

Typical Projects

Investigations

WDP specializes in the evaluation of problems with projects currently under construction. These investigations may be necessary because of deterioration, structural failures, assessment of original design, or verification of capacities given as-built conditions. WDP's professionals are experienced at interpreting and analyzing the results of the evaluation components and develop conclusions and recommendations based on the facts obtained.

Repair and Rehabilitation Design

WDP provides complete design services for repair and rehabilitation projects. We transition from the evaluation of problems into the production of repair and rehabilitation design documents, bid solicitation, bid evaluation, construction management and quality assurance inspection. Our primary project team members typically remain assigned to the project from start to finish, providing continuity of service.

Strengthening

Based upon the results of structural analysis models and field investigations, WDP designs strengthening measures for existing structures. Strengthening of existing structures may involve the installation of supplemental framing members, composite wraps or enlarging existing components. WDP routinely works as a part of a design team on strengthening projects and is experienced in mitigating the impact of structural strengthening measures on building aesthetics.

Corrosion Evaluation and Mitigation

WDP specializes in the evaluation of corrosion damage in reinforced and prestressed concrete structures. WDP's success in evaluating corrosion activity and damage lies in our ability to effectively use various nondestructive test methods and laboratory material analysis to assess corrosion activity. Based upon testing results, WDP routinely designs measures to mitigate corrosion damage.

Litigation Support

WDP provides expert witness and litigation support services for structural system failures, performance failures, and construction disputes. Our recognized expertise positions us as a valuable asset to parties involved in litigation. WDP is regarded as objective, thorough and capable of communicating complex issues in simplified terms.

Emergency Response

WDP personnel have served as responders at several post-collapse sites. Through our boots-on-ground experience, we understand the need for time-sensitive response and importance of thinking on our feet while assessing damaged and/or collapsed structures.

Nondestructive Testing

WDP employs regularly a variety of nondestructive testing methods to examine existing structures. Methods commonly used by WDP include surface penetrating radar, impact-echo and various corrosion testing methods. WDP also monitors structural performance using state-of-the-art instrumentation, such as accelerometers, LVDTs, and strain gages. Results from nondestructive testing are used to determine the extent and severity of damage. WDP also regularly incorporates the results from nondestructive testing into structural analysis models to predict the impact of measured damage on the performance of a structure.



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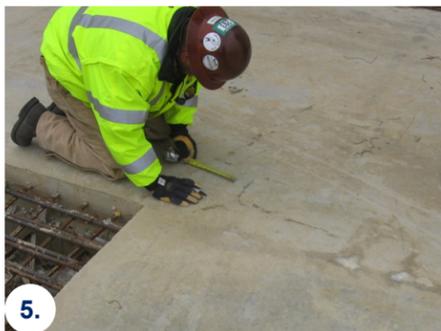
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1. Failed unbonded post-tensioning strand.
2. Corrosion damage at intermediate post-tensioning anchorage.
3. Cracking in unreinforced beam-column joint.
4. Investigation of concrete consolidation problems at new sports stadium.
5. Investigation of cracking in slab of new water treatment facility.
6. Corrosion damage in University parking structure.
7. Investigation of collapse of 200 foot tall Industrial stack.
8. Masonry façade examined with surface penetrating radar.
9. Cracking in stainless steel due to stress corrosion.
10. New "temporary" supports added to ASR damaged cantilevers.
11. Moisture and efflorescence emanating from PT grout pocket.
12. ASR damage on concrete cantilever.