

FEBRUARY 2024



# INTRODUCTION

The city of Birmingham, Michigan hired Corbin Design to provide consulting and design services to update the city's wayfinding and signage program. This includes development of new signage design standards that integrate municipal signage into a cohesive, user-friendly program that will provide fresh and consistent wayfinding for Birmingham.

This Master Plan document provides guidance to Birmingham personnel and outside consultants involved in specifying, fabricating, and installing signs for the city. It is designed to guide the use of the Birmingham design standard, to assure that it is correctly and consistently applied.

# Corbin Design Team

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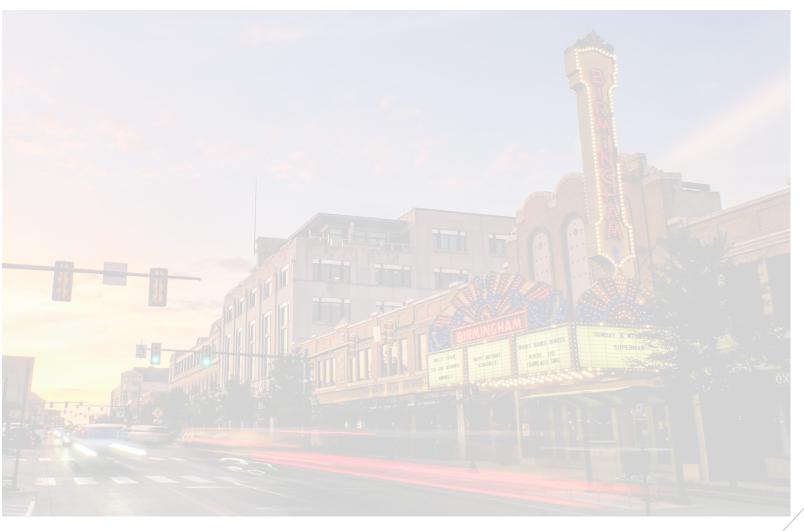
# MASTER PLAN OBJECTIVES

- Complement the environment and coordinate
   with other street scane elements
- Create a strong first impression with visitors.
- . Boost visitor satisfaction
- Improve Birmingham's tourism business by encouraging exploration, longer stays and return visits.

# TABLE OF CONTENTS

# **MASTER PLAN**

Project Summary2
Design Intent Drawings
Sign Location Plan29
Sign Message Schedule3
Budget & Phasing Plan52



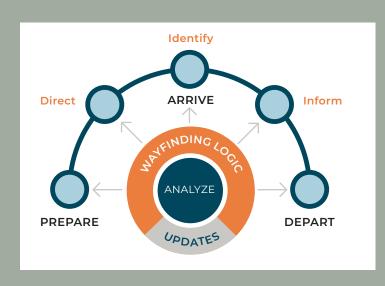
# ELEMENTS OF SUCCESSFUL A WAYFINDING PROGRAM

#### WHAT IS WAYFINDING?

Corbin Design defines wayfinding as "direction for people in motion." A wayfinding program is a unique utility for communities because it can move people through an area to their intended destination, while also carrying brand and identity elements. It functions like a utility but can behave like a brand.

Successful wayfinding programs are more than attractive signs. The signs are a result of the wayfinding logic. This logic is a series of strategies and recommendations that outlines the overall plan to inform and direct visitors along predetermined routes to districts, public parking and destinations.

The Journey Map below depicts potential opportunities to influence the visitor's interaction with navigation and orientation tools. This includes previsit research though digital and print media all the way through to physical signage.



CORBIN DESIGN DEFINES WAYFINDING AS

"DIRECTION FOR PEOPLE IN MOTION."

# DESIGN FOR THE FIRST-TIME VISITOR.

Repeat visitors will rely heavily on their own experience. The simplest route between two points may not be a straight line, particularly for a visitor who is unfamiliar with Birmingham. Our goal will be to help direct that first-time visitor, assuring a positive experience and future return visits.

#### STRUCTURE INFORMATION.

Tools designed to support a visitor's journey must provide the proper information at key decision points to keep visitors moving toward their destination. We call this concept "Progressive Disclosure." The challenge, then, is to verbally and visually simplify the information in the system. Consistency is the key to success.

#### SUPPORT INTUITION.

Wayfinding systems work best when they build upon routes that are intuitive to first-time visitors. Wayfinding cues should come as much as possible from the environment itself. This way everyday people can help support consistent wayfinding if asked for directions.

#### DESIGN THE SYSTEM FOR EASY UPDATING.

The system needs to be designed to be able to expand or change as the city does. The need to change a single message should not require the replacement of an entire sign structure.

# **SIGN TYPE EXAMPLES**



Vehicular Guide Sign



District Boundary Marker



Parking Identification Sign -



Pedestrian Map Kiosk

# **DESTINATIONS**

A wayfinding program is only as good as the information it contains. It is important to consider destination names that are included on wayfinding signage for consistency, clarity and fit.

The Wayfinding & Signage Committee have established a local criteria for a destination's inclusion on wayfinding signage, particularly vehicular signage. The criteria should comply with Michigan Department of Transportation (MDOT) and the Manual for Uniform Traffic Control Devices (MUTCD) standards.

Because MDOT will only allow for three destinations on a vehicular guide sign, space on there is limited. Destinations that do not meet criteria for inclusion on vehicular signs can be included on the pedestrian level. The destination list to the right has established the priority in which destinations should appear.

In order for a destination to appear on vehicular signage, it must meet the following criteria set by the DOT (unless otherwise approved by the Committee for installation along city-owned roads.)

#### CRITERIA FOR DESTINATION INCLUSION:

- · Be a public destination.
- · Be a not-for-profit destination.
- · Be open year-round.
- · Have ample public parking.
- · Have high attendance relative to the area.

# **DESTINATIONS & HIERARCHY**

Destination Name	Appears on Vehicular Signage	Appears on Pedestrian Signage & Maps	Destination Type
Downtown	X	Х	District
Market North	X	X	District
Haynes Square	X	X	District
Rail District	X	X	District
Chester Street Garage	X	X	Public Parking
North Old Woodward Garage (and surface lot)	Х	X	Public Parking
Park Street Garage	Х	X	Public Parking
Peabody Street Garage	X	X	Public Parking
Pierce Street Garage	Х	X	Public Parking
Public Parking Lot 6	Х	Х	Parking
Baldwin Public Library	Х	X	Library
Booth Park		X	Park
Emagine Palladium Theatre	Х	Х	Entertainment
Kenning Park		Х	Park
Poppleton Park		X	Park
Shain Park	Х	X	Park
The Birmingham Museum	Х	X	Museum
Barnum Park		Х	Neighborhood Park
BBAC Birmingham Bloomfield Art Center		X	Museum
Birmingham Ice Sports Arena		X	POI
City Hall	Х	X	POI
Greenwood Cemetery		Х	POI (point of interest)
Lincoln Hills Golf Course		X	Entertainment
Springdale Golf Course		X	Entertainment
The Birmingham 8		X	Entertainment
The Community House		X	POI
Amtrak Rail Station - Troy Transit Center		Х	Transit
Lincoln Hills Dog Park		Х	Park
Quarton Lake Park		X	Park
Rogue River Trails		X	POI

# WAYFINDING RECOMMENDATIONS

### **IDENTIFY AND PROMOTE CITY BOUNDARIES**

The metro-Detroit area is thriving and the need for communities to standout from their competitors to attract new businesses, residents and visitors is apparent. Local communities, including Royal Oak and Berkley, have implemented wayfinding systems to highlight city boundaries, brand the community and direct to top destinations so that visitors associate their positive experience with the community.

Because of how fluid the experience is traveling from one community to the next, especially along Woodward Ave., Birmingham needs to improve its gateway signage and celebrate the visitor's arrival into the city by highlighting the main city boundaries with gateway signs that reflect the city's brand and identity. This is Birmingham's first opportunity to create a WOW! factor along the visitor's journey.

Once introduced to the community, it is important to keep visitors active in Birmingham by connecting them to the different areas and destinations around the city while continuing to reinforce the city identity. It is important for visitors to understand that the positive experiences they are having are happening in Birmingham. This will lead to further exploration and return visits.



Existing signage from surrounding communities:











# WAYFINDING RECOMMENDATIONS

### **CONTROL CIRCULATION**

As visitors navigate Birmingham, there are multitudes of routes that can be used to get to a destination, particularly when relying on GPS or smartphones. These tools are great to get visitors to a destination efficiently but that is it. The wayfinding plan will allow Birmingham to control vehicular circulation by highlighting and supporting the best routes. Visitors will be directed along routes that are visually appealing, can handle the traffic, easily connect destinations and districts, and have easy access to public parking opportunities.

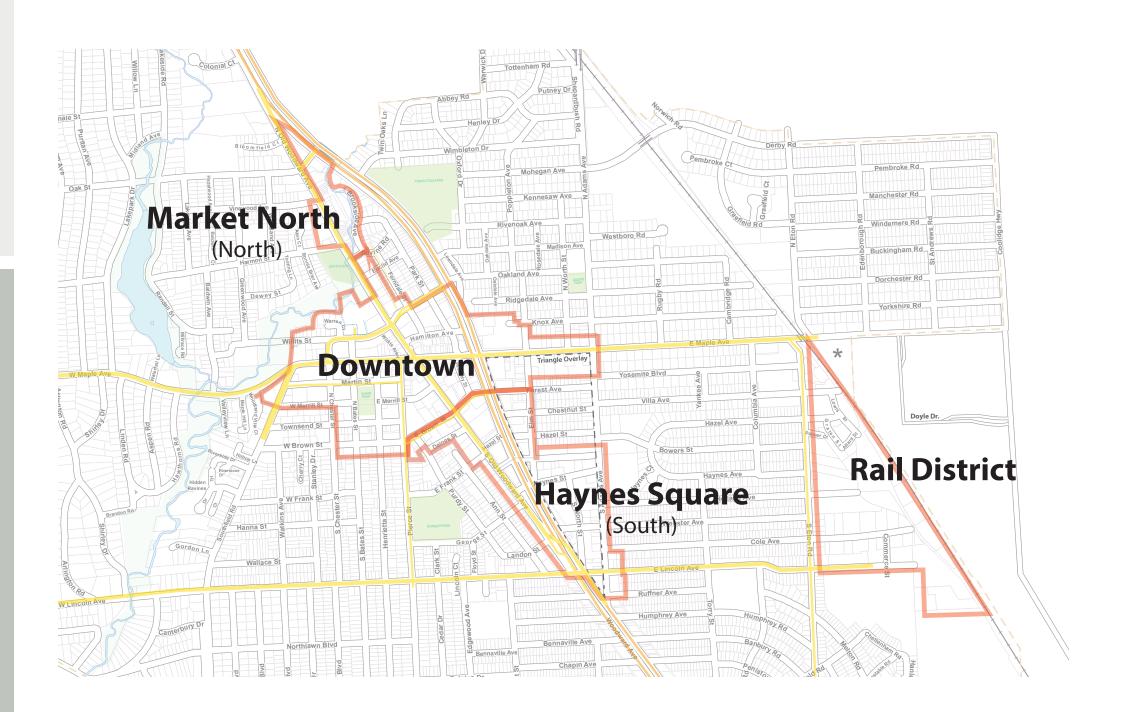
# FORMALIZE WAYFINDING DISTRICTS

One of the biggest challenges when developing a wayfinding program is finding a way to succinctly communicate directions for first-time visitors. For Birmingham, it was necessary to evaluate Birmingham's major centers of activity as well as the Master Plan in order to formalize a wayfinding district plan.

When creating a wayfinding district, it is important to create soft boundary edges so that the district can grow to accommodate future developments. It is important to note that a wayfinding district is different than a neighborhood, planning district or business-development district; it must be home to a variety of destinations and amenities for visitors.

### **Birmingham's Wayfinding Districts:**

- · Downtown
- Market North
- Haynes Square
- · Rail District



# WAYFINDING RECOMMENDATIONS

### **DEVELOP PARKING GARAGE IDENTITY**

One of the most stressful parts of a visitor's journey is finding a place to park. The biggest challenge is not always parking availability but knowing where to park. In Birmingham, the parking problem is much more of a perception issue than a reality.

The city parking garages need to be treated as major destinations within the city because the sooner visitors can confidently get to parking, the sooner we can transition them to informed, confident pedestrians which helps to maintain the city's mission of a walkable community.

Parking Garages should be formally identified by street name and will each have a unique color associated with it to help create an individual brand for each garage to assist with navigation to and from the garages. With several parking garages beginning with the letter "P" visitors may get confused; the color will serve as a secondary identifier.

Exterior parking garage signage has been developed as a part of the overall Wayfinding Master Plan to create a consistent signage standard so that visitors can clearly identify public parking opportunities.

# IMPROVE PEDESTRIAN WAYFINDING

After spending time in Birmingham, it is no surprise that the city was named one of the country's most walkable communities, specifically in and around Downtown.

However, to the uninitiated visitor, the walkability can be daunting. A pedestrian wayfinding plan has been developed as a part of this Wayfinding Master Plan.

The primary goal of the wayfinding system is to provide a the wealth of information about Birmingham that the vehicular signs cannot. Pedestrian signs helps as visitors

transition from vehicular to pedestrian by communicating where they are and where they can go from that point.

Pedestrian kiosks give the city an opportunity to communicate the depth of destinations through maps and technology integrations like URLS and QR codes while also providing visitors the opportunity to stay out of their phone. Destinations

will be directed to including the distance in minutes, pulled directly from Google.

Maps will be used to highlight walking radiuses and to highlight city amenities like the Vias and parking garages.







#### **GARAGE IDENTIFICATION SIGNAGE**

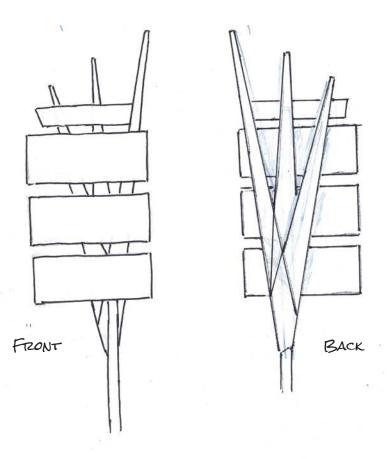






# **DESIGN INSPIRATION**





INITIAL CONCEPT SKETCH

Freedom of the Human Spirit

# **DESIGN DIRECTION**



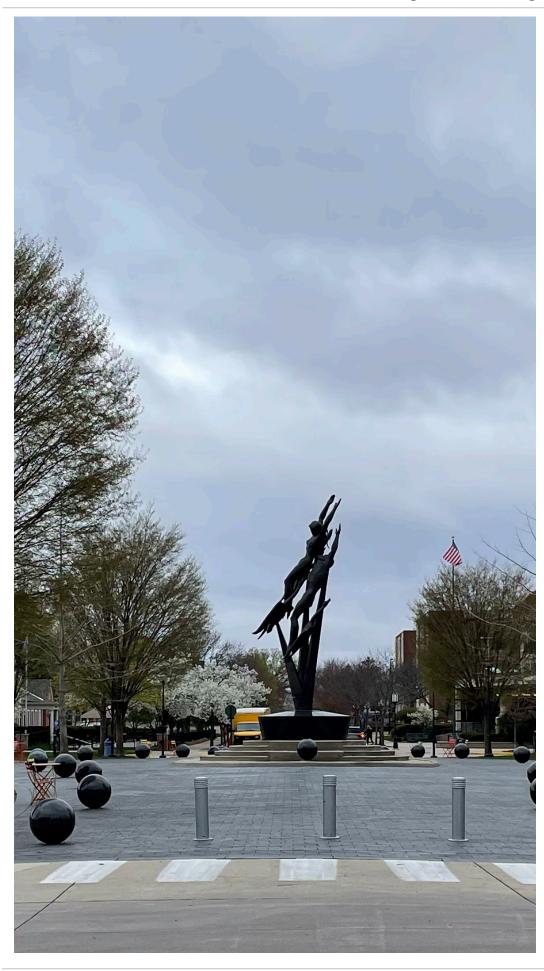
Welcome Sign

**Vehicular Guide** 

Sign

**Pedestrian Map** 

Kiosk



# CITY OF BIRMINGHAM

# WAYFINDING SIGNAGE

DESIGN INTENT DRAWINGS

10.20.23

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All ideas, designs, represented by these drawings are owned by, and property of the **City of Birmingham** and **Corbin Design** and were created, evolved and developed for use in connection with **the City of Birmingham** and its entities. None of these ideas, designs, arrangements or plans shall be used by or disclosed to any person, firm or corporation for any purpose without the written permission of **the City of Birmingham** and **Corbin Design**.



## **COLOR PALETTE**



<sup>\*</sup> All paint finishes to have Matthews Paint 290228SP Super Satin Clearcoat (or equivalent) for the following benefits: 10-Year chalk resistance, Superior UV resistance, Exceptional gloss retention, Mar and abrasion resistant, Dirt-shedding

#### **TYPOGRAPHY**

Highway Gothic - Regular

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qg Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

**Highway Gothic Condensed - Regular** 

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham - Bold

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

Gotham - Medium

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz 1234567890

The fonts used for this project were selected specifically for this project by the Designer and Owner. No substitution of any other typefaces may be made. Under no circumstances are typefaces to be electronically distorted ("squeezed" or "extended") for purposes of fitting to the specified sign or general alteration of the sign face composition unless noted in the drawings. This includes (but is not limited to) stretching, squeezing, tilting, outlining or shadowing.

#### **Typesetting Examples:**

Apostrophe: Don't use inch mark

Visitor's CORRECT

Tracking: the horizontal spacing between a range of letters or characters.



Cap height: Height of a capital letter that is flat, such as H, I or T.

Leading: the vertical distance between two baselines of type.

Ligatures: When two or more letters are joined to form a single glyph. Turn them off.

**Office** CORRECT

**Office** INCORRECT

**ARTWORK** 

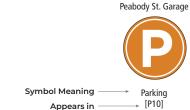
**ARROWS / LOGOS** 



# **BIRMINGHAM** DOWNTOWN



# **SYMBOLS / ICONS**



Sign Message Schedule









Park Street Garage

# Graphic **Standards**

Colors, Typography, Arrows, Logos

Fabricator is responsible for matching all colors and materials as specified and are required to provide the Owner color and material samples for approval

**CAUTION!** CONSISTENT AND ACCURATE COLOR REPRODUCTION IN THIS DOCUMENT CANNOT BE ASSURED DUE TO THE LIMITATIONS OF COLOR COPYING TECHNOLOGY.

The Coated Pantone Matching System® Akzo Nobel Paint system and Matthews Acrylic Polyurethane are used for specifying signage color matches. (In the absence of actual sign material color chip reference sets, actual specified product color swatches should be referenced for color matching.)

Shown here are approximations of the primary signage background colors and supporting accent colors. Actual color finishes on signage must be matte or low luster (not shiny or glossy) and exclusively a premium acrylic polyurethane. Except for the high gloss anti-graffiti coating (Sikkens LV Anti Graffiti Clear).

Signage paints produced by Matthews Paint and Akzo Nobel Paint Company are to be the standard reference.

If vinyl films are required, 3M or Oracal are to be the standard.

Color application varies per sign type Refer to specific design intent drawings for application details.

Date	Description
10/20/23	Draft Submital

#### Note:

All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

#### Client





ID-1: Ground-Mounted Identification, Large

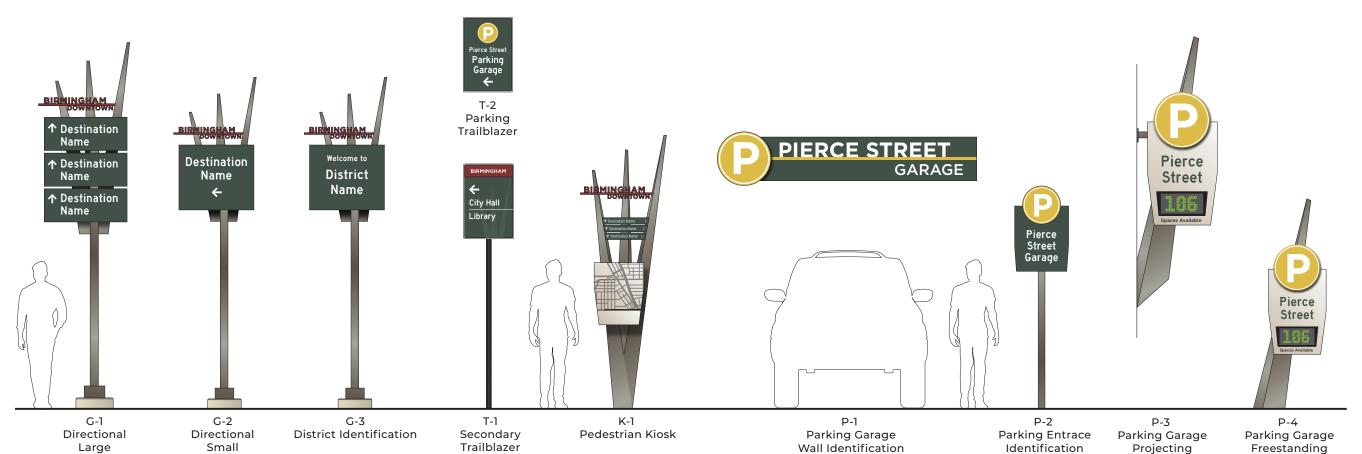
ID-2: Ground-Mounted Identification, Medium

G-4 Header for MDOT Guide, Large

G-5 Header for MDOT Guide, Medium

Counter

Counter



# Sign Type Array

#### Colors



0	Orange
11	Yellow





Date	Description
10/20/23	Draft Submital

# Note:

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# Client

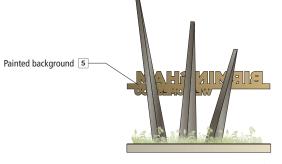




OPTIONAL ILLUMINATION

HALO ILLUMINATED BIRMINGHAM LETTERS. ADDITIONAL GROUND MOUNTED LIGHT FIXTURES TO ILLUMINATE SPIRES.

WHITE LED FIXTURES.







REPLACE EXISTING SIGN



Colors

ID-1

Ground-Mounted Identification, Large

Metallic Bronze

Metallic Gold Champagne

Orange

Date Description 10/20/23 **Draft Submital** 

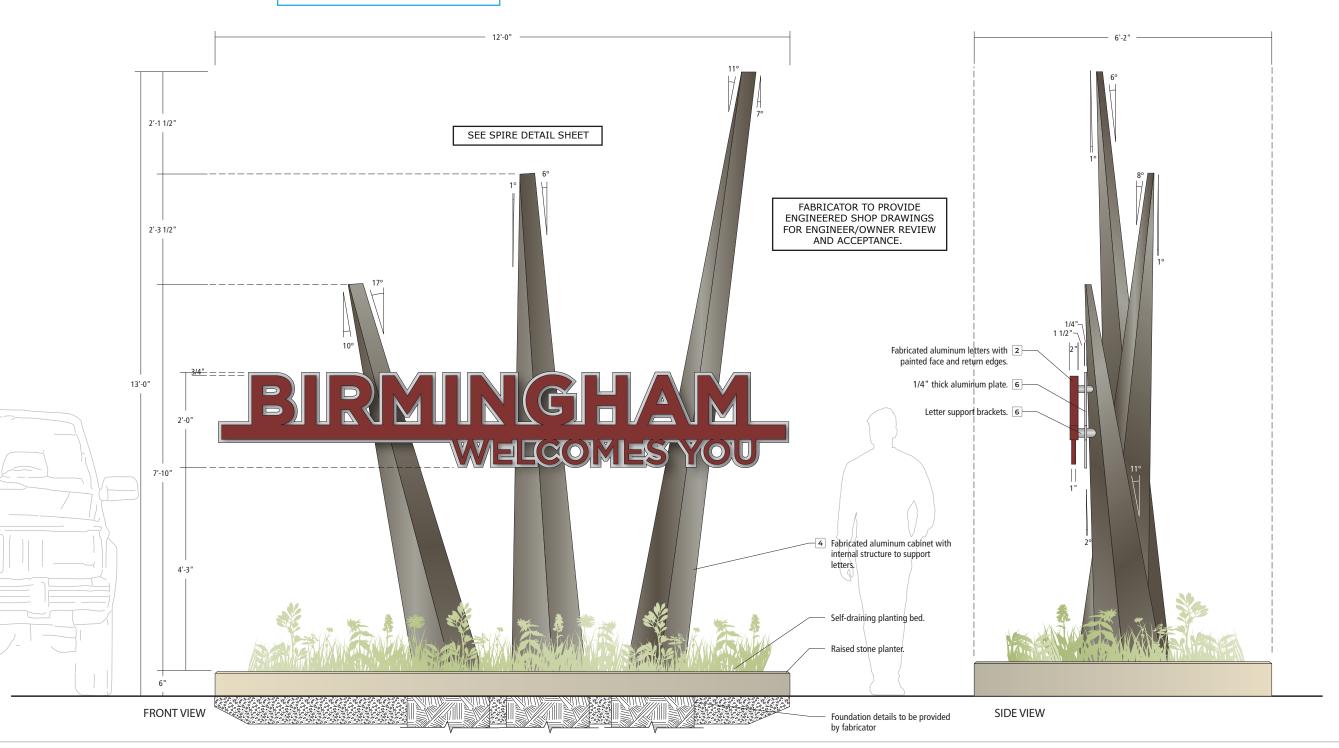
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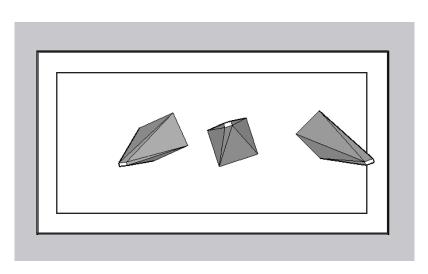
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#### Client





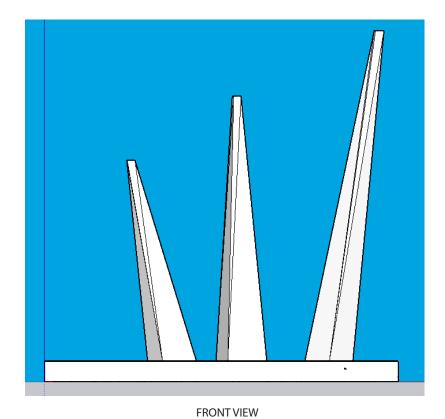


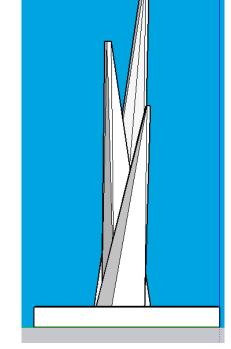


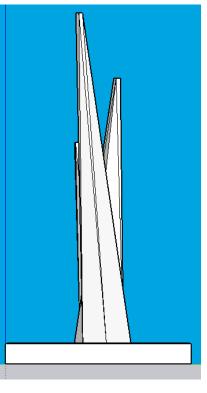
TOP VIEW



3D MODEL







SIDE VIEW 1 SIDE VIEW 2

# ID-1 and 2 Spire Details

# Colors

1	White
2	Garnet
3	Gray-Green
4	Metallic Bronze
5	Metallic Gold
6	Champagne
10	0
10	Orange
11	Yellow

Date	Description
10/20/23	Draft Submital

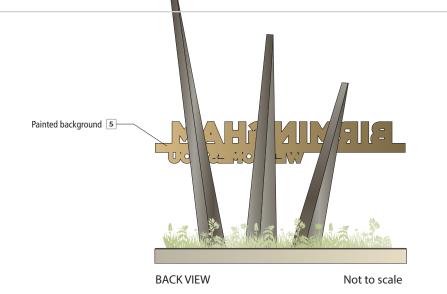
# Note:

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# Client







ID-2
Ground-Mounted
Identification, Medium

### Colors



Date	Description
10/20/23	Draft Submital

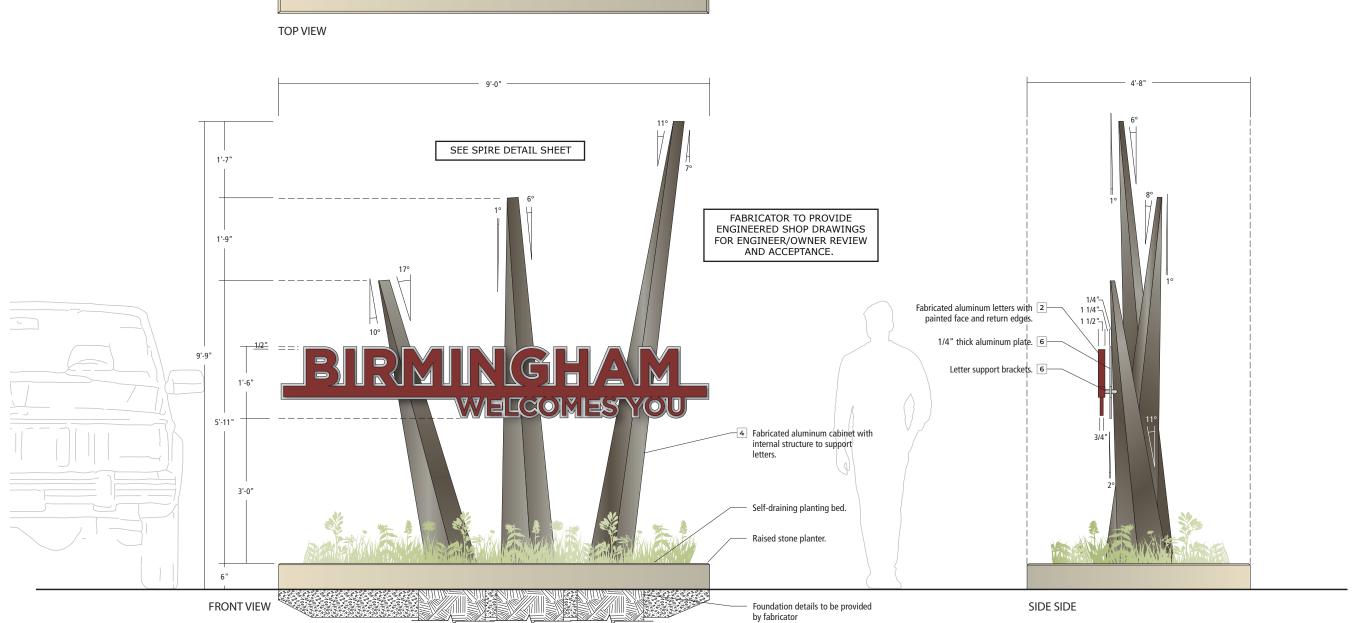
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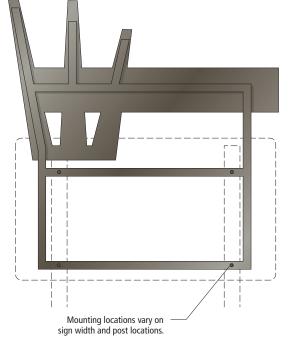
All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

# Client









G-5 ALTERNATE MOUNTING

### Colors

1	White
2	Garnet
3	Gray-Green
4	Metallic Bro
5	Metallic Gol
6	Champagne
10	Orange
11	Yellow
12	Green
13	Blue

Date	Description
10/20/23	Draft Submital

# Note:

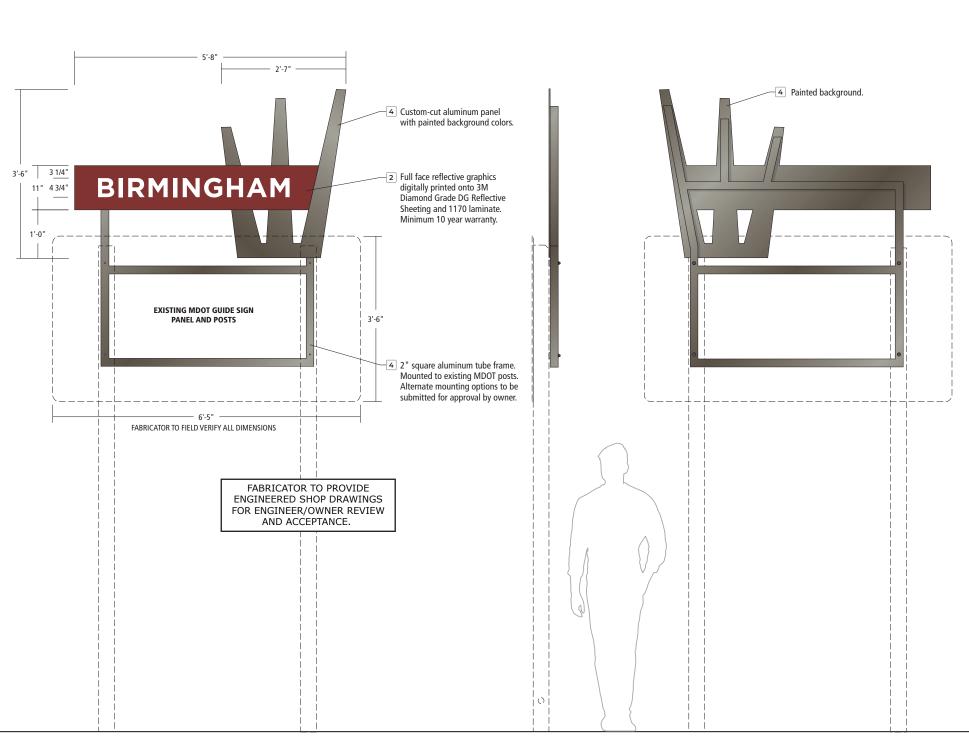
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# Client



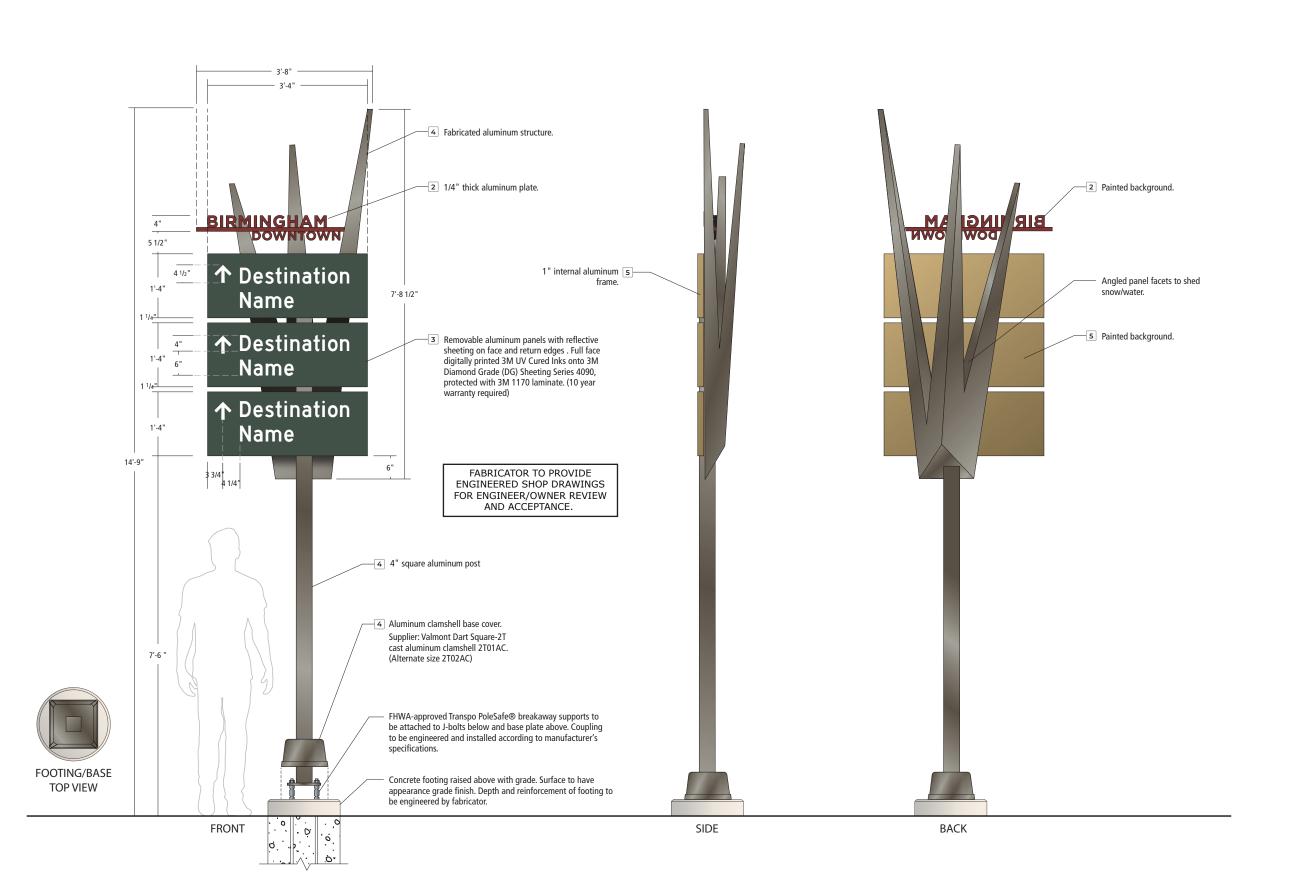


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G-4 FRONT VIEW

BACK VIEW



G-1
Traffic Directional,
Large

# Colors

2	Garnet
3	Gray-Green
4	Metallic Bronze
5	Metallic Gold
6	Champagne
10	Orange
11	Yellow
12	Green
13	Blue

D	ate	Description
10	)/20/23	Draft Submital

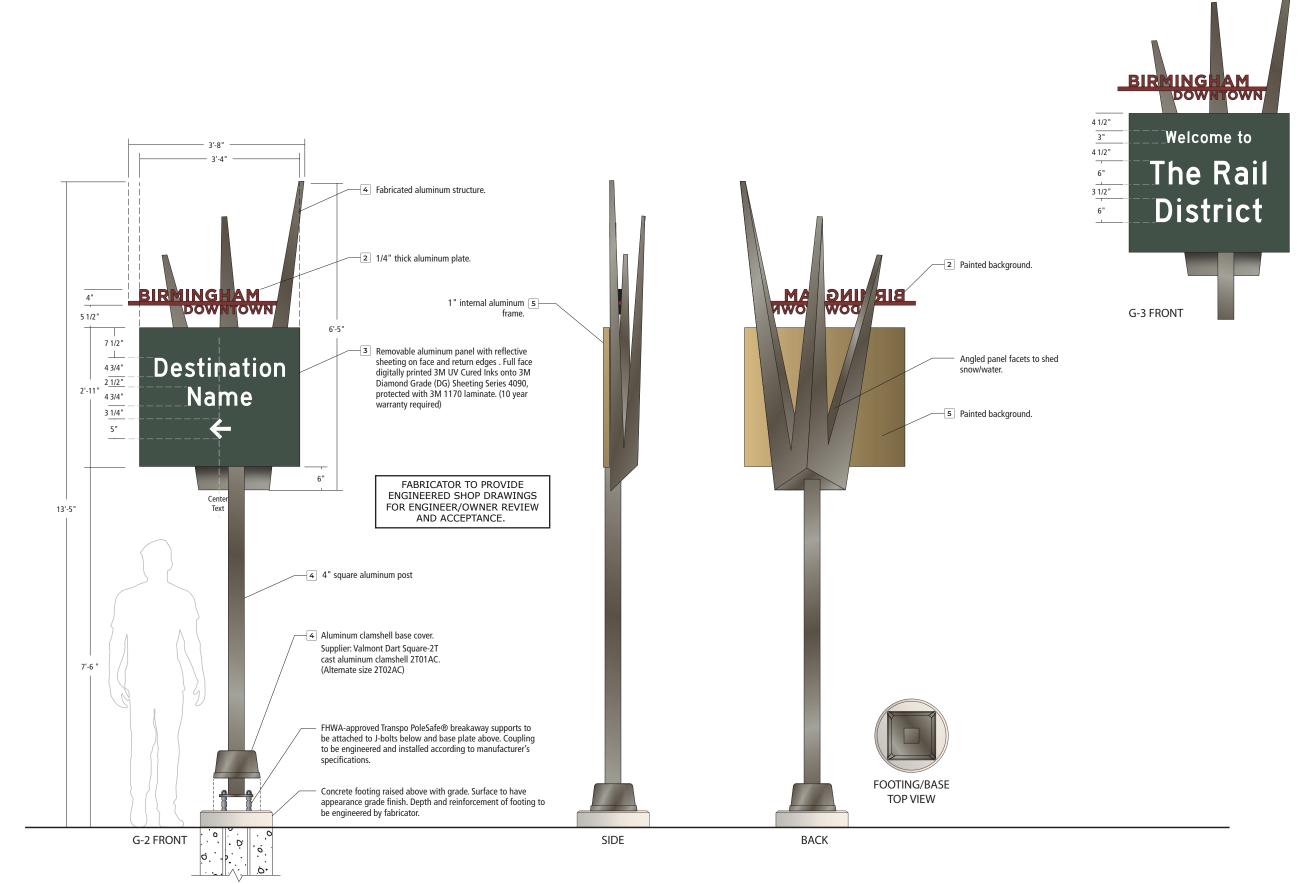
#### Note:

All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

#### Client







G-2

Traffic Directional, Small **G-3** 

District Identification

#### Colors



Date	Description
10/20/23	Draft Submital

# Note:

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#### Client



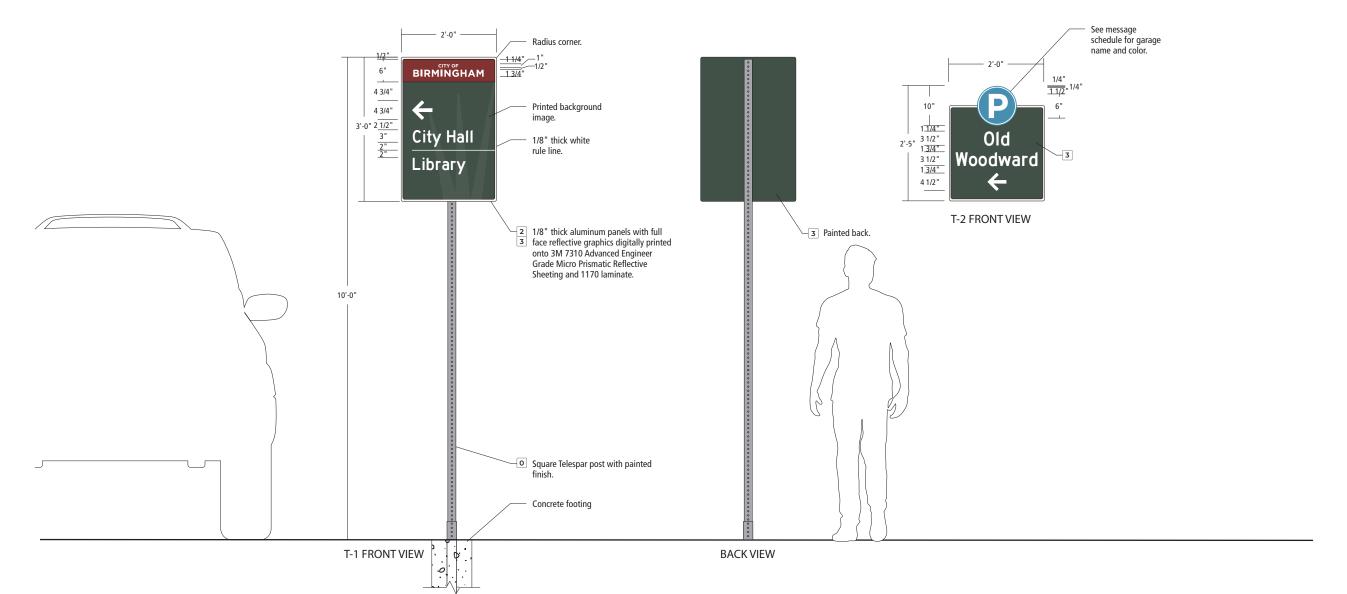


FABRICATOR TO PROVIDE

ENGINEERED SHOP DRAWINGS FOR ENGINEER/OWNER REVIEW

AND ACCEPTANCE.

T-2 ADDITIONAL GARAGE LAYOUTS



T-1

Secondary Trailblazer **T-2** 

Parking Trailblazer

#### Colors



Gray-Green

Metallic Bronze

5 Metallic Gold
Champagne

0range Yellow

Yellow

12 Green

Blue
Purple

Date Description

10/20/23 Draft Submital

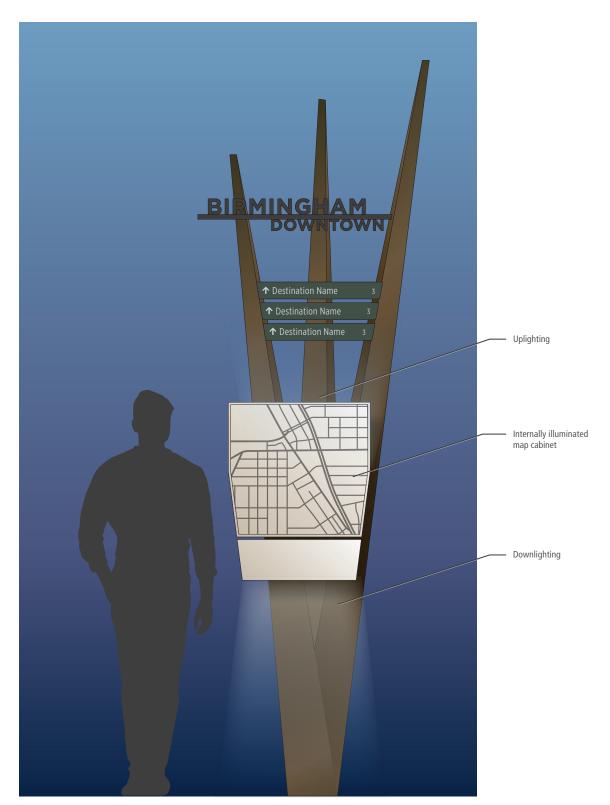
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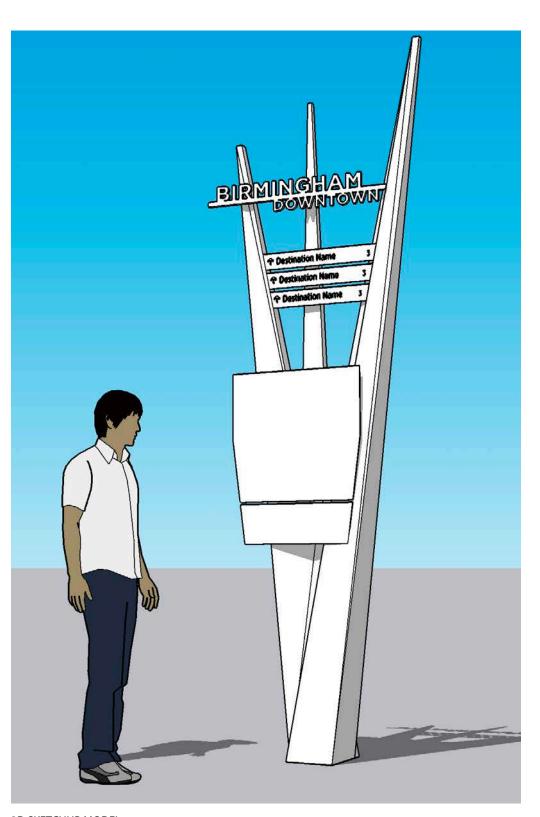
#### Client







INTERNAL ILLUMINATION OPTION



3D SKETCHUP MODEL

**K-1**Pedestrian Kiosk

# Details

# Colors

1	White
2	Garnet
3	Gray-Green
4	Metallic Bronze
5	Metallic Gold
6	Champagne
10	Orange
11	Yellow
12	Green
13	Blue
14	Purple

Date	Description
10/20/23	Draft Submital

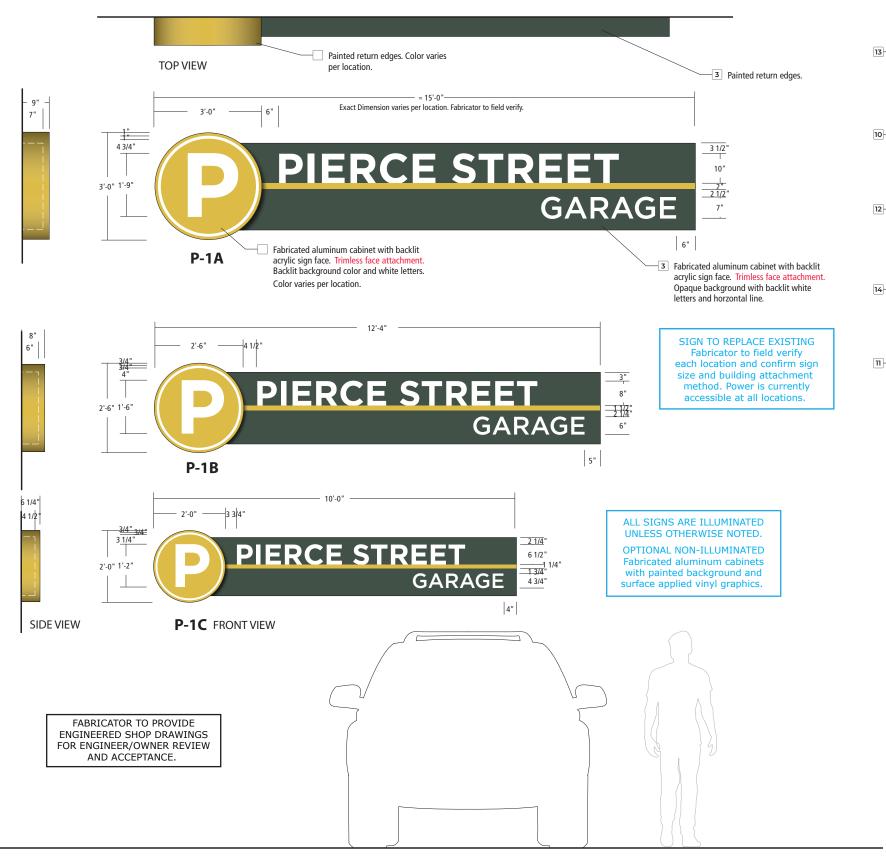
# Note:

All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

# Client







OLD WOODARD
GARAGE

PEABODY STREET
GARAGE

CHESTER STREET
GARAGE

PARK STREET
GARAGE

PIERCE STREET
GARAGE

COLORS AND LAYOUTS PER LOCATION



**EXAMPLE LOCATION** 

P-1

Parking Garage Wall Identification

#### Colors



Blue

Date	Description
10/20/23	Draft Submital

# Note:

All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

# Client

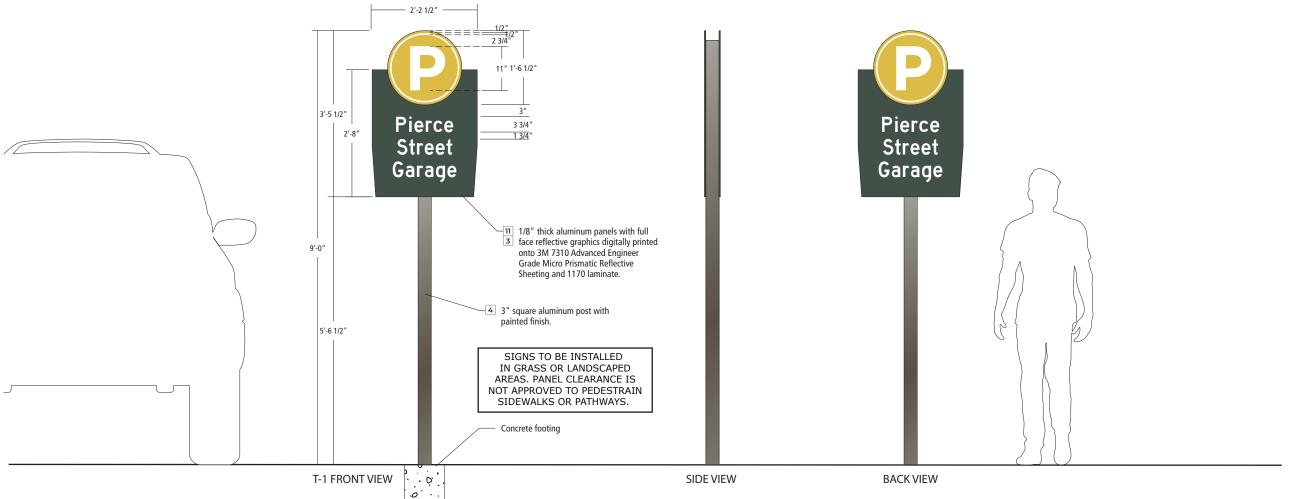






ADDITIONAL GARAGE LAYOUTS

FABRICATOR TO PROVIDE ENGINEERED SHOP DRAWINGS FOR ENGINEER/OWNER REVIEW AND ACCEPTANCE.



P-2
Parking
Identification
Freestanding

#### Colors



Date	Description
10/20/23	Draft Submital

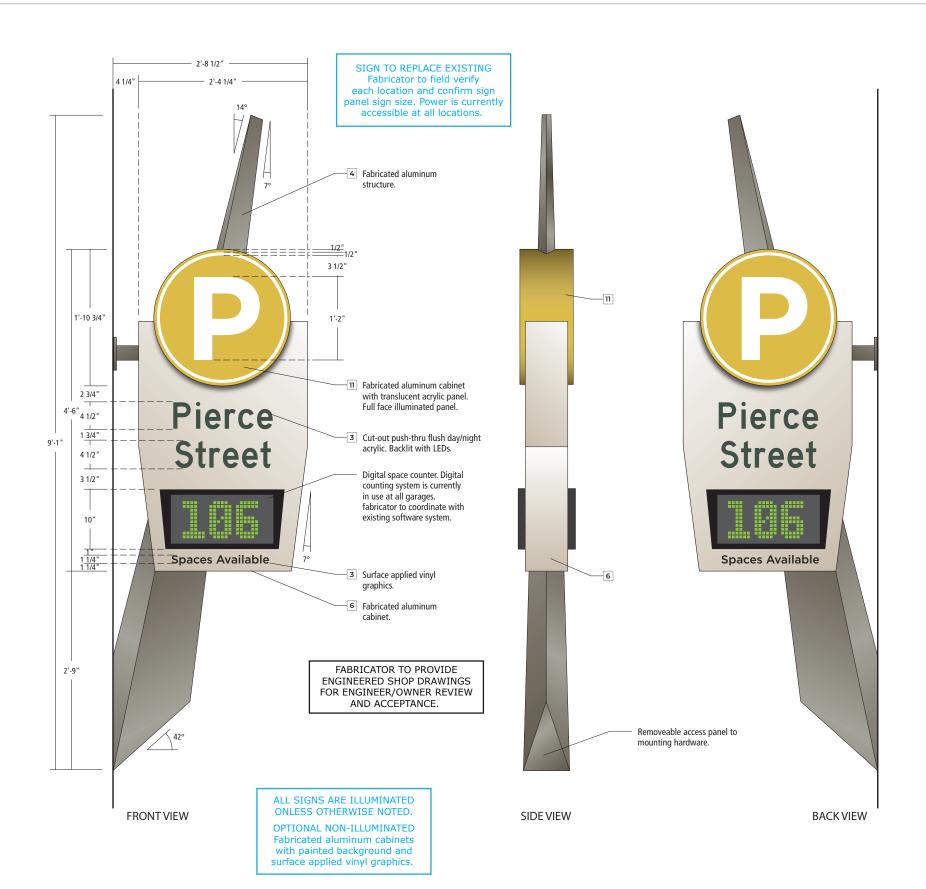
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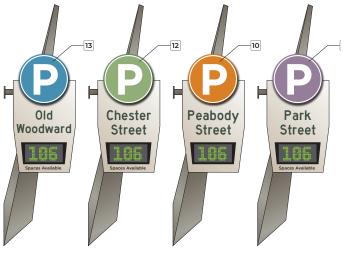
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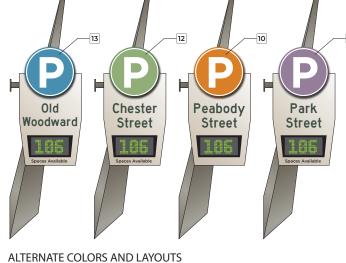
#### Client

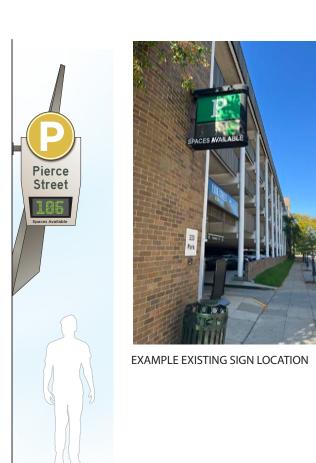












**EXAMPLE MOUNTING HEIGHT** 

P-3 Parking Projecting Identification

#### Colors

	White
2	Garnet
5	Gray-Gree
-	Metallic Br
;	Metallic G
5	Champagr
)	Orange
1	Yellow
2	Green
3	Blue

Date	Description
10/20/23	Draft Submital

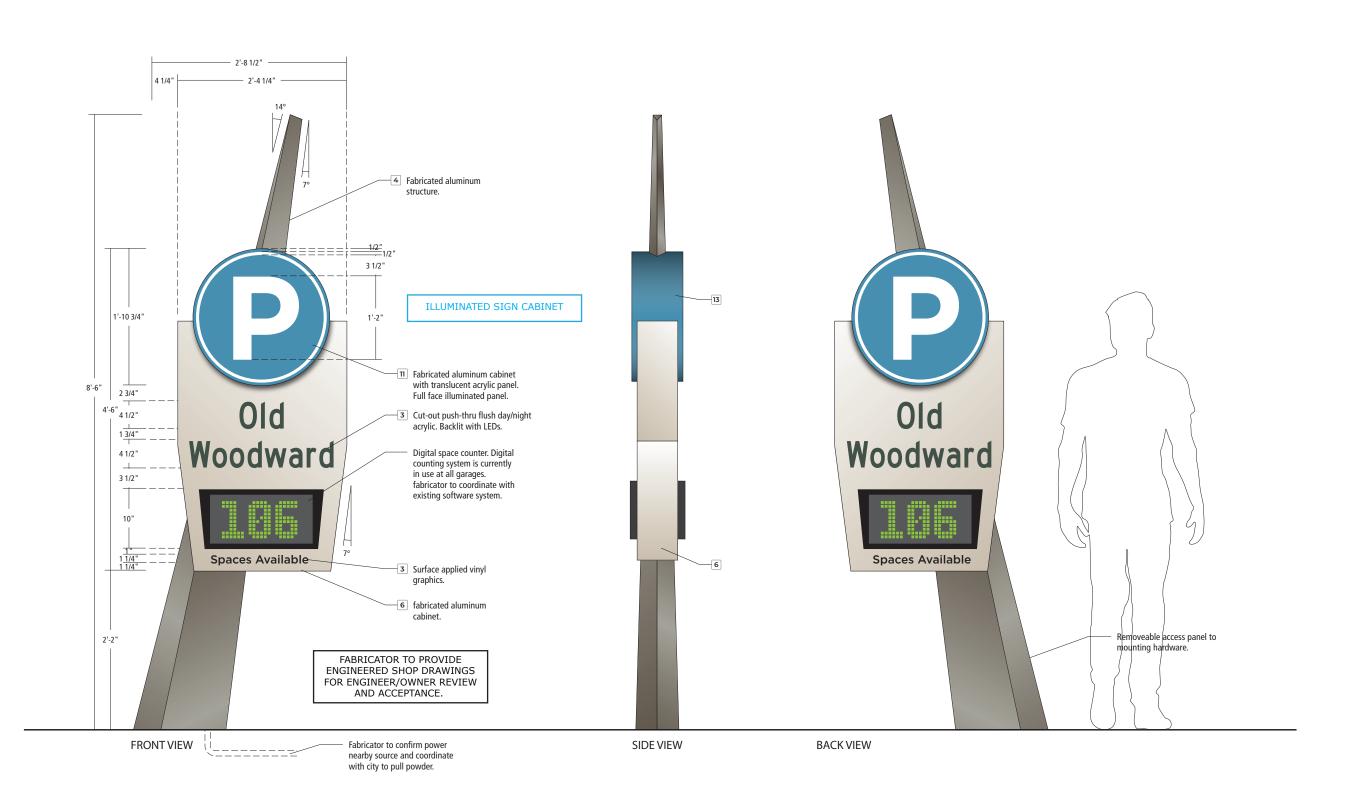
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All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

# Client



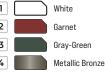




P-4

Parking Ground Monument Identification

### Colors



Metallic Gold Champagne

0	Orange
1	Yellow
_	0

Date	Description
10/20/23	Draft Submital

# Note:

All, maps, graphics, symbols, and destination listings are for placeholder only. Reference the Message Schedule for exact messaging.

#### Client





# **PART 1 - GENERAL**

#### 1.1 SUMMARY

A. This section includes specifications related to fabrication and installation of exterior project signage.

#### B. **Project Documents:**

The materials, products, equipment, and performance specifications within these documents describe the standard of required function, dimension, appearance, performance, and quality to be met by the Fabricator.

- Design Intent Drawings contain sign type details. Drawings provided to the Fabricator in PDF format (outlined Adobe Illustrator files available upon request).
  - Design Intent Drawings and specifications are meant for DESIGN INTENT only and are not construction drawings.
  - Designers are not licensed Engineers or Architects.
     The responsibility of interpreting the Design Intent
     Drawings to engineer and produce structurally
     sound and safe product(s) is the responsibility of
     the Fabricator.
- Sign Location Plans are general in nature and not to scale. They reflect locations deemed desirable for the effectiveness of the overall wayfinding plan. Sign location plans are provided to the Fabricator in PDF format.
- 3. The Sign Message Schedule includes sign type, exact messaging, layout details, and provides additional installation or graphic layout information specific to each sign location. Sign message schedules are prepared in FileMaker. Fabricator will be provided information in PDF format sorted by sign number. A link to an Excel file export of the data is available by request.

#### C. Fabricator's Responsibilities:

- Engineer, fabricate, and install all signage and graphics per the Project Documents.
- Be knowledgeable of relevant federal, state, and local code requirements and be responsible for ensuring that all signs meet current local, state, and federal codes, especially, but not limited to ADA, Building Codes, and Fire/Life Safety codes.
- 3. Perform complete structural design and engineering of the signs, foundations, and mounting as required for approvals and permits and to protect the Owner. Incorporate all the safety features necessary to adequately support the sign for its intended use and purpose.
  - a. All signs shall meet local, state, and federal codes.
  - Engineered shop drawings for project signage shall be reviewed, stamped, and signed by a MIchiganregistered engineer.
  - c. Shop drawings are to be provided for all exterior sign elements.
- Engineer all signs, banners, and mounting devices, unless otherwise indicated, to withstand the required wind load (normal to the sign, in addition to the weight of the sign)

- as specified by ASCE, American Society of Civil Engineers, or greater as per local, state, or federal code.
- Provide all Submittals outlined in theses specifications in a timely fashion and according to the agreed upon schedule.
- Develop graphic layouts of all sign faces using the Design Intent Drawings and messaging from the supplied Sign Message Schedule.
- 7. Verify signs listed in the Sign Message Schedule match those on the Sign Location Plans.
- 8. Visit the site prior to starting fabrication to observe existing conditions, verify mounting conditions and space availability, take field measurements, and verify all signage locations with Owner's Representative.
- Notify the Designer and Owner's Representative immediately if any discrepancies exist within Project Documentation or field conditions, before manufacturing the signage.
- 10. Secure any and all necessary permits for signage installation.
- Work with the Owner's Representative to secure any necessary variances.
- 12. Work with the Owner's Representative to coordinate with the facilities department, general contractor, and other trades performing work on site.
- 13. Maintain all project related files such that the Owner may reorder additional signs for a minimum of 10 years after the completion of the work.
- 14. Be responsible for subcontracted work. If subcontractors are retained to perform any portion of the work, the Fabricator is responsible for that work as if they had performed it themselves.

#### **1.2** WARRANTY

- A. Extend in writing all manufacturers' warranties.
- B. Obtain a minimum five (5) year extended warranty on all paint and powder coat applications.
- C. Obtain a minimum five (5) year warranty on all applied vinyl applications. Vinyl shall not fade excessively, discolor, delaminate, crack, curl, peel, blister, or lose reflectivity.
- D. Provide a written full replacement warranty for five (5) years starting from the completion of installation that all signs will be free of defects due to craft work and materials including, but not limited to:
  - Bubbling, chalking, rusting or other disintegration of the sign panel, graphics or of the edges.
  - Corrosion appearing beneath paint surfaces of panels, brackets, posts, or other support assemblies (except as an obvious result of vandalism or other external damage).
  - 3. Corrosion of fasteners.
  - 4. Fading, chalking and discoloration of the colors and finishes within the vinyl and paint manufacturer's stated warranty period.

- 5. Peeling, delamination, bowing, or warping ("oil canning").
- Repair and re-installation of signage due to failed mountings.
- 7. The assemblies not remaining true and plumb on their supports.
- E. Repair or replace, including installation, any defective signs or hardware, which develop during the warranty period and repair any damage to other work due to such imperfections at no charge to the Owner and to the Owner's satisfaction.
- F. The Fabricator will be required to fully replace all signs that are in error relative to the working documents (sign message schedule and sign type drawings) that were submitted to the Fabricator upon award of contract.

#### **1.3** RIGHTS AND GUARANTEE

A. Design Rights: Fabricator is hereby granted limited right to the designs as shown and specified herein for the sole purpose of completing contractual obligations to fabricate and install project signage. Fabricator may not manufacture, reproduce, exhibit, or modify these designs for any other purpose without prior written consent from BOTH the Owner/Owner's Representative and Corbin Design.

#### **1.4** SUBMITTALS

#### A. Pre-Fabrication Submittals:

Submit the following to the Owner's Representatives and Designer for review and approval prior to commencing with signage fabrication.

#### 1. Project Schedule of Work:

Provide a detailed fabrication and installation schedule.

- Include all pertinent dates and milestones such as submittal delivery dates, required approval dates, fabrication dates, and installation dates.
- Include all lead times for materials and third-party supplied items.
- c. Allow a minimum of 15 business days for Owner Representative and Designer's review of Pre-Fabrication Submittals with one round of revisions built in, unless otherwise noted within the bid schedule.
- d. Include submittal delivery dates of Shop Drawings, Samples, Graphic Layouts, etc.

#### 2. Shop Drawings:

Detailed engineered shop drawings for each sign type are to be submitted as electronic PDF, no larger than 11"x 17". Final Shop Drawings are to be stamped by an Engineer licensed in the State of Michigan to ensure structural integrity and safety. The shop drawings for each sign type shall illustrate/describe the following:

 Elevations and cross sections – front, sides, top and back; side sections; internal structure section/ details; enlarged details such as of extrusions, pushthrough letter mounting, mounting plate, etc.; with all final dimensions and callouts for:

- Components construction details/information related to individual elements.
- 2) Finishes color, type of product, manufacturer, and sheen.
- 3) Fonts, graphics specifications, and message fields.
- 4) Materials color, type, gauge, and thickness (including substrates and overlays).
- Exploded view, unless otherwise indicated isometric view with components, materials, and finishes.
- Cross-section of corners one illustration for each corner condition. Items to be illustrated: seams, joints, layers, internal support, and fasteners.
- d. Mounting/installation details provide foundation crosssections (including hardware), bracket/post details, elevations, materials, finishes, and fasteners.
- e. Electrical details are to be provided for all elements that require electricity. Specific items to be listed are:
  - 1) Light source and/or fixture type and manufacturer
  - 2) Power supply (transformer)
  - 3) Amperage and voltage per sign
  - 4) Electrical service required (source)
  - 5) Electric Eye and Timer information
  - 6) Location of disconnect switch
- f. Lighting detail provide an internal view of light fixtures, LED layout, transformers, external cut-off switch, light sensor, and timer.
- g. Foundation details provide detailed foundation details including all concrete and reinforcement specifications.
- h. Engineering for wind load.
- i. Removable panels (where applicable).
- i. Identify any dimensional or other changes in the overall sign required by virtue of the fabrication materials, techniques, and/or engineering.

#### 3. Samples:

Submit three (3) 5" x 5" samples of each material listed in the Design Intent material specifications using actual substrate materials for review and approval. One will be returned, one kept by the Owner's Representative, and one kept in the Designer's records.

- Label the back of every sample with the project name, sample designation, and fabricator name.
- The Owner's Representative and Designer reserve the right to reject any sample and require additional samples as necessary to obtain final approval.
- c. Submit three 12"x12" to-scale sample segments of the final insert artwork for exterior pedestrian maps.

#### 4. Graphic Layouts:

Provide a proofing document of final production graphic layouts for every sign face to verify fonts, line breaks, character and word spacing, interline spacing, and adherence to Design Intent Drawing layouts and Sign Message Schedule information.

- The proofs are to be scaled production art files, not full sized.
- Layouts are to be organized by sign type and by sign number within each sign type group.
- c. Each layout is to be identified with the corresponding sign number.
- d. Submittals that do not follow these organization requirements may be rejected without review until corrected.

#### B. During Fabrication Submittals:

- Fabricator is required to maintain the Project Schedule detailing fabrication and installation timelines, submitting weekly updates as changes occur.
- Upon request, Fabricator is to submit photo documentation of signage at various stages of fabrication and installation. Review of these photos does not rule out rejection of the sign during the punch list if they do not meet fabrication requirements.

#### C. Post-Fabrication Submittals:

Upon completion of the initial installation, the following are to be submitted to the Owner's Representative.

- Maintenance instructions and manuals for all sign components (lighting, paint, etc.), along with final amended shop drawings, as-installed sign location plans and approved graphic layout documents.
- Instructions for maintenance and waxing of painted, powder coated, and fiberglass elements.
- Templates for all insert-based signs, utilizing standard software for the Owner's use in printing replacement inserts.
- 4. One (1) pint of each finish paint color for touch-up purposes.
- Labeled, spare keys to master keyed locks on directory or kiosk signage.
- 6. Warranty documentation, as outlined above.

#### **1.5** OUALITY ASSURANCE

- A. The materials, products, equipment, and performance specifications described within, establish a high-quality standard of required function, dimension, appearance, performance, and quality to be met by the Fabricator.
- Materials used for this project shall be new materials, not reconditioned.
- C. Fabricator shall only use workforce skilled and experienced with the products, fabrication methods, and installation requirements outlined for this project.
- D. Fabrication and installation are to withstand severe abuse and souvenir theft vandalism, but not less than the equivalent of

resisting simple hand implements and tools (screwdrivers, knives, coins, keys, and similar items), and adult physical force. It is the fabricator's responsibility to suggest alternate fabrication or installation methods, should they be deemed necessary to hinder theft or vandalism.

- E. Regulatory Requirements: Signage shall meet or exceed requirements of all current applicable local, state, and federal codes, including but not limited to:
  - 1. MUTCD standards manual, (current edition);
  - 2010 Americans with Disabilities Act Standards for Accessible Design, including local modifications and amendments; and
  - All local, state, and federal building and fire codes as required by the Authority Having Jurisdiction (AHJ).

# **PART 2 - PRODUCTS**

#### **2.1** MANUFACTURERS

- A. Approved manufacturers include:
  - Acrylic Polyurethane Paint: Matthews Paint Company or Akzo Nobel
  - Acrylic Sheets: Rohm and Hass Co, Acrylite or equivalent
  - 3. Adhesive Silicone: Dow Corning or equivalent
  - Adhesive Tape: Polyfoam or "Isotac" by 3M or equivalent
  - 5. Banner Hanging System: Banner Saver
  - 6. Channel letter system: Let-R-Edge or equivalent
  - 7. Electronic Message Centers: Daktronics, Watchfire, Vantage LED or equivalent
  - 8. Exterior Extrusions: SignComp,
  - 9. Exterior Perforated Vinyl: 3M
  - 10. Exterior Tactile signs: Gravoply or equivalent
  - 11. Exterior Vinyl: 3M or Oracal
  - 12. Fiberglass Embedded Panel: Pannier Graphics
  - 13. High Pressure Laminate: Folia, i-Zone, Trespa
  - 14. LED lighting system: General Electric, Principal LED, Philips, US LED or equivalent
  - 15. Panaflex: 3M or equivalent
  - 16. Powder Coating: PPG Duranar or Akzo Nobel Interpon
  - Proprietary sign frame systems: 2/90 Sign Systems, APCO Signs, Appenx, ASI Sign Systems Inc., Modulex, Takeform, Vista System
  - 18. Reflective Digital Print: Sherine Industries or other equivalent 3M certified digital printer
  - 19. Stainless Steel Strapping System: Band-It or equivalent

### 2.2 MATERIALS

- A. Acrylic sheet: varying colors and thicknesses as noted on Design Intent Drawings. Translucent bright white cast acrylic (7328) is recommended for push-through copy and graphics. Translucent dull white cast acrylic (2447) may be used in instances where a bright white appearance is not desired. Opaque bright white cast acrylic (7508) is recommended for non-illuminated copy and graphics.
- B. Adhesive vinyl: opaque color, reflective color, translucent color, and transparent color.
- C. Aluminum: suitable for ornamental work. Finish to be smooth and free of imperfections. Alloy based upon structural requirements of the signage design. Aluminum panels to be .125" minimum thickness unless otherwise specified.
- Day/Night acrylic: Acrylite Day/Night, Casacryl or equivalent as noted within the Design Intent Drawings.
- E. Day/Night perforated vinyl: 3M Dual-Color Film (Series

- 3635); screen printed, or inkjet printed with solvent inks complying with 3M printing specifications. It is recommended to use this vinyl on the first surface of clear acrylic with a white diffuser vinyl on the reverse side.
- F. Electric Eye **and/or** Timer as indicated by the Owner's Representative.
- G. Exterior grade paint: acrylic polyurethane paint in solid and metallic colors with primer and Super Satin Clearcoat finish.
- H. Fiberglass panels with embedded artwork are to be fabricated using 1/8" thick fiberglass panel with permanently embedded digital graphics. The panel must be a solid, one-piece panel with all graphic elements inseparable from the fiberglass in which they are embedded.
- Fonts/Typefaces: Fonts used within the Designer's programs
  were purchased by and are licensed to the Designer. It is
  the responsibility of the fabricator to purchase the specified
  licensed fonts for use within this program. See the Design Intent
  typography page for the specific fonts.
- J. High pressure laminate: Digital graphic surface papers encapsulated with melamine resins are pressed over a portion of recycled post-consumer kraft paper core sheets impregnated with phenolic resin. These sheets are bonded under pressures greater than 1200 pounds per square inch and at temperatures approaching 300°F (149°C). The 0.040" backs are sanded to facilitate bonding to other substrates.
- K. Illumination: per Design Intent Drawings, as LED or high-output fluorescent lamps with 800 MA, exterior UL rated electronic ballasts per specifications. Specifications for T-8 lamps are specific to the 60,000 hour T-8 lamp.
- Matthew's Paint reflective white paint or 3M Matte White Light Enhancement Film.
- M. Miscellaneous mounting hardware: including but not limited to stainless or corrosion resistant screws, bolts, and hinges, adhesives. and stainless-steel cable.
- N. Perforated aluminum plate: varying hole patterns as specified in Design Intent Drawings.
- Printed graphics shall all be printed at a minimum of 1200 DPI using exterior grade UV inks.
- P. Structural Steel: galvanized rolled steel or equal as required to meet structural requirements.

#### **2.3** SUBSTITUTIONS:

- A. Use of an "equivalent" product manufacture must be clearly identified in the fabricator's quote and shop drawings.
- B. No substitution will be considered unless the Owner's Representative and Designer have received written request for approval.
- C. Equal or better equipment or method may be recommended, but

fabricator will be required to provide full documentation, upon request, establishing such a substitution's equality or superiority as measured in compliance with the visual design intent, cost, ease of maintenance, and performance.

D. The Owner's Representative and Designer's decision of approval or disapproval of a proposed substitution shall be final.

#### 2.4 FABRICATION

A. Details on Design Intent Drawings indicate a design approach for sign structure but do not include all fabrication details required for the complete structural integrity of the signs, including consideration for static, dynamic and erection loads during handling, erecting, and service at the installed locations.

#### B. General:

- It is intended that the workmanship be of the highest quality obtainable by the respective trades and crafts experienced in the fabrication of architectural signs.
- 2. Fabricate signage such that major components of the sign can be removed and replaced with similar components.

  Incorporate this changeability such that it does not promote vandalism but can be done by a qualified maintenance crew.
- Within fabrication tolerances, allow for expansion and contraction of materials due to temperature changes as appropriate to the project location.

#### C. Fonts/Typefaces:

- All tactile and braille characters must meet current ADA code requirements.
- Letter height/cap height is based upon the height of the capital letter "E" or any capital character that has a flat top and base.
- Under no circumstances are typefaces to be electronically distorted ("squeezed" or "extended") for purposes of fitting to the specified sign. This includes (but is not limited to) stretching, squeezing, tilting, outlining, or shadowing.
- 4. Ligatures are to be turned off.
- Apostrophes and quotation marks are to be used, not footmarks and inches. Note there is a difference in most fonts.
- 6. Fabricator to reference spacing and layout examples within the Design Intent Drawing package.
- 7. Fabricator is responsible for correcting any typesetting errors that may be necessary.

#### D. Sign Faces:

- Sign faces to be fabricated using aluminum of varying thicknesses, as specified on Design Intent Drawings, with a minimum thickness of .125" unless otherwise noted.
- 2. Any sign faces smaller than 8' by 20' are to be fabricated from 1 piece of seamless material.
- Any sign faces larger than 8' by 20' are to follow Welded Joint specifications. Joints must be filled and ground smooth so there is no visible seam.

- Non-illuminated sign faces are to have lettering and graphics created as surface-applied vinyl typography unless otherwise noted in the Design Intent Drawings.
- Acrylic faces are to be of sufficient thickness to preclude bowing or distortion within frames.

#### E. Push-through copy:

- Routed push-through copy from a single sheet of acrylic. Letters and shapes that are routed out and bonded to a separate acrylic sheet are not acceptable.
- Exposed acrylic edges are to be finished such that no saw marks are visible.
- 3. Acrylic to have a minimum thickness of 3/8".
- 4. Acrylic to be pushed through flush evenly to 3/32" unless otherwise noted on design drawing.
- 5. Acrylic is to be attached to the interior of the sign using mechanical fasteners and silicon.
- 6. All letter knock-outs (interior of letter forms) are to be stud mounted through the acrylic.
- 7. Acceptable spacing between the push-through acrylic and the cutout aluminum is 1/32" for copy 12" or smaller. Copy larger than 12" may have alternate spacing to allow for the change in material expansion.
- The edges and corners of routed letterforms shall be sharp and true. Letterforms with nicked, cut, ragged, rounded (positive or negative) corners, and similar disfigurements will not be acceptable.

#### F. Fasteners:

- Conceal all fasteners except for access panels or where approved otherwise by Owner's Representative and Designer. Access panel fasteners are to be stainless steel, tamper resistant, counter-sunk flush screws, painted to match adjacent finish.
- All hardware and fasteners within reach shall be vandal resistant.
- To prevent electrolysis, separate all ferrous and non-ferrous materials with a non-conductive gasket or barrier and utilize stainless steel fasteners as required.
- Pop rivets are not acceptable on the exterior of the sign cabinet.

#### G. Welded joints:

- Exposed welded joints must be filled and ground smooth so there is no seam visible when painted.
- Dimensional and structural welding defects will not be accepted, including but not limited to: poor weld contours, including excessive bead convexity and reinforcement, and considerable concavity or undersized welds; cracks; undercutting; porosity; incomplete fusion; inadequate penetration; spatter; and non-metallic inclusions.
- Welding is to be performed by AWS (or similar) certified personnel, following AWS Standard Welding Procedure Specifications (SWPSs) for steel, aluminum, and stainless steel as appropriate.

#### H. Non-welded joints:

- Signs must have a tight, hairline-type appearance, without gaps. Provide sufficient fastenings to preclude looseness, racking, or similar movement.
- 2. Visible metal joints must adhere to a fit tolerance of .01".

#### I. Channel letters:

- Raceways are not acceptable unless specifically noted on the Design Intent Drawing or if approved by the Owner.
  - a. Approved raceways must be painted the same color as the wall on which the raceway will be mounted.
- 2. Acrylic must fit snuggly into the letter return.
- 3. Returns on Channel letters two feet or greater in height shall be fabricated with a minimum of .080" thick aluminum.
- 4. Returns on Channel letters under two feet in height shall be a minimum of .063" aluminum.
- Jewel trim is not acceptable, unless specifically called out in the Design Intent Drawings.
- 6. Non-illuminated Channel Letters:
  - a. Non-illuminated faces must be a minimum of .125" thick aluminum.

#### 7. Illuminated Channel Letters:

- Face-lit channel letter backers must be a minimum of .080" thick aluminum or greater as required by engineering.
- b. Face-lit channel letters mounted on the first or second story of a building shall be trimless.
- Face-lit channel letters installed on the third floor or higher of a building may use a low-profile trim cap.
- 8. Low profile Illuminated Channel Letters:
  - a. Letters fabricated out of white translucent acrylic (usually 30 to 40mm thick) with a routed cavity in the back of each letter for LED's illumination to be installed. These letters typically have an aluminum backer.
  - b. Letters may be face, side, or back-lit or any combination of the three based upon the Design Intent Drawings.
  - Letters must be evenly illuminated throughout the acrylic without hotspots or shadows.

#### J. Drain holes:

- Provide drain holes as needed to prevent accumulation of water within signs.
- Holes must be inconspicuous and located such that drainage does not occur onto signs, bases, or other surfaces subject to staining.
- Provide internal system of baffles to prevent "light leaks" through drain holes of illuminated signs.
- Use color-coordinated stainless steel bug mesh screen over drain holes or vents.

### K. Painting:

 Sign panels shall be appropriately pre-drilled/pre-cut before priming and painting or coating.

- Metal surfaces are to be painted per the most recent Matthews Paint or Akzo Nobel product bulletins.
- Paint preparation of all metal surfaces of the sign to include removal of all scratches and imperfections, sanding and chemical etching.
- Substrate cleaning, preparation, paint application and paint thickness to be in strict compliance with Matthews Paint or Akzo Nobel published recommendations and product bulletins.
- 5. Aluminum and Steel surfaces to be properly covered with a primer.
- Acceleration of the drying process and use of accelerants are not allowed.
- All paint and powder coat finishes to be a satin finish unless otherwise noted in the Design Intent Drawings.
- All painted surfaces to have a clearcoat finish to add UV protection and protection from the elements.
- Finished work shall be uniform, crisp, accurate, visibly free from flow lines, streaks, bleeding, blisters, cracking, peeling or other imperfections, without over spray, or rounded corners.
- Mask & Spray: All masking shall be executed with a digitally cut vinyl mask which has an adhesive specifically designed for clean removal when promptly removed after painting and curing cycles.
  - a. No hand-cut masks shall be used.
  - Finished edges of masked graphics or copy shall be true, clean, and visibly free from overspray.

#### L. Clear Coat:

- A compatible protective UV/ Anti-Graffiti Clearcoat shall be applied to all painted surfaces. Fabricator to verify all product warranties and compatibility with applied to surfaces.
- M. Silk-screen, digital printing, and vinyl copy:
  - 1. All letterforms, symbols or graphics shall be reproduced either by photographic or computer-generated means.
  - Cutting shall be done such that edges and corners of finished letterforms will be straight, sharp and true.
  - 3. Letterforms with nicked, cut, ragged, rounded corners, and similar disfigurements will not be acceptable.
  - Copy is to match the sheen of the copy panel background (satin).
  - Surface of graphics shall be uniform in color finish, and free from striping, pinholes, and other imperfections.
  - 6. Images shall be uniform in color and ink thickness.
  - 7. Use only weather-resistant coating materials that are compatible with substrates.
  - Silk-screened images shall be executed with photoprocessed screens prepared from original electronic art.
  - Silk-screening shall be highest quality, with sharp lines and no sawtooths or uneven ink coverage.

 Images shall be free from squeegee marks and lines resulting from improper print stroke or screen off-contact.

#### N. Vinyl Sheeting:

#### 1. Non-Reflective

 Single Vinyl Product: All vinyl sheeting, inks and overlays shall maintain the same manufacturer and required specifications. Mixing products, processes or materials from different manufactures that voids warranties is not permitted.

#### 2. Reflective Sheeting:

- a. Single Vinyl Product: All vinyl sheeting, inks and overlays shall maintain the same manufacturer and required specifications. Mixing products, processes, or materials from different manufactures voids warranties and is not permitted.
- b. 3M Certified Fabricator: Reflective Vinyl Printing shall be performed by a current accredited 3M Certified Fabricator or 3M Certified Digital Fabricator, which includes an annual onsite audit of manufacturing facilities, ensuring correct materials and processes are being used. Certification shall guarantee that the product will be covered by 3M MCS Traffic Warranty.
- Use 3M High Intensity Reflective Sheeting or approved equal that meets MUTCD requirements for Community Wayfinding Signage (MUTCD Section 2D.50).

#### 3. Perforated Sheeting:

 a. Pre-perforated product with manufacturer's guarantee for function and warranty.

#### O. Illumination & Electrical:

- 1. Perform the complete electrical design for illuminated signs.
  - a. Illuminated signs shall be designed by an electrical engineer.
  - Illuminated signs shall be fabricated and wired to be compliant with current UL listing requirements.
  - c. Illuminated signs shall be UL Certified.
  - d. Internal illumination is required to provide adequate and even illumination over the face of the sign without hot spots or shadows.
- 2. Fabricator to verify location of power and electrical feed with the Owner's Representative prior to sign fabrication.
- The disconnect switch is to be located in an inconspicuous location, not visible from the primary face(s) of the sign or the street.
- 4. All internally illuminated signs are to have a master timer with photoelectric eye on/off control to turn the sign on at night and off in the morning, and on during dark conditions.
  - a. Location of timer to be coordinated with and approved by the Owner's Representative, building owner/facilities department.
  - Illuminated signs must be connected to a building timer/photocell, not on individual timers & photocells.
- 5. All internally illuminated signs and channel letters shall be painted white on the interior using Matthews' reflective

- white paint or shall be lined with 3M's Matte White Light Enhancement Film, to enhance and evenly distribute light.
- Provide concealed access panel in an accessible location on all internally illuminated sign cabinets. Panels are to be flush, lightproof, and watertight.
- Internally illuminated signs are to have adequate internal system of ventilation to assure a uniform dissipation of heat from electrical components of electrically powered and illuminated signs, heat (solar) absorption by sign and other sources
- Any openings in exterior surfaces must be internally baffled to prevent light leaks and prevent entry of rain, snow, wind-blown debris, and other foreign matter, and are to be covered with color-coordinated insect screen on the interior of the face.
- House all electrical components within sign cabinets, except for remote transformers as dictated by the Owner's Representative. All wiring and raceways within the sign are to be completely enclosed.
- 10. Transformers for channel letters shall be remote transformers wherever possible.
  - a. If remote transformers are not applicable, then all electrical components shall be contained within the channel letter itself.
  - Remote transformers must be located within a location easily accessible for servicing without disturbing or interrupting room functions.
- 11. Illumination to be provided by LED or fluorescent lamps as specified on design drawings.
  - Internally illuminated channel letters shall be illuminated using LED, unless otherwise noted on the design drawings.
  - Signs wired with high output lamps are to include spring-loaded static strips between each lamp.
- 12. LEDs or other internal hardware must not be visible through translucent letterforms and graphics.
- 13. Test and verify all illumination within the shop environment prior to shipping signs to site.

#### P. Labels:

Only labels required by law are permitted on the exterior of the sign face.

- 1. Labels shall be located in a position as discreet as possible.
- Labels shall not be on the primary messaging faces or street facing side of the sign, unless dictated so by the local ordinance.
- 3. No other labels are permitted on the signs.
- 4. Fabricator contact information may be placed inside the sign on the access panel.

# PART 3 - EXECUTION

### **3.1** DELIVERY, STORAGE AND HANDLING

- A. Pack, wrap, crate, bundle, box, bag, or otherwise package, handle, transport, and store all fabricated work as necessary to provide protection from damage.
- B. Provide clear and legible identifying information on all product packaging to ensure proper on-site identification and installation.
- C. Fabricator to coordinate the delivery and secure storage of signage with the Owner's Representative.
- D. Recommend covering all sign faces with a low-tack protective vinyl cover, to be removed after installation. This is to help minimize minor scratches and nicks that happen during unpacking and installation.

#### **3.2** DEMOLITION

- A. Fabricator is required to remove all existing signs as noted in the included Demolition plan and/or as identified in the Project Documents.
- B. Fabricator is to remove all below grade footings and foundations completely, fill with compacted soil, and repair landscaping.
- C. For exterior wall mounted signs and individual letters, Fabricator is to remove the sign, fill holes, power wash the façade and touch-up paint as required.
- Electrical connections are to be properly terminated for demoed illuminated signs.
- E. Fabricator is responsible for disposal of demolished signage. Recycling is recommended. Open dumping is prohibited. Coordinate with Owner's Representative.
- F. Fabricator to repair and bring to consistent look with surrounding area any areas or surfaces damaged or left exposed in an unfinished condition due to the removal of a sign.

#### **3.3** PERMITS AND VARIANCES:

- A. Research relevant local code requirements and honor the same in fabrication and installation.
- Secure any and all necessary permits for signage installation.
   Coordinate with the Owner's Representative to secure variances, should any be required.
- C. Coordinate with the Owner's Representative to have all underground utilities properly located and marked. Any damage to below-grade utilities or structures for which the Owner or Owner's Representative has provided adequate location information is the responsibility of the Fabricator.

#### 3.4 INSTALLATION

#### A. General:

- The final Sign Message Schedule (or annotated layouts) and Sign Location Plan shall be consulted together to determine the precise location for each sign. Fabricator is to review any necessary adjustments and final locations with the Owner/ Owner's Representative.
- If installation subcontractors are utilized, the Fabricator must provide a company representative to act as on-site supervisor through the duration of the installation process to oversee any subcontracted installation work.
- Fabricator to maintain current signage and directional information during installation in order to continue to provide proper wayfinding. This can be done through the use of temporary signs or vinyl over existing sign faces.
- 4. Fabricator to provide a site logistics plan indicating the work areas, proposed equipment, and power sources, extent and duration of street closures, and schedule time/dates of the respective sign installations. This schedule is to be updated on a weekly basis if changes occur.

#### B. Locating Signs:

- Fabricator's installers must have applicable understanding of the 2010 Standards for Accessible Design (ADA) mounting guidelines, city zoning and other applicable federal, state, and local codes, general sign locating practices, and any particular unique installations.
- Installers are to follow the regulations, noted guidelines, custom notes within the Sign Message Schedule, and architectural details around an installation location for the best visual placement.
- 3. Keep a reasonable distance from protruding objects.
- Any signage that is improperly located is to be moved to the proper location, and all repairs to wall surfaces and signage are to be handled by the Fabricator.
- 5. If the installers are unable to make a decision about any sign locations, they shall contact the Designer, providing a graphic representation of the questionable area, or contact the Owner's Representative for on-site options. If there is a code requirement regarding the sign location, the installer must notify the Owner's Representative of the requirement.

#### C. Mounting:

- Ensure every building-mounted sign location has the necessary blocking for safe and secure mounting. Where additional blocking is needed, recommend changes and additional associated costs, and receive approval prior to beginning installation.
- Ground signs are to be mounted on J-bolt footings or breakaway bases, centered on the concrete base or footing, unless otherwise specified in the Design Intent Drawings or required by code.
- All bolts, nuts, washers, and other fasteners shall match the sign material and finish.
  - a. If fastening dissimilar materials stainless steel fasteners shall be used, 300 series is preferred.

- Galvanized steel is acceptable only if all exposed surfaces are properly sealed/coated to prevent corrosion.
- Fabricator is required to specify mounting hardware and anchoring per the engineering of the signs. The visual appearance of the sign is not to be compromised from that shown in the Design Intent Drawings.
- Install all signage products such that there are no misalignments between visible components. Sign elements intended to be removable or changeable after installation must function as intended without binding, sticking, or blocking.
- All signs to be mounted level and true, and within the guidelines of applicable local, state, and federal codes including, but not limited to, the 2010 Standards for Accessible Design (ADA) and fire/life safety codes, where applicable.
- 7. If signs are to be installed in a parking garage where the structural elements are not level due to the grade of the garage, the Owner is to decide whether the sign should be mounted level or aligned with the structural elements.

#### D. Electrical:

- The Owner or Owner's Representative will be responsible for providing a power source to within 10 feet of the base of each sign requiring power (either at grade or below grade).
- If a power source does not exist within 10 feet of an illuminated sign location, the Fabricator is to coordinate with the Owner/Owner's Representative, the means and methods necessary to pull power, such as sub-contracting a certified electrician.
- Fabricator to identify preferred junction locations with the Owner or Owner's Representative.
- 4. Power is to be 120 or 277 (LED illumination should be 120) volts at 60 cycles unless otherwise noted by the Owner's Representative. Fabricator to confirm based upon location source with the Owner's Representative.
- Manipulate the existing conduit to its proper location, install an external disconnect, extend the conduit through the concrete base (or posts) to align with the point of hookup, and run the power supply through it.
- Conduit running from the disconnect to the sign shall travel within the concrete foundation directly into the sign, not on the foundation's surface.
- Perform final hook-up and verify proper working order of illuminated signage. This may not be an excluded service from the quote.

#### E. Masonry/Footings:

- All concrete bases for signage are to be poured in place from thoroughly mixed and agitated concrete.
- 2. Footings are to extend beneath the frost line, or deeper to meet local code.
- All footings or bases should be poured within a form and level with grade unless otherwise specified in the Design Intent Drawings or as specified by state or local code.

- Foundation/footings should not extend above grade more than 2", unless otherwise indicated in Design Intent Drawings or required by state or local code.
- 5. Foundation/footings with exposed edges shall be finished with a bevel or rounded edge to prevent chipping.
- It's recommended that the concrete be floated by machine or hand before finishing in order to embed larger aggregates, especially when part of the footing or base extends above ground.
- Concrete surface shall have a smooth or brushed finish grade appearance. Match the finish appearance of connecting concrete surfaces when applicable.
- All concrete bases and footings shall be edged to break any bond with the form and create a neat appearance. All forms should be removed once the concrete has properly cured.
- 9. Provide the necessary templates, mounting plates, and hardware for concrete and masonry bases.
- 10. All masonry (concrete block, poured concrete, brick, slab, veneer, mortar, etc.) is to be properly treated and protected to maintain the structural integrity of the masonry work with exposure to all environmental conditions found at the site. For exposed or visible masonry, this shall include the application of protective sealers or similar finishes to diminish the effects of close-proximity sprinklers or irrigation systems.
- Wet concrete with footers and posts must fully cure in place before signage is installed on the footers or mounted to the posts.

#### F. Landscaping & Grading:

- Landscaping around newly installed signs shall meet all local and state code requirements.
- 2. Landscaping specifications identified in the Design Intent Drawings shall be met.
- All grades surrounding new signage shall ensure positive drainage.
- 4. Signs within hardscape areas must be finished evenly with the existing hardscape surface and colored to match.
- Fabricator shall work with Owner's Representative to ensure existing sprinkler heads are adjusted to avoid water contact with newly installed signs.
- 6. Signs within softscape areas, and their bases/posts (regulatory sign posts excluded), should be protected from routine landscape maintenance by the following methods:
  - a. Landscaping bed: minimum I' wide from each direction around a sign, 6" deep, with aluminum edging and filled with material to match existing landscaping materials.
  - b. Concrete pad: added around each concrete base or sign post.
  - c. Stone bed: minimum 2' wide from each sign face, 6" deep, with 1/8" x 4" mill finished aluminum edging. Stone type to be coordinated with Owner's Representative and or match existing landscaping stone.

#### G. Completion of installation:

- Fabricator is to remove any protective covering, tape, or installation hardware.
- Fabricator is then to clean the sign per the manufacturer recommendations, ensuring that sign is clean from dirt, stains, fingerprints, tape residue, etc.
- All exposed hardware is to be touch-up painted on site as required, immediately following installation prior to punch list.
- All minor blemishes or marring are to be repaired such that the repairs are imperceptible. Components having permanent, non-removable scratches or defects are to be replaced completely.

#### H. Site Safety and Restoration:

- Fabricators are responsible for their own safety during the installation period.
- Maintain a safe environment for pedestrians and vehicular traffic during the installation period, following OSHA safety standards as necessary.
- Keep the Owner's premises and the adjoining premises, driveways, and streets clean and clear.
- 4. Job site shall be left safe, neat, and clean at the completion of each day's operation.
- In addition to maintaining old or temporary signs for their directional or informational purposes, Fabricator is to maintain signage that meets or exceeds MUTCD and local standards during the installation period.
- At the completion of work, remove all rubbish, tools, equipment, and surplus materials, from and about the premises, and leave the site as originally found.
- Repair or correct damage to other contractors' work resulting from sign installation work.

#### 3.5 INSPECTIONS & PUNCH LIST

- A. Finished work shall be of highest architectural fabrication quality to pass eye-level examination and scrutiny. Scratches, paint drips, sags, poor welds, and other visual defects are not acceptable.
- B. Owner/Owner's Representative reserves the right to inspect work in the fabrication shop in progress and before it is shipped to the job site for installation.
- C. Owner's Representative reserves the right to conduct a Punch List, which may include, but is not limited to, review of the following items:
  - Adherence to Design Intent Drawings, graphic layouts, and shop drawings
  - 2. Sign location
  - 3. Foundation finish
  - 4. Light leaks
  - 5. Damage to sign from installation
  - 6. Completion of scope of work
  - 7. Errors and/or deficiencies

- a. Based on the Punch List report the Fabricator may be required to make corrections or replacements in order to complete their contracted scope of work.
- D. If the Fabricator agrees to a timeline for a scheduled Punch List trip, and then does not complete their scope of work in time, requiring the trip to be delayed, the Fabricator will be responsible for charges associated in rescheduling the trip.
- Fully replace all signs that are in error relative to the working documents (final sign message schedule and design drawings).
- F. Correct any installation misalignments at no charge.
- G. The Fabricator's onsite representative is to complete a walk through with the Owner's Representative immediately following installation to identify any errors, such as construction or installation issues. Such errors are to be corrected in a timely manner, and to the satisfaction of the Owner's Representative.

# **END OF SECTION**

1 of 2 City wide Map

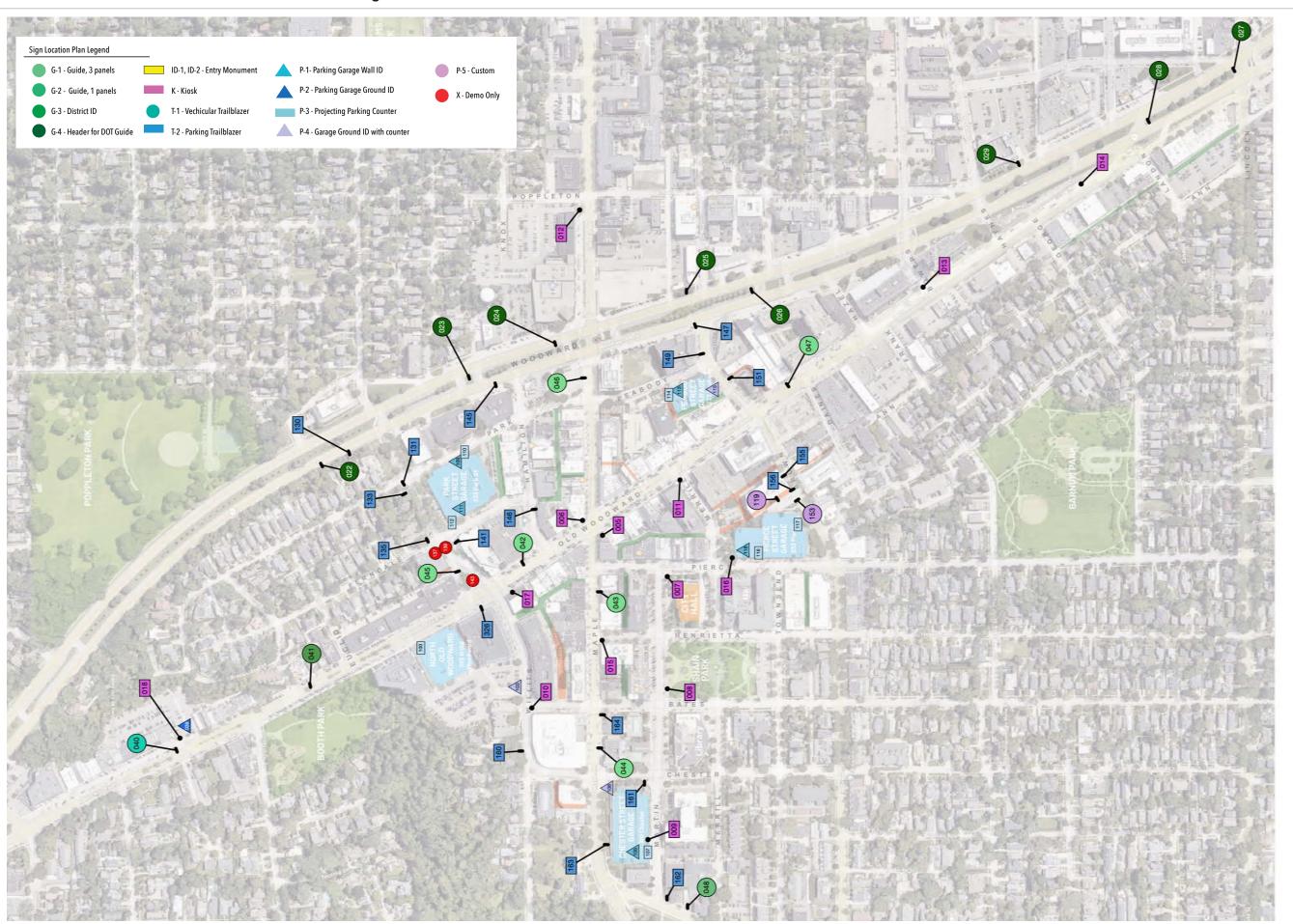
Description
Sign Location Map

Note:

Client

City of Birmingham





2 of 2 Downtown

Date	Description
10/24/23	Sign Location Map

Note:

Client

City of Birmingham





# Sign Message Schedule

**Project Name:** City of Birmingham, Michigan

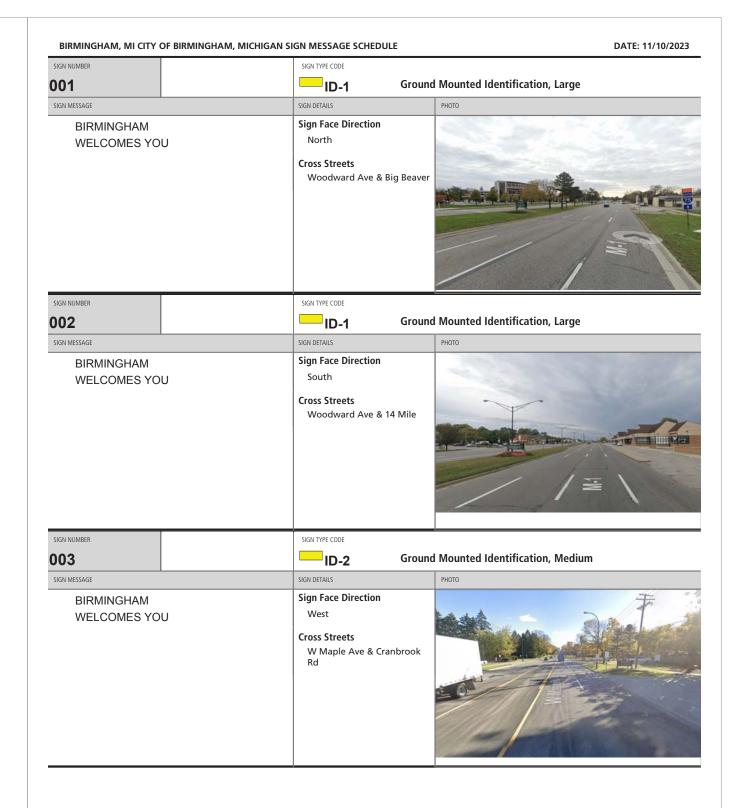
Client: Birmingham, MI

Date Issued: 11/10/2023

**General Notes:** 

Note: [P#] represents the parking symbol and its associated color as dictated in the design

intent package

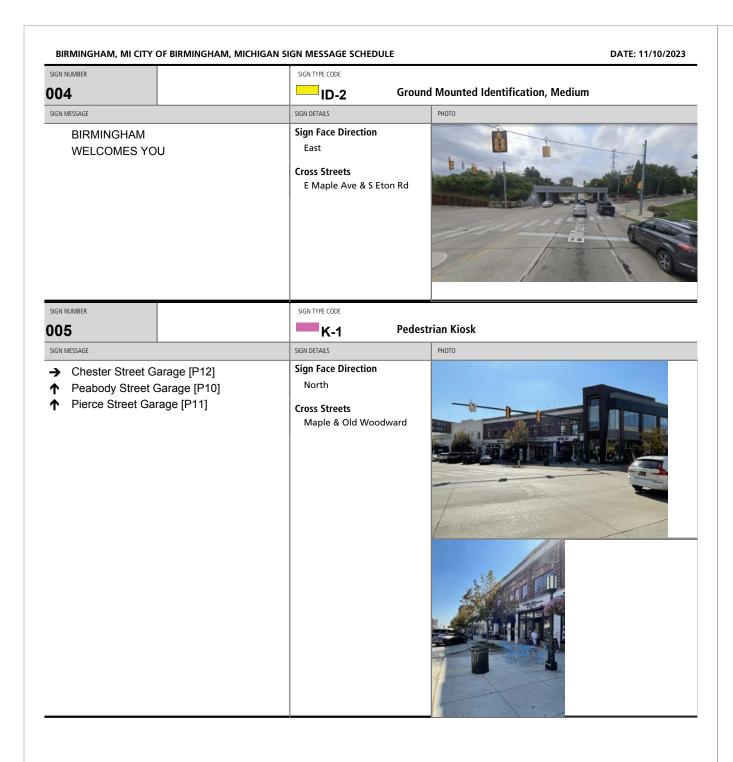


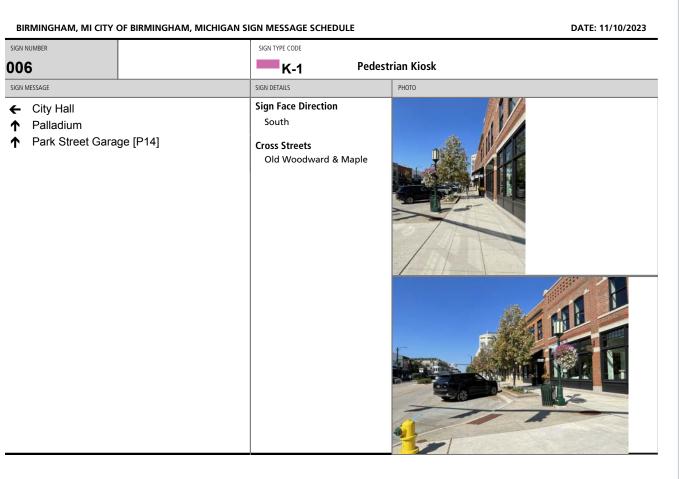
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PAGE 1





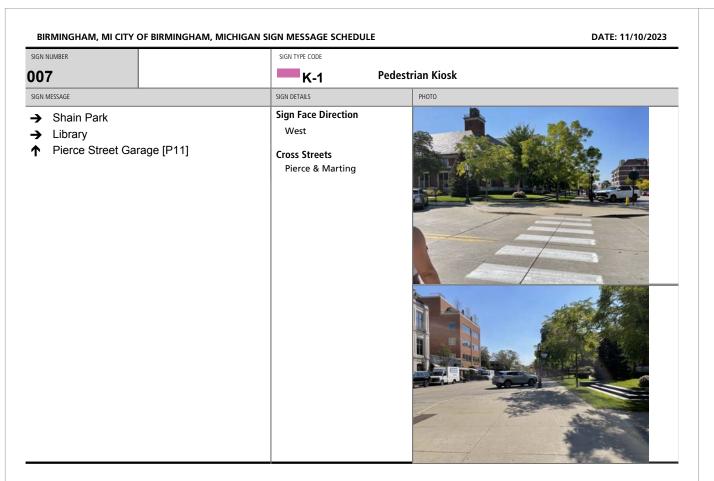
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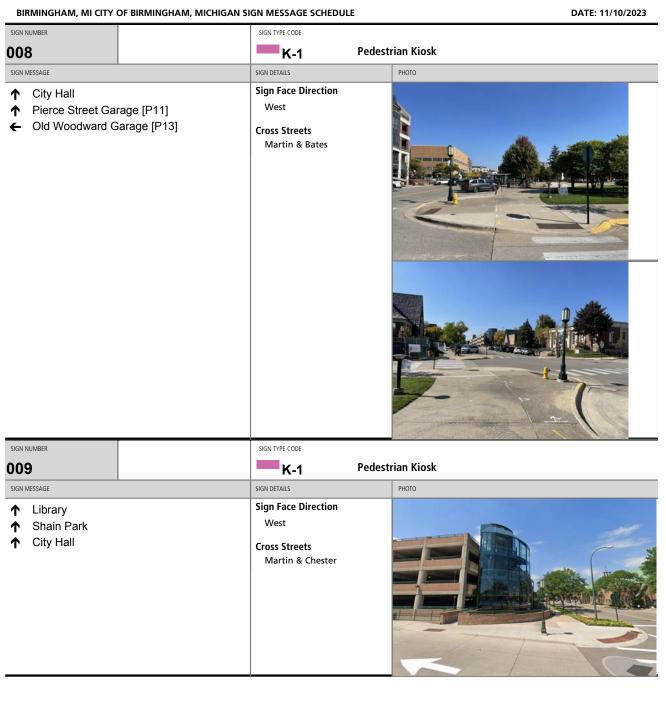
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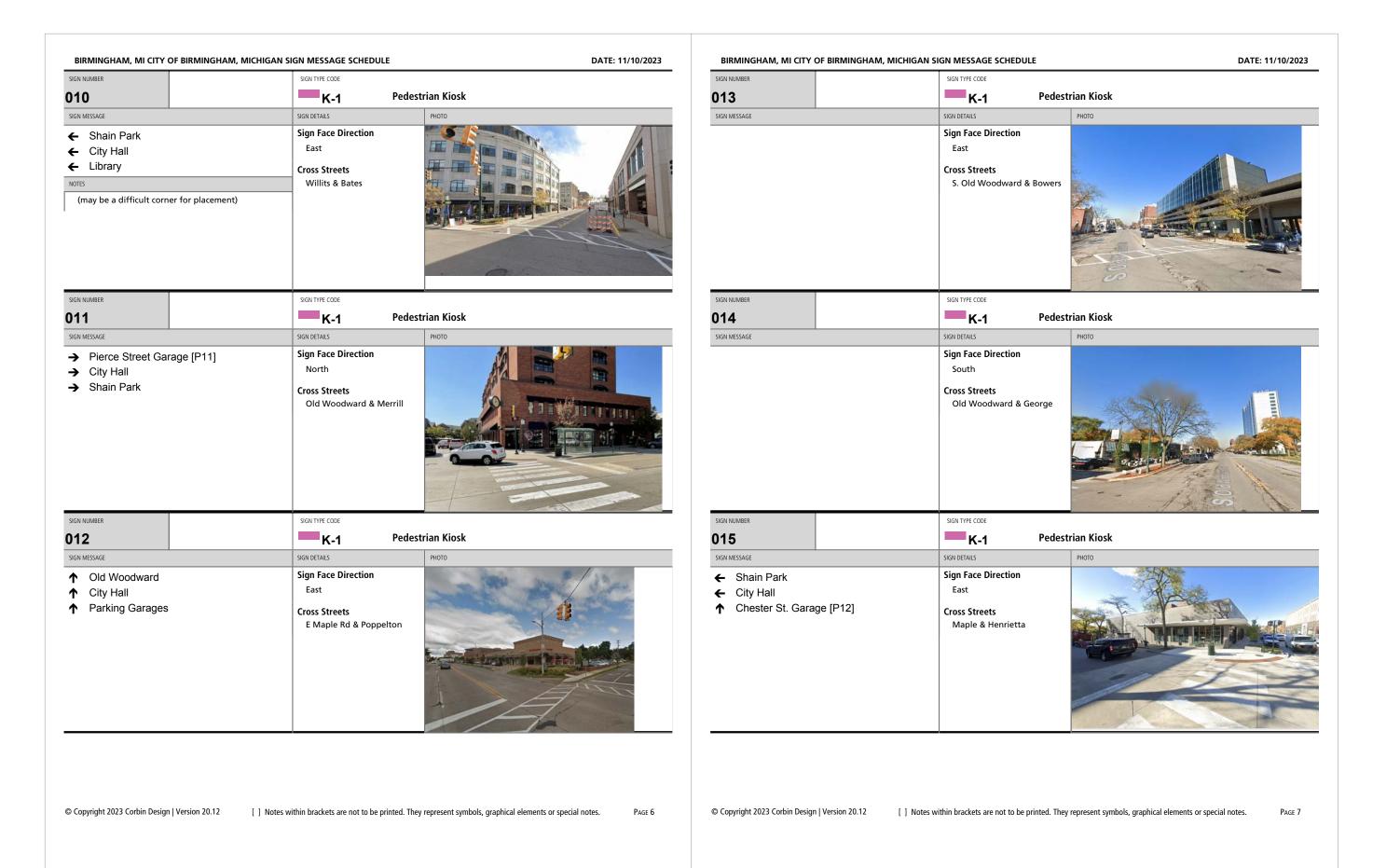
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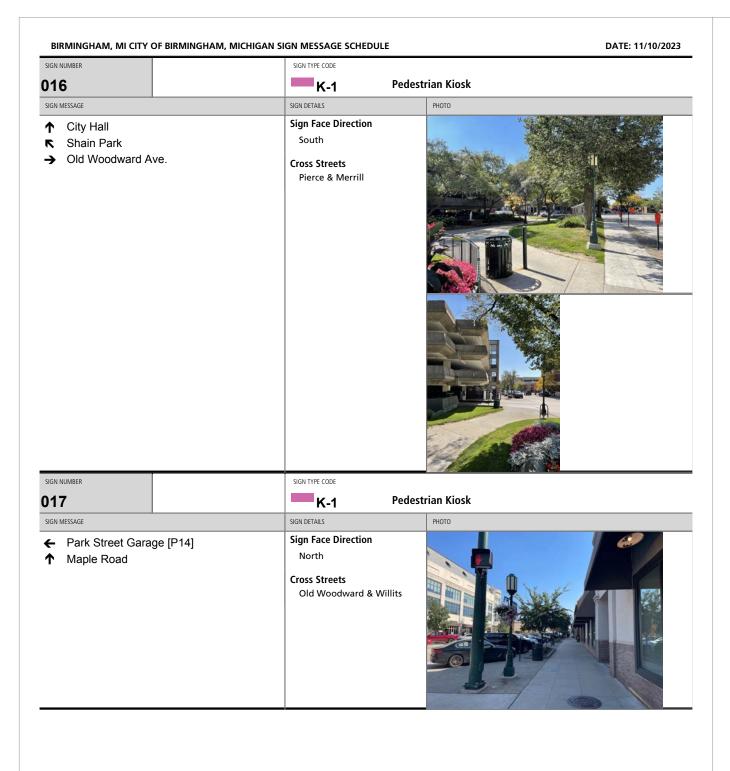
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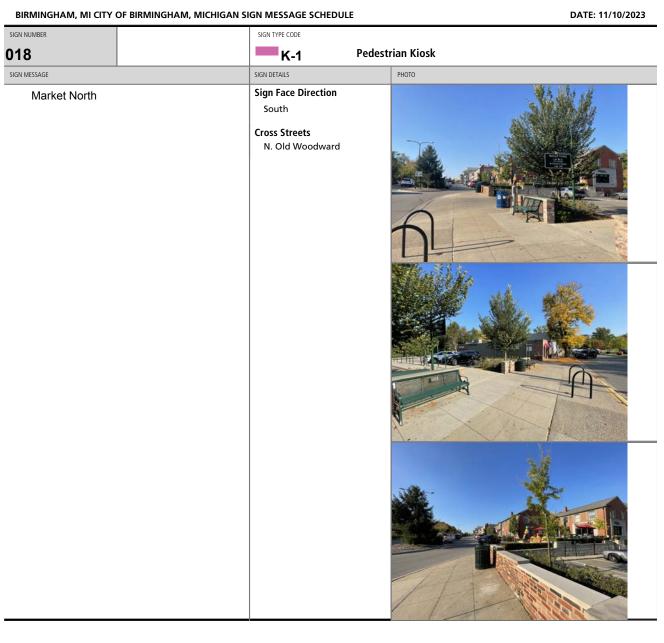
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Page 5





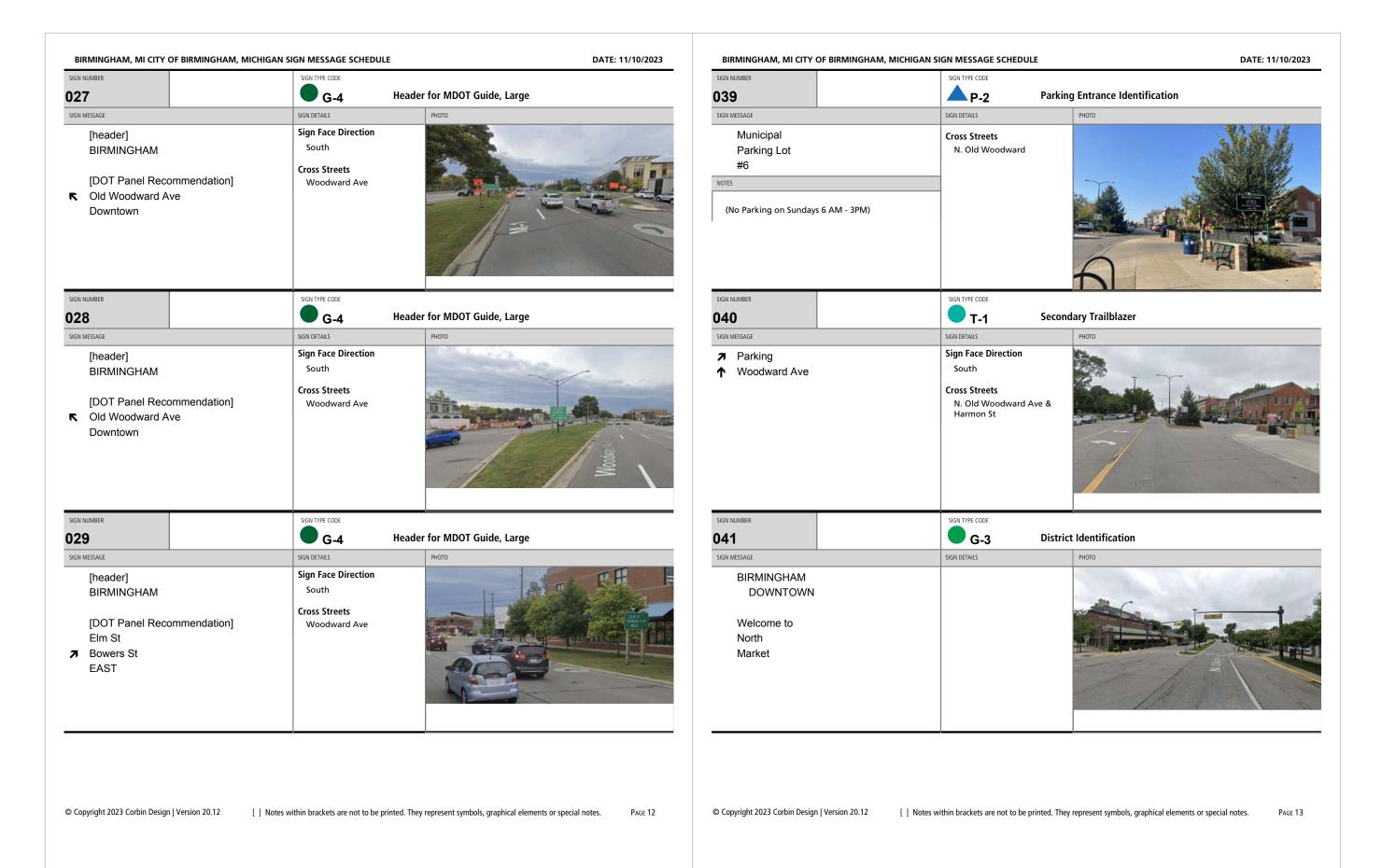


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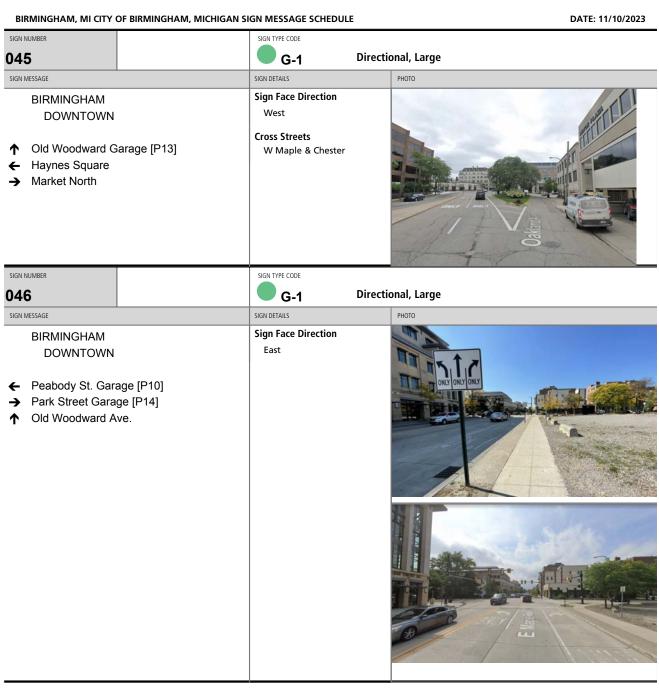
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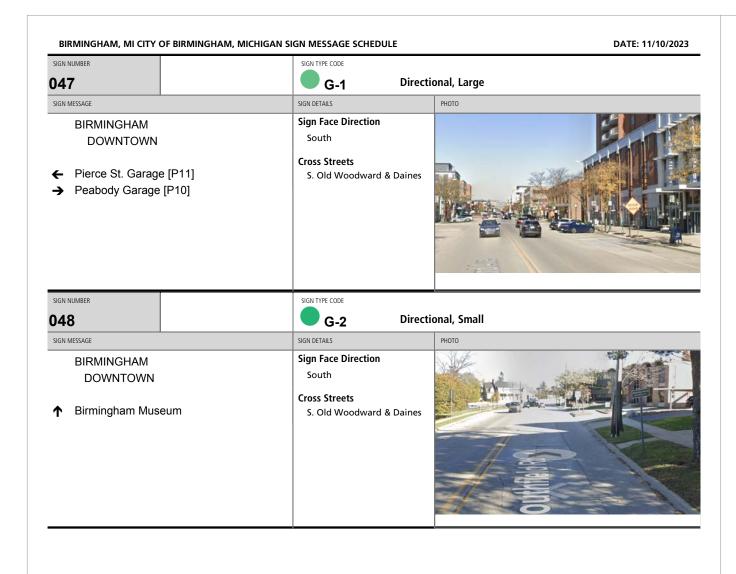




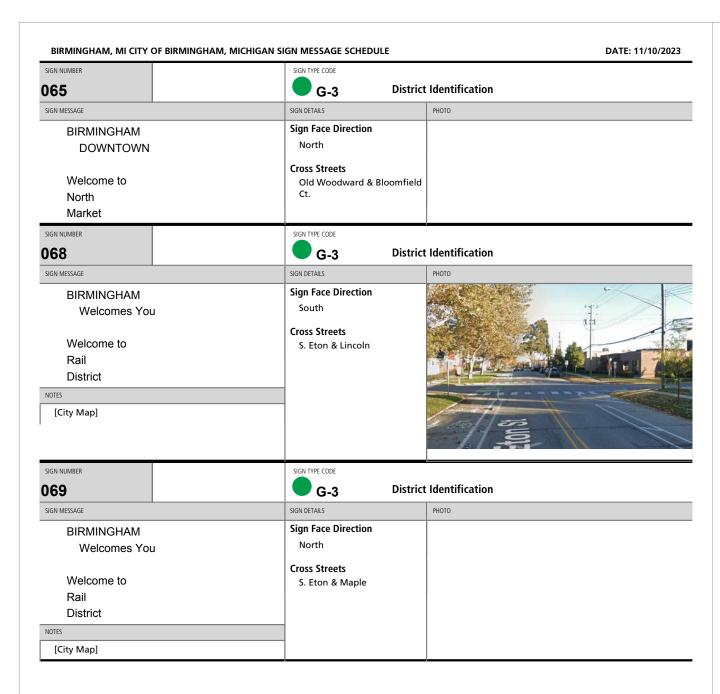


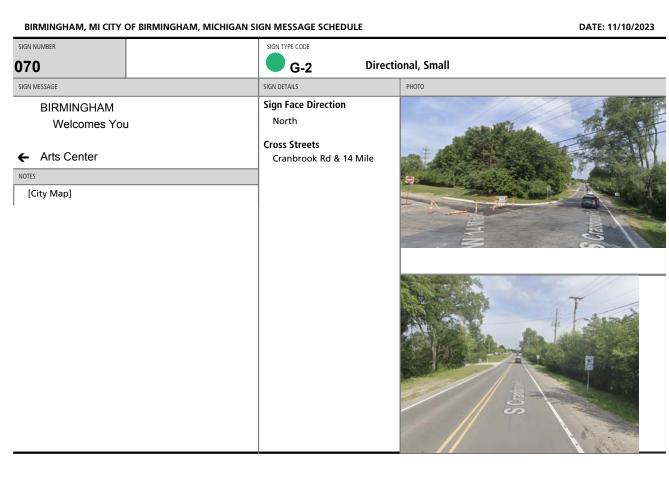


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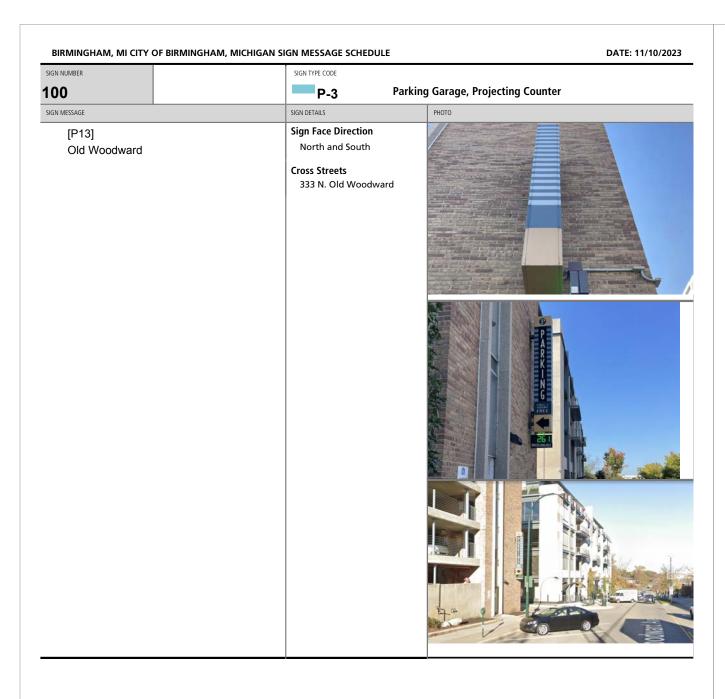


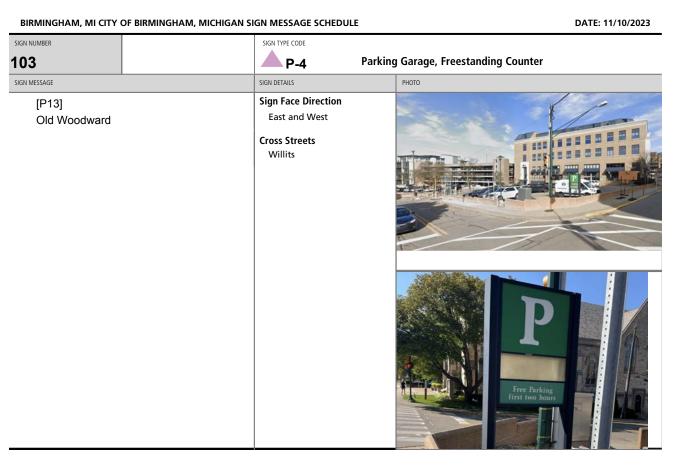


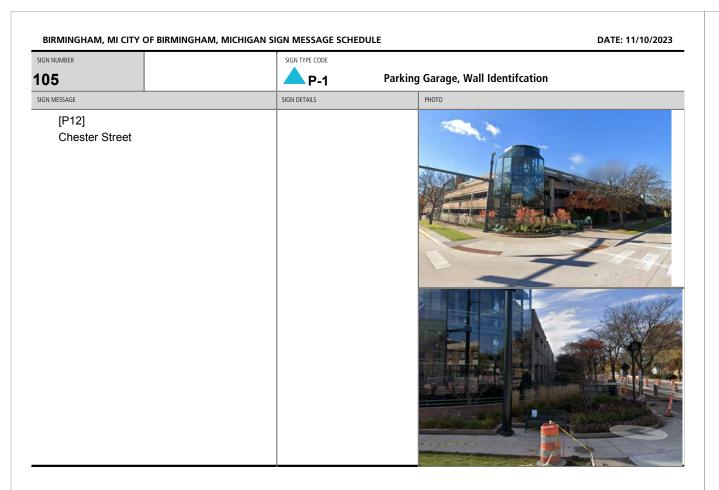


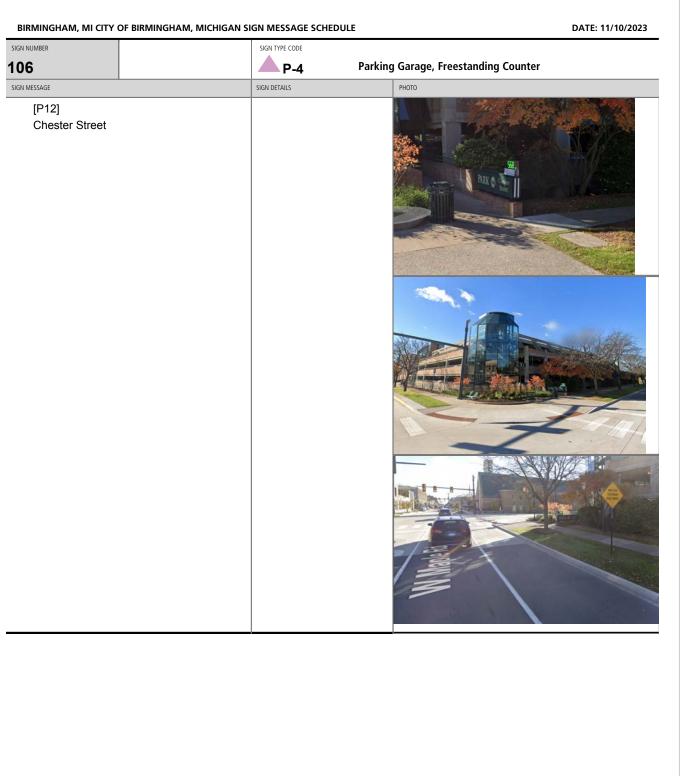
PAGE 18

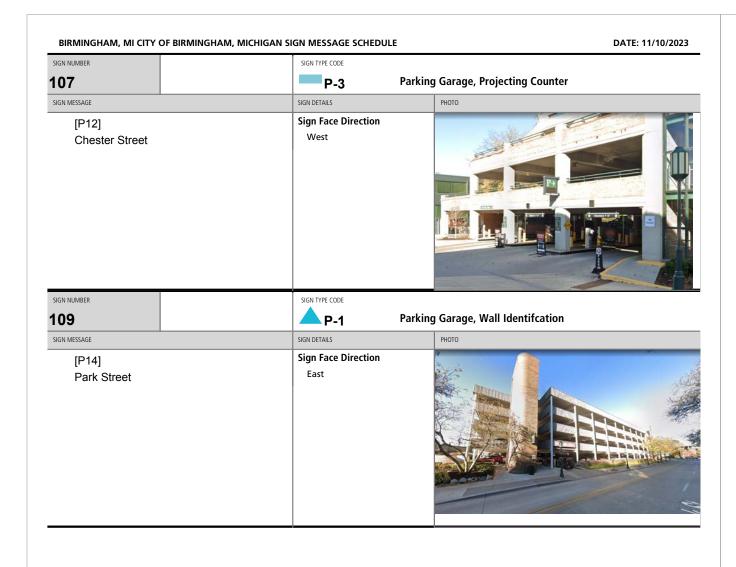
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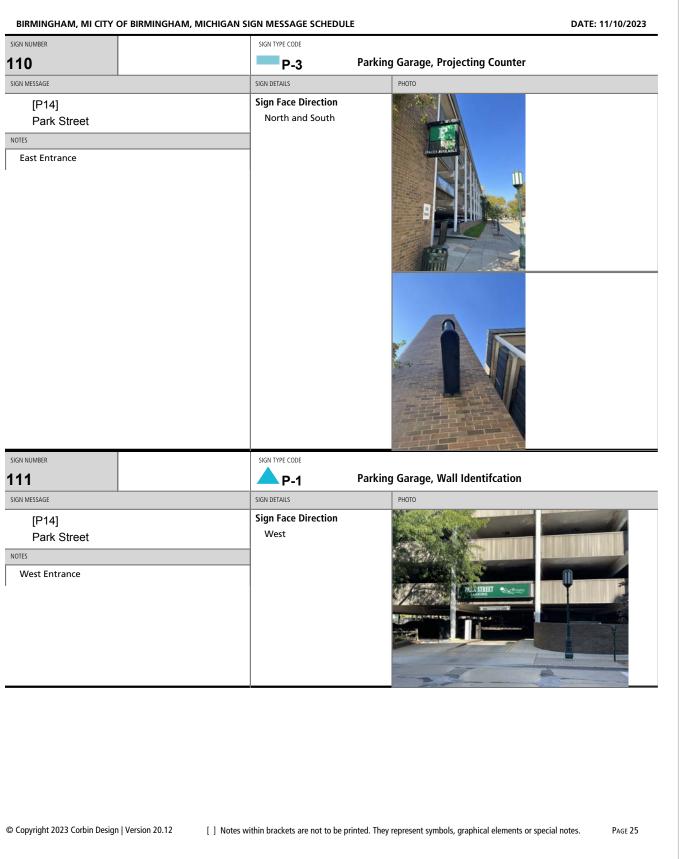


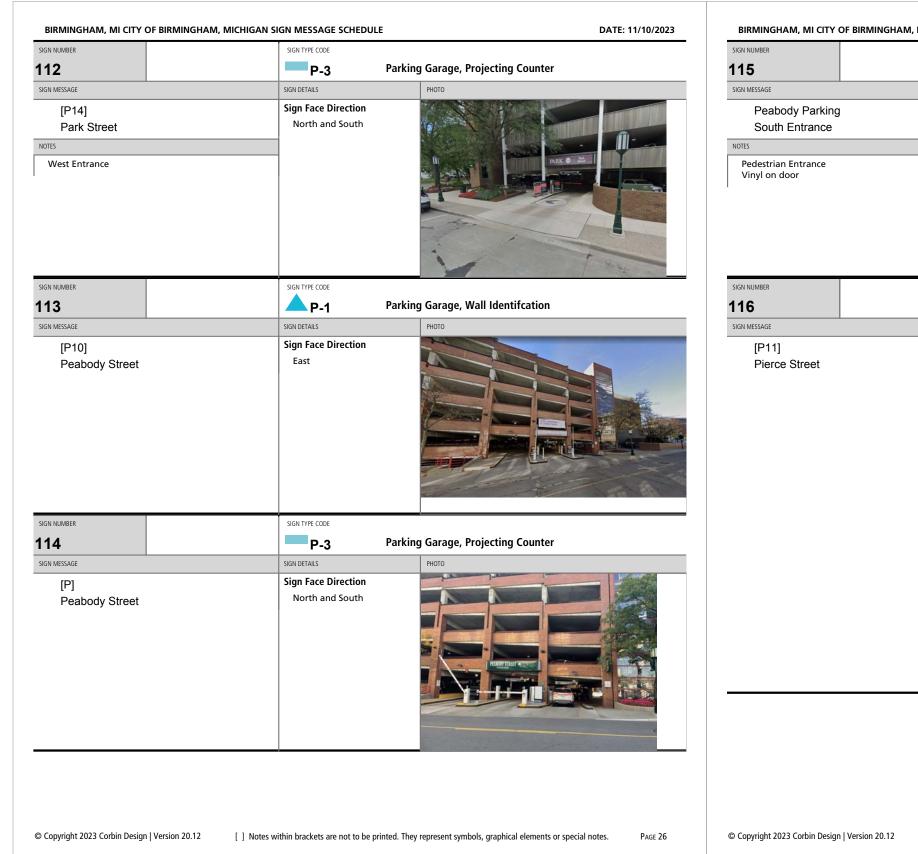


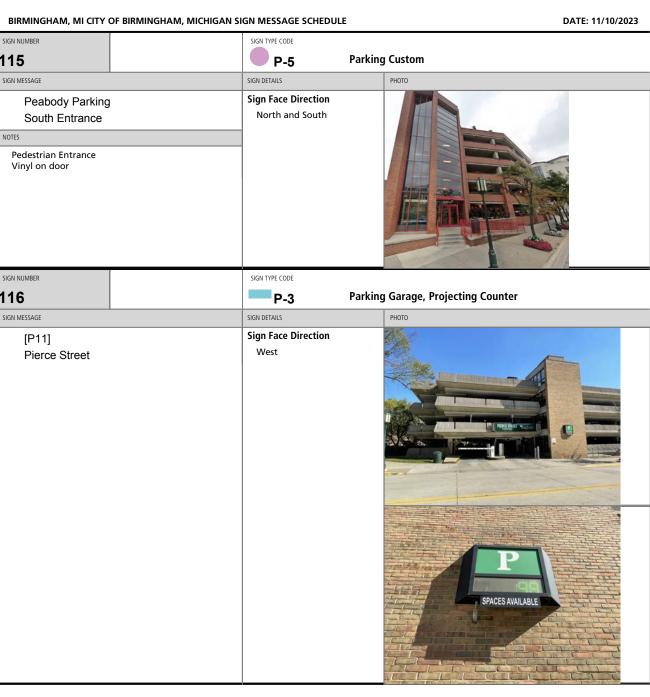




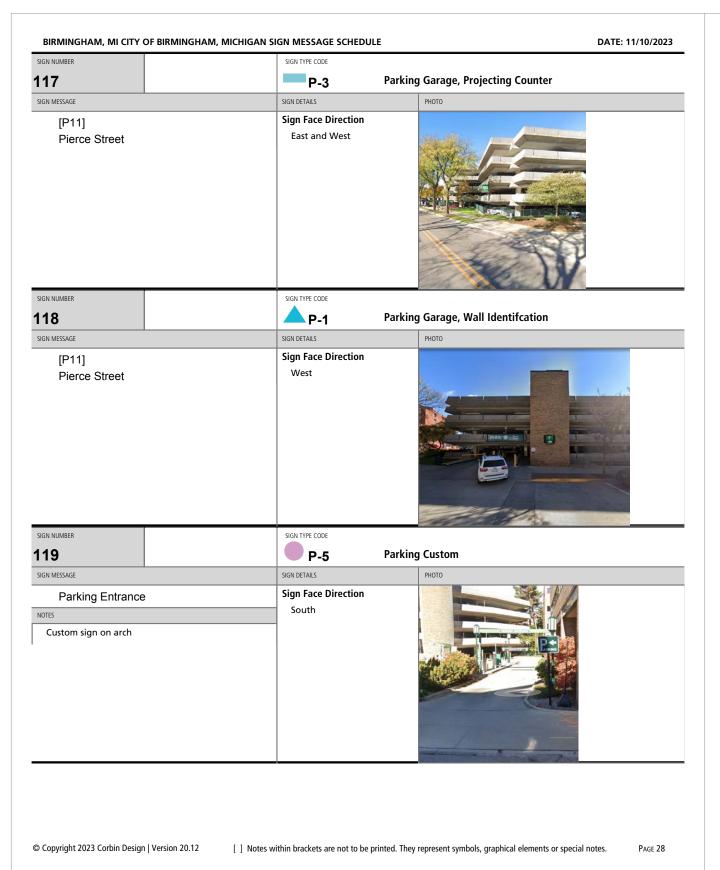


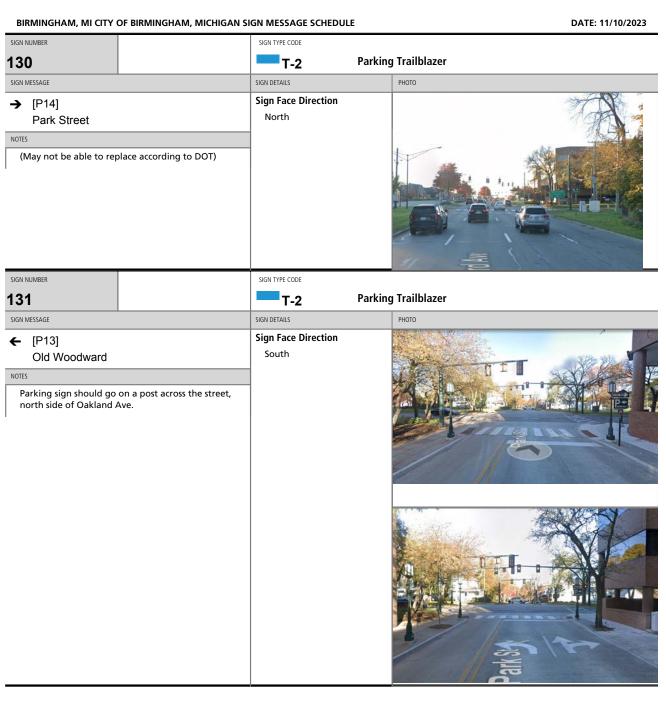




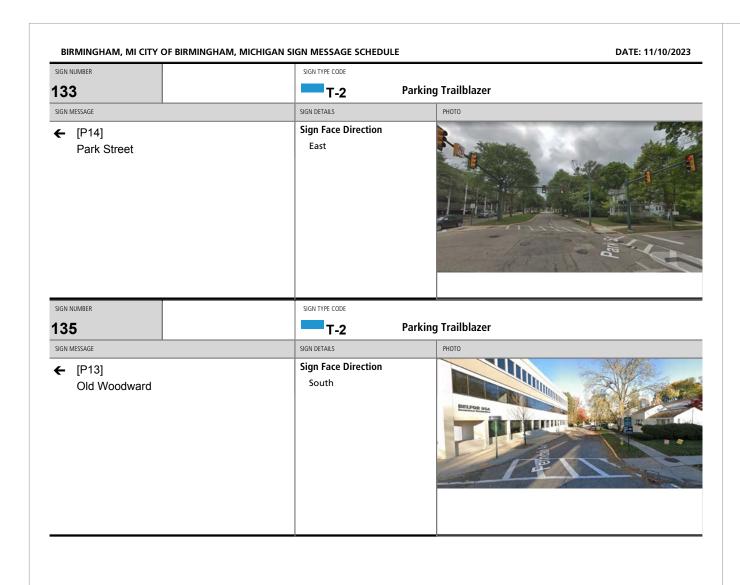


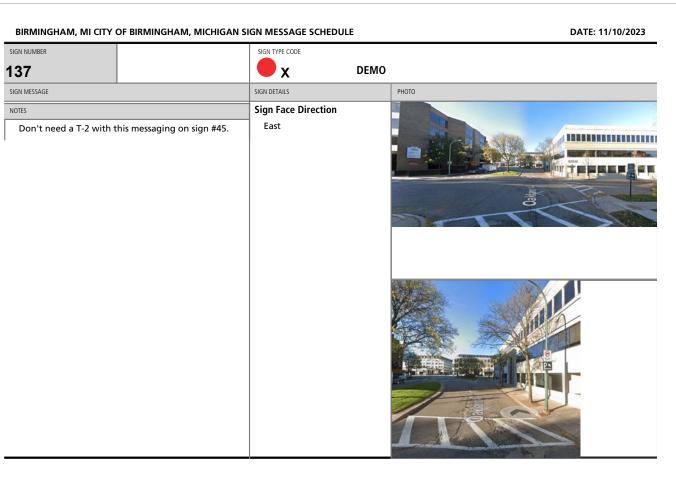
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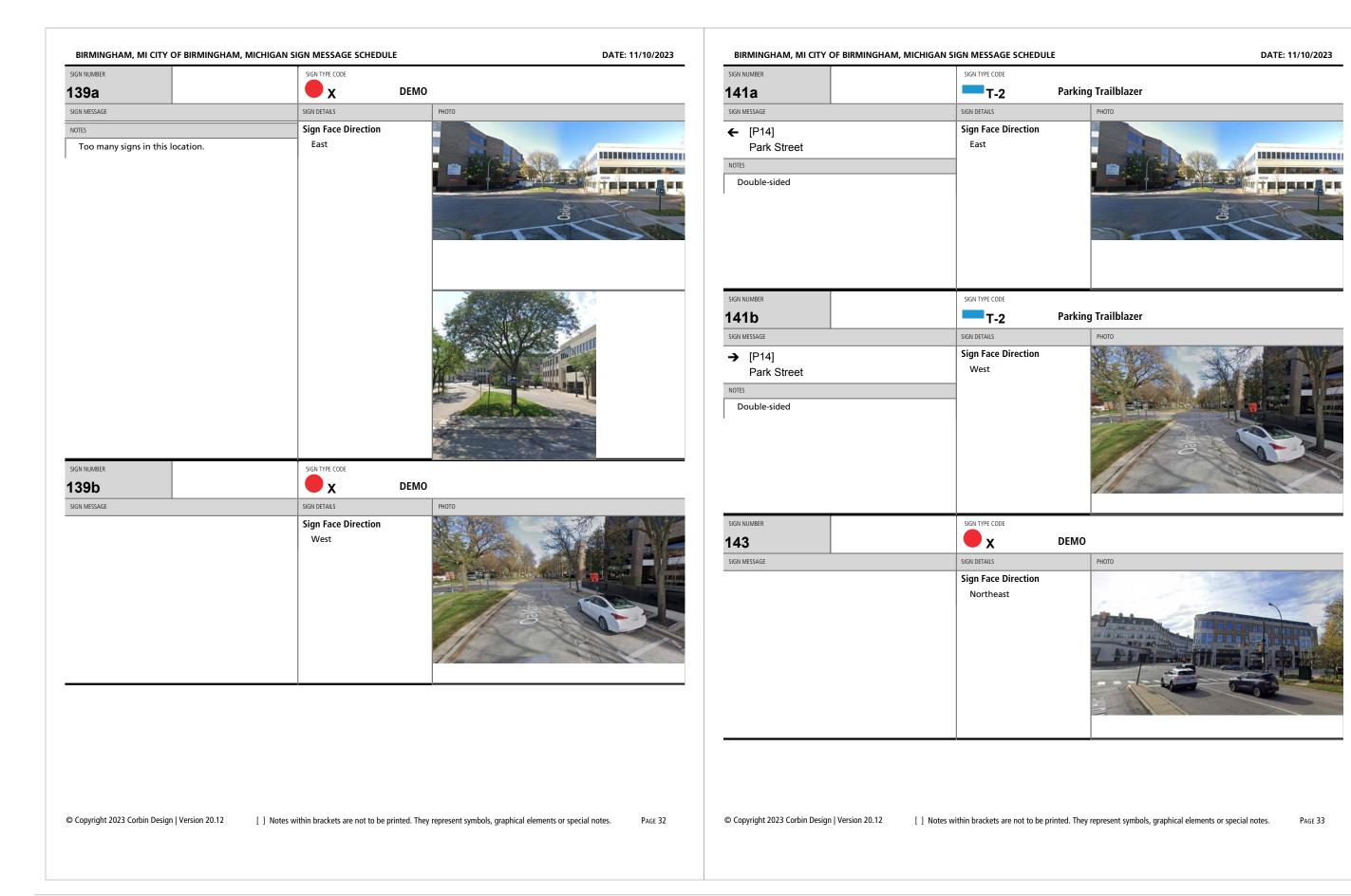


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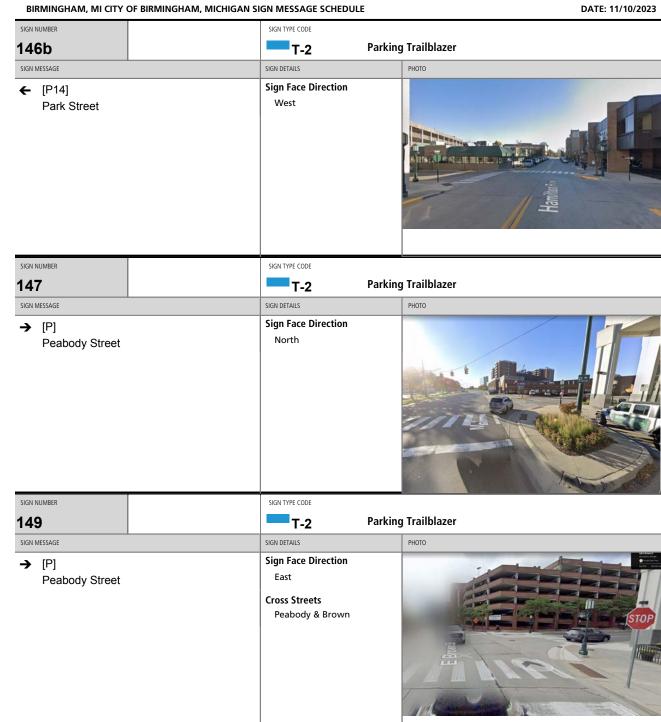


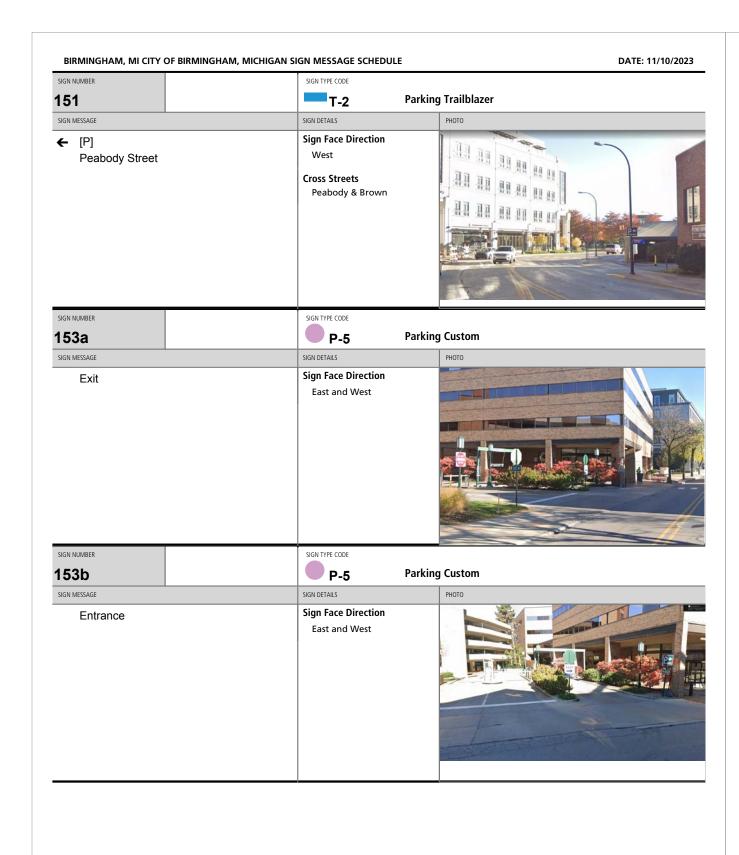


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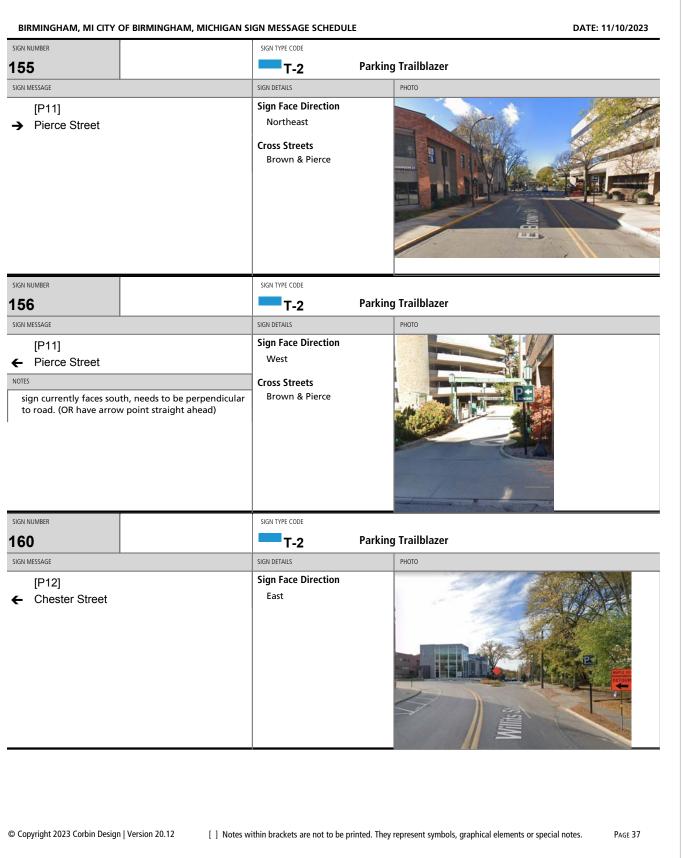


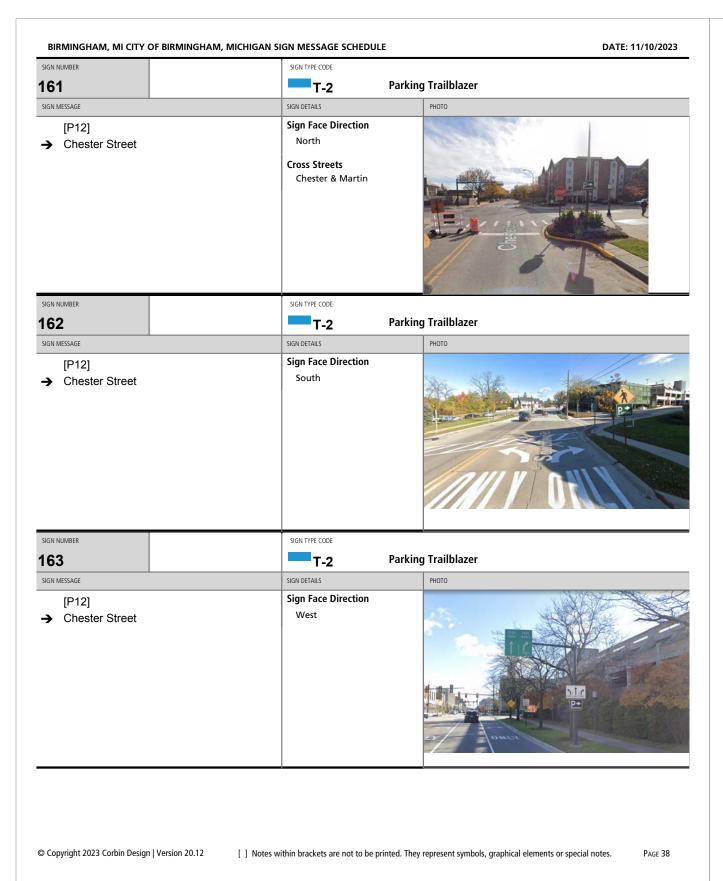


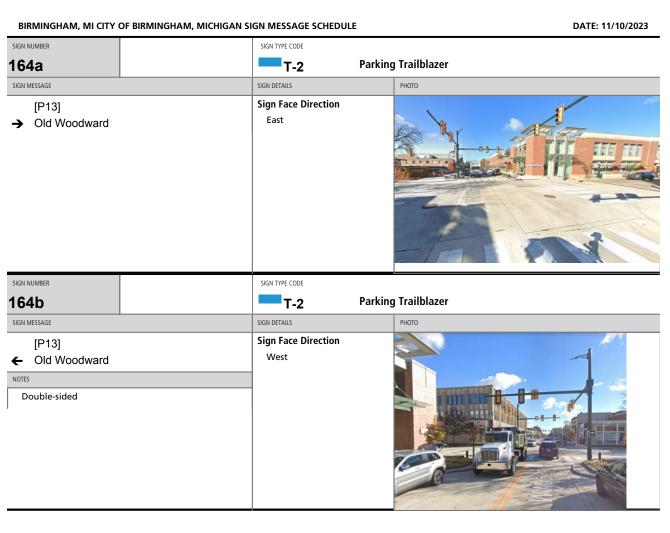
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Page 36

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## OVERALL FABRICATION & INSTALLATION BUDGET

### Birmingham, Michigan Wayfinding Signage Budget Estimate - OVERALL

Note: This is an estimate only, not to be considered a quote, and includes fabrication and installation of new signage, as well as estimated shipping costs.

	Description	Quantity	Unit Fab &Install	Total Fab & Install
Vehic	ular Wayfinding Signs			
G-1	Directional, Large	7	10,400	72,800
G-2	Directional, Small	3	9,060	27,180
G-3	District Identification	4	9,060	36,240
G-4	Header for MDOT Guide, Large	9	2,700	24,300
T-1	Secondary Trailblazer	1	1,365	1,365
T-2	Parking Trailblazer	20	1,365	27,300
			Subtotal	189,185
Monu	ument Welcome Signs			
ID-1	Ground Mounted Identification, Large	2	43,000	86,000
ID-2	Ground Mounted Identification, Medium	2	38,000	76,000
			Subtotal	162,000

Pedestrian Wayfinding				
K-1	Pedestrian Kiosk	14	12,750	178,500

Parking Identification Signs				
P-1	Parking Garage, Wall Identification	5	9,000	45,000
P-2	Parking Identification, Freestanding	1	1,365	1,365
P-3	Parking Garage, Projecting Counter	7	14,160	99,120
P-4	Parking Garage, Freestanding Counter	2	12,850	25,700
P-5	Parking Custom	4	250	1,000
			Subtotal	172,185

#### **BUDGETING AND PHASING**

During the Master Plan process, Corbin Design coordinated with several national fabricators in order to prepare an accurate budgetary estimate. Using these numbers, a phasing plan has been developed to help the city of Birmingham determine how to most effectively get the signs fabricated and installed in an impactful yet efficient way. See next page for phasing plan details.

#### Phase 1

The recommended first phase of implementation focuses on major gateway signage and trailblazing directional signage to get visitors off of Woodward Ave. and into Downtown. It is recommended that several pedestrian kiosks be included in this initial phase as budget allows.

NOTE: Content for pedestrian maps needs to be developed prior to installation.

#### Phase 2

The second phase of implementation will be the largest of the project and focuses on the remainder of the vehicular directional signs, including parking trailblazers, as well as the remaining entrance signs and additional pedestrian kiosks. If kiosks were excluded from Phase 1, they should be reallocated into this phase.

#### Phase 3

The third phase includes the remainder of the wayfinding signage with a emphasis on MDOT signage, district identification markers and the remainder of the pedestrian kiosks.

#### **Parking Identification**

The parking identification signs have been identified as their own phase as these signs can be implemented independent of the wayfinding system. This package can also be broken down into additional, smaller phases as deemed necessary by the City and as budgets allow.

#### **Pricing Notes**

The budgetary numbers are based on late 2023 material and labor pricing. There is an expectation that the prices will increase based on changes in quantities and length of time passed.

When budgeting for future phases, the City should consider the following budget increase:

- Second Year Pricing: +7.5%
- Third Year Pricing: + 15%
- Fourth Year+ Pricing: + 20%

TOTAL Cost for Signage Package \$ 701,870.00

# PHASING PLANS & BUDGETS

	PHASE 1 - \$167,000				
Descr	Description and Locations Quantity Fabrication Fab & Insta				
G-1	Directional, Large - 042, 044, 045, 046, 047	5	10,400	52,000	
ID-1	Ground Mounted Identification, Large - 001, 002	2	43,000	86,000	
K-1	Pedestrian Kiosk (BID AS ALTERNATE ITEM) - 006, 007 (City can select any two)	2	14,500	29,000	

**TOTAL Cost for Phase 1** 

\$ 167,000.00

	PHASE 3 - \$111,540				
	Unit Total				
Descri	ption and Locations	Quantity	Fabrication	Fab & Install	
	District Identification		0.000	26.240	
G-3	- 041, 065, 068, 069	4	9,060	36,240	
	Header for MDOT Guide, Large		2 700	24 200	
G-4	-021, 022, 023, 024, 025, 026, 027, 028, 028	9	2,700	24,300	
	Pedestrian Kiosk		12.750	F1 000	
K-1	- 012, 013, 014, 016	4	12,750	51,000	

**TOTAL Cost for PHASE 3** 

\$ 111,540.00

PHASE 2 - \$254,645				
Directional, Large -043, 050	2	10,400	20,800	
Directional, Small - 048, 049, 070	3	9,060	27,180	
Ground Mounted Identification, Medium -003, 004	2	38,000	76,000	
Pedestrian Kiosk -005, 008, 009, 010, 011, 015, 017, 018	8	12,750	102,000	
Secondary Trailblazer -040	1	1,365	1,365	
Parking Trailblazer - 130, 131, 133, 135, 141a, 141b, 145, 146a, 146b, 147, 149, 151, 155, 156, 160, 161, 162, 163, 164a, 164b	20	1,365	27,300	
	Directional, Large -043, 050  Directional, Small - 048, 049, 070  Ground Mounted Identification, Medium -003, 004  Pedestrian Kiosk -005, 008, 009, 010, 011, 015, 017, 018  Secondary Trailblazer -040  Parking Trailblazer - 130, 131, 133, 135, 141a, 141b, 145, 146a, 146b, 147, 149, 151, 155, 156, 160,	Directional, Large -043, 050  Directional, Small - 048, 049, 070  Ground Mounted Identification, Medium -003, 004  Pedestrian Kiosk -005, 008, 009, 010, 011, 015, 017, 018  Secondary Trailblazer -040  Parking Trailblazer - 130, 131, 133, 135, 141a, 141b, 145, 146a, 146b, 147, 149, 151, 155, 156, 160,	Directional, Large       2       10,400         -043, 050       3       9,060         Directional, Small       3       9,060         Ground Mounted Identification, Medium       2       38,000         Pedestrian Kiosk       8       12,750         -005, 008, 009, 010, 011, 015, 017, 018       8       12,750         Secondary Trailblazer       1       1,365         Parking Trailblazer       1       1,365         146a, 146b, 147, 149, 151, 155, 156, 160,       20       1,365	

**Total Cost for Phase 2** 

\$254,645

PARKING IDENTIFICATION PHASE- \$172,185				
Descri	ption and Locations	Quantity	Unit Fab &Install	Total Fab & Install
P-1	Parking Garage, Wall Identification - 105, 109, 111, 113, 118	5	9,000	45,000
P-2	Parking Identification, Freestanding - 039	1	1,365	1,365
P-3	Parking Garage, Projecting Counter - 100, 107, 110, 112, 114, 116, 117	7	14,160	99,120
P-4	Parking Garage, Freestanding Counter - 103, 106	2	12,850	25,700
P-5	Parking Custom - 115, 119, 153a, 153b	4	250	1,000

Total Cost for Parking Identification

\$172,185