

Levee instability caused by vibration from pile driving

North Delta CARES

Public safety/levees

- 5.4 million pile driving strikes at each of the three new WaterFix diversion intakes could cause levee instability, and flooding of homes and crops if the levees fail.

1 **Table 3C-X2. Assumptions to Evaluate Pile Driving Impacts**

Feature	On-land or In-water	Pile Type/ Sizes	Total Piles/ Site	Number of Concurrent Pile Drivers at Site	Piles/ Day	Strikes/ Pile	Strikes/ Day
Intake Cofferdam	In-water	Sheet pile	2,500	4	60	700	42,000
Intake Structure Foundation	In-water	42-inch diameter steel	500	4	60	1,500	90,000
SR-160 Bridge (Realignment) at Intake	On-land	42-inch diameter steel	150	2	30	1,200	36,000
Control Structure at Intake	On-land	42-inch diameter steel	650	4	60	1,200	72,000
Pumping Plant and Concrete Sedimentation Basins at Intake	On-land	42-inch diameter steel	1,650	4	60	1,200	72,000
Barge Unloading Facility	In-water	18-inch diameter steel	800	4	60	1,050	63,000
Inlet structure at Intermediate Forebay	On-land	14-inch concrete or steel pipe	1,700	2 or more ¹	15	750	11,250
Outlet structure at Intermediate Forebay	On-land	14-inch concrete or steel pipe	1,700	2 or more ¹	15	750	11,250
SR12 Improvement	On-land	14-inch steel pipe	40	1	6	1,500	9,000
Cofferdam for Modified Clifton Court Forebay Embankments	In-water	Sheet piles (AZ-28-700)	22,000	4 or more	60	700	42,000
Divider Wall for Modified Clifton Court Forebay	In-water	Sheet piles (AZ-28-700)	5,000	4 or more	60	700	42,000
Siphon at North Clifton Court Forebay Outlet	In-water	14-inch concrete or steel pipe	2,160	2 or more	30	1,050	31,500
Siphon under Byron Highway	On-land	14-inch concrete or steel pipe	1,600	2 or more	30	1,050	31,500
Cofferdam for Operable Barrier at Head of Old River	In-water	Sheet piles (AZ-28-700)	550	2 or more ¹	15	700	10,500
Foundation for Operable Barrier at Head of Old River	In-water	14-inch steel pipe or H-piles	100	1	15	1,050	15,750

Notes: All assumptions will be refined as part of next engineering phase when site-specific geotechnical data is collected.

Assumptions for the inlet and outlet structures at the intermediate forebay represent the worst case scenario. These structures could be supported on shallow foundations with ground improvement (i.e., no pile driving would be needed).