

CITY OF HUNTSVILLE, ALABAMA

SPECIFICATIONS FOR STREET MARKER BLADES OVERHEAD SIGNS SIGN POSTS MOUNTING BRACKETS AND INSTALLATION REVISED January 1, 2020

I. GENERAL

- A. The following specifications shall be used for all street markers, overhead signs, posts and mounting brackets in the City Limits of Huntsville, Alabama.
- B. All Traffic Signage shall conform to the latest edition adopted by the State of Alabama of the Manual on Uniform Traffic Control Devices. (MUTCD)
- C. The following color and materials shall be consistently used with exceptions only allowed with written consent of the City of Huntsville, Alabama.
1. All reflective sheeting shall be made of High Intensity Prismatic (HIP) Sheeting for TYPE IV, VII and VIII. Any "Or Equal" vendor materials must be approved by the City of Huntsville, Alabama, prior to any manufacturing or installations. Currently approved materials are:
 - 3M #3930, HIP Silver/White
 - 3M #3931, HIP Yellow
 - 3M #3932 HIP Red
 - 3M #4083 HIP Fluorescent Yellow Green
 - 3M #3924 HIP Orange
 - 3M #3955 HIP Blue
 2. All Electronic Cut Acrylic Film for Type IV, VII and VIII shall use the following approved materials. Any "Or Equal" vendor materials must be approved by the City of Huntsville, Alabama, prior to use.
 - 3M #1177C Acrylic Film Green
 - 3M #1179C Acrylic Film Brown
 - 3M #1172C Acrylic Film Red
 - 3M #1178C Acrylic Film Black

- 3M #1175C Acrylic Film Blue
- 3M #1174C Acrylic Film Orange
- 3M #1171C Acrylic Film Yellow

3. Current specifications require that all street marker blades shall be made using 3M #3930, HIP Silver/White sheeting overlaid with 3M#1177C Acrylic Green film or 3M #1175C Acrylic Blue film for Private Drives or 3M #1177C Acrylic Brown film for Special Districts. Additional specifications regarding marker blades follow below.

II. STREET MARKER BLADES/SIGNS

A. All street marker blades/signs shall meet the requirements of the latest edition of the Manual on Uniform Traffic Control Devices and as indicated in the chart below. The City of Huntsville, Alabama, has adopted the following criteria for street marker blades/signs:

1. Street Marker Blades/Signs

The purpose of these specifications is to describe two-sided street marker blades/signs manufactured to the latest edition of the Manual on Uniform Traffic Control Devices requirements. All materials are to meet Alabama Department of Transportation Standard Specifications for sign face materials.

2. Street Marker Blades are sized as follows:

- 9” Extruded Street Marker Blades – for Ground Mounted Post Installations
- 12” Flat Street Marker Blades – For Ground Mounted Post Installations for Cross Street meeting Roadway with speed limits 35 mph and above
- 18” Flat Street Marker Blades – For Overhead Installs at Signalized Intersections

3. Foreground colors and designs shall be determined as follows:

- Green Electronic Cuttable, Acrylic file, for Type IV, VII or VIII applications shall be considered standard and used for all City Limit streets.
- Blue Electronic Cuttable, Acrylic film, for Type IV, VII or VIII applications is approved and shall be used for all privately maintained streets.
- Brown Electronic Cuttable, Acrylic film, for Type IV, VII or VIII applications shall be used only when pre-approved by the City of Huntsville, Alabama.

4. Suffixes shall be abbreviated as follows:

<u>FULL SUFFIX</u>	<u>ABBREVIATED SUFFIX</u>
Alley	ALY
Avenue	AVE
Boulevard	BLVD
Box	BOX
Broadway	BDY
Circle	CIR
Court	CT
Cove	CV
Drive	DR
East	E
Fort	FT
Garden	GDN
Heights	HTS
Highway	HWY
Lake	LK
Lane	LN
Mount	MT
Mountain	MTN
North	N
Parkway	PKWY
Path	PTH
Pike	PIKE
Place	PL
Plaza	PLZ
Point	PT
Port	PRT
Road	RD
Route	RT
Row	ROW
Run	RUN
South	S
Square	SQ
Street	ST
Terrace	TER
Trace	TRC
Trail	TR
Turnpike	TPK
Way	WAY
West	W

5. All ground mounted and overhead street name signs shall be designed and manufactured as shown in the chart below:

On-street Posted Speed	Cross-street Blade Type	<i>Desired Font Size for Cross-street (per 2009 MUTCD "should" condition)</i>	<i>Minimum Font Size for Cross-street (if letters with downstrokes such as "j" or "g" are used)</i>
30 mph or less	9" extruded	Upper/Lower Case = 6"	Upper/Lower Case = 5"
35 mph or more	12" flat	Upper/Lower Case = 9"	Upper/Lower Case = 7"
Overheads	18" flat	Upper Case/Lower Case = 12"	Upper/Lower Case = 10"
Any approach that is STOP-controlled	9" extruded	Upper/Lower Case = 6"	Upper/Lower Case = 5"

B. 9" Extruded Street Marker Blades – for Ground Mounted Post Installations

1. Materials:

- a. Blades shall be a domestic aluminum alloy, Type 6061-T6 with a 0.250 edge and a 0.091 web and be treated by Alodine 1200E process.
- b. Blades shall be available in 9" height (outside edge to outside edge).
- c. Blades shall be available in lengths from 24" to 48" using standard increments.
- d. Ribs shall be 0.250" + 0.05" in thickness and wider than 1", the bottom of the rib must be rounded and the slope from the blade to the rib must be gradual enough to allow sheeting to be applied with ease.
- e. Background shall be 9" by appropriate length, i.e., length of blank, white Type IV, VII or VIII high-intensity prismatic reflective sheeting.
- f. Foreground shall be 8" by appropriate length GREEN, BROWN, OR BLUE (for private streets) Electronic Cuttable, Acrylic film, for Type IV, VII or VIII applications.

2. Manufacturing:

- a. All 9" blades shall be manufactured as follows and per the attached drawings and charts provided herein with the quadrant, street name, suffix, and block, numbers cutout as follows:
 1. Street names and suffix with no down stroke letters shall be 6" 'B' Series, Highway Gothic.
 2. Street name and suffix with down stroke letters (i.e. "g" "j" "p" "q" "y") shall be 5" B Series, Highway Gothic.
 3. Quadrant (i.e. SE, SW, NE, NW) shall be 2-1/2" 'C' Series, Highway Gothic
 4. Block numbers shall be 2-1/2" 'C' Series, Highway Gothic. (If a block number is not provided, adequate space must be provided for future installation.
 5. Each sign shall be identically faced on each side of aluminum blank for 9" Extruded Blade and faced on only one side of aluminum blank for 12" Flat Blades.
 6. In cases such as 1 St AVE, the sign shall be manufactured so that the "St" is as follows: "1 St". The "St" shall be made with 6" 'B' Series lettering.
- b. Aluminum blank length for each sign shall be determined by the number of letters in the street name and suffix as a guideline shall be manufactured as follows:
 1. 1-4 letters = 24" aluminum blank
 2. 5-6 letters = 30" aluminum blank
 3. 7-8 letters = 36" aluminum blank
 4. 9-10 letters = 42" aluminum blank
 5. 11-12 letters = 48" aluminum blank
 6. For 13 or more letters, letter size and/or kerning should be adjusted to allow for name to fit on a 48" blank
 7. All street names shall be made exactly as provided
- c. Typical layout of legend shall include:
 1. Shall have 8" foreground centered on 9" extruded aluminum blank with 1/2" margin on all 4 sides
 2. Shall have a street name beginning 1" in from left side centered vertically with the exception of street names with a down stroke letter
 3. Down stroke letter's bottom edge shall be 1/2" up from bottom edge of the EC film
 4. Shall have block number on the right side centered below the quadrant with bottom level with bottom of street name and top below horizontal center.
 5. Private street names and suffix with no down stroke letters shall be 6" 'B' Series, Highway Gothic.

6. Private street name and suffix with down stroke letters (i.e. “g” “j” “p” “q” “y”) shall be 5” B Series, Highway Gothic.
7. Private street name Quadrant (i.e. SE, SW, NE, NW) shall be on the left side of the sign and centered vertically and shall use a 2-1/2" 'C' Series, Highway Gothic
8. Private streets shall have "Private Drive" using a 2-1/2” ‘C’ Series with Private above Drive and centered from top to bottom where block number and quadrant are on typical standard signs.

C. 12” Flat Street Marker Blades – For Ground Mounted Post Installations for Cross Street meeting Roadway with speed limits 35 mph and above.

1. Materials:

- a. Blades shall be a domestic aluminum type
- b. Blades shall be available 12” in height.
- c. Blades shall be available in lengths from 24” to 60” using standard increments.
- d. Metal thickness shall be .080.
- e. Blades will not be punched with holes.
- f. Blades shall have standard rounded corners

2. Manufacturing:

- a. All 12” blades shall be manufactured as follows and per the attached drawings and charts provided herein with the quadrant, street name, suffix, and block, numbers cutout as follows:
 1. Street names and suffix with no down stroke letters shall be 9" 'B' Series, Highway Gothic.
 2. Street name and suffix with down stroke letters (i.e. “g” “j” “p” “q” “y”) shall be 7” B Series, Highway Gothic.
 3. Quadrant (i.e. SE, SW, NE, NW) shall be 3-3/4" 'C' Series, Highway Gothic

4. Block numbers shall be 3-3/4" 'C' Series, Highway Gothic. (If a block number is not provided, adequate space must be provided for future installation.
5. Each sign shall be faced on only one side of aluminum blank for 12" Flat Blades.
6. In cases such as 1 St AVE, the sign shall be manufactured so that the "St" is as follows: "1 St". The "St" shall be made with 9" 'B' Series lettering.

b. Aluminum blank length for each sign shall be determined by the number of letters in the street name and suffix as a guideline shall be manufactured as follows:

1. 1-4 letters = 24" aluminum blank
2. 5-6 letters = 30" aluminum blank
3. 7-8 letters = 36" aluminum blank
4. 9-10 letters = 42" aluminum blank
5. 11-12 letters = 48" aluminum blank
6. For 13 or more letters, letter size and/or kerning should be adjusted to allow for name to fit on a 48" or 60" blank
7. All street names shall be made exactly as provided

c. Typical layout of legend shall include:

1. Shall have 11" foreground centered on 12" extruded aluminum blank with 1/2" margin on all 4 sides
2. Shall have a street name beginning 1" in from left side centered vertically with the exception of street names with a down stroke letter
3. Down stroke letter's bottom edge shall be 1/2" up from bottom edge of the EC film
4. Shall have block number on the right side centered below the quadrant with bottom level with bottom of street name and top below horizontal center.
5. Private street names and suffix with no down stroke letters shall be 9" 'B' Series, Highway Gothic.
6. Private street name and suffix with down stroke letters (i.e. "g" "j" "p" "q" "y") shall be 7" B Series, Highway Gothic.
7. Private street name Quadrant (i.e. SE, SW, NE, NW) shall be on the left side of the sign and centered vertically and shall use a 3-3/4" 'C' Series, Highway Gothic
8. Private streets shall have "Private Drive" using a 3-3/4" 'C' Series with Private above Drive and centered from top

to bottom where block number and quadrant are on typical standard signs.

D. 18" Flat Street Marker Blades – For Overhead Installs at Signalized Intersections

1. Materials:

- a. Blades shall be a domestic aluminum type
- b. Blades shall be available 18" in height.
- c. Blades shall be available in lengths from 36" to 96" using standard increments.
- d. Metal thickness shall be .080.
- e. Blades will not be punched with holes.
- f. Blades shall have standard rounded corners

2. Manufacturing:

- a. All 18" blades shall be manufactured as follows and per the attached drawings and charts provided herein with the quadrant, street name, suffix, and block, numbers cutout as follows:
 1. Street names and suffix with no down stroke letters shall be 12" 'B' Series, Highway Gothic.
 2. Street name and suffix with down stroke letters (i.e. "g" "j" "p" "q" "y") shall be 10" B Series, Highway Gothic.
 3. Each sign shall be faced on only one side of aluminum blank for 18" Flat Blades.
 4. In cases such as 1 St AVE, the sign shall be manufactured so that the "St" is as follows: "1 St". The "St" shall be made with 12" 'B' Series lettering.
- b. Aluminum blank length for each sign shall be determined by the number of letters in the street name and suffix as a guideline shall be manufactured as follows:
 8. 1-3 letters = 36" aluminum blank
 9. 4-5 letters = 48" aluminum blank
 10. 6-7 letters = 60" aluminum blank
 11. 8-9 letters = 72" aluminum blank

12. For 10 or more letters, letter size and/or kerning should be adjusted to allow for name to fit on a 96" blank
13. All street names shall be made exactly as provided

c. Typical layout of legend shall include:

1. Shall have 17" foreground centered on 18" aluminum blank with 1/2" margin on all 4 sides
2. Shall have a street name beginning 1" in from left side centered vertically with the exception of street names with a down stroke letter
3. Down stroke letter's bottom edge shall be 1/2" up from bottom edge of the EC film
4. Private street names and suffix with no down stroke letters shall be 12" 'B' Series, Highway Gothic.
5. Private street name and suffix with down stroke letters (i.e. "g" "j" "p" "q" "y") shall be 10" B Series, Highway Gothic.
6. Upper and Lower case shall be used. (Sentence case.)

E. SPECIAL DISTRICTS

1. Historic Twickenham District in downtown areas as designated by the City of Huntsville, Alabama, and will include a tree design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.
2. Ditto Landing areas as designated by the City of Huntsville, Alabama, will include a boat design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.
3. Old Town areas as designated by the City of Huntsville, Alabama, will include an Old Town words logo design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.
4. Merrimack areas as designated by the City of Huntsville, Alabama, will include a Merrimack words logo design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.

5. Five Points areas as designated by the City of Huntsville, Alabama, will include a fence and star design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.
6. Cummings Research Park areas designated by the City of Huntsville, Alabama. Contact City of Huntsville Traffic Engineering for any installations in Cummings Research Park.
7. McThornmor Acres areas as designated by the City of Huntsville, Alabama, will include a rocket and moon design at the leftmost side of the face of the sign centered from top to bottom. The quadrant and block number shall be right of the street name and suffix.

III. SIGN POSTS AND MOUNTING HARDWARE

A. U-Channel Post

The following are considered minimum specifications for U- Channel posts utilized in sign installation.

1. General

All U-Channel posts shall have standard:

- a. Full length punching.
- b. 3/8" diameter holes
- c. 1" on center starting 1" from top of post
- d. Three (3) pounds per foot weight.
- e. Minimum twelve (12) feet in length.

2. Material Specifications - U-Channel Posts:

Posts shall consist of re-rolled rail steel or equivalent steel. They shall conform to the mechanical requirements of ASTM Specification A-499-81, Grade 60 (Hot-Rolled Carbon Steel Bars and Shapes Re-Rolled from Rail Steel), and to the chemical requirements of ASTM Specification A-1-76 (Carbon Steel Tee Rails) for rails having nominal weights of 91 pounds or heavier per yard. These chemical requirements include the following limitations:

- a. Carbon 0.67 – 0.89 percent
- b. Manganese 0.70 – 1.00 percent
- c. Silicon 0.10 -0.25 percent

3. Finish:

- a. All posts are to be hot dipped zinc galvanized.
- b. No painted u-channel posts shall be allowed.

B. Extruded Aluminum Sign Blade Mounting Bracket (Street Markers)

The purpose of these specifications is to describe a bracket utilized in the mounting of Extruded Aluminum Sign Blades at a 90-degree angle to each other atop a U-Channel Post.

1. All street marker blade holders must meet the requirements of the latest edition of the Manual on Uniform Traffic Control Devices. Die cast high strength aluminum brackets. P.S.I. tumbled and degreased for smoothness and ease of handling. Currently approved by City of Huntsville for use is Type Vulcan SUPR-LOK U-Channel Caps for Extruded Blades 5-1/2" Blade Holder or EQUAL Sign Blade Holders further described:
 - a. 180 Degree Brackets shall be Part #91UX-NU180 CAP or equal
 - b. 90 Degree Brackets shall be Part #91UX-OL90 CAP or equal
 - c. X Brackets shall be Part #990-X Cross Sign Blade Holder or equal
2. All extruded sign blade mounting aluminum brackets shall have as standard construction the following:
 - a. Number 380 alloy with tensile strength of 49,000 psi.
 - b. Two angled ribs on each side.
 - c. Sets shall be tapped and drilled for minimum of 10-5/16" zinc plated Allen-type set screws.
 - d. Set shall consist of one (1) post to sign bracket, one (1) sign to sign bracket, and necessary set screws.

C. Square Tube Posts

Only 2" x 2" square tube posts shall be used for Cummings Research Park. Contact City of Huntsville Traffic Engineering for information on any installations at Cummings Research Park.

Additionally, 2" x 2" square tube posts are approved for use at Ditto Landing, along Eastern Bypass and Providence Subdivision. Use of posts at any location other than a U-Channel posts must be approved by the City of Huntsville, Alabama. Where square tube posts are permitted, the following are minimum standards that tube posts must meet. Current approved vendor is Allied Tubing. All requests for use of another vendor must be submitted for approval.

1. Material

- a. Steel posts shall conform to the standard specifications for Hot-Rolled Carbon Sheet Steel, structural quality ASTM designation A570, Grade 50.
- b. The cross section of the post shall be a square tube formed of 14 or 12-gauge steel, carefully rolled to size and welded in the corner.
- c. The length of the post shall be available in both 12 or 14 feet lengths, with an allowable tolerance of + or = 1/4".
- d. The furnished members shall be straight and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with a minimum amount of play.
- e. Signposts and associated hardware are to either be galvanized or powder coated with a dark bronze (Sherwin Williams BRZ4 color or Equal), Lead and Cadmium Free F-Nr. 57680.
- f. Signposts shall have die-cut knockouts for mounting of signs. (Qwik Punch)

2. Approved standard materials to be used are the Allied Tube products listed below or Equal.

- a. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 12 ' long
- b. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 14' long
- c. Powder Coated Pedestal Base
- d. Powder Coated; Extruded Street Name Bracket; Cap
- e. Powder Coated; Extruded Street Name Bracket; Tee
- f. Powder Coated; Post Cap
- g. Slip Base Assembly for 2" post
- h. Galvanized Tubular Post; 2"x 2"; 14 gauge; 12' long
- i. Galvanized Tubular Post; 2" x 2"; 14 gauge, 14' long
- j. Galvanized Tubular Post 2-1/2" x 2-1/2"; 12 gauge; 14' long
- k. Pedestal Base
- l. Concrete Barrier Mount
- m. Guardrail Clip
- n. T-Fitting
- o. L-Fitting
- p. Straight Fitting
- q. 90 Degree Fitting
- r. 45 Degree Fitting
- s. Extruded Street Name Bracket; Cap
- t. Extruded Street Name Bracket; Tee
- u. Omni-Direct Anchor 2-1/4"x2-1/4"x3' w/welded soil stabilizer vanes
- v. Slip Base Assembly for 2-1/2" post
- w. Slip Base Assembly for 2" post
- x. Universal Post Clamps for 2-1/2" posts
- y. Drive Rivets
- z. Corner Bolts with jam nuts

3. Approved standard hardware materials to be used to mount the traffic signs to the posts are:
 - a. 5/16" x 2-1/2" Stainless steel hex bolt
 - b. 5/16" Stainless steel washer
 - c. 5/16" Nylon washer
 - d. 5/16" Brass locking nut with nylon insert

IV. INSTALLATION OF U-CHANNEL POSTS AND BRACKETS, TUBE POSTS AND BRACKETS FOR STREET MARKERS/BLADES AND TRAFFIC CONTROL SIGNS

A. U-Channel Post Installation

1. Signs shall be installed on 12' U-Channel post. The U-Channel post shall be installed 30" in the ground with the U-Channel facing traffic.

B. Street Name Sign and Bracket Installation on U-Channel Posts

1. The part of the cross bracket that attaches to the sign "where the allen set screws are" should be drilled out using a 3/8" drill bit.
2. The bracket shall then be used to mark the holes to be drilled on the street name signs.
3. The street name sign shall be drilled out using a 3/8" drill bit.
4. The bracket should then be fastened to the street name sign using 5/16" x 1" stainless steel bolts with brass nuts with nylon inserts.
5. The bottom bracket (90 degree or 180 degree) should be drilled out with a 3/8" drill bit and attached to the bottom blade. The threaded mounting holes on the bottom of the bracket do not have to be drilled out, but can be attached to the U-Channel post using 5/16" x 1" stainless steel bolts with brass nuts with nylon inserts.
6. Street marker blades shall have the shorter length marker blade mounted above the larger length marker blade, unless larger length of blade will obstruct flow of traffic.
7. **The set screws that come with the brackets shall not be used.**

C. Tube Posts and Mounting Brackets

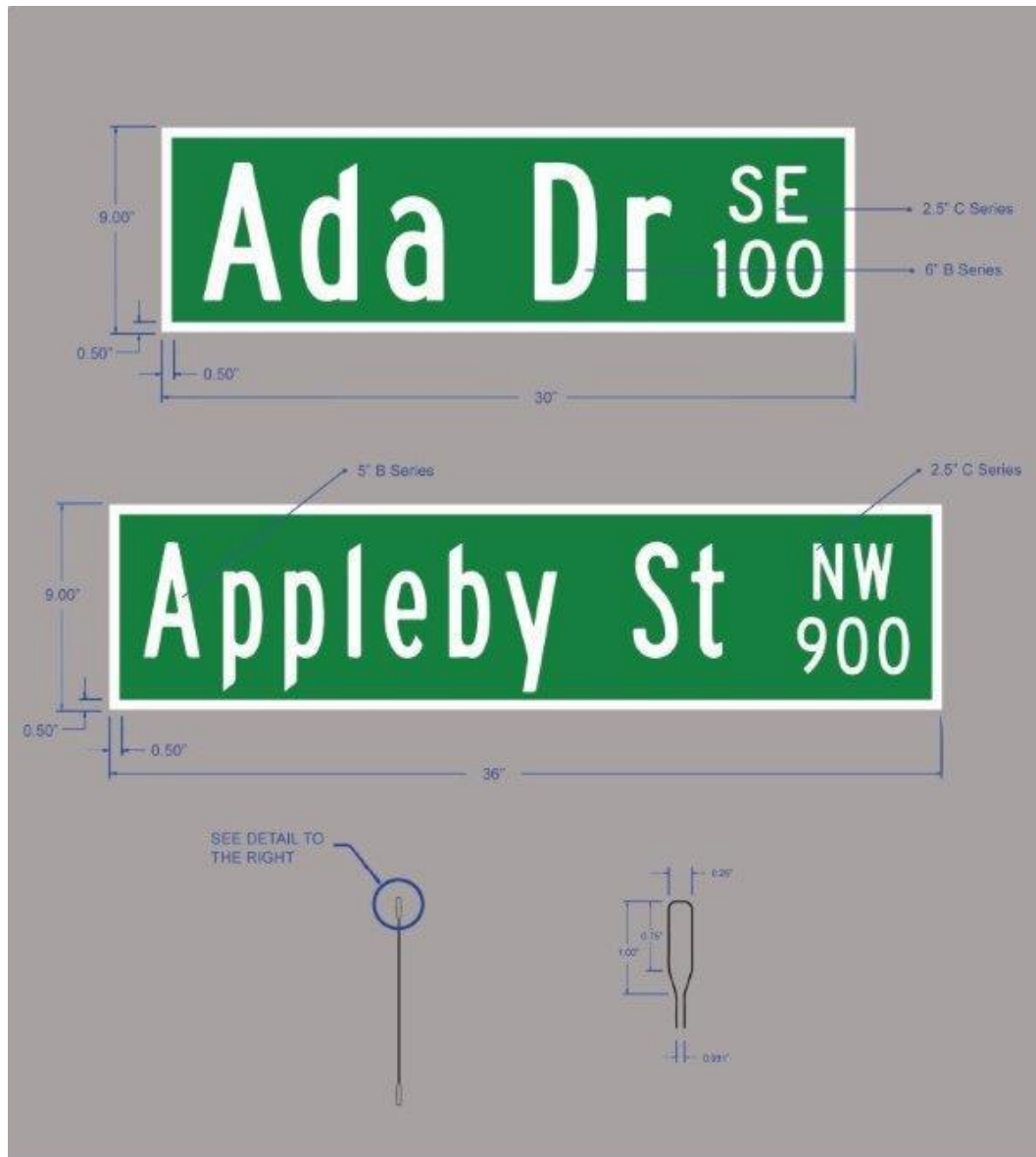
1. Each 2" x 2" square tube post shall be installed using an Omni Directional Anchor Base.
2. All bases shall be installed so that only 3" of the base are above ground level.
3. Each tube post shall be topped with either a powder coated post cap or extruded street name bracket (tee) on each post.
4. Each extruded street name tee cap shall be drilled through the post

- and through the tee cap using a 3/8" drill bit.
5. Each extruded street name tee cap shall be bolted on using a 5/16" x 3-1/4" stainless steel hex bolt, 5/16" stainless steel flat washer and 5/16" brass nut with nylon insert.

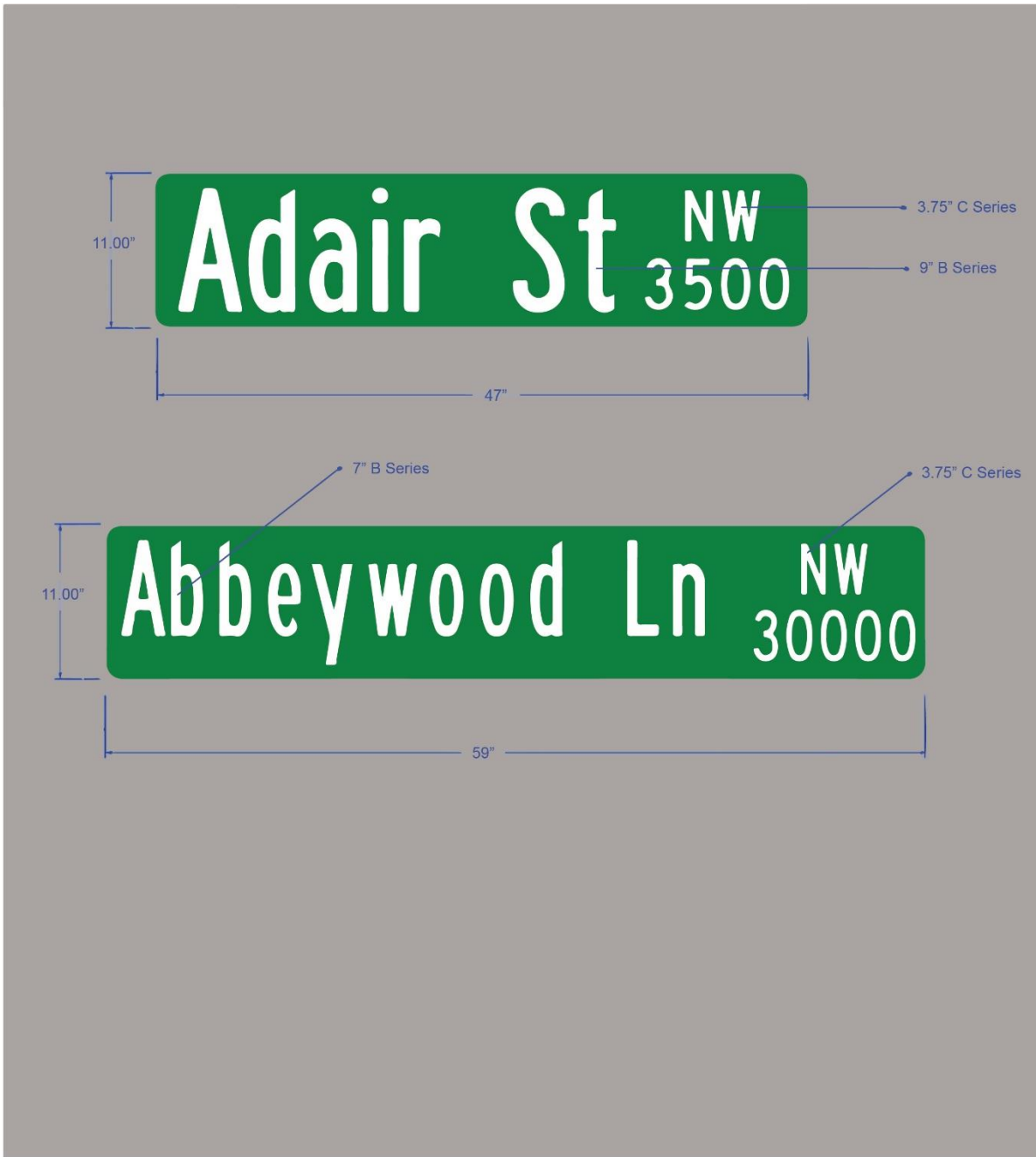
D. Marker Blade Installation on Tube Posts

1. Street marker blades shall have the shorter length marker blade mounted above the larger length marker blade, unless larger length of blade will obstruct flow of traffic.
2. The allen set screws that are provided with the street marker brackets above shall be removed and the holes drilled out using a 3/8" drill bit.
3. The street name blade should then be drilled using a 3/8" drill bit.
4. Use 5/16" x 1" stainless steel hex bolts with a 5/16" brass locking nut w/nylon insert to attach the bracket to the street name blade.
5. After the street marker blades have been assembled, the assembled marker blades shall be installed on top of the 2" x 2" post using a 5/16" x 3-1/4" stainless steel hex bolt with a 5/16" brass nut with nylon nut.

E. Examples of Street Marker Blades



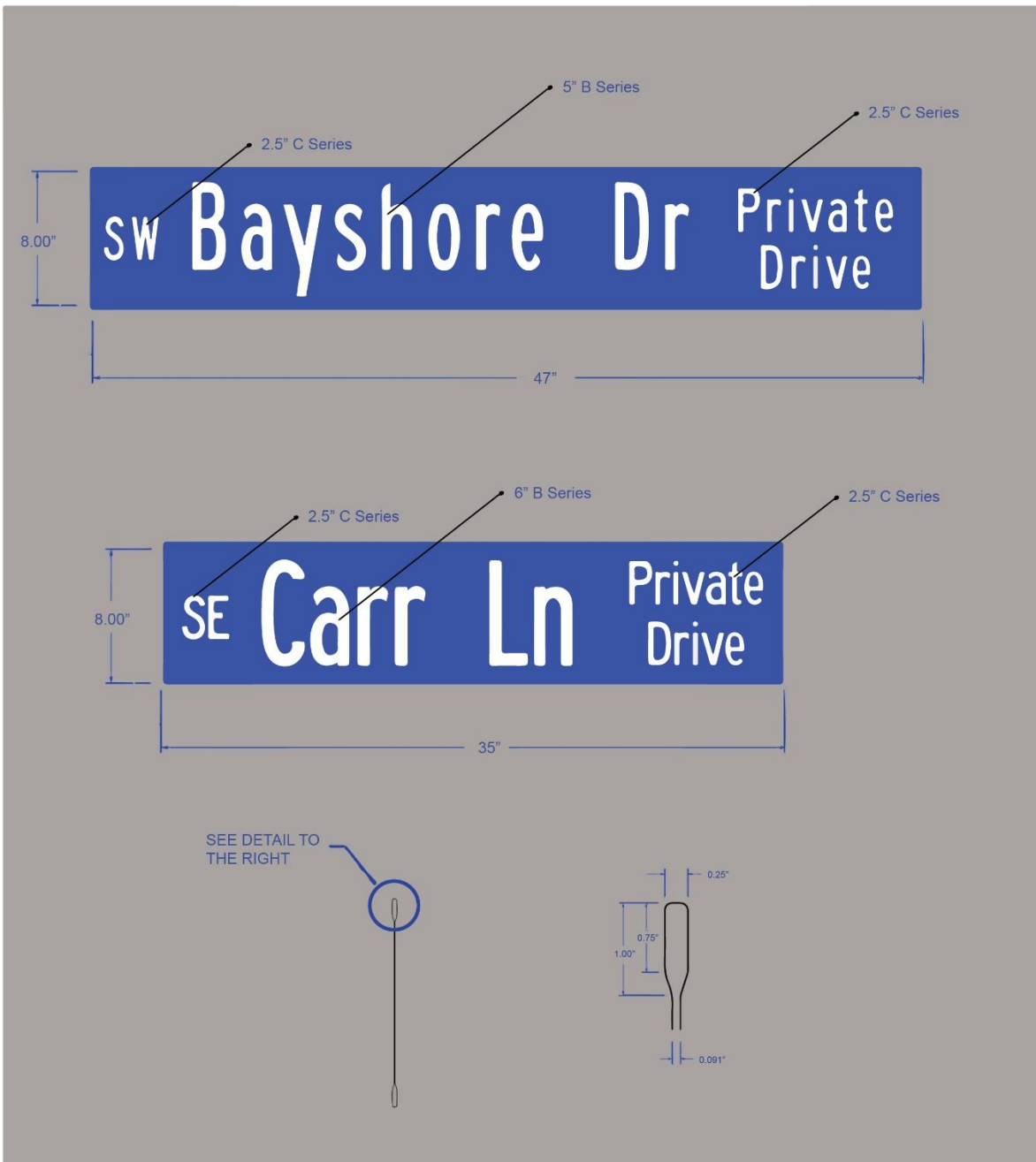
1. Use 9" extruded metal aluminum blanks.
2. Use white letters w/ green background.
3. Leave a 1/2" border on all sides.
4. For Street Names with no Downstroke Letter, use a 6" B Series Letter.
5. For Street Names with a Downstroke Letter, use a 5" B Series Letter.



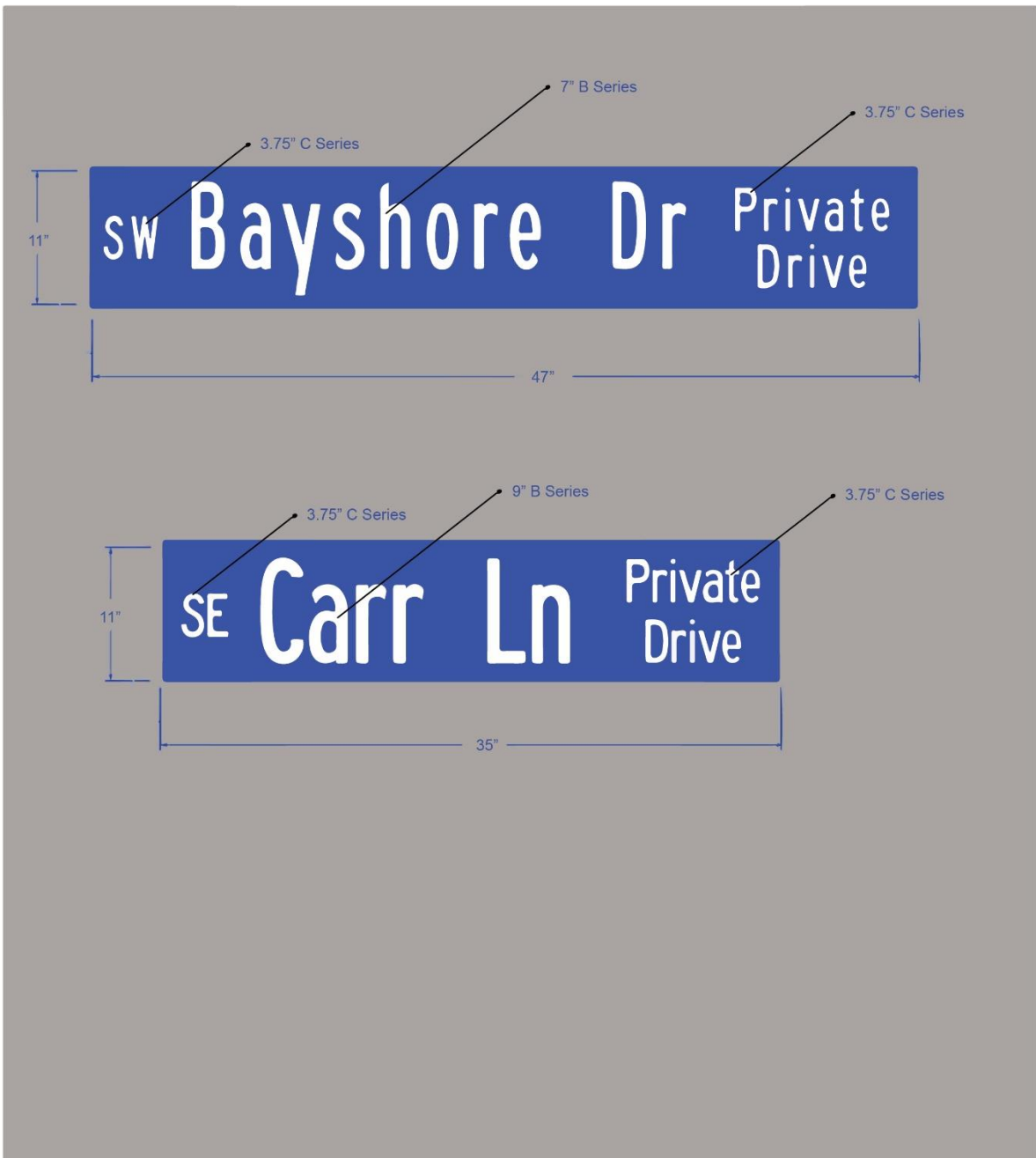
1. Use 12" flat metal - .080 Aluminum.
2. Use white letters w/ green background.
3. Sheeting on one side only. (2 blanks needed per street).
4. Leave a 1/2" border on all sides.
5. For Street Names with no Downstroke Letters, use a 9" B Series Letter.
6. For Street Names with Downstroke Letters, use 7" B Series Letter.



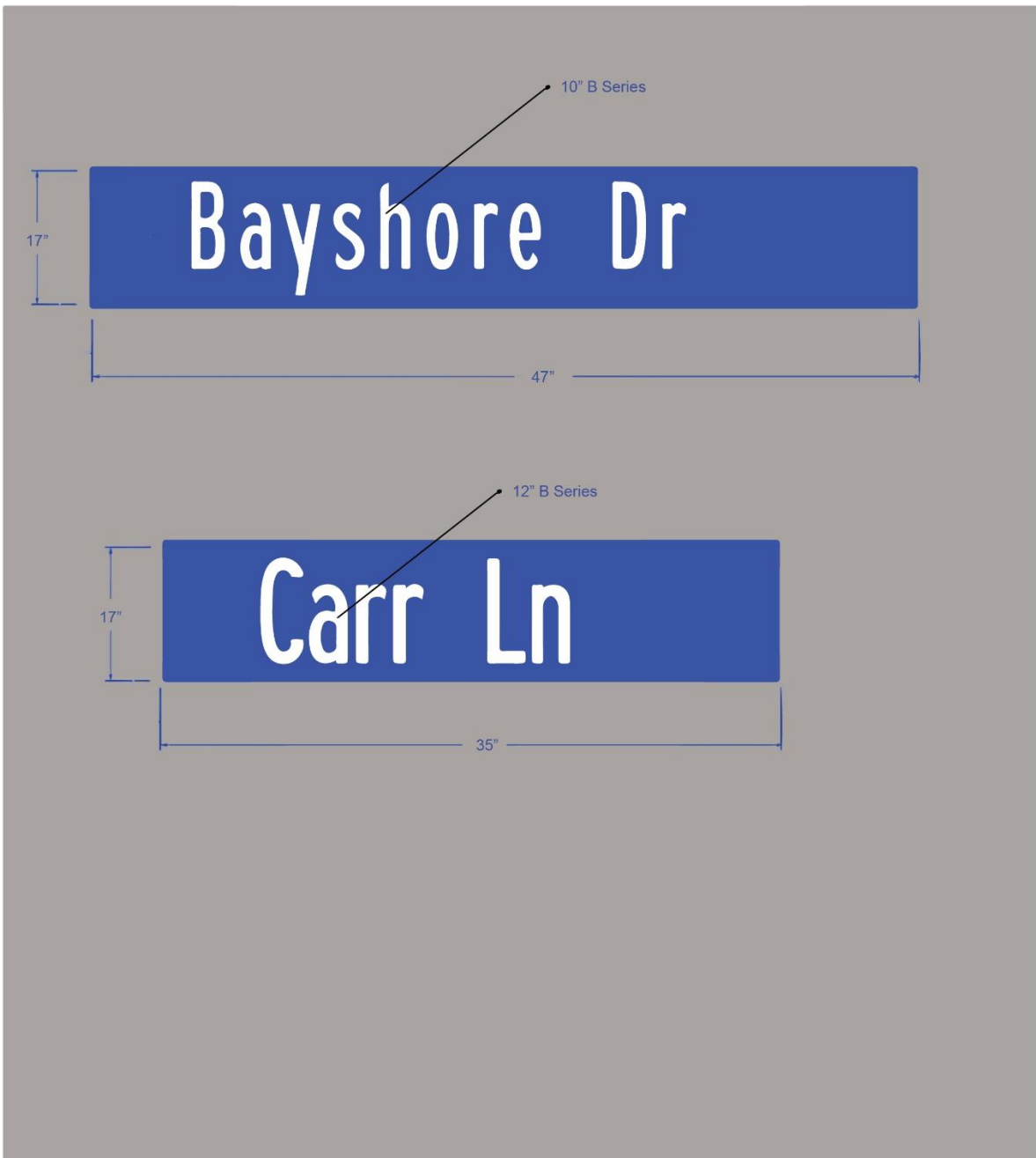
1. Use 18" Flat Metal - .080 Aluminum.
2. Use white letters w/ green background.
3. Leave a 1/2" white border on all sides.
4. For Street Names with no Downstroke Letter, use a 12" C Series Letter.
5. For Street Names with a Downstroke Letter, use an 10" C Series Letter.



1. Use 9" extruded metal aluminum blanks.
2. Use white letters w/ blue background.
3. Leave a 1/2" border on all sides.
4. For Street Names with no Downstroke Letter, use a 6" B Series Letter.
5. For Street Names with a Downstroke Letter, use a 5" B Series Letter.



1. Use 12" flat metal aluminum blanks.
2. Use white letters w/ blue background.
3. Leave a 1/2" border on all sides.
4. For Street Names with no Downstroke Letter, use a 9" B Series Letter.
5. For Street Names with a Downstroke Letter, use a 7" B Series Letter.



1. Use 18" flat metal aluminum blanks.
2. Use white letters w/ blue background.
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4. For Street Names with no Downstroke Letter, use a 12" B Series Letter.
5. For Street Names with a Downstroke Letter, use a 10" B Series Letter.