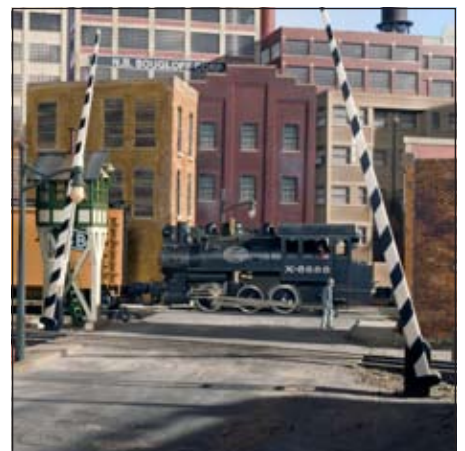


CONTENTS

Introduction.....	4
1 Planning the foundation: Another dimension.....	8
2 Laying track: Making tracks.....	14
3 Building a harbor: Water, water, everywhere.....	22
4 Adding bridges: Bridging the gap.....	30
5 Designing the setting: Will build to suit.....	40
6 Creating a cityscape: Rising to new heights.....	56
7 Modeling structures: Sticks and stones.....	68
8 Kitbashing buildings: Kitbashing 101.....	82
About the author.....	95





4-1

Bridging the gap

As it works the Sandy Harbor industrial district, in a scene repeated several times a day, the New York Central 622 trundles across the well-maintained bascule bridge, which is the centerpiece of the harbor.

No harbor scene worth its salt would be complete without some type of bridge, and the Sandy Harbor is no exception. I have always loved the Lionel bascule bridge and decided it would be just the ticket for the harbor entryway, 4-1. However, I did have one concern—how could I make a beautiful prewar tinplate accessory fit into the detailed, scale hi-rail layout I had in mind? I knew that I could conceal the green base, but painting the bridge structure was out of the question, and the bright yellow shack with the red roof had to go.



4-2

The Decorflex foam retaining walls come two to a package. Don't let the HO tag fool you. These cut stones will fit right into an O scale layout.



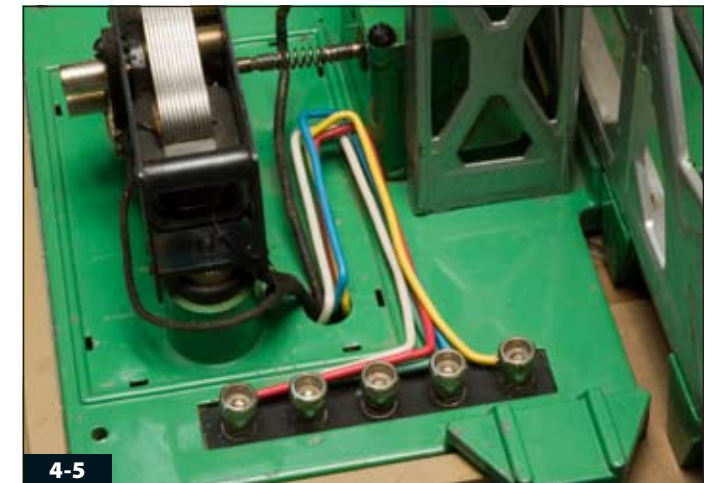
4-3

It took no time at all to cut and fit these pieces together. A little spackle fills any gaps, and some stain, chalk, and Polycrylic color the walls.



4-4

In order to hide the binding posts, I fashioned a new deck out of plastic sheet. To get the dimensions, I first made a paper template of the area.



4-5

The wires go through the motor shaft slot in the bridge tender's shack to a terminal strip underneath the layout.

Disguising the base

Concealing the sides of the bridge's base was simple. I used Faller's Decorflex natural-cut stone retaining walls (no. 170804), 4-2. These 5" x 14" foam sheets cut easily with a hobby knife, and I placed them around the water's edge and in other areas of the layout, 4-3.

There is one minor drawback in using the retaining walls. They are colored only on the surface, so you can see blue foam in the grooves between the stones. I fixed this by brushing dark gray and brown pastel weathering powders into the mortar joints. I also used these chalks to create the color variation on the shoreline rocks.

I wanted to show that the bottom of the retaining wall was wet. To create a wet look, I darkened a strip of foam with Minwax American Walnut wood stain and then coated it with Minwax clear gloss Polycrylic. These water-based products do not harm the foam.

After coloring the foam, I attached the walls to the base foam with white glue, holding them in place with straight pins while the glue dried. I topped the walls with a concrete cap made from .100" x .250" Evergreen strip styrene. It's colored with Uline tan Maskout spray paint and secured to the foam core with cyanoacrylate adhesive (CA). Because any solvent-based glue will attack foam, I first sealed the foam's edge with white glue.

To finish disguising the base, and to neatly hide the wiring, I covered the base's top with .040"-thick Evergreen styrene sheet (no. 9040), 4-4. To clear the binding posts, it needed to be $\frac{3}{8}$ " above the base. The color-coded wires slip through the motor shaft slot in the bridge tender's shack and attach to a terminal strip underneath the layout, 4-5. I suppose I could have used a more direct route, but the cutout was already there.

Replacing the shack

After removing the tinplate shack by straightening the tabs that hold it to the base, 4-6, I toyed around with several ideas for its replacement, which needed to be simple and readily available. I looked through my kit stash and decided on using the first story of the Atlas signal tower, 4-7. The building's brick walls had just the right look, and its width fit perfectly.

Adding the new building was a relatively easy process, but it did require some modification, including a new roof, a new porch, and a little plastic surgery. I also rearranged the walls to give the bridge tender a better view of the harbor. If you've never done any kitbashing before, you might want to check out chapter 8 first.

The first step is to remove the small upper section from the two side walls to make them level, 4-8. Using a hobby knife, I scored a line on the rear of the



5-7

NYC 622 is about to cross the girder bridge over the Garfield Avenue underpass. This dramatic scenes created on the Sandy Harbor Terminal Ry. is one that often takes place in real life.

elevation and used foam core and ceiling tiles to create natural surroundings for the urban structures and roads. In addition to providing a raised base for the city, which ranges from 8" to 12", the foam sheets also help form the two tunnels that disguise the layout's figure-eight loops.

Building the underpass

Having a street dip down to pass under the right-of-way is typical in real life but seldom seen on layouts. And I knew from the beginning that this was a must-have for the Sandy Harbor. The roadway underpass shows how a 4"-change in height can lay the groundwork for a dramatic city scene, 5-7. While a flat tabletop has the advantage in simplifying benchwork construction, it is very limiting. But by adding two layers of foam to my tabletop, I was able to cut out a portion of the base to create a descent. This elevated the right-of-way without raising the track.

Since there is seldom enough space to model streets with parking on both

sides, I generally use a width of 6" from curb to curb. To that, I add another 2¼" for sidewalks (1" sidewalk and ½" curb on each side) for a total of 8¼", which is prototypical for older residential neighborhoods.

Using these measurements, you can lay out all of your streets. But with the underpass, you'll need to allow an additional ¾" on each side to accommodate the foam core retaining walls. The street is not at a right angle to the edge of the layout or to the track. This means that the girder bridge has to be skewed in order to span the roadway. The plate girders are not even parallel to each other because of the turnout on the bridge. You can often create a more dynamic scene when you don't limit your thinking to a strictly rectangular universe. The prototype doesn't conform to a boxed-in reality and neither should we.

Outline the streets on the foam with masking tape. After marking the foam, remove it and do the cutting away from your tabletop. I used a saber saw with a

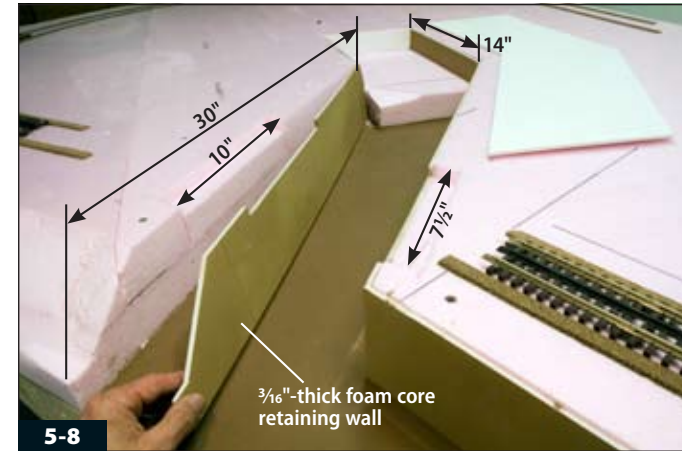
knife-edge blade. Once that's done, the foam sheets can be glued to each other and to the tabletop with white glue. Next, you can begin installing the retaining walls, streets, sidewalks, and girder bridge.

Concrete retaining walls

For the retaining walls that lined the sides of the underpass, I used ¾" foam core. I cut the foam core with a hobby knife, making the walls ¾" shorter than the insulation foam behind them, 5-8. This provided a solid shelf for a ¾"-square styrene cap that topped the walls and rested above the scenery base.

With an awl, I scored lines into the retaining walls every 10" to represent joints, being careful not to break through the surface. For an aged-concrete appearance, I sprayed the walls and cap with Uline tan Maskout paint.

By first sealing the edge of the foam core with white glue, I was able to use cyanoacrylate adhesive (CA) to attach the plastic cap to the foam, 5-9. Since you need an all-purpose glue to join



5-8

The white piece of foam core to the right will form the street slope. Note the inset cut into the foam for the girder bridge.



5-10

The foam core street has been primed with dark gray spray paint. Note the gentle vertical curve of the sidewalk on the left compared to the street.

plastic to foam, CA is a good choice here. I used white glue to bond the foam core to the insulation.

Streets and sidewalks

I also used foam core as a base for the streets. Spraying it with dark gray primer undercoats and seals it, 5-10. After the paint dries, attach the sidewalks with white glue.

The sidewalks are made out of cheap yardsticks, 5-11. As luck would have it, a typical yardstick is 1½" wide by ½" thick—a perfect size for a 4-foot-wide sidewalk with a 6" curb. The markings on the yardstick usually aren't a problem after being painted. You should barely be able to feel the lines and numbers, if at all.

Spray the yardstick with any white primer, making sure none of the lettering bleeds through the paint. Scribe a



5-9

The cap should be painted before applying it to the top of the walls. (It is shown here unpainted for clarity.)



5-11

There's nothing fancy or exotic here. The evolution of the sidewalk started with a ½" thick yardstick from Ace Hardware.

¾" curb line and 1" joint lines with the back of a hobby knife. Spray the yardstick again with an uneven coat of gray primer, letting some white show through here and there. Then lightly mist it with Uline tan Maskout paint. The idea is to always let the underlying colors affect the top color.

Here's something else to consider: I've used three dissimilar materials to represent concrete—wood, foam core, and plastic. Each one has a smooth, but slightly different, surface texture, and yet their final appearance belies their origin. The concreteness has to do more with color and how it was applied. The same principle applies to streets. It's the overall treatment that allows us to see a material as asphalt and not as its underlying substance. Use a few well-placed details and the mind fills in the rest. If

the color and the weathering are correct, it doesn't matter if streets and sidewalks are made out of plastic, wood, foam, or another material.



5-12

By adding black liquid tempera paint to the water putty when mixing it, you'll get a medium gray color that is well suited for roads.



6-32

Extending the scenery below the front edge of the layout gives rise to dramatic low angle shots like this. There are only about 5" of space between the track and the front of the rocks.

finding the right stuff. I've used ground-up pine needles, leaves, acorns, and other natural materials. Sandy soils also work well for ground cover. Most soils require a bit of sifting, which is best done outside. And if anything is wet or damp, just let the sun dry it out. Don't use your oven to remove moisture or treat your recycled goodies. No one will appreciate the natural odor that permeates the kitchen. Suffice to say, I don't even think about using the oven or any of my wife's appliances for something other than a food product.

Scenic effects

Completing the foreground scenery along the layout's edge was one of the last things that I did. And what a difference—I knew it would finally make the layout look finished, but even I was amazed at just how much more it added to the overall effect. Realistic looking scenery is all about transparent blending and subtle variation. On its journey around the layout, I varied the ground cover with changes in color, texture, and type, 6-31.

From the layout's start, I resisted the temptation to run the track right up to the edge of the layout. This would also be the one area where I could add a considerable amount of greenery as a counterpart to the city's brick, steel, concrete, and stone. I also reasoned that it would give me greater photographic flexibility if I had more foreground scenery between the edge of the table and the track. And by having the scenery base slope down and away from the track, I could even place the camera slightly lower than track level, 6-32.

Adding some real rocks along the front of the layout was a simple process. The first step was cutting out a shelf for the rocks with a serrated knife. I then placed the rocks in a pleasing pattern, 6-33. Next, I used some Celluclay mixed with brown latex paint to join the rocks and blend them into the surrounding foam, 6-34. I top coated the Celluclay with more brown latex paint and sprinkled Rock Creek Sand over it to create a seamless transition from the rocks to the roadbed, 6-35. It is often easier to complete the ground cover before you ballast the track.

An area alongside another culvert seemed like a good place for some undergrowth and flowering bushes, 6-36. First, I applied Brennan's Natural Earth undergrowth over a coat of brown paint. I then sprayed it with Krylon clear matte spray and immediately applied stretched-out Woodland Scenics green poly fiber. The red flowers are bits of colored foam that I picked up someplace, but you could use Woodland Scenics fall red coarse turf.

Farther along the railside, I created a different look by using a dark green, thin, flexible kitchen scrubbing pad that I pulled apart. I randomly sprinkled Woodland Scenics fine and coarse light green turf to blend it in and added a white flowering plant from a Silfor Flowering Meadows sampler pack, 6-37.

I wanted the hillside around and behind the hobo shack to be overgrown. The thicket is a combination of Woodland Scenics green poly fiber, harvest gold static grass flock, and light green coarse turf, 6-38.



6-33

I cut out just enough foam to hold the full-size rocks.



6-34

Work the Celluclay between and around the rocks to cement them in position and blend everything together.



6-35

The final ground cover creates a seamless transition from roadbed to rock face. I worked the scenery up to the track before ballasting.



6-36

To add flowers to the bushes, I attached pieces of red foam with matte spray.



6-37

You never know what will make good scenery material. The dark green foliage is from a thin kitchen scrubbing pad that I pulled apart.



6-38

Green poly fiber, gold static grass, and light green turf combined to produce an overgrown area near the hobo shack.

A final flourish

The beveled strip of foreground scenery had another effect that I hadn't considered. It combined with the smooth flowing curves of the tabletop to elegantly frame the layout. Black velvet skirting hides the

benchwork and keeps your eyes focused on the layout. My wife, Sandy, made 45"-wide overlapping, removable panels, which we secured with Velcro hook and loop fabric. Sandy sewed the loops to the panels while I stapled the hooks to the fascia.

Now that we've gone over how a big city should look, in the next chapter, I'll describe one of my favorite activities, kitbuilding, which is one of the fundamental skills for building a city, big or small.