

Trail Signage
Map Houses, Posts, Markers & Signs
12/21/18

1. MAP HOUSES

1. 1 Map House



The map houses were constructed by two Town carpenters, Gary Canoni and Scott Shepherd, and both have also helped maintain them. There are 20 map houses in Town and the locations are shown on a trail map (see Map House Locations.docx).

Trail	Location	Maps	Notes
Beard Trail	Grove St trailhead	1	Original, posts shortened for mounting on bank
Boulder Brook Reservation Trail	Elmwood Rd parking lot	1	Original
Brook Path	Fuller Brook Park at Maugus Ave	2	Original
Brook Path	Fuller Brook Park parking lot at State St	1	Original, rebuilt 2017 – new posts and roof re-shingled
Brook Path	Fuller Brook Park at Cottage St	1	Original
Carisbrooke Reservation Trail	Glen Brook Rd trailhead	1	Original
Centennial Reservation Trail	Oakland St parking lot	2	Prototype, non-standard size
Charles River Path	Lower Falls parking lot off Washington St	2	New 2011
Charles River Path	Ouellet Park on Charles St	2	Original
Crosstown Trail	Warren Park on Washington St	2	Original, rebuilt 2017 – new posts and roof re-shingled
Crosstown Trail	Aqueduct steps off Woodlawn Ave	1	Original
Crosstown Trail	Aqueduct off Whole Foods parking lot	1	New 2011
Crosstown Trail	Central Park on Washington St	1	Original
Crosstown Trail	Weston Rd parking lot at Linden St	2	New 2011
Crosstown Trail	Beach Access road at Turner Rd	2	Original

Guernsey Path	Guernsey Sanctuary parking area on Winding River Rd	1	Original, rebuilt 2017 – new posts and roof re-shingled
Guernsey Path	Central St Fire Station	2	Original
Rockridge Pond Trail	Hundreds Circle parking area	1	Original
Sudbury Path	Beebe Meadow at Benvenue St	2	Original
Town Forest Trails	Longfellow Pond parking lot	1	Original
		29	Total for laminated maps

The prototype was built by a scout, the original design map houses were built by Gary around the year 2000, and the new ones were built by Scott in 2011. Scott rebuilt the three in 2017.

1.2 Map Houses Maintenance and Repairs

Plexiglas replacement is 3/32" thick, 27-3/8" x 22-3/8" for the original design. For Scott's new map houses the dimensions are 27-3/4" x 22-3/4". For Centennial Reservation the dimensions are 26-1/4" x 22-1/4". Note that the maps for the Centennial Reservation map house have either to be cut or folded ½ inch on the left side in order to fit. Also, because some of the map house frames are not square because of warping and age, the plexiglas sometimes needs a little bit of coaxing to get it to fit.

Some of the original map houses had a fiberboard for the display backing. Several of the fiberboard have deteriorated, gotten moldy, and have been replaced by 1/8" thick plexiglas. Also, 3/8" thick exterior plywood has also been used for display backings, and that seems to be a good solution too.

When installing a map house the post holes should be about 36" on center, 24" deep, and the bottom of the map frame should be 48" above grade. Also, a post collar at grade should be used to protect the post from rot as done with the rebuilt ones in 2017.

If the roof needs to be re-shingled, do not use cedar shingles. Use asphalt shingles, because they are easier to install and repair, and will last longer. Note that the roofs are removable to make the job easier.

1.3 Laminated Maps

When getting a quote for laminated maps, give the printer a full size, hardcopy of the map. GIS Department can make you a copy. Email the printer the pdf file when placing the order. Here are the specs/info for ordering maps:

1. Print size is 22"x 27" on 200 gram paper
2. Print at least 600 dpi so that street names are clear
3. Clear laminate on both sides
4. Laminate thickness 5 mil
5. Laminate UV protected
6. Laminate overhang 0.25" for moisture seal
7. Final dimensions 22.5" x 27.5"
8. Order 3 extra for replacements (also can be used for events mounted on easels)

If ordering from a vendor who has not done the job before, ask for a laminated proof before the order is completed. We have had problems with poor resolution, size, and laminate thickness. An unnamed vendor took three tries to get it right.

1.4 Installing Laminated Maps

This is usually a committee project with two person teams working on replacing the maps. The check list for installation is:

Item	For
Windex	To clean Plexiglas
Roll of paper towels	To clean Plexiglas
Roll of Scotch 3/4" double-sided poster tape	To hold laminated maps to display backing
1/4" red vinyl adhesive arrows	For "You Are Here" arrows
Battery powered screwdriver, charged	For removing/installing frame screws
#2 Phillips driver for above	For removing/installing frame screws
#2 Phillips screwdriver	Backup if battery becomes discharged
Primeguard exterior screws, 1-1/4"	For replacement screws for old map houses
Primeguard exterior screws, 1-5/8"	For replacement screws for the 3 new map houses
Supply of Trail Map pamphlets	To fill Map Houses map holders
Map of Map House locations	To plan route to follow for installation
Tape measure	In case you need to confirm measurements
Scraper	Clean frame, scrape off stickers put on plexiglas by kids
Pen knife	Clean/cut frame
Long nose pliers	Remove staples left over from flyers
Hammer	Removal of display backing if moldy, some glued in.
Trash bag	Trash
Scissors	Trimming/cutting laminate
Plexiglas sheet replacements	Replace if holes or piece of plexiglas is missing

You Are Here arrows are made using 1/4" Dymo red plastic tape. No lettering is used to maximize adherence, feed blank tape through label maker for 5 clicks, and use the cutter to leave a tab to take off the backing. With scissors, cut a triangular point for the arrow on the non-tab end. The plastic tape will not fade, and they stick very well to the laminated map covering. Beware, other techniques have faded or fallen off.

For the map frame replacement screws, only use Primeguard Phillips screws for pressure treated wood, with a coarse thread, and same length. Otherwise they will deteriorate and be hard to remove. They should come out relatively easy, so try not to bugger up the Phillips screw head!

1.5 Map Holders



Original map holders were made from Trex plastic wood boards by Gary. Scott made the new holder out of cedar wood.

Plexiglas replacement is 1/8" thick, 18" x 8-1/8", and 3/16" holes must be first predrilled for the screws. Use the front section as a template to drill holes. Use a #2 square drive bit for removal/installation. If hinge needs replacement, replace with stainless steel piano hinge cut to length. If you use plated, it will rust out.

When installing a map holder, draw lines on back of the 4x4 map house posts 6" below the bottom of the map house frame. Align top of top 2x4s along the lines. Use quick-grip clamps (or C-clamps or cleats under 2x4s) to temporarily hold the new map holder 2x4s onto 4x4 posts. Attach the 2x4s using 3-5/8" Ledger Lok bolts into pre-drilled holes. Screw in bolts either with portable drill using 5/16" socket which comes with bolts or a socket wrench. When the lid is opened, the top edge of lid should hit the bottom front edge of the frame. This limits the opening travel and prevents kids from vandalizing the lid.

2. TRAIL POSTS



2.1 Lumber

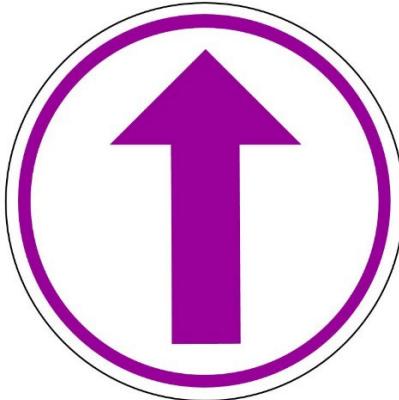
Cut 6x6x8ft pressure treated lumber in half at about 30 degree angle (3.5" difference along the length). This sheds water and helps prevents rotting. Drive two 80D galvanized spikes into side near base with about 4-5" showing and put rocks over spikes as you fill hole. This prevents kids from removing the posts no matter how hard they try (well, almost!).

Note that the posts for the Brook Path are special since it is a municipal park, and are cedar. Rather expensive (\$75/post), but should last forever (until hit by a snow plow!).

2.2 Installation

Dig a hole 18" deep. Use long-handle shovel and rock bar for digging, and loppers to cut off roots. Stack rocks separately. Use a level to make sure it is vertical. Layer the soil as you fill the hole and use the blunt end of the rock bar to pack down the soil and rocks. Keep layering, testing that it is vertical; and packing it down. When you finish you should have very little soil left over, and a post that feels like you set it in cement.

3. TRAIL MARKERS



3.1 Markers Specs

The trail markers are made by Quality Name Plates (QNP), and sold through:

Adrian Name Plates
sales@adriannameplates.com
www.adriannameplates.com
978-768-7977

The specifications are:

Material: Aluminum
Thickness: 0.020"
Coating: UV laminate
Diameter: 4"
Nail Holes: None
Slots: (specify if needed, and give sample)
Background: White
Color (circle, text, arrow): (specify)

The company has previously ordered markers on file, but for a color match, it is advisable to mail a new marker to Adrian so they can duplicate the color.

3.2 Nailing Trail Markers

Install markers with 1-1/4" White Aluminum Trim Nails, that are used for aluminum and vinyl siding installations. Do not use steel nails, even galvanized, because they will rust and mar the marker or rust off. Also, if a tree is later chain sawed, aluminum nails will not create a safety hazard.

When nailing a trail marker to a tree, first look up and make sure the tree is healthy. Cup the marker so that it fits the contour of the tree trunk. Use two nails, and nail the marker at the 3 and 9 o'clock position just inside of the circle. The nails easily punch through the aluminum, and leave about 3/8" exposed for tree growth. Drive the nails in parallel to each other so as the tree grows it will slide up the nail instead of detaching.

When nailing a trail marker to a post, use four nails at the 3, 6, 9, and 12 o'clock positions just inside of the circle. This will prevent kids with itchy fingers from prying up a side and either bending or removing it. For a telephone pole, cup the marker to fit the curvature. Use two nails, and nail it at the 3 and 9 o'clock position. If you hit a knot or if the nail starts to bend, remove the nail, and use a new nail cut in half with diagonal cutters (at an angle to give it a point).

When installing arrow makers place them at eye level, and align the markers facing the hiker so that the marker is seen when looking down the path. Use the logo trail markers at trailheads or other prominent locations. And remove any brush from around the location that will grow and obscure the marker.

Arrow markers should be placed at each trail intersection. For a turn, place a horizontal turn arrow before or at the turn, and a confirmation vertical arrow that can be seen immediately after making the turn. Mark the turn in both directions. For through trail intersections, place vertical arrows on both sides of the intersection. Confirmation arrow markers between turns should be placed along the trail where appropriate.

3.3 Cable-Tie Trail Markers



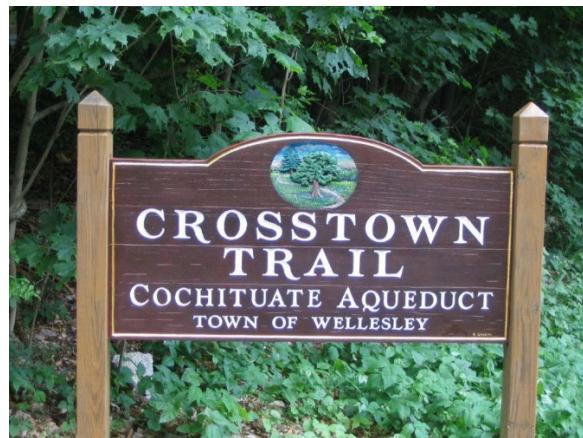
Trail markers are installed using cable-ties for metal lamp, traffic light, fence, and gate poles/posts. Some of the trail markers have been purchased with slotted holes for mounting either vertically or horizontally. If none have been purchased, slots have to be cut manually. The aluminum trail markers are relatively easy to work with, and to cut the slots:

1. Do four at a time, and tape them together with masking tape at the locations where you want the slots. Use a purchased slotted marker as a template, and trace the two slots on the masking tape.
2. Mark three drilling locations in slots using a center punch, and use a 1/8" bit to drill three holes.
3. Use round and flat needle files to clean up slotted area.

Install the slotted trail markers on a warm day (over 60 F), otherwise the plastic cable-tie will break when tightened. To mount the slotted trail markers:

1. Depending on the diameter of the post/pole, select either a 24" or 36" long cable-tie. If you need one longer than 36", attach two cable-ties end to end to extend the length.
2. Thread cable-tie through slots in trail marker as shown above. The ratchet teeth on the cable-tie face toward the pole.
3. Position the cable-tie so that the ratchet head is about halfway behind the pole, or at 90 degs if mounting two markers front and back.
4. Place a 2" strip of double-sided sticky tape (Scotch 3/4" poster tape) on cable-tie in back of a trail marker, and remove the paper covering on tape to expose the adhesive. Note that this is needed so that kids with itchy figures do not rotate the trail marker on the pole on a hot summer day.
5. Place trail marker on the pole, insert cable-tie end into ratchet head and hand tighten.
6. With diagonal cutters, clip off end of cable-tie and leave about 1/2" exposed.
7. Tighten with 8" locking pliers (Vice-Grip) by using the ratchet head as a pivot point. Do not use regular pliers because you will not be able to get it tight enough. If as you tighten it, the end snaps off at the ratchet head (mainly in cold weather), that is OK.
8. Cut off the end of cable-tie as closely to the ratchet head as possible.

4. TRAIL SIGNS



Two large wooden trail signs were made Stephen Garrity of Garrity Carved Signs Company, Belmont, MA. One sign is located on the Crosstown Trail on Washington St across from the Warren Building, and the other on the Brook Path at State Street. The signs were purchased in 1998 and done with a natural wood finish. By 2009 the signs had two problems - Trail names had been changed and the signs had condition problems with the natural finish. Both signs were redone with updated trail names, converted to a painted finish, and the carved logo and lettering were repainted.