

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. Contract Number DCHA-2010-B-0145	Page of Pages 1 1
2. Amendment/Modification Number DCHA-2010-B-0145-002	3. Effective Date 9-Jul-10	4. Requisition/Purchase Request No.	5. Solicitation Caption See Below	
6. Issued By: Department of Real Estate Services Contracting and Procurement Division 2000 14th Street N.W., Suite 500 Washington, D.C. 20009		Code 03B	7. Administered By (If other than line 6) Department of Real Estate Services Contract and Procurement Division 2000 14th Street N.W., Suite 500 Washington, D.C. 20009	
8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)			(X)	9A. Amendment of Solicitation No. DCHA-2010-B-0145
				9B. Dated (See Item 11) 15-Jun-10
				10A. Modification of Contract/Order No.
				10B. Dated (See Item 13)
Code	Facility			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. Accounting and Appropriation Data (If Required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14				
(X)	A. This change order is issued pursuant to: (Specify Authority)			
	The changes set forth in Item 14 are made in the contract/order no. in item 10A.			
	B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.			
	C. This supplemental agreement is entered into pursuant to authority of:			
	D. Other (Specify type of modification and authority)			
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copy to the issuing office.				
14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)				
<p>The subject solicitation is hereby amended as follows:</p> <p>1 Responses to Questions from Prospective Bidders including Sign Specifications (Attachment A) and DPR Sign Standards Manual (Attachment B)</p>				
Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect				
15A. Name and Title of Signer (Type or print)			16A. Name of Contracting Officer Diane Wooden	
15B. Name of Contractor		15C. Date Signed	16B. District of Columbia	16C. Date Signed
(Signature of person authorized to sign)			<i>Diane Wooden</i>	7/9/10
			(Signature of Contracting Officer)	

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Real Estate Services



Contracting and Procurement Division

Amendment: DCHA-2010-B-0145-002

In response to Questions from prospective bidders:

1. *Please provide the following missing specification sections:*

- a. *Fence* For fence information see details 10 - 14 on sheet L3.01. New chain link fence is not required for this project.
- b. *Signage* Signage is required.

Signs to be mounted near Entry Gate on Custom Aluminum Fence along 14th Street, NW
(1) Park Identification Sign Type B (Fence Mounted) - 'Upshur Park Playground'
(1) Fence Mounted Park Hours Sign

Signs to be mounted on Tot Lot Custom Aluminum Fence:
(1) Fence Mounted Park Hours Sign
(1) Fence Mounted Playground Sign – High Heel Damage Rubber
(1) Fence Mounted Playground Sign – 5-12 with Arrow
(1) Fence Mounted Playground Sign – 2-5 with Arrow

Final Location of signs to be determined at later time.

See Attachment A for Signage Details & Specifications.

2. *Is testing and inspection part of the scope of work? Please clarify.* Testing and inspection, and associated fees, are included in the contractor's scope of work.

3. *Does the Owner need a field office per section 01500? Please advise.* The Owner does not require a field office.

4. *Please provide the profile for the water line and storm drain, and the pipe type and pipe diameter for water line.* Storm drain: The structure top elevation and invert elevation are shown C-02. There are no crossings. Waterline: Match existing waterline to existing water fountain.

5. *What type and thickness of drainage boards showing on details 5B and 7B on drawing L3.01 at retaining walls? Please advise.* Prefabricated Drain Boards: Two part prefabricated geocomposite drain board consisting of a formed polystyrene or PVC core covered on one side with a woven or non-woven polypropylene filter fabric, 1/4" thick:

- A. Core: High Impact Polystyrene (HIPS) formed with dimpled drain area.
- B. Geotextile:

1. Non-woven needle punched polypropylene, 4 ounce filter fabric, with UV

stabilizers.

2. Woven polypropylene 6.5 ounce filter fabric.

6. What size and length for bolts for the metal edging bolted indicating on detail 03/L3.01. Please clarify. Bolts are 1/4" diameter x 2" length.

7. Sheet L2.01 material legend shows stone paving 24"x12" and detail 2D/L3.01 indicates 2" thickness. What is the type and finish of stone paving? Please advise. Paving to be dimensional Carderrock Stone, thermal finish.

8. There is no detailed given on mounting of the playground equipment. Does the playground equipment mounts onto the concrete slab or will it embeds into concrete footings? Please advise. Swings (A), Playhouse Slide (H), Creative Workshop (I), and Coupe Deluxe (P) to have concrete footing. All other play equipment to be surface mounted to concrete slab. Note: concrete slab under rubber surfacing to increase in thickness to 5-1/2"

Additional Notes:

A. Spec sections 04860 - STONE MASONRY and 05700 ORNAMENTAL METALS dated June 2, 2010 have been deleted

B. See Attachment B for additional spec sections 04816 – UNIT MASONRY ASSEMBLIES and SECTION 04860 - STONE MASONRY VENEER dated July 9, 2010.

Attachment A

Upshur Park Playground
Clarification Response 1



NOTES
 FONT: GARAMOND, TIMES NEW ROMAN, OR EQUAL
 CHARACTER, BORDER AND GRAPHIC COLOR: WHITE (PANTONE 7485 C)
 FIELD COLOR: DARK GREEN (PANTONE 553 C)
 BORDER: 1/4", OFFSET 1/4" FROM EDGE

DATE 10/05/09	NOTES NA	TITLE PLAYGROUND SIGN, 5-12 YEARS OLD	DISTRICT OF COLUMBIA DEPARTMENT OF PARKS AND RECREATION Office of Planning & Capital Projects Main Office: 3149 16th Street, N.W. Washington, D.C. 20010 202-673-7647 www.dpr.dc.gov	
SCALE NO SCALE				
TYPE DETAIL				



NOTES
 FONT: GARAMOND, TIMES NEW ROMAN, OR EQUAL
 CHARACTER, BORDER AND GRAPHIC COLOR: WHITE (PANTONE 7485 C)
 FIELD COLOR: DARK GREEN (PANTONE 553 C)
 BORDER: 1/4", OFFSET 1/4" FROM EDGE

DATE 10/05/09	NOTES NA	TITLE PLAYGROUND SIGN, 2-5 YEARS OLD	DISTRICT OF COLUMBIA DEPARTMENT OF PARKS AND RECREATION Office of Planning & Capital Projects Main Office: 3149 16th Street, N.W. Washington, D.C. 20010 202-673-7647 www.dpr.dc.gov	
SCALE NO SCALE				
TYPE DETAIL				



NOTES

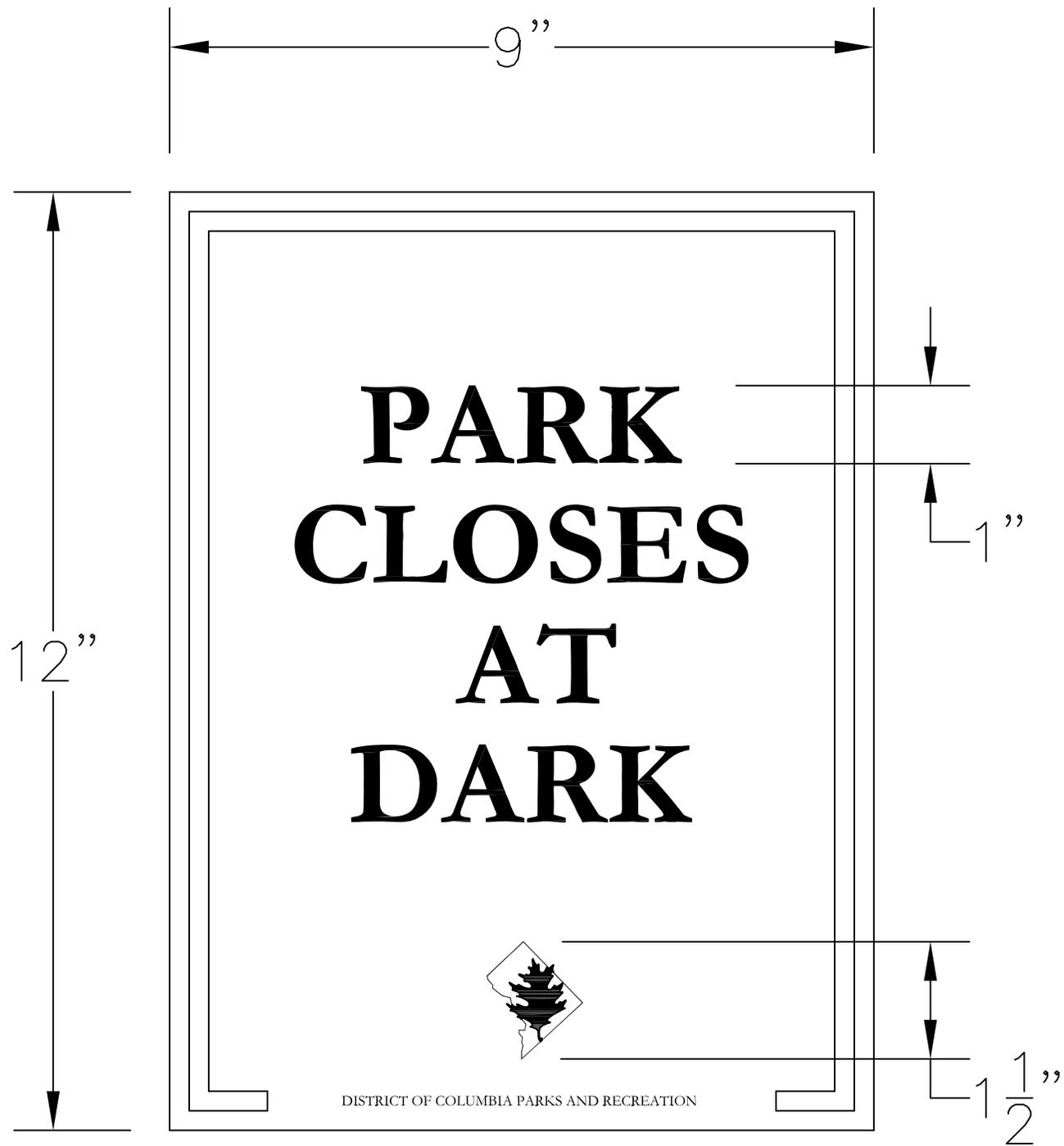
TEXT FONT: ARIAL BLACK OR EQUAL
 AGENCY FONT: GARAMOND, TIMES NEW ROMAN, OR EQUAL

FIELD COLOR: DARK GREEN (PANTONE 553 C)
 TEXT, BORDER, DPR GRAPHIC AND SHOE GRAPHIC COLOR: WHITE (PANTONE 7485 C)
 CIRCLE SYMBOL COLOR: RED (PANTONE 192 C)

BORDER: 1/4", OFFSET 1/4" FROM EDGE

COLORS SHOWN HERE ARE ILLUSTRATIVE ONLY

DATE 07/07/10	NORTH NA	TITLE PLAYGROUND SIGN, HIGH HEELS DAMAGE RUBBER SURFACES	DISTRICT OF COLUMBIA DEPARTMENT OF PARKS AND RECREATION	
SCALE NO SCALE			Office of Planning & Capital Projects Main Office: 3149 16th Street, N.W. Washington, D.C. 20010 202-673-7647 www.dpr.dc.gov	
TYPE DETAIL				



NOTES

FONT: GARAMOND, TIMES NEW ROMAN, OR EQUAL
 CHARACTER, BORDER AND GRAPHIC COLOR: WHITE (PANTONE 7485 C)
 FIELD COLOR: DARK GREEN (PANTONE 553 C)
 BORDER: 1/4", OFFSET 1/4" FROM EDGE

DATE 10/05/09	NOTES NA	TITLE SIGN, PARK HOURS	DISTRICT OF COLUMBIA DEPARTMENT OF PARKS AND RECREATION Office of Planning & Capital Projects Main Office: 3149 16th Street, N.W. Washington, D.C. 20010 202-673-7647 www.dpr.dc.gov	
SCALE NO SCALE				
TYPE DETAIL				

SIGN STANDARDS MANUAL



DECEMBER 24, 2003

PREPARED BY:

Peck, Peck & Associates, Inc.
2050 Old Bridge Road
Woodbridge, VA 22192

In Cooperation with:

Jair Lynch Consulting/Alpha Corporation - A Joint Venture
1508 U Street, NW
Washington, D.C. 20009

SIGN STANDARDS MANUAL

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SIGN STANDARDS MANUAL

INTRODUCTION

SIGN STANDARDS MANUAL

INTRODUCTION

The District of Columbia Department of Parks and Recreation (DPR) oversees and maintains the community parks, playgrounds, community centers and recreation centers throughout the D.C. area. Its involvement in creating areas of recreation within the urban environment is vital to the citizens and visitors of the city. The DPR is undergoing ways to improve the facilities that it provides to the city, with one project focusing on the improvement of all exterior and interior signs by setting new design standards.

The parks have everything from basketball courts and swimming pools to jogging trails and horseshoe pits. Playgrounds of every size can be found throughout D.C. In addition to the 354 parks and 71 playgrounds, the DPR maintains over 200 triangle parks.

Recreation centers, senior citizen centers and community centers can be found within many parks and as separate facilities. These facilities house programs such as childcare, before and after school programs, little league and recreation therapy. With such a wide variety of amenities, it is clear that there is an equally wide variety of users from young children to older adults, from city residents to visitors. The facilities provided by the DPR must answer all the needs of these users. Likewise, the signs used throughout the facilities must be designed with this variety of users in mind.

The DPR has established a standard design for all signs located on DPR properties. This manual outlines basic design details of both exterior and interior signs and provides specifications for sign manufacturers and installers. This manual is intended to serve as a guide only. All decisions must be reviewed and approved by the DPR.

This manual is divided into two sections, "Interior Signs" and "Exterior Signs." Each section is then divided into subsections which includes narratives, images and specifications for each sign type.

A color image of the logo that is used in the sign designs can be found at the end of this manual.

A quantity schedule listing estimated quantities for each sign type can be found at the end of this manual.

Throughout the manual, "DPR Representative" refers to the following point of contact:

Maryse Beliveau, ASLA
3149 16th Street, NW
Washington, D.C. 20010

Before proceeding, the point of contact listed above should be verified with the Director of DPR.

SIGN STANDARDS MANUAL

INTERIOR SIGNS

SIGN STANDARDS MANUAL

INTERIOR SIGNS

Three interior sign types are outlined in this section:

- Nonilluminated Interior Directories
- Bulletin boards
- Interior Panel Signs

Nonilluminated Interior Directories

The directories are to be surface-mounted, consisting of an aluminum retainer frame with a header panel and removable message strips. The message strips are acrylic plastic and are of a modular size. The characters and graphics are applied using a silk screen method. The typography shall be Garamond, or an approved equal. Characters should be 1" high.

The number of message strips is dependent on the number of rooms in any particular facility. The number of message strips shown indicates the minimum amount of message strips per unit (eight). It should be noted that the height of the unit may increase or decrease depending on the number of message strips indicated at the time of order. The number of message strips per directory will be designated by the DPR representative prior to bid.

Characters should have a width-to-height ratio of between 3:5 and 1:1 and a stroke-width-to-height ratio of between 1:5 and 1:10 , using an uppercase "X" for measurement.

The characters and directional indicators will be Bone White (Pantone 7485 C). See drawing for exact location. Final color selection will be approved by DPR.

The background will be a Dark Green (Pantone 553 C). Final color selection will be approved by DPR.

The standard location for building directories will be at lobbies, entrances and/or corridor intersections of the buildings. The final location is specific to each facility and will be designated and approved by DPR before installation.

Since mounting conditions will vary from building to building, mounting methods should be per manufacturer's written instructions. A typical mounting condition will be a painted concrete masonry unit (CMU) wall. The method selected shall be concealed, and the most vandal-resistant.

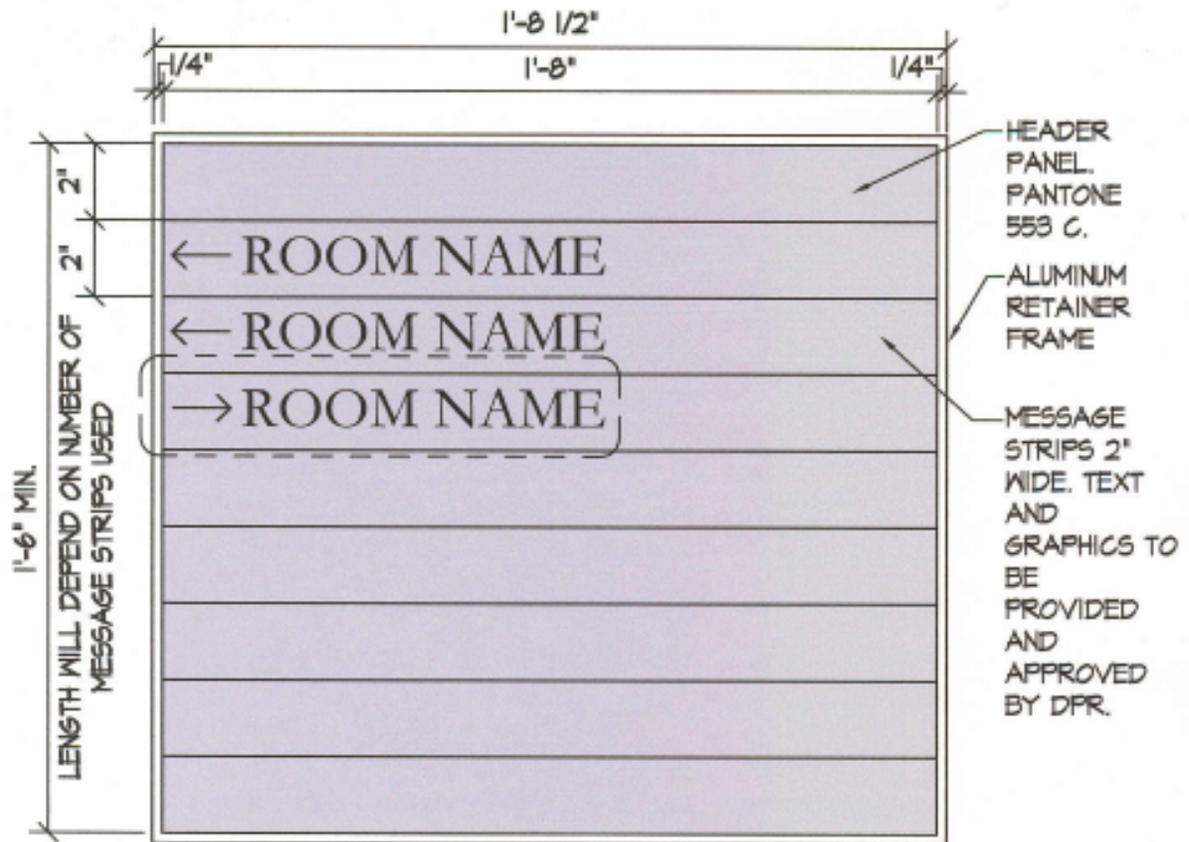
Mounting height is 60" from the center of unit to finished floor.

See Interior Sign specification included at the end of this section.



NON ILLUMINATED INTERIOR DIRECTORY

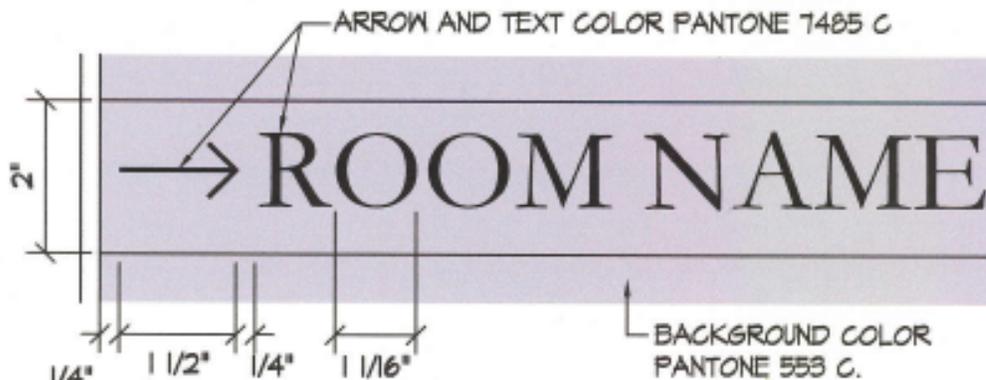
SIGN STANDARDS MANUAL



NON ILLUMINATED INTERIOR DIRECTORY

NTS

* SHOWS MINIMUM NUMBER OF MESSAGE STRIPS (8)



TEXT DETAIL

NTS

WITH WIDEST LETTER @ 1 1/16", MAXIMUM OF 15 SPACES PER MESSAGE STRIP. ANY DECREASE IN LETTER SIZE IS NOT ACCEPTABLE.

SIGN STANDARDS MANUAL

Bulletin Boards

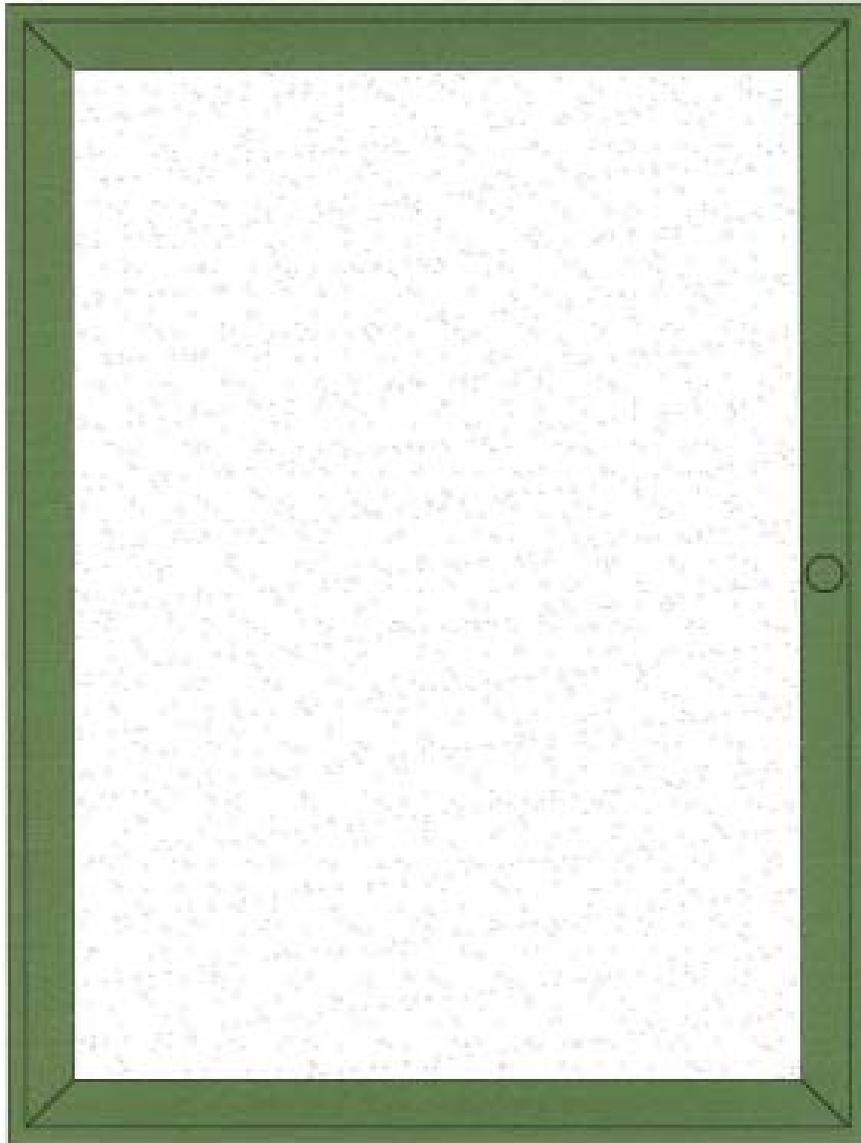
Bulletin boards are to be surface-mounted, consisting of a tackable surface housed in an aluminum cabinet, with tempered glass in an aluminum frame. The tackable surface consists of vinyl fabric, mildew resistant and washable, laminated to cork. The bulletin board shall be lockable. Final selection and approval of the fabric and color is by the DPR representative.

The standard location for bulletin boards will be at lobbies and/or entrances of buildings. The final location is specific to each facility and will be designated and approved by DPR before installation.

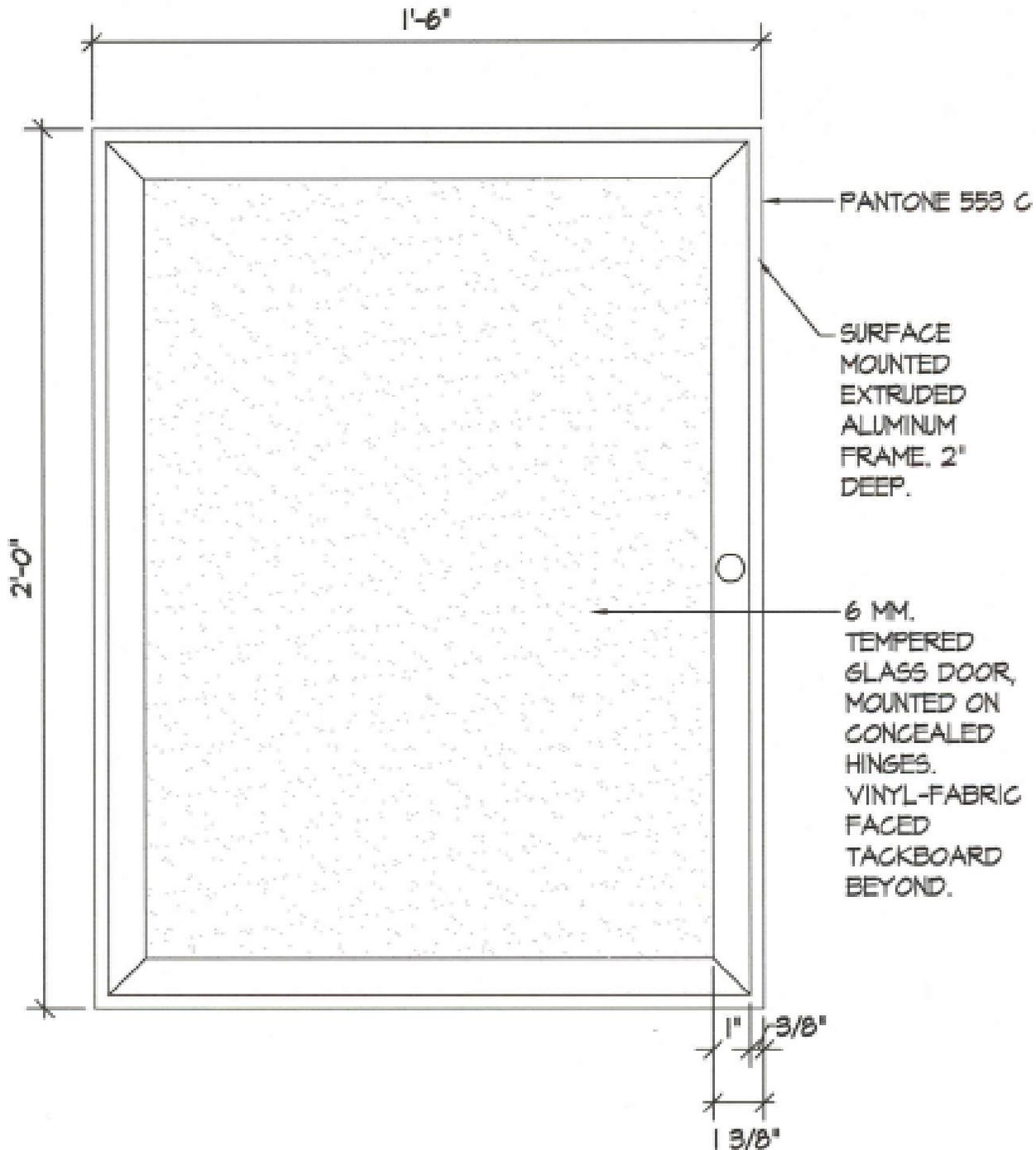
Mounting methods shall vary from building to building, however, mounting shall be concealed and be per manufacturers' written instructions. A typical mounting condition will be a painted CMU wall. The method selected should be the most effective for vandal resistance.

Mounting height is 60" from the center of unit to finished floor.

See Interior Sign specification included at the end of this section.



BULLETIN BOARD



BULLETIN BOARD

NTS

SIGN STANDARDS MANUAL

Interior Panel Signs

Interior panel signs include two types: room name signs and toilet room signs. Each sign should be cast acrylic sheet, with raised graphic, characters and the appropriate Braille translation. The raised copy thickness should not be less than 1/32", per ANSI requirements. Each sign should have a square edge condition.

There will be two types of signs depicting room names: one with a graphic, the DPR logo, (Type A) and the second without a graphic (Type B).

Type A will be used for rooms that are located in facilities that are not DPR owned. This sign type will have two types of text: primary text, the text of the main message and border text, the text that is included in the bottom portion of the border. Any references or descriptions of text refer to the primary text, unless stated otherwise.

The application of the border text should be handled in the same manner as the border lines. The copy process outlined in the exterior sign specifications should be used. The character height for the border text will be equal to the width of the accompanying border.

Sign Type B will be used in facilities that are owned by DPR. DPR will specify the location for each type at the time of order. The only type of text Sign Type B has is the primary text.

Toilet rooms signs will be the same size and use the same background and character colors as the room name signs. The standard graphic symbol for men/women will be placed adjacent to the text "Men" or "Women," whichever is appropriate. The text will consist of all capital letters.

In facilities where there are both accessible and nonaccessible toilet rooms, the accessible toilet rooms will be indicated by signs with the international symbol of accessibility.

The following applies to all types of interior panel signs:

The characters, border, standard graphic for men/women and portions of the DPR logo will be Bone White (Pantone 7485 C). See drawing for exact location. Final color selection will be approved by DPR. All text will consist of all capital letters in Garamond font or approved equal.

The background will be a Dark Green (Pantone 553 C). Final color selection will be approved by DPR.

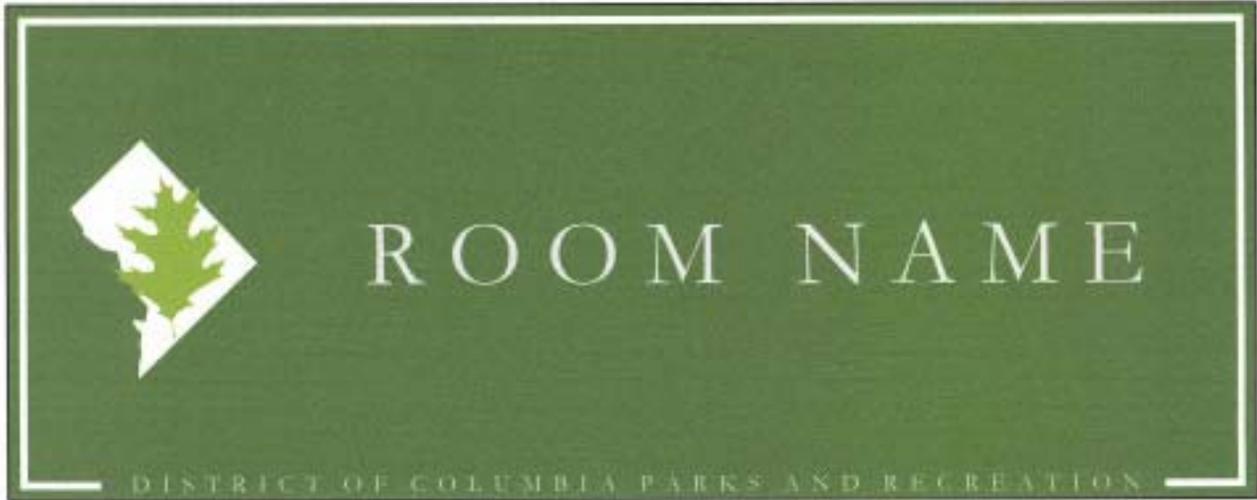
A portion of the DPR logo will be Light Green (Pantone 5545 C). See drawing for exact location. Final color selection will be approved by DPR.

Braille will be included on each sign, located directly below the line of text. Per ANSI requirements, Braille will be separated 1/2" minimum from the corresponding text. Braille will be Grade II and will conform to Specification #800, National Library Service, Library of Congress.

Since mounting conditions will vary from building to building, mounting methods should be per manufacturer's written instructions. A typical mounting condition will be a painted CMU wall.

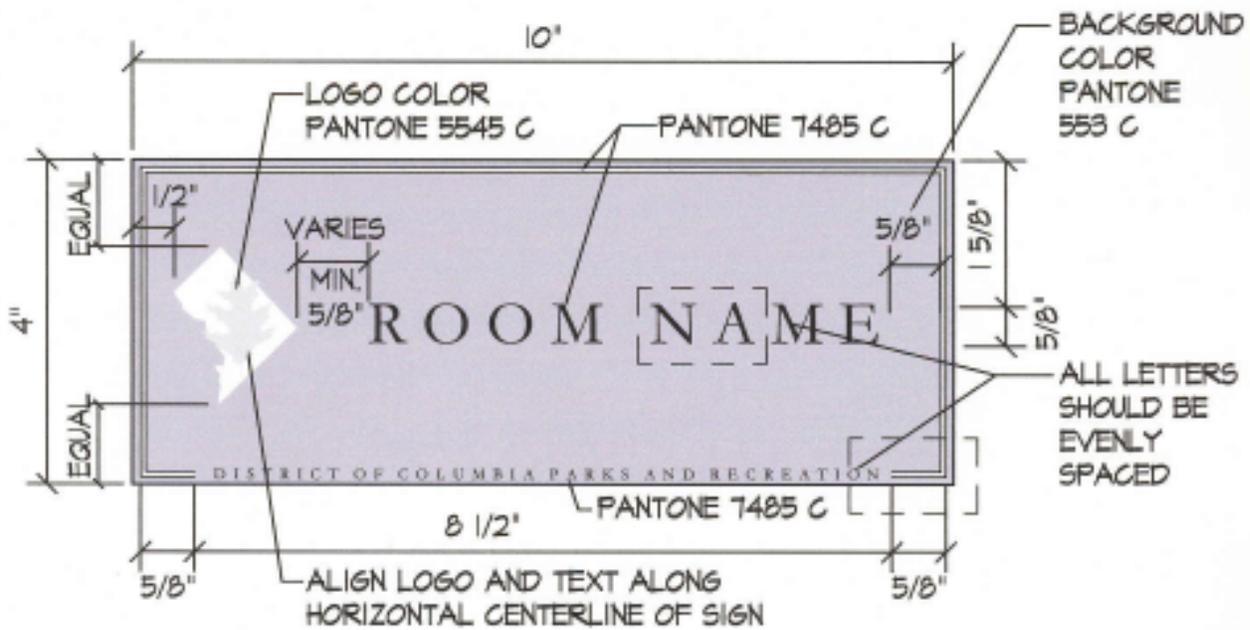
All interior panel signs should be located at the latchside of the door and should be mounted at 60" above the adjacent finished floor to the centerline of the sign. In locations having double doors, interior panel signs should be mounted to the right of the right hand door. Where there is no wall space on the latch side of the door, including double leaf doors, signs should be placed on the nearest adjacent wall. All locations should be approved by the DPR representative prior to installation.

See Interior Sign specification included at the end of this section.



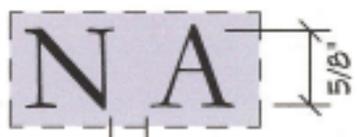
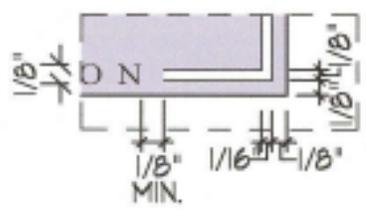
ROOM NAME - SIGN TYPE A

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ROOM NAME - SIGN TYPE A

NTS



STANDARD SPACING: ONE SPACE BETWEEN LETTERS; THREE SPACES BETWEEN WORDS

ROOM NAME - SIGN TYPE A - TEXT DETAILS

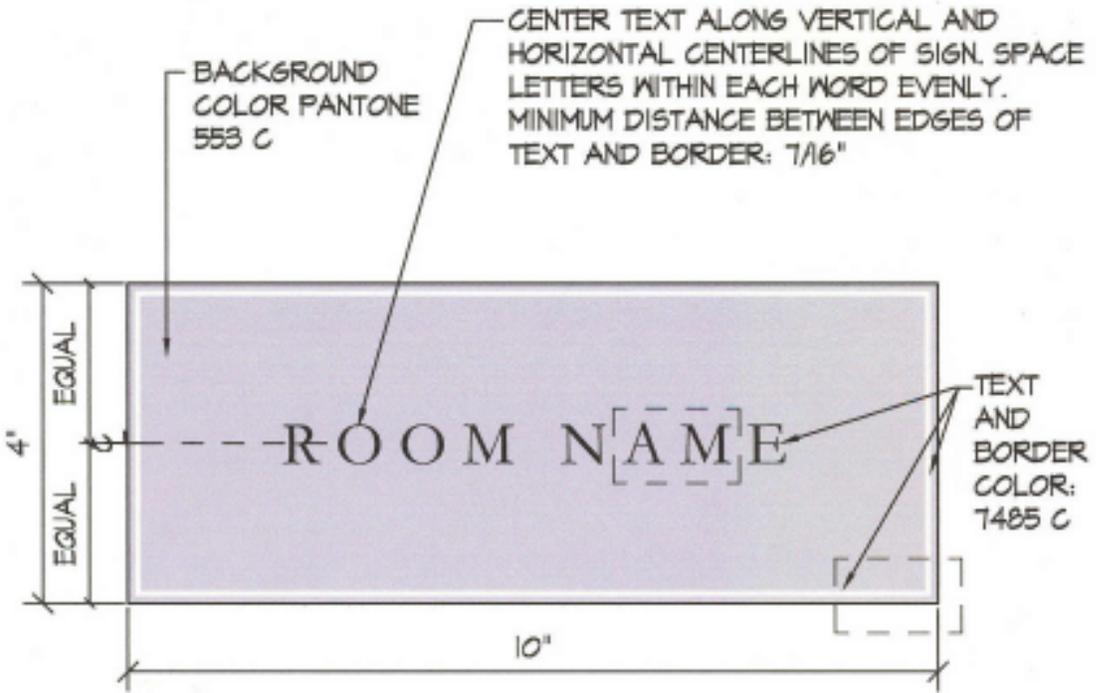
NTS



ROOM NAME

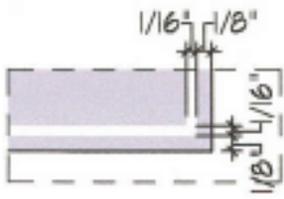
ROOM NAME - SIGN TYPE B

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ROOM NAME - SIGN TYPE B

NTS



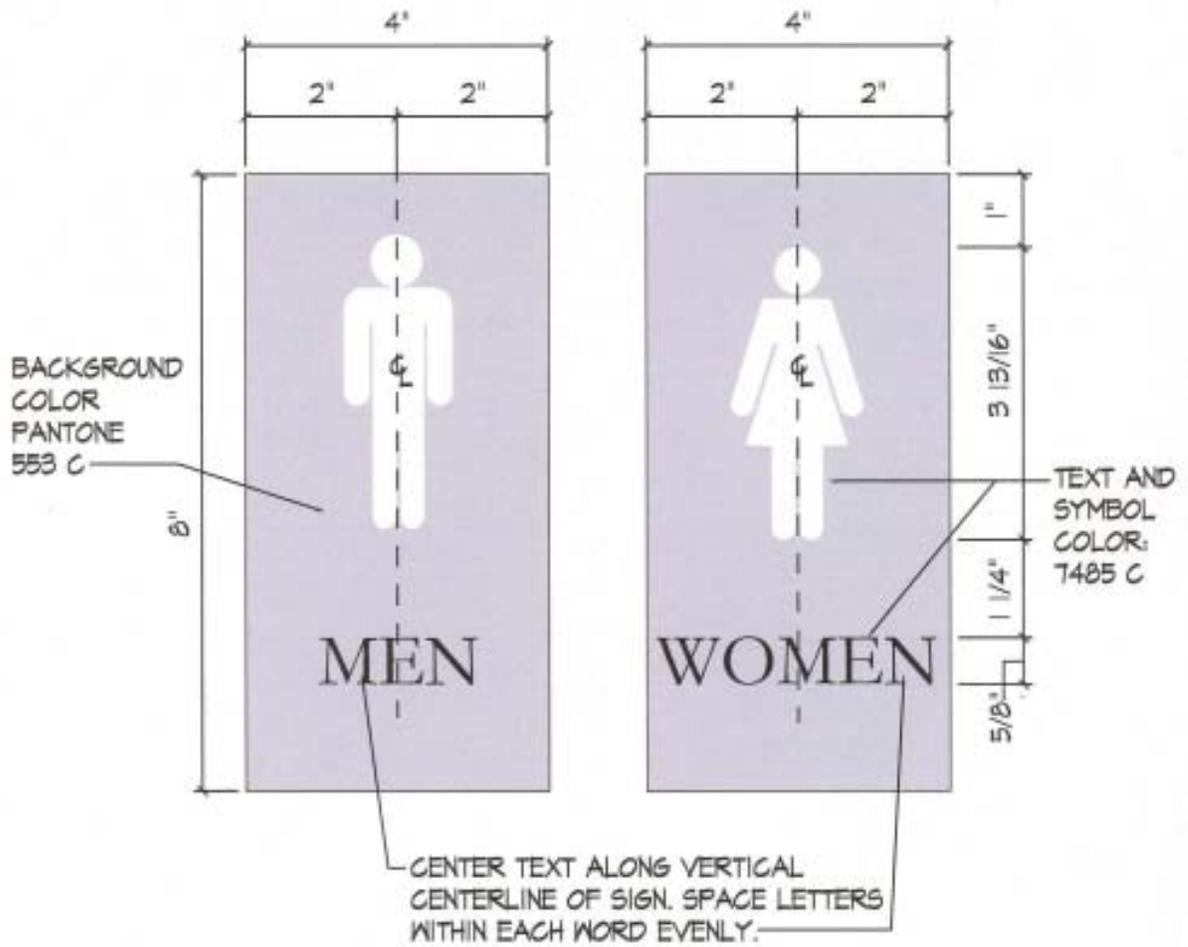
ROOM NAME - SIGN TYPE B - TEXT DETAILS

NTS



TOILET ROOM SIGNS

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TOILET ROOM SIGNS

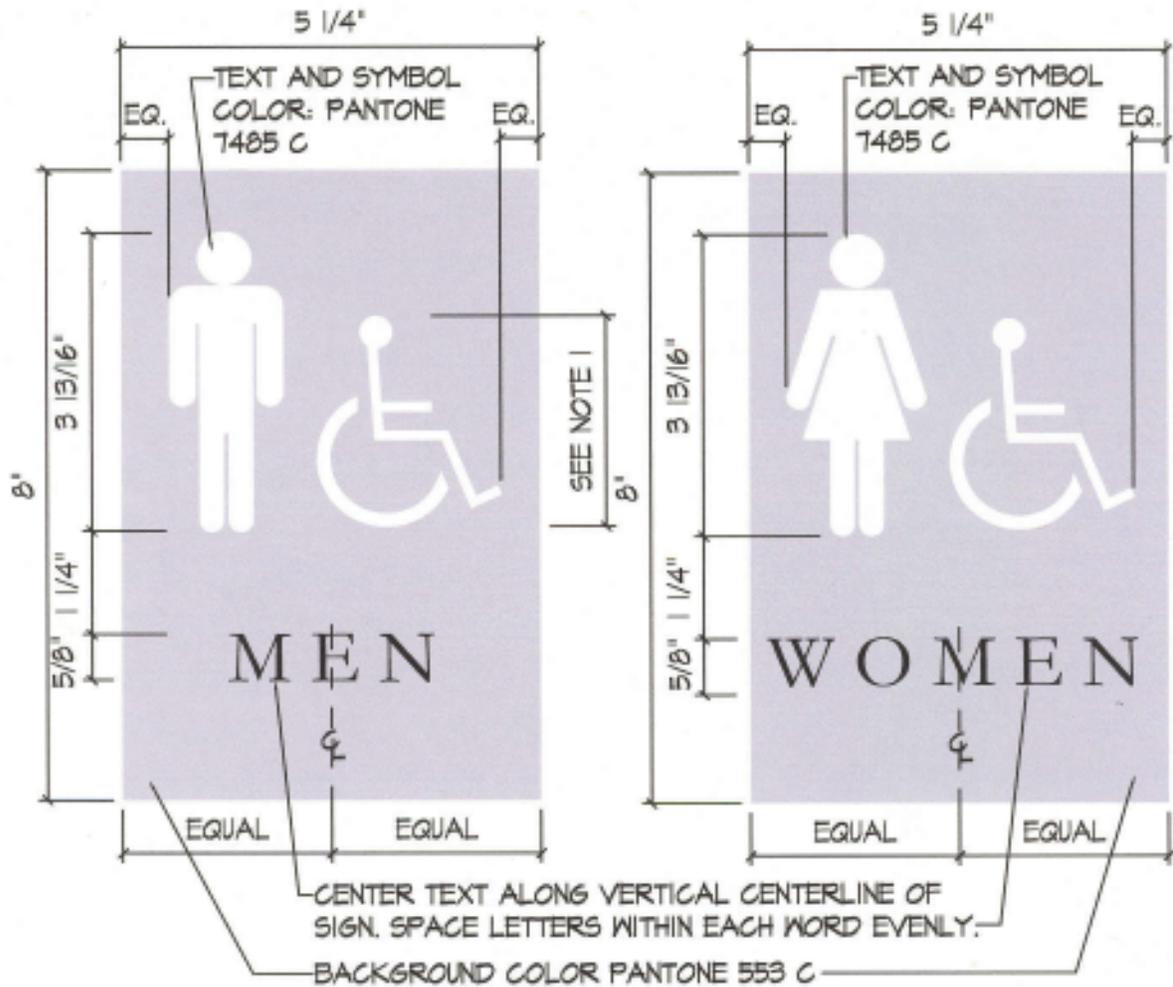
NTS



**TOILET ROOM SIGNS -
HANDICAP ACCESSIBLE**

NTS

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**TOILET ROOM SIGNS -
HANDICAP ACCESSIBLE**

NTS

NOTE 1: ADA INTERNATIONAL SYMBOL OF ACCESSIBILITY MUST MEET THE PROPORTION REQUIREMENTS OF THE MOST CURRENT ADA REGULATIONS

SIGN STANDARDS MANUAL

INTERIOR SIGNS SPECIFICATION

PART 1 – GENERAL

1.1 SUMMARY:

- A. Section includes the following:
1. Nonilluminated Interior Directories
 2. Bulletin Boards
 3. Interior Panel Signs

1.2 SUBMITTALS:

- A. Product Data: Include construction details, material descriptions, finishes for all items listed above, dimensions of individual components and profiles and finishes.
- B. Shop Drawings: Include dimensioned plans, elevations and details, large scale section of typical members and other components. Show mounting methods and heights, grounds, spacing, layout, reinforcement, installation details, finishes and colors.
1. Provide a key plan of facility indicating location of each bulletin board, directory and panel sign.
 2. Include installation drawings, templates and directions for installing anchor bolts and other anchorages.
 3. Provide a message strip schedule for each directory: layout of each message strip showing letter size, font spacing, indents and copy. Copy shall be provided and verified by DPR.
 4. Provide an interior panel sign schedule: layout, letter size, font spacing, indents and copy. Copy shall be provided and verified by DPR.
- C. Samples: Manufacturer's color samples showing full range of colors and textures available for each sign material that involves color selection, including the following:
1. Nonilluminated Interior Directory:
 - a. Message Strips: Samples of message strips in color selected with sample of typography specified.
 2. Bulletin Boards:
 - a. Aluminum Trim and Accessories: 4 inch long section of extrusions and not less than 2 inch squares of sheet or plate for each exposed metal surface showing available metal finishes.

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- b. Vinyl Fabric Faced Cork Tackboards: Fabric swatches for each type of vinyl fabric-faced cork tackboard from manufacturer's standard range of colors.

- 3. Interior Panel Signs:

- a. Full-size samples of each type of sign required

1.3 QUALIFICATION DATA:

- A. For Installer

1.4 MAINTENANCE DATA:

- A. For cleaning and maintenance requirements.

1.5 QUALITY ASSURANCE:

- A. Installer Qualifications: Authorized representative of the manufacturer for installation and maintenance of units required for this project.

- 1. Nonilluminated Interior Directories: The installer shall be capable of providing replacement message strips within 10 working days of receipt of an order.
- 2. Source Limitations: Obtain each type of unit through one source from a single manufacturer.
- 3. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
- 4. Product Options: Drawings indicate size, profiles and dimensional requirements. Other signs with equal performance characteristics may be considered. Substitutions shall be approved by the DPR representative.
 - a. Do not modify intended aesthetic effects, as judged solely by DPR. Where modifications are proposed, submit comprehensive explanatory data to the DPR representative for review.

1.6 PROJECT CONDITIONS:

- A. Field Measurement: Verify dimensions by field measurements before fabrication and indicate measurements on shop drawings.

1.7 COORDINATION:

- A. For units supported by or anchored to permanent construction, advise installers of anchorage devices and about specific requirements for placement of anchorage devices and similar items to be used for attaching units.

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- B. Furnish template for installation of anchorage devices.

1.8 WARRANTY:

- A. Special Warranty: Manufacturer's form in which manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to the following:
 - a. Structural failures of cabinets or frames
 - b. Faulty operation of hardware
 - c. Deterioration of metals, metal finishes and other materials beyond normal weathering
- B. Warranty Period: Five years from date of completion as determined by DPR.

1.9 FIRE-TEST RESPONSE CHARACTERISTICS:

- A. Provide vinyl-fabric-faced tackboards with the following surface-burning characteristics as determined by testing assembled materials composed of facings and backings identical to those required in this section per ASTM E 84 by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify vinyl-fabric-faced tackboards with appropriate markings of applicable testing and inspecting agency.

1.10 DELIVERY, STORAGE AND HANDLING:

- A. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

PART 2 – PRODUCTS

2.1 MATERIALS: Provide products that comply with the following requirements or an approved equal:

- A. Aluminum Extrusions: Manufacturer's standard extruded-aluminum sections with not less than the strength and durability properties specified in ASTM B 221 (ASTM B 221M) for 6063-T5 alloy.
- B. Vinyl-Fabric-Faced Tackboards: Mildew-resistant, washable vinyl fabric complying with FS CCC-W-408, Type II, laminated to 1/4 inch thick cork sheet, with a flame-spread rating of 25 or less when tested according to ASTM E 84. Provide color and texture as scheduled or as selected from manufacturer's standards.
 - 1. Backing: Factory laminate cork face sheet under pressure to 1/4 inch thick hardboard backing or manufacturer's standard backing material.
- C. Clear Tempered Glass: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality q3 with exposed edges seamed before tempering and 6 mm thick, unless otherwise indicated.

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- D. Fasteners: Provide screws, bolts and other fastening devices made from same material as items being fastened, except provide hot-dip galvanized, stainless-steel, or aluminum fasteners for exterior applications. Provide types, sizes and lengths to suit installation conditions. Use security fasteners where exposed to view.

2.2 NONILLUMINATED INTERIOR DIRECTORIES:

- A. Provide a surface wall-mounted nonilluminated directory consisting of a retainer frame containing a header panel and removable message strips. Graphics for message strips, header panels and other designs shall be in the letter style, size, spacing and arrangement indicated.
- B. Modular Frame and Cover Design: Individual modular units containing a single column of message strips with a header panel. Provide each modular unit with an extruded-aluminum perimeter frame or equal in vandal resistance.
- C. Screen-Printed Message Strips: Opaque, acrylic plastic sheets of size indicated with letters and other graphics by silk-screen printing process.
 - 1. Message Content: Provide message strips with wording and other designations as provided by DPR. Include blank strips as needed to fill out directory spaces.
 - 2. Message Strip Color: Dark Green (Pantone 553 C). Final color to be approved by DPR representative.
 - 3. Letter Color: Bone White (Pantone 7485 C). Final color to be approved by DPR representative.
 - 4. Letter Style: Garamond, or approved equal
 - 5. Letter Size:
 - a. Primary Text: 1 inch
 - b. Border Text: Equal to width of accompanying border
 - 6. Letter Case: All capitals
- D. Header Panel: Opaque, acrylic-sheet header panel, Dark Green (Pantone 553 C)

2.3 BULLETIN BOARDS:

- A. Provide surface-mounted bulletin boards consisting of a cabinet housing with an operable transparent cover and with tackable surface of material indicated.
- B. Fire Evacuation Plan Housing: Provide surface-mounted bulletin boards sized to fit a standard 8 1/2" x 11" paper. Bulletin board should consist of a cabinet housing with an operable transparent cover and with tackable surface, equivalent to that used with building bulletin boards.
- C. Perimeter Frame and Cover Design: Extruded-aluminum perimeter cabinet frame and door of profiles indicated. Hang door frame on continuous piano hinges and glaze with 6 mm thick, clear tempered glass.

SIGN STANDARDS MANUAL

D. Hardware: Provide the following hardware:

1. Hinges: Continuous-type piano hinge
2. Locks: Furnish each cover with manufacturer's standard lock, key locks alike. Furnish two keys per lock.

2.4 INTERIOR PANEL SIGNS:

- A. General: Provide panel signs that comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes and details of construction.
- B. Basis of Design: The design for interior panel signs is based on signs from 2/90 Sign Systems. Subject to compliance with requirements, provide the named product or a comparable product.
- C. Produce smooth panel sign surface constructed to remain flat under installed conditions within tolerance of plus or minus 1/16 inch measured diagonally.
- D. Fabricate signs with edges mechanically and smoothly finished to comply with the following requirements:
1. Edge Condition: Square cut
 2. Corner Condition: Square
- E. Graphic Content and Style: Provide sign copy that complies with requirements indicated on artwork supplied on electronic media by DPR for size, style, spacing, content, mounting height and location, material, finishes and colors of signage.
- F. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines and ICC/ANSI A117.1. Text shall be accompanied by Grade 2 Braille. Produce precisely formed characters with square cut edges free from burrs and cut marks.
1. Raised Copy Thickness: Not less than 1/32 inch
- G. Cast-Acrylic Sheet: Opaque acrylic, manufacturer's standard as follows:
1. Background Color: Pantone 553 C. Color to be approved by the DPR representative.
 2. Border and Character Color: Pantone 7485 C (Bone White). Color to be approved by DPR representative.
 3. Graphic Color: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are as indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual. Colors to be approved by DPR representative.

SIGN STANDARDS MANUAL

- H. Alternate Materials: Panel signs may be constructed of the following materials if the finished product does not compromise the design intent stated in this manual and it meets all requirements regarding durability and vandal resistance. Alternate material, finish and associated mounting methods must be approved by the DPR representative for this project.
1. Alternate: Plastic Laminate: Provide high pressure laminate engraving stock with face and core piles in finishes and colors indicated:
 - a. Background Color: Pantone 553 C (Dark Green). Color to be approved by the DPR representative.
 - b. Border and Character Color: Pantone 7485 C (Bone White). Color to be approved by the DPR representative for this project.
 - c. Graphic Color: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are as indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual.
- I. Room Signs:
1. Material: Cast-acrylic sheet
 - a. Alternate Material: Plastic laminate
 2. Perimeter: Unframed
 3. Copy:
 - a. Primary Text: Tactile and Braille
 - b. Border Text: Same copy process as border
 4. Character Style: Garamond or approved equal
 5. Character Ratio:
 - a. Width-to-height ratio of between 3:5 and 1:1
 - b. Stroke width-to-height ratio of between 1:5 and 1:10
 6. Text: As directed by the DPR representative
 7. Message: Fixed
 8. Sizes:
 - a. Sign: 4" (H) x 10" (L)
-

SIGN STANDARDS MANUAL

- b. Character:
 - 1) Primary Text: Minimum 5/8 inch
 - 2) Text at Border: Height to match width of border
 - 9. Finish: Matte
 - 10. Color:
 - a. Border and Character: Pantone 7485 C (Bone White). Color to be approved by DPR representative.
 - b. Cast Acrylic Sheet (Background Color): Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are as indicated on "D.C. Parks and Recreation Logo" drawing located at the end of manual. Colors to be approved by DPR representative.
 - 11. Graphics: Graphic to be provided on electronic media by DPR.
 - a. SA: Sign Type A: includes graphic
 - b. SB: Sign Type B: does not include graphic
 - 12. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.
- J. Toilet Room Signs:
- 1. Material: Cast-acrylic sheet
 - 2. Perimeter: Unframed
 - 3. Copy: Raised
 - 4. Character Style: Garamond or approved equal
 - 5. Text: According to requirements in the ADA or of authorities having jurisdiction, whichever are more stringent.
 - 6. Message: Fixed
 - 7. Sizes:
 - a. 4" (L) x 8" (H)
 - b. Character: 5/8 inch high
-

SIGN STANDARDS MANUAL

8. Finish: Matte
9. Color:
 - a. Character and Graphic: Pantone 7485 C (Bone White). Color to be approved by DPR representative for this project.
 - b. Cast Acrylic Sheet: Pantone 553 C (Dark Green). Color to be approved by DPR representative for this project.
10. Schedule: Specific Sign Schedule to be provided at time of order. For quantities, see quantity schedule located at the end of the manual.

2.5 ACCESSORIES:

A. Bulletin Boards and Building Directories:

1. Fasteners: Provide hot-dip galvanized stainless steel or aluminum screws, bolts, and other exposed fastening devices. Provide types, gauges and lengths to suit installation conditions. Use theft-proof fasteners where exposed to view.
2. Hardware: Provide bulletin boards and building directories with the following hardware unless otherwise stated:
 - a. Hinges: Continuous-type piano hinges
 - b. Locks: Furnish each bulletin board cover with manufacturer's standard lock; key locks alike. Furnish two keys per lock.

B. Panel Signs:

1. Vinyl Film: Provide opaque nonreflective vinyl film, 0.0035 inch minimum thickness with pressure-sensitive adhesive backing suitable for interior applications.
2. Mounting Methods: Use fasteners fabricated from materials that are not corrosive to sign material and mounting surface.
3. Anchors and Inserts: Provide nonferrous metal or hot-dip galvanized anchors and inserts for locations requiring corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-masonry work.

2.6 FABRICATION:

- A. General: Fabricate units to requirements indicated, including dimensions, design and thickness, and finish of materials. Use metals and shapes of thickness, with reinforcing if needed, to produce flatness, free of oil canning, and to impart strength for size, design and application indicated.
- B. Fabricate perimeter cabinet and cover frames with reinforced corners, mitered to a hairline fit, with no exposed fasteners.

SIGN STANDARDS MANUAL

- C. Hardware for Covers: Equipment covers with hardware of type indicated.

2.7 FINISHES:

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved samples and are assembled or installed to minimize contrast.
- C. Colors: Where message strips, header panels, or other items, other than frames or glazing materials, require color selection to distinguish letters or graphic images from the background or for other purposes, provide colors as selected by the DPR representative from manufacturer's full range of colors.
- D. Finish Designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.
- E. Baked-Enamel Finish: AA-C12C42R1x Apply baked enamel complying with paint manufacturer's specifications for cleaning, conversion coating and painting.
 - 1. Organic Coating: Thermosetting modified-acrylic enamel primer/topcoat system complying with AAMA 603.8 except with minimum dry film thickness of 1.5 mils, medium gloss.
 - 2. Color: As selected by DPR from manufacturer's full range of colors.

PART 3 – EXECUTION

3.1 EXAMINATION:

- A. Examine substrates, area, conditions and wall surfaces with the installer present, for compliance with requirements and other conditions affecting performance of work.
 - 1. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION:

- A. Install units plumb and level, at heights and locations indicated and with mountings shown free from distortion and other defects in appearance. Securely attach to supporting structure with concealed fasteners according to manufacturer's written installation instructions.
- B. Interior Panel Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.
- C. Wall-Mounted Panel Signs: Attach panel signs to wall surfaces using methods indicated below:

SIGN STANDARDS MANUAL

1. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.
2. Where panel signs are scheduled or indicated to be mounted on glass, provide matching plate on opposite side of glass to conceal mounting materials.

3.3 CLEANING AND PROTECTING:

- A. At completion of installation, clean surfaces according to manufacturer's written instructions.
- B. Protect installed units from damage until acceptance by DPR.

END OF SECTION

EXTERIOR SIGNS

SIGN STANDARDS MANUAL

EXTERIOR SIGNS

There are four types of exterior signs that are outlined in the following section:

- Park Identification Signs
- Directories
- Courtesy Signs
- Fence Signs

Park Identification Signs

produced from a standard 040 aluminum panel with white vinyl lettering

There are two types of park identification signs. The first, Sign Type A, is ~~a framed hollow box type fiberglass panel with raised copy, 1/8" high.~~ The sign will be supported by two aluminum posts in the configuration indicated unless the manufacturer recommends larger posts for structural stability. Final configuration must be approved by the DPR representative for the project. Each post should have a spherical finial with a diameter equal to the diameter of the accompanying post.

Each sign will have two types of text. The first type is the primary text, the text of the main message, the second type is the border text, the text included in the bottom portion of the border. Any references or descriptions of text refer to the first type of text, unless stated otherwise.

Characters will be raised, 1/8" high, bonded to sign base. The typography for all the text shall be Garamond or approved equal.

Text for park or recreation center name will be right justified. There can be a maximum of three lines of text, with each letter being 2.75" high. Text should be spaced with a minimum of 1 1/6" and a maximum of 1 3/8" between each character. When two or more words share a line, the distance separating each word should be triple the amount between the surrounding letters.

The application of the border text should be handled in the same manner as the border lines. The copy process outlined in the exterior sign specifications should be used.

Both faces of the sign panel may receive graphics in cases where the sign will be visible from both sides. Exact quantity, graphics and location should be verified with DPR Representative.

Certain facilities will require a fence-mounted park identification sign. In these cases, park identification Sign Type B will be used. Park identification Sign Type B will be a single faced ~~fiberglass~~ panel sign with closed back that will be attached to standard chain link type fences.

Characters will be subsurface applied. The typography shall be Garamond or approved equal.

aluminum

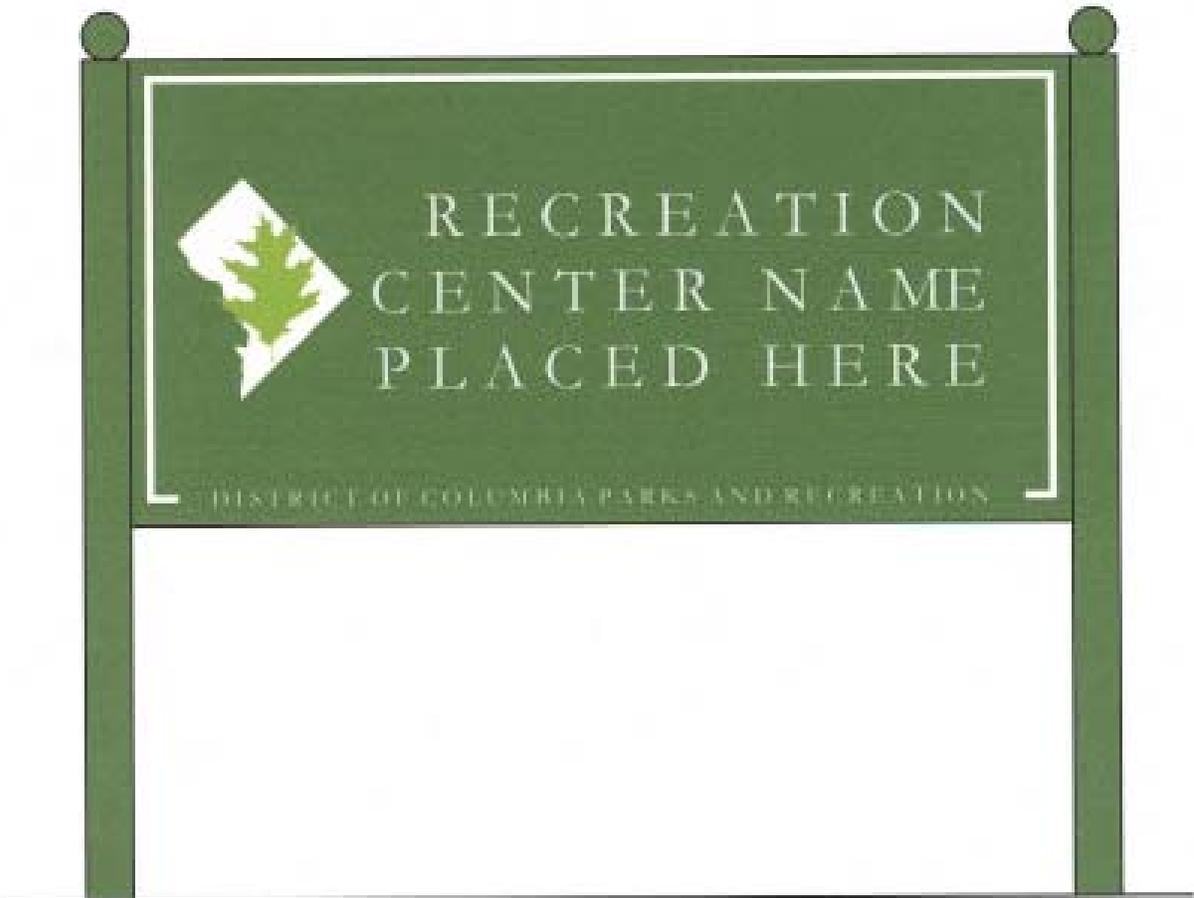
Text for park or recreation center name will be right justified. There can be a maximum of three lines of text, with each letter being 2.125" (2 1/8") high. Text should be spaced with a minimum of 1/16" and a maximum of 1 3/8" between each character. When two or more words share a line, the distance separating each work should be triple the amount between the surrounding letters. If sign does not have closed back, provide matching panel of same material and color on opposite side of fence to conceal mounting materials. Proposed mounting method to be approved by DPR Representative.

SIGN STANDARDS MANUAL

The actual text message varies from sign to sign and will be provided by the DPR at time of order.

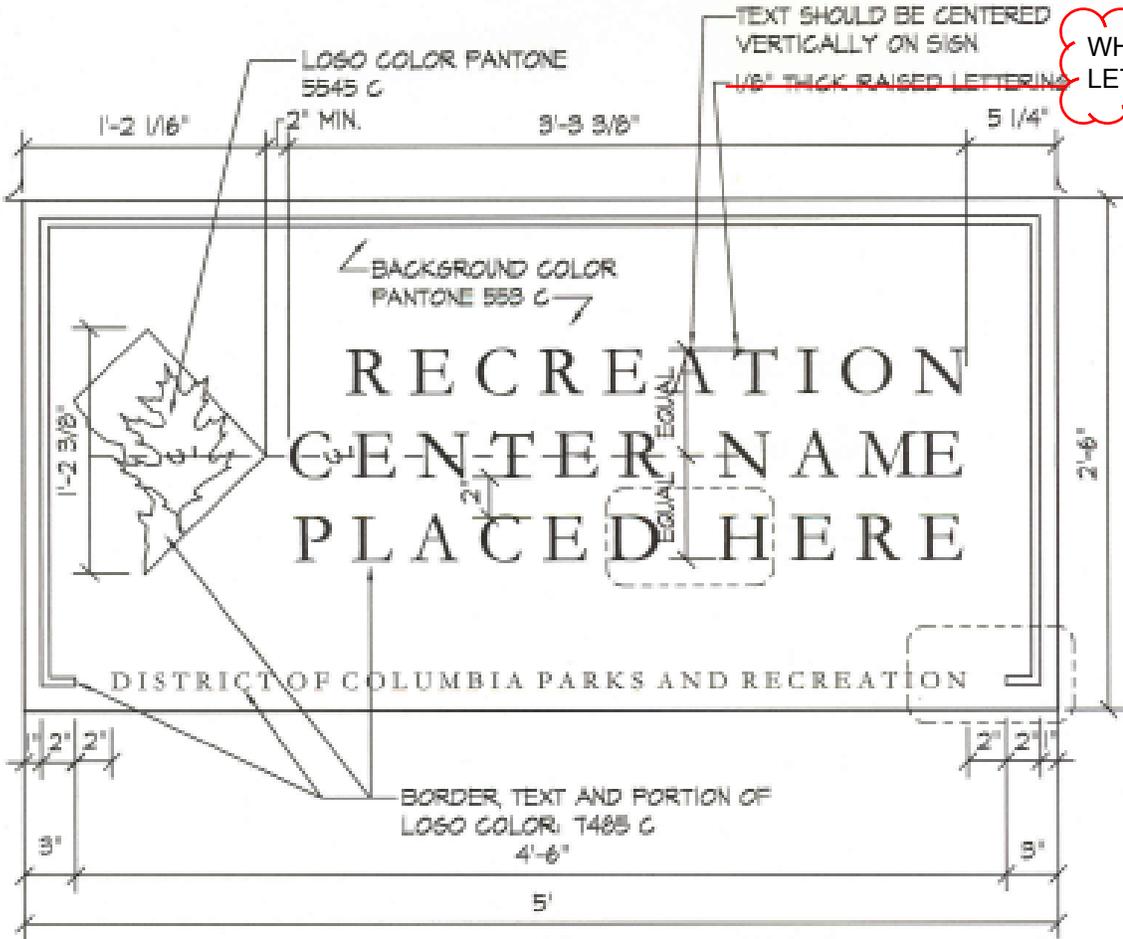
See Exterior Sign specification included at the end of this section.

For both types of park identification signs, the character height for the border text will be equal to the width of the accompanying border.



PARK IDENTIFICATION - TYPE A

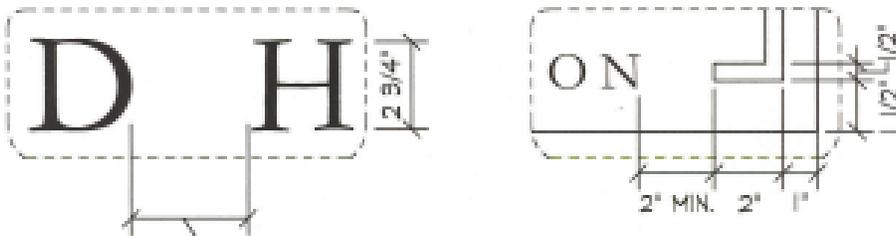
SIGN STANDARDS MANUAL



WHITE VINYL LETTERING

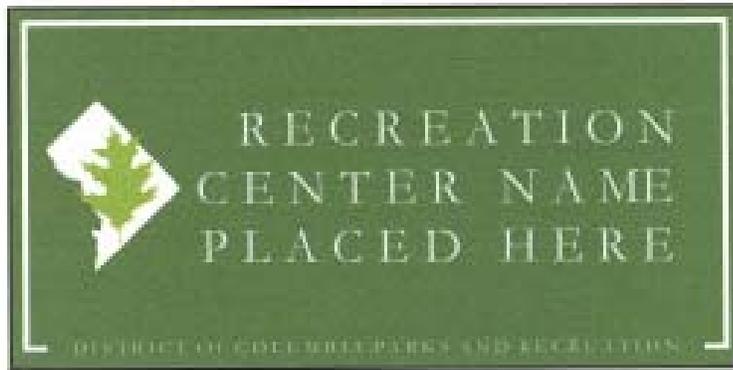
PARK IDENTIFICATION - TYPE A TEXT DETAIL

NTS



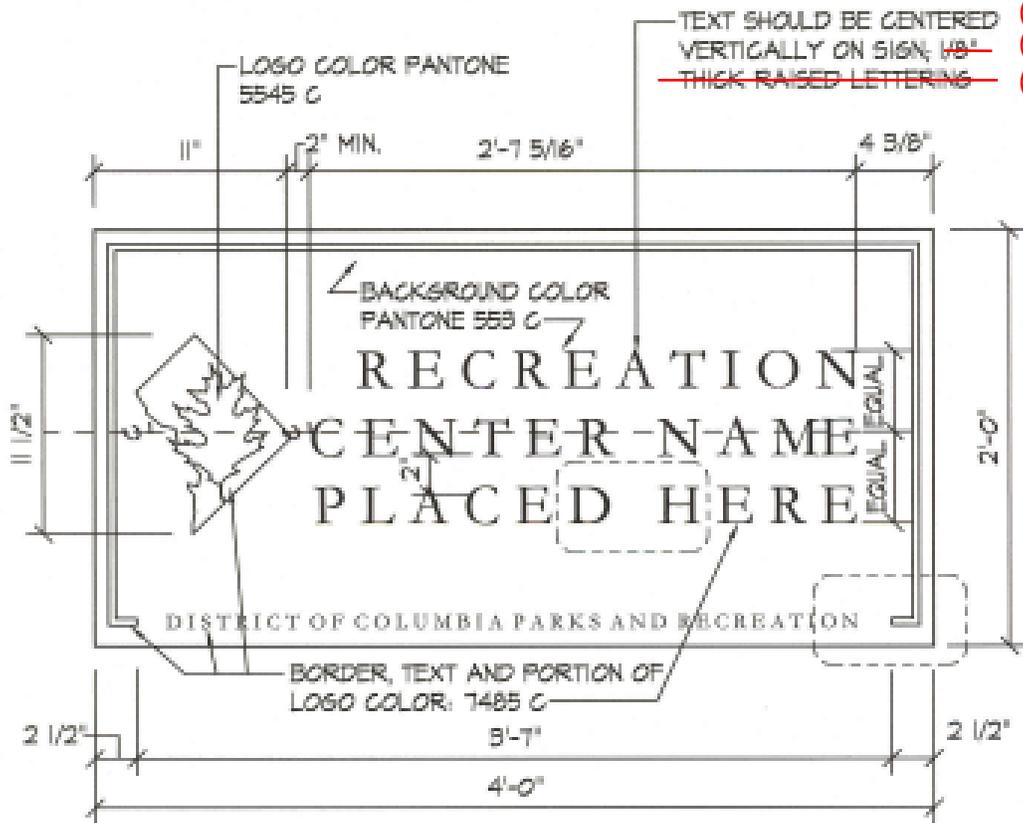
STANDARD SPACING: ONE SPACE BETWEEN LETTERS, THREE SPACES BETWEEN WORDS

SIGN PANEL MATERIAL = 040 STANDARD ALUMINUM



PARK IDENTIFICATION - TYPE B

SIGN STANDARDS MANUAL



WHITE VINYL LETTERING

PARK IDENTIFICATION - TYPE B TEXT DETAIL

NTS



SIGN PANEL MATERIAL = 040 STANDARD ALUMINUM

SIGN STANDARDS MANUAL

produced from a standard 040 aluminum panel with white vinyl lettering

Directories

The exterior directory is ~~a framed hollow box type fiberglass panel with subsurface applied copy~~. The sign will be supported by two aluminum posts, 3" in diameter. Each post should have a spherical finial with a diameter equal to the diameter of the accompanying post.

Each sign will have two types of text. The first type is the primary text, the text of the main message, the second type is the border text, the text which is included in the bottom portion of the border. Any references or descriptions of the text refer to the primary text, unless stated otherwise.

Characters will be subsurface applied. The typography for all text shall be Garamond or approved equal.

Lines of text should be vertically centered on the sign, with each letter being 1.75" high. Text should be spaced using standard spacing between each character. When two or more words share a line, the distance separating each word should be triple the amount between the surrounding letters.

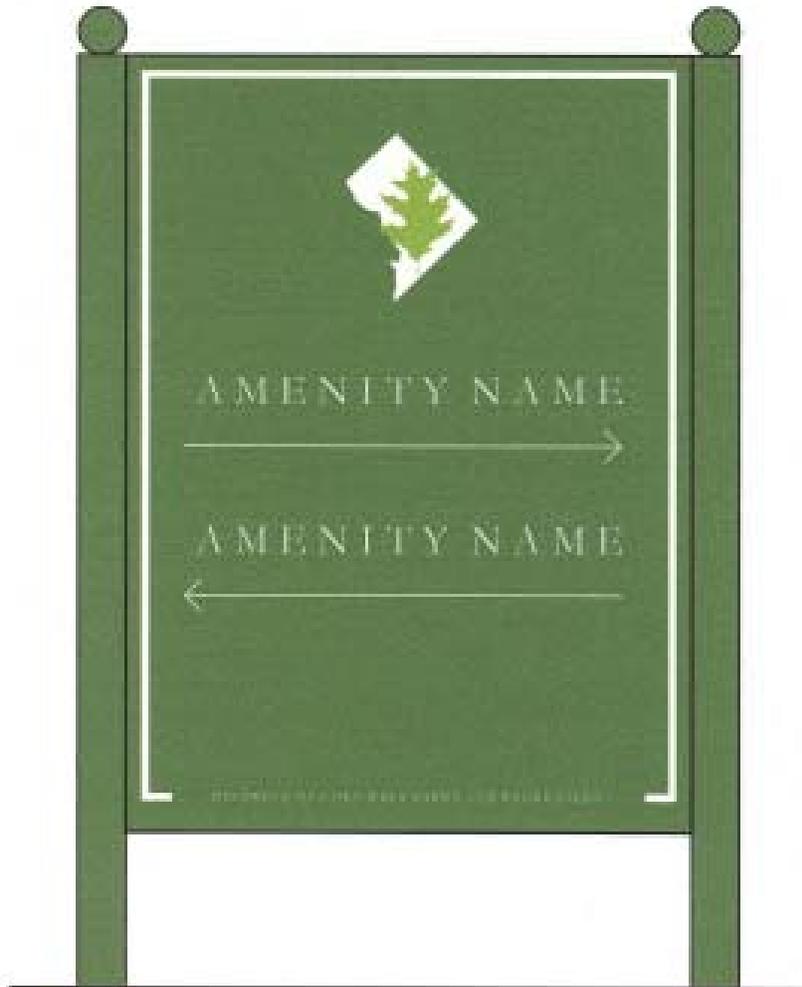
In some instances, this sign type will be used for pocket park identification signs. These signs will have raised lettering, 1/8" high, for the park name.

The application of the border text should be handled in the same manner as the border lines. The copy process outlined in the Exterior Sign specification should be used. The character height for the border text will be equal to the width of the accompanying border.

Both faces of the sign panel may receive graphics in cases where the sign will be visible from both sides. Exact quantity, graphics and location should be verified with DRP Representative.

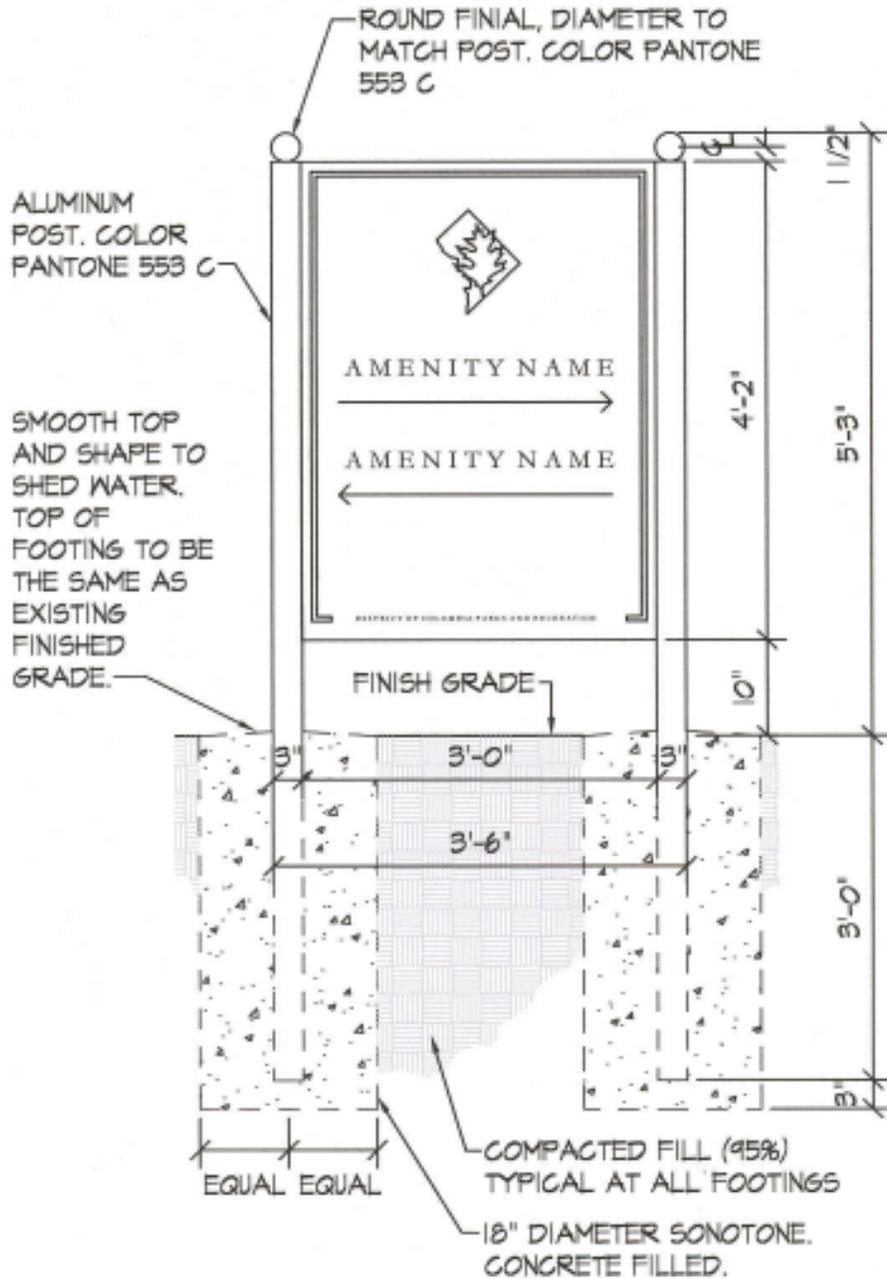
The actual text message varies from sign to sign and will be provided by the DPR at the time of order.

See Exterior Sign specification at the end of the section.



EXTERIOR DIRECTORY

SIGN STANDARDS MANUAL

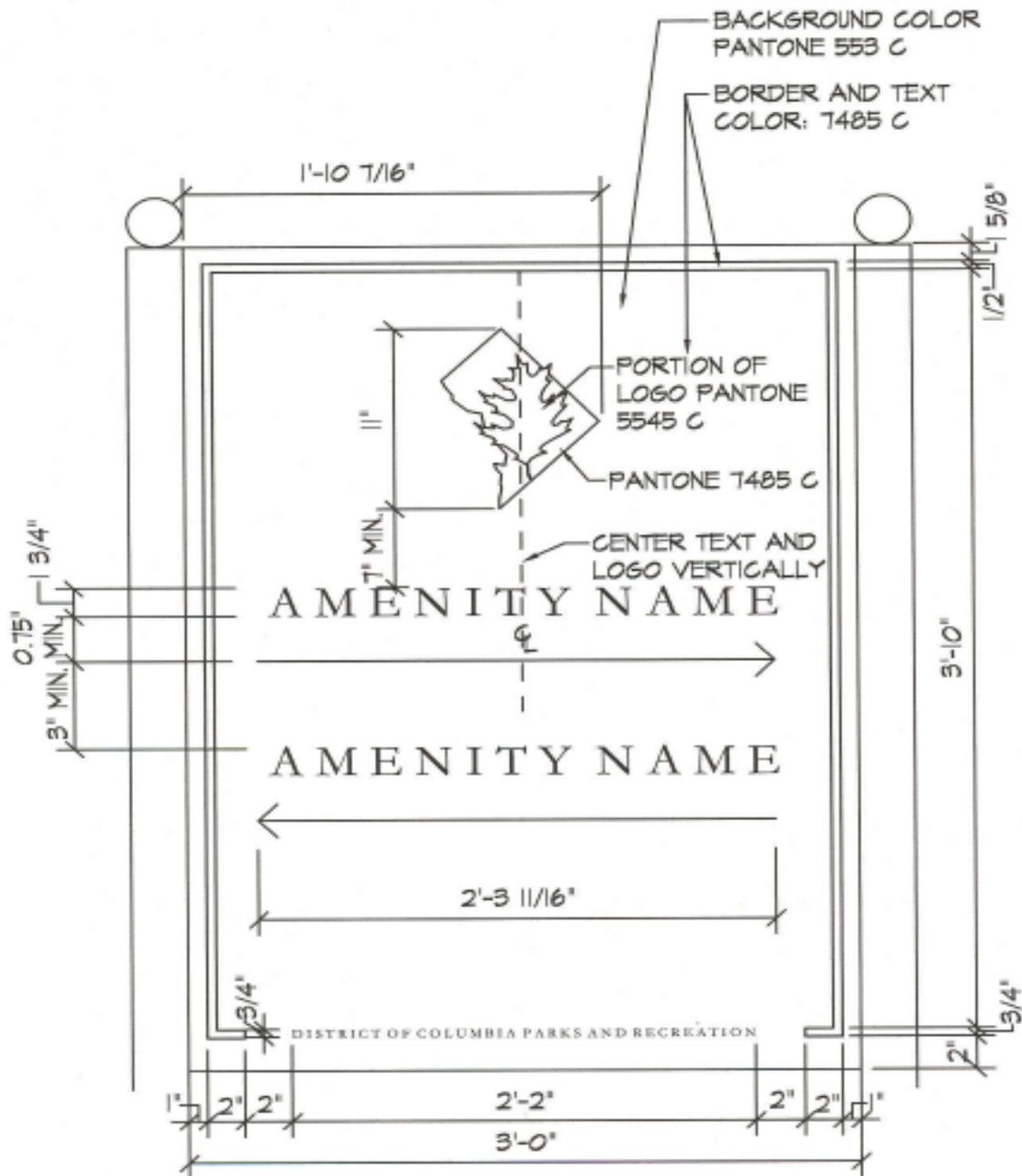


DIRECTORY

NTS

* BOTH FACES OF PANEL TO RECEIVE GRAPHICS IN SOME CASES. VERIFY WITH DPR REPRESENTATIVE FOR EXACT QUANTITY AND GRAPHICS INFORMATION.

SIGN STANDARDS MANUAL



DIRECTORY DETAIL

NTS

* DISTANCE BETWEEN TEXT AND ACCOMPANYING ARROW VARIES. MINIMUM OF .75"; DISTANCE BETWEEN ARROW AND TEXT LOCATED BELOW VARIES. MINIMUM DISTANCE OF 3".

SIGN STANDARDS MANUAL

produced from a standard 040 aluminum panel with white vinyl lettering

Courtesy Signs

The courtesy sign (DPR rules) is ~~a framed hollow box type fiberglass panel with subsurface applied copy~~. The sign will be supported by one aluminum post. Final configurations must be approved by the DPR representative for the project. The post should have a spherical finial with a diameter equal to that of the post.

Each sign will have two types of text. The first type is the primary text, the text of the main message, the second type is the border text, the text included in the bottom portion of the border. Any references or descriptions of text refer to the primary text, unless otherwise indicated.

Characters will be subsurfaced applied. The typography for all text shall be Garamond or approved equal.

All lines of text will be right justified within the sign, with each letter being 1" high. Text should be spaced using standard spacing between each character. When two or more words share a line, the distance separating each word should be triple the amount between the surrounding letters.

The application of the border text should be handled in the same manner as the border lines. The copy process outlined in the Exterior Sign specification should be used. The character height for the border text will be equal to the width of the accompanying border.

Both faces of the sign panel may receive graphics in cases where the sign will be visible from both sides. Exact quantity, graphics and location should be verified with DPR Representative.

The actual text message varies from sign to sign and will be provided by the DPR at the time of order.

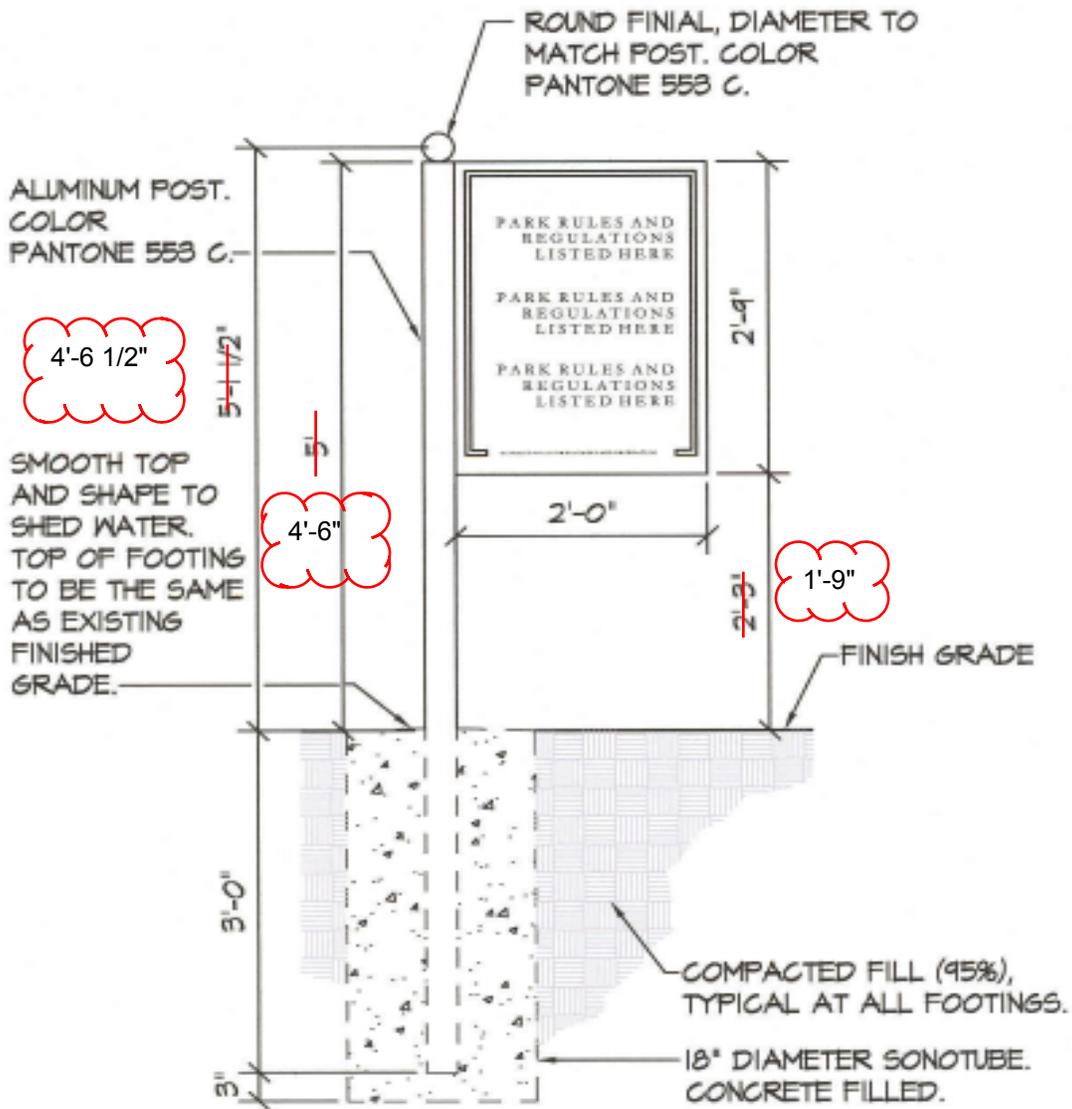
See Exterior Sign specification included at the end of this section.

SIGN STANDARDS MANUAL



COURTESY SIGN

SIGN STANDARDS MANUAL



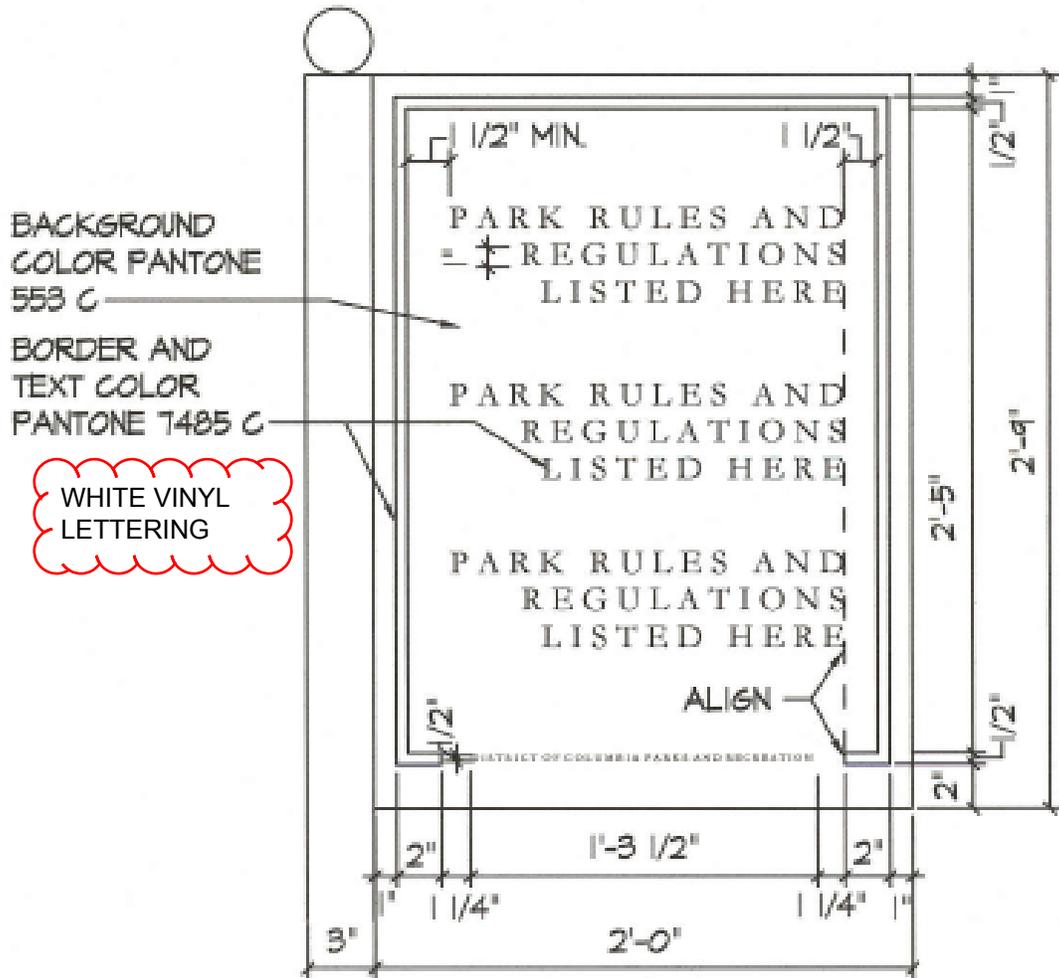
COURTESY SIGN

NTS

* BOTH FACES OF PANEL TO RECEIVE GRAPHICS IN SOME CASES. VERIFY WITH DPR REPRESENTATIVE FOR EXACT QUANTITY AND GRAPHICS INFORMATION.

SIGN PANEL MATERIAL = 040 STANDARD ALUMINUM

SIGN STANDARDS MANUAL



COURTESY SIGN DETAIL

NTS

SIGN PANEL MATERIAL = 040 STANDARD ALUMINUM

SIGN STANDARDS MANUAL

Fence Signs

standard 040 aluminum panel

The fence sign is a single faced fiberglass panel sign with closed back that will be attached to standard chain link type fences.

Each sign will have two types of text, the first type is the primary text, the text of the main message, the second type is the border text, the text included in the bottom portion of the border. Any references or descriptions of the text refer to the primary text, unless otherwise indicated.

All lines of text will be subsurfaced applied, centered within the sign, and each letter will be 1" high. The typography shall be Garamond or approved equal. When two or more words share a line, the distance separating each word should be triple the amount between the surrounding letters.

The typography for all text shall be Garamond or approved equal.

The application of the border text should be handled in the same manner as the border lines. The copy process outlined in the Exterior Sign specification should be used.

The character height for the border text will be equal to the width of the accompanying border.

The actual text message varies from sign to sign and will be provided by the DPR at the time of order.

Each fence sign will be mounted 60" from the top of the unit to the ground below.

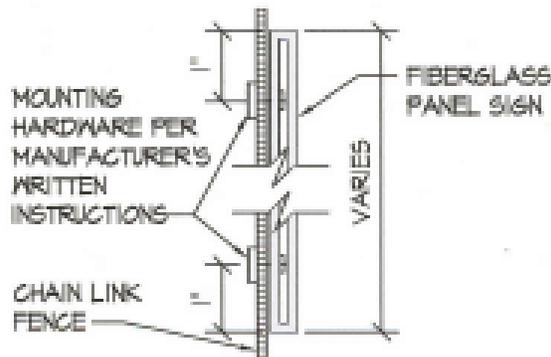
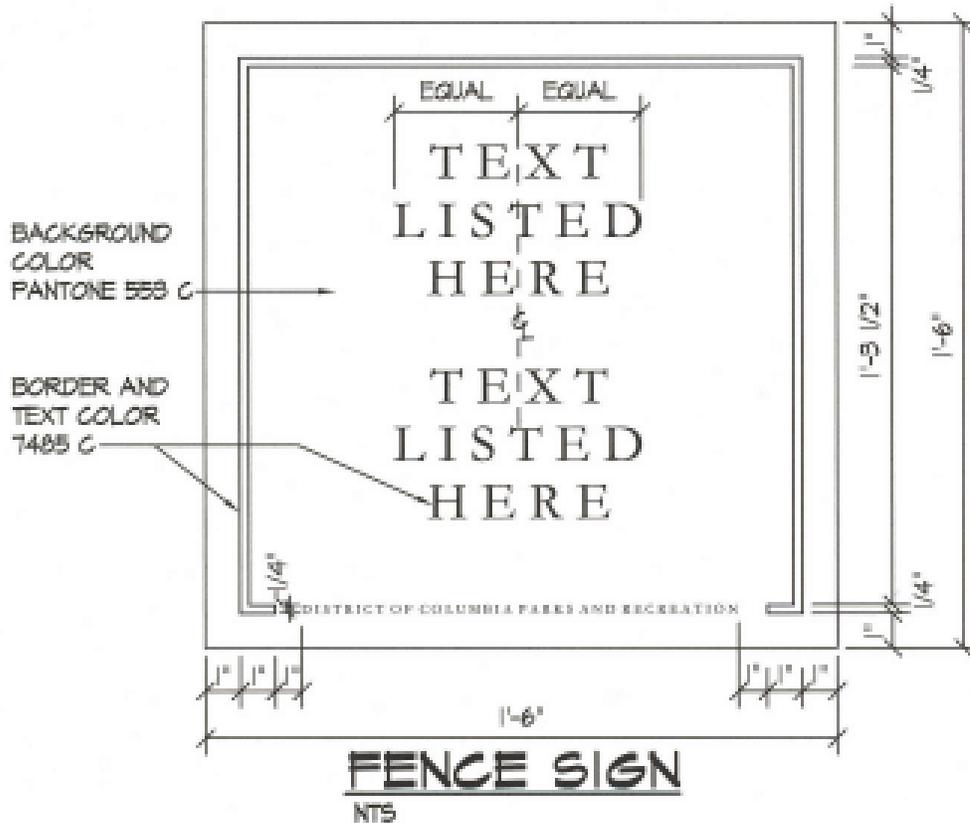
If sign does not have closed back, provide matching panel of same material and color, on opposite side of fence to conceal mounting materials. Proposed mounting method to be approved by DPR Representative.

See Exterior Signs specification included at the end of this section.



FENCE SIGN

SIGN STANDARDS MANUAL



FENCE SIGN MOUNTING DETAIL

NTS

* METHOD SHOWN IS PREFERRED. SUBSTITUTION OF MANUFACTURER'S SUGGESTED MOUNTING DETAIL MAY BE USED IF METHOD CHOSEN IS APPROVED BY DPR REPRESENTATIVE PRIOR TO BIDDING.

* IF SIGN DOES NOT HAVE CLOSED BACK, PROVIDE MATCHING PANEL OF SAME MATERIAL AND COLOR ON OPPOSITE SIDE OF FENCE TO CONCEAL MOUNTING MATERIALS. PROPOSED MOUNTING METHOD TO BE APPROVED BY DPR REPRESENTATIVE.

SIGN STANDARDS MANUAL

EXTERIOR SIGNS SPECIFICATION

PART 1 - GENERAL

1.1 SUMMARY:

A. This Section includes the following:

1. Nonilluminated, single-sheet-type post and panel signs

1.2 PERFORMANCE REQUIREMENTS:

A. Structural Performance: Provide post and panel signs capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, determined according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures":

1. Wind Loads: Determine loads based on a uniform pressure acting in any direction.

B. Thermal Movements: Provide post and panel signs that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.3 SUBMITTALS:

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. Include manufacturer's written instructions for maintaining and cleaning sign surfaces.

B. Shop Drawings: Show fabrication and installation details for post and panels signs.

1. Include plans, elevations, and at least 3/4 inch scale sections of typical members and other components. Show anchors, reinforcement, accessories, layout, and installation details.
2. Include message list, with details of wording and lettering layout, at least half size. Include full-size details of graphics.

C. Samples: For each type of product indicated, of size below:

1. Aluminum: For each form, finish, and color, on 6 inch long sections of extrusions and squares of sheet at least 4 by 4 inches.
2. ~~Fiber Reinforced Polyester (Fiberglass) Sheet: 8 by 10 inches for each color required. Include embedded copy.~~

SIGN STANDARDS MANUAL

- a. ~~Include a sample of graphic-image process. Show graphic style and colors and finishes of letters, numbers, and other graphic devices.~~

1.4 QUALITY ASSURANCE:

- A. Installer Qualifications: An authorized representative of sign manufacturer for installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain each type of post and panel sign through one source and from a single manufacturer.
- C. Regulatory Requirements: Comply with American with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
- D. Product Options: Drawings indicate size, profiles, and dimensional requirements of post and panel signs and are based on the specific type and model indicated. Refer to Division 1 Section "Product Requirements."
 - 1. Do not modify intended aesthetic effects, as judged solely by DPR Representative, except with DPR Representative's approval. If modifications are proposed, submit comprehensive explanatory data to DPR Representative for review.

1.5 DELIVERY AND HANDLING:

- A. Deliver post and panel signs in protective covering and crating to protect sign components and surfaces against damage.

1.6 COORDINATION:

- A. Coordinate installation of anchors for post and panel signs. Furnish installation drawings, templates, and directions for installing anchors and other items that are to be embedded in concrete. Deliver such items to Project site in time for installation.
- B. Coordinate delivery time so signs can be installed within 24 hours of receipt at Project site.

1.7 WARRANTY:

- A. ~~Fiberglass Panel Sign Warranty. Manufacturer's standard form in which manufacturer agrees to repair or replace fiberglass panels that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:~~
 - ~~1. Coating degradation~~
 - ~~2. Chalking~~
 - ~~3. Fading~~
 - ~~4. Fiberglass delamination or cracking~~

SIGN STANDARDS MANUAL

- ~~B. Warranty Period: One year from date of installation/acceptance by DPR.~~

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Basis-of-Design Product: The design for post and panel signs is based on signs from 2/90 Sign Systems. Subject to compliance with requirements, provide the named product or a comparable product.
1. Substitution from basis of design is subject to approval of DPR.

2.2 MATERIALS:

- A. ~~Fiberglass: Molded, seamless, thermosetting, glass fiber reinforced polyester panels in sizes and thicknesses indicated, with a minimum tensile strength of 15,000 psi when tested according to ASTM D 638 and with a minimum flexural strength of 30,000 psi when tested according to ASTM D 790.~~
- B. Alternate Materials: Exterior signs may be constructed of the following materials if the finished product does not compromise the design intent stated in this manual and it meets all requirements regarding durability and vandal-resistance. Alternate materials, finish and associated mounting methods must be approved by the DPR Representative for this project.
1. Alternate: Aluminum sheet and plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with at least the strength and durability properties of Alloy 5005-H15.
- C. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of alloy 6063-T5.
- D. Vinyl Film: Opaque, nonreflective vinyl film, 0.0035 inch minimum thickness, with pressure-sensitive adhesive backing, suitable for exterior applications.

2.3 ACCESSORIES:

- A. Fasteners: Use concealed fasteners fabricated from metals that are noncorrosive to sign material and mounting surface.
- B. Anchors and Inserts: Use stainless-steel or hot-dip galvanized anchors and inserts. Use torque-controlled expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete.
- C. Concrete for Postholes: Concrete shall be normal-weight, air-entrained, ready-mix concrete with a minimum 28-day compressive strength of 2,500 psi, unless otherwise indicated.

2.4 FABRICATION, GENERAL:

- A. General: Provide post and panel signs of configurations indicated.

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1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.5 POSTS:

- A. General: Fabricate posts to lengths required for mounting method indicated.

1. Direct-Burial Method: Provide posts 36 inches longer than height of sign to permit direct embedding in concrete foundations.
2. Reverse Sleeve Method: Provide inserts recommended by manufacturer, sized for close fit inside posts. Size inserts for direct embedding in concrete foundations and to attach sign posts securely and prevent sign from overturning when subjected to normal loading conditions prevailing at Project site, but not less than 1/3 of post height plus 36 inches for embedding. Drill posts and inserts for through-bolts for fastening them together.
 - a. Provide bolts for fastening posts to inserts.

- B. Aluminum Posts: Manufacturer's standard 0.125 inch thick, extruded-aluminum tubing, with vertical slots to engage sign panels. Provide stop blocks in slots to hold panels in position. Include post caps, fillers, spacers, junction boxes, access panels, and related accessories required for complete installation.

1. True Round: Minimum 3 inch outside diameter or diameter recommended by manufacturer to provide best structural stability.
2. Post Finish: Match sign panel face.

2.6 SIGN PANELS:

- A. General: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.

- B. Unframed Single-Sheet Panels: Provide unframed single-sheet sign panels with edges mechanically and smoothly finished.

- ~~1. Panel Material: 0.125 inch thick fiberglass sheet~~

SIGN STANDARDS MANUAL

- ~~a. Panel Finish: Manufacturer's standard semigloss finish with UV inhibitors.~~
- ~~2. Edge Condition: Square cut~~
- ~~3. Corner Condition: Square corners~~
- C. ~~Nonilluminated, Composite Box-Type Fiberglass Panels: Molded-fiberglass outer shell bonded to internal reinforcement.~~
 - ~~1. Panel Face: Seamless, 0.125 inch thick, molded fiberglass~~
 - ~~2. Panel Finish: Manufacturer's standard matte finish with UV inhibitors.~~
 - ~~3. Corner Condition: Square corners~~

2.7 GRAPHICS:

- A. ~~Park Identification Signs Copy Type: Raised copy fastened to fiberglass panels. Apply 1/8" thick raised lettering and logo to panel, using attachment method that is concealed and the most vandal-resistant.~~
- B. Alternate Copy Type: Park identification graphics may use the following surface applied copy method if the finished product does not compromise the design intent stated in this manual and it meets all requirements regarding durability and vandal-resistance. Alternate copy type and associated mounting methods must be approved by the DPR Representative for this project.
 - 1. ~~Alternate Copy Embedded in Fiberglass Panels: Apply computer-generated adhesive graphics to panel as masking material. Apply acrylic polyurethane background-color flood coats, 0.015 inch minimum thickness. Include UV inhibitors. Remove masking material.~~
- C. Border Text and Text not Indicated to be Raised Copy Type: Apply computer-generated adhesive graphics to panel as masking material. Apply acrylic polyurethane background-color flood coats, 0.015 inch minimum thickness. Include UV inhibitors. Remove masking material.
- D. Park Identification Sign Type A:
 - 1. ~~Material: Fiberglass~~
 - a. Alternate Material: Aluminum
 - 2. Copy:
 - a. Primary Text: Raised and bonded to sign surface.
 - b. Border Text and Border: Subsurface copy
 - 3. Character Style: Garamond or approved equal
 - 4. Text: As directed by the DPR representative.

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5. Sizes:
 - a. Sign: As indicated on drawings.
 - b. Character: As indicated on drawings.
6. Color:
 - a. Border and Character: Pantone 7485 C (Bone White). Color to be approved by DPR representative.
 - b. Background: Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are as indicated on "D.C. Parks and Recreation Logo" drawings located at end of manual. Colors to be approved by DPR representative.
7. Graphics: Graphic to be provided on electronic media by DPR.
8. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.

E. Park Identification Sign Type B:

1. ~~Material: Fiberglass~~
 - a. Alternate Material: Aluminum
 2. Copy:
 - a. Primary Text : Subsurface copy
 - b. Border Text and Border: Subsurface copy
 3. Character Style: Garamond or approved equal.
 4. Text: As directed by the DPR representative.
 5. Sizes:
 - a. Sign: As indicated on drawings.
 - b. Character: As indicated on drawings.
 6. Color:
 - a. Border and Character: Pantone 7485 C (Dark Green). Color to be approved by DPR representative.
-

SIGN STANDARDS MANUAL

- b. Background: Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual. Colors to be approved by DPR representative.
7. Graphics: Graphic to be provided on electronic media by DPR.
8. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.
- F. Exterior Directories:
- 1. ~~Material: Fiberglass~~
 - a. Alternate Material: Aluminum
 - 2. Copy:
 - a. Primary Text : Subsurface copy
 - b. Border Text and Border: Subsurface copy
 - 3. Character Style: Garamond or approved equal.
 - 4. Text: As directed by the DPR representative.
 - 5. Sizes:
 - a. Sign: As indicated on drawings.
 - b. Character: As indicated on drawings.
 - 6. Color:
 - a. Border and Character: Pantone 7485 C (Dark Green). Color to be approved by DPR representative.
 - b. Background: Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual. Colors to be approved by DPR representative.
 - 7. Graphics: Graphic to be provided on electronic media by DPR.
 - 8. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.
-

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G. Courtesy Signs:

1. ~~Material: Fiberglass~~
 - a. Alternate Material: Aluminum
2. Copy:
 - a. Primary Text : Subsurface copy
 - b. Border Text and Border: Subsurface copy
3. Character Style: Garamond or approved equal.
4. Text: As directed by the DPR representative.
5. Sizes:
 - a. Sign: As indicated on drawings.
 - b. Character: As indicated on drawings.
6. Color:
 - a. Border and Character: Pantone 7485 C (Dark Green). Color to be approved by DPR representative.
 - b. Background: Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual. Colors to be approved by DPR representative.
7. Graphics: Graphic to be provided on electronic media by DPR.
8. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.

H. Fence Signs:

1. ~~Material: Fiberglass~~
 - a. Alternate Material: Aluminum
 2. Copy:
 - a. Primary Text : Subsurface copy
 - b. Border Text and Border: Subsurface copy
-

SIGN STANDARDS MANUAL

3. Character Style: Garamond or approved equal.
4. Text: As directed by the DPR representative.
5. Sizes:
 - a. Sign: As indicated on drawings.
 - b. Character: As indicated on drawings.
6. Color:
 - a. Border and Character: Pantone 7485 C (Dark Green). Color to be approved by DPR representative.
 - b. Background: Pantone 553 C (Dark Green). Color to be approved by DPR representative.
 - c. Graphic: Pantone 5545 C (Medium Green) and Pantone 7485 C (Bone White). Locations are indicated on "D.C. Parks and Recreation Logo" drawing located at end of manual. Colors to be approved by DPR representative.
7. Graphics: Graphic to be provided on electronic media by DPR.
8. Schedule: Specific sign schedule to be provided at time of order. For quantities, see quantity schedule located at end of manual.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Excavation: In firm, undisturbed or compacted soil, drill or (using a post-hole digger) hand-excavate holes for each post to minimum diameter recommended by sign manufacturer, but at least four times the largest post cross-section.
 1. Excavate hole depths approximately 39 inches below finished grade.
- B. Setting Posts and Inserts: Center and align posts and inserts in holes 3 inches above bottom of excavation.
 1. Protect portion of posts and inserts above ground from concrete splatter. Place concrete and vibrate or tamp for consolidation. Check posts for alignment and hold in position until concrete has achieved its initial set.
- C. Set anchor bolts and other embedded items required for installation. Use templates furnished by suppliers of items to be attached.
- D. Install signs level, plumb, and at height indicated, with surfaces free from distortion or other defects in appearance.

SIGN STANDARDS MANUAL

- E. Smooth top of concrete footings and shape to shed water. Top of footing to be the same as existing finished grade.
- F. Where panel signs are scheduled or indicated to be mounted on chain link fence, and the sign does not have a closed back, provide matching panel of same materials and color, on opposite side of fence to conceal mounting materials. Proposed mounting method to be approved by DPR Representative.

3.2 CLEANING:

- A. At completion of installation, clean soiled surfaces of sign units according to manufacturer's written instructions.

END OF SECTION



D.C. PARKS AND RECREATION LOGO

NTS

SIGN STANDARDS MANUAL

The following schedule indicates quantities for each sign type. This information is an estimate and should not be used at time of order without verification from DPR Representative.

QUANTITY SCHEDULE

Interior Signs

Bulletin Boards	130
Fire Evacuation Plan Housing	130
Directories	130
Room Name Signs (with logo)	500
Room Name Signs (without logo)	150
Stair Signs (Identical to room name signs without logo)	10
Toilet Signs (Men)	130
Toilet Signs (Women)	130

Exterior Signs

Park ID (Post-Mounted)	70
Park ID (Fence-Mounted)	30
Directory (Single Sided)	100
Directory (Double Sided)	50
Courtesy (Single Sided)	120
Courtesy (Double Sided)	70
Fence Sign	300

Attachment B

Upshur Park Playground
Clarification Response 1

SECTION 04816 – UNIT MASONRY ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes
 - 1. Concrete masonry units.
 - 2. Mortar and grout.
 - 3. Steel reinforcing bars.
 - 4. Masonry joint reinforcement.
 - 5. Miscellaneous masonry accessories.
- B. Related Sections
 - 1. Cast in Place Concrete for footings
 - 2. Stone Masonry Veneer

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops indicated net-area compressive strengths at 28 days.
 - 1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For the following:
 - 1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
 - 2. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
- C. Material Certificates: For each type and size of the following:
 - 1. Masonry units.

a) Include data on material properties.

2. Cementitious materials. Include brand, type, and name of manufacturer.
3. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
4. Grout mixes. Include description of type and proportions of ingredients.
5. Reinforcing bars.
6. Joint reinforcement.
7. Metal accessories.

D. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.6 QUALITY ASSURANCE

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color from single source from single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality from single manufacturer for each cementitious component and from single source or producer for each aggregate.

C. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

1.7 DELIVERY, STORAGE, HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weatherproof dispensing silos.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

B. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1.Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

2.2 CONCRETE MASONRY UNITS

A. Regional Materials: Provide CMUs that have been manufactured within 500 miles of Project site from aggregates that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

B. CMUs: ASTM C 90.

1.Density Classification: Normal weight.

2.Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.3 FACE BRICK - ASTM C 216.

A. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 3000 psi.

B. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.

C. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."

D. Size (Actual Dimensions): 3-5/8 inches wide by 2-1/4 inches high by 7-5/8 inches long.

E. Products: Brick 53DD by Glen Gery

2.4 MORTAR AND GROUT MATERIALS

A. Regional Materials: Provide aggregate for mortar and grout that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

B. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color cement.

C. Hydrated Lime: ASTM C 207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

E. Mortar Cement: ASTM C 1329.

1.Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a)Lafarge North America Inc.; Lafarge Mortar Cement or Magnolia Superbond Mortar Cement.

F. Aggregate for Mortar: ASTM C 144.

G. Aggregate for Grout: ASTM C 404.

H. Water: Potable.

2.5 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.

1.Exterior Walls: Hot-dip galvanized, carbon steel.

2.Wire Size for Side Rods: 0.148-inch diameter.

3.Wire Size for Cross Rods: **0.148-inch** diameter.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.

B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and hold reinforcing bars in center of cells. Units are formed from 0.148-inch (3.77-mm) steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

1.Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a)Heckmann Building Products Inc.; No. 376 Rebar Positioner.

b)Wire-Bond; O-Ring or Double O-Ring Rebar Positioner.

2.7 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1.Do not use calcium chloride in mortar or grout.

2.Use portland cement-lime.

B. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.

C. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.

D. Joints:

1. Do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4-inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal horizontal face dimensions at corners or jambs.

C. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

D. Bond Pattern for Exposed Masonry: Lay brick veneer in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:

1. With webs fully bedded in mortar in grouted masonry, including starting course on footings.

3.6 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.7 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.

B. Form control joints in concrete masonry as follows:

1. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake out joint for application of sealant.

3.8 REINFORCED UNIT MASONRY INSTALLATION

A. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.

3.9 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, or otherwise damaged. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

3.10 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site. Do not use masonry waste as fill material.

B. Excess Masonry Waste: Remove excess clean masonry waste and legally dispose of off Owner's property.

END OF SECTION 04860

SECTION 04860 - STONE MASONRY VENEER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Stone veneer on unit masonry substrate.
- B. Related Sections:
 - 1. Excavating, Backfilling and Compacting
 - 2. Unit Masonry Assemblies

1.3 REFERENCES

- A. ASTM C 97 - Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Firm with documented experience of at least two projects of similar construction and scope. Include brief description of each project and name and phone number of owner's representative knowledgeable in each listed project. Other verifiable experience may be accepted in lieu of the above at the discretion of the Architect.

B. Mock-Up: Install a 6' long mock-up using acceptable products and architect approved installation methods. Mock up shall closely resemble the Stone Wall Pictorial on sheet L3.01.

- 1. Maintain mock-up during construction for workmanship comparison.
 - a. Incorporate mock-up into final construction upon Architect's approval.
- 2. Obtain Architect's acceptance of finish color, texture and pattern, and workmanship standard.

C. Pre-Construction Meeting: Prior to commencement of stone installation, conduct a meeting at the site with the stone materials supplier, the stone installer, and the Contractor to review the retaining wall requirements. Notify the Owner and the Architect at least 3 days in advance of the time of the meeting.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation (as applicable).
- B. Prevent excessive mud, fluid concrete, or other deleterious materials from coming in contact with and affixing to stone materials

1.6 PROJECT CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
- B. Stain Prevention: Immediately remove mortar and soil to prevent them from staining the face of stone masonry.
 - 1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on the ground and over the wall surface.
 - 2. Protect sills, ledges, projections, and completed masonry from mortar droppings.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace stone masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 STONE

- A. Acceptable Manufacturer: Carderock® Quarries P. O. Box 34300 Bethesda, MD 20827 Quarry and Yard are located at: 8200 Seven Locks Rd. Bethesda, MD 20817 Phone: 301-365-2100 Fax: 301-365-5524 Email: wprunka@hotmail.com Web: <http://www.carderock.com>
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MORTAR MATERIALS

- A. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or III, and hydrated lime complying with ASTM C 207.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Essroc, Italcementi Group; Capitol PCL Blend.
 - b. Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
 - c. Lafarge North America; Eaglebond.

d. Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.

B. Water: Potable.

2.3 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Diedrich Technologies, Inc.
- b. Dominion Restoration Products.
- c. EaCo Chem, Inc.
- d. Hydrochemical Techniques, Inc.
- e. Prosoco, Inc.

2.4 MORTAR MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride.
2. Limit cementitious materials in mortar to portland cement and lime.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.

1. Mortar for Setting Stone: Type S.

2.5 FABRICATION

A. Fabricate stone veneer to comply with sizes, shapes, and tolerances necessary to match Stone Wall Pictorial on Sheet L3.01.

B. Select stone to produce pieces of thickness, size, and shape indicated, necessary to match Stone Wall Pictorial on Sheet L3.01.

C. Carefully inspect stone at quarry for compliance with requirements for appearance, material, and fabrication. Replace defective units before shipment.

D. Thickness of Stone: Provide thickness indicated.

H. Finish exposed faces and edges of stone to comply with requirements indicated for finish and to match approved samples and mockups.

1. Finish: Natural Cleft

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify substrate is level, smooth, and capable of supporting stone imposed loads.
- C. Verify grades, contours and elevations of substrate are correct.
- D. Verify substrate base supporting stone has been properly compacted.

3.2 PREPARATION.

- A. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.
- B. Prepare surfaces using the methods recommended by the quarry for achieving the best result for the substrate under the project conditions.

3.3 SETTING OF STONE MASONRY, GENERAL

- A. Perform necessary field trimming as stone is set.
- B. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
- E. Set stone to comply with requirements indicated on Drawings. Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place. Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
- F. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 1/8 inch at narrowest points or more than 1/4 inch at widest points.

3.4 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10, 3/8 inch in 20 feet), or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- B. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet (13 mm in 6 m) or 3/4 inch in 40 feet (19 mm in 12 m) or more.
- C. Measure variation from level, plumb, and position shown in plan as variation of the average plane of the face of each stone from level, plumb, or dimensioned plane.

3.5 INSTALLATION OF ANCHORED STONE MASONRY

- A. Set stone in bed of mortar to achieve semi-dry assembly.

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Protect adjacent work areas and finish surfaces from damage during product installation.
- C. Cover the top of unfinished stone masonry work to protect it from the weather.
- D. Prevent staining of stone from mortar, grout, sealants, and other sources. Immediately remove such materials from stone without damage to the stonework.
- E. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.
- F. Adjust or reset any materials disturbed by successive operations.
- G. Touch-up, repair or replace damaged products before Substantial Completion.

3.7 ADJUSTING AND CLEANING

- A. Remove and replace stone masonry of the following description:
 - 1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
 - 2. Defective joints.
 - 3. Stone masonry not matching approved samples and mockups.
 - 4. Stone masonry not complying with other requirements indicated.
- B. Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before cleaning stone masonry.
 - 3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
 - 4. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised II, using job-mixed detergent solution.

3.8 EXCESS MATERIALS AND WASTE

- A. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
 - 1. Crush masonry waste to less than 4 inches (100 mm) in greatest dimension.
 - 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 2 Section "Earthwork."
 - 3. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.
- B. Excess Masonry Waste: Remove all masonry materials not installed and other waste, and

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legally dispose of off Owner's property.

END OF SECTION 04860