

MEMORANDUM FOR: RECORD

July 23, 2018

SUBJECT: RE-RANKING OF THE KAPSTONE PAPER AND PACKAGING PROJECT, LONGVIEW, WASHINGTON IN ACCORDANCE WITH DREDGED MATERIAL MANAGEMENT PROGRAM POLICY.

1. This memorandum reflects the consensus determination of the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington State Department of Ecology, Washington State Department of Natural Resources, and the Environmental Protection Agency) regarding re-ranking of the KapStone Paper and Packaging (formerly Longview Fibre) project.
2. The KapStone Paper and Packaging (hereafter KapStone Paper) project is located on the Columbia River just downstream of the confluence with the Cowlitz River adjacent to the Cowlitz River Old Mouth (Figure 1). The old Cowlitz River channel was closed in 1927 and a new channel connecting the Cowlitz River to the Columbia River was dredged. Since then, periodic dredging of the Old Mouth of the Cowlitz River has been necessary to maintain depths in the channel.

The Army Corps of Engineers' Cowlitz River Old Mouth authorized channel is 150 feet wide and 8 feet deep and extends from deep water in the Columbia River to Old Mouth RM 0.7. The Cowlitz River active channel is separated from Old Mouth by a narrow peninsula, which ends in a rock groin in the main channel of the Columbia. The groin trains flows from the Cowlitz River, Carrols Channel on the Columbia and the Columbia mainstem away from the Cowlitz Old Mouth, but sediment tends to eddy around the end of the groin forming a shoal in the Old Mouth. Shoaling, due to the influx of sediment from the Cowlitz, Carrols Channel, and the Columbia, decreases channel depths here from the authorized 8-foot depth.

This project has been ranked low-moderate for previous testing events under the DMMP.

3. DMMP guidelines allow down-ranking of a project after two testing cycles, based on the results from those testing events and the use of best professional judgment (DMMP, 2016; PSDDA, 1988). The definitions of the various ranks must be considered:
 - High = many known chemical sources, high concentration of COCs and/or significant acute toxicity
 - Moderate = chemical and biological data are not available or are incomplete, and some sources of chemicals of concern exist nearby
 - Low-moderate = available data indicate a low rank, but there are insufficient data to confirm the ranking
 - Low = few or no sources of COCs, data are available to verify low chemical concentrations

4. The most recent sediment characterization for KapStone Paper was documented in the 2014 suitability determination (DMMP, 2014). This characterization included an expanded project footprint and two additional feet of dredging, from -12 feet CRD to -14 ft CRD (Figure 2). 9 DMMUs from the Old Cowlitz Channel area (and 1 DMMU from the Columbia River) were characterized for the full list of DMMP COCs, including limited dioxin testing. Chemical results showed that there were no detected or undetected screening level exceedances of DMMP COCs in any of the DMMUs. Dioxin results were low, 0.97 and 1.39 ppt TEQ, and dioxin was determined to not be a concern for the project.

Prior to 2014, the U.S. Army Corps of Engineers Portland District maintained permits for dredging the federal navigation channel. Sediment characterizations were conducted by USACE Portland District in 1991, 1996, 2003, 2006, 2010 and 2011. The results of these characterizations are briefly described below:

- 1991 – Tier II chemical testing was conducted and “showed only clean sediment at the Cowlitz River Old Mouth” (USACE, 1996). All results were less than screening levels in place at the time.
- November 1996 – Based on the findings of the 1991 characterization, four samples were collected at the mouth of the Old Mouth of the Cowlitz federal navigation channel and analyzed for physical parameters only (Figure 5). The physical analysis revealed that the grain size distribution was ~60% sand and 40% fines. The material was determined to be suitable for unconfined in-water disposal (USACE, 1996).
- September 2003 – 3 gravity cores and 1 box core were collected from the Old Mouth of the Cowlitz federal navigation channel (Figure 4). All samples were submitted for physical and chemical analyses, including metals, pesticides, PCBs, phenols, phthalates, PAHs, semivolatiles and tributyltin. The material was classified as silt, silty sand and silt with sand; the mean grain sizes were 25% sand and 75% fines (silt and clay). All pesticides, PCBs, phenols, phthalates, miscellaneous extractables and tributyltin were non-detect in all samples. Several PAHs were detected, but at low levels. All chemical results were below screening levels and the material was determined to be suitable for unconfined, in-water placement (USACE, 2003).
- August 2006 – 4 vibracore samples were collected from the Old Mouth of the Cowlitz federal navigation channel and analyzed for physical and chemical parameters, including metals, PAHs, phenols, phthalates, semivolatiles, pesticides, PCBs and tributyltin (Figure 4). Similar to the 2003 characterization, the material was found to have a mean grain size of 25% sand and 75% silt and clay. Chemical results indicated that only very low levels of chemicals of concern were present, and all results were below screening levels. All material was determined to be suitable for unconfined, in-water placement (USACE, 2006).
- August 2011 – Three vibracore samples were collected and analyzed for conventionals and chemistry in the dredged material and new surface material (z-sample) within the navigation channel (Figure 3). One ponar grab was collected and analyzed for conventionals only. The vibracore samples were classified as silt to silty sand with ~ 45% sand. The ponar

grab collected from the confluence with the Columbia River was poorly graded sand with 98% sand and 1.5% silt. The chemical analysis of fine-grained samples revealed that concentrations of chemicals of concern were below the freshwater benthic toxicity screening levels (USACE, 2012).

5. After the eruption of Mt. St. Helens in 1980, the U.S. Army Corps of Engineers built a sediment retention structure (SRS) on the Toutle River to reduce the amount of sediment reaching the Cowlitz and Columbia Rivers and to provide flood risk reduction for the area. The SRS has now reached capacity and the volume of sediment from Mt. St. Helens that is transported down the Cowlitz River to the Columbia River has increased significantly in the last few years. Shoaling at the Mouth of the Old Cowlitz Channel has also increased significantly in recent years. The Cowlitz River is therefore a likely source of material to the Old Mouth of the Cowlitz and a potential source of contamination.

Sediment sampling was conducted by the Corps in 2007 in the lower 10 miles of the Cowlitz River and near the mouth of the Coweeman River (USACE 2007). Dredging was conducted in the 2007/2008 season in the lower 5 miles of the Cowlitz River to maintain flood protection and alleviate sediment problems created by the eruption of Mt. St. Helens. USACE 2007 states that "there are no known sources of contamination in the Cowlitz or Coweeman Rivers".

In 2007, ten samples were collected in the lower 10 miles of the Cowlitz River and one was collected at the confluence of the Coweeman River. Physical analyses for sediments in the Cowlitz River showed 0.14 to 5.28 percent fine materials, with total volatile solids (TVS) results between 0.29 and 0.45 percent. The sample at the Coweeman River confluence was 25.1 percent fine materials and 9.81 percent TVS. Tier IIb chemicals of concern were analyzed for the sample collected from the Coweeman River confluence and for five samples collected from the lower 5 miles of the Cowlitz River (Figure 6). All results met SEF freshwater screening levels and dredged material was determined suitable for unconfined, in-water placement without further characterization.

Therefore, sediments originating in the Cowlitz River are not likely to be a source of contamination within the KapStone Paper project.

6. The DMMP agencies have considered the results described above and **determined that a re-ranking to low is supported by the data** since a) all COCs have been found below SLs for all previous characterizations; b) dioxin concentrations were low in the highest-likelihood portion of the project; and c) there are more than two rounds of testing available to confirm the low rank.
7. The length of the recency period is determined by the rank of the project. The recency period for low-moderate ranked projects is 6 years, and for low ranked projects is 7 years. The KapStone Paper project was last sampled in January 2013. Therefore, based on the re-rank to low, the expiration of the recency period for this project is extended to January 2020. The dredging season on this portion of the Columbia River ends on February 15th in any given year, which exceeds the recency period for this project by two weeks (January 2020). Therefore, to maximize consistency with disposal windows, **the recency period for KapStone Paper is extended to February 15th, 2020.**

Dredging and disposal after that date will require additional sampling and testing, or an additional extension of the recency period, both of which must be approved in advance by the DMMP agencies.

8. References.

DMMP, 2016. *Dredged Material Evaluation and Disposal Procedures (Users Manual)*. Prepared by the Seattle District Dredged Material Management Office for the Dredged Material Management Program, August 2016.

DMMP, 2014. *Determination Regarding the Suitability of Proposed Dredged Material from Longview Fibre and Packaging, doing business as KapStone Kraft Paper Corporation, Cowlitz County, WA Evaluated under Section 404 of the Clean Water Act for Flow-lane Disposal in the Columbia River or for Beneficial Use*. Memorandum for Record prepared by the U.S. Army Corps of Engineers Seattle District for the DMMP Agencies. February 2014.

PSDDA, 1988. *Evaluation Procedures Technical Appendix – Phase I – Central Puget Sound*. U.S. Army Corps of Engineers Seattle District, U.S. Environmental Protection Agency Region 10, Washington State Department of Ecology, Washington State Department of Natural Resources.

USACE, 2012. *Old Mouth of the Cowlitz Sediment Quality Evaluation Report*. U.S. Army Corp of Engineers Portland District. March 2012.

USACE, 2007. *Cowlitz River Federal Project Sediment Quality Evaluation Report*. U.S. Army Corps of Engineers Portland District. March 2007.

USACE, 2006. *Old Mouth of the Cowlitz River Federal Project Sediment Quality Evaluation Report*. U.S. Army Corps of Engineers Portland District. 2006.

USACE, 2003. *Old Mouth of the Cowlitz River Federal Project Sediment Quality Evaluation Report*. U.S. Army Corps of Engineers Portland District. December 2003.

USACE, 1996. *Cowlitz River Old Mouth – Sediment Evaluation*. U.S. Army Corps of Engineers Portland District. 1996

Signatures.

The signed copy is on file in the Dredged Material Management Office.

Date Kelsey van der Elst - Seattle District Corps of Engineers

Date Justine Barton - Environmental Protection Agency

Date Laura Inouye, Ph.D. - Washington Department of Ecology

Date Celia Barton - Washington Department of Natural Resources

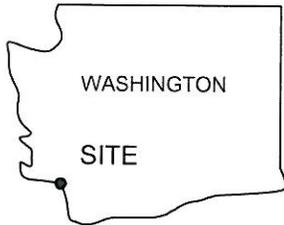
Copies furnished:

DMMP signatories

Danette Guy, USACE Regulatory Section

Lynn Simpson, Eco-Land Services

Wayne Wooster, KapStone Paper

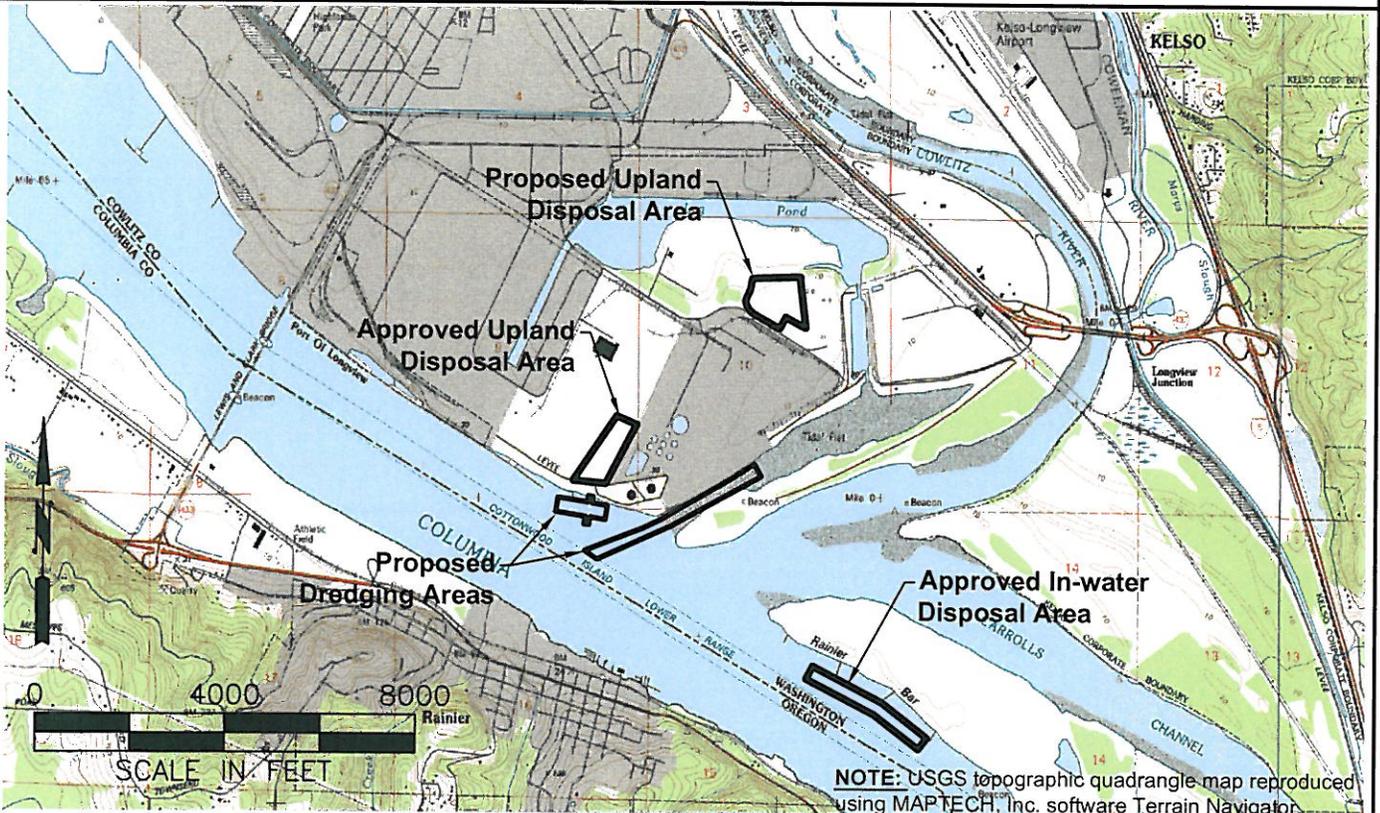
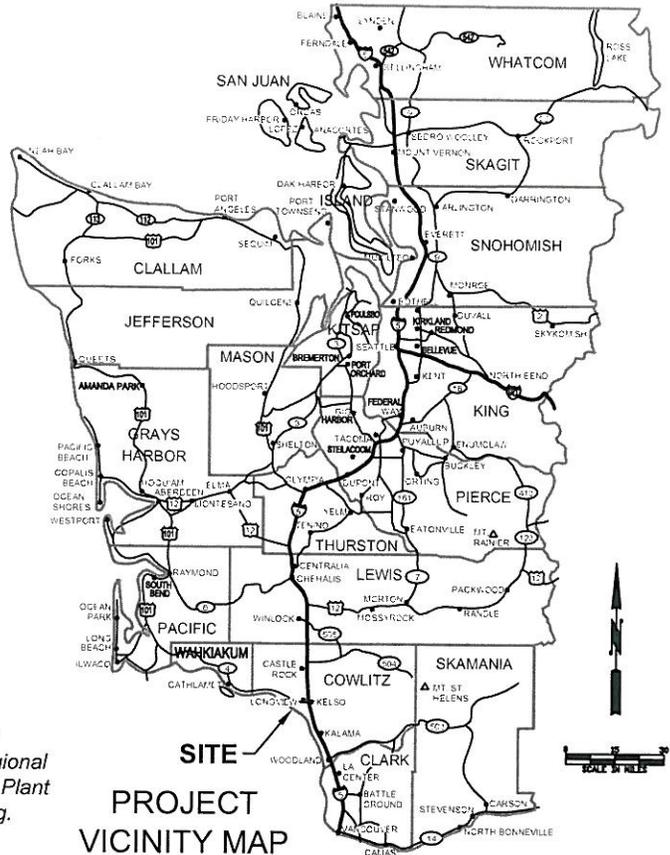


46° 05' 51" N Latitude
122° 55' 47" W Longitude
LOCATION MAP

		R 2 W			
		6	1		
T 7 N					
	31		36		

ADJACENT PROPERTY OWNERS:

WEST: Port of Longview
NORTH: Three Rivers Regional Waste Treatment Plant
EAST: Longview Booming.



NOTE: USGS topographic quadrangle map reproduced using MAPTECH, Inc. software Terrain Navigator.

PURPOSE: Maintenance Dredging

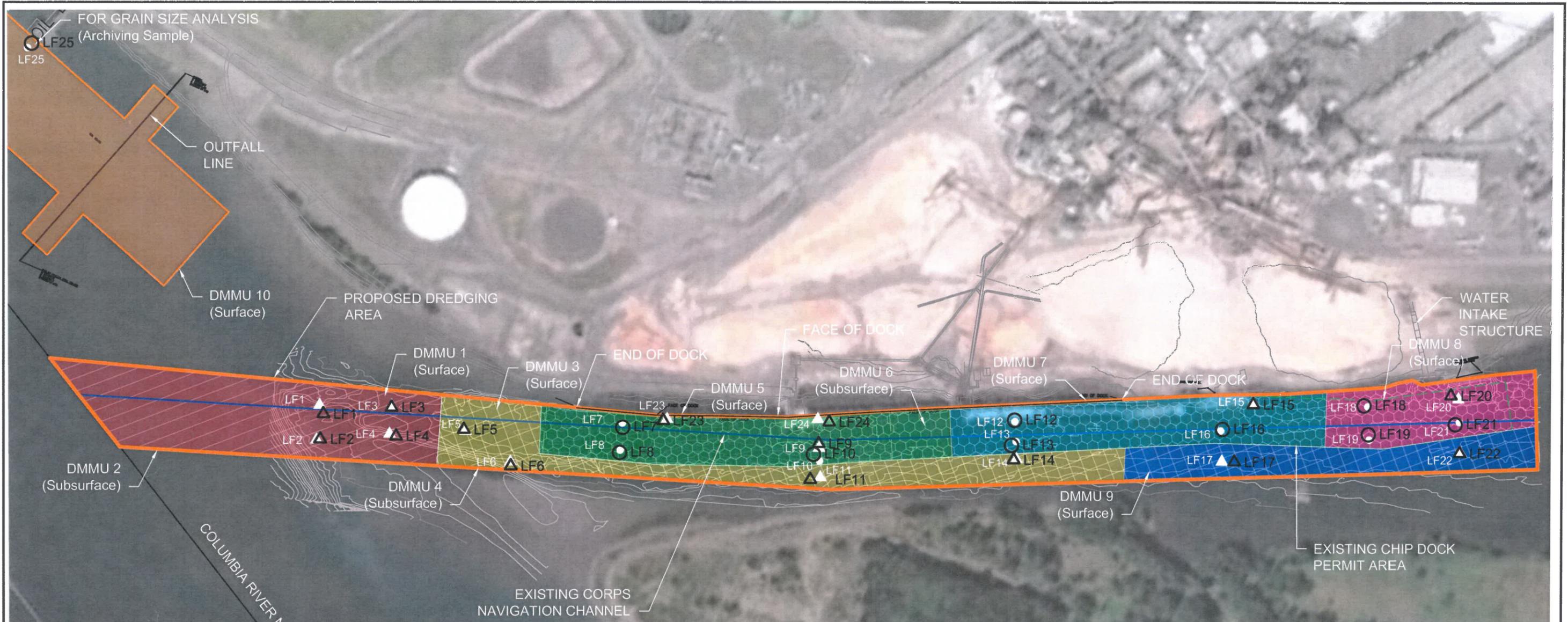
VICINITY MAP

DATUM: Columbia River Datum
ADJACENT PROPERTY OWNERS:

APPLICANT: Longview Fibre Paper and Packaging, Inc.
PROJECT NAME: Maintenance Dredging
REFERENCE #: Not Yet Assigned
SITE LOCATION ADDRESS:
300 Fibre Way
Longview, WA 98632

See Above

Figure 1. Vicinity Map of the Longview Fibre dba KapStone Paper dredging project.



LEGEND:

- LF8 ● Proposed Surface Sample Point Location Only
- LF22 ▲ Proposed Surface/Subsurface Sample Point Location
- LF8 Final Surface Sample Point Location Only
- △ LF23 Final Surface/Subsurface Sample Point Location
- LF=Longview Fibre

DREDGING MANAGEMENT UNITS:

Surface DMMUs			Subsurface DMMUs		
DMMU	Approx. Cu. Yds.	# of Samples	DMMU	Approx. Cu. Yds.	# of Samples
DMMU 1	32,000	4	DMMU 2	32,000	4
DMMU 3	32,000	4	DMMU 4	48,000	6
DMMU 5	28,354	4	DMMU 6 (Chip Dock Permit Area)	31,381	5
DMMU 7	32,000	4			
DMMU 8	32,000	4			
DMMU 9	8,529	2			
DMMU 10	40,000	1			

NOTE(S):

1. 2012 aerial photo provided by Google Earth™.
2. LF24 samples collected to the north because a barge was in the slip.



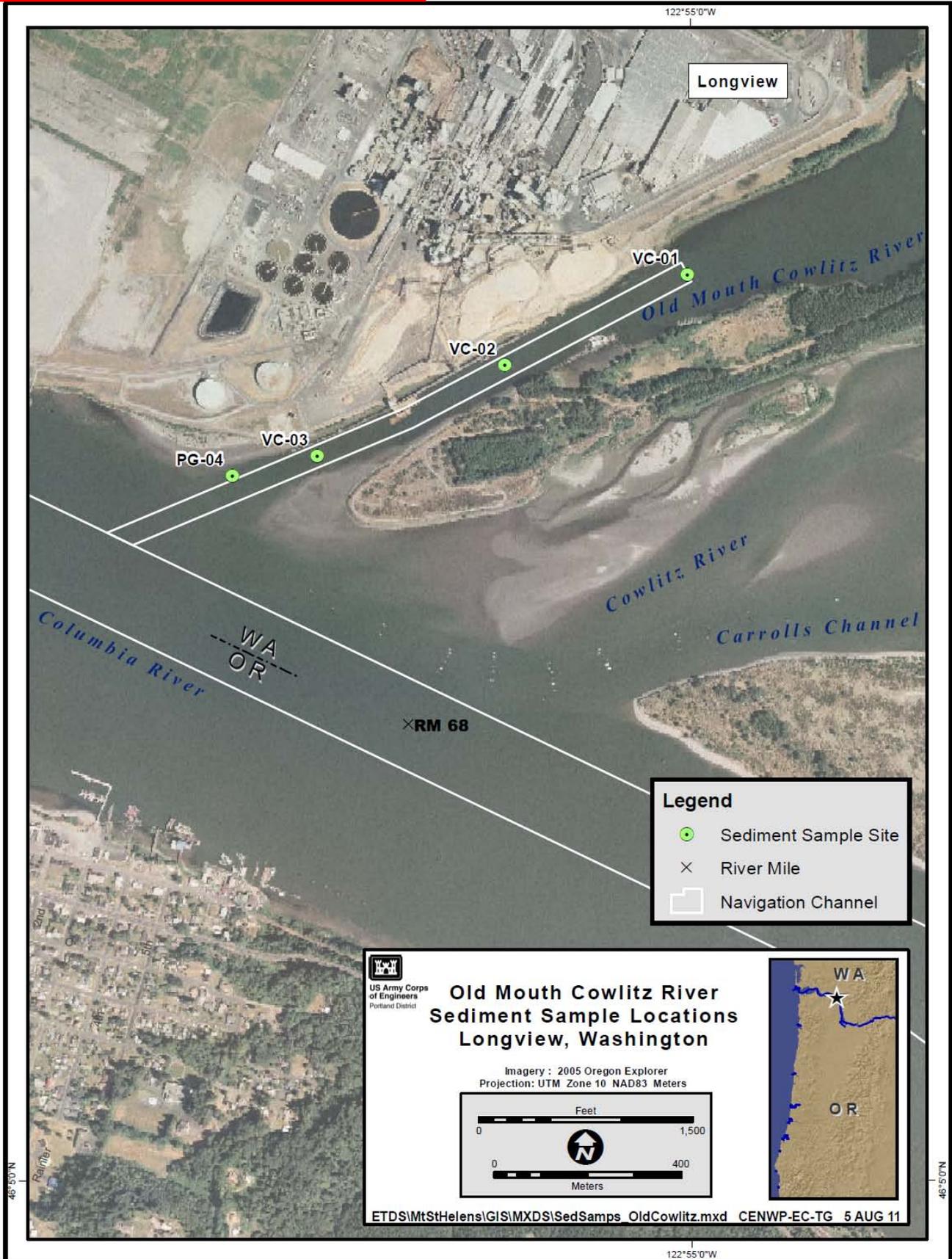
ECOLOGICAL LAND SERVICES, INC.
 1157 3rd Avenue, Suite 220
 Longview, WA 98632

PURPOSE: Maintain Channel
DATUM: CRD
ADJACENT PROPERTY OWNERS: See JARPA

SAMPLING POINTS
APPLICANT: Longview Fibre Paper & Packaging, Inc. dba KapStone Kraft Paper Corporation
PROJECT NAME: Maintenance Dredging
REFERENCE #: Not Yet Assigned
SITE LOCATION ADDRESS: 300 Fibre Way Longview, WA 98632

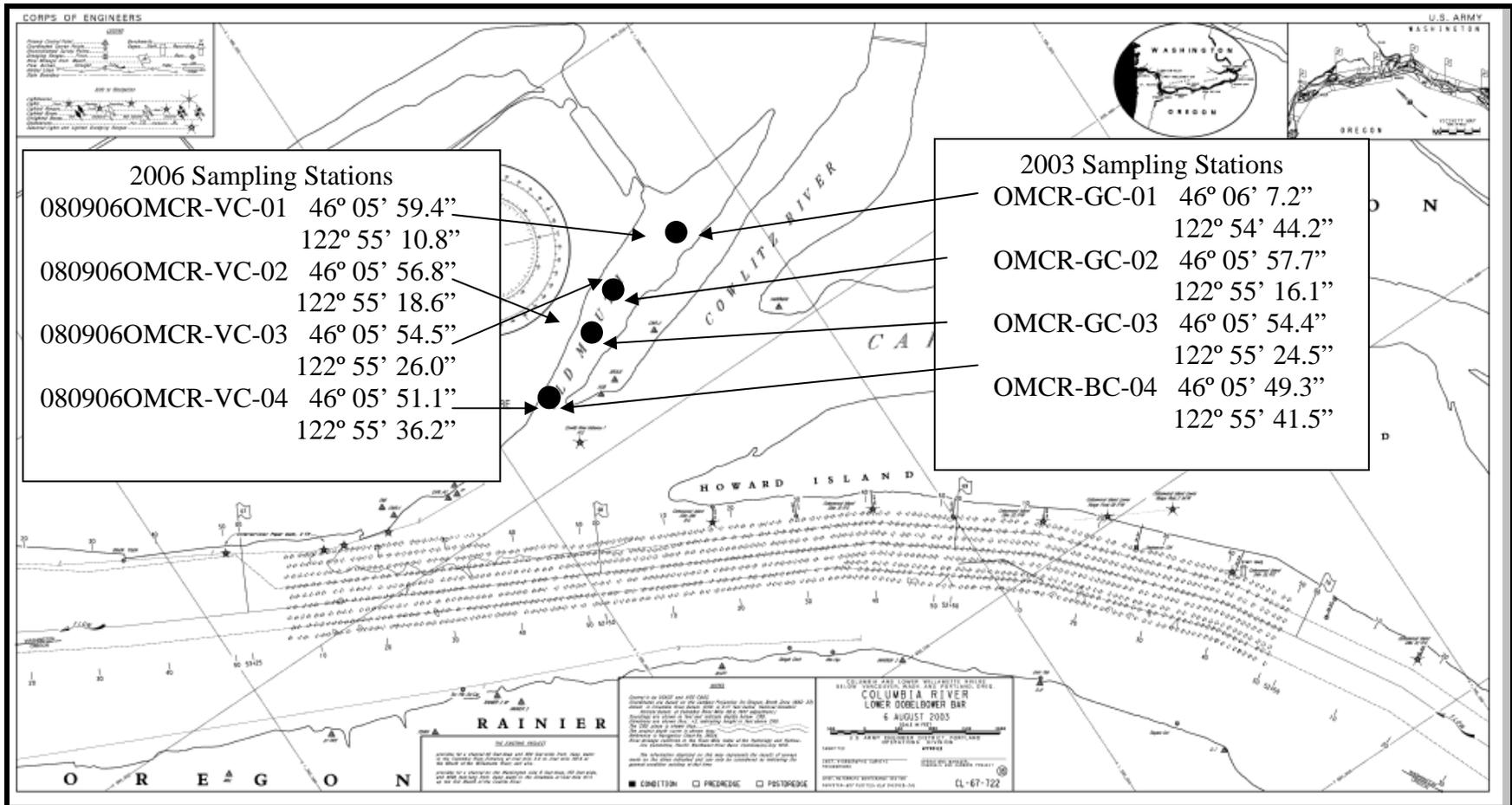
Figure 2. DMMUs and sampling locations from the 2014 Longview Fibre sampling event.

Figure 3. Sampling locations.



OLD MOUTH OF THE COWLITZ RIVER
SEDIMENT QUALITY EVALUATION
 Sampled September 10, 2003 & August 10, 2006

Figure 4. Old Mouth Cowlitz River sampling locations.



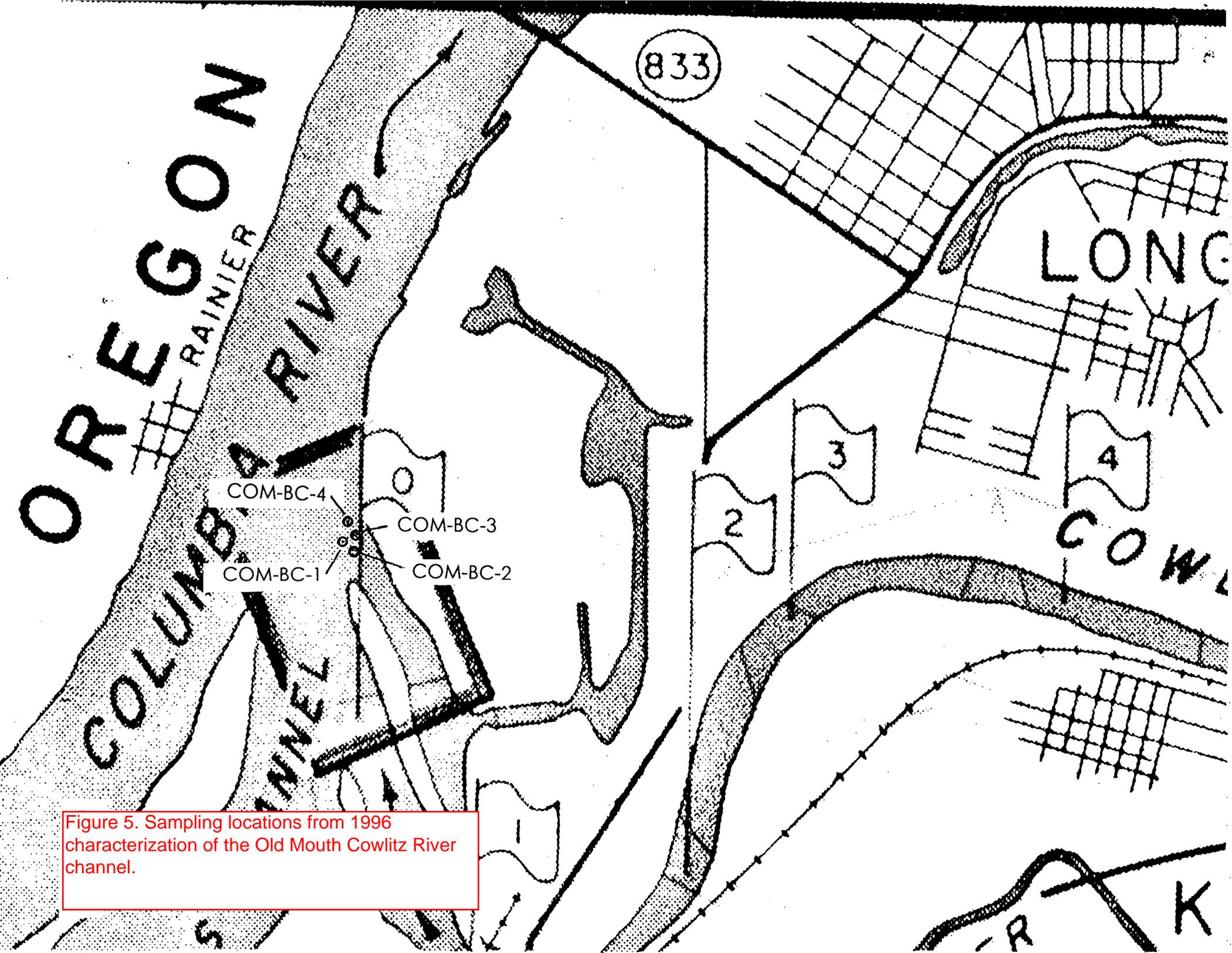


Figure 5. Sampling locations from 1996 characterization of the Old Mouth Cowlitz River channel.

COWLITZ RIVER
SEDIMENT QUALITY EVALUATION
 Sampled January 24, 2007

Figure 6. Cowlitz River sediment Sampling locations, from Mouth to Rivermile 5

