

LAKE ELSINORE
MAIN STREET HISTORIC DISTRICT
UNDERPASS GRAPHICS

Chapter I



SITE PLAN

SCALE: N.T.S.



88 North Fair Oaks #105
Pasadena, CA 91103
626.793.7847

HUNT DESIGN



PROJECT
Lake Elsinore Underpass Graphics

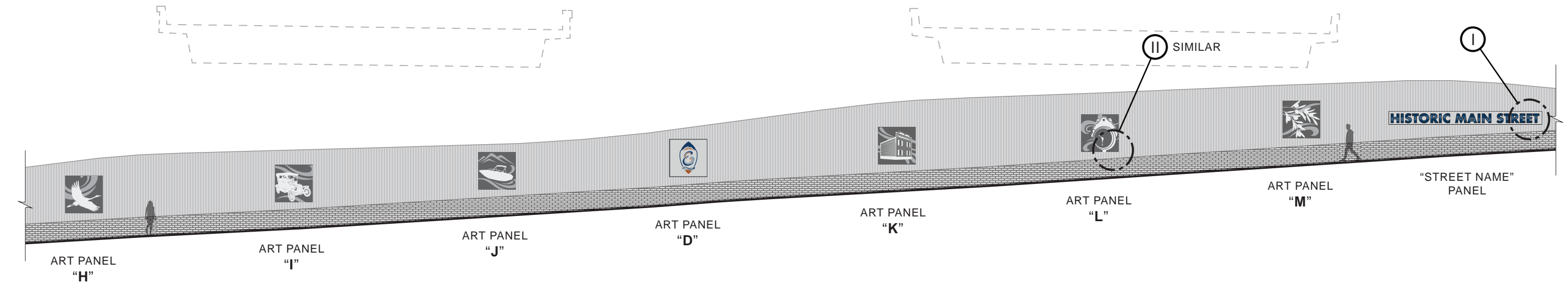
CLIENT
David Evans and Associates

DATE
Aug 16, 2022

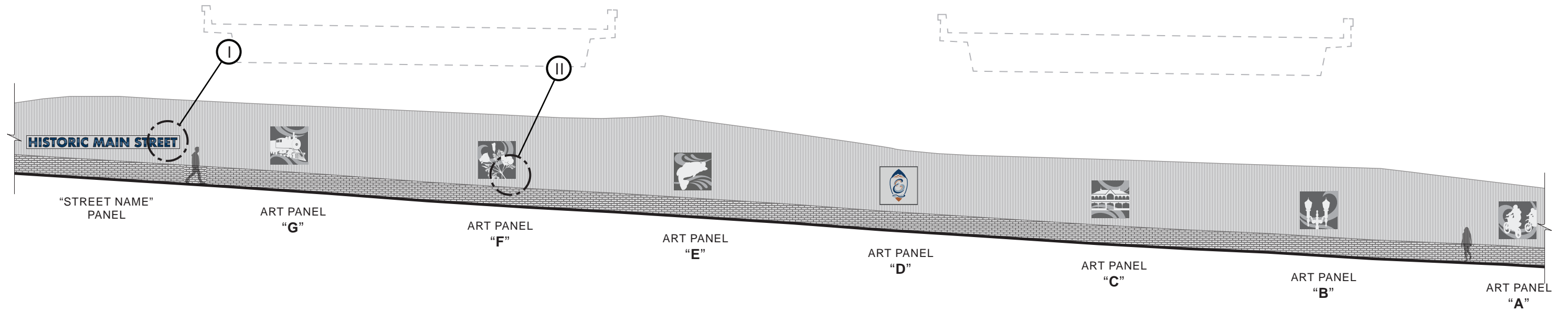


SHEET TITLE
Main Street
Site Plan

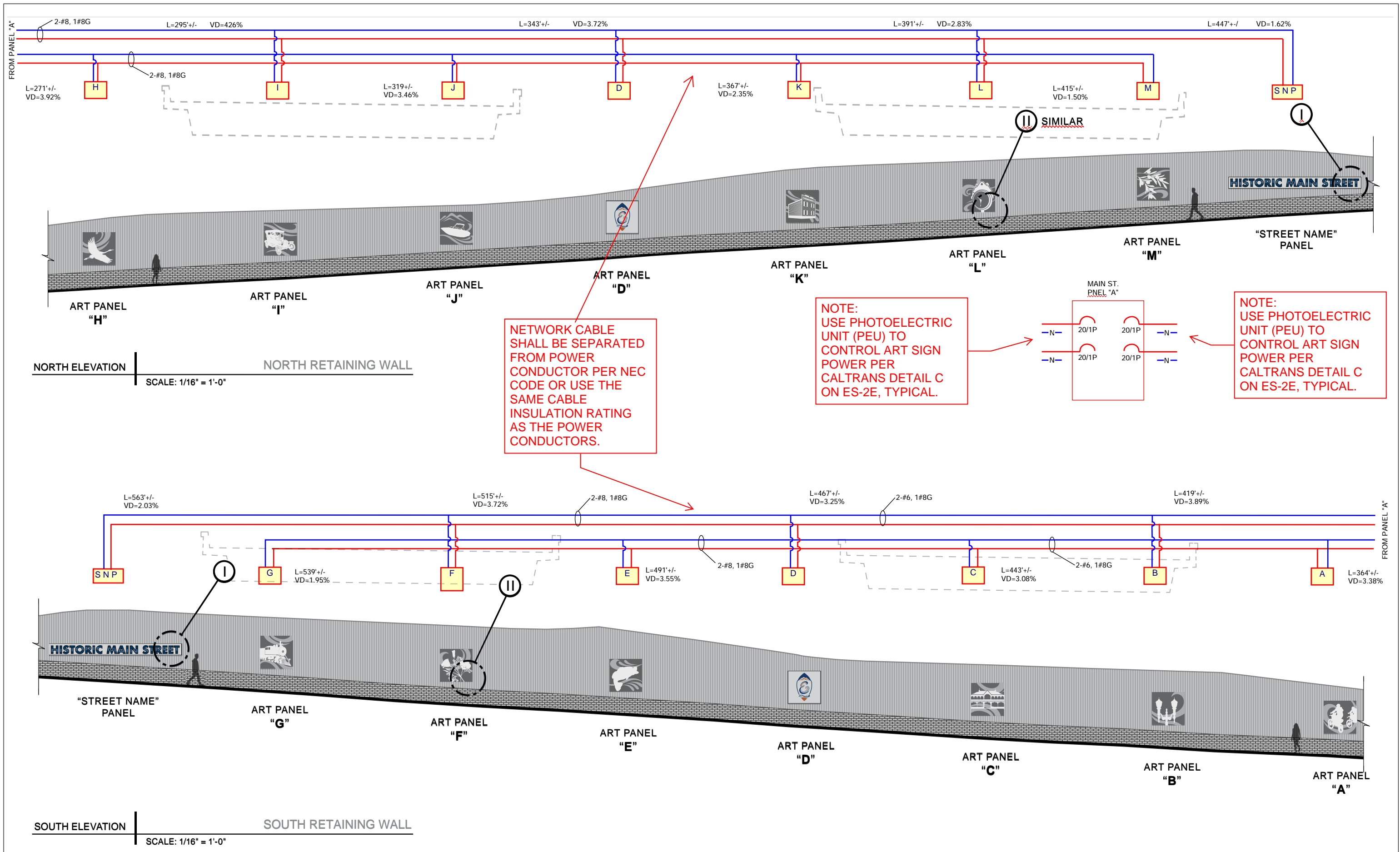
SHEET #
2.0 2 of 38

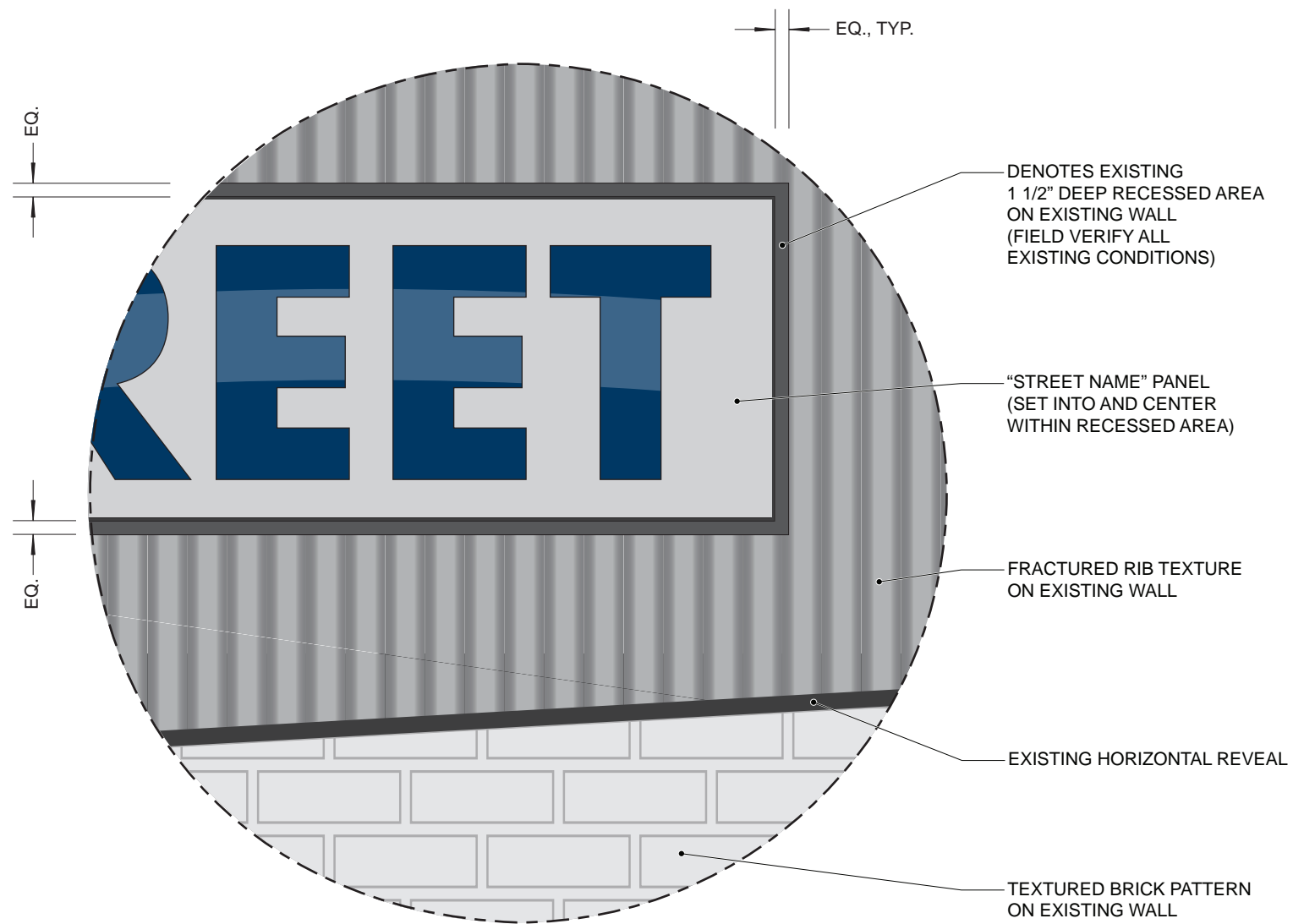


NORTH ELEVATION | NORTH RETAINING WALL
SCALE: 1/16" = 1'-0"



SOUTH ELEVATION | SOUTH RETAINING WALL
SCALE: 1/16" = 1'-0"

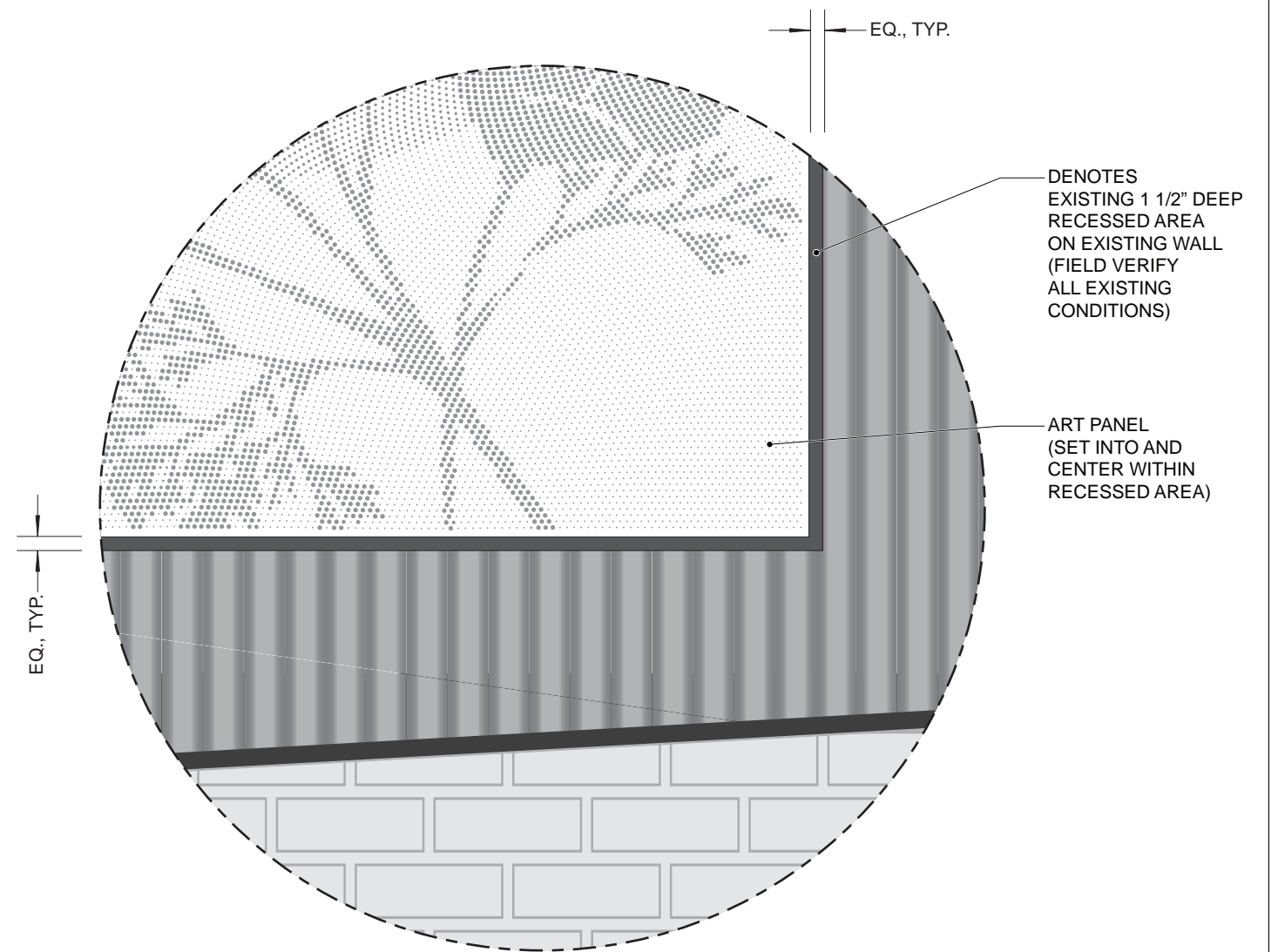




SITE ELEVATION
DETAIL VIEW

SCALE: 1" = 1'-0"

I

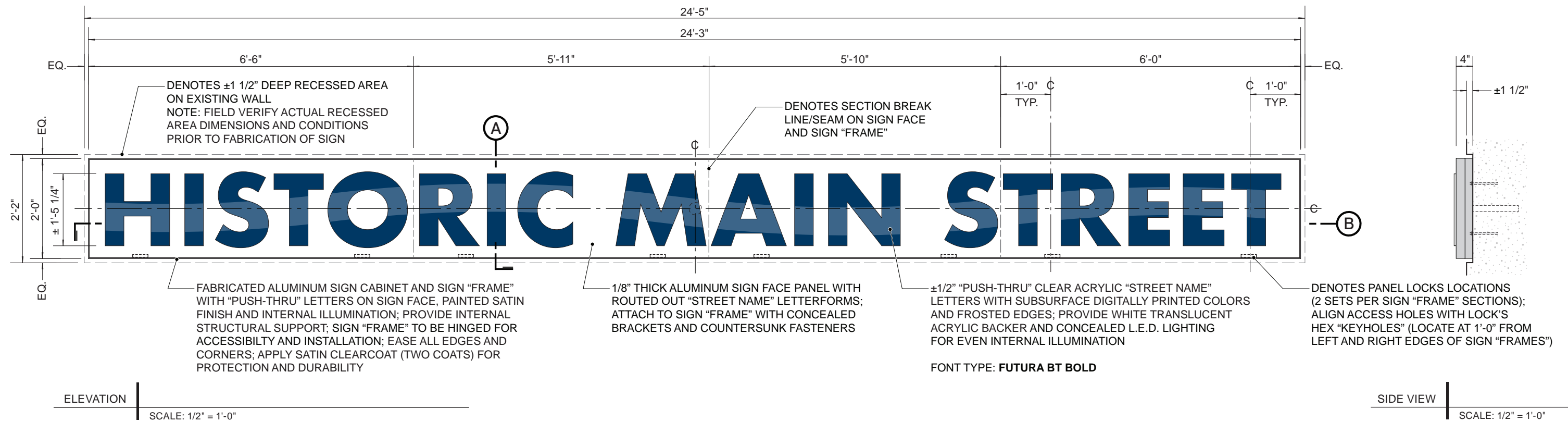
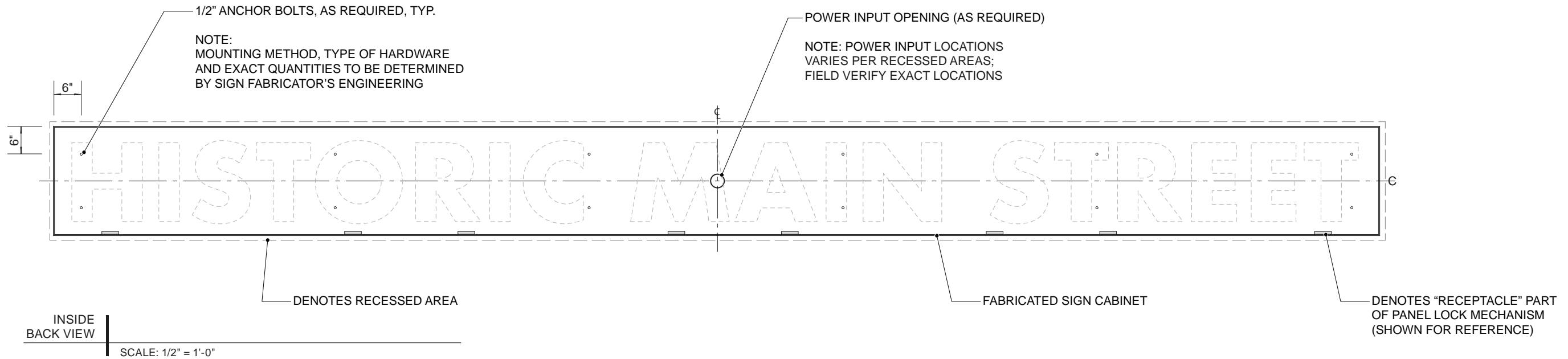


SITE ELEVATION
DETAIL VIEW

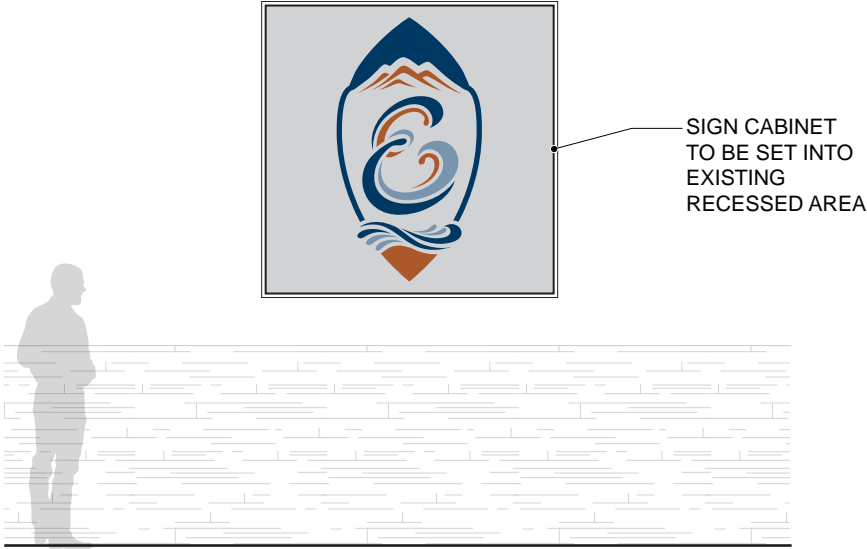
SCALE: 1" = 1'-0"

II

STREET NAME PANEL

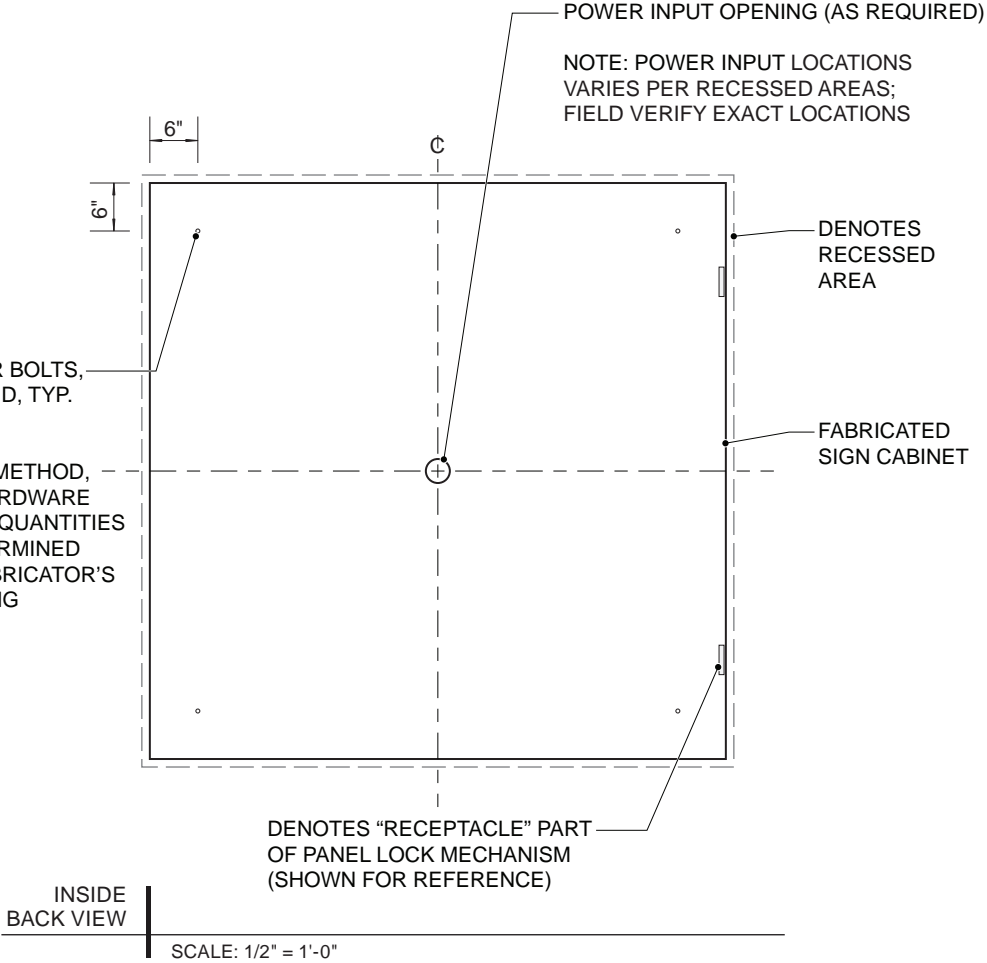
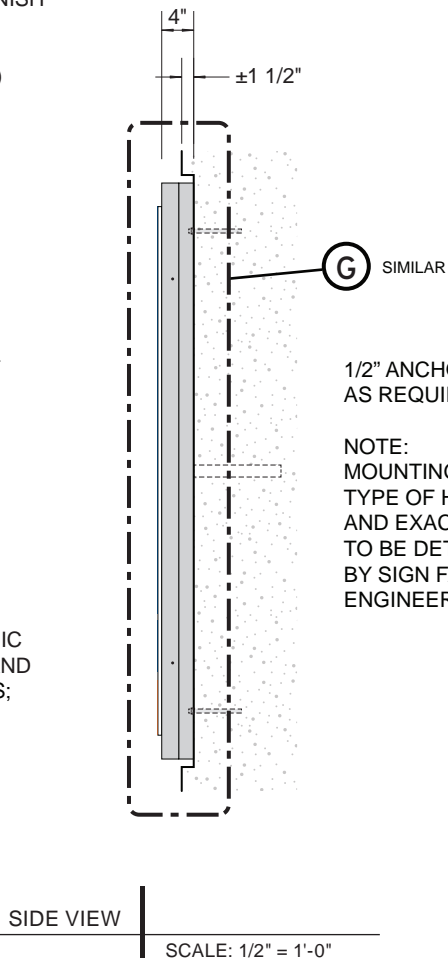
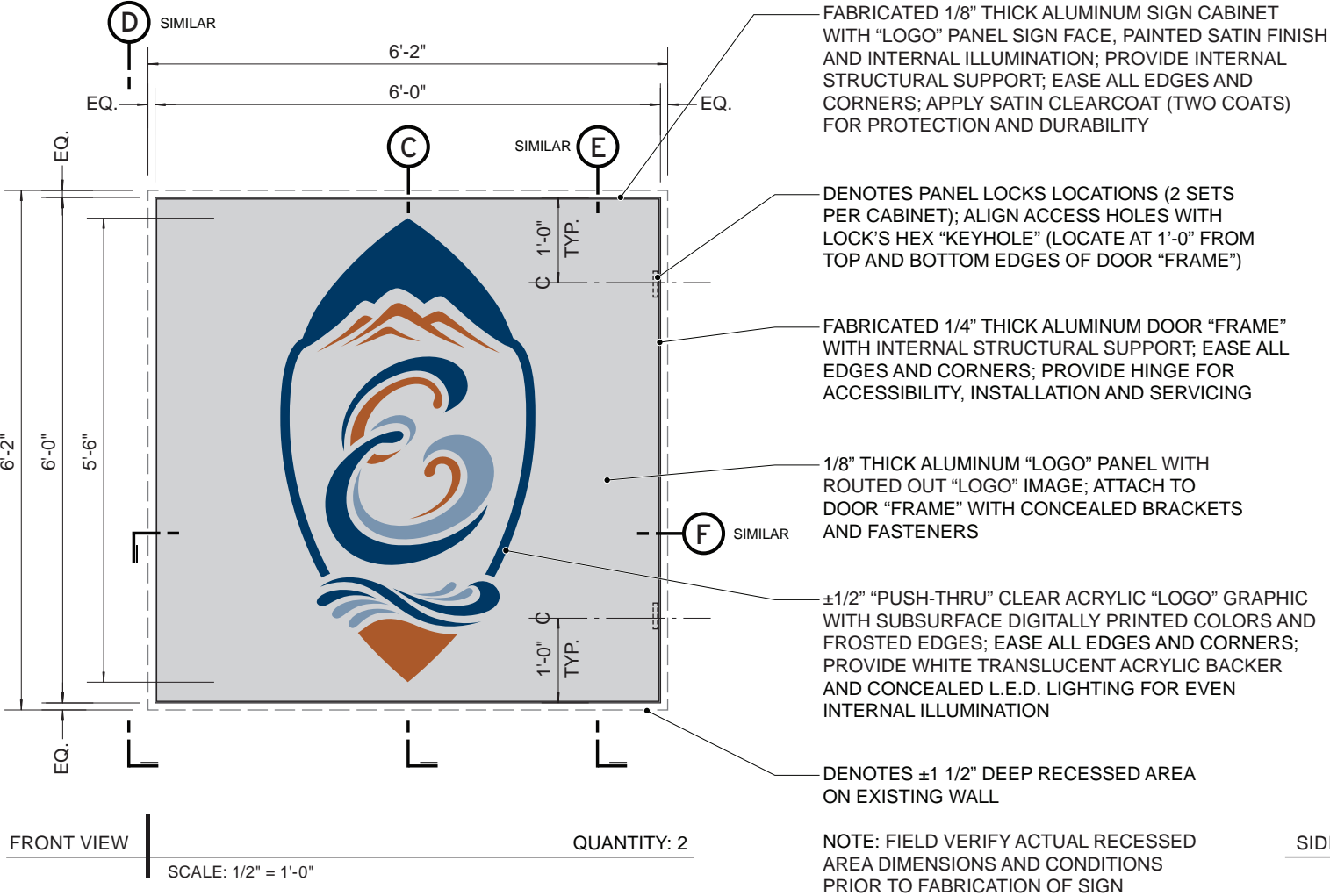


LOGO PANEL

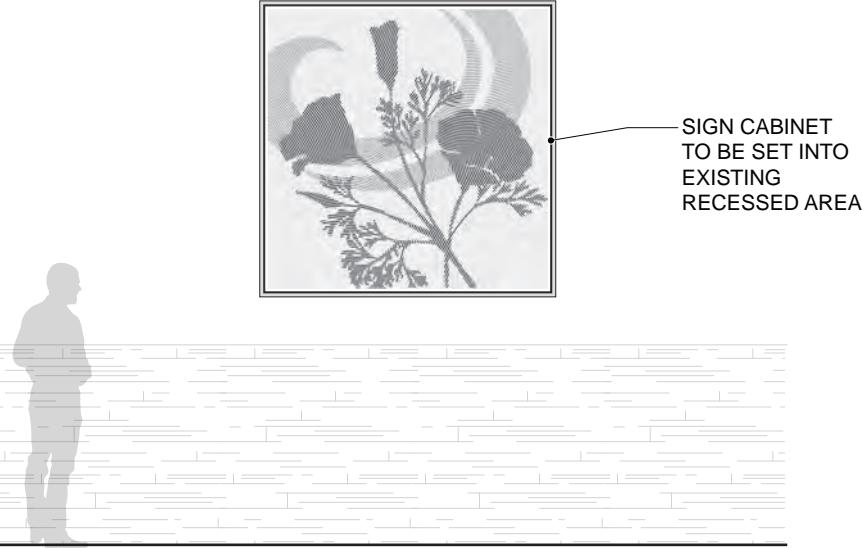


LOCATION
ELEVATION

SCALE: 1/4" = 1'-0"

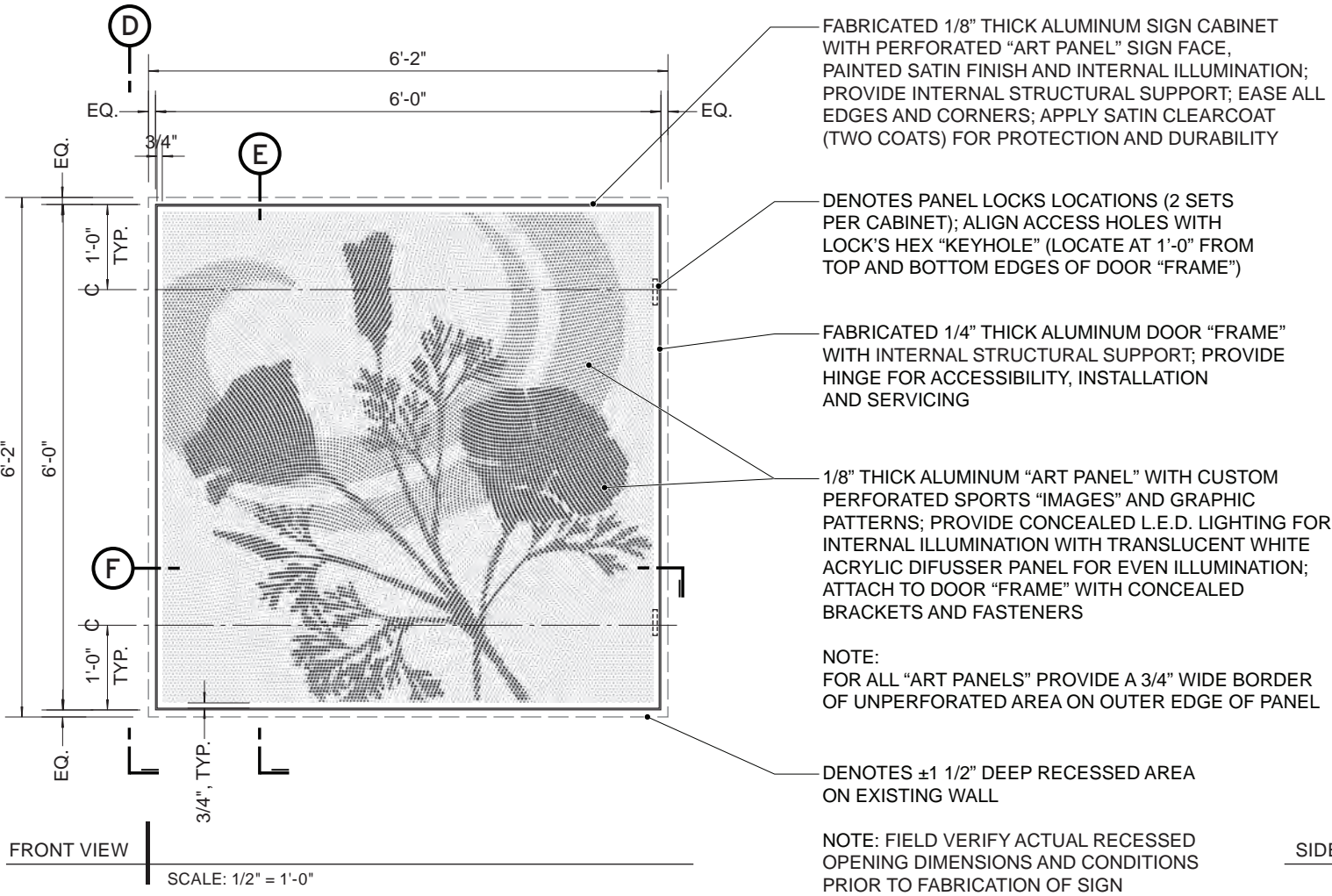


ART PANEL



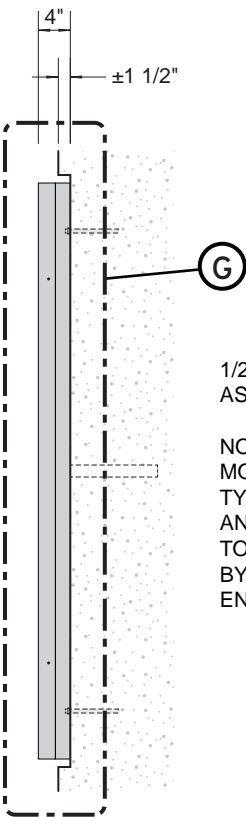
LOCATION
ELEVATION

SCALE: 1/4" = 1'-0"



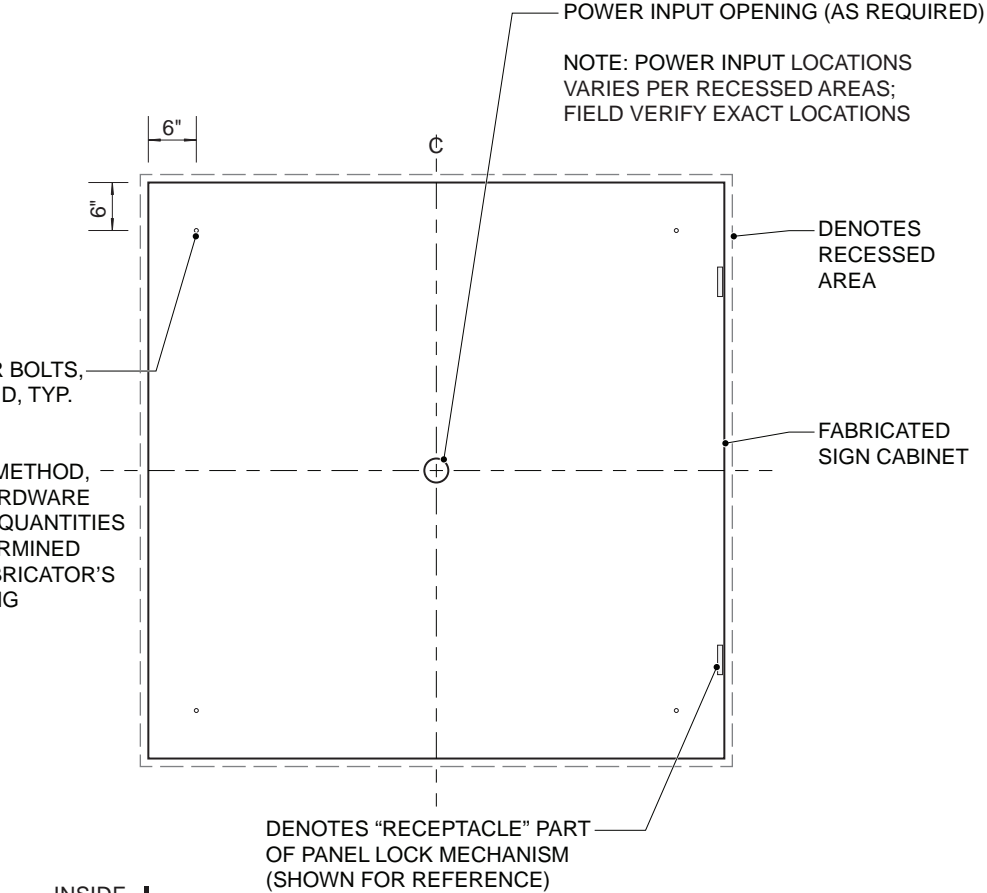
FRONT VIEW

SCALE: 1/2" = 1'-0"



SIDE VIEW

SCALE: 1/2" = 1'-0"



INSIDE
BACK VIEW

SCALE: 1/2" = 1'-0"



A - GRAND PRIX



B - HISTORIC STREETLAMP



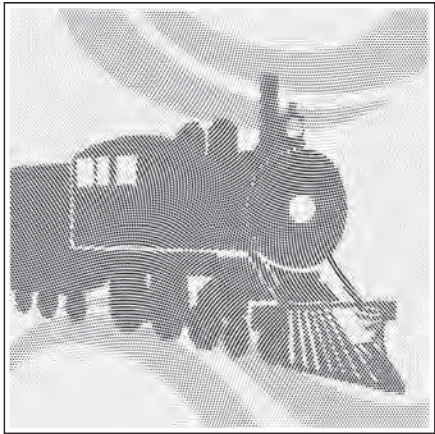
C - THE CHIMES



E - FISHING



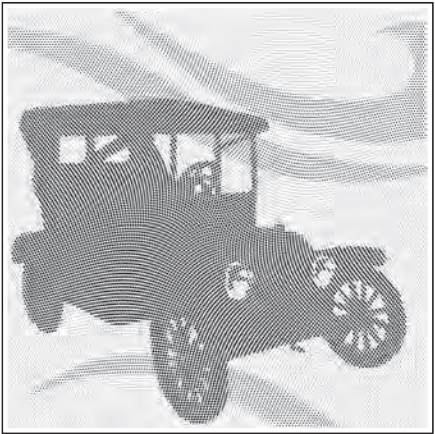
F - POPPIES



G - TRAIN



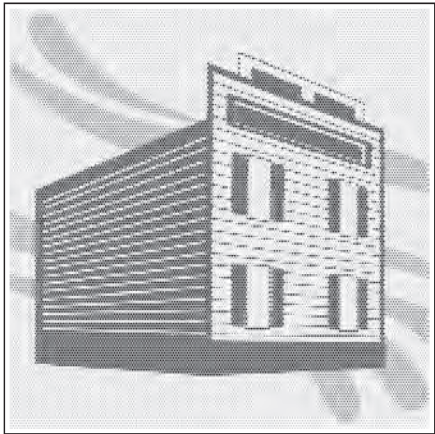
H - WATER FOWL



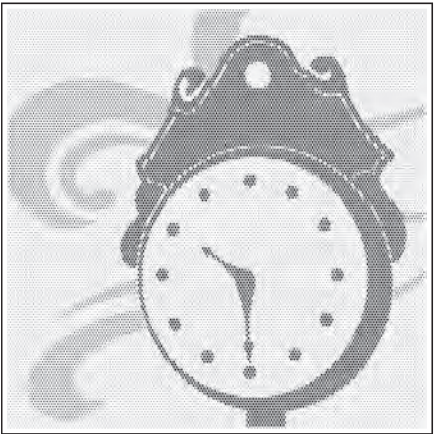
I - CAR SHOW



J - BOATING



K - ARMORY



L - CLOCK



M - OLIVES



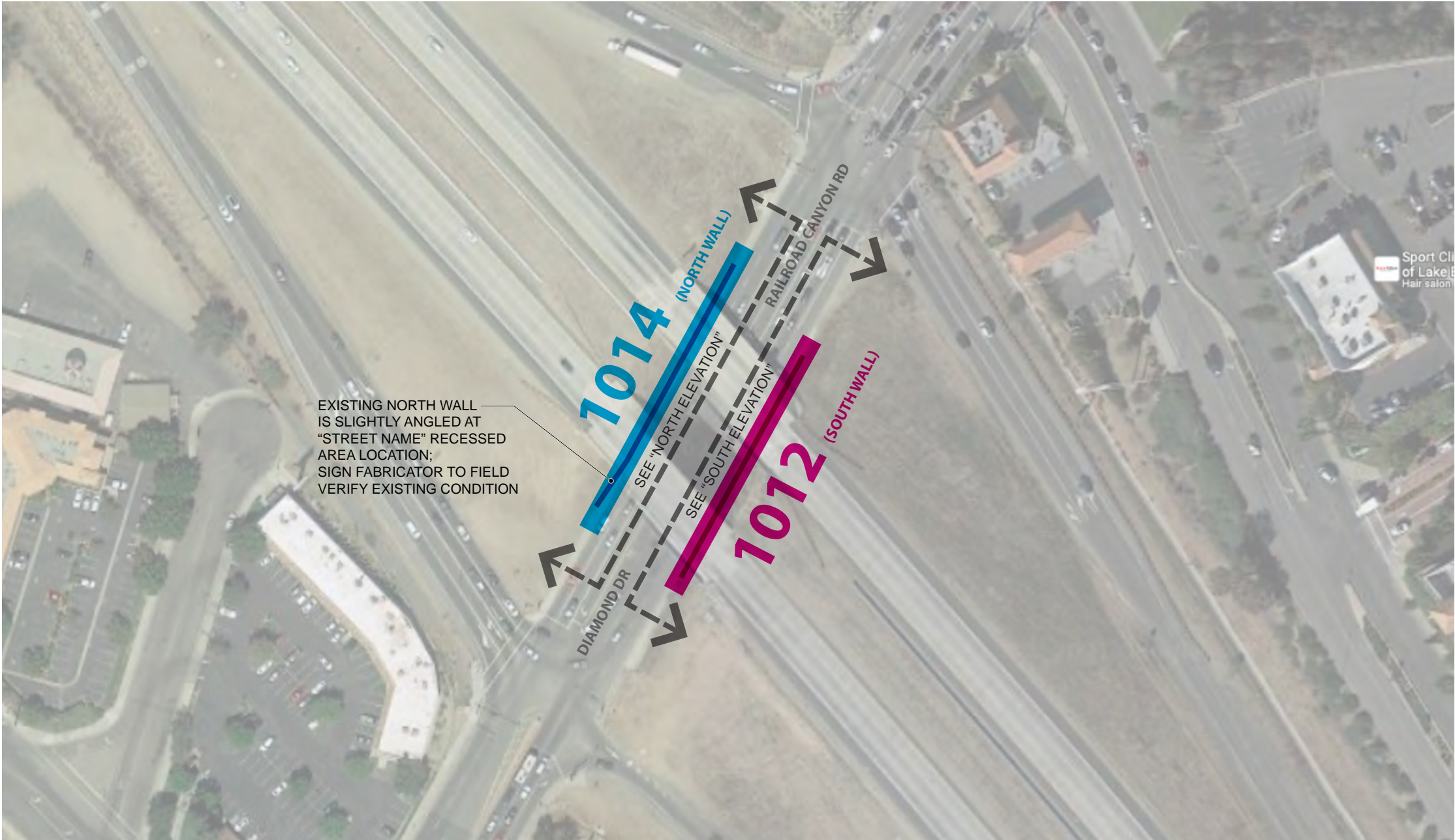
D - LE LOGO QUANTITY: 2

ART PANEL
LAYOUTS

SCALE: 3/8" = 1'-0"

LAKE ELSINORE
RAILROAD CANYON INTERCHANGE
UNDERPASS GRAPHICS

Chapter 2



SITE PLAN

SCALE: N.T.S.



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Pasadena, CA 91103
626.793.7847

HUNT DESIGN



PROJECT
Lake Elsinore Underpass Graphics

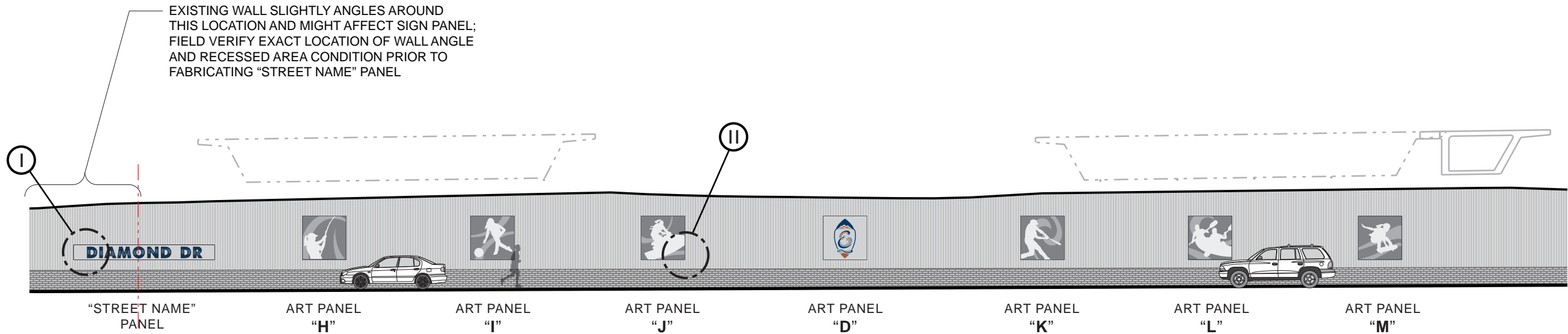
CLIENT
David Evans and Associates

DATE
Aug 16, 2022



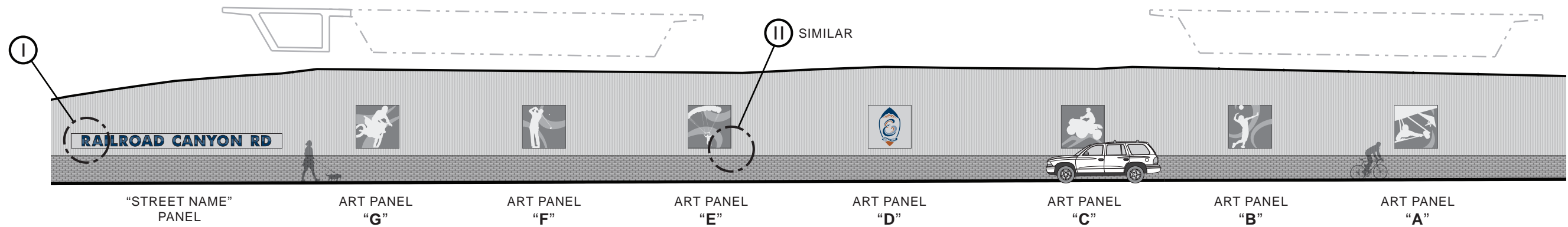
SHEET TITLE
Railroad Canyon
Site Plan

SHEET #
11 of 38
11.0



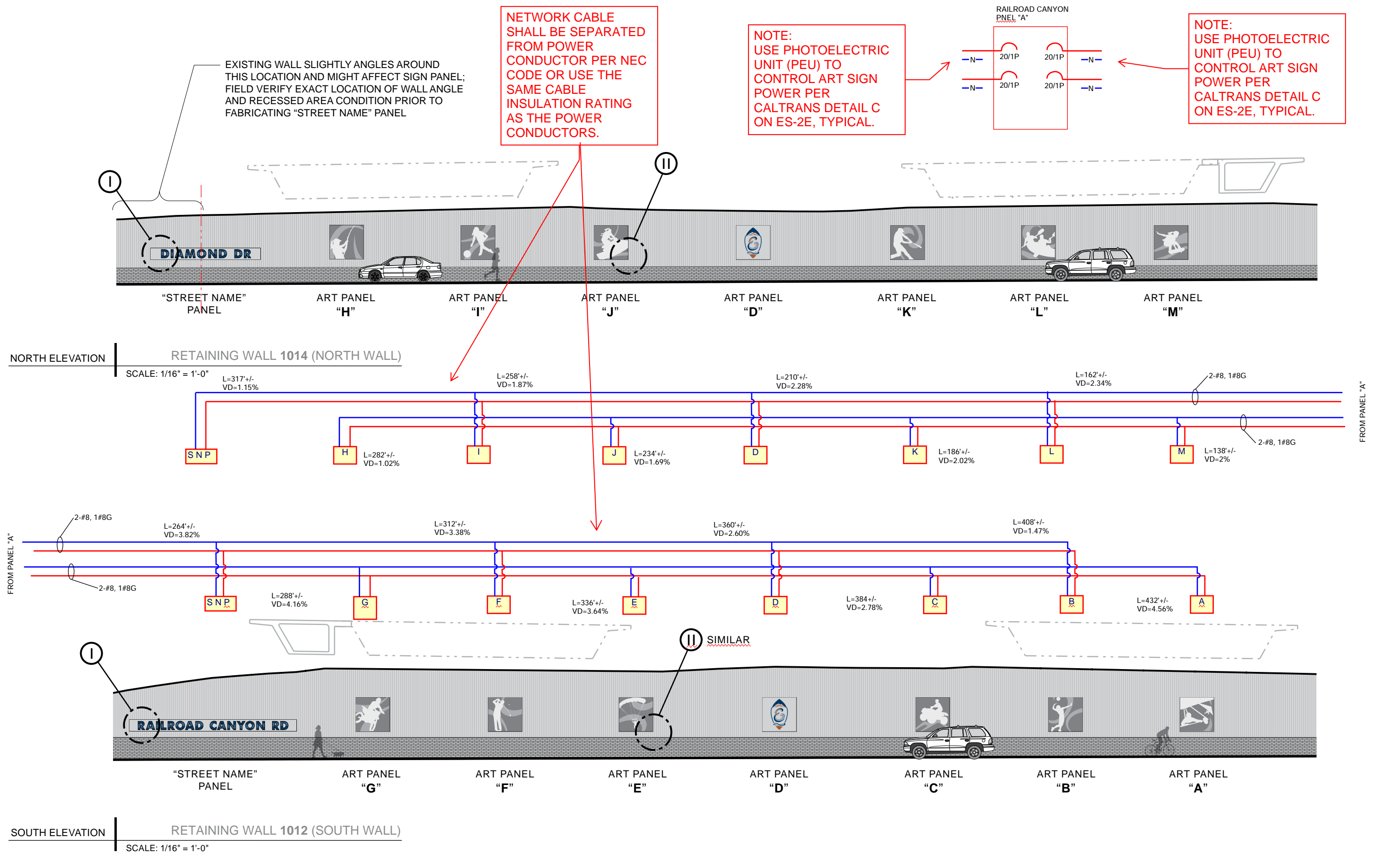
NORTH ELEVATION | RETAINING WALL 1014 (NORTH WALL)

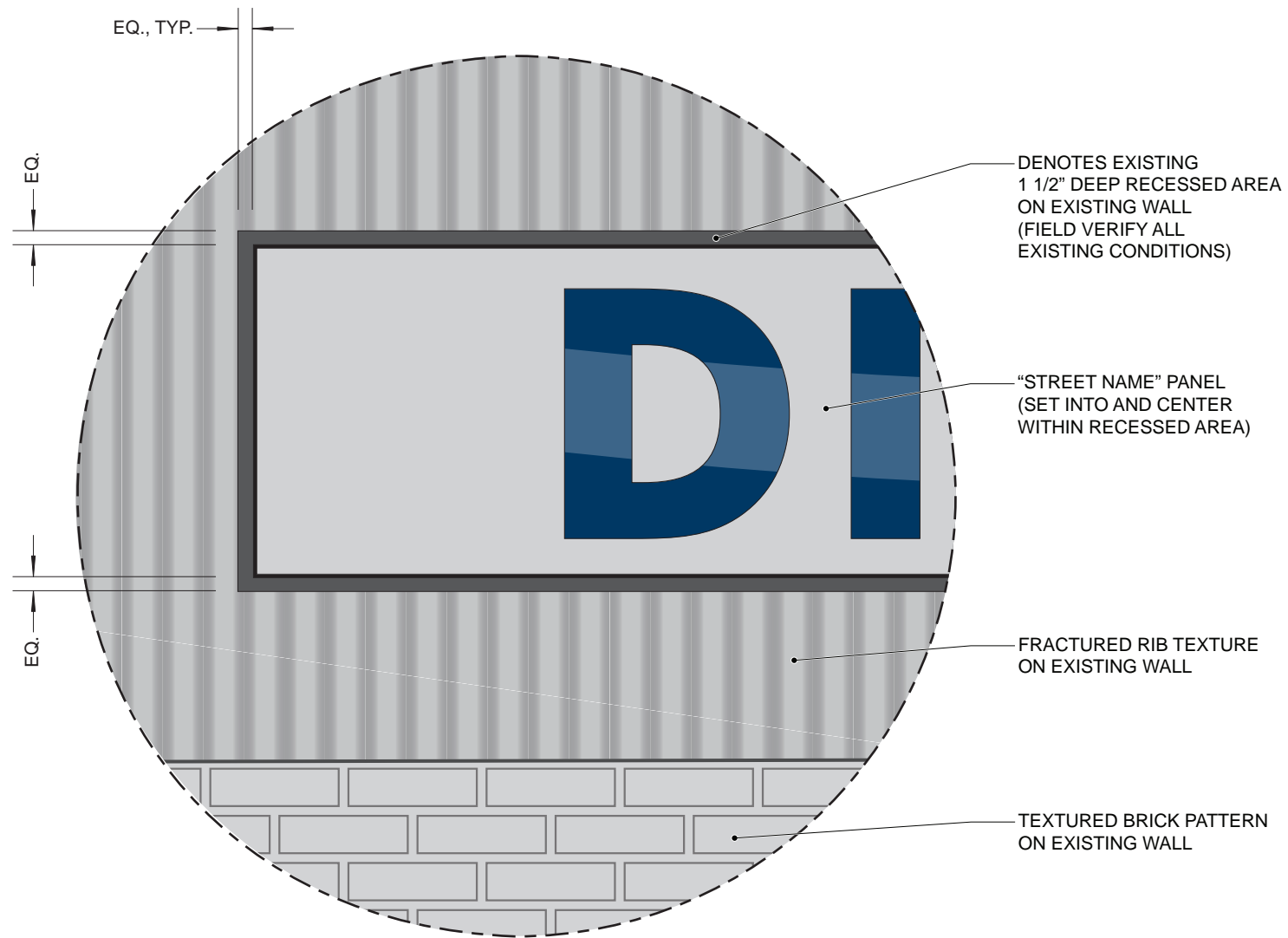
SCALE: 1/16" = 1'-0"



SOUTH ELEVATION | RETAINING WALL 1012 (SOUTH WALL)

SCALE: 1/16" = 1'-0"

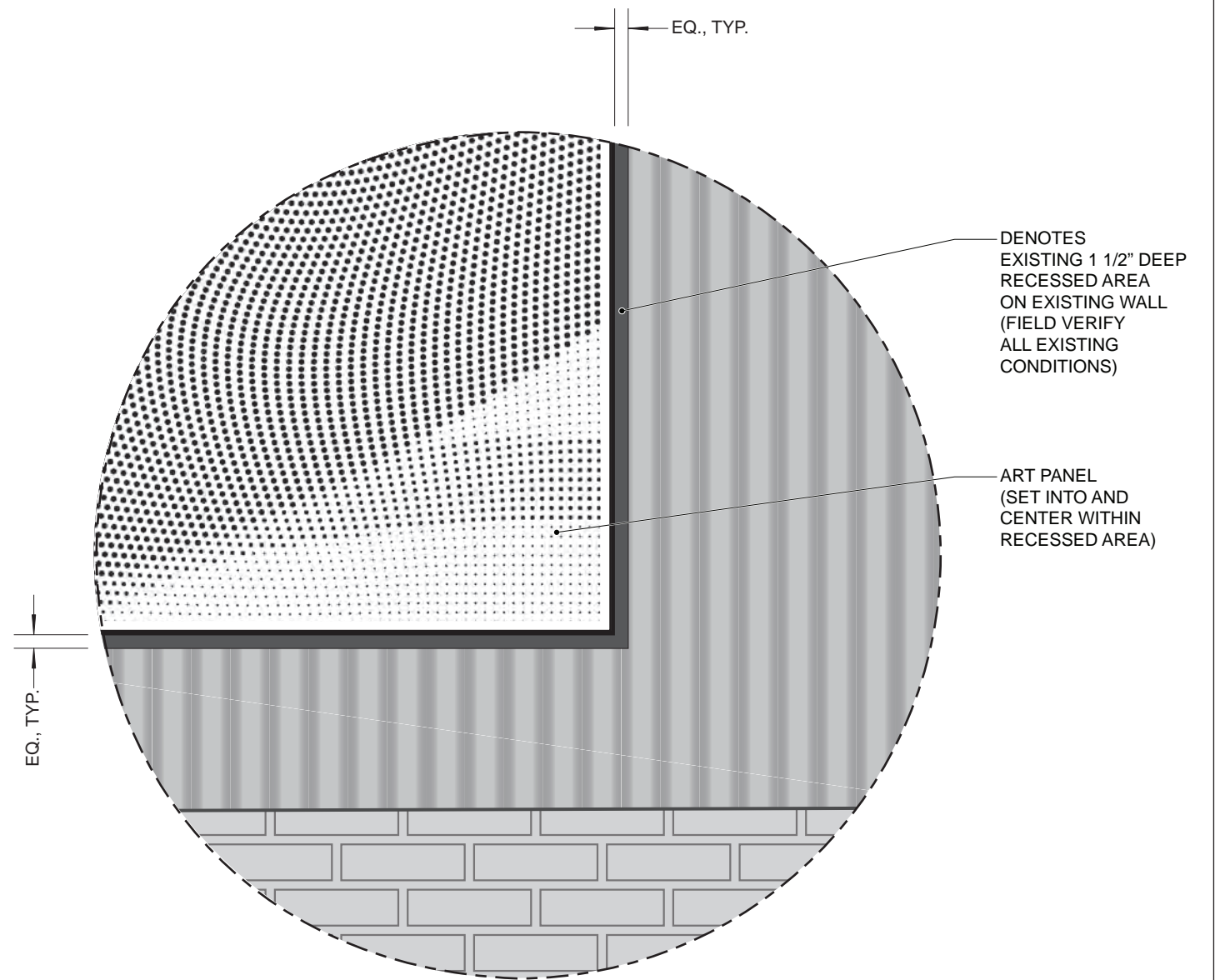




SITE ELEVATION
DETAIL VIEW

SCALE: 1" = 1'-0"

I

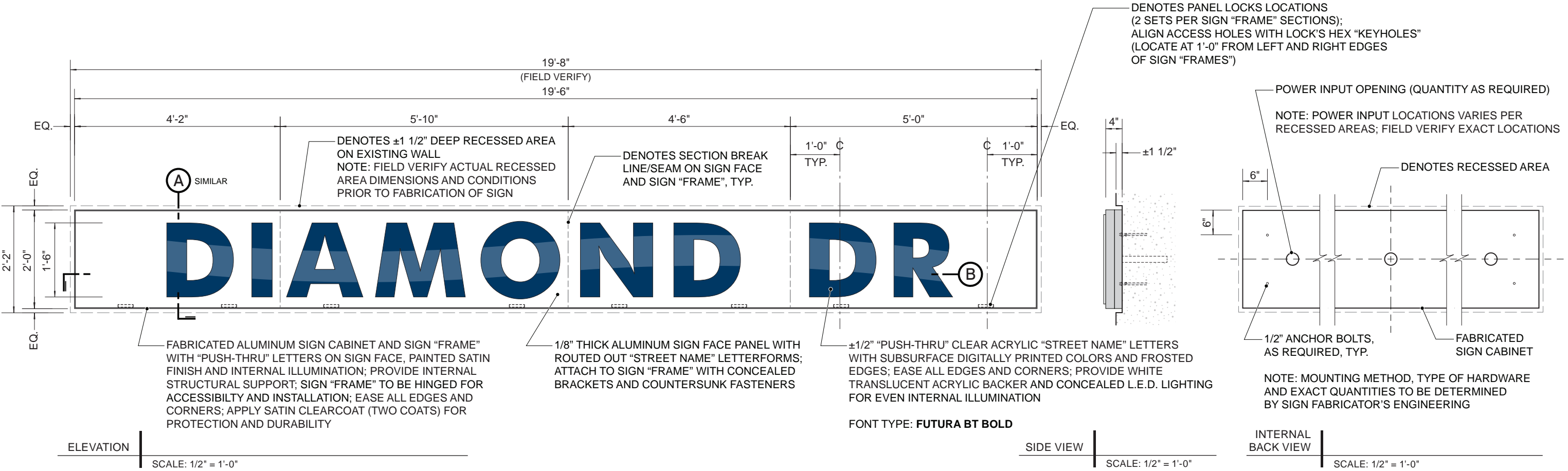
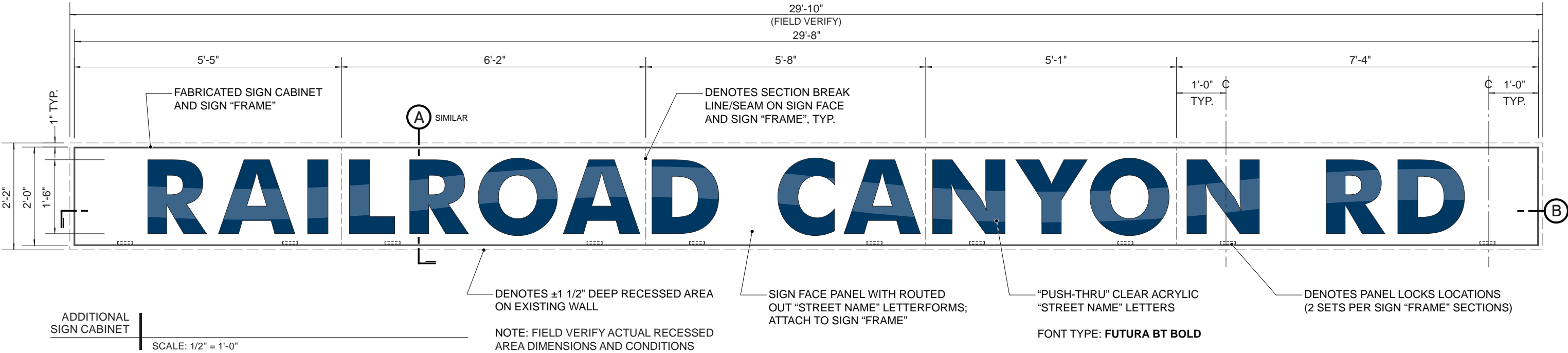


SITE ELEVATION
DETAIL VIEW

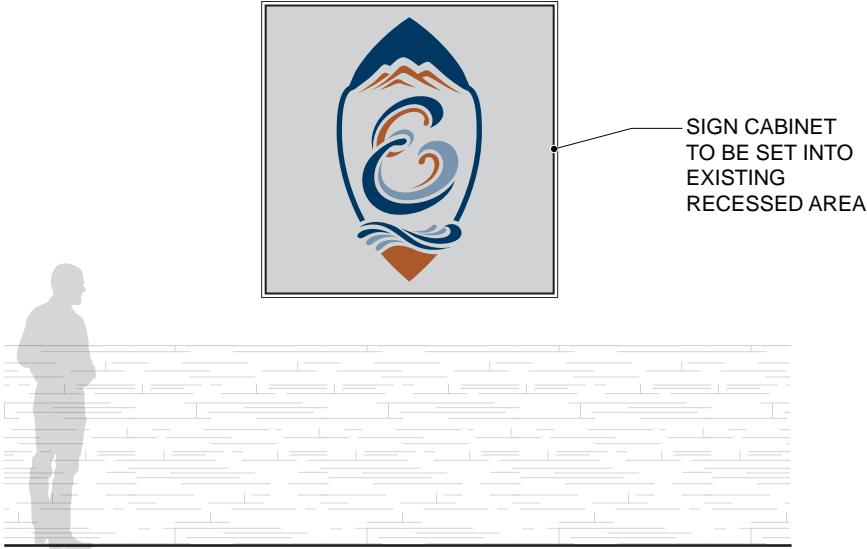
SCALE: 1" = 1'-0"

II

STREET NAME PANEL

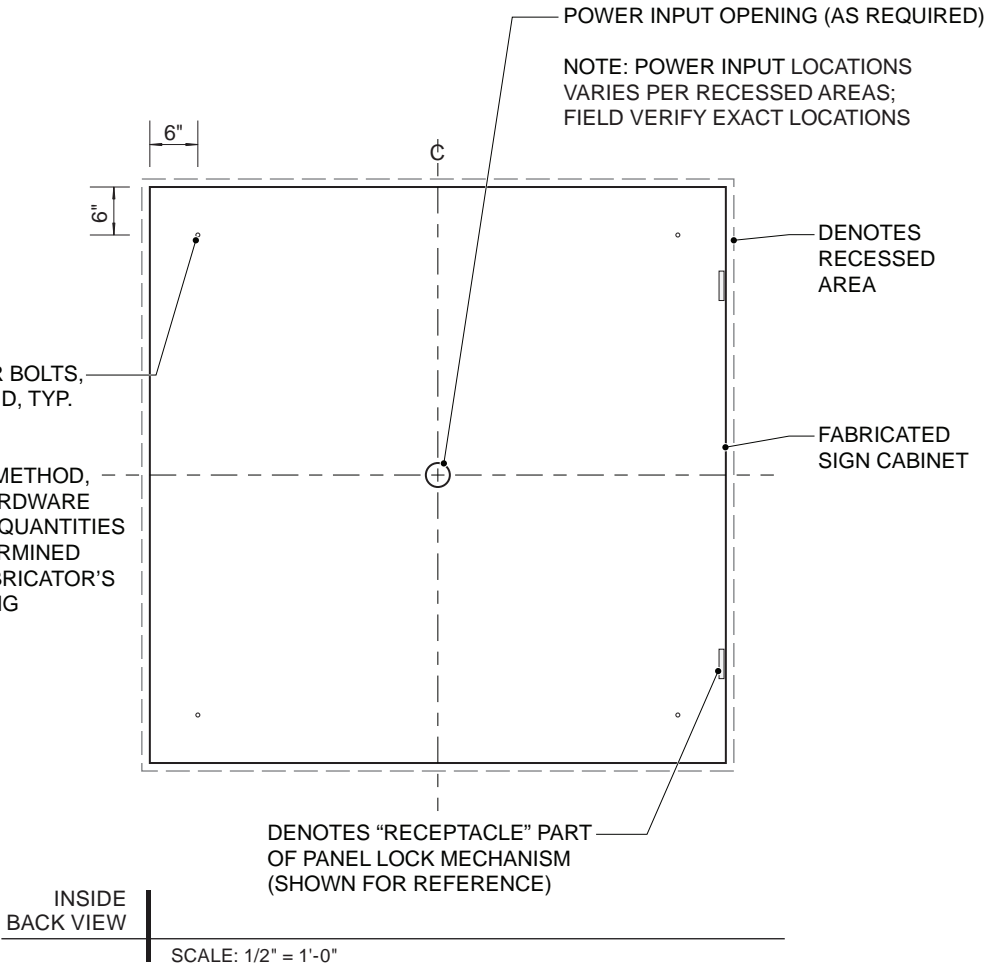
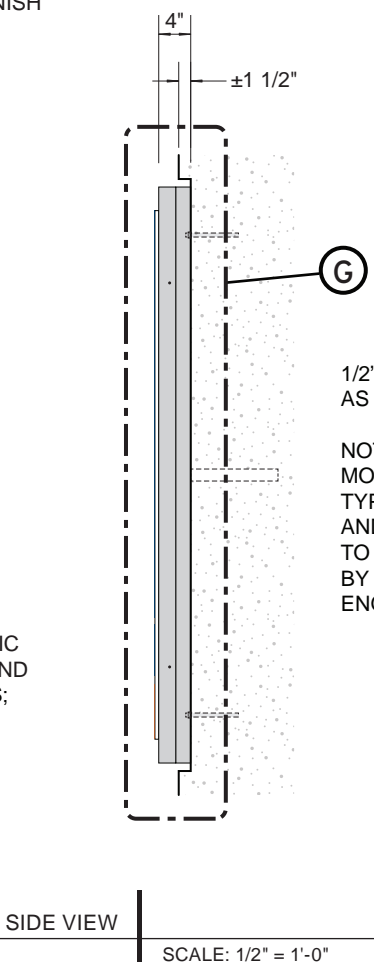
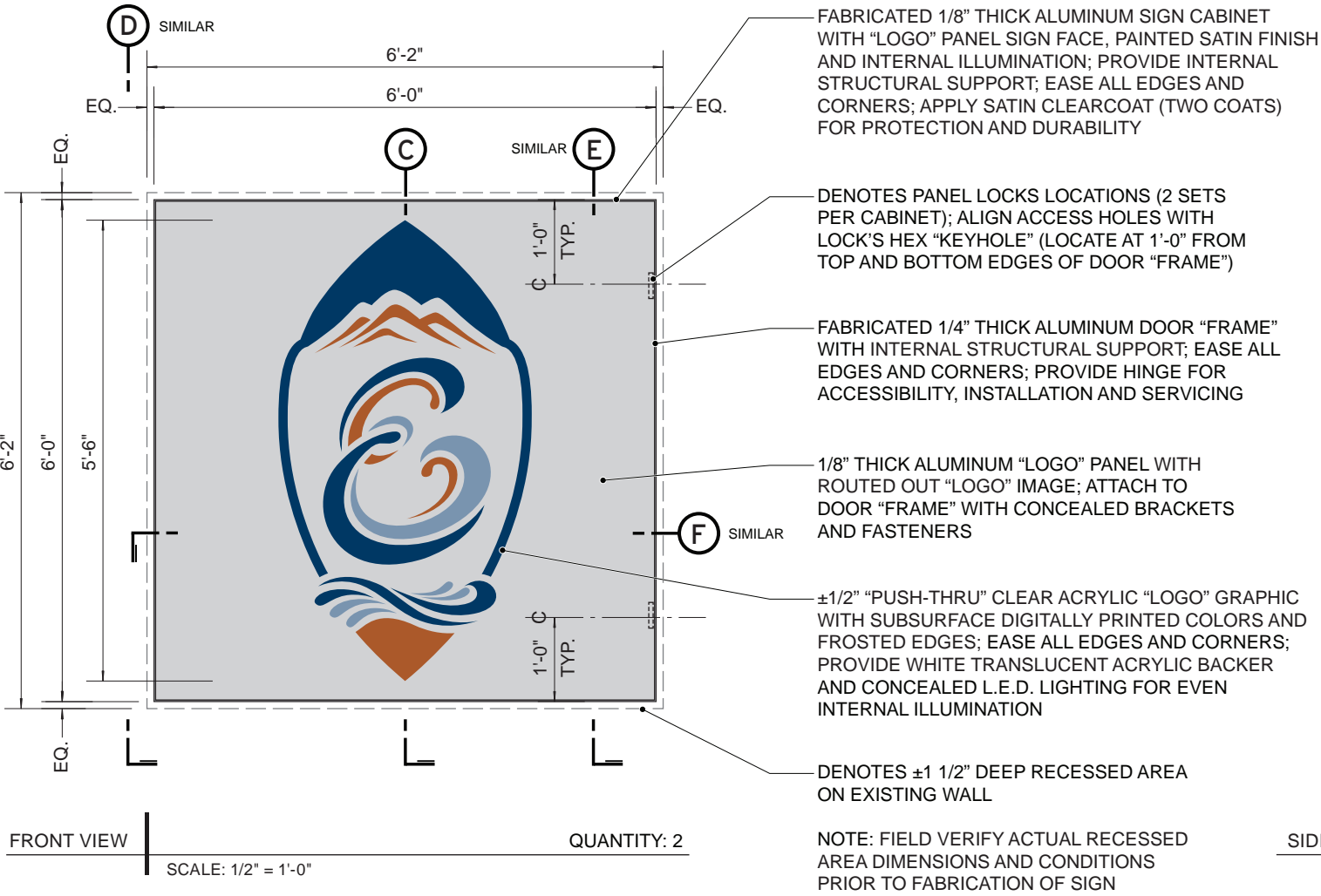


LOGO PANEL

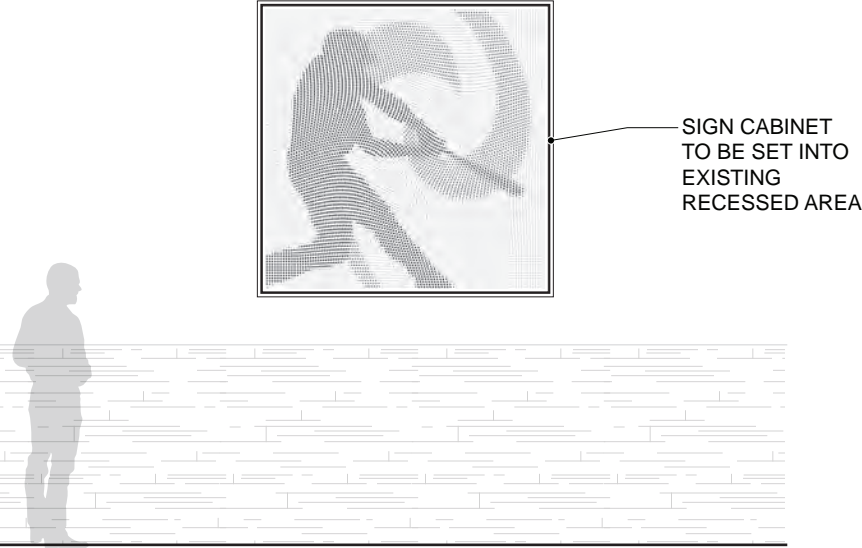


LOCATION
ELEVATION

SCALE: 1/4" = 1'-0"

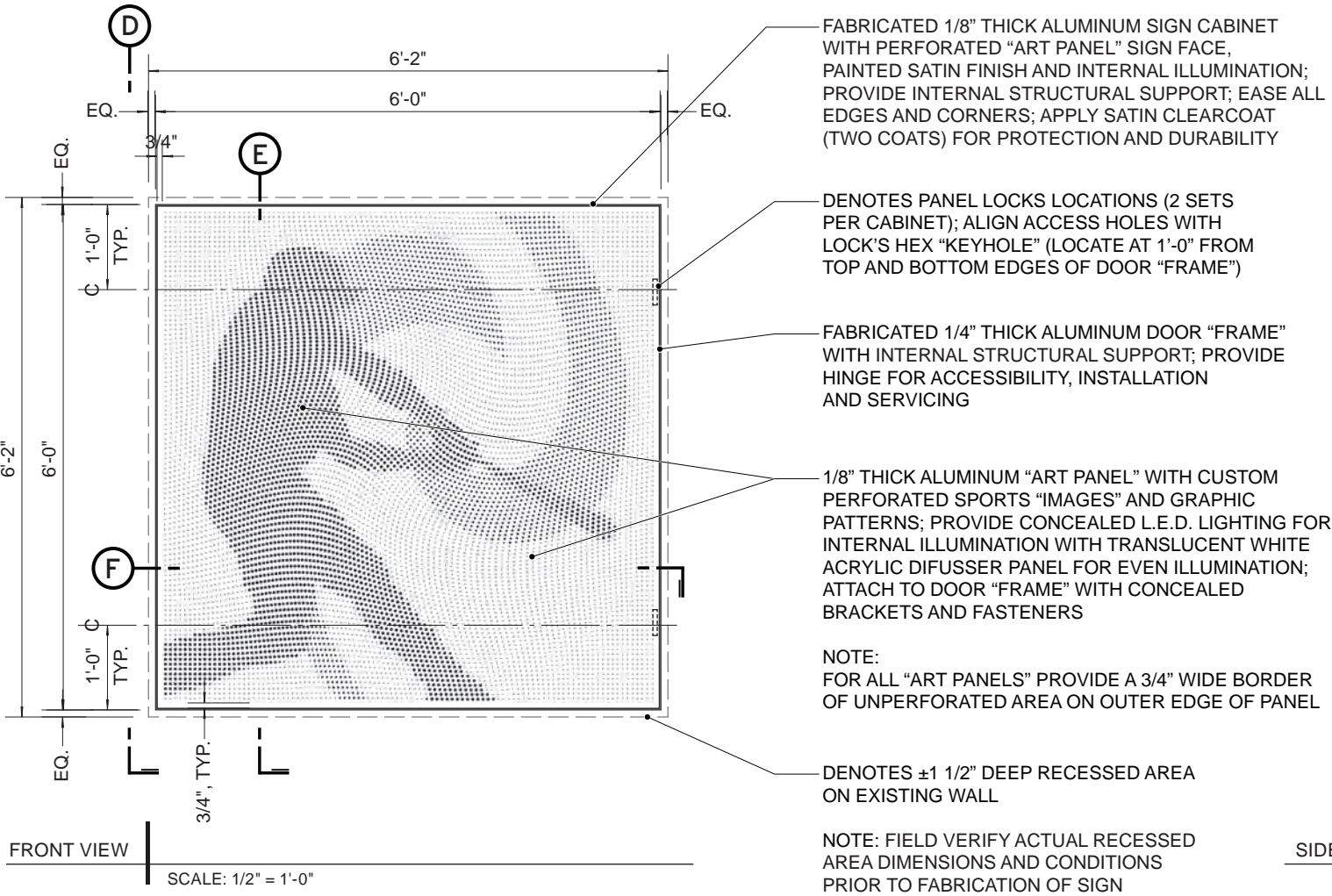


ART PANEL



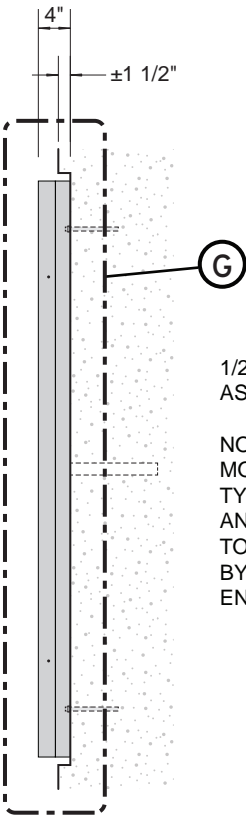
LOCATION
ELEVATION

SCALE: 1/4" = 1'-0"



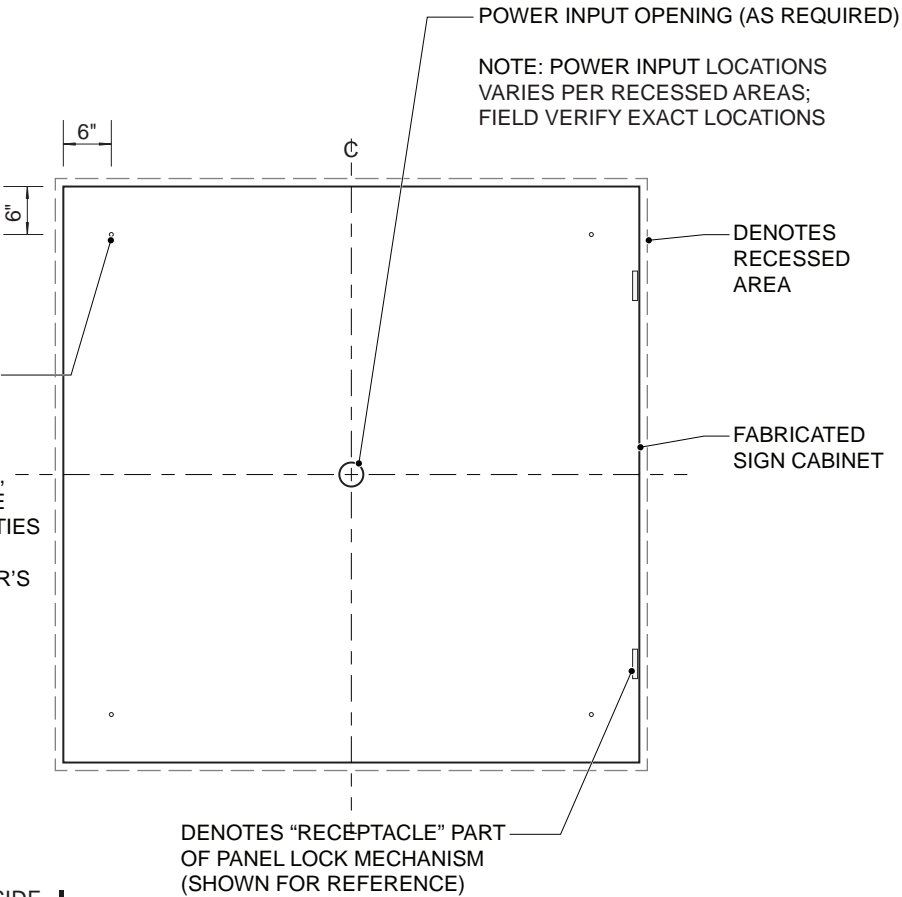
FRONT VIEW

SCALE: 1/2" = 1'-0"



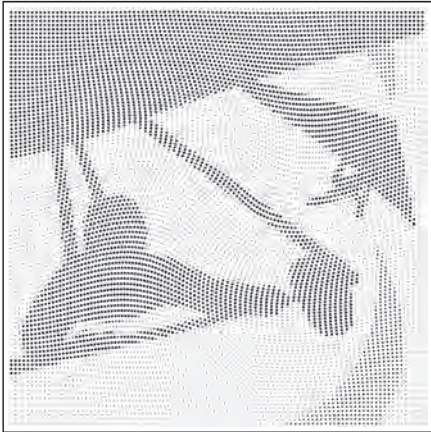
SIDE VIEW

SCALE: 1/2" = 1'-0"



INSIDE
BACK VIEW

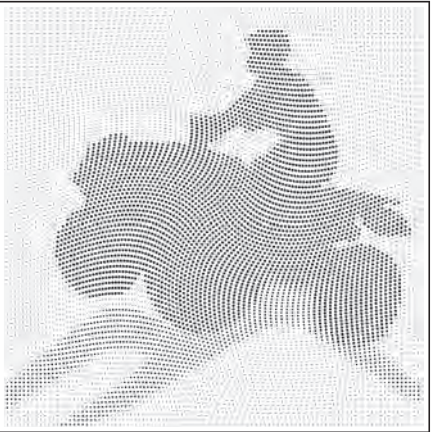
SCALE: 1/2" = 1'-0"



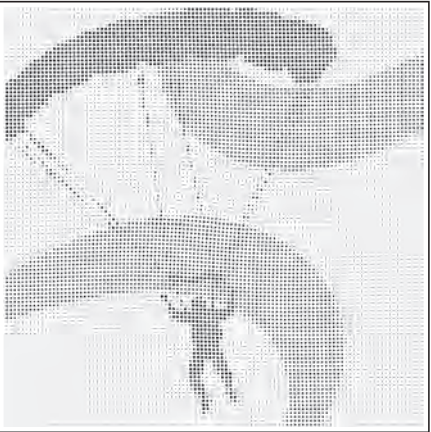
A - HANG GLIDING



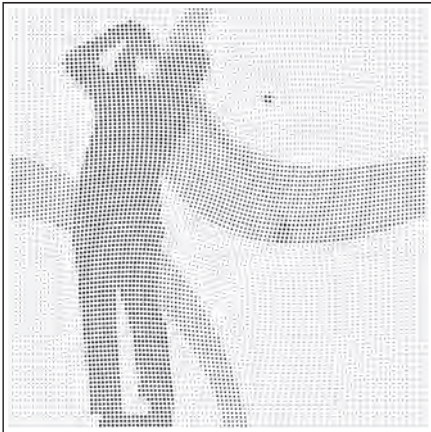
B - VOLLEYBALL



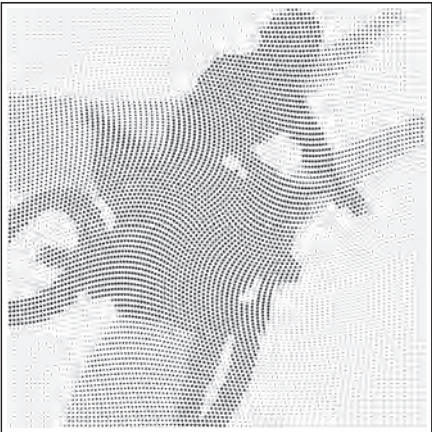
C - ATV



E - SKYDIVING



F - GOLF



G - MOTOCROSS



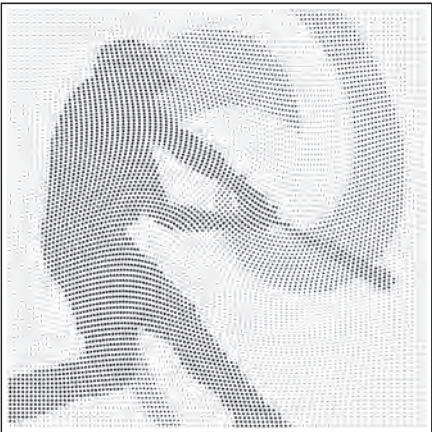
H - FISHING



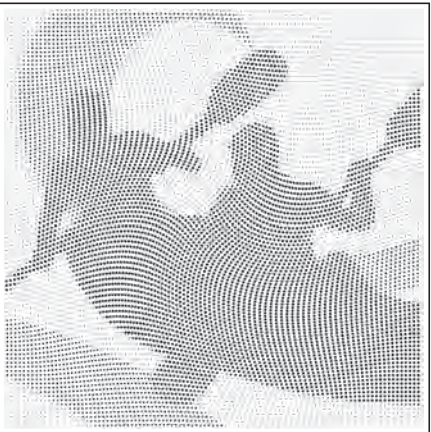
I - BOWLING



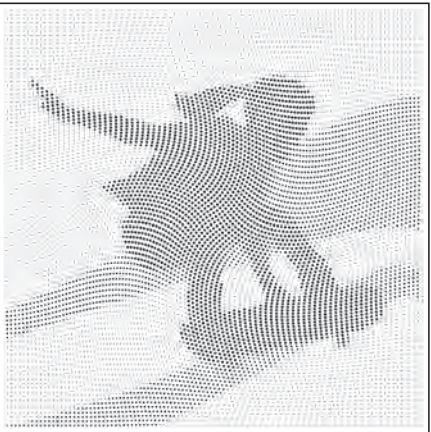
J - JET SKI



K - BASEBALL



L - KAYAKING



M - SKATEBOARDING



D - LE LOGO

QUANTITY: 2

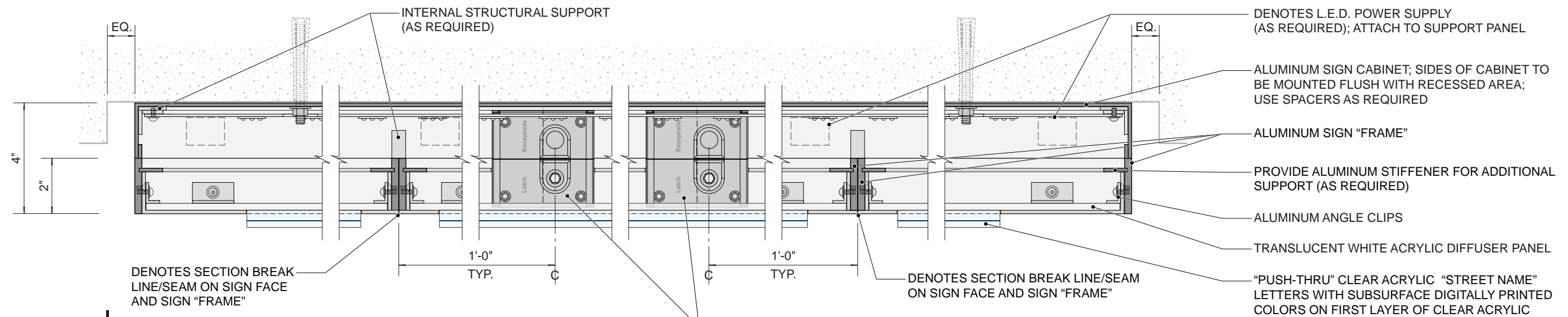
ART PANEL
LAYOUTS

SCALE: 3/8" = 1'-0"

SIGNAGE DETAILS & LIGHTING INFORMATION

Chapter 3

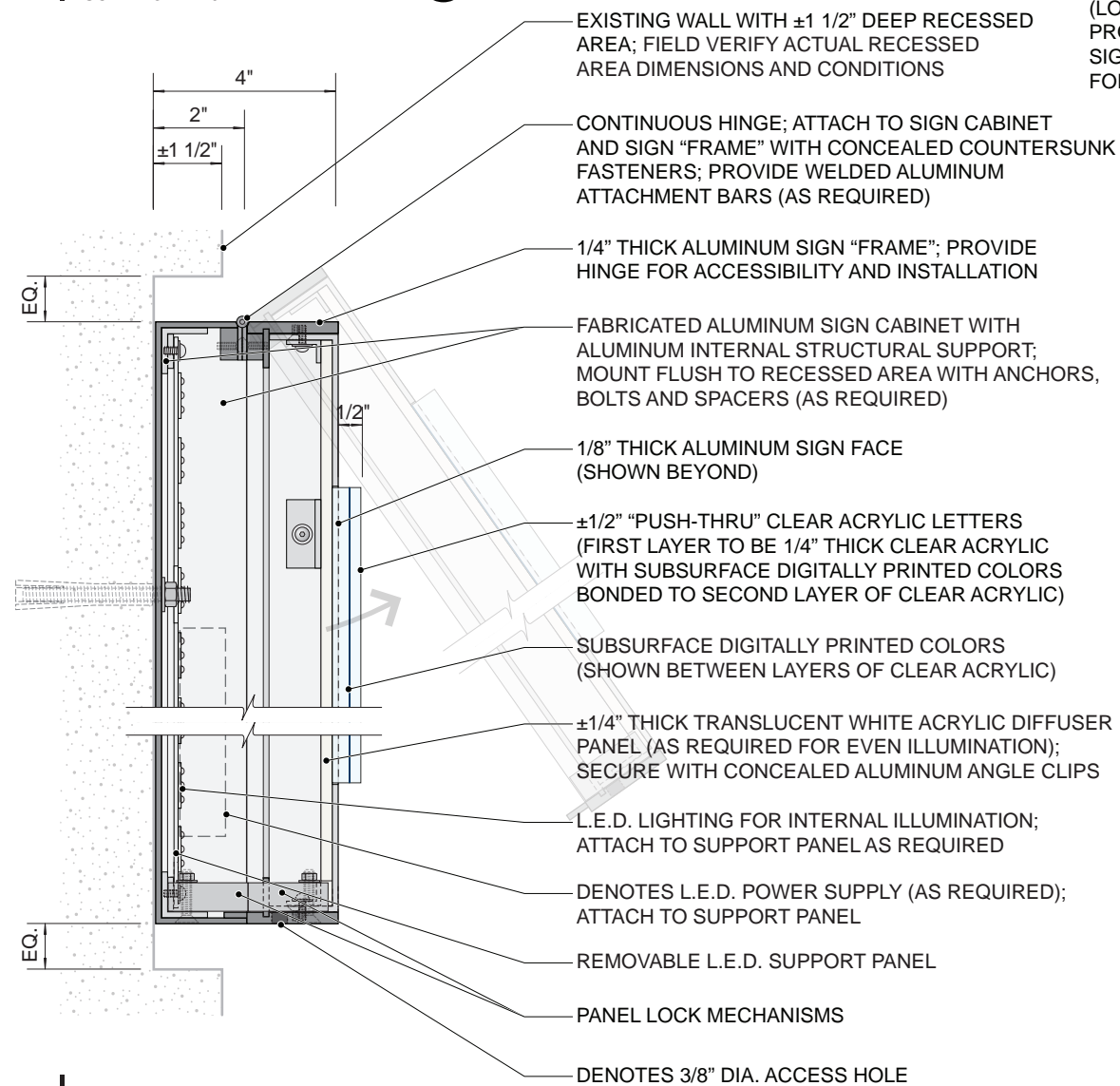
DETAILS



DETAIL

SCALE: 3" = 1'-0"

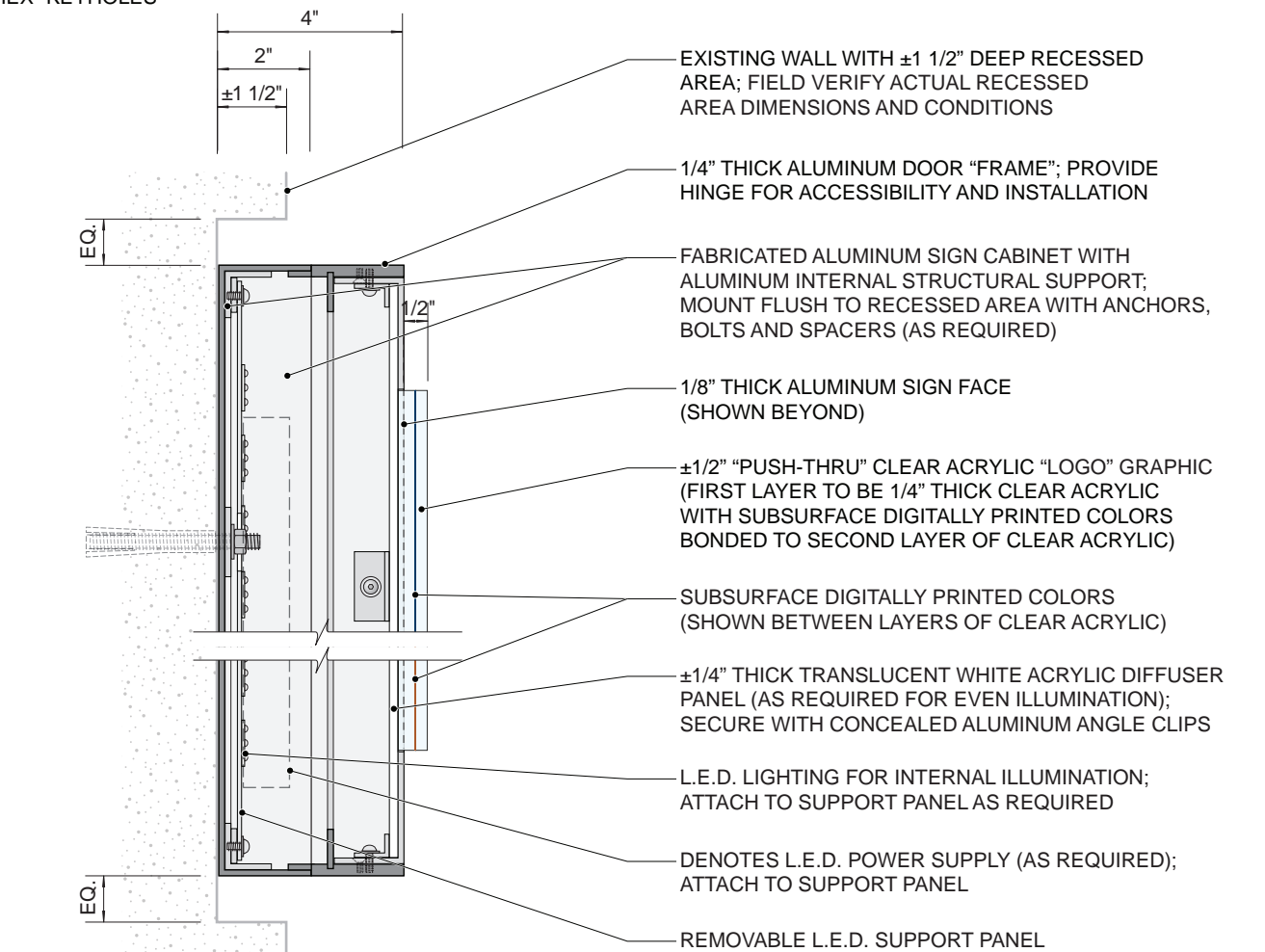
B



DETAIL

SCALE: 3" = 1'-0"

A

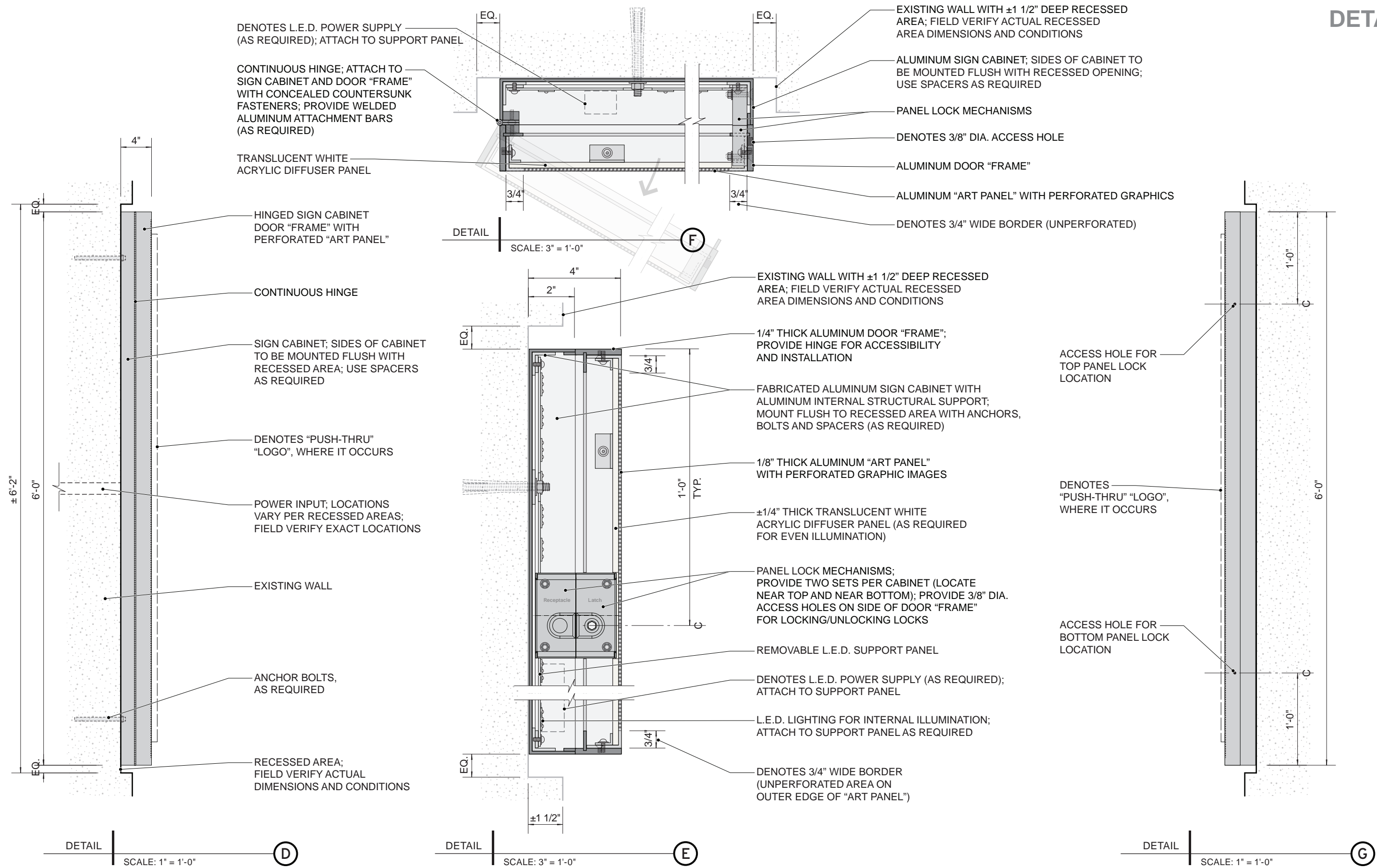


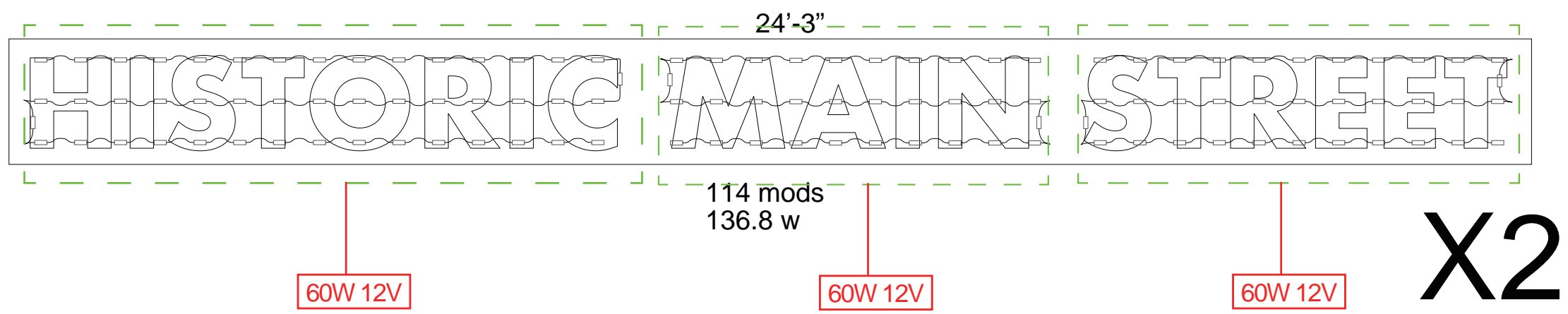
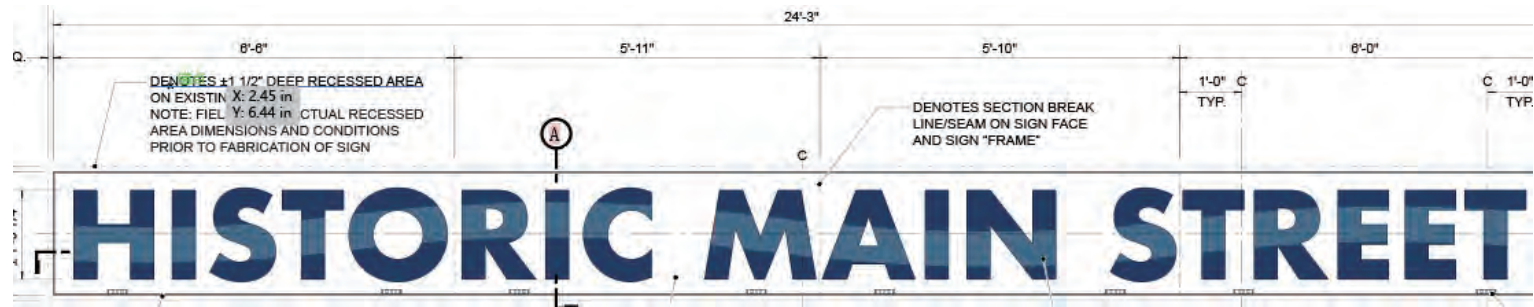
DETAIL

SCALE: 3" = 1'-0"

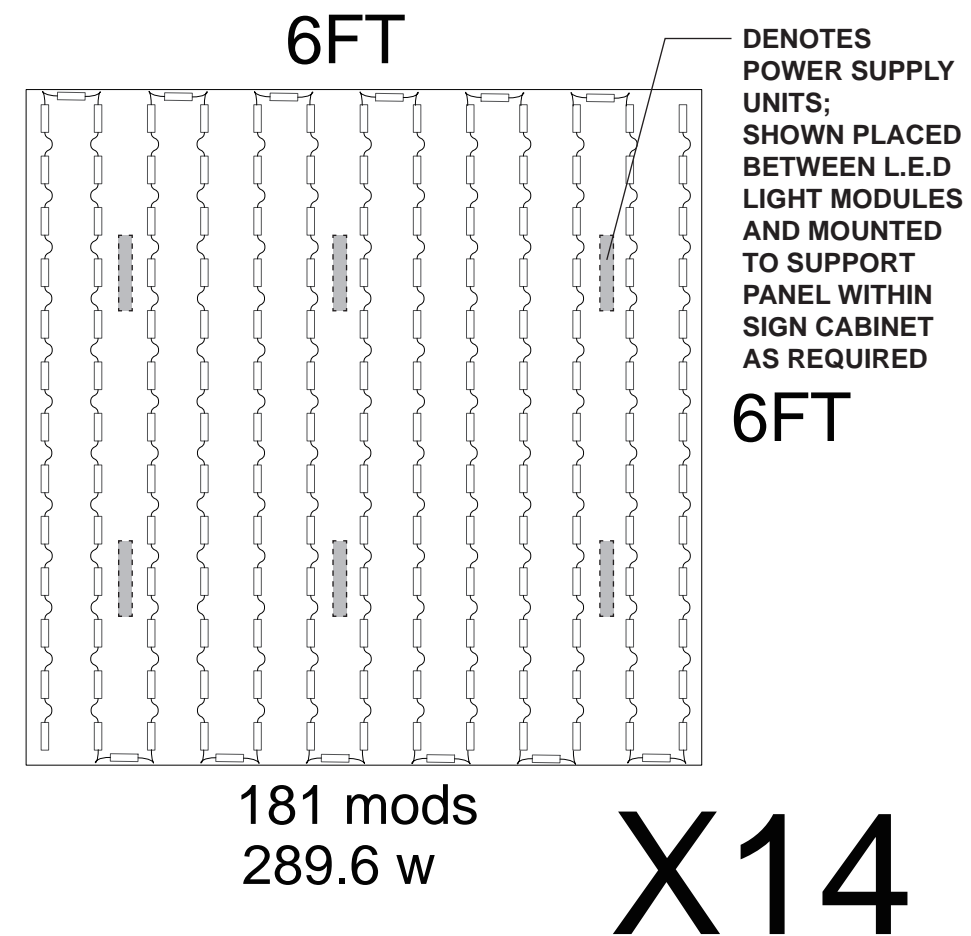
C

DETAILS





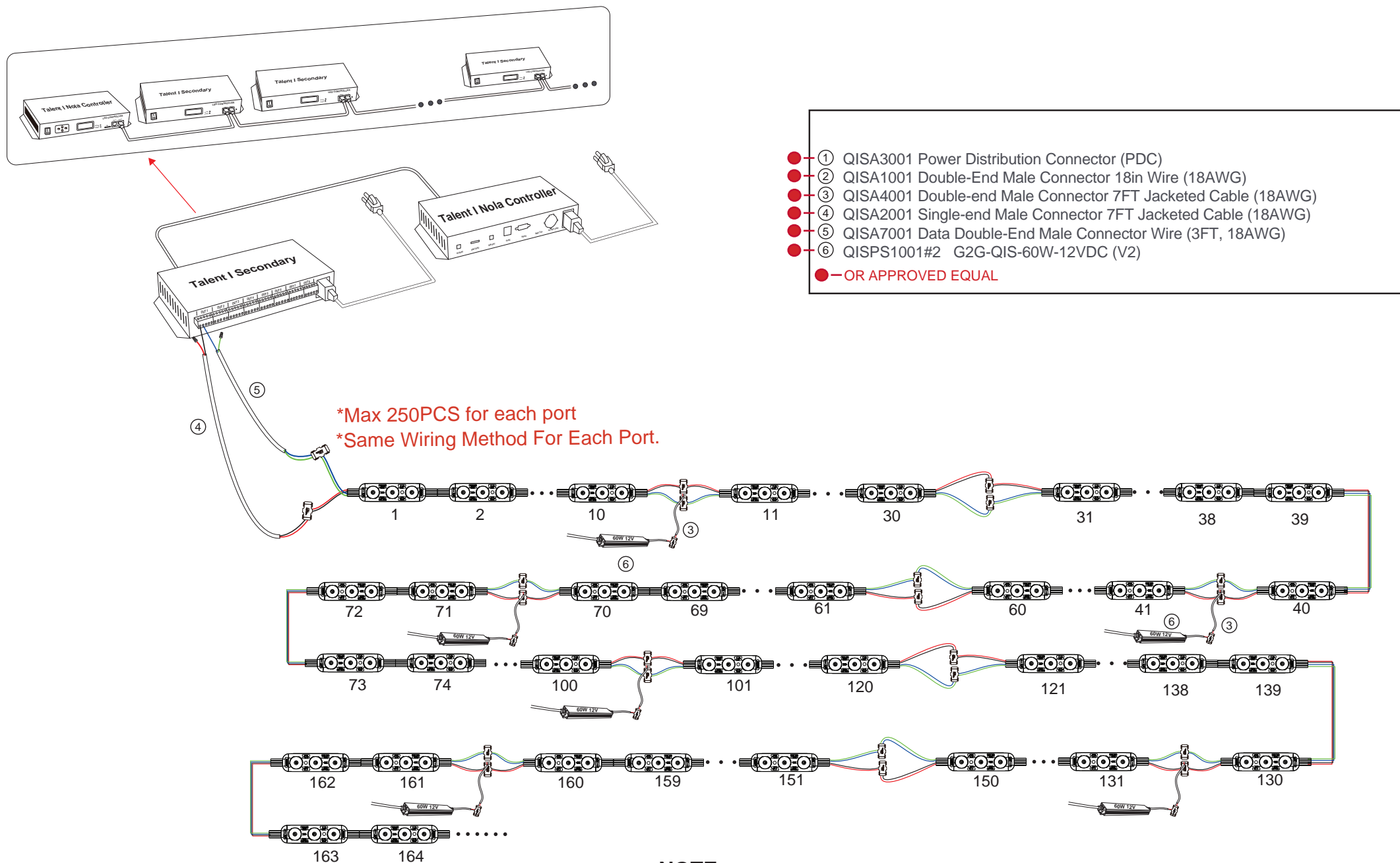
SELECTION CRITERIA		LED Modules	
Code	QISM2003		<p>ATTENTION: QUANTITIES SHOWN BELOW ARE QUANTITIES NEEDED FOR THE JOB. THIS NUMBER MAY NOT REFLECT QUANTITIES SOLD PER PACKAGE. ALL PRODUCTS MUST BE SOLD BY PACKAGE QUANTITIES. (exception : If job is being cut and sealed by G2G the quote will reflect quantities being used)</p> <p>QISA1001 Double-End Male Connector 18in Wire (18AWG): 6PCS QISA4001 Double-end Male Connector 7FT Jacketed Cable (18AWG): 6PCS QISPS1001#2 G2G-QIS-60W-12VDC (V2): 6PCS</p>
Modules Type	ANPRO 180 White 7500k		
Total Quantity	228 [PCS]		
Total Power Consumption	273.6 [Watts]		
Power Supplies 60w 12v	6 [PCS]		
MOUNTING BRACKETS	[PCS]		



SELECTION CRITERIA		LED Modules	
Code	QISM5004	<input type="checkbox"/> Trico RGB (SPI)	<div>ATTENTION: QUANTITIES SHOWN BELOW ARE QUANTITIES NEEDED FOR THE JOB. THIS NUMBER MAY NOT REFLECT QUANTITIES SOLD PER PACKAGE. ALL PRODUCTS MUST BE SOLD BY PACKAGE QUANTITIES. (exception : If job is being cut and sealed by G2G the quote will reflect quantities being used)</div> <div>Customized Talent I Nola & Cloud Sender: 1pcs C1021 Talent I Nola Controller Receiver: 1pcs C1004 Talent I Secondary: 2pcs AFA1015 Ethernet network cable: 2pcs QISA4001 Double-end Male Connector 7FT Jacketed Cable (18AWG): 84PCS QISA2001 Single-end Male Connector 7FT Jacketed Cable (18AWG): 14PCS QISPS1001#2 G2G-QIS-60W-12VDC (V2): 84PCS</div>
Modules Type	Trico 2 RGBW	<input type="checkbox"/> Trico RGB (DMX)	
Total Quantity	2534 [PCS]	<input type="checkbox"/> Trico RGBW (DMX)	
Total Power Consumption	4054.4 [Watts]	<input type="checkbox"/> Trico L (DMX)	
Power Supplies 60w 12v	84 [PCS]	<input checked="" type="checkbox"/> Trico 2 RGBW(DMX)	
MOUNTING BRACKETS	[PCS]		

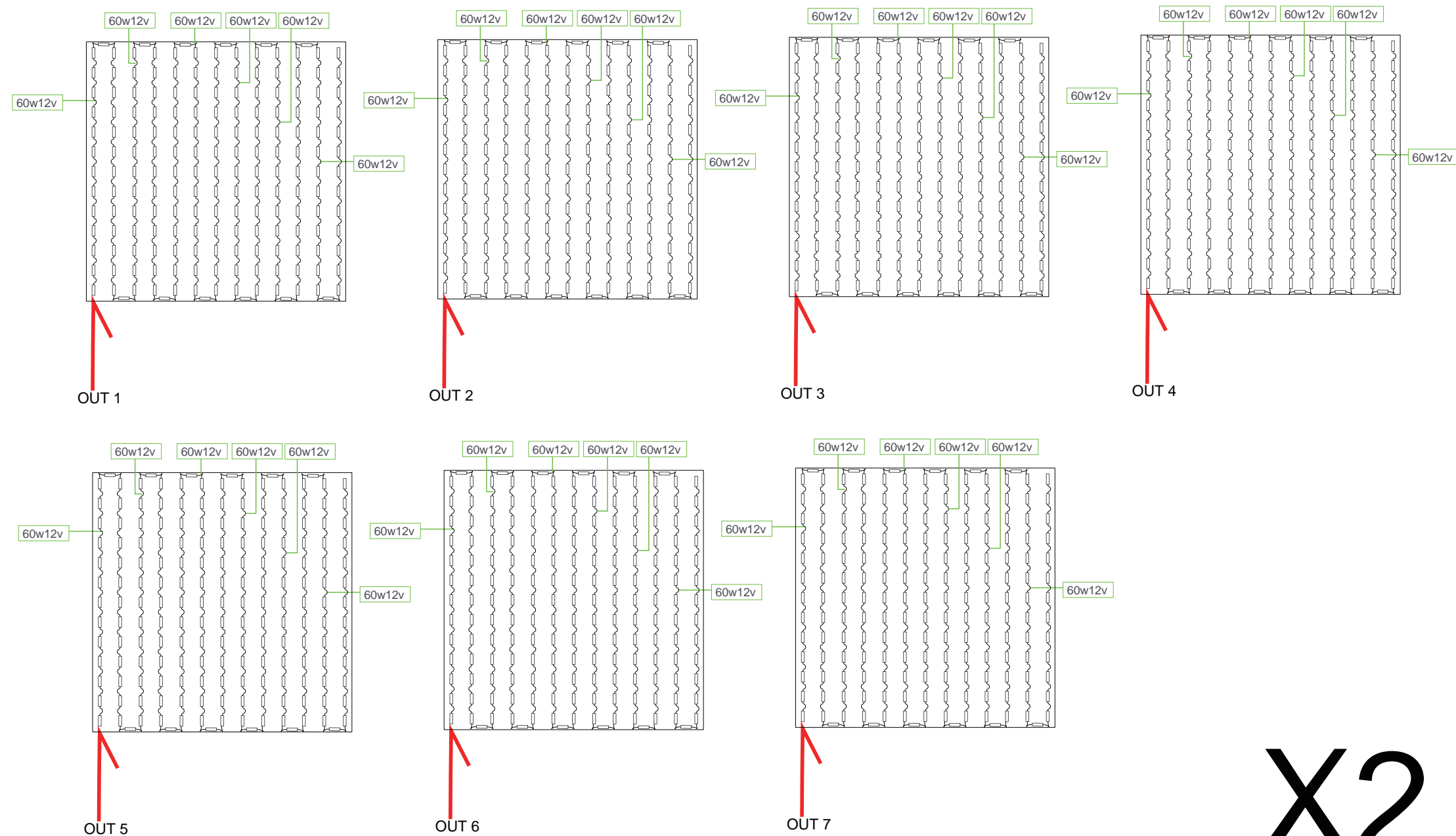
NOTE:
QUANTITIES INDICATE REQUIREMENTS
FOR MAIN STREET LOCATION.

Trico 2 DMX - Talent I Wiring Diagram Overview



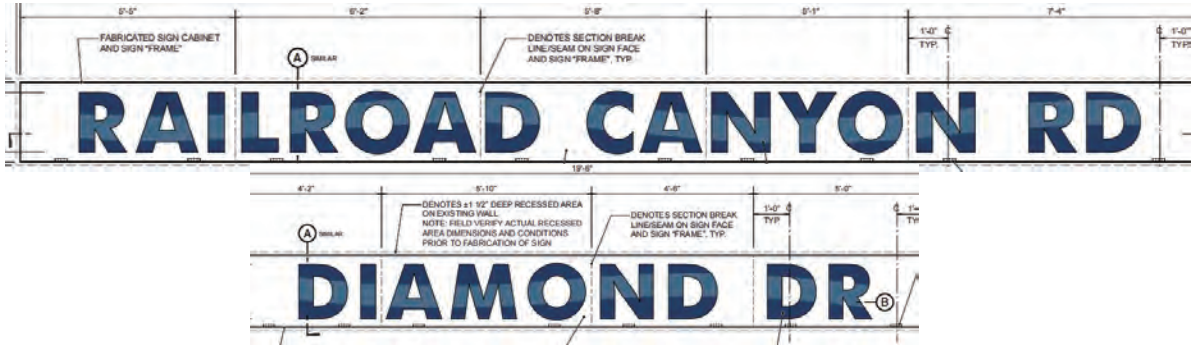
☒ Daisy Chain

Detailed Wiring Diagram

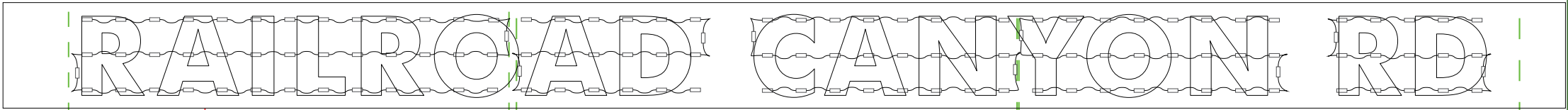


X2

NOTE:
WIRING DIAGRAMS ARE TYPICAL FOR ART PANEL CABINETS.
REFER TO SHEET 3.0 FOR ART PANEL QUANTITIES/LOCATIONS.



29'-8"

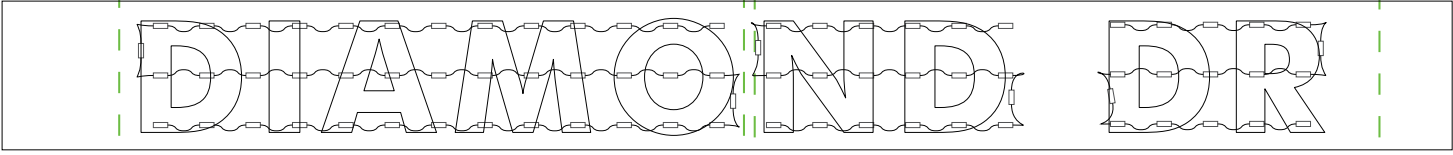


60W 12V

60W 12V

60W 12V

19'-6"

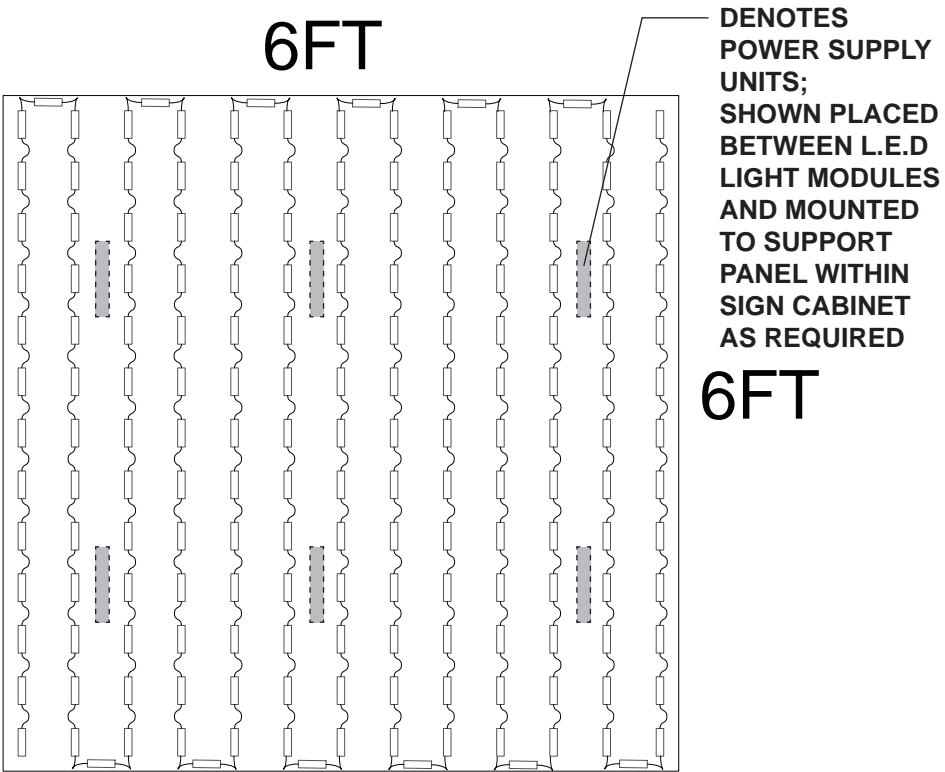
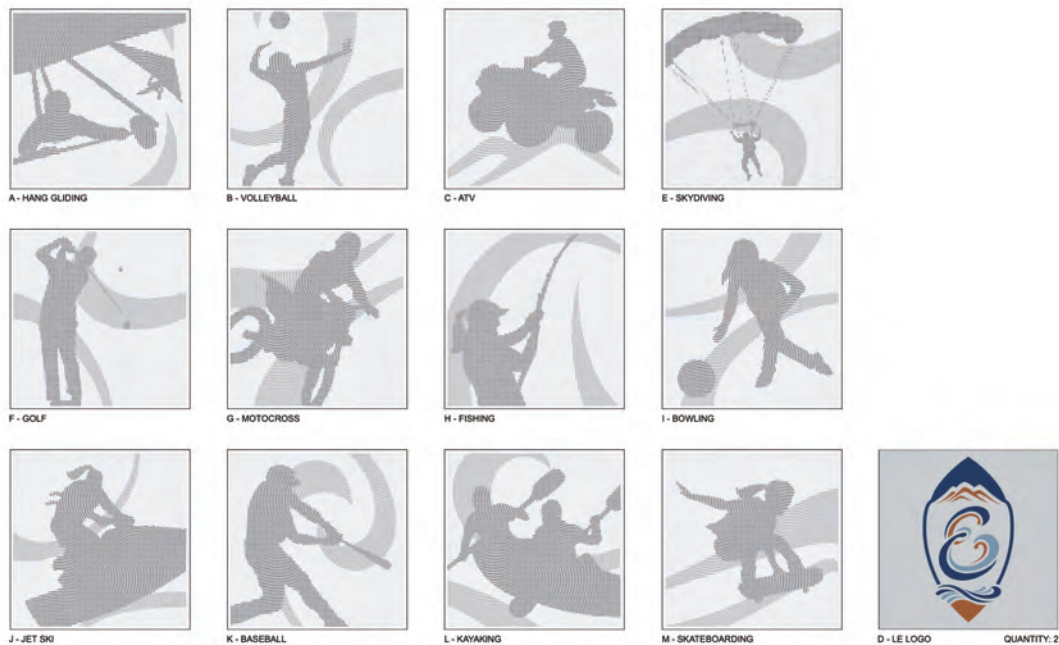


78 mods
93.6 w

60W 12V

60W 12V

SELECTION CRITERIA		LED Modules	<p>ATTENTION: QUANTITIES SHOWN BELOW ARE QUANTITIES NEEDED FOR THE JOB. THIS NUMBER MAY NOT REFLECT QUANTITIES SOLD PER PACKAGE. ALL PRODUCTS MUST BE SOLD BY PACKAGE QUANTITIES. (exception : If job is being cut and sealed by G2G the quote will reflect quantities being used)</p> <p>QISA1001 Double-End Male Connector 18in Wire (18AWG): 8PCS QISA4001 Double-end Male Connector 7FT Jacketed Cable (18AWG): 8PCS QISPS1001#2 G2G-QIS-60W-12VDC (V2): 5PCS</p>
Code	QISM2003		
Modules Type	ANPRO 180 White 7500k		
Total Quantity	208 [PCS]		
Total Power Consumption	249.6 [Watts]		
Power Supplies 60w 12v	5 [PCS]		
MOUNTING BRACKETS	[PCS]		

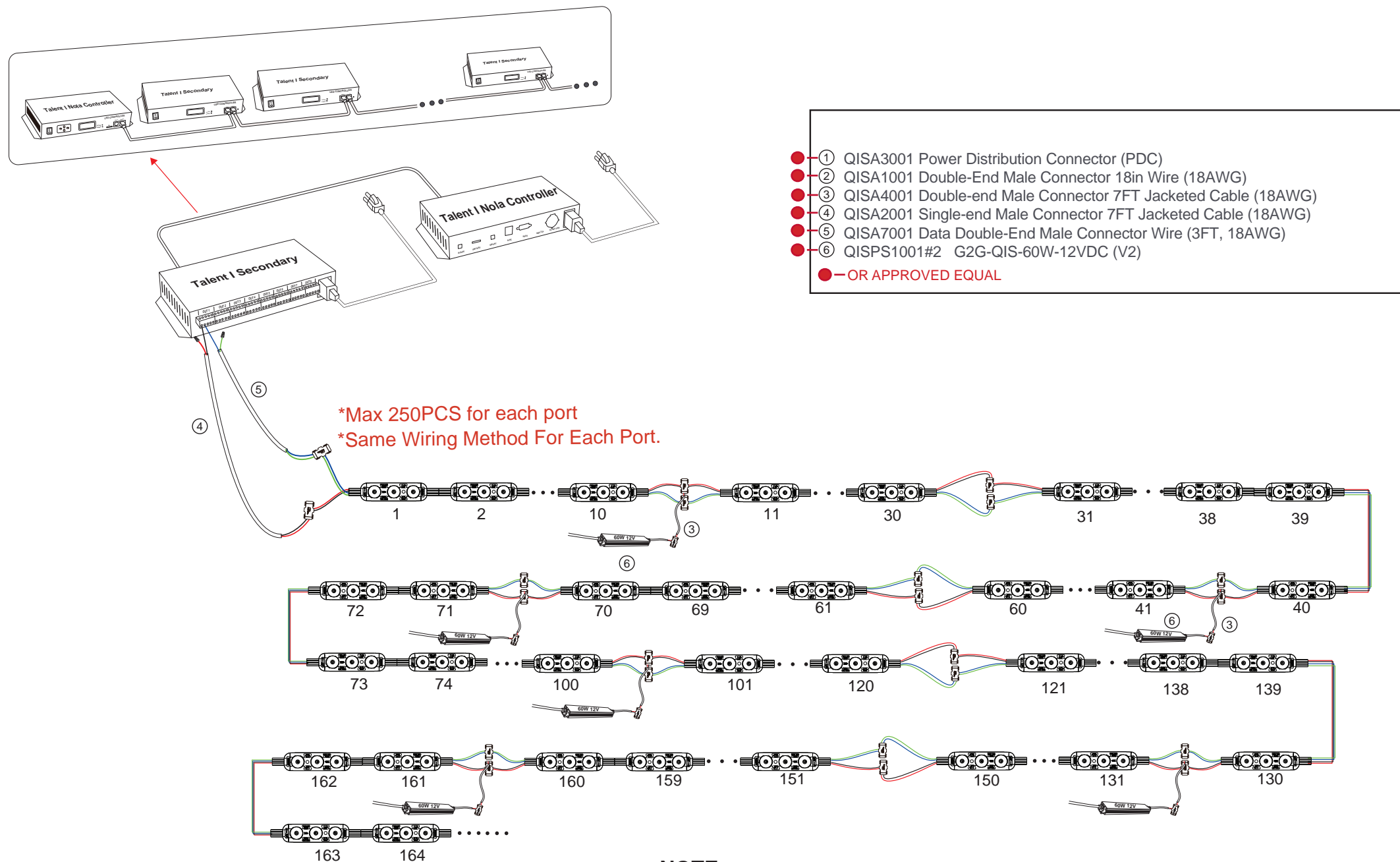


181 mods
289.6 w X14

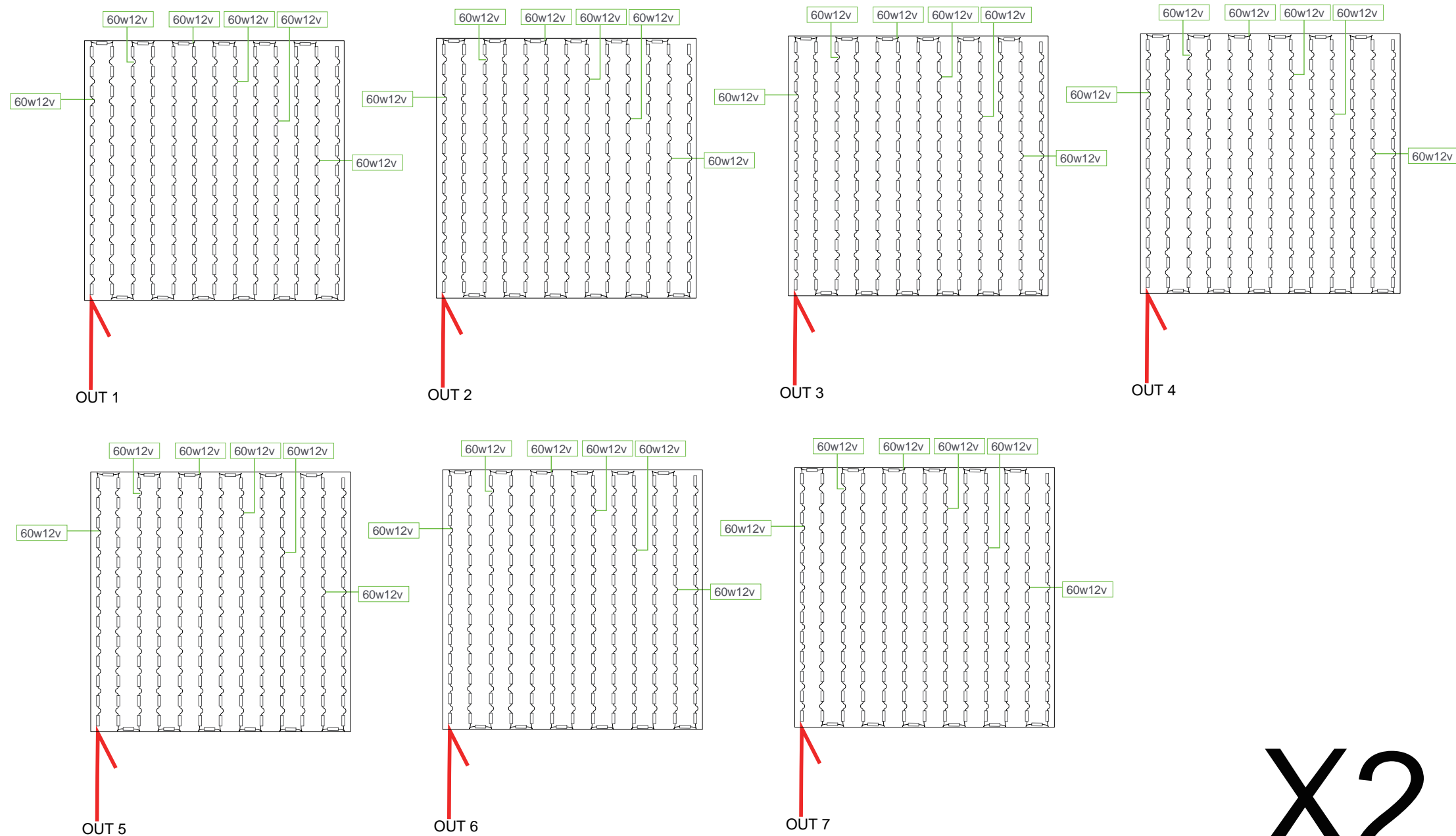
SELECTION CRITERIA		LED Modules	
Code	QISM5004	<input type="checkbox"/> Trico RGB (SPI)	<div>ATTENTION: QUANTITIES SHOWN BELOW ARE QUANTITIES NEEDED FOR THE JOB. THIS NUMBER MAY NOT REFLECT QUANTITIES SOLD PER PACKAGE. ALL PRODUCTS MUST BE SOLD BY PACKAGE QUANTITIES. (exception : If job is being cut and sealed by G2G the quote will reflect quantities being used)</div> <div>Customized Talent I Nola & Cloud Sender: 1pcs C1021Talent I Nola Controller Receiver: 1pcs C1004 Talent I Secondary: 2pcs AFA1015 Ethernet network cable: 2pcs QISA4001 Double-end Male Connector 7FT Jacketed Cable (18AWG): 84PCS QISA2001 Single-end Male Connector 7FT Jacketed Cable (18AWG): 14PCS QISPS1001#2 G2G-QIS-60W-12VDC (V2): 84PCS</div>
Modules Type	Trico 2 RGBW	<input type="checkbox"/> Trico RGB (DMX)	
Total Quantity	2534 [PCS]	<input type="checkbox"/> Trico RGBW (DMX)	
Total Power Consumption	4054.4 [Watts]	<input type="checkbox"/> Trico L (DMX)	
Power Supplies 60w 12v	84 [PCS]	<input checked="" type="checkbox"/> Trico 2 RGBW(DMX)	
MOUNTING BRACKETS	[PCS]		

NOTE:
QUANTITIES INDICATE REQUIREMENTS
FOR RAILROAD CANYON/DIAMOND LOCATION.

Trico 2 DMX - Talent I Wiring Diagram Overview



 **Daisy Chain**
Detailed Wiring Diagram



NOTE:
WIRING DIAGRAMS ARE TYPICAL FOR ART PANEL CABINETS.
REFER TO SHEET 11.0 FOR ART PANEL QUANTITIES/LOCATIONS.

GENERAL SPECIFICATIONS

Chapter 4

GENERAL SPECIFICATIONS

SECTION 101400
EXTERIOR SIGNAGE

2.

Pattern definition: Full size exact outline on white paper of each letter, word, character, or form. Include outline of sign panel. Make outlines dark enough for long distance viewing.
3.

These patterns, once accepted, will become the patterns or templates for shop fabrication. Retain all original annotated patterns reviewed during pattern submittal process. Retain final approved/stamped pattern for use and review at installation.
4.

HDA to provide digital files in Adobe illustrator 2022 Encapsulated Postscript (.eps) format for sign contractor to use in producing patterns.
- D.

Colors and Material Samples

1.

Submit samples for review and approval. Identify each sample with the sign type number to which the sample applies.

a.

Three (3) paint samples, 6" x 6", on actual specified materials to match color, texture and finish.

b.

Three (3) each type exposed metal used for major elements of work with respective finish.

c.

Three (3) each type plastic (acrylic, FRP, epoxy, Plastisol, polycarbonate, PVC, and Sintra) used for major elements of work with respective finish.

d.

Three (3) each type adhesive plastic film, including die-cut designs.

e.

Three (3) decorative hardware, including bolt heads, nail heads, screw heads, rivets and similar exposed items.

f.

Three (3) of all other items as may be required by City or as indicated on Drawings

E.

Compile and maintain a listing of all paint colors with the factory batch number and formulation code for all paints and coatings. For custom semi-opaque and/or "wash" type finishes, provide specific mix "reduced" formulations. Submit the list to the City for future maintenance reference.

a.

Three (3) copies of Manufacturer's Certificates of Material Standards to meet all Code and Ordinance Requirements.

F.

Artwork:

1.

Sign Contractor to provide all final artwork, including films, typesetting, and variations in art with graphic images, all city and state required forms of artwork based on electronic art files provided by Design Team.

1.3 **MOCK-UPS**

A.

Mock-Ups: mock-ups shall be prepared by the Contractor as specified in these Specifications to test scale, color, appearance, legibility and/or aesthetic aspects of sign elements and are to be made of materials that simulate final construction materials and finishes. Contractor to provide portion samples of "Street Name" panel, "Logo" panel, and "Art" panel. Samples to include illumination for viewing. Actual portions to be determined by design team prior to fabrication.

1.4 **QUALITY ASSURANCE**

A.

Design Criteria

1.

Structural design: Details on drawings indicate a design approach for sign structure but do not necessarily include all fabrication details required for the complete structural integrity of the signs, including consideration for static, dynamic and erection loads during handling, erecting, and service at the installed locations, nor do they necessarily consider the preferred shop practices of the individual sign fabricators. Therefore, it shall be the responsibility of the fabricator to perform the complete structural design of the signs and to incorporate all the safety features necessary to adequately support the sign for its intended use and purpose and to protect the City. Designs, which meet or exceed industry and code standard engineering practices, will be required. The sign fabricator

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PART 1 - GENERAL

1.1 **SCOPE OF WORK**

A.

New signage and graphics elements throughout project as shown and located on the Construction Documents.

B.

The construction documents to bid, fabricate and install signage and graphic elements for this project consist of:

1.

Part 1
Signage Specifications and Drawings:
Specifications and Design Drawings are included in an 11" x 17" bound booklet.

The Specifications state the technical description of minimum quality and performance required of signage and graphic elements.

The Design Drawings show design intent, visual details and typical mounting conditions for signage and graphic elements.

1.2 **SUBMITTALS**

Provide the following submittals:

A.

Shop Drawings

1.

Provide three copies (electronic preferred) of shop drawings, engineering calculations and all pertinent information for each sign type in the Design Drawings for review and written approval prior to fabrication. Provide one hard copy set of all items reviewed to City.

2.

Shop Drawings definition: Original shop instruction drawing on vendor's title block showing exactly how the sign will be made: exact materials; techniques; processes; dimensions; internal structure; lighting fixtures; ballast and wiring; welds; connections; fasteners; mounting details; access panels, trade coordination comments and other construction pertinent information for the manufacture and installation of all signage. Shop drawings showing structure shall be structurally calculated, showing total weight, wind load and overturn moment. All drawings shall be "wet" stamped and signed by a State licensed Structural Engineer. Shop drawings showing electrical shall be "wet" stamped and signed by a State licensed Electrical Engineer.

3.

These drawings will, once accepted, be signed as reviewed and will become the documents from which the signs are fabricated. Note: All rejected shop drawings must be revised and resubmitted within ten (10) working days to the City until approval is obtained.

4.

Shop drawings shall include heat and ventilation analysis for the sign cabinet performed, "wet" stamped and signed by a State licensed Mechanical Engineer.

5.

Vendor requests to substitute alternate materials or techniques other than those noted on drawings or in these specifications shall be noted on the shop drawings.

B.

Calculations

1.

Prior to fabrication, provide engineer stamped calculations for all components that effect the structural design.

C.

Patterns

1.

Provide three (3) full size, paper pattern for all signs with painted, curved, stenciled, cutout, fabricated, routed, or sandblasted letters, characters, forms or other as noted on drawings for review and approval. Identify each pattern with the sign number to which the pattern applies.

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<p>shall submit engineer stamped calculations for foundations and all other sign components that affect the structural design. These shall be submitted to Hunt Design for information only.</p> <ol style="list-style-type: none"> a. When required because of size or weight of sign, provide lifting eyes. Lifting eyes shall be removable or visually inconspicuous in the finished work. b. Include support backing and connection to existing support structure or mounting surface. <p>2. Fabrication and installation design: Unless otherwise directed by City, design to withstand severe guest abuse and souvenir theft vandalism, but not less than equivalent of resisting simple hand implements and tools (screwdrivers, knives, coins, keys, and similar items), and adult physical force.</p> <p>3. Electrical design: It shall be the responsibility of the sign fabricator to perform the complete electrical design for illuminated signs. Major illuminated signs shall be designed by an electrical engineer and shall be UL approved.</p> <ol style="list-style-type: none"> a. Provide lighting medium indicated on drawings. b. Provide all structural and electrical design data to Hunt Design for review prior to fabrication. c. Position illuminating elements within internally lighted signs or externally illuminated signs at such spacing as will assure uniform light distribution across the portion of the sign faces intended to be illuminated. Sign faces, which exhibit "hot spots", will be unacceptable unless such hot spots are intended to be integral design features of the signs. d. Provide access panel for all internally illuminated cabinets. Make access flush with adjacent surface, panels tight-fitting, lightproof, and waterproof. Show access panel location on shop drawing. Access panels to be in an accessible location, out of sight. e. Provide disconnect switches for all illuminated signs in accordance with electrical code requirements and as directed by the City. Locate disconnect and on/off switches in an accessible location, out of sight. f. Provide dimmer switches and timer for all neon illuminated signs. Locate dimmer switch in an accessible location, out of sight. g. For housing remote electrical components: Provide waterproof box to hide all electrical components. Box to have flush access panel for servicing. Mount box in a minimally visible way. Color and/or finish to match existing adjacent mounting surface. h. Verify location of power provided by others prior to sign fabrication. i. Provide pad lock or other means of security of equipment as directed by the City. j. Provide (1) additional receptacle per panel. <p>4. Waterproofing/Weatherproofing: All signs must be composed of weatherproof materials sufficient to ensure maximum durability of non-corrosive parts, finishes and electrical components. All finishes must be colorfast for the product manufacturer's limited warranty period. Irrigation elements must be repositioned to protect sign surfaces and other electrical components from calcium build-up and water spotting.</p> <p>5. Interpretation of Plans and Specifications:</p> <ol style="list-style-type: none"> a. The City will interpret the meaning of any part of the Plans and Specifications about which any misunderstanding may arise, and the City's decision will be final. Should there appear to be any error or discrepancy in or between the Plans and Specifications, the Contractor shall refer the matter to the City for adjustment and incorporation into shop drawings submittal before proceeding with the work. Should the Contractor proceed with the work without so referring the matter, the Contractor does so at its own risk and must bear any additional cost incurred as a result of failure to so refer. <p>B. Comply with all laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction over this work.</p>		<p>C. Preparation:</p> <ol style="list-style-type: none"> 1. Protect exposed finish surfaces of hanging items from damage resulting from fabricated hanging/support assemblies. 2. Prepare hanging items to receive proper attachments in accord with Contract Drawings and approved submittals. Install work in accord with approved shop drawings, patterns, and color/material submittals. <p>1.5 MAINTENANCE – MATERIALS AND DOCUMENTATION</p> <p>A. Upon completion of work, Contractor is to provide written documentation outlining proper care and maintenance for all graphic materials, colors, finishes and hardware. Touch-up paint: Provide City with one 1/2 pint can of touch-up paint (including clear coat finish) of each type and color used in Work.</p> <p>B. Provide warranty as follows:</p> <ol style="list-style-type: none"> 1. Warrant all work against failure because of faulty materials, workmanship, and design for a period of one year from date of acceptance by the City. 2. Fading, cracking, warping, peeling, delaminating, rusting, corroding and structural failure, including distortion by whatever cause, shall be construed to mean failure because of faulty materials and workmanship. 3. Failures during the warranty period shall be repaired or replaced to the satisfaction of, and without any cost to the City. 4. Warranties for the sign electrical components including but not limited to LED drivers, DXM, and network equipment. <p>C. Upon completion of work: Contractor shall compile all sign electrical documentation, maintenance and installation manuals, including As-Built sign, single line diagram on a binder or digital PDF format to the City.</p> <p>D. Upon Completion of work: Contractor shall provide the software and programing instruction to the City and train City personnel on how to run the program (2 City Staff for a min. of 4 hours).</p> <p>PART 2 - PRODUCTS</p> <p>2.1 GENERAL</p> <p>A. The work as herein identified, requires the manufacture and/or purchase of; and delivery, installation and/or application of: Signage and Environmental Graphics as part of the Sign Program documents.</p> <p>2.2 MATERIALS – METALS</p> <p>A. Aluminum</p> <ol style="list-style-type: none"> 1. Sheet Aluminum ASTM B209: Provide alloy and temper consistent with specific fabrication and finishing processes. 2. Extruded aluminum: Provide alloy and temper consistent with specific fabrication and finishing processes. 3. Bars, rod, wire, and shapes: ASTM B221 4. Pipe and tubing: Seamless, minimum Schedule 40 or equivalent wall thickness <ol style="list-style-type: none"> a. Non-structural: ASTM B210 and ASTM B241. <p>2.3 MATERIALS – PLASTICS</p> <p>A. Acrylic (exterior):</p> <ol style="list-style-type: none"> 1. Made with methylmethacrylate polymers, as manufactured by: <ol style="list-style-type: none"> a. AutoHaas (Rohm & Haas) 	

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- b.

Acrylite
- c.

Or equal.
2.

Provide tubing, solid sheet, laminated sheet, or cast acrylic in size, thickness, clarity, opacity, texture, and color required for work.
3.

Provide ultra-violet resistant type, where exposed to sunlight.
- B.

Polycarbonate (exterior):
1.

Sheet: Provide with scratch and ultra-violet resistant coating.
- a.

AtoHaas (Rohn & Haas)
- b.

Lexan by General Electric.
- c.

Or equal.
2.

Film: 0.015 in. thick Lexan by General Electric or equal.
- a.

Provide with 925 chemical and mar-resistant coating.
- b.

Provide with matte (specular gloss value of 30 in accord with ASTM D523) finish.
- c.

AtoHaas (Rohn & Haas)
- d.

Lexan by General Electric.
- e.

Or equal.
3.

Lexan by General Electric.
- a.

AtoHaas (Rohn & Haas)
- b.

Lexan by General Electric.
- c.

Or equal.
4.

Acrylic/PVC: High impact acrylic polyvinylchloride thermoplastic sheet. Color shall be integral throughout the material and shall be of thickness and color(s) consistent with the type of item to be represented. Provide flame-retardant formulations for all use conditions and ultraviolet-resistant formulations where exposed to sunlight.
- a.

Kydex as by Kleerdex Co.
- b.

Crylex as by Atlas Plastics Corp.
- c.

Or equal.

2.4 MATERIALS – ADHESIVE FILM

- A.

Vinyl die-cut: Precision-cut, pre-spaced, computer-generated, pressure-sensitive type by 3M or equal.
- B.

Decalcomania (decal): Pressure sensitive adhesive type by 3M, or equal.

2.5 MATERIALS – LED LIGHTING

- A.

LED: All units are to carry U.L. certification and are to meet all applicable City, County and/or State codes. Power and loads are to be determined on a case by case basis. Signage Contractor is to coordinate power and load requirements with architect and general contractor.
1.

LED lighting shall have a minimum of 50,000 hours of life prior to reaching 70% of illumination capacity.
2.

Sign contractor is to submit relevant cut sheets and data specifications for each LED product used.
3.

All LED lighting, unless otherwise stipulated in drawings, shall be of the same manufacturer and of the same color temperature.
4.

Unless otherwise stipulated in drawings, illuminated cabinets and letterforms shall be evenly illuminated such that there are no visible hot spots or shadows from internal components. Sign contractor shall get written approval for fabrication of signage that is designed in such a way that even illumination is compromised or not possible. Sign contractor shall get written approval on required sign modifications to produce even illumination which may alter the visual aesthetic of the sign cabinet or letterform.

2.6 MATERIALS – ELECTRICAL

- A.

Code: Conform to California Electrical Code and National Electrical Code for materials.

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- B.

Approved listing: Materials must be approved and listed by Underwriters Laboratories, Inc.
- C.

Lighting fixtures: Standard manufacture as indicated on Design Drawings. Modify as indicated on Design Drawings and as necessary to conform to governing electrical standards and regulations. Provide without (or remove) identifying trademarks, trade names, model numbers, similar information on surfaces exposed to view.
- D.

Disconnects: Heavy duty, non-keyed, flush mounted, fused, or unfused, by:
1.

General Electric
2.

Square D
3.

ITE.
4.

Or equal
5.

Provide NEMA 1 for dry locations and proper enclosure for others.
- E.

Conduit:
1.

Above-grade: Threaded, rigid steel or intermediate metal, conforming to ANSI C80.1, UL 6 or UL 1242, unless specifically approved otherwise by City. Provide with hot-dipped galvanized coating. Provide threaded fittings, conforming to NEMA FB1, UL 514A, or UL 514B. Where specifically approved by City, flexible conduit must be liquid-tight type, conforming to UL 360.
2.

Below-grade: Rigid PVC, conforming to UL 651, minimum Schedule 40. Provide cemented, socket-type fittings, conforming to NEMA TC3.
- F.

Junction boxes: Single-piece, pressed steel type with hot-dipped galvanized coating.
- G.

Dimmers: Continuously variable-type with extra (minimum 50%) load-capacity for future use.
- H.

Conductors: THHN, No. 12.
- I.

Accessories: Provide supports, hangers, and other accessories as required for the work.

2.7 MATERIALS – PRIMERS AND PAINTS (exterior)

- A.

Provide and use paint by:
1.

Matthews Paint Co., Kenosha, WI
2.

PPG Paint Co., Pittsburg, PA
3.

Or equal.
- B.

Paint Schedule:
1.

Aluminum:
- a.

Exterior surfaces of signs:
- 1)

Pretreatment: Etching/wash type as recommended by paint manufacturer.
- 2)

1st coat: Epoxy primer.
- 3)

2nd coat: Two-component catalytic, linear, aliphatic polyurethane enamel with ultraviolet inhibitors. Automotive-type enamels are not acceptable.

2.8 MATERIALS – ANTI-GRAFFITI FINISHES

- A.

Anti-Graffiti Coatings - General
1.

Coatings shall consist of a solvent based, water resistant, highly durable application that can be sprayed, rolled or brushed onto any architectural or sign surface, such as concrete, plaster, brick, wallboard, steel, aluminum or wood. Once applied and cured, all coatings must also be impervious to damage by graffiti removers or cleaners. Coating and cleaner compatibility is paramount. The coating must come in low gloss or glossy



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and meet the following specifications as manufactured by Tradewinds International Inc, Ameron Coatings or approved substitution.

2. Anti-Graffiti Coatings - Application
- a. Protective Coating: Must be applied to clean, dry surface, bare or previously painted, including graffiti paint. No grease, oil, dirt, dust, silicon or any loose foreign material may be on the surface to be coated.

1) Cleaning protocols

(1a) Steel - Sand or bead blast to gray metal. Prime or apply topcoat direct-to-metal (dtm) before flash rust.

(1b) Concrete & brick - High-pressure water wash 1,500 psi or higher. Allow dry time.

(1c) Plaster & Wall Board - Plaster and taping compound must dry completely. Wash down must follow any sanding.

(1d) Aluminum - Clean with solvent in small, manageable areas. All oil, grease, silicon, etc., must be adequately removed and the solvent completely evaporated before application.

(1e) Wood - Recently installed dry wood is usually clean. Old wood, any grease or oil spots should be sanded down to dry clean wood.

(1f) Painted Surfaces - Old paint should be chemically cleaned and etched with TSP or equivalent to remove oxidation, dirt, oil, grease, etc., and then properly dried before coating application. Testing for paint and coating compatibility is recommended.
3. Anti-Graffiti Coatings - Removal
- a. The graffiti remover must have the following characteristics be easily sprayable by trigger or pump applicator; be of sufficient thixotropic or gelatinous consistency to hang on vertical or overhead surfaces without running; rinse off easily with water; be completely biodegradable; be non-toxic; be non-flammable; contain no petroleum distillates; and contain no ingredients classified as hazardous by any state or federal agency.

b. Spray affected area only. Use natural bristle brush or cloth to agitate compound into graffiti. Remove all material from surface with damp cloth or water spray, depending on surface. Repeat procedure if necessary.

2.9 MATERIALS – DIRECT PRINT TO SUBSTRATE

- A. Translucent screen, sprayed or direct print inks with UV inhibitors applied directly to acrylic.
1. As manufactured by:
- a. Lacryl 800 Series by MPC Matthews Paints

b. 3M Piezo Inkjet Series 8900UV Ink by 3M

c. Or equal

2.10 MATERIALS – MISCELLANEOUS

- A. Cement for acrylic plastic: Weld-On Part No. 4 cement by Industrial Polychemical Co., or equal.
- B. Adhesives.
1. Silicone: Single-component silicone rubber by:

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- a. General Electric

b. Dow Corning

c. Or equal
2. Epoxy: Two-part, catalyzed; provide fast-setting, high-strength, flexible, high-viscosity or other specific types as necessary and approved by City.
3. Tape: Double-coated, high strength acrylic adhesive foam tape, 3M VHB+ tape or equal.
4. Thread-locking: Anaerobic, single-component adhesive, as manufactured by:
- a. Hernon.

b. Loctite.

c. Permabond.

d. Or equivalent.
5. Other: Exterior grade, waterproof, structural types as necessary and compatible with materials in contact with adhesives.
- C. Locks: Hex-Socket Draw Latches by McMaster-Carr, Part No. 1393A37 (Style C).
- D. Neoprene: Synthetic rubber.
- E. Miscellaneous hardware: Provide continuous (piano) hinges, hooks and hook-eyes, hinges and bolts with acorn nuts, chain, invisible (Soss) hinges, and other non-corrosive, commercial type hardware items including fasteners as necessary, where not specifically indicated on the Design Drawings.
- F. Ferrous metal hardware is not acceptable.
1. City approval of type and finish is required for all items.
2. Mechanical fasteners must be flush (flat head), tamperproof and match finish and type of material being fastened, unless indicated otherwise.
- a. Aluminum, brass, and bronze bolts, screws, and nuts: ASTM F467 and ASTM F468.

b. Stainless steel studs (threaded pins), bolts, screws, and nuts: ASTM F593 and ASTM F594.

c. Fractional-turn, captive and similar specialty-type screw assemblies: As manufactured by: Southco, Inc., Tamperproof Screw Co., or equal.

d. Provide aluminum or stainless steel threaded inserts for bolting and screwing into acrylic plastics and similar "soft" materials.

e. Set screws: Headless, cup point, stainless steel socket set screws with self-locking, threaded stainless steel insert.

f. Stainless steel lag bolts and screws: ANSI B18.2.1.

g. Plain washers: ANSI B18.22.
3. Nylon washers: Friction-reducing, abrasion-resistant, high strength, virgin nylon (or Teflon); fiber, PVC, FRP, rubber, metals and similar materials are not acceptable.
4. Provide all brass hardware with a protective coating of clear metal lacquer, baked-on.
5. Cable: Fed. Spec. RR-W-410 or Mil. Spec. MIL-W-83420, minimum 1/16-in. diameter multi-stranded, stainless steel aircraft cable with stranded stainless steel wire core. Provide stainless steel sleeves, thimbles, clips, turnbuckles, and similar swaged fittings that develop full strength of cable; crimped fittings are not acceptable. Machine bolt anchors: Stainless steel, chemical-adhesive type as manufactured by:
- a. Rawl.

b. Ramset/Red Head.

c. Hilti.

d. Or equal.
6. City has option to purchase extra components at bid price.

PART 3 - EXECUTION

3.1 STRUCTURAL



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- A. It shall be the responsibility of the Contractor to perform the structural design of the signs and to incorporate all the safety features necessary to adequately support the sign for its intended use and purpose and to protect the City. Designs that meet or exceed industry and code standard engineering practices will be required. The sign fabricator shall submit engineer stamped calculations for foundations, lifting eyes and other sign components that effect the structural design.

1. Include foundations when part of the signage and graphics work.

2. Include support backing and connection to existing support structure or mounting surface.
- B. Design loads:

1. All forces resulting from dead loads, live loads, rated loads, wind loads, and seismic loads as applicable shall be applied in determining adequacy of all parts of a suspension system and the system as a whole.

a. Wind loads and seismic loads shall be in accord with governing loads.

b. Dead loads consist of the weight of the suspended object(s), and, if a separate system, the load of the suspension system.
- C. Allowable stresses:

1. Allowable stresses shall not exceed values which would cause permanent distortion of any structural or machinery component.

2. All components of stress shall have the benefit of engineering calculations and data, and such calculations and data shall be used in the selection of materials.

3. Stresses due to combined loads shall be in accord with governing codes.
- D. Support:

1. Consideration shall be given to the support structure to which overhead objects may be attached to assure sufficient structural strength and appropriate connection points.

2. Every suspended object shall be connected by means of sufficient and appropriate attachments and hangers to the support structure designed for its application. The only exceptions are loads of 2 lb. or less which may be attached to architectural materials. These objects may be suspended from walls or ceilings made of tile, plaster, or gypsum board without connecting directly to the structure.

3. Loads more than 2 lb. suspended from a vertical plane, such as a wall or column, shall be supported and installed in a positive manner that maximizes the structures provided. In addition, when visual design criteria permit, a ledge shall be provided to support the bottom edge of the object. Friction attachments are not acceptable.

4. The primary support of a suspended object may be designed as a concentrated load that is suspended from a single point, or as a distributed load where the weight of a suspended object is suspended by means of more than one primary support sharing the load equally.

5. Whenever possible, objects shall be designed to be supported as a distributed load.

6. When determining the load of an object or system, both the total weight of the object or system and the specific load at each suspension point shall be considered. Basic statics and known material properties and weight distributions shall be used in determination of support loading.

7. Consideration shall be given to the design of the support structure and access to the structure to which overhead objects are intended to be attached. System design shall include adequate access for installation, inspection, and maintenance.

8. Qualified, trained individuals shall perform all rigging installations with prior rigging experience. Individuals who hang items shall be familiar with these Specifications.

9. Attaching to structure: Care shall be taken to minimize loading conditions that induce torque in structural members. Attachments to existing structure shall be as specified in approved shop drawings.
- E. Attachment points of suspended items:

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1. Every suspended item shall be constructed to withstand the stresses imposed within its structure by the rigging design. Hardware used to form a rigging point on an item shall meet the intent and requirements of this Section.
- F. Connections:

1. All sign brackets, members, connections, welds, bolts, screws, etc. shall conform to 2013 California Building Code, ASCE 7-10 and all appropriate material reference documents.
- G. Safety factors:

1. The systems used for supporting suspended objects shall be sufficiently secure so as to prevent failure.

2. The safety ratio for a specific installation shall, as a minimum, meet a 5:1 safety ratio over the minimum allowable load for the installation condition.

3. The required minimum safety ratio applies to the total system. Individual components of a system may be rated at higher values, depending upon the component. The lowest value shall determine the safety factor of the system. Certified "working load" factors that have the basis of laboratory testing are acceptable. As an example, chain manufacturers traditionally use a safety factor of 4:1 over breaking strength as ultimate working load. Wire rope shall use the 5:1 safety factor.

4. Required fail-safe system: Every object suspended overhead shall be designed with a single-point fail-safe system.

a. Every malfunction or failure of a critical component, due to whatever cause, shall not create a life or limb threatening condition or progressive failure of the system.
- H. Seismic requirements:

1. All suspended items, connections, and systems shall be designed to resist a seismic load of a 1-g vertical force and a 1/2-g horizontal force.

2. If a suspended item is free to rotate and its path is clear through a 45° swing, no seismic bracing is required. If a suspended item is free to rotate and a collision is possible within a 45° envelope with the potential to threaten public safety, then lateral bracing which will prevent the collision is required.

3.2 ELECTRICAL

- A. It shall be the responsibility of the Contractor to perform the complete electrical design for illuminated signs. Illuminated signs shall be designed by an electrical engineer and shall be UL approved.

1. Provide lighting medium indicated on drawings.

2. Position illuminating elements within internally lighted signs or externally illuminated signs at such spacing as will assure uniform light distribution across the portion of the sign faces intended to be illuminated. Sign faces that exhibit "hot-spots" will be unacceptable unless such hot spots are intended to be integral design features of the signs.

3. Access panels shall be flush for all internally illuminated cabinets. Access panel shall be flush with adjacent surface, tight fitting, lightproof and waterproof. Show accesses panel location on shop drawing. Access panels to be in an accessible location, out of sight.

4. Provide disconnect switches for all illuminated signs in accordance with electrical code requirements. Locate disconnect and on/off switches in an accessible location, out of sight.

5. For housing remote electrical components: Provide waterproof box to hide all electrical components. Box to have flush access panel for servicing. Mount box in a minimally visible way. Color and/or finish to match existing adjacent mounting surface. Provide pad lock or other means of security of equipment as directed by the City.



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3.3 LED LIGHTING

- A. LED: All units are to carry U.L. certification and are to meet all applicable City, County and/or State codes. Power and load are to be determined on a case by case basis. Signage Contractor is to coordinate power and load requirements with architect and general contractor.
 - 1. LED lighting shall have a minimum of 50,000 hours of life prior to reaching 70% of illumination capacity.
 - 2. Sign contractor is to submit relevant cut sheets and data specifications for each LED product used.
 - 3. All LED lighting, unless otherwise stipulated in drawings, shall be of the same manufacturer and of the same color temperature.
 - 4. Sign contractor to provide a minimum of 20 preset lighting programs from which the city of Lake Elsinore can choose to implement for seasonal or specialty lighting effects.
 - 5. Unless otherwise stipulated in drawings, illuminated cabinets and letterforms shall be evenly illuminated such that there are no visible hot spots or shadows from internal components. Sign contractor shall get written approval for fabrication of signage that is designed in such a way that even illumination is compromised or not possible. Sign contractor shall get written approval on required sign modifications to produce even illumination which may alter the visual aesthetic of the sign cabinet or letterform.

3.4 SIGN CABINETS AND SIMILAR ENCLOSURES

- A. Fabricate of sheet aluminum (0.090-in. minimum thickness) as indicated. Brake-formed, Heliarc electric welded construction, precision formed, with straight and even corners and edges. Visible distortions and other irregularities, due to heat of welding process, is not permitted on exposed surfaces. Test welds using dye-penetrant or vacuum-seam tester; reweld where necessary to obtain solid, complete weld joint. Welds shall be smooth and flush. Finish to match adjacent surfaces.
- B. Accurately rout portions of sign cabinets to required designs. Finish edges of routed portions to match adjacent surfaces. Coordinate with fabrication of "cut-out" letters and shapes to assure a tight, hairline-type joint appearance.
- C. Provisions for acrylic "cut-out" letters and shapes:
 - 1. Provide enough clips to retain all sides and to preclude any looseness or movement of acrylic or separation of acrylic from interior face of cabinet.
 - 2. Provide continuous angle to support and retain perimeter of acrylic faces where necessary.
 - 3. Clips and retainers must not cast shadows or otherwise be visible on face of acrylic when signs are internally illuminated.
- D. Based on results of heat and ventilation analysis performed by state licensed mechanical engineer, provide an internal system of ventilation (screened openings, passages, and electric fans) to assure a uniform dissipation of heat from electrical components of electrically powered and illuminated signs, heat (solar) absorption by sign and other sources. Any openings in exterior surfaces must be internally baffled to prevent "light leaks" and prevent entry of rain, snow, wind-blown debris, and other foreign matter, and screened to prevent entry of insects.
- E. Provide drain holes to prevent accumulation of water within signs. Holes must be inconspicuous and be in inconspicuous locations; holes must also be located such that

- drainage does not occur onto signs, or other surfaces subject to staining. Provide internal system of baffles to prevent "light leaks" through drain holes of illuminated signs. Provide insect screening over drain holes.
- F. Fabricate door frames as specified for cabinets.
 - 1. Weld or use concealed fasteners to continuously attach continuous hinge to door and case. Hinges must be concealed when doorframe is in the closed, locked position.
 - 2. Provide continuous, flexible weather seal gasket between doorframe and cabinet.
 - 3. Install locks at location(s) necessary and adjust to ensure a tight-fitting weather seal at perimeter of doorframe contacting cabinet.
 - 4. Set single-piece glass panel in accord with GANA Glazing Manual using neoprene setting blocks, spacers and glazing tape or vinyl glazing beads to preclude looseness and glass-metal contact. Glazing blocks and spacers must not be readily visible from exterior side of glass door.
 - G. Fabricate removable external panels as specified for cabinets.
 - 1. Use system of continuous angles and Z-clips and inconspicuous, tamperproof fasteners to secure removable panels to cabinets, as indicated on Drawings.
 - 2. Provide continuous, flexible weather seal gasket between removable panels and cabinet.
 - 3. Provide aircraft cable safety strap and attachments of design and type to withstand the dynamic loads imposed by falling weight of the removable panels without failure of cable safety strap or attachments nor damage to signs, including removable panels; provide easily detachable attachment of cable safety strap to permit complete removal for servicing, maintenance, etc.
 - H. Fabricate removable internal panels as specified for cabinets.
 - 1. Provide magnetic-type attachment to sheet steel backing where indicated.
 - 2. Provide lift-out-type frame holder where indicated. Use concealed fasteners where possible.
 - 3. Provide one extra set of panels.

3.5 FABRICATED LETTERS, NUMBERS AND SHAPES

- A. Provide materials and workmanship that is performed by skilled craftsman under the supervision of trained foremen, experienced in the trade or craft required to accomplish the Work and produce a product of high quality.
- B. Where internal or "halo"-type illumination is indicated, interior surfaces of formed (channel) letters and shapes shall be finished with synthetic enamel, white color.
- C. Where internal or "halo"-type illumination is indicated, fabricate letters and shapes with internal support system to secure letters and shapes to supporting surface and allow easy, quick removal for maintenance of illumination components. Internal system must not cast shadows nor obstruct illumination as to be visibly apparent when fully illuminated letters and shapes are viewed from the front.
- D. Finish exposed edges to match finish of face, free of finishing marks.
 - 1. Finish: Polyurethane enamel, directionally brushed, or mirror polished as indicated.

3.6 ACRYLIC LETTERS AND SHAPES

- A. Precision-milled single-piece or routed letters and shapes. Polish exposed edges to match finish of face, free of polishing markings, unless indicated otherwise. "Punched thru" portions must fit accurately into routed portions of cabinet with tight, hairline joints and snugly into back of formed (channel) letters.



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B. Evidence of laminating process of letters and shapes to carrier or diffuser, including the carrier itself, must not be visible on face of signs when internally illuminated. Provide continuous opaque masking material at perimeter of routed opening.				C. Copy application: Sign copy shall be crisp, sharp, clean, and free from "ticks," discontinuous curves, line waver, and similar type imperfections.			
C. Maintain protective paper covering on exposed faces during fabrication wherever possible. Remove immediately prior to City's review of completed sign fabrication.				1. Letterforms shall conform to prescribed proportions.			
D. Coordinate fabrication of sheet plate and formed (channel) letters and shapes, and routing of sign cabinets to assure a tight, hairline type joint between materials.				2. Whenever possible, messages shall be set full-size.			
E. Fabricate laminated acrylic plastic and sheet plate letters and shapes to assure precise, matching shapes and forms with tight, hairline joint.				3. Letterforms shall be aligned so as to maintain a baseline parallel to sign format, with margins and layout as indicated on Design Drawings and approved shop drawings.			
3.7 PAINTING AND FINISHING:				D. Sign construction:			
A. Definitions:				1. Construct work to eliminate burrs, cutting edges, and sharp corners.			
1. The term "paint" as used herein includes enamels, polyurethanes, paints, primers, sealers, fillers, stains, and coatings systems whether used as prime, intermediate or finish coats.				2. Finish welds on exposed surfaces to be imperceptible in the finished work.			
2. The term "system" implies that each finish is comprised of materials and quantities appropriate for the surface to be finished, and includes preparation priming/sealing, and intermediate and finish coats as applicable.				3. Except as indicated or directed otherwise, finish surfaces smooth.			
B. Sample finishes: Refer to Section 1.2 - "SUBMITTALS".				4. Surfaces that are intended to be flat shall be without bulges, depressions, oil canning, or other physical deformities; use thicker materials or other means of stiffening or reinforcement to achieve intended results.			
C. Paint color references: As indicated on Design Drawings.				5. Fabricate continuous, internal support/mounting systems required to adequately secure/support signs. Where necessary, make provisions to allow for easy, quick removal for maintenance, etc. Where internal illumination is indicated, internal system must not cast shadows nor obstruct illumination as to be visibly apparent when fully illuminated sign is viewed from front.			
D. Paint formulation: All paint materials shall be especially formulated to meet all local and state environmental codes and specifications, with anti-mildew agents incorporated into the formulations. This requirement applies to all materials including those for interiors of sign cabinets and cans. In addition, include carefully balanced ultraviolet inhibitors for exterior materials.				6. Except where approved otherwise by City, conceal fasteners.			
E. Application:				7. Make signs tight fitting, between parts and sections, and with adjacent surfaces. Unless indicated otherwise, non-welded joints between various portions of signs must be weatherproof (for exterior signs) and have tight, hairline-type appearance, without gaps (varying or otherwise). Provide sufficient fastenings to preclude looseness, racking, or similar movement.			
1. Properly prepare subsurfaces and apply materials in an environment most favorable for producing best quality work. Where indicated or necessary, etch surfaces prior to applying finish paint materials.				8. Make access panels and similar removable, external portions tight-fitting, lightproof, and weatherproof with adjacent surfaces. Provide access panels and removable portions occurring in overhead (i.e., greater than 6 feet above adjacent grade) locations with aircraft cable safety strap and attachments of design and type to withstand the dynamic loads imposed by falling weight of the access panels or removable portions without failure of cable safety strap or attachments nor damage to signs, including access panels and removable portions; provide easily detachable attachment of cable safety strap to permit complete removal for servicing, maintenance, etc.			
a. Finish surfaces shall be free of streaks, laps, runs, or pile-up of paints, with all surfaces uniformly covered.				9. Provide fabricated metal light baffle clips or approved porous foam blocking over weep holes to prevent light leaks thru holes.			
b. Surfaces with over spray are not acceptable.				10. Locate UL labels and similar identification required by the local building authorities on exterior of sign, at specific locations as indicated on approved shop drawings. Do not apply other labels of any type that cannot be concealed.			
2. Unless specified or directed otherwise, provide semi-gloss (specular gloss value of 50 in accord with ASTM D523) finish for all surfaces.				11. Conform with manufacturer's recommended fabricating procedures regarding fastening, restraining, expansion, and contraction of FRP, polyurethane foam, acrylic plastic and other dissimilar materials.			
3. Unless specified or directed otherwise, provide "clear coat" finish over all exposed, finish painted surfaces consisting of a two-component catalytic, clear, acrylic polyurethane enamel with ultraviolet inhibitors. Unless otherwise directed by City, provide semi-gloss for metal and plastic surfaces and flat/matte gloss for wood surfaces.				12. Exercise care to assure that finished surfaces are unblemished in completed Work.			
4. Seal all edges of plywood and end grain of solid stock wood even though it may be concealed by other work.				13. Isolate dissimilar materials. Exercise particular care to isolate non-ferrous metals from ferrous metals, including fasteners.			
3.8 FABRICATION - GENERAL				14. Position illuminating elements within internally lighted signs at such spacing as will assure uniform light distribution across portion of sign faces intended to be illuminated. Sign faces that exhibit "hot-spots" will be unacceptable unless such hot spots are intended to be integral design features of signs.			
A. It is intended that the workmanship be of the highest quality obtainable by the respective trades and crafts experienced in the fabrication of signs				15. Provide flush-mounted, non-keyed, weatherproof disconnect switches for electrically powered or illuminated signs in accord with electrical code and UL requirements. Locate disconnects on top or back of signs in a manner so as to not be visible to public guests unless indicated otherwise on Design Drawings.			
B. Finished work shall be of highest quality to pass eye-level examination and scrutiny. Scratches, paint drips or sags and other visual defects are not acceptable.				16. Locate items requiring maintenance, such as lamps, ballasts, transformers, wiring connections, etc., in easily accessible areas.			
				17. Assembly of electrical components must conform to requirements of Underwriters Laboratories, Inc. "Standards for Sign Safety US UL 48" and qualify sign to receive and bear UL label.			

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EXTERIOR SIGNAGE

18. Fabricating copy: Unless specifically indicated on Design Drawings otherwise, fabricate sign copy as follows.
- a. Cut-out copy: All letter and number cut-outs shall be made from material and gauge as indicated on Design Drawings. Cutting shall be done in such manner that edges and corners of finished letterforms will be sharp and true. Letterforms with nicked, cut, ragged, rounded (positive or negative) corners, and similar disfigurements will not be acceptable.

c. Routed copy: Cutting and routing shall be done in such manner that edges and corners of finished letterforms shall be sharp and true. Letterforms with nicked, cut, ragged, rounded (positive or negative) corners, and similar disfigurements will not be acceptable. Letterforms shall be aligned so as to maintain a base line parallel to the sign format, with margins and layout as indicated on Design Drawings and approved shop drawings. Vertical strokes shall be plumb. Mechanically fasten center of letters to acrylic plastic as required.

3.9 INSTALLATION – GENERAL

- A. Verify and stake the exact sign locations at on site walk-through with City at the job site for all sign locations which are not exactly dimensioned on the drawings. Notify City of any conditions that may adversely affect satisfactory installation of graphic elements.
- B. Except as indicated otherwise on the drawings, install prefabricated work plumb, level, square and true to line.
- C. Securely anchor work in proper location using anchors, anchorages, fasteners, or other methods approved on shop drawings. All anchors and fasteners shall be appropriate to the anchorage condition.
- D. Provide final electrical power hook-up. After final electrical connections have been made, test all electrical systems to assure that all are in proper working order.
- E. Coordinate work and access to site with the City.
- F. Final adjustment and cleaning:

1. Touch-up all scratched, marred, abraded, or otherwise damaged surfaces to match original surfaces.

2. Clean-up work area after installation has been completed.

3.10 MATERIAL HANDLING

- A. Pack, wrap, crate, bundle, box, bag, or otherwise package, handle, transport, and store all fabricated work as necessary to provide protection from damage by every cause.
- B. Provide clear and legible identifying information on all product packaging to ensure proper on-site review and installation.

3.11 PROJECT CONDITIONS

- A. Protection:

1. Warning signs and other methods of protection must be sufficiently substantial to withstand normal, anticipated construction activities and are subject to City's approval.
- B. Sequencing/Scheduling: Coordinate fabrication, delivery, installation, field finishing and field-application, where applicable, of the work of this section, with progress of construction and City's schedule.

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- C. All fabrication shall be done in an approved and registered fabrication shop, per CBC Chapter 17.
- D. Maintain all structural integrity of existing structures. Alteration requires a design by California Licensed Civil or Structural Engineer and must be submitted for review and approval by City prior to installation.

3.12 RESTORATION

- A. Damage due to negligence of the Contractor to surfaces or building components, shall be repaired and restored to its original condition by the Contractor at no extra cost to the City. Patch and paint around all cuts to match adjacent surfaces.
- B. Patch and paint around all cuts to match adjacent surfaces. Replace with ceiling, wall or floor tiles affected by the installation with new tiles.

3.13 INSPECTION

- A. City reserves the right to inspect work in the fabrication shop in progress and before it is shipped to the job site for installation.
- B. Fabricator shall inspect installation locations for conditions that will adversely affect execution, performance and quality of work, and shall not proceed with installation until unsatisfactory conditions have been corrected.

END OF SECTION 101440



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HUNT DESIGN



PROJECT
Lake Elsinore Underpass Graphics

CLIENT
David Evans and Associates

DATE
Aug 16, 2022



SHEET TITLE
General Specifications

SHEET # 38 of 38
38.0