

Appendix G. As-built topographic transects survey report



SUBMITTAL COVERSHEET

Prepared For:	Julian Meisler Baylands Program Manager Sonoma Land Trust 822 Fifth Street, Santa Rosa, CA 95404
From:	Jeff Haran Dixon Marine Services, Inc.
Date:	December 30 th , 2021

Contract Number	
Submittal Number	
Contract Section Reference / No.	
Project Name	Sears Point Levee Adaptive Management
Project Location	Sears Point, CA
Description	Survey Control Report
Submittal Type:	<input type="checkbox"/> Action <input checked="" type="checkbox"/> Information

REMARKS: Please find the attached survey QA/QC report.

Signed: _____
Dixon Marine Services, Inc.

Signed: _____

Date: 1.13.2022

Date:



This report will identify the QA/QC methods for the Sears Point Levee Adaptive Management project 200ft transect survey.

On October 4th, 2021 DMS received the following direction from Daniel Gillenwater, Environmental Scientist/GIS Analyst at Gillenwater Consulting, LLC:

"...Attached is a shapefile and map of the transect alignments. A few notes on this survey:

*The transects alignments extend from the levee crest out across the mudflat, capturing the extent of the constructed design elements. Survey as far along the transect as you can reach safely
Survey all major grade breaks along the transect with a max point spacing of 15 ft (typical survey approach...)"*

Please note that in an effort to provide a quality product, point spacing for this survey averaged at less than 10ft and typically was in the range of 5ft.



Image plotted from Hypack™ Software

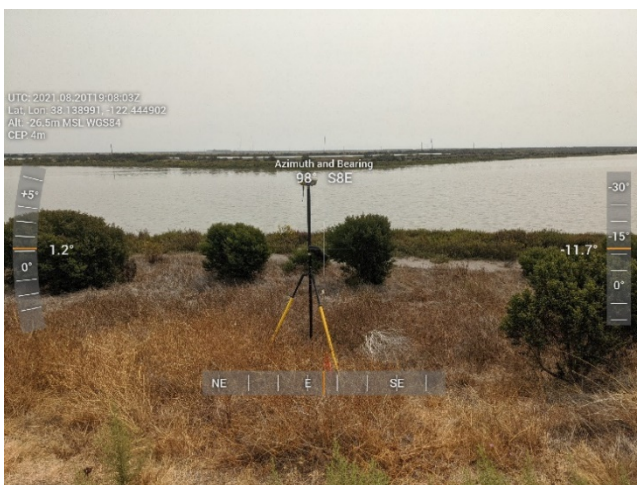
On Friday November 5th and Monday November 8th DMS employed a Trimble R12i GNSS Rover and R8 Base using a TSC5 data collector to collect spot elevations along the Transects provided by Gillenwater Consulting.

Control Points used were IC-104 on November 5th and IC-102 on November 8th.

IC-102
 N: 1808704.571
 E: 6426030.719
 Z: 13.71



IC-104
 N: 1812742.478
 E: 6433717.364
 Z: 11.02





Additional survey checks were made throughout the day to ensure that no movement was detected in the base station over the course of the survey. The following table is a record of the daily observations:

211105 Survey Checks	*Base Station on IC-104						Delta X	Delta Y	Delta Z
211005-ck14	6428779	1810145	13.91	hub-3150			-0.003	0.017	0.018
211005-ck13	6429048	1810278	13.687	hub-3450			-0.112	-0.017	0.011
211005-ck12	6429363	1810432	13.92	hub-3800			0.097	-0.072	-0.08
211005-ck11	6430015	1810749	13.3	hub-4525			0.062	-0.072	0.034
211005-ck8	6430531	1811003	13.303	hub-5100			0.005	-0.031	-0.075
211005-ck7	6431653	1811554	12.364	hub-6350			-0.031	0.03	-0.039
211005-ck6	6431922	1811687	11.616	hub-6650			0.001	0.024	-0.009
211005-ck5	6432237	1811839	11.153	hub-7000			-0.008	-0.046	0.007
211005-ck4	6432506	1811972	11.208	hub-7300			-0.037	-0.018	0.042
211005-ck3	6432776	1812105	13.899	hub-7600			0.03	0.028	0.009
211005-ck2	6433113	1812267	11.768	hub-7975			-0.009	0.029	0.044
211105ck1	6433418	1812444	10.491	hub-8325			-0.033	0.012	-0.005
211005-ck9	6430232	1810833	12.839	IC-103			-0.083	-0.014	-0.015
211005-ck10	6432961	1817256	13.981	JT9545			-0.042	-0.017	0.001
211108 Survey Checks	*Base Station on IC-102								
211108-ck1	6426184	1808856	13.6	hub-0250			-0.041	0.039	0.054
211108-ck2	6427073	1809308	13.915	hub-1250			0.048	0.048	0.022
211108-ck3	6427366	1809451	13.372	hub-1575			0.004	0.034	0.073
211108-ck4	6427702	1809616	13.649	hub-1950			0.057	-0.031	0.067
211108-ck5	6427971	1809748	13.877	hub-2250			-0.003	0.026	0.026
211108-ck6	6428511	1810011	13.479	hub-2850			0.032	0.002	0.056
211108-ck7	6428341	1813355	21.664	BM-2_nail			0.01	0.035	0.019

On Wednesday November 24th and Friday November 26th DMS employed a Trimble R12i GNSS Rover and R8 Base using a TSC5 data collector to collect spot elevations along the Transects provided by Gillenwater Consulting.

Control Point IC-102 was used for the entirety of the survey due to its central location along the shoreline and close proximity to the entrance of the project site.

IC-102
 N: 1808704.571
 E: 6426030.719
 Z: 13.71



The primary Control point BM-2 was used to check into before beginning data collection. A 3 minute observation was conducted for the primary control to account for any atmospheric abnormalities present at the time of data collection.

BM-2-nail
 N: 1813355.372
 E: 6428340.677
 Z: 21.64





Additional survey checks were made throughout the day to ensure that no movement was detected in the base station over the course of the survey. The following table is a record of the daily observations:

211124 Survey Checks		*Base Station on IC-102						
ID	Easting	Northing	Elevation	Code		Delta E	Delta N	Delta Z
211124-ck	6428340.69	1813355.37	21.69	BM-2_nail		0.02	0	0.04
211024-ck2	6429362.91	1810431.67	13.96	hub-3800		0.07	0.04	-0.04
211024-ck3	6428340.7	1813355.38	21.63	BM-2_nail		0.02	0.01	-0.02
211024-ck4	6428340.7	1813355.39	21.61	BM-2_nail		0.02	0.02	-0.03
211024-ck5	6426468.19	1809010.15	13.79	hub-0575		-0.03	-0.03	0.01
211024-ck6	6426757.79	1809152.9	13.91	hub-0900		0.04	0.03	0.08
211024-ck7	6427072.83	1809307.77	13.94	hub-1250		-0.01	0.01	0.05
211024-ck8	6427366.17	1809450.69	13.35	hub-1575		0.03	0.05	0.05
211024-ck9	6427702.34	1809616.02	13.61	hub-1950		0	0.01	0.03
211024-ck10	6427971.3	1809748.51	13.88	hub-2250		-0.01	0.05	0.03
211024-ck11	6428220.08	1809866.27	13.07	hub-2525		0.04	0.06	-0.04
211024-ck12	6428510.5	1810011.05	13.46	hub-2850		0.01	-0.03	0.04
211126 Survey Checks		*Base Station on IC-102						
211126-ck	6428340.72	1813355	21.65	BM-2_nail		0.04	-0.04	0
211126-ck1	6426184.09	1808856	13.59	hub-0250		-0.02	0.01	0.04
211126-ck2	6425498.95	1807380	9.42	IC-101		-0.04	-0.03	0.04
211126-ck3	6428510.48	1810011	13.42	hub-2850		-0.01	-0.05	-0.01
211126-ck4	6430232.17	1810833	12.86	ic-103-pin		-0.02	0.02	0.01