

Scott Boettcher

From: Alissa Shay <ashay@portgrays.org>
Sent: Tuesday, July 9, 2019 1:17 PM
To: Scott Boettcher
Cc: Rob Wilson; Miranda Smith; Cramer, Michelle L (DFW)
Subject: RE: Updated Map and Analysis Letter ----- RE: Earlier Map

Hi Scott and team,

Thank you for the letter and revised maps. The Port is comfortable with the removal of the revetment in 2019 as described in the letter. We are hopeful it will help alleviate some of the pressures elsewhere downstream and restore floodplain connectivity. However, if at any time the river switches course or moves any closer to Keys Road we would like to make sure that we work together to ensure protections are in place to protect the road. Thanks again and if you have any questions let me know.



Alissa Shay
Satsop Business Park

From: Scott Boettcher [mailto:scottb@sbgh-partners.com]
Sent: Friday, June 28, 2019 1:28 PM
To: Alissa Shay <ashay@portgrays.org>
Cc: Rob Wilson <RWilson@co.grays-harbor.wa.us>; Miranda Smith <miranda@naturaldes.com>; Cramer, Michelle L (DFW) <Michelle.Cramer@dfw.wa.gov>
Subject: Updated Map and Analysis Letter ----- RE: Earlier Map

Hello Alissa. Please find attached a letter and map addressing the likelihood of any impact to the Port's well as a result of WDFW removing the rock toe at the lower end of WDFW's revetment as well as excavation of a small floodplain restoration pilot channel through the earthen embankment. In short, NSD found that the "risk to the well as a result of the proposed actions is no greater than risk under present conditions." Please take a look at the map, read the letter and let me know what questions if any you may have. Feel free to "reply all." We can also arrange a conference call early next week if you'd find that helpful. Thanks Alissa. Look forward to hearing from you.

Scott

Scott Boettcher, Staff
Chehalis River Basin Flood Authority
360/480-6600
scottb@sbgh-partners.com

From: Alissa Shay <ashay@portgrays.org>
Sent: Wednesday, June 26, 2019 9:20 AM
To: Scott Boettcher <scottb@sbgh-partners.com>
Cc: Rob Wilson <RWilson@co.grays-harbor.wa.us>; Miranda Smith <miranda@naturaldes.com>; Cramer, Michelle L (DFW) <Michelle.Cramer@dfw.wa.gov>
Subject: RE: Earlier Map

Rob,

Thanks. I was just hoping to see a map that more clearly delineates the revetments that are proposed for removal this year, and would also like to see where the Port's property boundaries and the well are located. Thanks again.



Alissa Shay
Satsop Business Park

From: Scott Boettcher [<mailto:scottb@sbgh-partners.com>]
Sent: Friday, June 21, 2019 2:48 PM
To: Alissa Shay <ashay@portgrays.org>
Cc: Rob Wilson <RWilson@co.grays-harbor.wa.us>; Miranda Smith <miranda@naturaldes.com>; Cramer, Michelle L (DFW) <Michelle.Cramer@dfw.wa.gov>
Subject: Earlier Map

Alissa – I have a message into Miranda for a call. In the meanwhile here is an earlier version of the map showing in the inset a larger perspective (though not all the way down to your well and the confluence). The revetment portion WDFW wants to remove this construction season is that portion of the revetment at river mile 1.2. We'll work on a better map and description. Again as we discussed we want all parties (County, Port, WDFW, etc.) to be in agreement before any removal takes place. Have a great weekend.
Scott

Miranda Smith, PE
Project Engineer
Direct (206) 480-1127
naturaldes.com



June 28, 2019

Port of Grays Harbor
Attn: Alissa Shay
PO Box 660
Aberdeen, WA, 98520

Subject/RE: Lower Satsop River Proposed Revetment Removal and Pilot Channel on WDFW Property

Dear Ms. Shay,

This brief letter describes actions proposed in addition to work occurring July 2019 as part of Phase I of WDFW's Lower Satsop Floodplain Restoration Project. Proposed work includes the removal of 200 linear feet of rock toe (revetment), and the excavation of a pilot channel approximately 20 feet wide (top width) and 85 feet long. The attached drawing shows the locations of the Port's well, proposed revetment removal and pilot channel excavation.

The revetment removal and pilot channel excavation are anticipated to provide greater floodplain connectivity. At high flows water will be able to saturate the soils on the property which will be beneficial to the wetland ecosystems located there. The maximum hydraulic capacity of the pilot channel is approximately 200 cubic feet per second (cfs) which is very small compared to Satsop River flows. We have great certainty that the excavation of the pilot channel will not alter the river's primary flow path, although it could provide the benefit of reducing some of the erosive power of the river further downstream. All of the proposed actions are aimed at increasing frequency of inundation and reconnecting relict floodplain channels to improve habitat on the WDFW property.

The risk to the well as a result of the proposed actions is no greater than risk under present conditions. The well is just over a mile downstream from the proposed pilot channel and rock toe removal location. The proposed work will not increase the quantity of water in the Satsop River nor will it increase stream power at the well site. The relict floodplain channels do not span the WDFW property and so water flowing in them will disperse across the floodplain at their terminus and seep into the soil. We are confident that the proposed restoration actions will not have an adverse effect on the Port's drinking water well.

Please contact me if you have any concerns or questions regarding these proposed actions.

Sincerely,
Natural Systems Design, Inc.



Miranda Smith
Project Engineer
miranda@naturaldes.com
(206) 480-1127

- NOTES:**
- ① ROCK QUANTITY HAS BEEN ESTIMATED ASSUMING AN AVERAGE THICKNESS OF 18 INCHES AND HEIGHT OF 3 FEET ALONG THE REVETMENT LENGTH.
 - ② DISTURBED AREA HAS BEEN ESTIMATED ASSUMING A 10 FOOT WIDTH ALONG THE LENGTH OF THE REVETMENT, SUFFICIENT FOR A SKID STEER.
 - ③ GRADE 12 FOOT WIDE PILOT CHANNEL WITH 1:1 SIDE SLOPES, APPROXIMATELY 85 FEET LONG, TO CONNECT WITH EXISTING FLOODPLAIN CHANNEL. MATERIAL VOLUME ESTIMATES FOR PILOT CHANNEL EXCAVATION ARE BASED ON 2017 LIDAR TOPOGRAPHY.

DESIGN ELEMENT	MATERIAL VOLUME (CY)	DISTURBED AREA (SY)
DOWNSTREAM ROCK TOE REMOVAL	33	222
UPSTREAM ROCK TOE REMOVAL	158	1,056
PILOT CHANNEL EXCAVATION	302	151



N:\PROJECTS\GRAYSON HARBOR COUNTY\LOWER SATSOP\REVETMENT.DWG - CURRENT.ROUGH-REVIEW.DWG - MICROSOFT 6/28/2019 12:26:29 PM

Jun 28, 2019 PRELIMINARY DESIGN NOT FOR CONSTRUCTION

0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED RLE, MS	LATITUDE 47°03'49"N
CHECKED RLE	LONGITUDE 123°29'29"W
DRAWN MS, GM	TN/SC/RG T18W/S12/R7W
CHECKED RLE	DATE 2/14/2019

LOWER SATSOP FLOODPLAIN RESTORATION

REVETMENT REMOVAL