

Hard Shell Scenery Process, by Bob McGeever

One of the scenes I wanted on my WSOR based layout was the old CNW track running along the shore of Devils Lake near Baraboo. I took snapshots with my smart phone as I built the scene. They are not award-winning shots, but they serve to illustrate the story of the construction of the scene.

Benchwork



The scene was planned to fill a loop back at the end of a peninsula. The outer width of the scene is 48 inches.

I model in N scale so I can use lightweight materials throughout the construction. Almost all the benchwork is made from select furring strips, dry wall screws and yellow wood glue with an occasional assist from some hot glue. The screws and hot glue were to hold everything in place until the wood glue set up.

Foam Insulation Decking



The benchwork was designed so 3 inches of foam insulation above the framing became “ground level”. Typically, my deepest valley is 2 inches below ground level so there is always an inch of foam to support the scenery work.

The foam is glued to the bench work with the cheapest latex caulk I can find.

There are two inches of foam below the loop back track bed. The large flat areas on the left-hand side of the photo are future industrial areas.

The track radius for the loop back is 20 inches. I have a design rule that the mainline track has to be recessed at least 3 inches from the front of the layout. That left a short straight section in the middle of the loop back.

I planned to have water about a half inch deep between the track and the fascia.

Some of the foam is recycled from my prior layout.

Screen and Ribs to Support Hard Shell

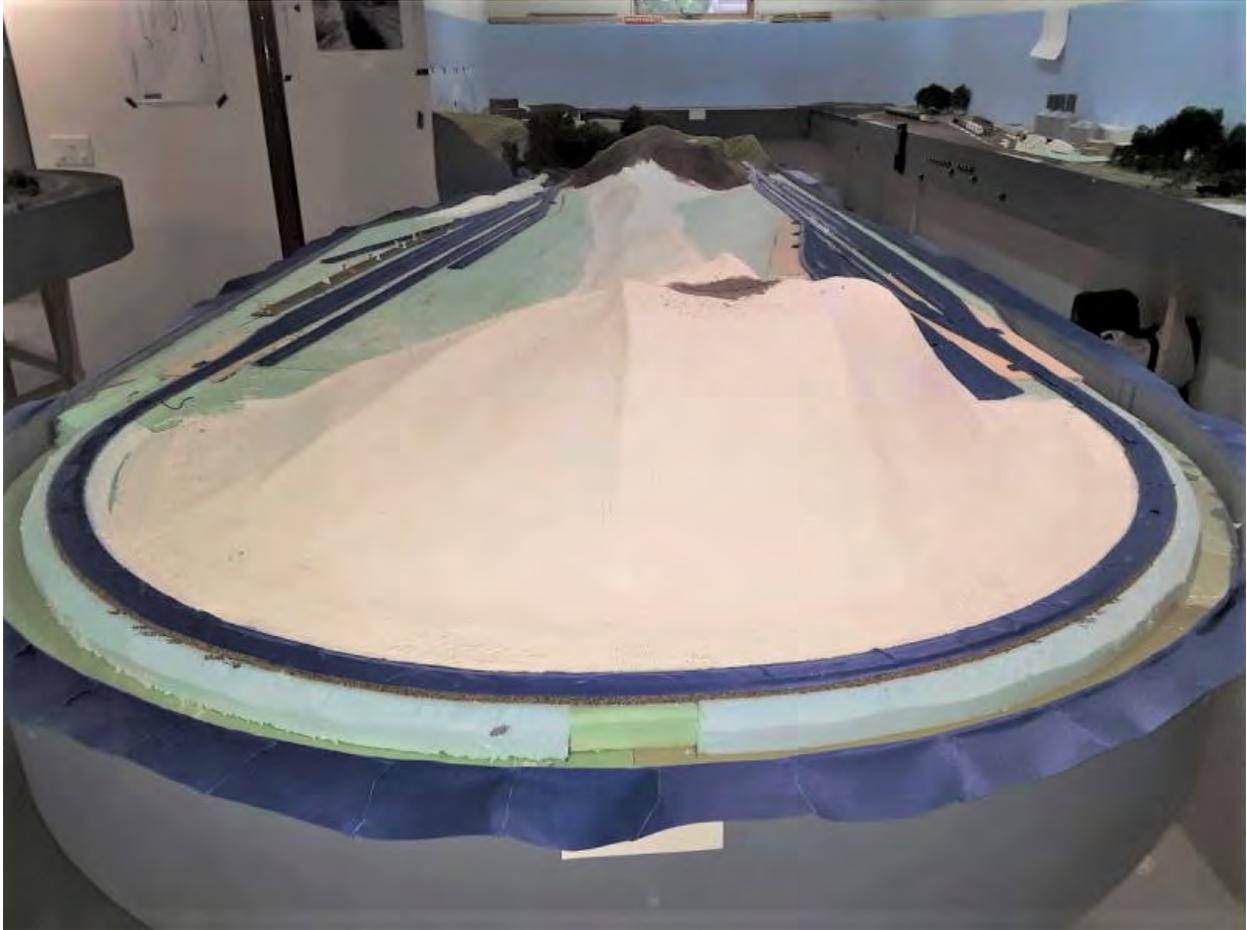


Some how I never took a snapshot of the screen and ribs used to support the hard shell for the Devils Lake scene. But I took shots for the scene across the aisle, and it illustrates the method.

Flexible plastic storm door screening is stretched over ribs of white foam board that has been cut and twisted to the desired contours. All the ribs are held in place with hot melt. The screening is temporarily held in place with bulletin board pins. Once I am happy with the contours, the screening is glued to the ribs with hot melt. Working with these materials means a scissors and a couple of sharp knives are the only tools needed to construct the support for the hard shell.

This is an extremely forgiving technique. If the contours do not work as anticipated after I get the hard shell applied, I just get out the sharp knives and fix it. The hill on the left side of this picture is now about three inches shorter and has a broad rolling top.

Basic Hard Shell



One layer of plaster cloth has been applied over the screening and ribs. This was done after the track was installed and tested.

Several of the ribs in the center and to the right were adjusted before the ground goop was added. The top of the hill was flattened.

One of the challenges with this scene is getting a feeling of towering bluffs in a limited space. The real bluffs are up to 500 feet above the track. In N scale this would be over three feet and reach almost to the ceiling. The actual height of the hill is about 10" above the track, only 130 scale feet.

Hard Shell with Ground Goop



Lou Sassi coined the phrase “ground goop” for the stuff he slops over the sub-scenery to great the ground contours he will build the scene on. I do not use his recipe, but I adopted the idea. I use ground goop instead of a second layer of plaster cloth. It really stiffens up the hard shell.

The brown goop on the back side of the hill is a mixture of plaster, sandbox sand and brown latex house paint.

The gray goop on the front of the hill is a blend of Structolite, and plaster of paris that has been painted light gray. Structolite is plaster with aggregate mixed in for texture. I had hoped I could use it as my ground goop for the whole layout. I had seen it work nicely in HO scale. But it turned out the aggregate is way too course in N scale except for this scene.

At this stage I have a 3 ft wide plaster lump with some texture. And about 49 pounds of Structolite left over.

Here's my Ground Goop slurry recipe:

No two batches are exactly the same. I use a 3 oz Dixie cup to measure each part but any size will do depending on how much you want to make.

Start with 2 parts plaster of paris, 1 part latex paint, 1 part water, 1 part play ground sand.

The sand creates texture in the slurry when it is applied to the plaster cloth.

Add water or sand or plaster as needed to get a slurry that can be applied with a paint brush and the desired level of texture for the area.

Add water and stir as needed during application if the slurry starts to set up.

I buy the plaster cloth is from Amazon: Plast'r Craft Modeling Material P0052720, Fan-Fold, 6" Wide, 20 lb.

<https://smile.amazon.com/Plastr-Modeling-Material-P0052720-Fan-Fold/dp/B0006HXP4A/>

The plaster cloth is 6" wide and almost 400' long. It currently runs \$66.50 for a 20 pound box.

Adding Pre-cast Rocks, step 1



Before starting this scene, I reviewed pictures of the bluffs above the east side of Devils Lake. The terrane is a mixture of talus fields and rock outcroppings covered in medium size trees and undergrowth. There is a band of rock outcropping along the top of the bluffs. There are some fields of large talas on the hillside with minimal ground cover.

I selected some rock molds from my collection that looked like the rock outcroppings in the pictures. I use plaster of paris to fill the molds. I like the way it stains once it is dry. The molds were about twice the size I needed the rocks to be. This is a common issue in N scale. After the castings had dried, I cut them in half.

I moved the rocks around on the hill until the locations looked right. Then I cut into the hill to create pockets to seat the rocks in the hill.

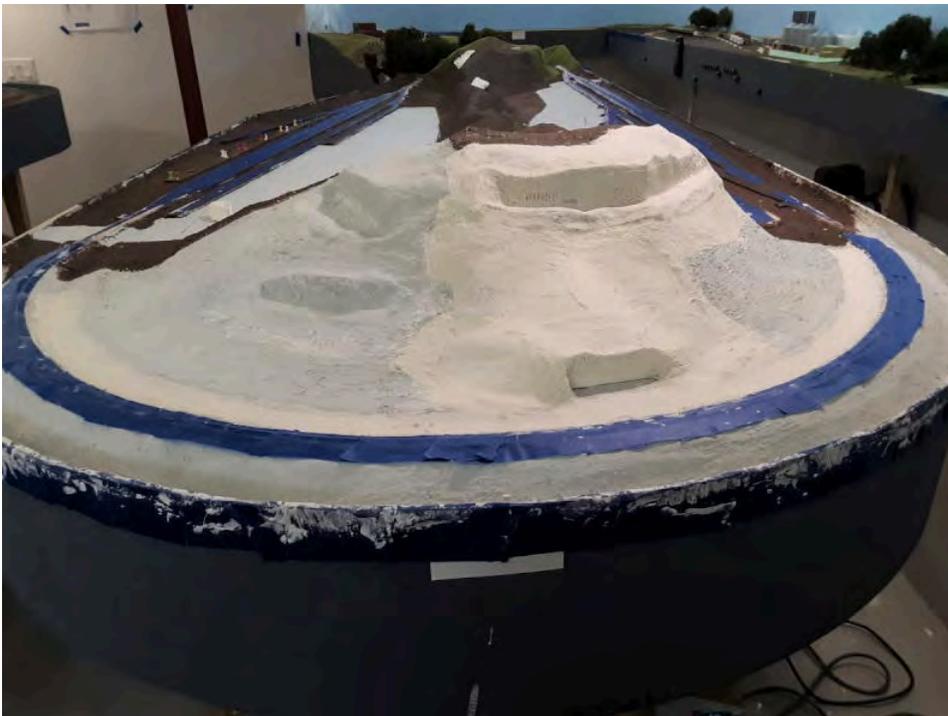
One of the things I really like about the hard shell is how easy it is to modify it as you work through the construction of the scene.

Adding Pre-cast Rocks, step 2



Bracing, screening, and hot melt are used to create a fitted pocket for each casting.

Adding Pre-cast Rocks, step 3



The pockets are covered with plaster cloth and painted to blend in with the ground goop. The white areas are where other changes were made to the contours.

Precast Rocks, Talus and Ground Cover added



The cast rocks have been stained and glued in place with cheap latex caulk.

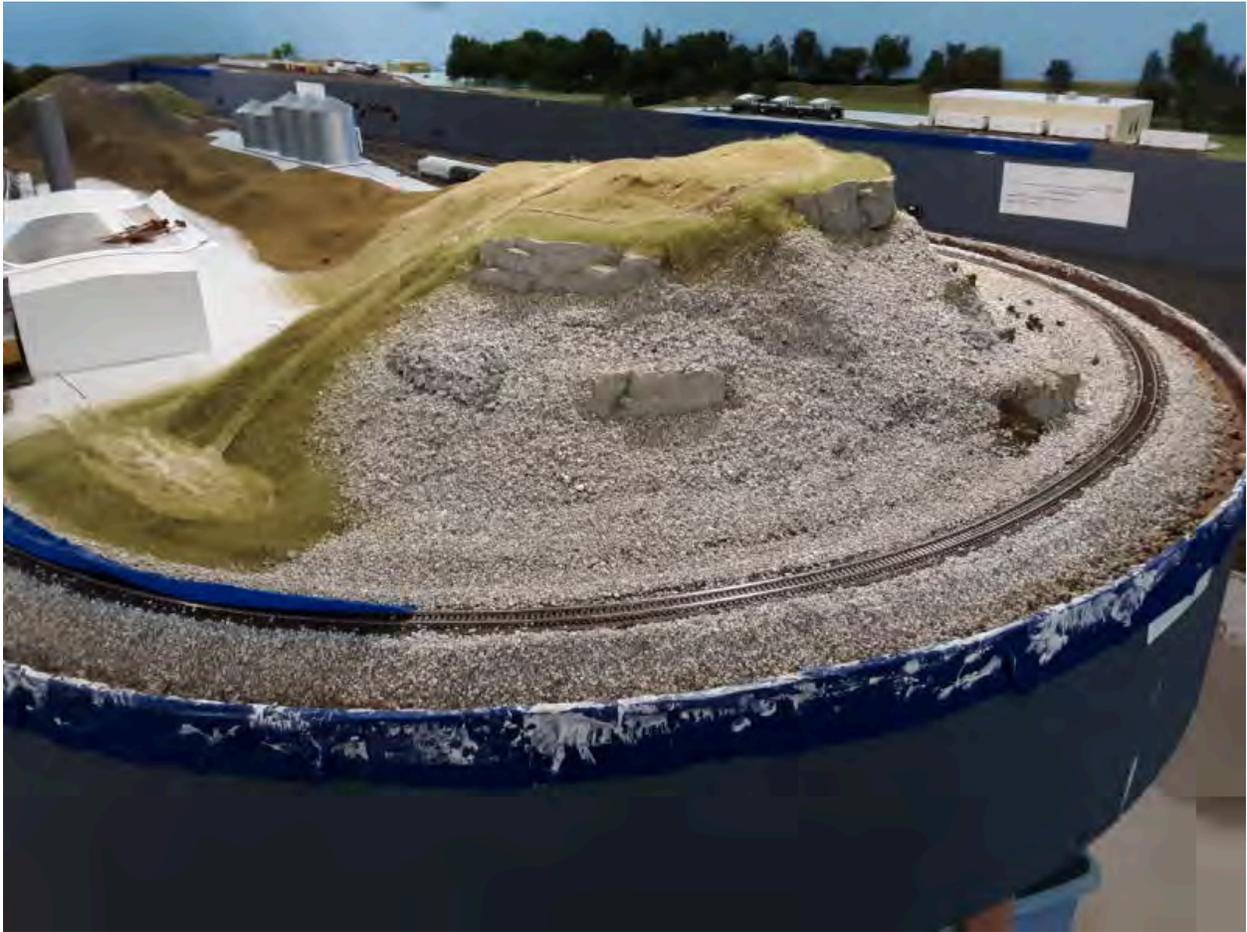
The talus is mostly Woodland Scenics. The larger rocks in the center right are something I found at a garden shop. I brushed a layer of full strength white glue on to the ground goop then sprinkled on the talus. I used a pipette to soak the talus with 50% diluted white glue. I let the whole thing dry overnight. The next day a I resoaked any loose talus with more dilute white glue.

I brushed 50% diluted white glue on the rest of the scene and sprinkled on Woodland Scenics earth blend fine ground turf. Using a pipette, I soaked the turf with 70% Isopropyl Alcohol. I find the 70% Isoprop to be highly effective at causing the white glue to wick up into the fine turf.

I have found the WS fine turf to be an excellent base for static grass.

I buy Elmers Glue by the gallon and 70% Isoprop by the pint.

More Talus and Some Static Grass 1



After I reviewed my pictures of Devils Lake one more time, I decided to extend the talus down to the edge of the track and over the track into the lakebed.

Prior to adding the talus to the lake edge, I ran a leak test on the lakebed. The lakebed needs to be watertight later in the process. It is much easier to fix a leak before it is covered in talus.

50% diluted white glue is brushed on to the areas where the static grass was to be applied. Longer grass was applied on the edge and side of the hill.

On the left side of the picture and running up the hill is damp paper toweling. There is parking lot at the bottom of the hill and a path going up and around the top of the hill. The static grass sticks to the paper toweling leaving a clear path and parking lot.

More Talus and Some Static Grass 2



The scene has dried, and the paper toweling has been removed from the top of the hill leaving the path.

Track Ballast and More Static Grass



The track has been ballasted.

Long static grass has been added in patches next to the track and on the hill side.

The scene is not finished but it is definitely not just a lump of plaster.

Some Trees, Undergrowth and Water 1



The water has been poured in the lake. I used Envirotex Lite tinted blue.

I am not good at making pine trees. The “pine like” trees are dried Astilbe flowers dipped in extra hold hair spray and flocked with green Woodland Scenics fine turf.

Ground tufts have been added to the hill side and along the tracks.

One of the features of the track as it runs next to Devils Lake is that they never removed the old signal line poles. They are bleached out and slowly rotting away. I have a baggy of Bachman and Atlas cheap plastic telephone poles I have picked up over years at train shows because I just knew they would come in handy someday. I experimented with gray and brown washes of hobby acrylics until I found a mix that looked like the poles in the photos.

Some Trees, Undergrowth, and Water 2



This shot was taken from about the same position as the first photo of the benchwork.

Some Trees, Undergrowth, and Water 3

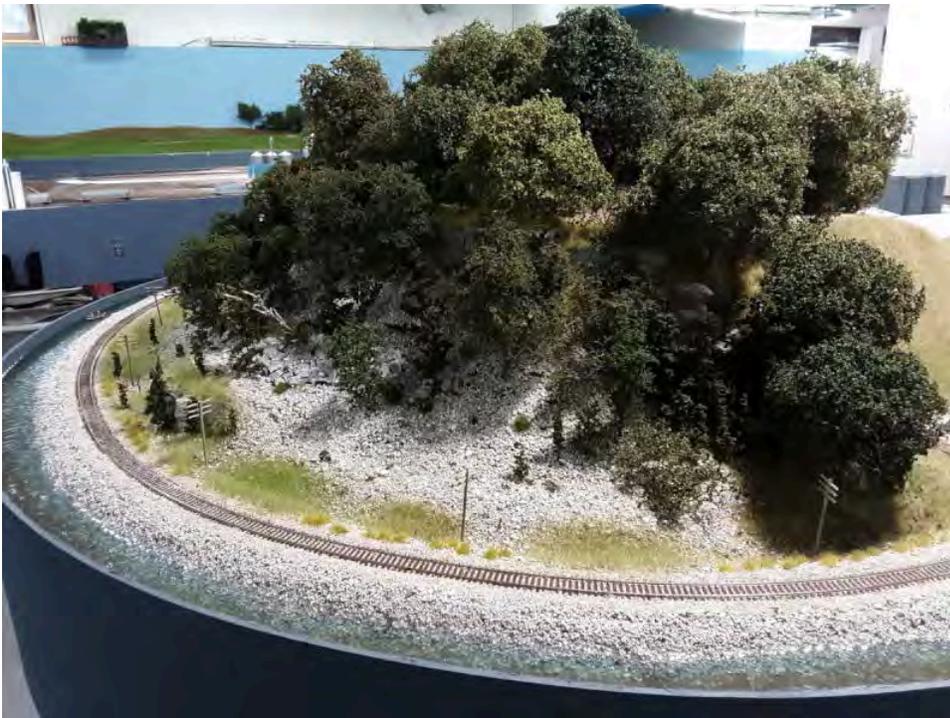


I got this far.

Then I ran out of trees and undergrowth.

This scene just eats trees and undergrowth.

More Trees and Undergrowth 1



Several weeks later I had a fresh stock of trees and undergrowth.

More Trees and Undergrowth 2



I have applied more trees and undergrowth to the scene.

The ripples in the lake were created by applying several thin layers of Modge Podge Gloss.

Except for adding some deer (because this is Wisconsin), some hikers and some cars in the parking lot the scene is pretty much done.

With the trees on the top of the hill, the whole scene becomes a view block as you walk around this end of the peninsula.

Have some fun with this!

Bob McG.