East Coast Greenway Alliance
Trail Signage Manual
v. 1.3
June 2016

TABLE OF CONTENTS

1. BICYCLE AND PEDESTRIAN ROUTE SIGNAGE

The Manual of Uniform Traffic Control Devices (MUTCD) is a document issued by the Federal Highway Administration specifying the standards (shapes, colors, typefaces) by which traffic signs are designed, installed, and used. The MUTCD also provides standards for surface markings and traffic signals. Traffic control devices must adhere to the standards set therein. The official current version is the 2012 revision of the 2009 manual. Learn more and download the current MUTCD here: http://mutcd.fhwa.dot.gov/

Bicycle and pedestrian signs and plaques serve several purposes. Signs are defined in three classes: regulatory, warning, and guide signs. **Regulatory** signs give notice of traffic laws or regulations. These include "BICYCLES MAY USE FULL LANE" or a STOP sign on a shared-use path. **Warning** signs give notice of a condition that may not be readily apparent and are typically on yellow diamond-shaped backgrounds. These include "stop ahead" or "path narrows" signs. **Guide** signs show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. For bicyclists and pedestrians, guide signs are typically for route identification.

Plaques add information to signs, the way an adjective adds information to a noun, and fall into the same three classes. Typically they are smaller and installed directly beneath the sign they relate to, but in some instances are installed above the related sign. "ENDS" and "BEGINS" are regulatory plaques to accompany a "BIKE LANE" regulatory sign. "500 FT" is a warning plaque accompanying a "railroad crossing" warning sign. Directional arrows accompanying bicycle route guide signs are classified as guide plaques.

Fig. 1.1: USDOT R3-17 "Bike Lane" regulatory sign with R3-17bP "Ends" plaque

Fig. 1.2: USDOT W10-1 "Railroad Crossing" warning sign with W16-2aP "500 FT" plaque

Fig. 1.3: USDOT D11-1 "Bike Route" guide sign with M6-1 left turn arrow plaque

2. SIGNING THE EAST COAST GREENWAY ROUTE

A. Purpose of Signing the Route

The primary purposes of signing the East Coast Greenway (ECG) are to establish a unique brand for the ECG, to inform users that they are on the ECG, and to identify route direction changes, enabling proper wayfinding. As much of the ECG is still on road, providing appropriate route signage is crucial to guiding ECG users along the route.

Trail signs also serve to raise public awareness of the East Coast Greenway by identifying a given local trail segment as part of the ECG. Frequent posting of the ECG route sign helps to develop public awareness of our brand. We want to maximize their presence along the ECG route, while avoiding visual clutter ("sign pollution").

B. ECG Route Signs and Plaques

i. Development of the unique ECG sign

Signs using the "east coast map" design (figure 2.1) had been used to mark some designated sections of the ECG prior to 2002. Some of these may still remain in place today but should be replaced with the current sign.

Fig. 2.1: ECG route sign graphic, circa 1999

Fig. 2.2: ECG route sign graphic, developed in 2002

While the former sign showing the idealized route along the coastline is an interesting graphic, it does a poor job as an easily identifiable, clear and memorable sign for user guidance. Recognizing this, the ECG "two trees" logo (figure 2.2) was developed with a grant from the Robert Wood Johnson Foundation and professional help from Pentagram Design of New York City during 2002, and adopted by the ECGA Board of Trustees in November 2002. This logo was chosen as a very clear and unique design that would be an effective route sign. This graphic has been trademarked by the ECGA.

ii. ECG sign options

a. standard ECG route signs

ECGA stocks signs, 5.5” x 15”, to mark the ECG route.

The standard sign (fig. 2.3) is ECGA’s preferred model for identifying the ECG route. These signs are made of .063 gauge aluminum with the graphic and text silkscreened onto the engineer-grade reflective vinyl sheeting.

Signs are pre-drilled with 3/8” holes at intervals permitting mounting on steel u-channel posts or square tubular posts. Brackets or mounting clamps may be used to attach these signs to round tubular posts (aka “pipe posts”), which do not have pre-drilled holes for sign installation.

Smaller Signs In some circumstances, smaller signs (3.5” x 9.5”) may be preferred. ECGA rarely keeps this type in stock, but following consultation with ECGA, artwork may be made available to agencies which wish to fabricate these smaller signs in their own sign shops. At 3.5” wide, the smaller sign is designed to be mounted flush on 4” x 4” wooden posts or heavy-gauge u-channel posts. ECGA discourages use of small signs except where absolutely necessary, as they are much less visible.

NOTE: The ECGA stocks only our standard signs. If one wishes to use signs of a different size, with different text, or wants to make it from a different material than those available, please contact the ECGA by email: info@greenway.org. Agencies and organizations may also arrange to have signage fabricated themselves, but must first get clearance from the Alliance as our name and logo are our property.

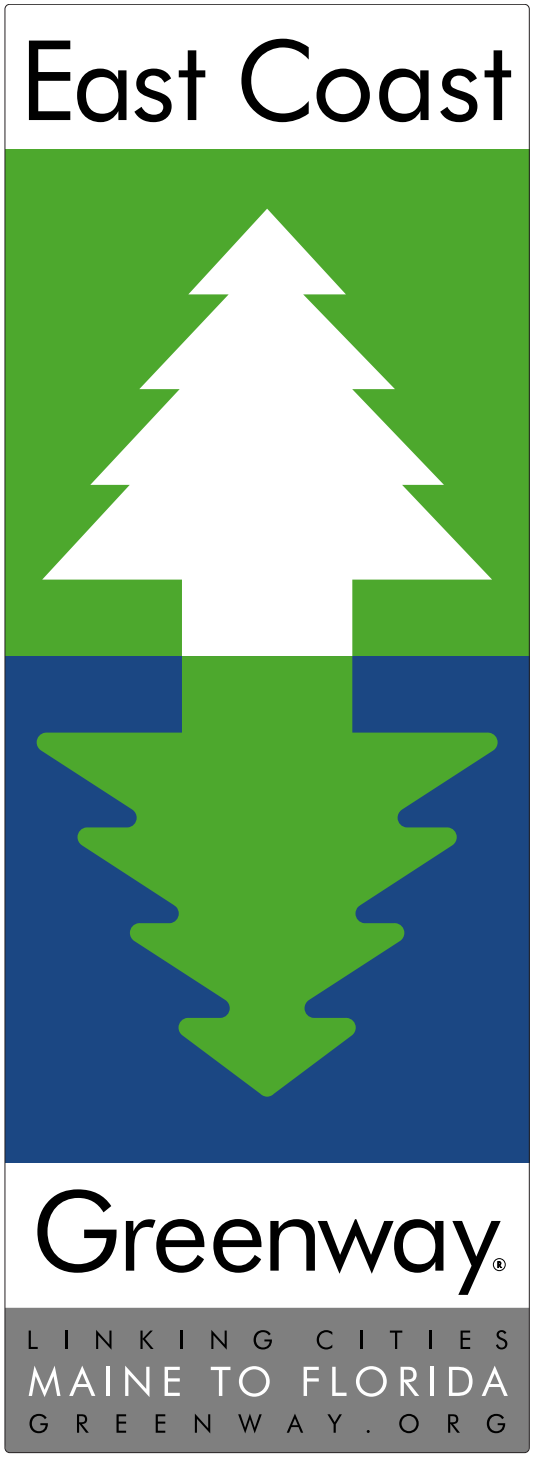


Fig. 2.3: standard ECG route sign, shown at approximately 50% actual size (actual size: 5.5” x 15”)

b. standard ECG arrow plaques

Where appropriate, ECG route signs should be used in tandem with ECG directional arrow plaques (fig. 2.4). ECGA stocks five types of arrow plaques.

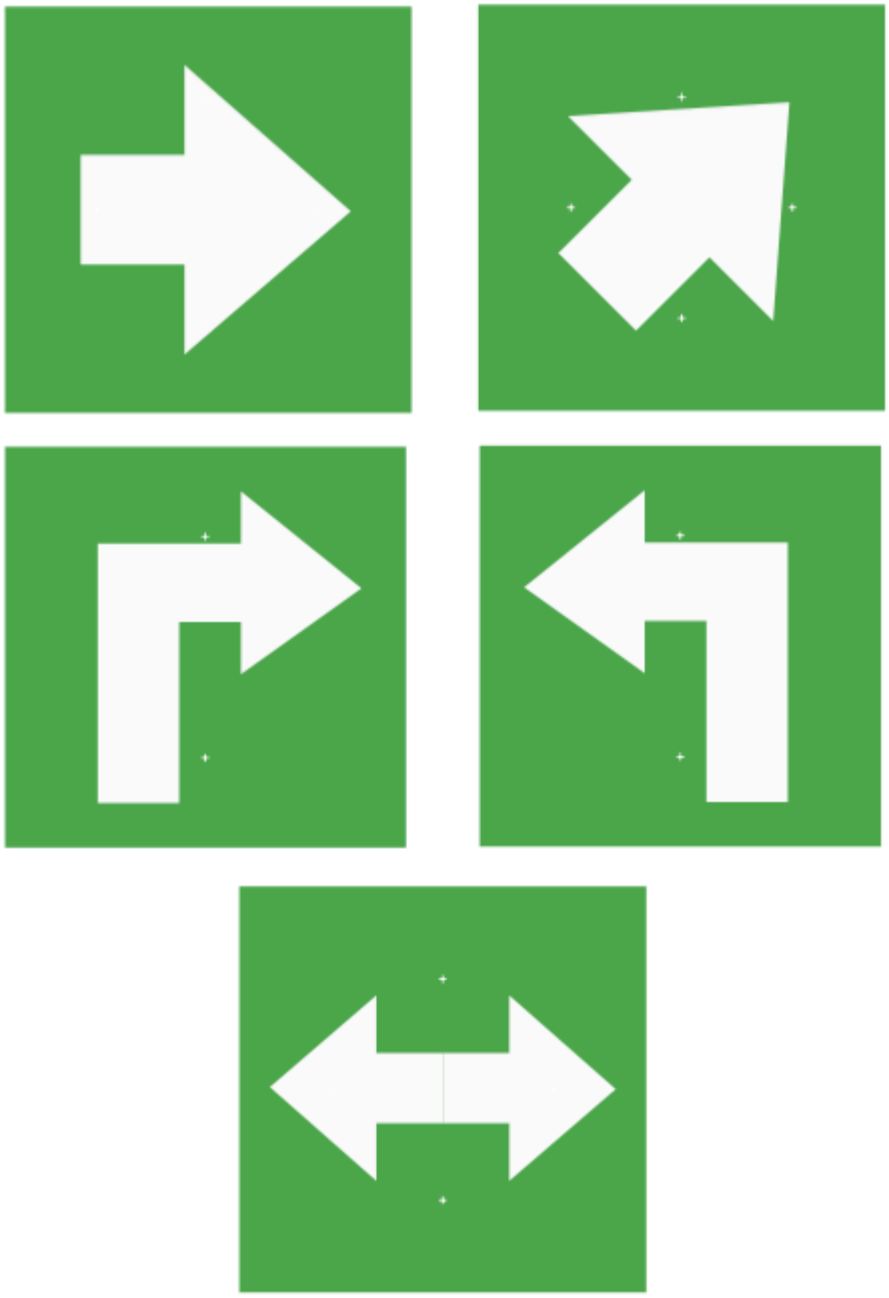


Fig. 2.4: Directional Arrow Plaques shown at approx. 25% actual size. Actual size: 5.5" x 5.5".

ECGA is currently piloting a slightly different design for arrow plaques, with the white arrow outlined in black for better discernability from a greater distance (fig. 2.5).

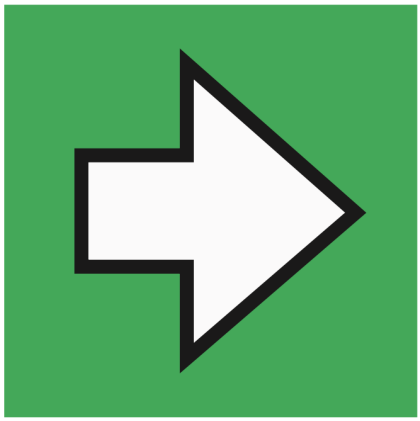


Fig. 2.5: New "outlined" arrow plaque being piloted in Maine & South Carolina

c. non-standard ECG wayfinding signs

The ECGA prefers to post its standard signs to mark the route. Greenway users are attuned to seek out the ECG sign as they make their way from city to city. Just as long-distance hikers on the Appalachian Trail seek out the white blaze that marks that route, ECG users seek out the blue-and-green "two trees" of the ECG for assurance that they are on track.

However, when a host agency wants to incorporate the ECG graphic into other signage (e.g., to avoid signage clutter), ECGA and the agency can work together on a solution that serves both the ECG and the host trail.

For example, the New York City Department of Parks and Recreation (NYCDPR) has its own sign design for marking city trails. Working together, NYCDPR and ECGA developed a sign acceptable to both parties (see fig. 2.6). Likewise, the Blackstone National Heritage Corridor (in RI and MA) developed a distinct signage strategy, and added the ECG brand to it (fig. 2.7) for signs on the Blackstone River Bikeway. Agency staff who are prevented from installing standard ECG signs due to local regulations should contact ECGA staff to find a mutually-acceptable solution.

Fig. 2.6: NYC Department of Parks and Recreation greenway sign with ECG branding

Fig. 2.7: Blackstone River Bikeway sign in Lincoln, RI, with East Coast Greenway branding added

d. MUTCD-compliant ECG route signs

Chapter 9 of the MUTCD (see pg 2) is specific to traffic control devices for bicycle and pedestrian facilities. Signs and plaques found in chapter 9 may be used to mark the ECG as a bicycle route, or if on shared-use paths, as a bicycle and pedestrian route.

However, only one type of MUTCD guide signs permits us to *brand* a route as the ECG (using the ECG logo, the letters "ECG", or the words "East Coast Greenway"), allowing us to more effectively mark the ECG route. This is the M1-8a. Another "family" of signs is in the approval pipeline, the M1-x series. These have been approved by the National Committee for Uniform Traffic Control Devices (NCUTCD) but not yet added to the MUTCD. See figures 2.8 through 2.11 for design details.

Fig. 2.8: MUTCD-compliant M1-8a ECG guide sign. Dimensions: 24" x 18" if on road, 18" x 12" if on trail.

Fig. 2.9: NCUTCD-approved M1-x ECG guide sign. Dimensions: 18" x 18" if on road, 12" x 12" if on trail.

Fig. 2.10: NCUTCD-approved M1-xa ECG guide sign. Dimensions: 18" x 18" if on road, 12" x 12" if on trail.

Fig. 2.11: NCUTCD-approved M1-xb ECG guide sign. Dimensions: 24" x 18" if on road, 18" x 12" if on trail.

C. Sign Installation: Hardware Options

Depending upon what the ECG sign is to be attached to, different types of fasteners will be needed.

Wooden post: Use aluminum or stainless steel screws to avoid rusting. #8 panhead screws are recommended. Special "one-way" screws (see fig. 2.12a) make it difficult for vandals to remove the sign, and go in easily with a standard flathead screwdriver. Due to the beveled slot, they are very difficult to remove without special tools. Other types of screws, such as "snake-eye" screws (fig. 2.12b), also called pig-nose or spanner head screws, are tamper-resistant as they require a special tool to use.

Fig. 2.12a: sample "one-way" screw

Fig. 2.12b: snake eye screw

Metal post with pre-drilled holes such as u-channel posts or square tubular posts: These are typically pre-drilled with 3/8 " holes at regular one-inch intervals. Use 5/16" aluminum or stainless steel hex bolts and nuts (fig. 2.13). These can be purchased at any hardware outlet or from suppliers of road signs and road sign supplies. Be sure that they are long enough to protrude from the rear of the post so that the nut can be attached.

Fig. 2.13: sample 5/16" hex bolt

Round or square metal post without pre-drilled holes: Depending on the width of the post, you may be able to use mounting brackets (fig. 2.14); otherwise, use metal strapping (fig. 2.15) specifically designed for signage installation. Many online retailers carry these items. Brackets and strapping can also be used to mount signs on posts with pre-drilled holes, if desired.

D. Sign Installation Guidelines

i. Before you install

a. Your ECGA Regional Coordinator must be kept apprised of your progress, each step of the way. When installations are performed by volunteers, they must always be with the full and complete knowledge, cooperation, and guidance of ECGA staff, the managing agency of the facility, and perhaps the local traffic authority.

Fig. 2.14: sample mounting bracket for tubular posts

b. Ensure that you have the correct ECG route. Before installing the ECG signs, be sure that the route is indeed the officially designated route of the ECGA. Check the ECG Trip Planner (map.greenway.org) for current routing. Also, your ECGA Regional Coordinator can provide a map of the route for your section of the ECG; you can find their contact info on greenway.org. **This is especially important for on-road routing where confusion about the route may easily occur.**

Fig. 2.15: sample sign mount, strapping with a one-bolt bracket

c. Secure trail manager input and approval for marking the route

Before placing signs along your trail or on-road route you will need to secure the permission of the agency responsible for managing the trail or roadway. Consult the ECGA Trail Coordinator to see who issued the letter of endorsement when the route was designated. In any event, a new communication is needed to ensure that the agency is aware that signage is to be posted, and to assign a staff liaison to work with you on this. Establish a name and contact information for the agency person you will work with as part of your permanent "sign installation" file.

d. Get organized to install the signs

1. Be aware of the different kinds of signs and plaques needed for marking the route, and what fasteners you'll need.

2. Be fully aware of the options for where to place the signs:
   - At trailheads and important intersections or access points and on informational kiosks if they exist
   - Along the route as a confirmation to people that they are still on the Greenway
   - Consider where directional arrows may be needed
   - Where might an informational kiosk be placed along the route?

e. Make a plan for what is to be posted, and where

Field-check the route to determine signage locations and to prepare a map of where the signs will be posted. Marking this map will be critical to properly carry out the installation of the signs but also to enable future checking to be sure the signs are in place and in good condition.

1. Gather together a couple of pens, some red, green and blue medium fine tipped markers, a clipboard, plus a digital camera, and three copies of the base map of the route previously provided by ECGA staff. Also, bring a notepad, or a smartphone or tablet computer with spreadsheet software, on which you can make specific notes of locations and sign and plaque types. You will also need bicycles if you plan to bike the route.

2. Ask a friend, a volunteer on your state committee, or a staff member from the trail managing agency to join you in collecting the field data. Your mode of travel is your decision - but you must cover every inch of the trail. Plan plenty of time for this important fieldwork.

3. Start at one end of the trail and begin to locate sites for signs and any possible locations for informational kiosks. You should plan to make a round trip on the trail so that you can assess posting sites from both directions of travel along the route.

4. Follow these guidelines in identifying sign locations:
   - Place signs where trail users might be confused about what to do (e.g. where the

trail forks or where the ECG turns from one street to another).

- Place arrows wherever a turn in the route may be confusing, e.g., if there is a fork in the trail, or at a confusing road crossing.
- Place signs at trailheads or access points to notify entering users that the ECG can be accessed there.
- Place signs along stretches of the route where users might be left wondering if they are still on the ECG. The Alliance recommends one confirmation sign per mile in rural areas, two per mile in suburban areas, and four per mile in urban areas.
- Post signs on the right-hand side facing ECG users.
- Look for existing publicly-owned sign posts, fenceposts or poles on which to fasten the signs. ECGA does not (at this time) provide sign posts and we aim as well to limit clutter, so use of existing posts is desirable. Poles may be wooden or metal. Signs must not be attached to trees, or posts with regulatory signs (that give notice of traffic laws or regulations), as this is not legal. It may be legal to attach ECG signs to posts holding warning signs (typically black text on a yellow diamond), guide signs (showing route destinations, directions, services, etc., typically white text and symbols on a green background), and recreational and interest signs (white text and symbols on a brown background). **Above all, seek permission from the facility's managing authority before posting any signs.**
- Signs for trails should *ideally* be positioned 2-4 feet beyond the edge of the trail surface. To make it easy for users to find the signs, do not post more than four feet beyond the edge of the pavement.
- Be sure there is a post or pole for each direction of travel. Where none exist and a sign is imperative, consult the facility manager about installing a post. If that is not feasible, a local service organization or "friends" group may be able to help, or consult the ECGA Regional Coordinator.

5. Mark your basemap:
   - To show where each sign will be placed, develop a numbering system so that each sign location on your segment has a unique serial number.
   - Mark the location of each sign and arrow plaque with a number.
   - Fill in a sign location chart to provide detail for each site where a sign is to be installed. The information should include the serial number of the sign, arrow (if needed), what it is to be fastened to, and the fastener to be used (screw, bolt, strapping or bracket).
   - Take photos of each sign location post or pole, perhaps with a person pointing to where on the post the sign should be located. Be sure to keep them numbered so you can relate the photos to the sign serial numbers. This will facilitate the installation, especially if done by someone not along on the field inspection.

6. Back at home or office:
   - Review your map for completeness and for clarity and legibility. Make any adjustments and if needed transfer it onto a new basemap. If information is missing you may need to return to the field.
   - Create a finished version of your chart, preferably in electronic format for easy sharing and updating.
   - Review the map and chart with the facility manager and ECGA Regional Coor-

dinator to be sure it meets with their approval. Discuss any places where poles are needed and review any of the potential kiosk sites as well. Discuss also whether they can help in the installation or are agreeable to volunteers doing it on their own.

- Make three copies of the final map and chart and send one copy to the ECGA, one to the trail manager and keep one on file with your state committee.
- Assess how many signs of each size and type, directional arrows, and fasteners of each type (e.g. screws, bolts, brackets and strapping) are needed.
- Develop a plan for securing the signs and fasteners. If ordering from ECGA use the order form (in appendix).

ii. Obtaining the signs

a. ordering from the ECGA:
ECG signage can be ordered from the ECGA using the order form found in the appendix, or call or email the pertinent ECGA Regional Coordinator.

b. directions for agencies wishing to produce ECG signage in-house:
The East Coast Greenway Alliance may provide mechanical drawings to agencies wishing to create ECG signage in their own sign shops. Mechanical drawings (.ai or .eps) include registrations for screw/bolt holes, guides for trim, and Pantone color codes. Contact the Alliance for more information: 919-797-0619 or info@greenway.org.

iii. Installing the signs

a. Determine who will physically do the installation and set a date or dates
If the managing agency is willing to expeditiously install the signs, encourage them to do so. If not, identify volunteers who can install them. **Be sure you get permission from the managing agency first.** ECGA staff may be able to assist, if needed.

b. Collect the following before going out to install:

- The signs and arrow plaques
- Tools needed for installation
- Fasteners
- The map, chart, and photos

Fig. 2.16: Union County, NJ produced route signs in-house for the route through their county in northern NJ, as illustrated by this photo.

- A pen, clipboard, the colored markers
- A short stepladder, if needed
- Bikes if planning to use them and possibly a backpack, panniers or bike trailer to carry everything. If needed, an agency vehicle might be used to carry your gear.

c. Install the signs!

- Follow the map and chart information.
- If conditions have changed (e.g., post now missing) you may have to change where the sign is posted. **Mark your map appropriately to reflect those changes.**
- Use as much time as it takes to conduct the installations properly.

iv. Post-installation reporting

a. Submit a written report to the managing agency and the ECGA Regional Coordinator noting the date on which the sign were installed, who did the installation and their contact information, and showing on an attached map and chart any deviation from the previously determined sign locations. Point out any issues or problems that need to be noted and addressed.

b. With ECGA Regional Coordinator, resolve any sign locations where posts were not available

c. With ECGA Regional Coordinator, establish a person or committee of volunteers responsible for periodic checking to ensure that signs have not been removed, vandalized, or otherwise damaged.

d. Undertake inspections and prepare and submit a report to ECGA Regional Coordinator

- Report any locations where sign are missing or damaged. If replacement decals are available, put them in place temporarily
- Report any issues with the fasteners such as not staying in place, not keeping the sign in its proper location on the pole, rusting etc.
- Report any problems with the signs fading, scratching etc.

3. ECG INFORMATIONAL KIOSKS

The ECG Kiosk is a wooden structure, typically field-fabricated of pre-cut pieces. Cedar is recommended due to its natural rot resistance. Fasteners should be stainless or galvanized steel. Where required due to local regulations (e.g., hurricane resistance standards), other designs may be implemented. See the appendix for kiosk plans.

Fig. 3.1: ECG kiosk on the Androscoggin River Trail, Brunswick, Maine

4. OTHER SIGNAGE

A. Mileage Signs

ECGA may provide "mileage signs" for installation on trailside kiosks or other structures. Contact your ECGA Regional Coordinator for more information.

Fig. 4.1: ECG "mileage sign" on a kiosk along the Farmington Canal Heritage Trail in Simsbury, CT

B. Route Junction Signs

The points where East Coast Greenway spine route and the ECG complementary routes diverge from and rejoin each other should be marked with ECG route junction signs. These are special-order signs custom fabricated for each route junction point, noting the names and directions for both the spine and the complementary routes, and the distances to the point where the two routes come back together.

Fig. 4.2: ECG route junction sign shown at approx. 50% standard size (5.5" x 11"). This mock-up designed for Brunswick, Maine.

C. Bridge ID Signs

ECGA strongly encourages the installation of special identification signs to be installed on or adjacent to trail bridges, notifiying drivers passing beneath that the bridge overhead is part of the East Coast Greenway. ECGA has no design standard for such signs. To date, all ECG bridge ID signs have generally followed MUTCD standards and have been approved and installed by highway maintenance personnel or their contractors.

Fig. 4.3: ECG Bridge ID sign for the American Tobacco Trail bridge over Interstate 40 in Durham, NC

5. APPENDICES

A. East Coast Greenway Sign Order Form

East Coast Greenway

ECG Route Sign Order Form

Trail(s) or street(s) these signs will be placed on:

Contact name, email and phone:

Shipping address:

Item	size	quantity	cost per unit	subtotal
standard route sign	large (15.5" x 5.5")		$10.00	
square arrow 90º (straight, left, right)	large (5.5" on side)		$7.00	
square arrow 45º (diagonal turn L or R)	large (5.5" on side)		$7.00	
sq arrow up then L (L turn warning sign)	large (5.5" on side)		$7.00	
sq arrow up then R (R turn warning sign)	large (5.5" on side)		$7.00	
double-headed arrow	large (5.5" on side)		$7.00	
			TOTAL:	

Please attach a route map showing locations sign installation

Please mail this form and the requested map to info@greenway.org. Payment instructions will follow.

Note: our supplies are limited, so please request only the number of pieces that you plan to install. Contact the ECGA (info@greenway.org /919-797-0619) with any questions.

B. East Coast Greenway Sign Request Form

East Coast Greenway

ECG Route Sign Request Form

Trail(s) or street(s) these markers will be placed on:

Contact name, email and phone:

Shipping address:

Item	size	quantity	cost per unit	subtotal
standard route sign	large (15.5" x 5.5")		~~$10.00~~	
square arrow 90º (straight, left, right)	large (5.5" on side)		~~$7.00~~	
square arrow 45º (diagonal turn L or R)	large (5.5" on side)		~~$7.00~~	
sq arrow up then L (L turn warning sign)	large (5.5" on side)		~~$7.00~~	
sq arrow up then R (R turn warning sign)	large (5.5" on side)		~~$7.00~~	
double-headed arrow	large (5.5" on side)		~~$7.00~~	
			TOTAL:	

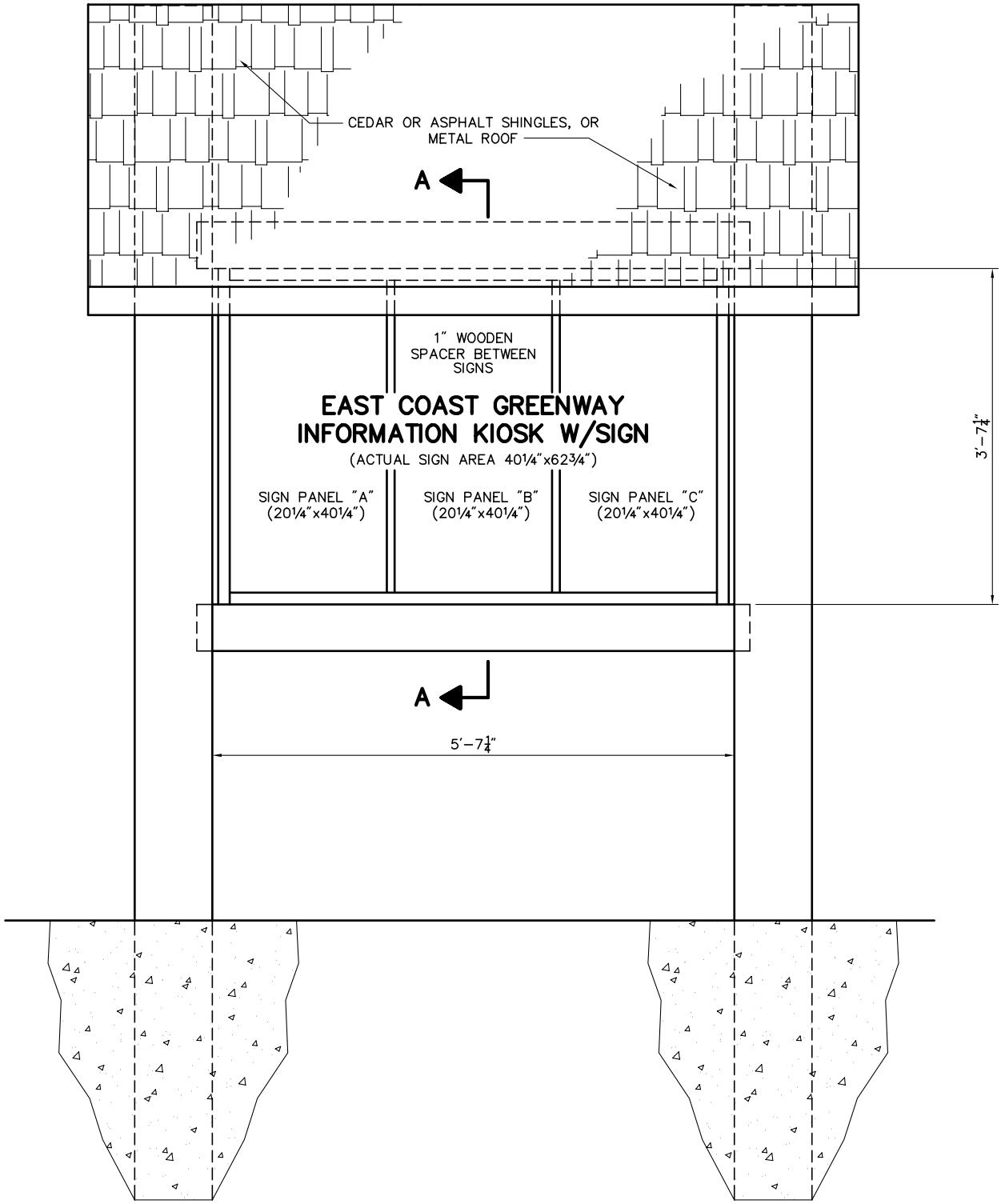
Please use this form ONLY if your agency does not have the funds to purchase signs. If your agency has some of the funds but not enough, contact the ECGA to work out a plan.

Please attach a route map showing locations for sign installation

Please mail this form and the requested map to info@greenway.org

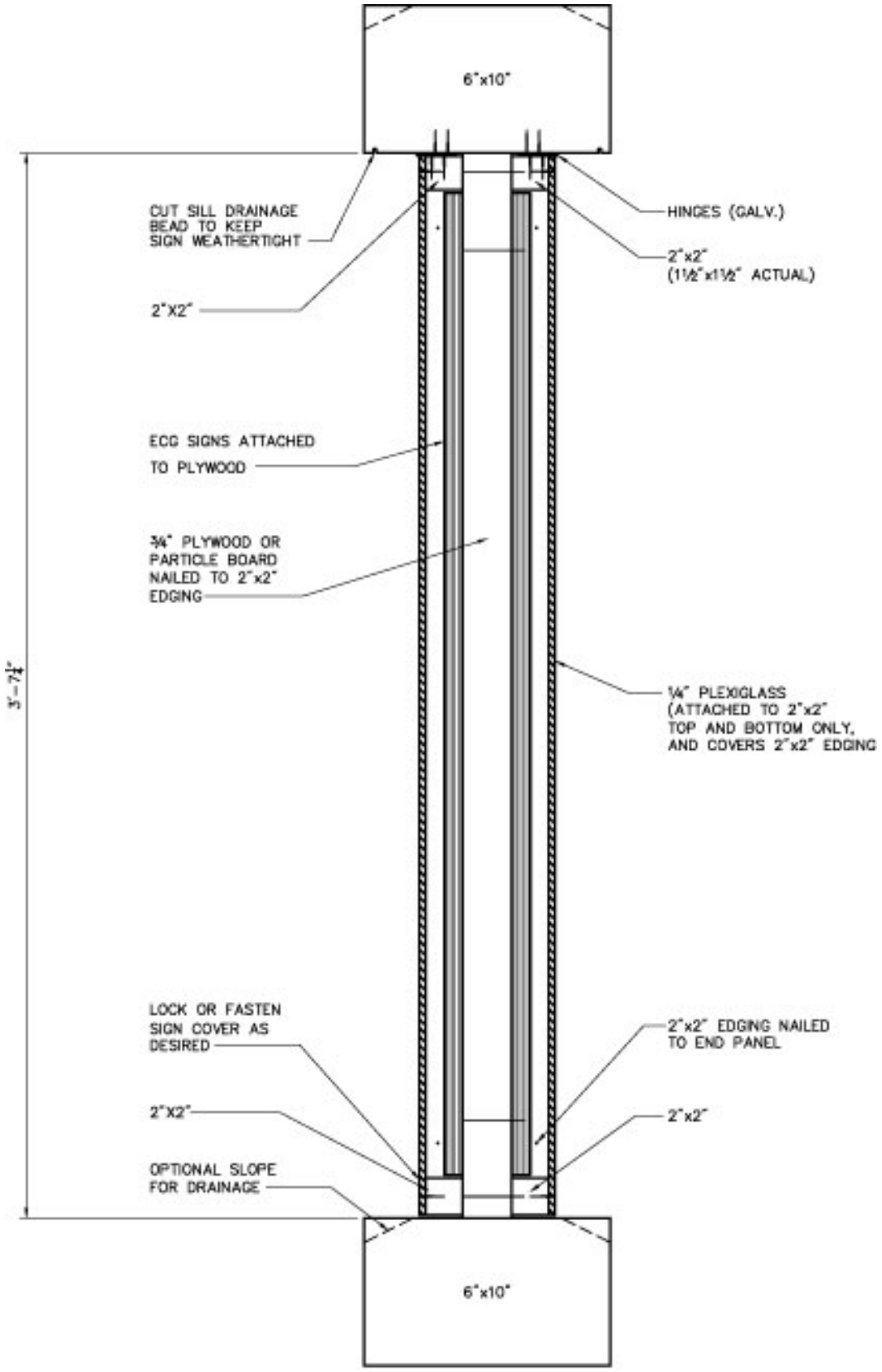
Note: our supplies are limited, so please request only the number of pieces that you plan to install. Contact the ECGA (info@greenway.org /919-797-0619) with any questions.

C. Kiosk Plans



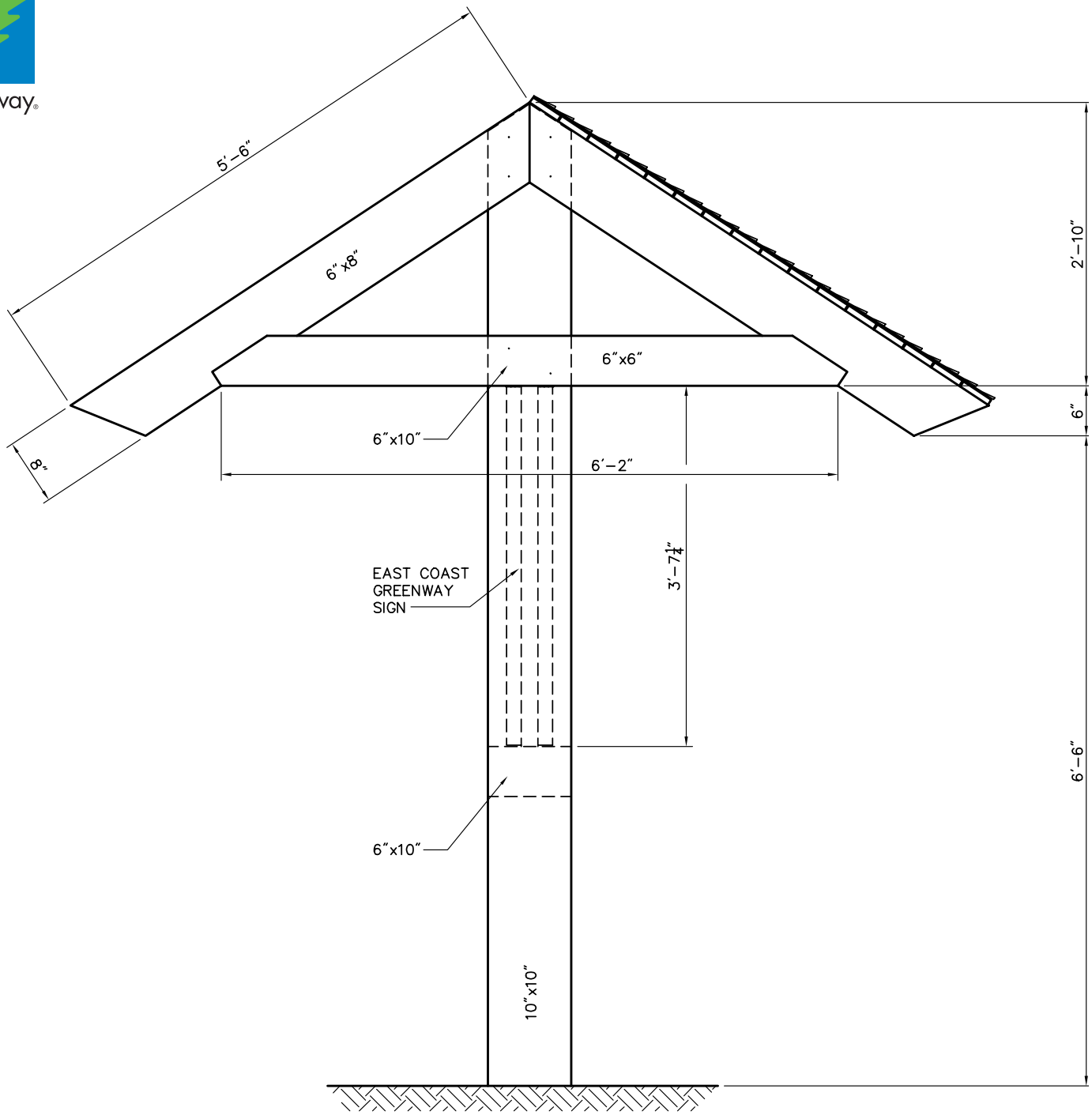
FRONT VIEW

C. Kiosk Plans (cont'd)



SECTION A–A

C. Kiosk Plans (cont'd)



SIDE VIEW

C. Kiosk Plans (cont'd)

East Coast Greenway kiosk: materials list

item	quantity
10" x 10" x 14'	2
6" x 8" x 12'	2
6" x 10" x 12'	1
6" x 6" x 14'	1
5/4" x 6" x 8'	20
bundle, cedar shingles (clear)	3
4' x 8' x 1/4" Plexiglas	2
48 linear ft 2" x 2" (perimeter of sign)	
3/4" x 4' x 8' pt plywood	1
misc hardware (bolts, screws, lag screws, hinges)	