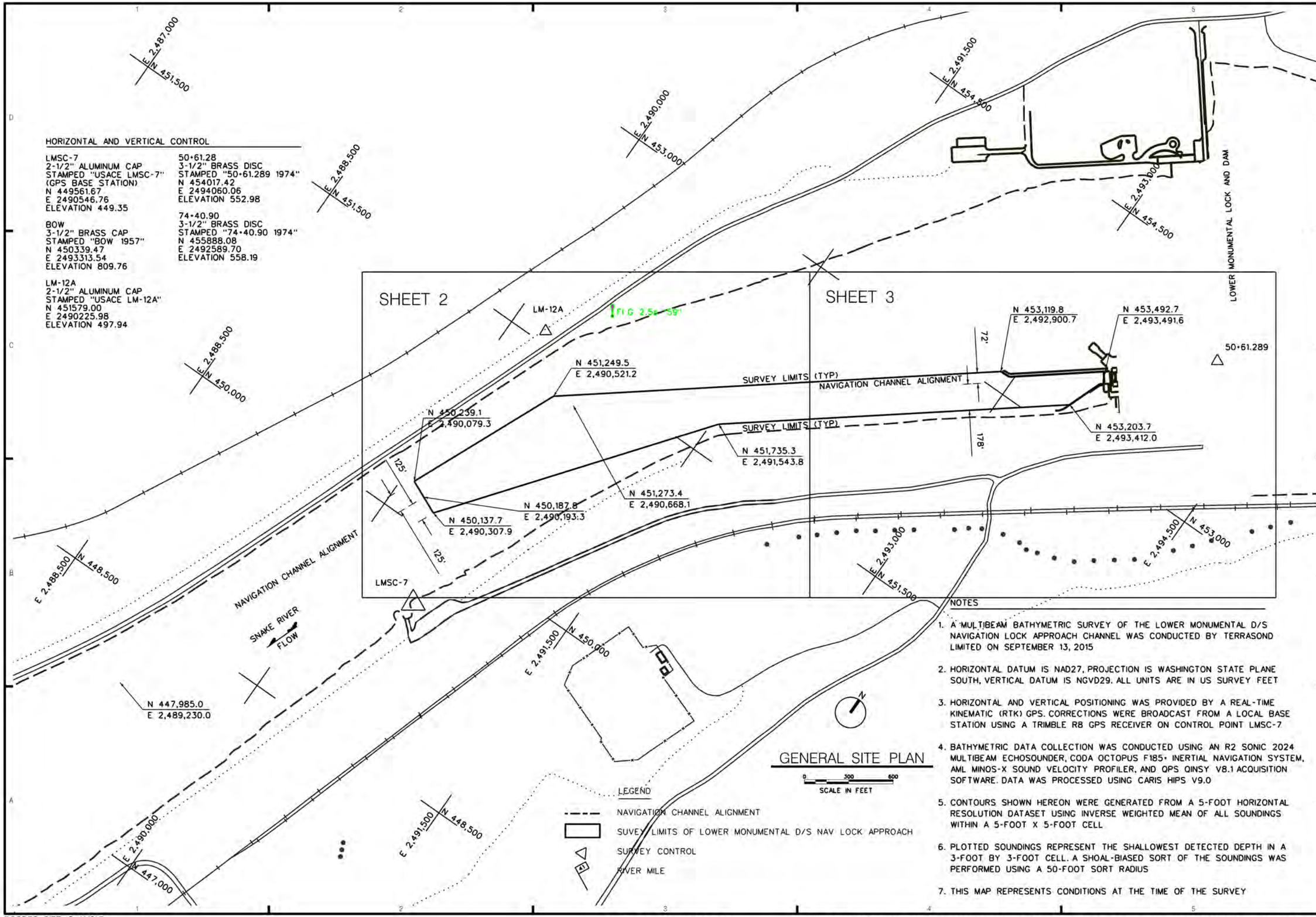

HORIZONTAL AND VERTICAL CONTROL

LMSC-7
2-1/2" ALUMINUM CAP
STAMPED "USACE LMSC-7"
(GPS BASE STATION)
N 449561.67
E 2490546.76
ELEVATION 449.35

BOW
3-1/2" BRASS CAP
STAMPED "BOW 1957"
N 450339.47
E 2493313.54
ELEVATION 809.76

LM-12A
2-1/2" ALUMINUM CAP
STAMPED "USACE LM-12A"
N 451579.00
E 2490225.98
ELEVATION 497.94

50+61.28
3-1/2" BRASS DISC
STAMPED "50+61.289 1974"
N 454017.42
E 2494060.06
ELEVATION 552.98

74+40.90
3-1/2" BRASS DISC
STAMPED "74+40.90 1974"
N 455888.08
E 2492589.70
ELEVATION 558.19

NOTES

1. A MULTIBEAM BATHYMETRIC SURVEY OF THE LOWER MONUMENTAL D/S NAVIGATION LOCK APPROACH CHANNEL WAS CONDUCTED BY TERRASOND LIMITED ON SEPTEMBER 13, 2015
2. HORIZONTAL DATUM IS NAD27, PROJECTION IS WASHINGTON STATE PLANE SOUTH, VERTICAL DATUM IS NGVD29. ALL UNITS ARE IN US SURVEY FEET
3. HORIZONTAL AND VERTICAL POSITIONING WAS PROVIDED BY A REAL-TIME KINEMATIC (RTK) GPS. CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION USING A TRIMBLE R8 GPS RECEIVER ON CONTROL POINT LMSC-7
4. BATHYMETRIC DATA COLLECTION WAS CONDUCTED USING AN R2 SONIC 2024 MULTIBEAM ECHOSOUNDER, CODA OCTOPUS F185+ INERTIAL NAVIGATION SYSTEM, AML MINOS-X SOUND VELOCITY PROFILER, AND QPS QINSY V8.1 ACQUISITION SOFTWARE. DATA WAS PROCESSED USING CARIS HIPS V9.0
5. CONTOURS SHOWN HEREON WERE GENERATED FROM A 5-FOOT HORIZONTAL RESOLUTION DATASET USING INVERSE WEIGHTED MEAN OF ALL SOUNDINGS WITHIN A 5-FOOT X 5-FOOT CELL
6. PLOTTED SOUNDINGS REPRESENT THE SHALLOWEST DETECTED DEPTH IN A 3-FOOT BY 3-FOOT CELL. A SHOAL-BIASED SORT OF THE SOUNDINGS WAS PERFORMED USING A 50-FOOT SORT RADIUS
7. THIS MAP REPRESENTS CONDITIONS AT THE TIME OF THE SURVEY

US. Army Corps of Engineers
Walla Walla District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

DESIGNED BY: MEYER
DWN BY: LML
CKD BY: KMJ
SUBMITTED BY: S C
DATE: 15 OCTOBER 2015
T.Ord. ORDER NO. 11
CONTRACT NO. W912EF-10-D-0002
FILE NO.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
WALLA WALLA, WASHINGTON

TERRASOND
TERRASOND LIMITED
PORT ALBERNI, BRITISH COLUMBIA, CANADA
PHONE: 250-723-2994 FAX: 250-723-2995
WWW.TERRASOND.COM, SONDEX.BIZ

ICE HARBOR LOCK AND DAM
SNAKE RIVER, WASHINGTON

W912EF-10-D-0002, T.O. NO. 11
LOWER MONUMENTAL D/S
NAVIGATION LOCK APP. CHANNEL
MULTIBEAM BATHYMETRIC SURVEY

Plate number:
V-001

Sheet 1 of 3

L:\Z_SURVEYS\00HYDRO_CONDITION\2015 HYDRO_CONDITION\HLD_LMA_DS_NAV_LOCK_APPR\OPERATIONS\OPERATIONSV-001---.DGN

BORDER SIZE IS ANSI D

DATE AND TIME PLOTTED: 12/9/2015

DESIGN FILE: L:\Z_SURVEYS\00HYDRO_CONDITION\2015 HYDRO_CONDITION\HLD_LMA_DS_NAV_LOCK_APPR\OPERATIONS\OPERATIONSV-001---.DGN