Water Conservation
Featuring Aqualastic™

Project:
Roza Irrigation District Main Canal Rehabilitation Project

Location:
Sunnyside, WA

Contractor:
Matheson Painting

System:
Aqualastic™

Total Area:
Numerous cracks in 7,200 Linear Feet in main canal

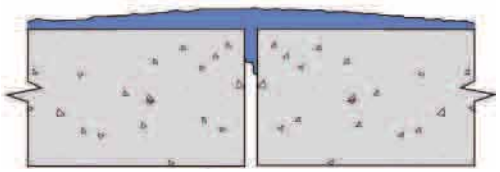
Completion Date:
Winter 2006

PROBLEM:
Two 3,600 linear ft. sections of the main canal had substantial leaks due to a number of cracks in the concrete. The cracks were caused by expansion and contraction from seasonal freeze thaw cycles.

SOLUTION:
The project involved spray applying Aqualastic™ on the cracks, which has now been successfully fielded for 9 years. The objective was to eliminate enough leakage, before the next water shortage, to make application of the product cost effective. The project would have to eliminate at least 88% of leaks to be successful.

Project preparation entailed sand blasting a 3 to 4 inch wide strip on each side of the cracks in the concrete. The contractor then applied approximately 80 mils (2 mm) of Aqualastic™ to the cleaned strips, bridging the cracks to create a water-tight seal to eliminate the water loss.

RESULTS:
After completion of the project it was calculated that Aqualastic™ eliminated 99% of leaks, far exceeding the required 88%. Wayne Sonnichsen, of Roza Irrigation District, reported that prior to the project, the estimated water loss was 1,220 acre-feet per irrigation season. During the 2007 irrigation season total water loss was approximately 14 acre-feet, for a net savings of 1,206 acre-feet. Sonnichsen estimated net water savings from this project will have a monetary value of $143,500.00 annually. The project will more than pay for itself during the next drought season.



Aqualastic™ bridges cracks to accommodate expansion and contraction from freeze-thaw cycles unlike conventional caulk/joint fill products.

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Landscape & Water Features

Featuring Polyshield HT™

Project:
Private Ranch
Water Features & Ponds

Location:
Solvang, CA

Applicator:
Poly Coatings, Inc.

System:
POLYSHIELD HT™ Polyurea
80 - 130 mils, Sand Color

Total Area:
24 Ponds Averaging 4,000 To 12,500 Square Feet, Multiple Stream Beds, Culverts And Filtration Basins, Transition Tanks For Koi Acclimation

Completion Date:
June 2008

PROBLEM:

Many factors are considered when selecting a pond liner: marine life safety, chemicals leaching into the water, and avoiding unsightly liner folds that accumulate gas pockets which may cause bacterial and fungal infections. If necessary, the material needs to be strong enough to handle high pressure washings.

The liner would be required to adhere to a variety of substrates and blend in with the environment. It also needs to be able to handle heavy boulders placed over it without tearing or fatiguing.

SOLUTION

Poly Coatings, Inc. (PCI) chose SPI's Polyshield HT™ polyurea because of its extreme durability and water resistant, elastomeric properties.

HPDM liners were eliminated due to the folds and seams, and possible risk that they would separate while the boulders were put in place.

The contractor lined the pond basin with Amoco 1198 geo-textile fabric. Sand colored Polyshield HT™ polyurea was spray applied on top of the geo-textile fabric at 130 mils (basin) and 80 mils (perimeter walls). The coating was successfully tested for water leaks. Placement of heavy boulders did not damage the liner.

RESULT

The client was happy with the performance and appearance of SPI's Polyshield HT™, but was also pleased with the time and cost savings achieved by using the seamless liner.

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Water Proofing

Featuring Polyshield SS-100®

Project:
Fountain of the Flags

Location:
Fairbanks, AK

Owner:
University of Alaska

Applicator:
Vertex

System:
60 mils POLYSHIELD SS-100® HP (high pigment)

Total Area:
3,000 square feet

Completion Date:
Summer 1995

PROBLEM:

Microscopic cracks were found in the original epoxy coating of a 3,000 sq. ft. water feature, "The Fountain of the Flags" at the University of Alaska, Fairbanks. These cracks were causing leaks with a daily loss of thousands of gallons of water. The water was making its way into the plumbing corridor under the fountain, which potentially could be a serious and expensive problem if left untreated.

The University needed a quick solution with a fast-set, elastomeric Polyurea that could be applied over the prepared concrete.

SOLUTION:

They chose Polyshield SS-100® because it forms a seamless, crack-bridging membrane that prevents water leakage. With high pigment added for color stability, Polyshield SS-100® was applied at 60 mils. The polyurea protective coating created a watertight seal.

RESULTS:

University officials were relieved to have a reliable waterproof coating in place to protect the water feature's concrete surface. In a follow up inspection (summer 1996) the coating was performing well, with no loss of water and no discoloration.

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Pond Restoration and Leak Prevention

Featuring Polyshield SS-100®

Project:
Volunteer Park
Lily Ponds

Location:
Seattle, Washington

Owner:
Seattle Parks & Recreation

Applicator:
CDI Coatings, Inc.

System:
Polyshield SS-100®
over SPI Polyprime-100™

Total Area:
Two tanks (3,600 sq. ft.)

Completed:
July 2003

PROBLEM:
100-year old twin concrete lily ponds in the heart of Seattle's Volunteer Park fell into disrepair. Once the concrete ponds were damaged beyond repair, they were drained of water and lilies, and sat unused for over twenty years.

In 2003, plans were made to restore the ponds to their former grandeur. The Seattle Parks and Recreation Department wanted a long lasting protective coating that would allow park visitors to enjoy these ponds for years to come.

SOLUTION:
SPI's Polyshield SS-100® was chosen because of its durability, elongation, and hydrophobic properties allowing for application to damp, cool surfaces. The old concrete surface was prepared by pressure washing and concrete patching. The concrete surface was primed with SPI's Polyprime-100™. Next Polyshield SS-100® was applied at thickness of 125 mils.

RESULTS:
The ponds were inspected by a Seattle Parks and Recreation official two years later. There were no leaks and the coating was still firmly adhering to the concrete.

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Water Conservation

Featuring Polyshield SS-100®

Project:
Restoration of
Metal Irrigation Flumes

Location:
Kennewick, WA

Owner:
Columbia Irrigation District

Applicator:
Matheson Painting

System:
Polyshield SS-100®

Total Area:
26,000 square feet

Completion Date:
March 2000

PROBLEM:

Three galvanized steel flumes originally constructed in 1984 were corroded and leaking. The replacement of the flumes and other repair methods were evaluated, but not feasible due to cost. The irrigation district chose Polyshield SS-100® for its corrosion resistance, its ability to bond to steel, and it was determined to be the most economical solution.

SOLUTION:

Preparation of the flumes consisted of grit-blasting a 3 to 4 mil anchor profile. One flume was so badly corroded that blasting created holes in the steel.

Polyshield SS-100® was used to coat the outside of the flume. This section then acted as a mold-form for the interior to be blasted and sprayed. The result was a new flume section consisting of SPI Polyshield SS-100® applied at 50 mils to the exterior and 100 mils on the interior of this section.

RESULTS:

In 2008, Tom Matheson of Matheson Painting re-inspected the flumes. Matheson stated that initially the Polyshield SS-100® system was to be a temporary fix. Nine years later, not having to replace the steel, it is estimated to have saved the owner over $3,000,000.00. Matheson went on to say, "There is no sign of wear, and the product is performing like new."

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Water Tank/Concrete Restoration

Featuring Aquaseal™

Project:
Water Tank/Concrete Restoration

Location:
Oyster Bay, NY

Owner:
Water Authority of Oyster Bay

Applicator:
Delphi Engineering

Coating System:
AQUASEAL Synergy Series™
Polyurea Coating - 80 mils

Total Area:
30' diameter x 2 1/2" high

Date Completed:
June 2010

PROBLEM:
The Water Authority of Oyster Bay, NY wanted to eliminate the moisture zone between the concrete and steel base of a water tower. Condensation would occur, due to the humid climate, and run down the side of the tank, gathering at the seam between the concrete and steel. This moisture problem was causing the concrete to spall and the steel to deteriorate from rust.

SOLUTION:
Nick Pjatikin, of Delphi Engineering, installed Aquaseal Synergy Series™ polyurea using SPI's LPG™ (Low Pressure Gear) mobile equipment. The polyurea seamless liner bridged the steel tank, concrete foundation, and anchor bolts. This provided a seamless, water-proof, protective liner that fully adhered to all of the substrates.

Prior to the application of polyurea, the Delphi applicators prepared the multiple surfaces to ensure proper adhesion. The concrete was media blasted to remove all debris particles and damaged concrete. The freshly painted steel was scuffed to take off the shine and provide an anchor profile to promote better adhesion.

The applicator spray-applied 80 mils of Aquaseal™ polyurea. Finally, a two part urethane paint was added for U.V. color stability and aesthetic purposes to color match the rest of the tank.

RESULTS:
Oyster Bay Water Authority officials appreciated the value of using polyurea as a protective coating to prevent further steel corrosion and concrete spalling. Their decision to retrofit the water storage tank with SPI's Aquaseal Synergy Series™ polyurea provided a tremendous cost savings by eliminating the need to decommission and replace the entire tank.

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