

CASE STUDY

Nyloplast[®], Duraslot[®] XL, N-12[®] Control Nebraska Fair Flooding Grand Island, NE

OWNER

Nebraska State Fair Board, Grand Island, NE

INSTALLATION DATE

Summer 2023

ENGINEER

Olsson, Grand Island, NE

PRODUCTS

500' (152 m) of 8" (200 mm) Duraslot[®] XL
900' (274 m) of 15" (375 mm) N-12[®]
12 Nyloplast[®] basins

CONTRACTOR

Elsbury Construction, Grand Island, NE

CHALLENGE

During the expansion of the Nebraska State Fair Fonner Park Campus, new buildings were added and an existing grass parking lot was paved to accommodate the growing needs of the state fair. However, stormwater drainage was not incorporated into the original improvements, leading to recurring flooding and persistent standing water throughout the area.

SOLUTION

Stormwater runoff was captured using Nyloplast basins installed throughout the parking lot, with diameters ranging from 15"-30" (375-750 mm). The basins were connected by N-12 high-density polyethylene (HDPE) pipe, which conveyed stormwater to Grand Island's city storm sewer, helping eliminate flooding and standing water on the site.

To manage runoff around the newly constructed bleachers, Duraslot XL trench drain pipe made from N-12 pipe with 5" (125 mm) wide grates was installed. Nyloplast drain basins were used within the Duraslot XL run as junction boxes and cleanouts, allowing for easy maintenance. Stormwater collected by the Duraslot XL system was conveyed to the city's storm system.



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ADS supplied the go-to products required for the project. Olsson and Elsbury Construction were well acquainted with the durability, safe handling, ease of transportation and cost efficiencies of ADS solutions. While this was Elsbury Construction's first experience installing a Duraslot product, the installation process was seamless.

PRODUCT DESCRIPTIONS

Duraslot XL trench drains provide superior hydraulic efficiency and flow capacity, while being engineered to handle heavy structural loads. The pipe is available in 6"-36" (150-900 mm) with 5" (125 mm) wide grates in either standard or pedestrian styles. Standard and variable slot height can be manufactured specifically for your project's needs. Duraslot is a cost-effective substitute for precast trench drains or cast-in-place trench drains with steel or cast iron grates.

N-12 dual wall pipe has a corrugated exterior and smooth interior wall that provide exceptional hydraulics, strength and corrosion resistance. N-12 is available in 4"-60" (100-1500 mm) diameters and in 20' (6 m) lengths to provide faster installation and lower installation costs. The integrated inline bell design allows for easy installation and eliminates chipping and cracking that is common to concrete bells. N-12 addresses subsurface and stormwater gravity-flow drainage needs.

Nyloplast drain basins and curb inlets were custom built for the project as they are for each application. Nyloplast products are more durable and corrosion resistant than precast basins and combine a rugged PVC structure with ductile iron grates. The basins can be easily adjusted in the field to meet the final grade. The structures are shipped with rubber gaskets to ensure a watertight connection.



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