fact that the City created the flooding problem and has struggled to fix it;
3. That the 36-inch pipe exiting the flow splitter is 25% blocked with settled gravels, yet has made no effort to clean out this pipe; and
4. That the Talbot Road culvert is undersized.

ISSUE 3: CITY OF EDMONDS FLOW SPLITTERS



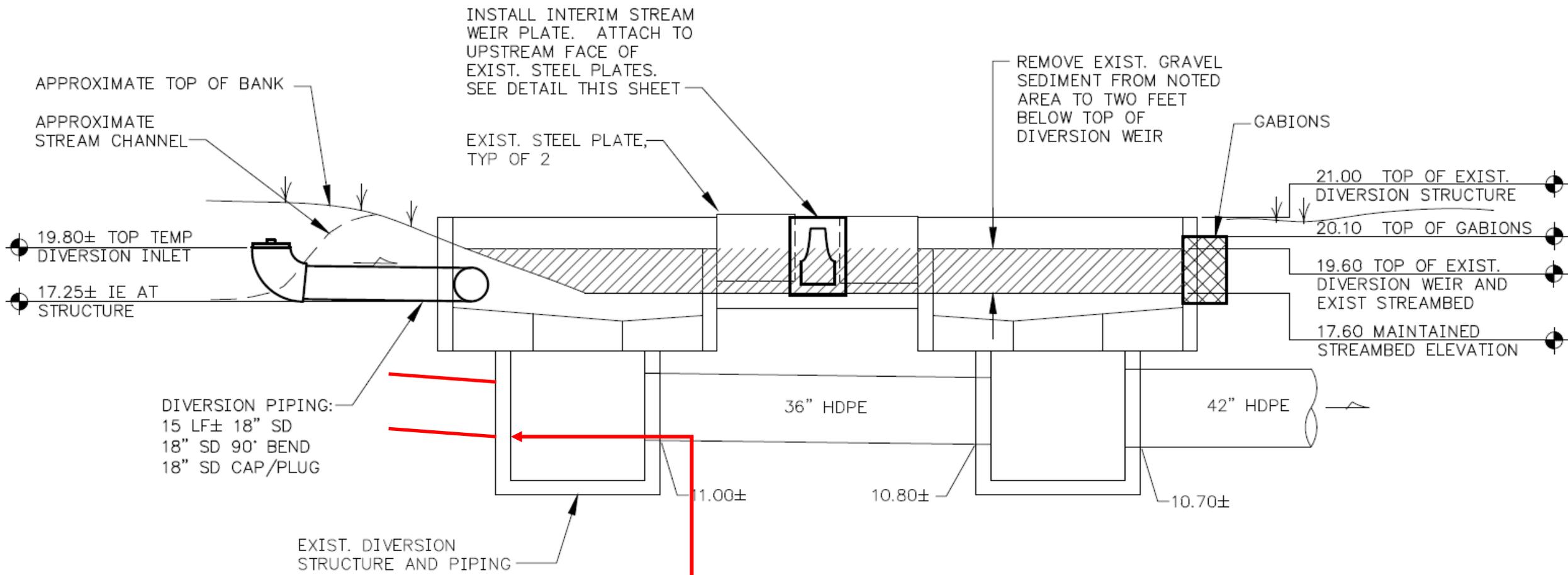


Flow Splitter & Weir look south at 8235 Talbot Road property, installed circa 1998.

Installed in an AE *high risk* zoned floodplain to prevent flooding from homes constructed in a high danger flood area, approved by the City of Edmonds.

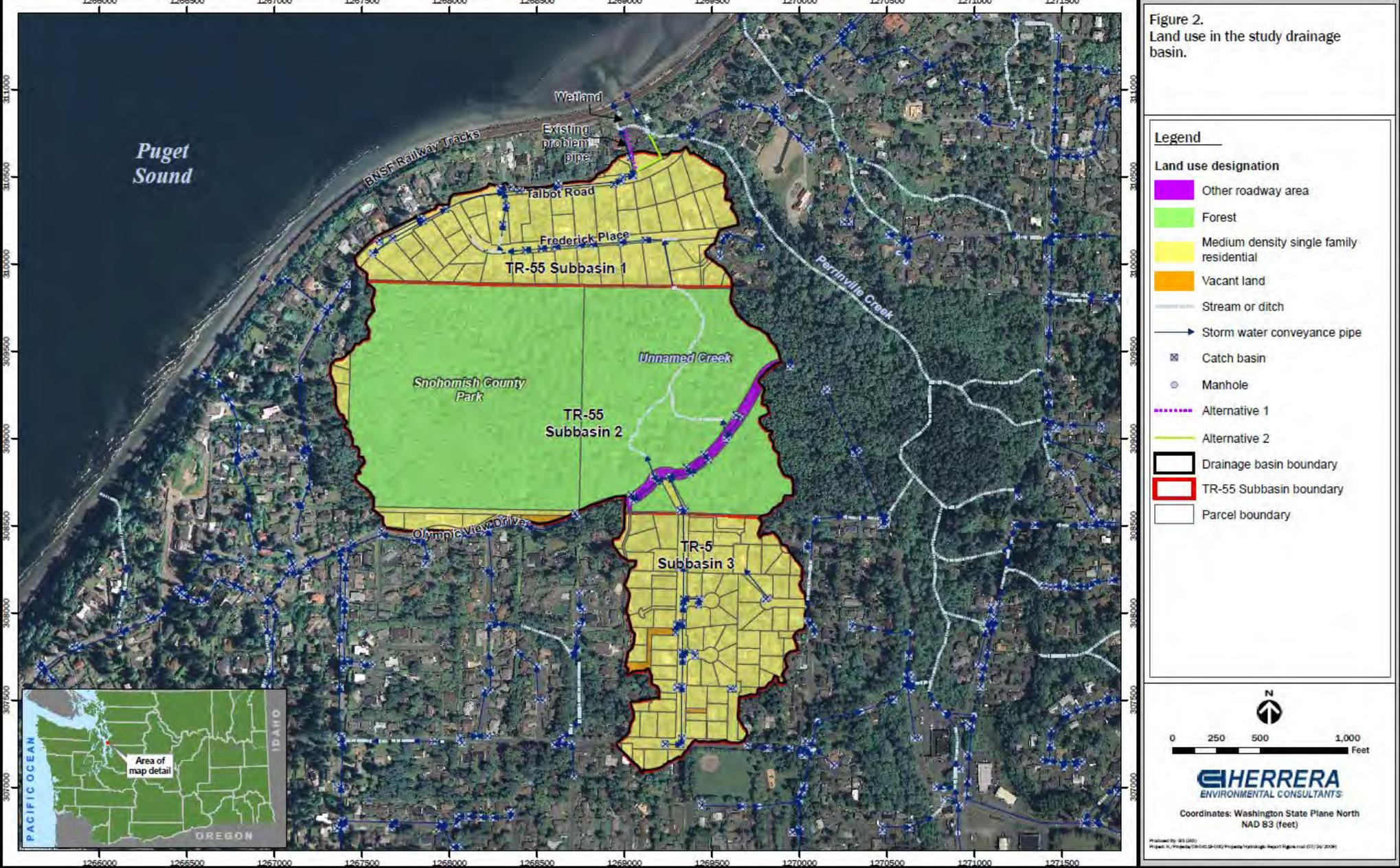
Flow splitters are a fish barrier.

Source: Lider Engr
March 5, 2010



Cross section of flow splitter from Preliminary, not for construction drawings dated July 1, 2010

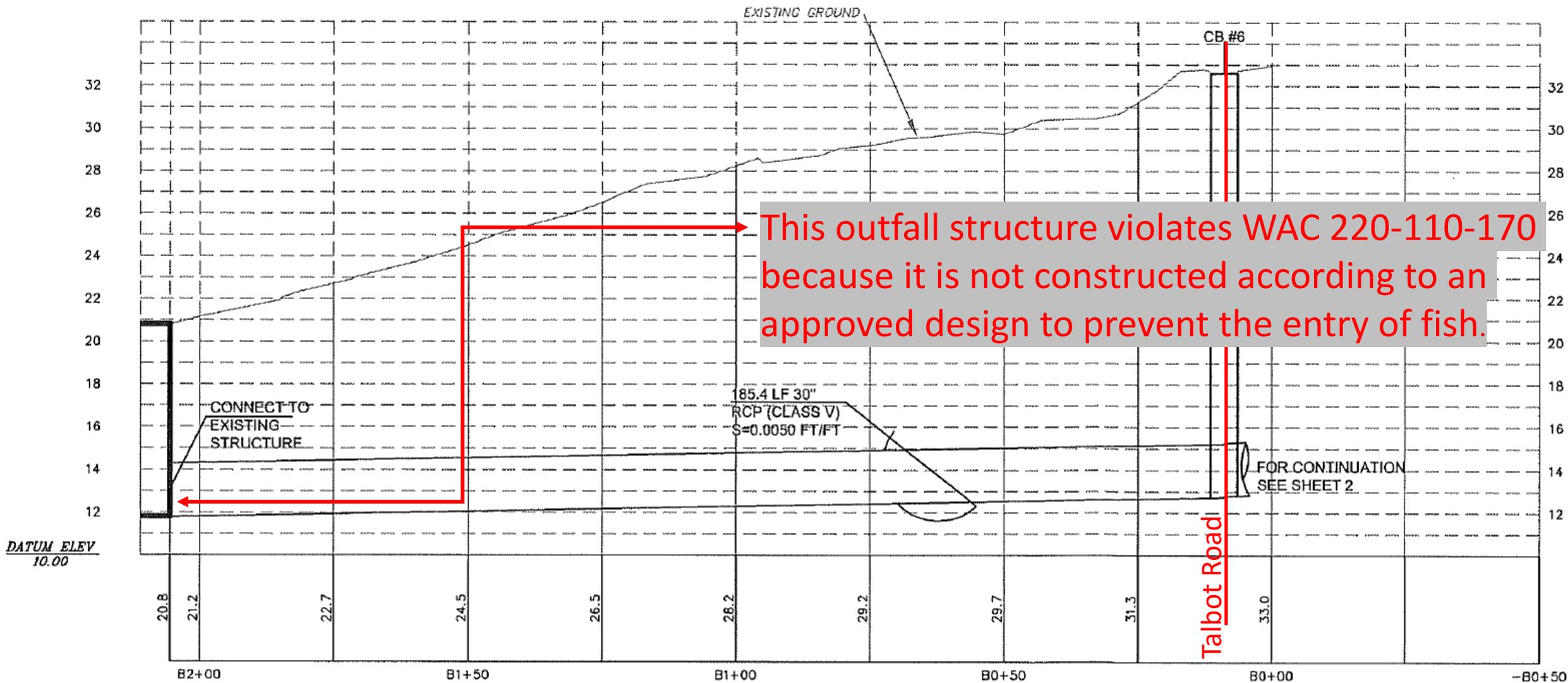
The 30" Culvert constructed in 2012 added 125.75 acres and 30.5-cfs additional flow from Talbot Road. The Hydraulics Code requires this design to prevent fish entry.



Source: Herrera Environmental Consultants Report:

*DRAINAGE BASIN ANALYSIS AND CRITICAL AREAS ASSESSMENT
DRAINAGE BASIN ANALYSIS AND CRITICAL AREAS ASSESSMENT
Talbot Road/Perrinville Creek Drainage Improvement Project
Aug. 14, 2009*

125.75 Acres of Flow added in 2012 to the Flow Splitters via 30-inch Talbot Road Culvert. Herrera estimated that the 100-year flow from this basin was = 30.5 cubic feet per second.



This outfall structure violates WAC 220-110-170 because it is not constructed according to an approved design to prevent the entry of fish.

In 2012, the City installed a 30-inch pipe from Talbot Road to the flow splitter, diverting even more flow under the BNSF tracks. The basin study or hydraulic calculations produced were inadequate and did not show that the pipes under the BNSF tracks could accommodate this additional flow or prevent fish entry.



Looking East
towards Talbot Rd
from flow splitter

30" RCP
Installed by
Edmonds Public
Works in 2012,
shortly after
backfill.

Manhole

Source: Lider Engr
Oct. 5, 2012



Looking East
towards Talbot Rd

30" RCP
Installed by
Edmonds Public
Works in 2012.

Flow splitter in
bypass/overflow
mode because
rock has blocked
the Sutro Weir.

Stream bedload
is up to the rim
of the flow
splitter.

Source: Lider Engr
Sept. 2, 2013



Grate in Flow Splitter diverts flow to 30" culvert below.

Flow splitter is a fish barrier.

Source: Lider Engr
June 22, 2022



Sutro Weir has been installed.

Note rock/sediment accumulation.

Source Lider Engr
June 22, 2012



Looking West towards BNSF's tracks and Puget Sound from flow splitter boxes

36-inch high flow bypass to pipe to MH 2-205 at BNSF tracks.

Flow splitter is in overflow mode in June!

Flow through Sutro Weir to 30-in BNSF Concrete Culvert

Source: Lider Engr
Photo June 8, 2012

8229 Talbot Rd Edmonds pipe 412
2-214 -> 2-205 7/27/2023
Circular 36inch Polyethylene

Deposits Settled Gravel, 25% of cross sectional area
from 4 o'clock to 8 o'clock

36-inch HDPE
culvert
between Flow
Splitters and
BNSF tracks is
25% filled with
settled gravel.

Source: Aqualis
Video
Inspection
Report, July 27,
2023

0.06 ft

LIDER ENGINEERING PLLC

Low Impact Development Engineering Resources

Stormwater and Erosion Control Engineering

WILLIAM M LIDER, PE, CESCL

September 27, 2023

Manning Equation Flow Calculation

36-inch Perrinville Creek Culvert

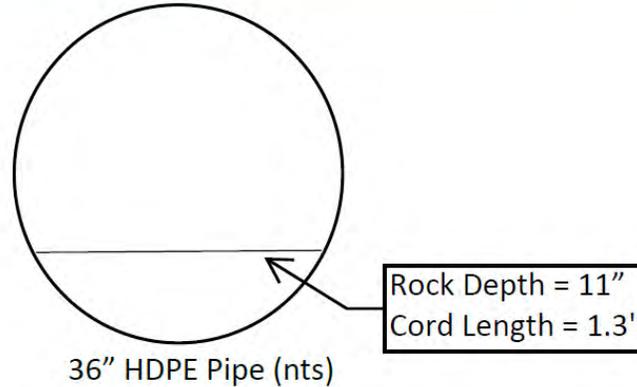
8229 Talbot Road, Edmonds, WA

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

$$V = \frac{1.49}{n} R^{2/3} S^{1/2}$$

Background:

Stormwater flow under the BNSF railroad tracks at 8229 Talbot Road, Edmonds, WA consists of the combined stormwater flow from Perrinville Creek and the additional flow added by the City Edmonds in 2012 with the



Per Lider Engineering calculations, the partially clogged culvert can only convey approx. 33.3-cubic feet per second. These calculations were furnished to the City on September 27, 2023, but have been subsequently ignored.

This is just sufficient to convey the 30.5 cfs, 100-year flow added by the City in 2012.

However, after the December 2020 storm, all flow from Perrinville Creek and the Talbot Road Drainage Project must discharge through the partially clogged 36-inch City culvert.

Table 6. Flow frequencies for Perrinville Creek at Talbot Road culvert.

Recurrence Interval (years)	Existing Conditions Flows (cfs) ^a	Projected Future Conditions Flows (cfs) ^a
2	49	63
5	75	92
10	95	112
100	203	225

^a Source: Perrinville Creek Streambank Stabilization (Pentec Environmental and Shannon and Wilson 1998)

cfs = cubic feet per second

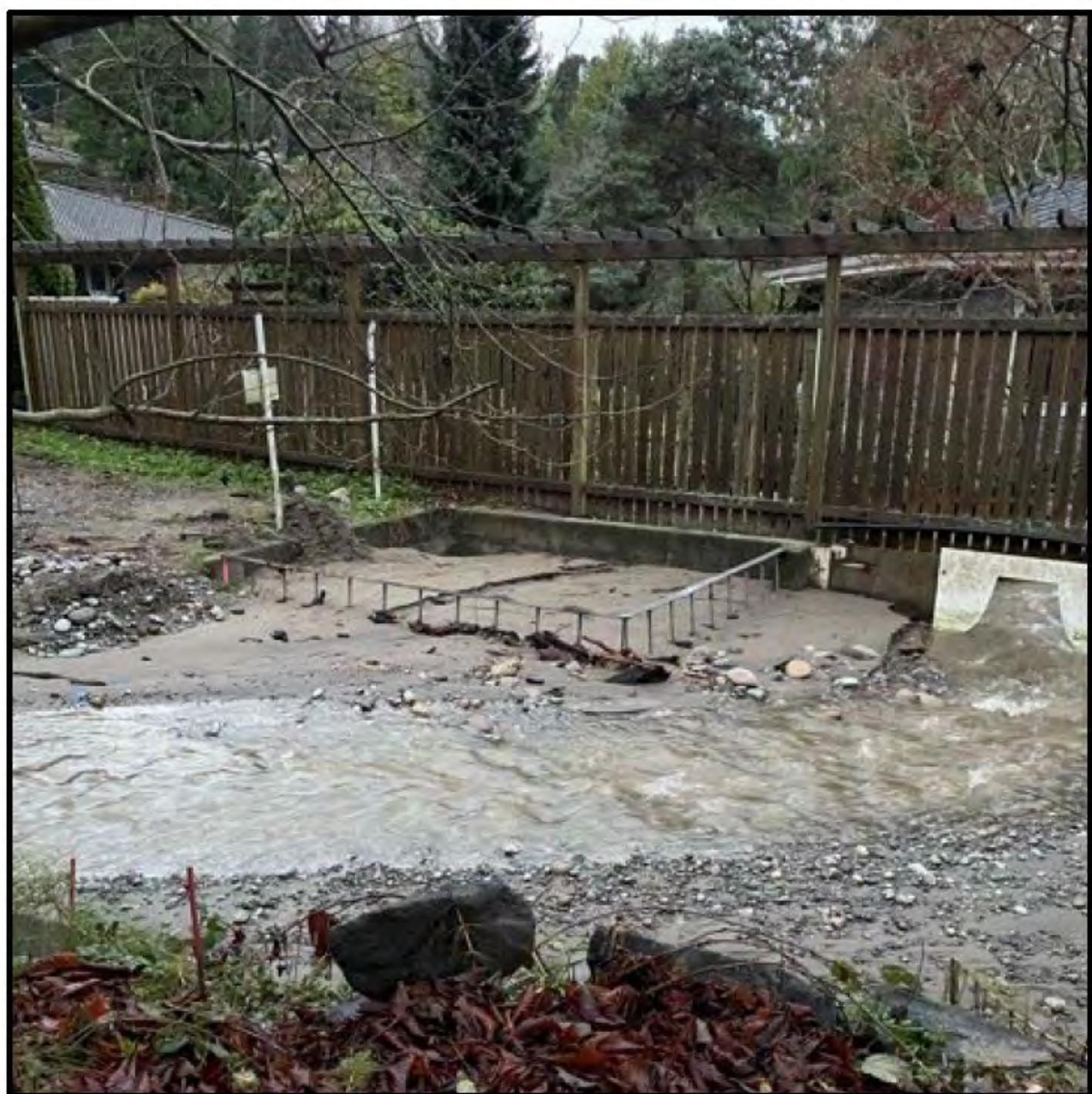
Pentec used calculations done by RW Beck in 1991, over 33-Years Ago!

225-cfs >> 33.3-cfs

Edmonds Public Works knew or should have known its high flow bypass pipe was undersized before installing the 30-inch pipe from Talbot Rd in 2012.

Per Herrera, the project flows in Perrinville Creek are estimated to be 225-cfs. Herrera relied on flow calculations done by RW Beck in 1991 using the U.S. Soil Conservation Service TR-20 computer model are likely low and need to be updated.

Source: Herrera Environmental Consultants Report: *DRAINAGE BASIN ANALYSIS AND CRITICAL AREAS ASSESSMENT DRAINAGE BASIN ANALYSIS AND CRITICAL AREAS ASSESSMENT Talbot Road/Perrinville Creek Drainage Improvement Project* Aug. 14, 2009



Dec. 2020
Storm: Flow
Splitter
clogged with
mud.

Source:
Edmonds
Public Works



City of Edmonds
Maintenance crews
December 21, 2020,
working through the night
to clean rock from the flow
splitter to prevent a track
washout.

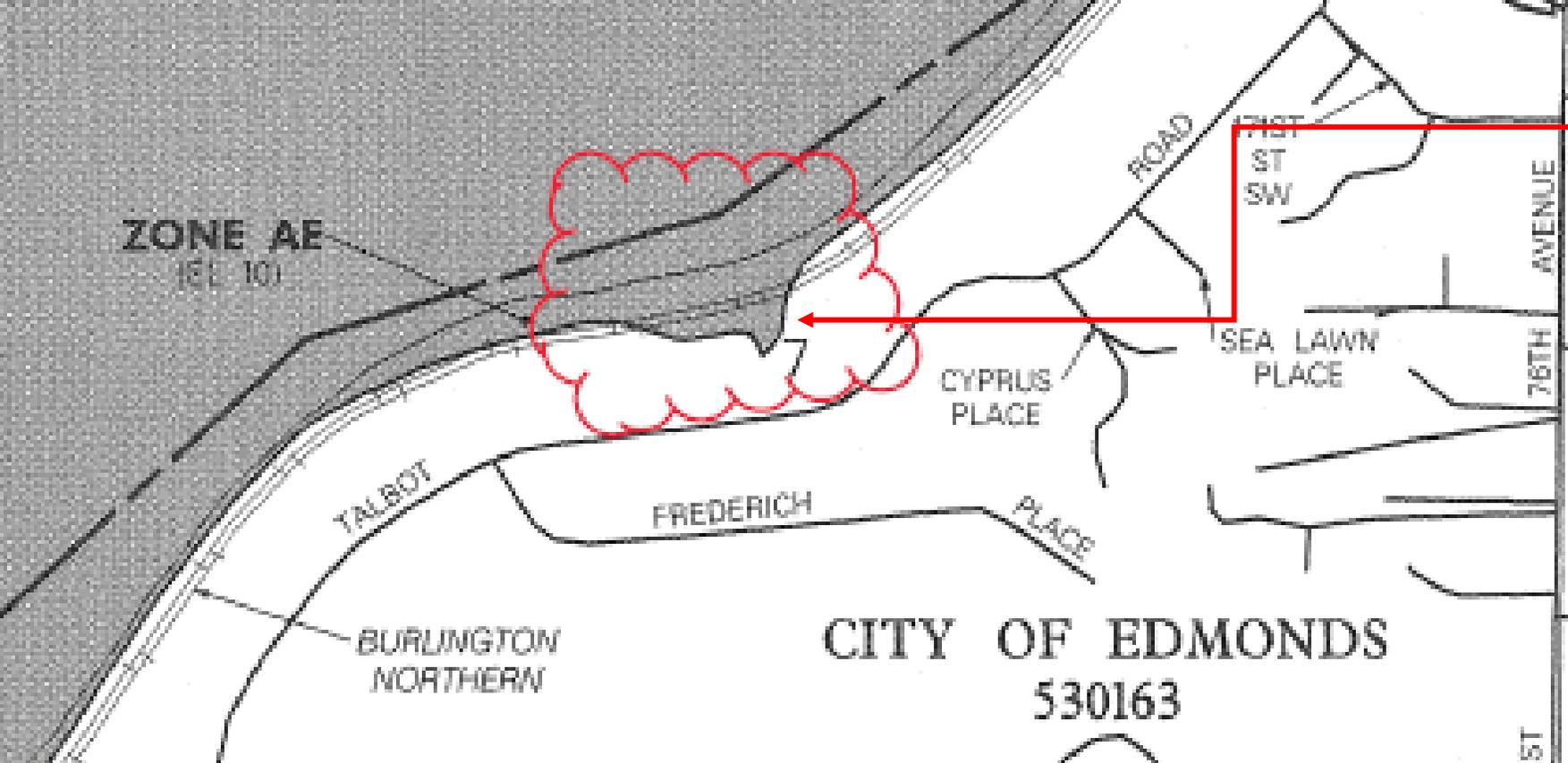
Photo by Edmonds
Public Works



Backyard of house
8235 & 8307 Talbot
Road

This beautiful
backyard
w/fertilized lawn
down to stream
was built in a
Zone AE
floodplain.

Source: Lider Engr
Photo June 8, 2012



8235 & 8307 Talbot Road are in FEMA flood zone AE and is designated as a high risk 100-year flood area.

e.g., there is a 1% chance of a 100-year storm event in any given year.

What happens when you build in a flood plain?

Source: FEMA Flood Insurance Rate Map Panel 1305 of 1575



After



After

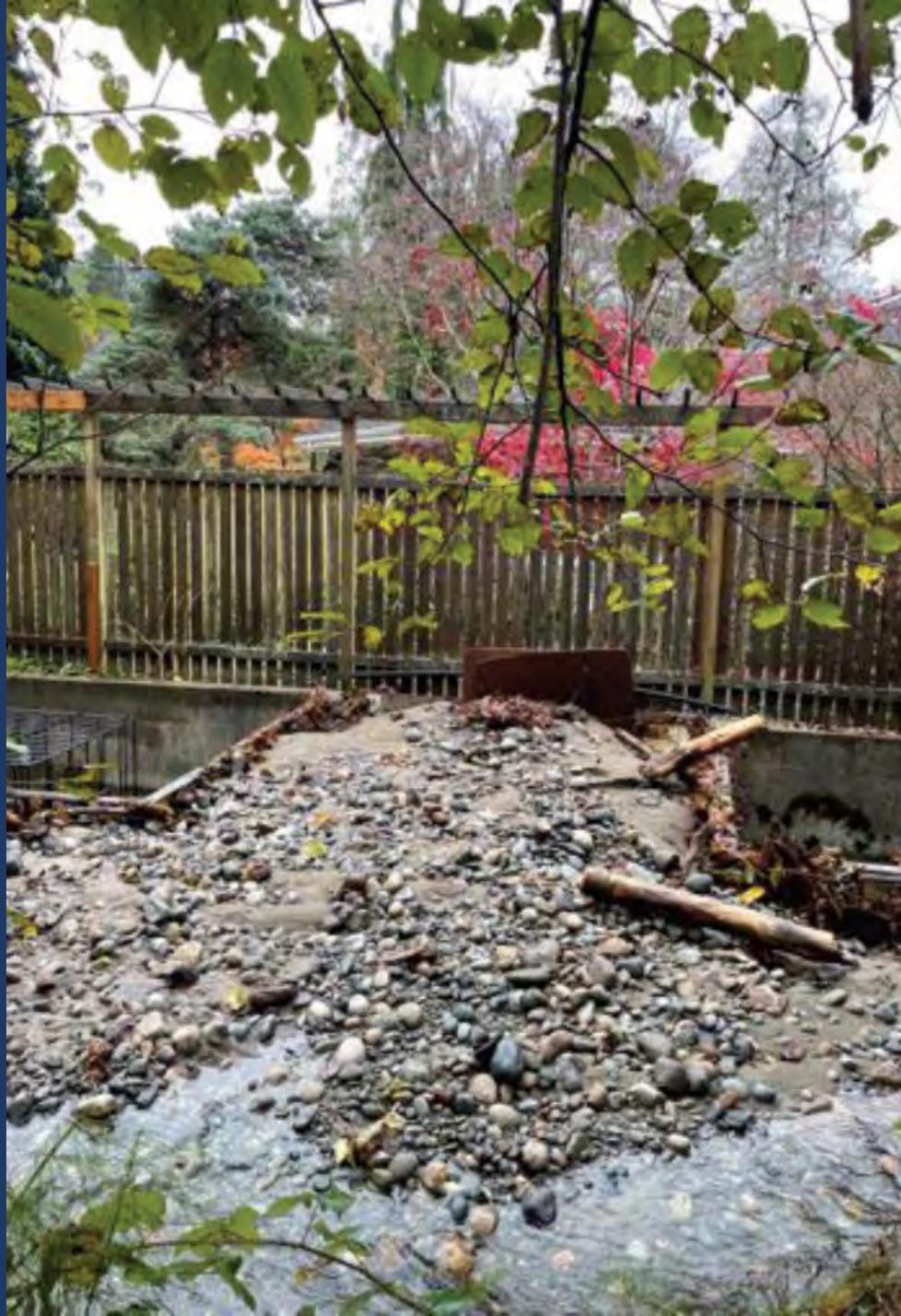


Before

Before and After the December 2020 storm

This is what happens when you build in a flood plain with undersized culverts!

Source: Edmonds Public Works



November 2021, with approx. 1-inch of rain, or a 6-month storm.

Flooding continues due to the City's fish killing flow splitter and undersized culverts.

Source, City of Edmonds Public Records Request December 21, 2023, neighbor photo.



City of Edmonds Maintenance worker removing rock and sediment from fish killing flow splitter, December 6, 2023

This work is now illegal, as of Feb. 14, 2024, without an HPA.

Source: Concerned neighbor photo



HYDRAULIC PROJECT APPROVAL

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

Issued Date: February 14, 2019
Project End Date: February 13, 2024



Permit Number: 2019-4-85+01
FPA/Public Notice Number: N/A
Application ID: 15905

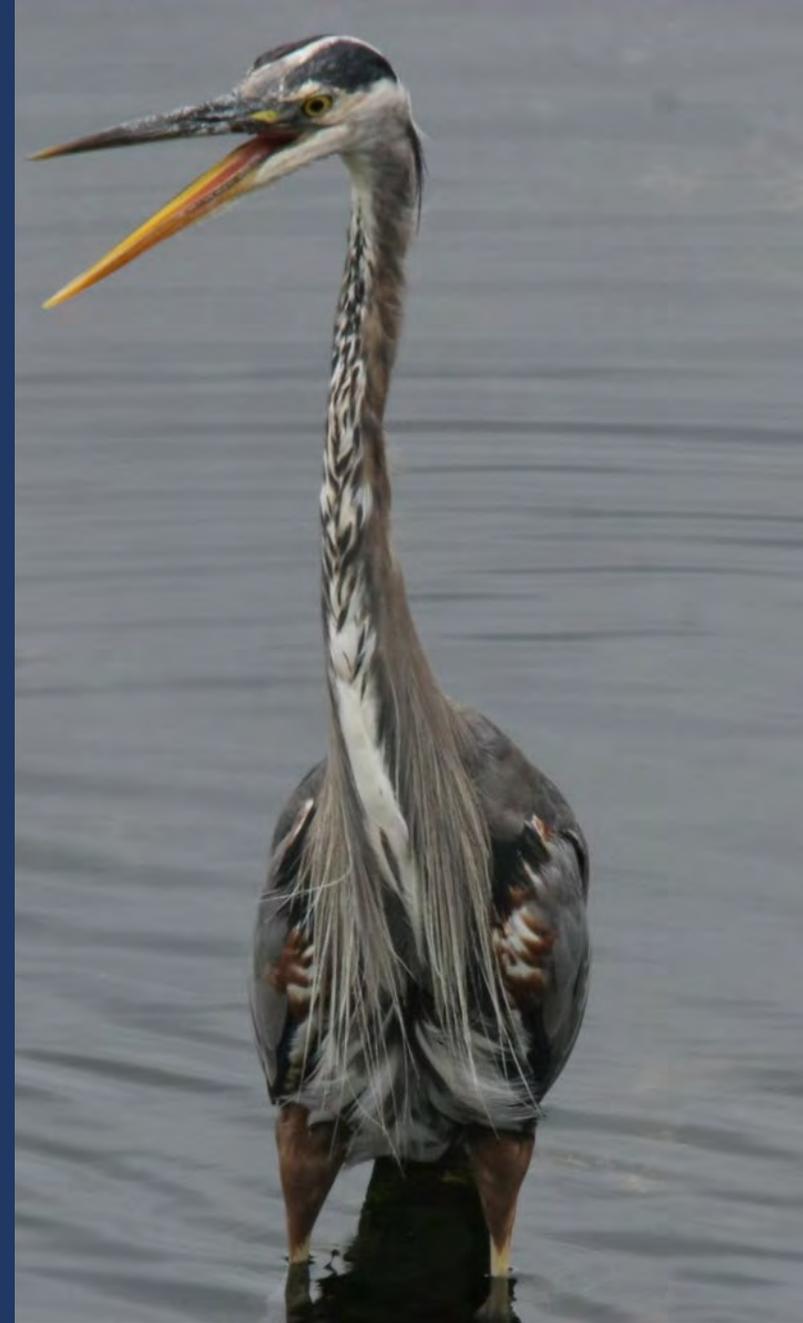
PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
City of Edmonds ATTENTION: Patrick Johnson 121 5th Ave N Edmonds, WA 98020-3145	City of Edmonds ATTENTION: Zachary Richardson 121 5th Ave. N Edmonds, WA 98020

Project Name: Perrinville Creek and Diversion Structure Sediment Removal

Project Description: This project will encompass ongoing maintenance of the Perrinville Diversion Structure within the City of Edmonds by the Street/Stormwater Maintenance Departments.

City of Edmonds HPA Permit has expired! It is illegal for the City to continue maintenance of its flow splitter without an HPA.

ISSUE 4: FISH BLOCKAGE EDMONDS CULVERT AT TALBOT ROAD





Looking northeast towards Talbot Rd, from bridge to house at 8229 to Talbot Road culvert outfall.

Source: Lider Engr
March 25, 2010



The outfall from Talbot Road culvert, Perrinville Creek is a barrier to fish passage.

Fish passage can be restored by removing the culvert and constructing a bridge to span Perrinville Creek.

Source: Lider Engr
March 25, 2010



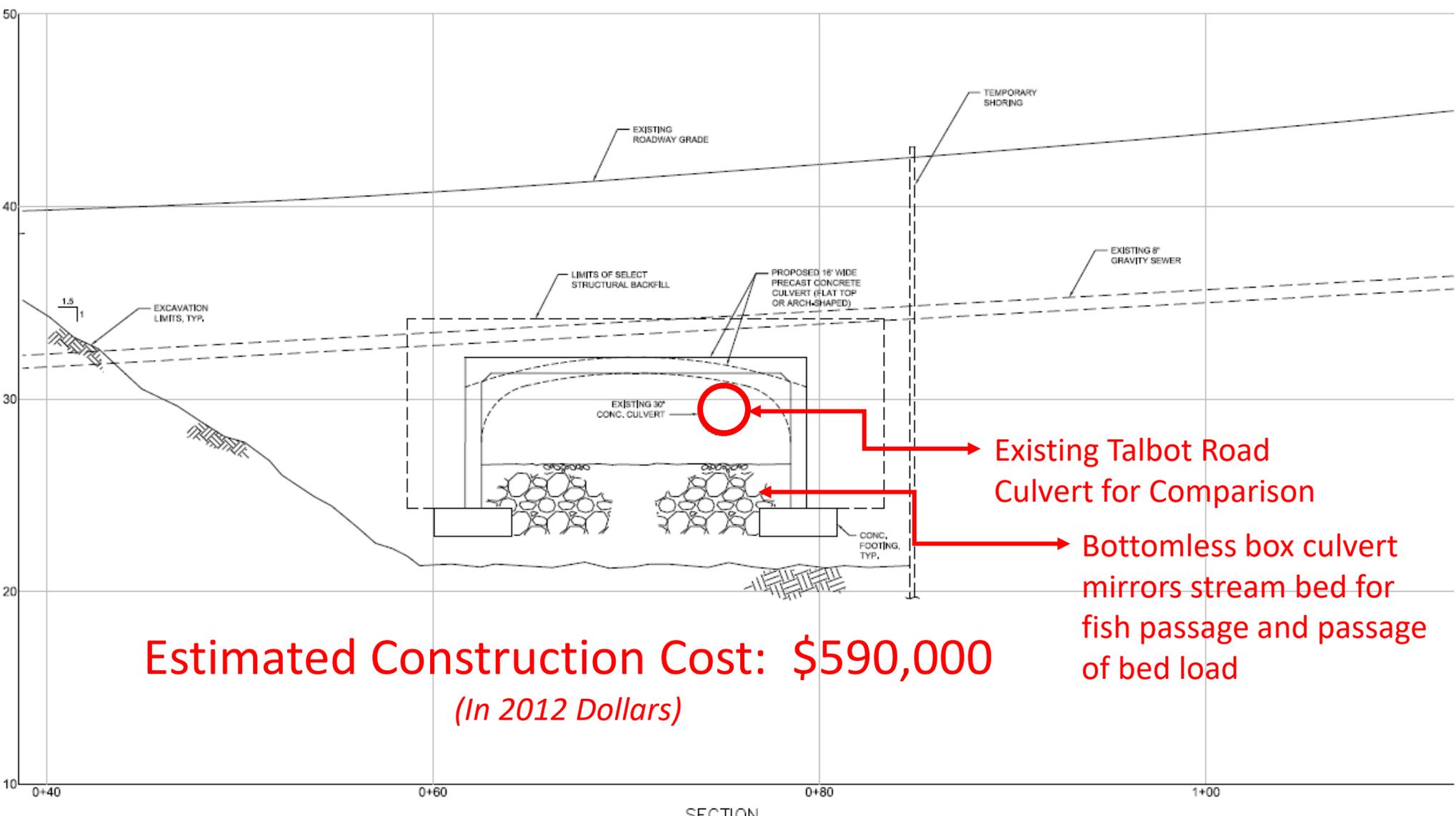
UNDERSIZED TALBOT ROAD CULVERT

Talbot Road culvert overtopped by Perrinville Creek flow, December 21, 2020 with 1.98-inches of rainfall.

This is approximately a 5-year storm event (e.g. there is a 20% chance of this storm occurring in any given year).

Source, City of Edmonds Public Records Request December 21, 2023, neighbor photo.

Herrera design for box culvert at Talbot Road design cross section



Estimated Construction Cost: \$590,000
(In 2012 Dollars)

Existing Talbot Road Culvert for Comparison

Bottomless box culvert mirrors stream bed for fish passage and passage of bed load

CALL 2 DAYS BEFORE YOU DIG
 1-800-454-5555

DATE	NO.	DATE	BY	DATE	BY
DESIGN		DESIGN		DESIGN	
CHECK		CHECK		CHECK	
APPROVED BY	ROBERT S. EDMONDS, P.E. CITY ENGINEER				
CITY OF EDMONDS ENGINEERING DIVISION 150 5TH AVENUE NORTH EDMONDS, WASHINGTON 98020 (425) 771-0200					
Perrinville Creek Culvert City of Edmonds ALTERNATIVE 2 - SECTION PRECAST CONCRETE CULVERT					
H SCALE: 1" = 10'					
V SCALE: 1" = 5'					
SHEET 4					
OF 6 SHEETS					
JOB NO. 437887					

Source: Herrera Report:
EXISTING SITE CONDITIONS AND CULVERT ALTERNATIVES ANALYSIS
PERRINVILLE CREEK CULVERT REPLACEMENT AT TALBOT ROAD
 Nov. 15, 2012

RECOMMENDED COURSE OF ACTION

1. Remove flow splitters and construct a temporary rocked chamber to convey stream bedload through DIP;
2. Summer 2024 commence construction of a rail bridge or box culvert under BNSF tracks to allow free flow of water and bedload from Perrinville Creek;
3. Remove or fill with controlled density fill (CDF) the failing 30-inch concrete & 42-inch DIP culverts;
4. ASAP construct Talbot Road bridge crossing or box culvert over Perrinville Creek and remove fish barrier culvert.
5. Revise Talbot Road 30-inch culvert constructed in 2012 to prevent fish entry per WAC 220-110-170.
6. Restore intertidal habitat in flood plain & stream.

HOW CAN YOU HELP?

Put public and private pressure on BNSF, UTC, FRA, and City of Edmonds to act swiftly to prevent a rail disaster



3 people killed, 49 injured in Montana derailment.

The NTSB report laid blame in part on BNSF railroad, which owns the tracks, stating that BNSF has “a **shortcoming in its safety culture.**”

Now imagine this scene in Browns Bay at high tide, at night!

Source, Everett Herald
July 29, 2023



It can be done!

Recently completed Lund's Gulch Creek & intertidal restoration project at Snohomish County Meadowdale Park.

Restoring Perrinville Creek will not be easy or cheap, but it will be far less expensive than a rail disaster in Puget Sound.

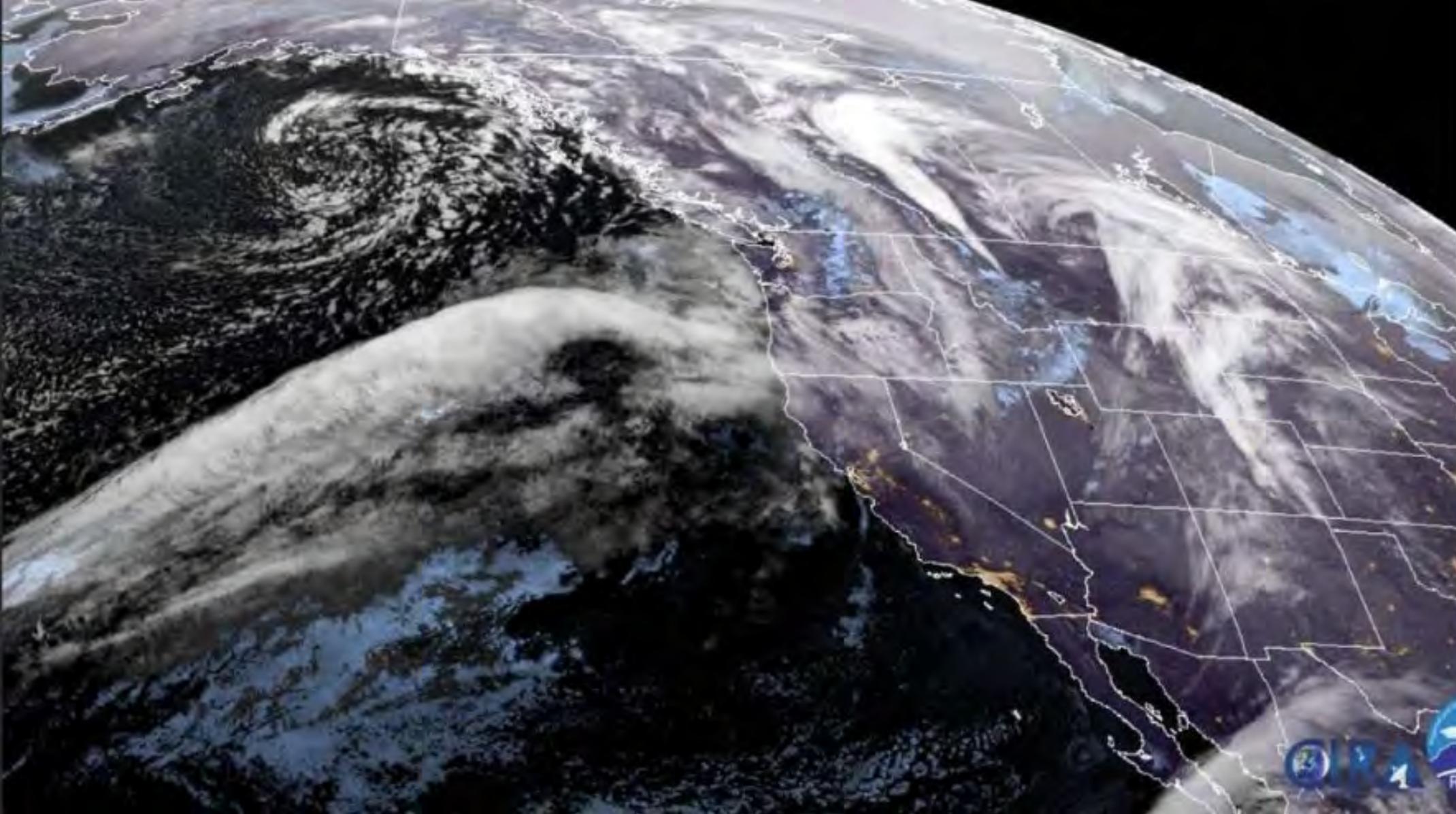
The City may need to use its eminent domain powers to take property to restore its mistakes of permitting construction in a flood plain.

Source: Lider Engr
June 14, 2023



And Politicians Do Love Ribbon Cuttings!

Senator Maria Cantwell joined leaders from Snohomish County and Tulalip Tribes to celebrate the reopening of Meadowdale Beach Park.



We are one atmospheric river away from disaster.

Source: NOAA stock photo



Let's keep Puget Sound Clean and locomotives out of Browns Bay!

Dithering = Disaster

Source: Lider Engineering photo of Great Blue Heron over Eel Grass Bed, Picnic Point Beach County Park, February 21, 2015