



Benefits of Precast Concrete Sound Walls over Alternative Products



Case Study
June 4, 2010

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- Subject: Arlington Sports Park
Riverside California
 - Owner: City of Riverside
 - Soundwall: 8 foot high StoneTree
Precast Concrete Fencing
 - Contractor: StructureCast,
Bakersfield, California

City Plan

- The City of Riverside desired to turn a 40 acre vacant lot on Arlington Drive in Riverside into a sports park containing numerous concrete skate ramps, a regulation-sized baseball field with stadium lighting, a soccer field, various playground stations and covered picnic areas.

Challenge

- The field lay directly adjacent to a number of private estates who complained bitterly about the project due to the noise and security issues associated with the planned sports park.

Sound Solution

- The city offered an architecturally appealing, 8 foot high block wall, 900 feet long between the affected estate owners and the park property to mitigate the noise associated with the project.

New Challenge

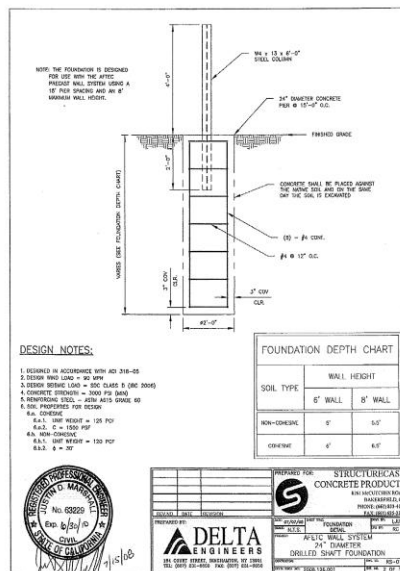
- After a thorough survey, the civil engineer located the original, and still active, 24 inch concrete water main 4 feet inside the property line and 24 inches deep running the entire 900 feet parallel to the required sound wall. After reviewing the soils report, the engineer for the 8 foot high block wall determined the condition of the old concrete pipe could not handle the surcharge weight of the footing and wall. The pipe had to be relocated (adding considerable cost and time to the project) or, find some other type of sound wall.

New Sound Solution

- As a precast manufacturer of sound walls, StructureCast was contacted and subsequently requested to visit the site to offer an alternative to the block wall. After a review of the soils report, the precast engineer determined that caisson footings 15 feet apart, 24 inches in diameter and 6.5 feet deep would meet all the wind and seismic loads associated with an 8 foot high wall in this project.

Precast design and engineering

The design of the precast sound wall footing in this case allowed the contractor to drill caisson footings in proximity to the concrete pipe at 15 foot spacing versus a spread footing along the entire length of the pipe. The caisson footing achieved all the structural load bearing requirements without adding undue surcharge on the old concrete pipe.



Completed Sound wall Pictures

- In this photo we see concrete risers stubbing up from the larger concrete water main directly below.



Completed sound wall pictures

- The concrete water main ran the entire length of the sound wall.



Completed sound wall pictures



- ▣ This Photo shows off the architectural design of the precast sound wall with its columns at 15 foot spacing.

Benefit Summary

- ▣ In this case study, we can see the clear benefit of using a precast sound wall product over the original CMU wall. The sound wall was installed just inside the property line as required, 2 feet away from the existing concrete water line, in half the time and roughly the same cost of the original CMU wall quote. The precast sound wall had no effect on the concrete water pipe. Thank You.