



Delivering Concrete Solutions



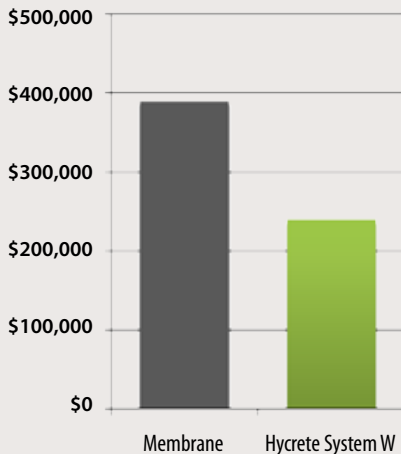
University of Washington Medicine, Seattle, WA



If a membrane is used behind a wall or under a slab there is no way to repair it if it develops a leak. Water will continue to travel to find the nearest crack. When there is a breach in waterproof concrete you know where the problem is and it can be addressed.

Jack Avery, Senior VP, Director of Construction  
Sellen Construction

Comparative Material Costs



CASE STUDY

# University of Washington Medicine Seattle, WA

## Hycrete Saves 4,000 tons of CO<sub>2</sub> by Eliminating De-Watering Pumps for University of Washington Medicine

Structure:

- Two laboratory buildings
- One office building
- Below-grade parking

Application:

- Foundation walls
- Structural slab
- Fire suppression tank
- Temporary roof
- Elevator pits

Developer: **Vulcan Real Estate**  
 Owner: **U.W. Medicine**  
 General Contractor: **Sellen Construction**  
 Architect: **Perkins + Will**  
 Structural Engineer: **Magnusson Klemencic & Associates**  
 Civil Engineer: **Coughlin Porter Lundeen**  
 Ready Mix Provider: **Stoneway Concrete**

### Introduction

U.W. Medicine Phase II consists of two five story laboratory buildings and one five story office building. The buildings are above three floors of below-grade parking.

### Challenge

To meet the parking requirements for the project, the lowest parking level had to be constructed eight feet below the existing water table, necessitating a solution capable of withstanding high hydrostatic pressure.

### Solution

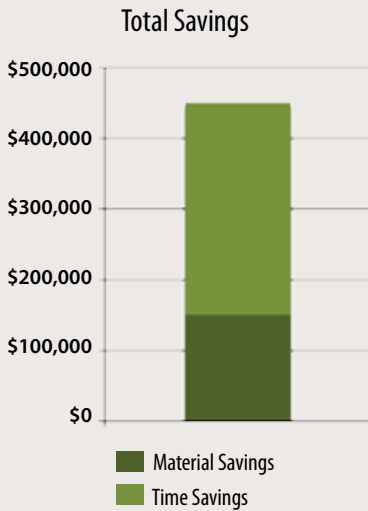
Hycrete System W offered superior performance to other waterproofing systems, was more cost-effective and accelerated the construction schedule. Using Hycrete System W eliminated the need for waterproofing membranes and saved Sellen Construction approximately \$150,000 up-front in material savings.

### Material Savings

Location	Membrane			Hycrete System W	
	Type	Area (ft <sup>2</sup> )	\$/ ft <sup>2</sup>	\$/ ft <sup>2</sup>	Savings
Slab on grade	Rubberized Asphalt	55,950	\$6.00	\$3.70	<b>\$128,685</b>
Foundation Walls	Bentonite	9,600	\$6.00	\$3.70	<b>\$22,080</b>

**Total Material Savings = \$150,000**

Pumps eliminated	8
Power per pump	24,177 kWh per year
Lbs. CO <sub>2</sub> per kWh	1.34
Annual savings	129 tons of CO <sub>2</sub>
Building life	30 years
Total savings	Almost 4,000 tons of CO <sub>2</sub>



“ Using Hycrete System W proved to be the most cost effective way to waterproof the structure. Hycrete was chosen because it did not have any negative effects on the workers placing the concrete and there were no environmental concerns associated with its use. ”

Jack Avery, Senior VP/ Director of Construction.  
Sellen Construction

In addition, using the Hycrete System W saved 30 days on the critical path (20 days on the slab on grade and 10 days on the foundation walls), totaling \$300,000.

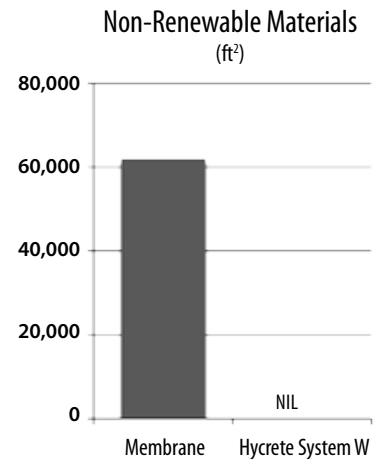
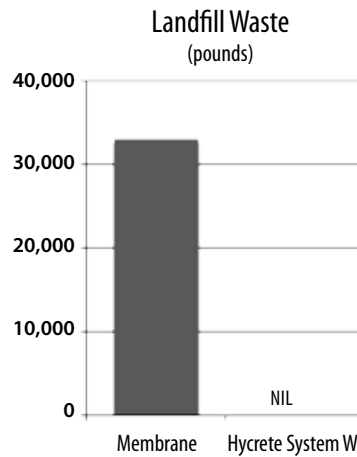
### Time Savings

Location	Membrane Type	Membrane Critical Path	Daily Cost	Hycrete System W Savings
Slab on grade	Peel and stick	20 days	\$10,000	<b>\$200,000</b>
Foundation Walls	Bentonite	10 days	\$10,000	<b>\$100,000</b>

**Total Time Savings = \$300,000**

### Results

Total material and time savings are \$450,765. On top of CO<sub>2</sub> savings associated with eliminating de-watering pumps, eliminating waterproofing membranes saved over 33,000 pounds of landfill waste, 16,000 pounds of asphalt, 1,100 pounds of VOCs (volatile organic compounds), and 62,000 square feet of non-renewable materials.



Concrete with Hycrete System W – quick and easy. No membrane required under slab or on walls. No surface preparation. No waiting for favorable weather. No finger pointing.