



Dundee Elementary Green Infrastructure Outdoor Classroom

310 N 51st Street, Omaha, NE

City of Omaha Stormwater Program & Dundee Elementary School

SITE AND PROJECT SUMMARY

This project was initiated by faculty and parents from Dundee Elementary who wanted to address multiple stormwater runoff issues on the north side of the school through the creation of an outdoor classroom. The goal for the outdoor classroom is to help teach faculty, students, and parents the value of managing water in a sustainable manner through the use of green infrastructure principles and practices. This project was a collaboration between the City of Omaha Stormwater Program, Keep Omaha Beautiful, Omaha Public Schools, and Dundee Elementary Faculty, Staff, and Parents.

Completed in the Summer of 2017, the outdoor classroom occupies the entire northeast side of the school, along Chicago St & N 51st St. The site incorporates a 1,800 ft² tall grass meadow, three rain gardens interconnected with bioswales, and two patio areas and a 65-foot long driveway consisting of permeable pavement. An 80-foot long flagstone path meanders through the tall grass meadow and crosses over a section of the bioswale on the east side of the site. The swale crossing path spans 15 feet and incorporates about 90 ft² of recycled concrete slabs saved during demolition.

In total, there are three roof drains that direct roof runoff into the outdoor classroom. Two drains empty directly into the bioswales and rain gardens on the east and west sides of the site. The third roof drain empties into a 500 gallon galvanized steel water tank adjacent to the school. This rain silo contains a water spigot with a hose attachment at its base, providing a way to water plants on site. The rain silo is fitted with a 6"

PVC bypass/overflow pipe that directs water underneath its concrete base and empties directly into the adjacent bioswale. The bypass feature allows water to be diverted when the silo is at full capacity and during cold weather in order to prevent freezing and potential cracks from occurring in the tank.

The Dundee Elementary outdoor classroom incorporated several green infrastructure elements to provide a unique opportunity for family-focused STEM learning, for both Dundee Elementary students and the surrounding community. This project was funded by grants from the Nebraska Department of Environmental Quality, the Papio-Missouri Natural Resource District, and the Nebraska Statewide Arboretum.



PROJECT DETAILS

	RAIN GARDENS	PERMEABLE PAVEMENT	RAIN SILO
System Footprint/Size	680 ft ²	3,305 ft ²	4' x 5'8" (W x H)
Total Managed Area	Approximately 0.6 acres or 26,150 ft ²		
Design Volume	405 ft ³	3,450 ft ³	66.8 ft ³ (500 gallons)
Predominate Existing Soil Types	Classic Urban Complex, Silty Clay		NA
Under-Drain	None	4" perforated PVC w/ 3/4" - 1" washed limestone	None
Pre-Treatment System	Bioswales	None	Basket screen
Outlet Control	Soft weir (low spot in surrounding berm)	None	Spigot, 6" overflow pipe & bypass valve

DESIGNED BY	CONSTRUCTED BY	MONITORING/ ASSESSMENT BY	MAINTENANCE BY
Burns and McDonnell & Vireo	Jensen Gardens	City of Omaha & Dundee Elementary School	Dundee Elementary School

SITE LOCATION – Chicago St & N 51st St



SUMMER 2017



PHOTOS



PROJECT LAYOUT

Dundee Elementary School Green Infrastructure Outdoor Classroom

