



State Route 241 Tesoro Extension Project Water Quality and Environmental Measures

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THE TOLL ROADS OVERVIEW



- 51 miles of an existing regional network
- 21 percent of Orange County Highway System
- 250,000 trips on a typical weekday
- Close critical gaps in the transportation network
- Provide sufficient right-of-way to allow future mass transit
- Ensure transportation system of redundancy, travel, safety and reliability
- Improve air quality to protect the environment and health of residents

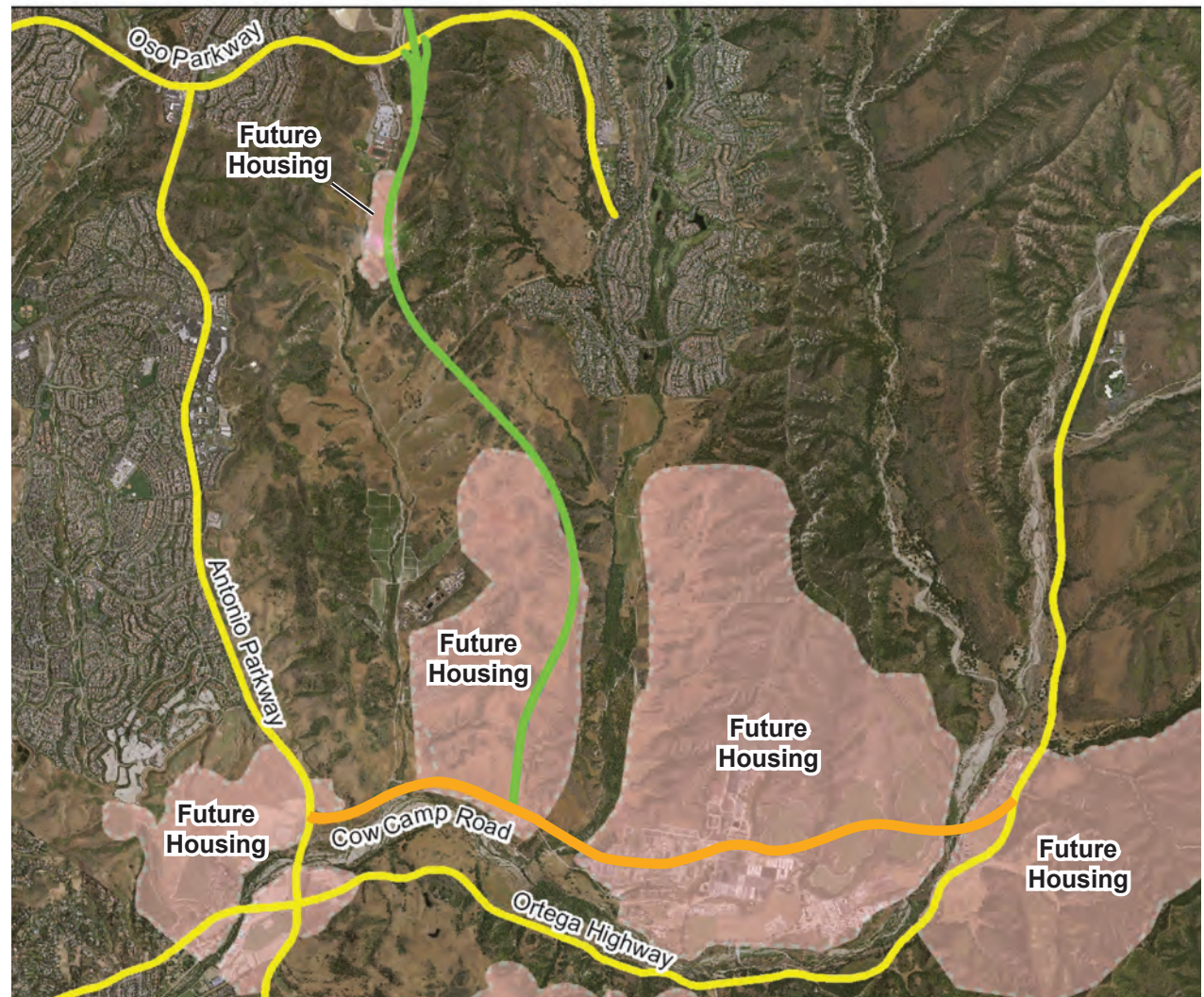
SR 241 TESORO EXTENSION PROJECT OVERVIEW

The proposed project is an approximately 5.5-mile extension of the existing State Route (SR) 241 Toll Road from its current terminus at Oso Parkway to Cow Camp Road immediately north of SR 74 (Ortega Highway) in Orange County.

- It includes four general-purpose travel lanes, two in each direction.
- The center median, from Oso Parkway to Cow Camp Road would be revegetated with a native seed mix similar to the median along the existing SR 241 Toll Road north of Oso Parkway.
- The median offers future opportunities for bus rapid transit, light rail, or additional lanes as traffic conditions warrant.

During construction, the project will:

- Create more than 2,400 jobs
- Generate \$17.7 million in state and local taxes
- Provide \$380 million of economic output for the state



Purpose of the Project

The purpose of the proposed project is to:

- Reduce forecast deficiencies and congestion on I-5 and on the arterial network and local circulation system in south Orange County
- Transfer through-vehicle trips, particularly intra- and inter-regional trips between South Orange County and North Orange County and Riverside County, to portions of the regional highway system that have, or will have free-flowing conditions, thereby providing congestion relief on I-5
- Provide emergency access and an alternate evacuation route in South Orange County in concert with other improvements
- Improve regional goods movement



ENVIRONMENTALLY SENSITIVE DESIGN

The 241 Tesoro Extension Project is designed to have minimal impact on the environment.

- 0.4 acre impact to surface waters of the state.
- 48 percent of the road is within areas already approved for development (Ranch Plan).
- 100 percent avoidance of surface waters under the jurisdiction of the U.S. Army Corps of Engineers.



Typical areas avoided

Typical areas avoided

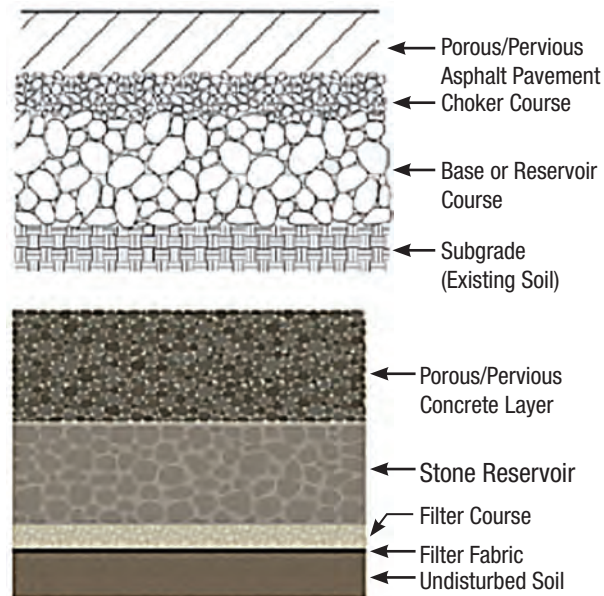
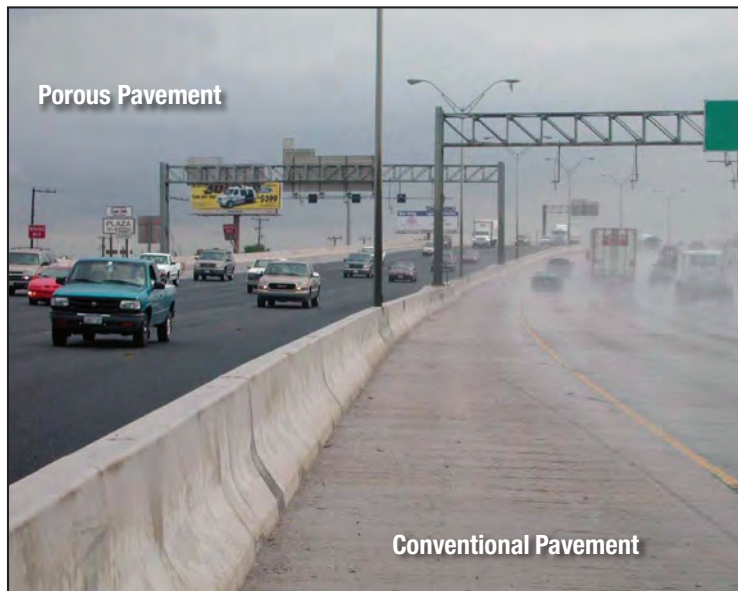


STATE-OF-THE-ART WATER QUALITY MEASURES

A number of water quality treatment processes will be incorporated into the plan to manage runoff during storms and ensure roadway runoff is treated before reaching nearby streams. This “treatment train” provides multiple lines of stormwater treatment in the effort to go above and beyond the required measures.

1. Permeable Friction Course (“Porous/Pervious Pavement”)
2. Extended Detention Basins
3. Biofiltration Swales/Strips
4. Austin Sand Filters
5. Vegetated Slopes and Medians

1. Permeable Friction Course

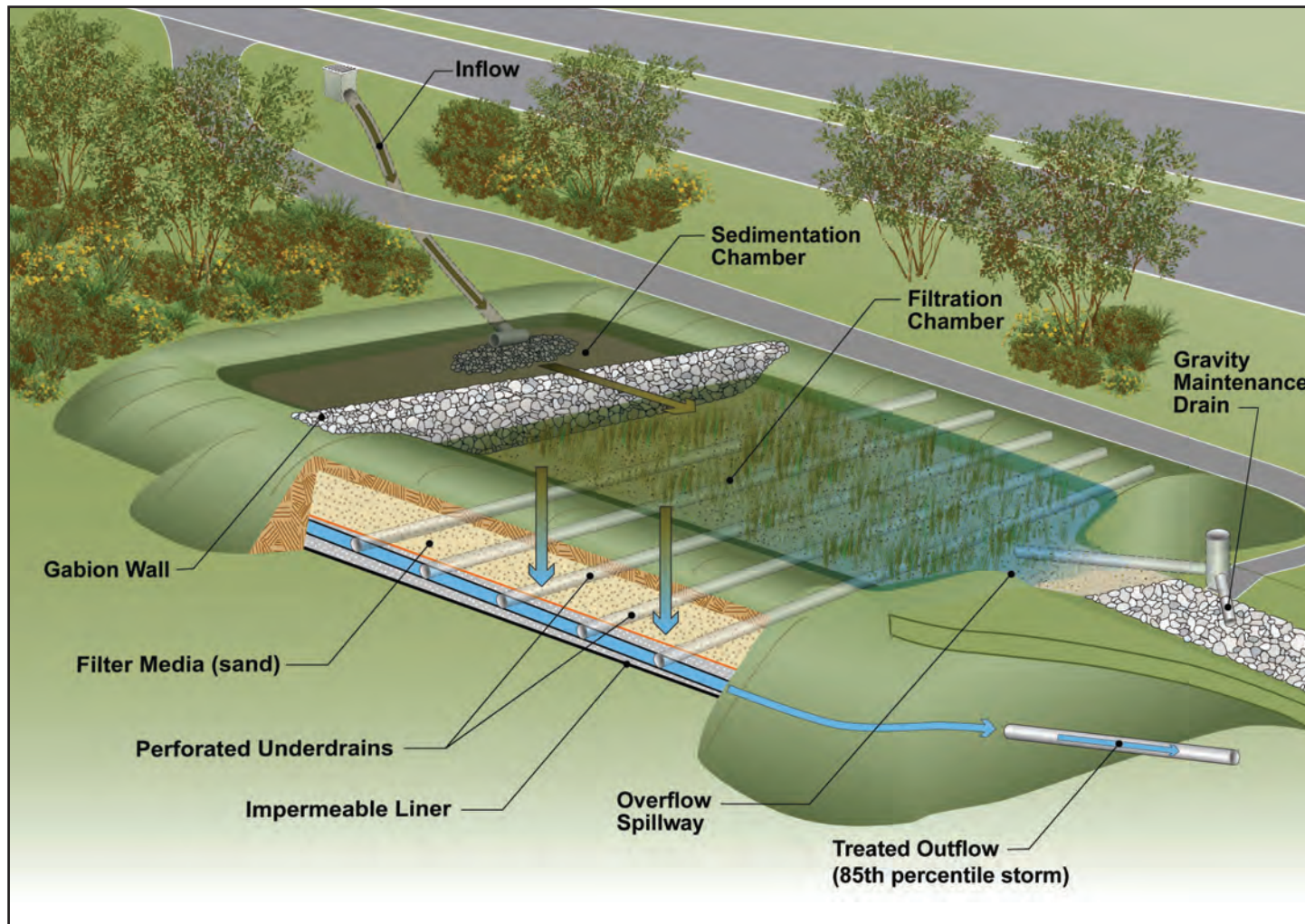


BENEFITS:

- Eliminates toxic leaching.
- Temporarily stores surface runoff before infiltrating into the subsoil.
- Significantly reduces amount of land needed for storm water management measures.
- Increases groundwater recharge.
- Reduces pollutants in storm water runoff.
- Helps alleviate flooding and contamination to streams.

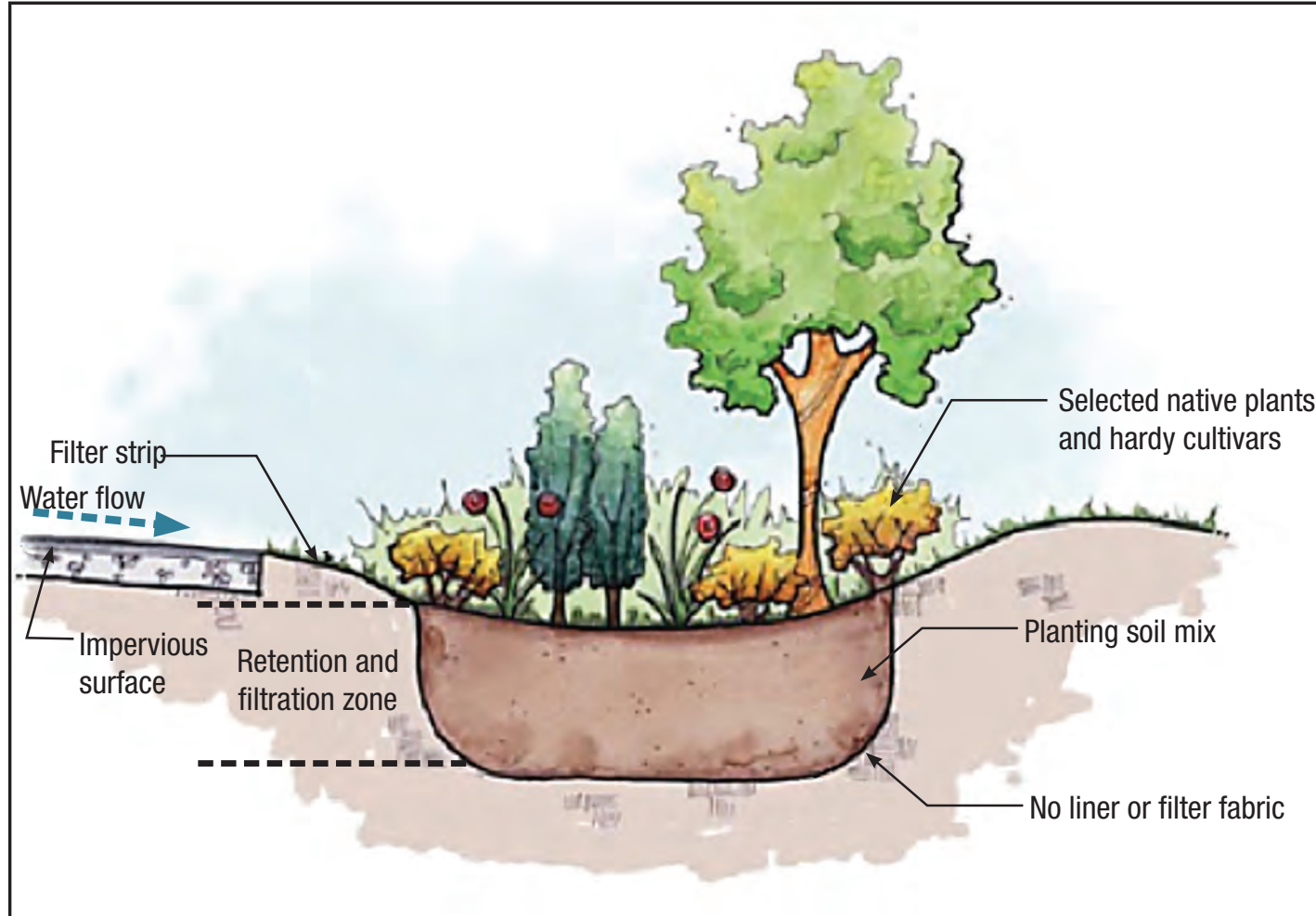
Permeable friction course is an innovative roadway overlay material that allows rainfall to slowly drain through the pavement instead of quickly running off the roadway. This high-tech surface reduces highway traffic noise and water pollution, improves drivability in wet weather through reduced splash and spray, reduces risk of hydroplaning, enhances visibility, reduces glare and improves traction. Although it is not a project requirement, the entire 241 Tesoro Extension Project is designed with this permeable friction course to make the roadway safer and to reduce stormwater runoff.

2. Extended Detention Basins



- An extended detention basin is a permanent device that temporarily detains stormwater runoff under conditions such that sediment and particulates are able to settle before the runoff is discharged.
- Detention basins remove constituents by capturing, temporarily detaining and gradually releasing stormwater runoff.
- The constituents removed include litter, solids large enough to settle (debris), total suspended solids, and pollutants that are attached (adsorbed) to the settled particulate matter.

3. Biofiltration Swales/Strips



- Biofiltration swales (bioswales) are vegetated channels that receive directed flow and convey stormwater. Biofiltration strips (biostrips) are vegetated sections of land over which stormwater flows as overland sheet flow.
- Pollutants are removed by straining through the grass, sedimentation, adsorption to soil particles and infiltration into the soil.
- Key component of the “treatment train.”
- Bioswales have good removal efficiencies for pollutants of concern such as metals and total suspended solids.

4. Austin Sand Filters



Five Austin sand filters (ASF) are proposed. Similar to a household faucet water filtration system that takes out impurities in drinking water, the ASFs rid rainwater of harmful pollutants before reaching any waterways.

- Media filters primarily remove particulates from runoff by sedimentation and filtration and also are effective for removing dissolved metals and litter.
- An ASF typically has an open top, is designed at grade, and has no permanent water pool.
- ASFs are extremely effective, especially when coupled with the other best management practices (BMPs), as proposed.

5. Vegetated Slopes and Medians

The 241 Tesoro Extension Project plan calls for vegetated medians that will also filter stormwater runoff.



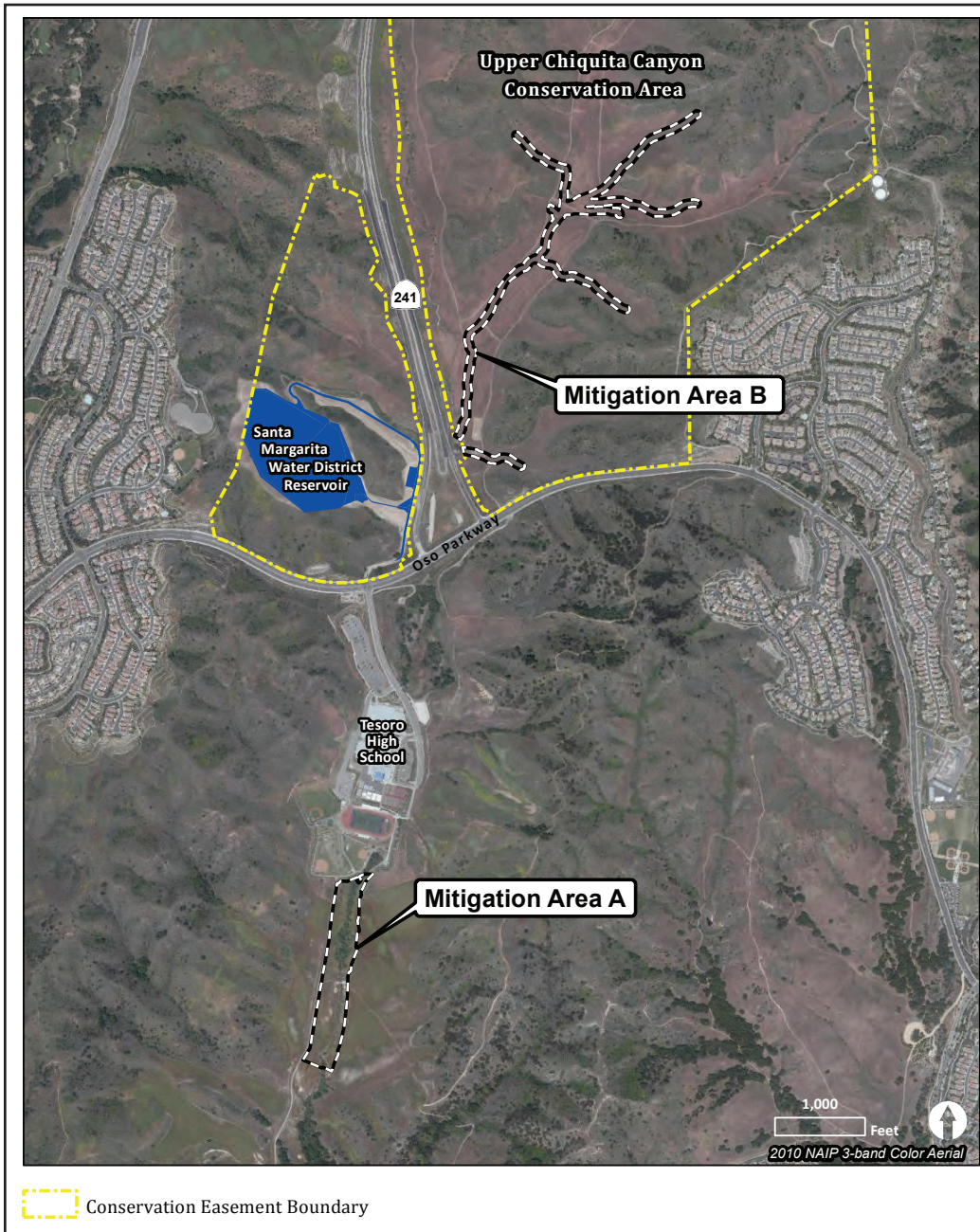
OTHER ENVIRONMENTAL CONSIDERATIONS

Wildlife Crossings

TCA worked closely with wildlife experts to design four wildlife crossings along the 241 Tesoro Extension Project alignment. These bridges and tunnels will allow animals to safely continue their natural movement patterns through adjacent open space.



Compensatory Mitigation Plan

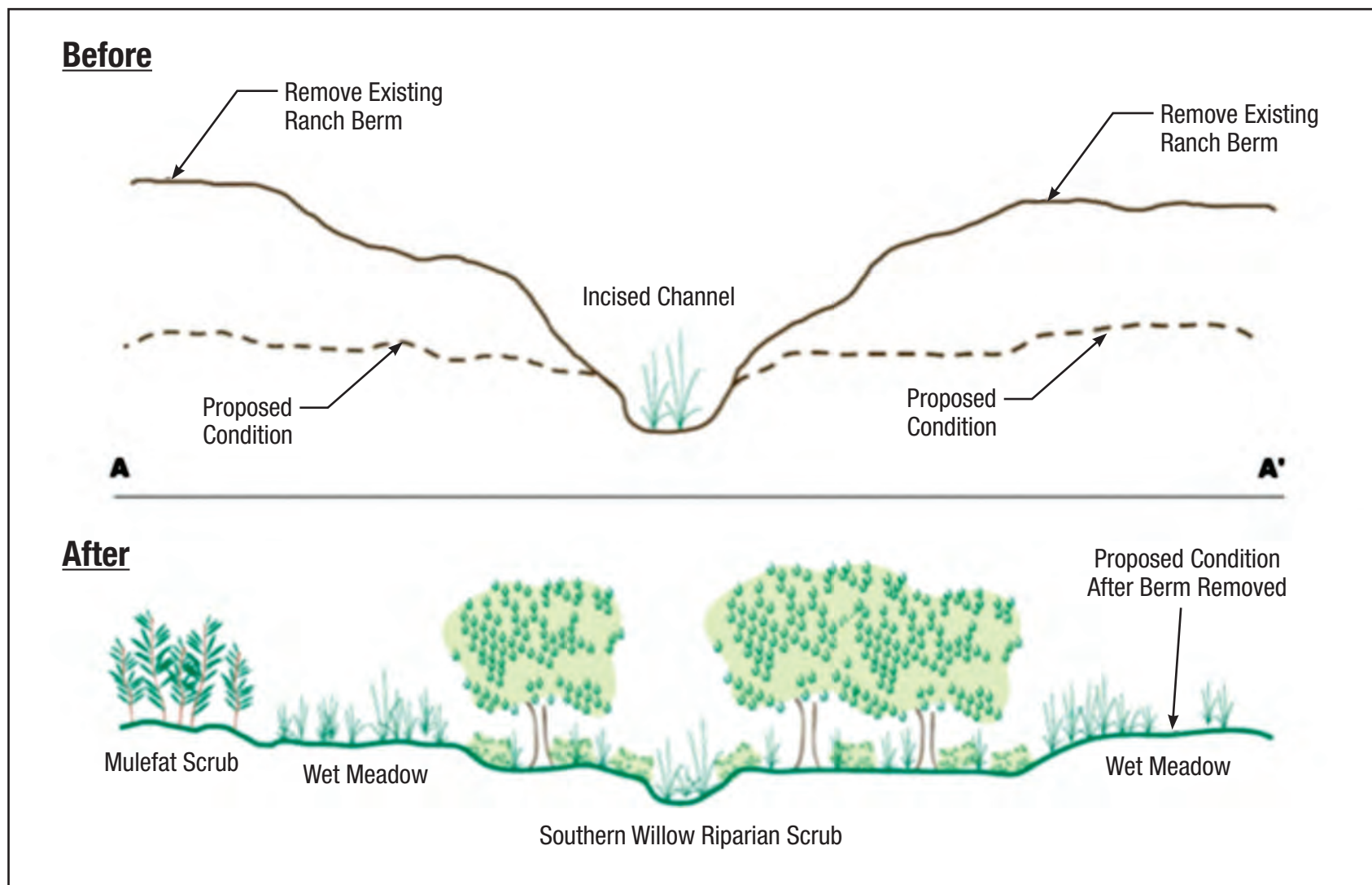


To compensate for unavoidable permanent impacts to Regional Water Quality Control Board and California Department of Fish and Wildlife areas, TCA is proposing two mitigation areas:

- Mitigation Area A is below Tesoro High School and is approximately 15.96 acres. It is located along Chiquita Creek and one of its tributaries.
- Mitigation Area B consists of 18.86 acres and is located in the Upper Chiquita Conservation Area. It is also the headwaters of Chiquita Creek.
- The entire mitigation plan is comprehensive in that it is connecting large bodies of open space areas and is contiguous to each other.

Before and After Mitigation Concept

Mitigation will include the creation and/or restoration of wet meadows, mulefat scrub, willow woodlands, sycamore trees and reestablishment of drainages that have been cut off from ranching activities. Buffer areas will also be created adjacent to these drainages which are important to promote surface water flow, restore floodplain areas and reduce erosion.



Typical Mitigation



SUMMARY

The 241 Tesoro Extension Project is intentionally designed for low impact on the environment. TCA has a proven track record of providing projects that are constructed in an environmentally sensitive manner and incorporate long-term, sustainable design features. To date, TCA has conserved more than 2,200 acres of valuable open space in Orange County. The TCA will continue its steadfast commitment to protecting the environment with the 241 Tesoro Extension Project. Utilizing state-of-the-art project design features, the 241 Tesoro Extension Project will not only provide traffic relief for the region, but also a comprehensive environmental program that includes stormwater treatment features, habitat mitigation plans and wildlife protection.

