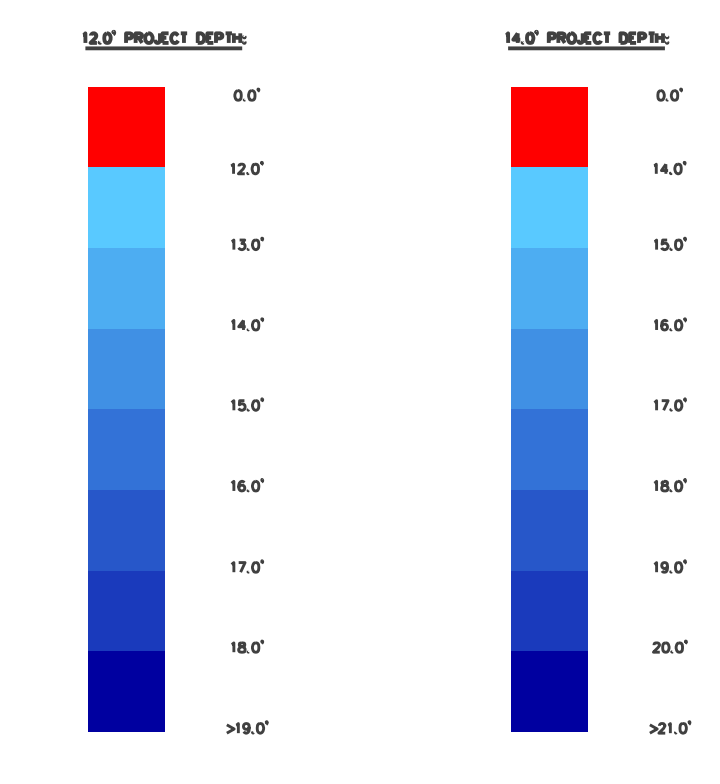


- NOTES:
- 1) THE SOUNDINGS AND ASSOCIATED INFORMATION REPRESENTED HEREIN ARE THE RESULT OF SURVEYS MADE ON THE DATE AS INDICATED AND CAN ONLY BE CONSIDERED REPRESENTATIVE OF THE GENERAL CONDITIONS EXISTING AT THE TIME OF SURVEY.
 - 2) THE SOUNDINGS DEPICTED HEREIN ARE EXPRESSED IN U.S. SURVEY FEET AND TENTHS THEREOF AND ARE REFERENCED TO THE FOLLOWING DATUMS:
HORIZONTAL: MICHIGAN STATE PLANE COORDINATE SYSTEM, MICHIGAN SOUTH ZONE #2113, NORTH AMERICAN DATUM (NAD) OF 1983.
VERTICAL: INTERNATIONAL GREAT LAKES DATUM (IGLD) OF 1985. LWD=574.4
 - 3) THE ABOVE SURVEY WAS CONDUCTED USING THE U.S.A.C.E. SURVEY VESSEL SKIFF EMPLOYING THE FOLLOWING COMPONENTS:
POSITIONING: TRIMBLE BLUE W/DGPS
SONAR: ODOM CV-300 (SINGLEBEAM)
SOFTWARE: HYPAACK 2013
 - 4) GAGES USED WERE REFERENCED FROM BM'S ESTABLISHED AT THE "MOUTH" AND "BOATHOUSE".

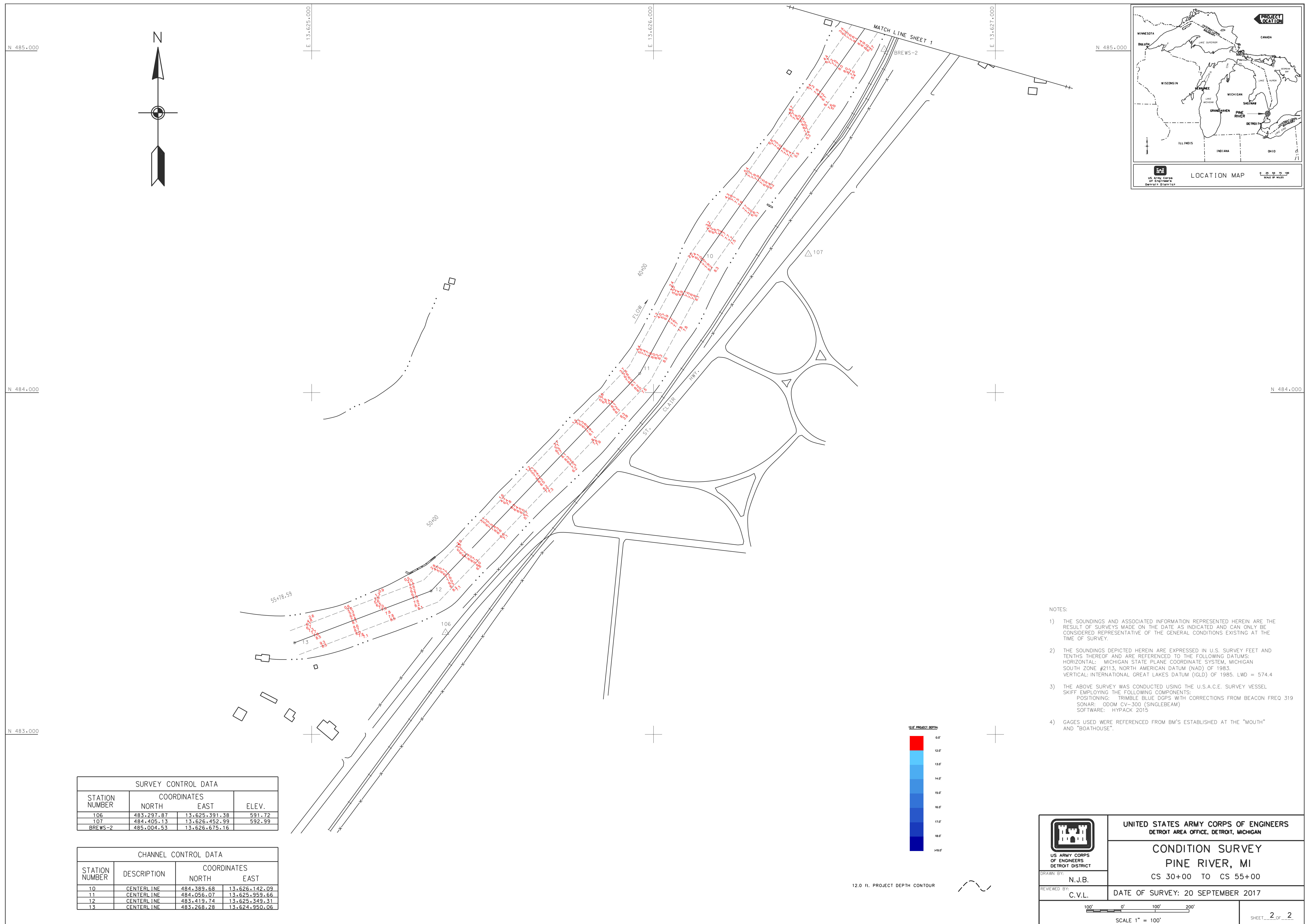


12.0 ft. PROJECT DEPTH CONTOUR
14.0 ft. PROJECT DEPTH CONTOUR

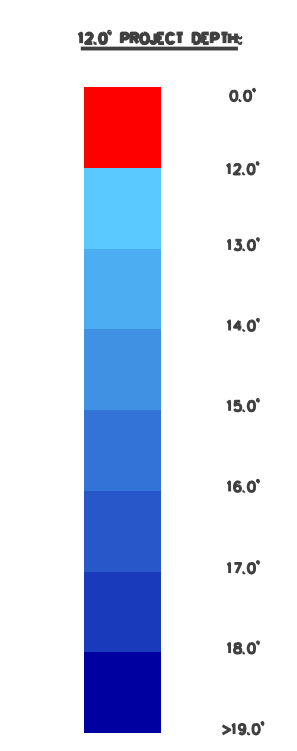
SURVEY CONTROL DATA		
STATION NUMBER	COORDINATES	
	NORTH	EAST
MARIE	486.736.13	13.626.727.33
PINE	486.997.54	13.627.029.81
108	485.270.58	13.627.068.10
110	486.705.38	13.627.737.59
	ELEV.	
		604.99
		591.75

CHANNEL CONTROL DATA			
STATION NUMBER	DESCRIPTION	COORDINATES	
		NORTH	EAST
1	CENTERLINE	486.688.07	13.628.053.83
2	CENTERLINE	486.831.32	13.627.536.35
3	CENTERLINE	486.954.27	13.627.287.23
4	CENTERLINE	486.941.50	13.627.097.09
5	CENTERLINE	486.689.65	13.626.800.83
6	CENTERLINE	486.381.28	13.626.646.31
7	CENTERLINE	486.268.21	13.626.637.25
8	CENTERLINE	485.950.42	13.626.656.91
9	CENTERLINE	485.096.38	13.626.640.04

	UNITED STATES ARMY CORPS OF ENGINEERS DETROIT AREA OFFICE, DETROIT, MICHIGAN	
	CONDITION SURVEY PINE RIVER, MI CS 00+00 TO CS 30+00	
DRAWN BY: N.J.B.	DATE OF SURVEY: 20 SEPTEMBER 2017	
REVIEWED BY: C.V.L.	SCALE 1" = 100'	
		SHEET 1 OF 2



- NOTES:
- 1) THE SOUNDINGS AND ASSOCIATED INFORMATION REPRESENTED HEREIN ARE THE RESULT OF SURVEYS MADE ON THE DATE AS INDICATED AND CAN ONLY BE CONSIDERED REPRESENTATIVE OF THE GENERAL CONDITIONS EXISTING AT THE TIME OF SURVEY.
 - 2) THE SOUNDINGS DEPICTED HEREIN ARE EXPRESSED IN U.S. SURVEY FEET AND TENTHS THEREOF AND ARE REFERENCED TO THE FOLLOWING DATUMS:
 HORIZONTAL: MICHIGAN STATE PLANE COORDINATE SYSTEM, MICHIGAN SOUTH ZONE #2113, NORTH AMERICAN DATUM (NAD) OF 1983.
 VERTICAL: INTERNATIONAL GREAT LAKES DATUM (IGLD) OF 1985. LWD = 574.4
 - 3) THE ABOVE SURVEY WAS CONDUCTED USING THE U.S.A.C.E. SURVEY VESSEL SKIFF EMPLOYING THE FOLLOWING COMPONENTS:
 POSITIONING: TRIMBLE BLUE DGPS WITH CORRECTIONS FROM BEACON FREQ 319
 SONAR: ODOM CV-300 (SINGLEBEAM)
 SOFTWARE: HYPACK 2015
 - 4) GAGES USED WERE REFERENCED FROM BM'S ESTABLISHED AT THE "MOUTH" AND "BOATHOUSE".



12.0 ft. PROJECT DEPTH CONTOUR

SURVEY CONTROL DATA			
STATION NUMBER	COORDINATES		ELEV.
	NORTH	EAST	
106	483.297.87	13.625.391.38	591.72
107	484.405.13	13.626.452.99	592.99
BREWS-2	485.004.53	13.626.675.16	

CHANNEL CONTROL DATA			
STATION NUMBER	DESCRIPTION	COORDINATES	
		NORTH	EAST
10	CENTERLINE	484.389.68	13.626.142.09
11	CENTERLINE	484.056.07	13.625.959.66
12	CENTERLINE	483.419.74	13.625.349.31
13	CENTERLINE	483.268.28	13.624.950.06

 US ARMY CORPS OF ENGINEERS DETROIT DISTRICT	UNITED STATES ARMY CORPS OF ENGINEERS DETROIT AREA OFFICE, DETROIT, MICHIGAN	
	CONDITION SURVEY PINE RIVER, MI CS 30+00 TO CS 55+00	
DRAWN BY: N.J.B.	DATE OF SURVEY: 20 SEPTEMBER 2017	
REVIEWED BY: C.V.L.		
		SHEET <u>2</u> OF <u>2</u>