

Zone 2

Report to the Zone Commissioners Design and Construction Projects for Calendar Year 2009

By Dusty Williams, General Manager-Chief Engineer
January 2010

GENERAL:

Throughout the District (all Zones) during Calendar Year 2009, the Design and Construction Division completed four capital projects with a combined value of \$4.7 million. Two projects with a total contract value of \$8,500,000 are currently under construction. In Calendar Year 2009 the District also inspected and issued notices of completion for 20 developer-built projects with a total value of almost \$24 million.

Recent bids for District construction projects have shown that general contractors are becoming very competitive. The District will continue to try and leverage this dip in construction costs by pushing hard to complete designs and advertise projects while prices are low. The District is also partnering with the Cities of Norco and Corona to fund both design and construction of some projects to increase project delivery during this window.

Twenty-five capital improvement projects in the FY 2009/2010 budget are either under active design or pre-design study at the District with five of those projects expected to be advertised for construction in Calendar Year 2010. The total construction contract cost of those five projects is estimated at around \$11 million. Another ten or so drainage projects are being managed by individual cities with the District participating in funding.

Additionally, we are also underway with six repair projects that require engineered drawings due to the severity of the damage or potential damage to our facilities. Deficiencies range from exposed and rusting rebar to undermined slope paving. As all in-house resources are devoted to our capital improvement projects, these six projects are being designed by outside consulting engineers.

Calendar Year 2010 should also see completion of significant changes at the District's office site. The proposed Low Impact Development (LID) Retrofit Project is a three part project. The completed project will convert the District's Market Street campus into a regional example of green development concepts. The upgraded facility will be used as a regional "green" training center for municipal employees, developers, engineers, and contractors throughout the Inland Empire and Orange County. Currently, there are limited locations and opportunities to demonstrate the proper application of LID BMPs. This facility is uniquely designed to accomplish both demonstration and monitoring of the effectiveness of LID practices. This project is intended to facilitate the support and implementation of LID BMPs by municipalities and developers. The cost of this project is being partially subsidized by a \$475,000 State Proposition 13 grant administered by SAWPA.

Following is a status summary of the capital improvement projects for Zone 2:

Current Year Capital Projects (Budgeted FY 2009/2010)

1. **Norco MDP Line NA-3, Stage 1 (2-8-00075-01)** - This project is an underground storm drain which will extend approximately 1,300 feet south in Pedley Avenue from Norco MDP Line NA in Sixth Street. This project will address localized flooding along Pedley Avenue. Design for this relatively small storm drain is essentially complete and is being done in conjunction with Norco MDP Line N-1, Stage 2. We anticipate advertising this project for construction in February 2010.

2. **Santa Ana River, Norco Bluffs [Corps Project] (2-8-00100-00)** - The Norco Streambank Stabilization Project is a Corps of Engineers project that consists of a soil cement toe protection structure constructed to the 100-year flood level at the base of the bluff, and a stable earthen buttress fill constructed to the top of the bluff. The bluff stabilization work extends easterly from the Interstate 15 Bridge to near Center Avenue. The structure was completed in 2004, however, the project experienced severe slope erosion during the 2004-2005 storm season. Funding in the District's FY 2010/2011 Budget is for administration and the District's Local Sponsor share of repair costs. A portion of the repair was completed by the Corps in the spring of 2008. The remaining repairs are still unfinished. The District is continuing to work with the Corps to complete the repairs and turn the project over to the District for Operation and Maintenance.

3. **Santa Ana River, Norco Bluffs, Stage 1 [Corps Project – Alhambra Reach] (2-8-00100-01)** - Another reach of the bluffs, downstream of Interstate 15 near Alhambra Street, will be stabilized as a part of the Prado Dam enlargement feature of the Santa Ana River Mainstem Project at no cost to the District. The project involves the construction of a toe-protection-only structure from Hamner Avenue downstream to approximately 5th Street. The Corps has completed design drawings and right of way requirements for this project. The Orange County Flood Control District will perform all right of way acquisition activities and fund all Local Share costs for this feature.

Funding in the District's FY 20010/2011 Budget is for administration only. Should the Corps receive a construction appropriation for Federal FY 2011, construction of the Alhambra Reach could conceivably begin in 2011.

4. **Santa Ana River, Prado Dam [Corps Project] (2-8-00103-01)** - Prado Dam is the last major feature of the Santa Ana River Mainstem (SARM) Project yet to be completed. Prado Dam was constructed in 1941 in response to the devastating flooding that occurred in Orange County from the storms of 1938. Originally designed to provide protection downstream from a 100-year storm event, increased runoff attributed to upstream development within Riverside and San Bernardino Counties has since compromised Orange County's level of flood protection. In order to restore 100-year level flood protection to the three million residents within the floodplain downstream, the Corps proposes to increase both the storage capacity of Prado Dam, and its outlet



discharge capacity. The embankment will be raised 30 feet, while the spillway sill will be raised 20 feet and the gated discharge capacity will be tripled.

Orange County is actively pursuing the necessary acquisition of properties that will become subject to ponding due to the raising of the Prado Dam embankment and spillway. Orange County is paying all local sponsor costs associated with this project. The Corps awarded a \$69 million construction contract in the spring of 2003 to upgrade the dam's outlet works and construction of this component as well as the embankment has now been completed.

Funding in the District's FY 2010/2011 Budget will be for administration only.

5. **Santa Ana Canyon below Prado [Corps Project] (2-8-00105-00)** - This is a feature of the Corps of Engineers' \$1.4 billion Santa Ana River Mainstem Project and is commonly referred to as "Reach 9A". Proposed improvements include installation of slope protection along the Green River Mobile Home Park, as well as the exposed slopes adjacent to the Green River Homeowners Association and Highway 91 just downstream of Highway 71. These improvements will provide 100-year flood protection from future increased releases from the modified Prado Dam.

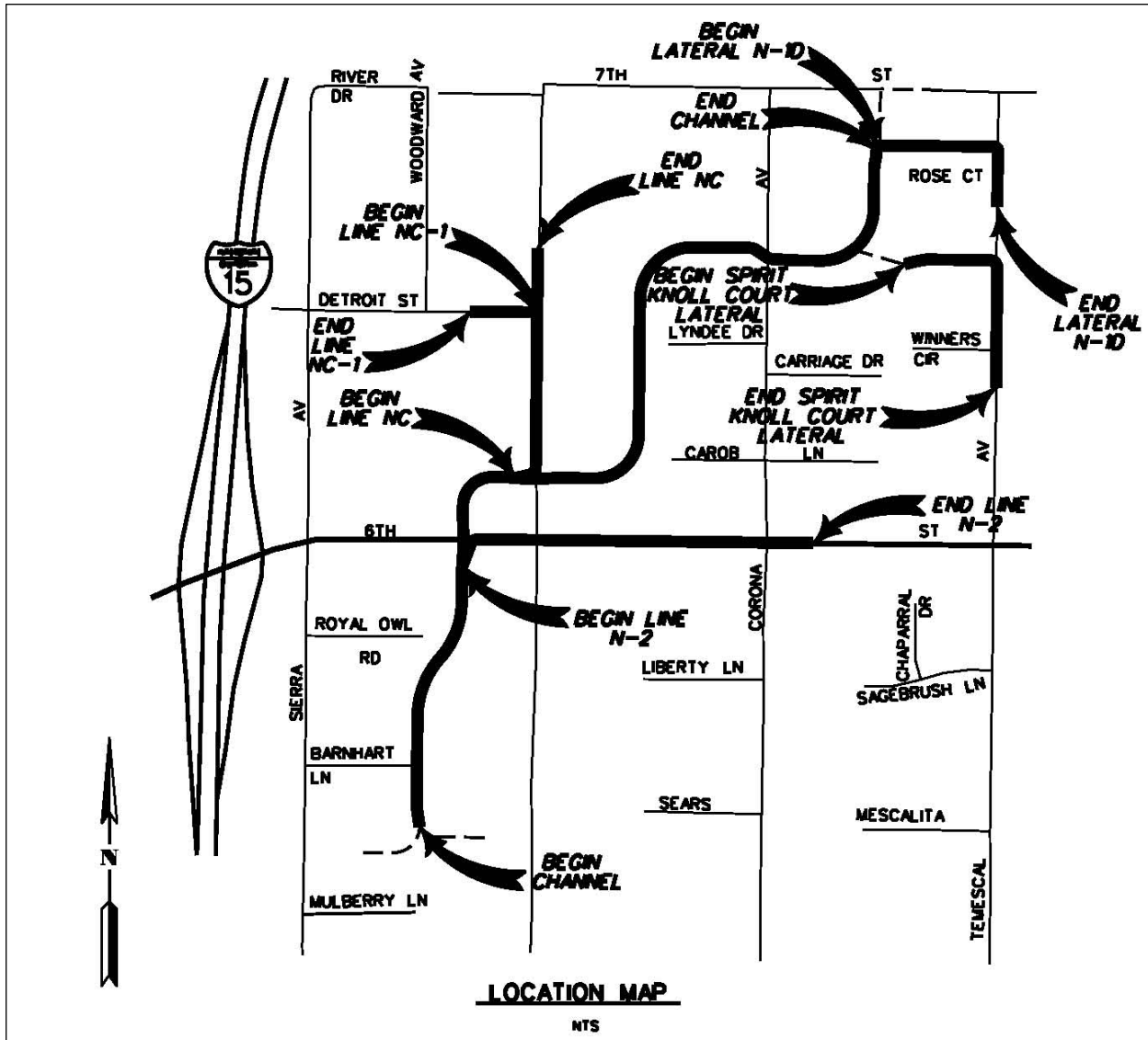
The project also involves the acquisition in fee title or flooding easements over the floodplain that will result under the maximum design controlled release from Prado Dam. The Local Cooperation Agreement (LCA) between the Corps and the Local Sponsors calls for each County to be responsible for providing the right of way, as well as the local cost share of any other elements of this feature that lie within their respective jurisdictional territory. The District is responsible for acquisition of an easement over State Parks and Recreation lands in the floodplain, and for committing other lands to the project upstream of the golf course which are already owned by either the District or the County of Riverside. In addition, the District is required to provide a 5% cash contribution toward the construction of flood protection improvements along the Green River Mobile Home Park, Green River Estates and Highway 91.

District staff continues to work with the Corps to refine their design and to determine right of way requirements for the project. The Corps was able to award a construction contract for a portion of the protection along the Mobile Home Park. Work on this reach was done in 2009. They currently are working on the environmental documents for the remaining parts of Reach 9, and completion of the construction plans for these improvements.

The Corps only received \$49 million for SARM in FY 2008/2009.

Funding in the District's FY 2010/2011 Budget will be for administration, project management, right of way acquisition, construction and environmental review.

6. **North Norco Channel, Stage 11 (2-8-00140-11)** - This project involves ultimate channel improvements for the existing interim channel from 6th Street to the terminus near Rose Court. Based on input from the City of Norco, the project has been up-scoped to include laterals to the existing channel to eliminate frequent flooding problems along Temescal Avenue between 6th and 7th Streets. The drawing sets are being prepared such that the laterals could be constructed independently and in advance of the mainline channel improvements if regulatory issues with the mainline would result in unacceptable delay.

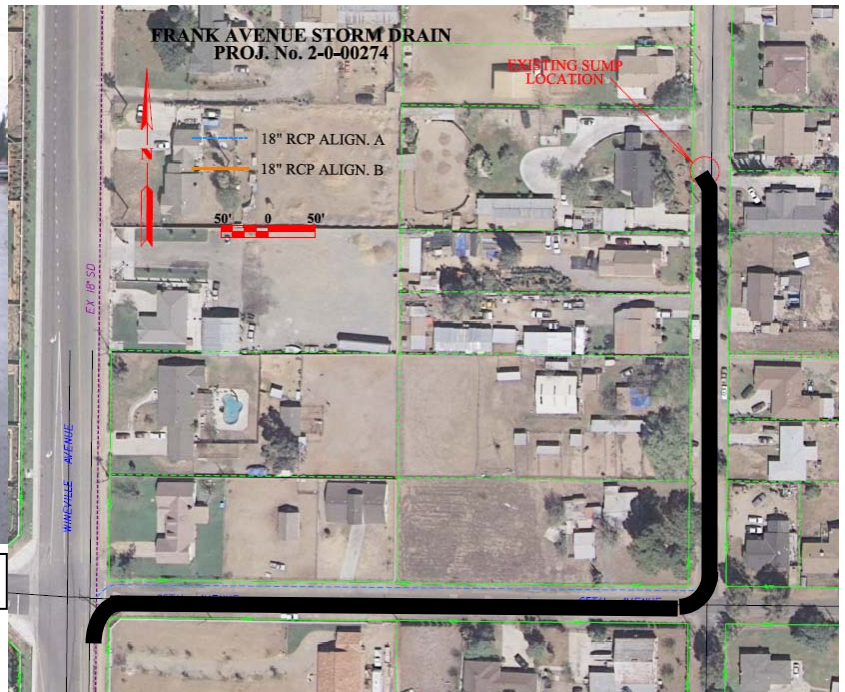


7. **North Norco Channel, Stage 10 (2-8-00140-10)** - This project involves ultimate improvements to the existing channel between Parkridge Avenue and River Road. The channel is planned as a concrete lined open channel, however, local developers wish to construct an underground facility to accommodate their proposed development. This is a joint project between the District, the City of Norco and local developers. While an agreement has not yet been executed, several meetings have taken place in which responsibilities were discussed. The developers are responsible for design preparation and obtaining all necessary permits from the resource agencies. This developer-driven project has not advanced in any significant way during the past 12 months.

8. **Norco MDP Line N-1, Stage 2 (2-8-00143-02)** - This project is an underground storm drain extending from the existing Stage 1 near Pedley Avenue, east in 7th Street to California Avenue then south in California approximately 800 feet to a sump. Design for this project is nearly complete and is being done in conjunction with Norco MDP Line NA-3, Stage 1. We anticipate advertising this project for construction in February 2010.
9. **Mockingbird Canyon (2-8-00180-00)** - For many years the District has collected "mitigation" charges from builders in Mockingbird Canyon with the intention of providing relief to flood prone properties in the lower canyon. The District began acquiring residences with these funds on a voluntary basis several years ago. The purchase of three residences has been completed to date, all of which are located southerly of the intersection of Van Buren Boulevard and Mockingbird Canyon Road. No acquisitions took place during this last year.
10. **Corona Drains Line 1-G (2-8-00223-01)** - This project is complete except for the most upstream 150 feet in Main Street just above Olive Street. This last portion will be constructed as part of the same contract as the Ontario Avenue Storm Drain project (2-8-00351-01).
11. **Day Creek – Frank Avenue Storm Drain (2-8-00274-01)** - This project is a 1,050-foot drain to dewater a sump in Frank Avenue in the south Mira Loma area. Construction of this drain will enable the removal of a problematic pump-driven drainage system presently operated by the Riverside County Transportation Department.



Frank Avenue's sump and project alignment



12. **Gavilan Hills-Smith Road Channel & Debris Basin Habitat Mitigation Plan (2-8-00290-00)**

- The original project consisted of a 54 acre-foot debris basin at the southerly end of Smith Road and a concrete rectangular channel extending northerly to Cajalco Road. Construction of the dam was completed in 2005. Mitigation required for the basin project includes removal of non-native vegetation, debris and remnants of abandoned structures as well as regrading and establishment of native vegetation. The mitigation work was placed in a separate contract which was awarded to Pacific Restoration Group, Inc., in October 2008. Except for the ongoing 1-year "gardening" period to assure that the new native landscape becomes established, this project is complete.

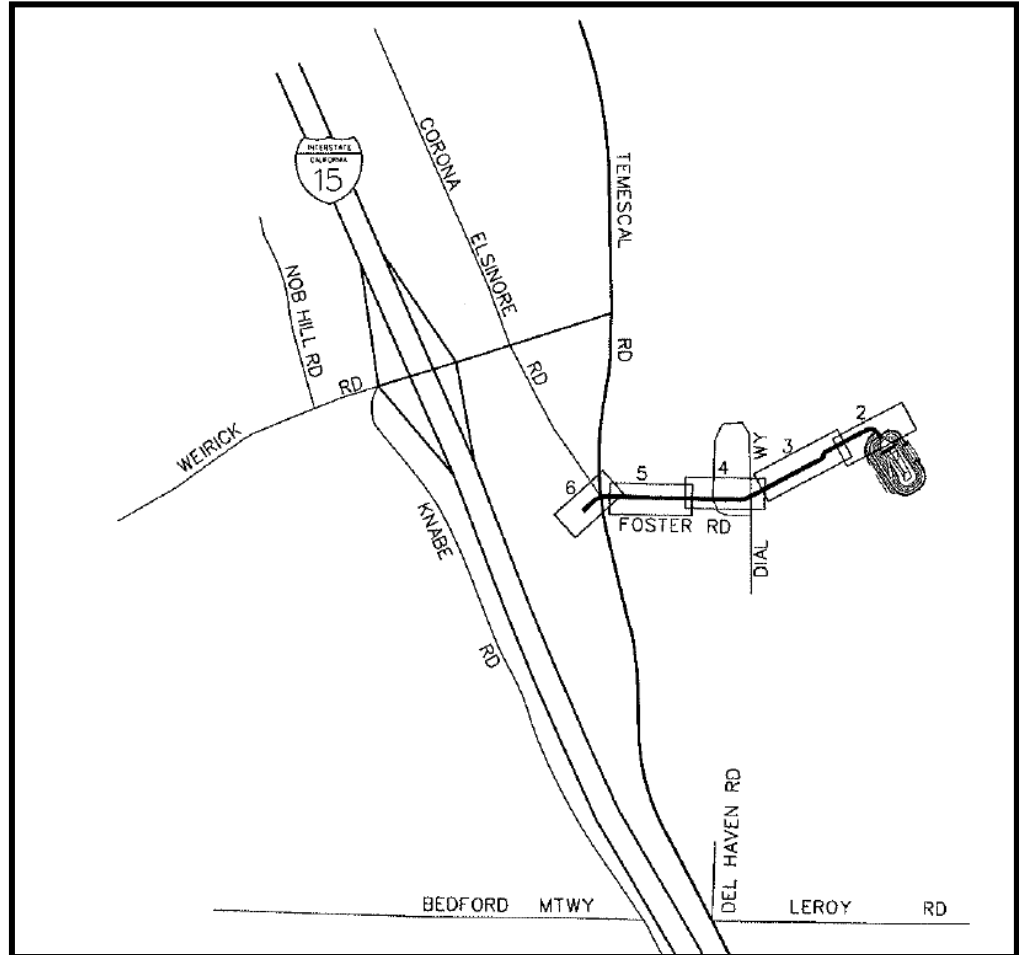


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13. **Corona Drains Line 52 (2-8-00350-01)** - This project was originally planned as an underground storm drain in the City of Corona extending from East Grand Boulevard north in Joy Street to Temescal Creek Channel. Design began on this project in 2003 at which time it was discovered during a field check of the preliminary drawings that a recently installed Edison conduit in Joy Street overlapped the only viable alignment for the storm drain. The street is so heavily laden with utilities there is no longer room to install a storm drain. The District investigated other alignments and determined the likely best alternative is for the storm drain to begin at Grand Boulevard near Howard Street and extend westerly to Temescal Creek Channel along the BNSF Railroad. The City of Corona has asked to take the lead on design and construction of this project and we should be able to execute the cost-sharing agreement in January 2010.

14. **Ontario Avenue Storm Drain (2-8-00351-01)** - This project is an underground storm drain in Ontario Avenue extending upstream from the District's existing El Cerrito Channel at El Cerrito Road about 3,000 feet to State Street just west of Interstate 15. A relatively strong early season storm on November 30, 2007 produced significant flows which created flooding problems north of Ontario Avenue. The facility was originally planned to cut off flows approaching Ontario Avenue from the south. Because of problems caused by the November 2007 storm the City has asked the District to revise the earlier design concept to accommodate flows from a new shopping center on the north (downhill) side of Ontario Avenue. Collecting flows from the shopping center will require a deeper storm drain than originally contemplated. Deep trenching in a street with major utilities will be a significant construction challenge. The design drawings are essentially complete and the project should be ready to be advertised for bid by the end of February 2010.

15. **Temescal Creek-Foster Road Storm Drain (2-8-00493-01)** - This project is an underground storm drain in Foster Road extending from Interstate 15 to Temescal Creek. Design mapping for this project is complete. Preliminary work on this project has begun with the focus on the outlet into Temescal Wash where the Riverside-Corona Resource Conservation District owns right of way. This project will incorporate a basin upstream of the outfall to protect the in-stream resources in Temescal Wash.



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