

Chula Vista, San Diego County's "Greenest" City, uses Modular Wetlands

Third Avenue Retail Center Goes Green

The Situation

It is Chula Vista's forward-thinking approach to their environmental conservation efforts that has landed them the title "Greenest City." It was presented with the "Cool City Award" by the Sierra Club's San Diego Chapter because of its leading role in reducing its municipal global warming footprint. Chula Vista means "Beautiful View" in Spanish and falls nothing short of it. Located less than ten miles from downtown San Diego and the Mexico Border, it is the second largest city in San Diego County.

The Chula Vista Nature Center is internationally recognized and promotes interactive exhibits to educate people about the San Diego Bay and Sweetwater Marsh. The numerous exhibits, from a shark and ray tank to hummingbird and butterfly nature preserve, explain the history, geology and ecology of the surrounding area. The fast growing city of Chula Vista has one of the leading stormwater programs in the state. The city is on the cutting edge of stormwater technology, and actively seeks the most innovative treatment technologies.

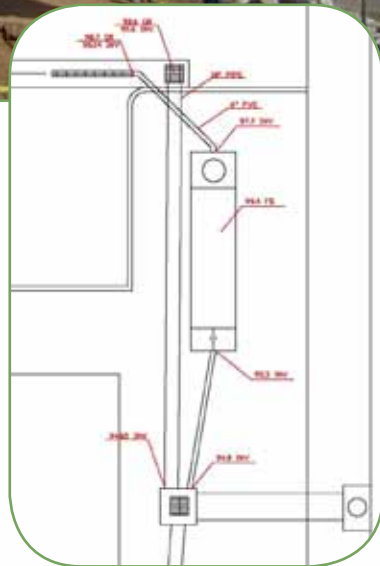
The design staff at Modular Wetlands was contacted in March 2008 by the project engineering firm, Joseph C. Truxaw & Associates, Inc., to assist in stormwater compliance for a retail & medical office complex located at 1310 Third Ave., just south of Palomar St. This 1.18 acre site will host two main buildings totaling 14,360 square feet of multi-tenant use, and 50 plus parking spots. The engineer, Greg Newman, had already designed the drainage layout, but still needed to incorporate a filtration system that would treat the parking lot runoff. The engineer wanted to continue the city's "green" theme and turned to a natural BMP.



The Challenge

The only area available for a natural BMP system on this site was located on the backside of the land, where a non proprietary bioswale would be used to treat roof water runoff. There was no other space along the front curb side for a bioswale. The only area available was approximately five feet back from the curb face in the middle of a small landscape area. Like many if not all projects, space constraints posed a challenge.

Runoff from the parking lot drains to the central ribbon gutter which flows from the backside to the front side of the parking lot. The ribbon gutter



About Modular Wetlands

A new and revolutionizing product from Bio Clean is the Modular Wetland System (MWS). This system is the industry's first hybrid stormwater treatment system. While most systems utilize a single treatment method, the MWS incorporates a combination of many. It removes trash, floatables, oil and grease, sediments, heavy metals, nutrients and bacteria. Perfect for GREEN design and sustainable projects. For more information on MWS visit www.modularwetlands.com.



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drains to the catch basin which then discharges to the street. Regulations require the runoff to be treated before reaching the street. Because the engineer already had an existing layout, it was important to design a configuration that would not change the current drainage layout.

Like most small commercial/industrial sites the pollutants of concern are trash and debris, oil and grease, bacteria and viruses, and oxygen demanding substances.

The Solution

A few design configurations were presented to them by the engineers at Modular Wetlands. All of these configurations were offline because high flows needed to bypass the system, while low flows would be treated as specified by the San Diego Regional Water Quality Control Board.

The configuration chosen was a new design concept which placed a section of trench drain in the bottom of the ribbon gutter just prior to the catch basin. The ribbon gutter would intercept low flows to the Modular Wetlands. Higher flows would bypass over the trench drain and into the catch basin which then drains to the street.

The Modular Wetlands System-Linear Vault Type was used for this project. This 22' long system can treat up to 1.4 acres assuming a .95 impervious coefficient. The system was installed mid December of 2008. Native plants were used to blend in with the surrounding landscape, which require very little long term maintenance, and decreased amount of water needed for landscape areas.

The Result

Building in Chula Vista, whether new residential or commercial construction, additions or remodels means being environmentally conscious. The city recently implemented a "Green Building Standard" which will ensure new structures are energy efficient, water conserving, recycle friendly and low maintenance. It's a whole system approach to design, construction and operation of building.

The engineer was very proactive in finding a stormwater filtration device that would be acceptable for such a successful leader in "Green Design". The MWS-Linear has only been in the ground one year and so far proved that such a compact system can be mighty and yield excellent removal rates.



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