## 01730 - REMOVALS, CUTTING, AND PATCHING

## 1. PART 1 GENERAL

- 1.1 Related Project Conditions, Procedures and Work Requirements
  - A. Section 00550: General Conditions
  - B. Section 01320: Construction Progress Documentation
  - C. Section 01781; Project Record Documents
  - Section 01761: Project Record Documents
     Section 10436: Post & Panel Signs and Dimensional Letters
  - E. Section 10437: Pylon Signs, Electric. Message Brds & Channel Ltrs.
  - F. Section 03050: Cast-In-Place Concrete

## 1.2 PROJECT CONDITIONS

- A. Removal of Existing Signs: See Sections 10436 and 10437
- Existing Conditions: Do not disturb existing structures, construction, materials or equipment unless required by the CONTRACT
  - Do not cut, drill or remove structural members such as joists, beams or columns supporting construction that is to remain unless expressly required by the CONTRACT DOCUMENTS..
- Existing Paint: Assume existing painted surfaces to contain lead based paints. Take precautions as required to prevent spread of lead containing particles and dust.
- D. Items to Remain the Property of the OWNER: The following items shall remain the property of the State and shall be stored at the site where directed:
  - To be determined by the OWNER and provided to contractor at pre-construction meeting or prior to installation at a specific sign location.

# 2. PART 2 PRODUCTS

## 2.1 MATERIALS

- CONTRACTOR shall replace all surfaces with like materials. All new surfaces adjacent to and within 10 feet of post, including the entire excavated area shall be returned to the same condition and quality, including, materials, finish and grading that was present prior to excavation.
- When locating a footer within a single pavement block (max. 5'-0" x 5'-0"), adjacent to at least 2 expansion joints, the entire block of pavement shall be removed and replaced with the same materials and finish of adjacent sidewalk areas.

## 3. PART 3 EXECUTION

# 3.1 EXAMINATION

- Prior to cutting, drilling or removal, investigate both sides of the surface involved. Determine the exact location of structural members.
- If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain instructions from the Owner's Representative before proceeding with the Work.

## 3.2 PREPARATION

 Prepare existing surfaces properly to receive and, where required, bond with the Work.

## 3.3 REMOVALS, CUTTING, AND ALTERING

- An In addition to the items indicated to be removed on the Drawings, remove existing construction superseded by the Work except items such as pipes, conduits, recessed boxes, and ducts which are built into existing construction that is to remain. Cut off and conceal such items at face of remaining construction. Provide cover plates on recessed boxes.
- Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.
- C. Cut and alter existing materials as required to perform the Work. Limit cutting to the smallest amount necessary. Core drill round holes and saw cut other openings where possible.
- D. Perform cutting, drilling, and removals in a manner which will prevent damage to construction which is to remain.
- Perform removal of items to remain the property of the State with such care as necessary to prevent damage to these items.

## 3.4 PATCHING

- A. Patch existing construction and finishes defaced, damaged, or left incomplete due to alterations and removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered. Finish patched surfaces to match existing adjacent surfaces as closely as practicable.
- B. Perform patching around items penetrating existing construction in a manner that will maintain the water and fire resistive capability of the existing construction.
- C. Paint patched areas and cover plates to match existing adjacent surfaces using same type of paint. Painting, except as otherwise indicated, shall be limited to the areas which have been patched.
- Where surfaces exposed by removals are to remain as exposed surfaces, paint such areas to match existing adjacent surfaces as closely as practicable using same type of paint.

## 3.5 REINSTALLATION

A. Where reinstallation of removed items is indicated, reinstall them to a condition equal to or better than their condition before removal.

END OF SECTION 01730 - REMOVALS, CUTTING AND PATCHING

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## **DECORATIVE METAL COATINGS - DYE SUBLIMATED PRINTED GRAPHIC PANELS**

## GENERAL

## SECTION INCLUDES

- Permanent imaging thermally-embedded in flat surfaces and dimensional objects for the following applications:
  - Signage and streetscape components.

#### RELATED SECTIONS 1.2

- Section 00550: General Conditions
- В. Section 01100: Summary
- Section 01320: Construction Progress Documentation
- Section 01330: Submittal Procedures
- F Section 01781: Project Record Documents
- Section 10436: Post & Panel Signs and Dimensional Letters
- Section 10437: Pylon Signs, Electrc. Message Brds & Channel Ltrs. G.

## SYSTEM DESCRIPTION

- Process: The process embeds a high resolution image deep into and throughout a super durable powder coated layer. The image is embedded inside the powder and flows seamlessly over edges and corners. It is not a film or a laminate. There are no visible corners and no delamination. The process shall be capable of coating and decorating both flat surfaces and dimensional objects.
- decorating both flat surfaces and dimensional objects.

  Product substrates selected shall be able to withstand the 350 degree F (177 degree C) temperature of the powder coating oven. This includes and is not limited to aluminum, steel, glass, MDF, ceramic and high temperature plastics.

  Characteristics: Coating shall be super durable polyurethane powder coated finish that is resistant to abrasion, humidity and corrosion. It shall be anti-graffiti, scratch resistant and non-combustible. The coating process shall be applicable for both interior and exterior applications. Coating shall withstand high traffic and extreme weather.
  - Available characteristics include anti-skid, antimicrobial, post-formable and super texture.
- Capability: Embed process capability shall allow parts from the size of a button to 24 feet (7315 mm) in length. Includes dimensional objects, flat and embossed sheets, extruded profiles, and folded panels.

## SUBMITTALS

- Submit under provisions of Section 01330.
- В. Product Data: Manufacturer's data sheets on each product to be
- C. Shop Drawings: For all fabrications, including details of construction and attachment to adjacent surfaces.
- verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns OR as indicated in Section 10436 and 10437.
- Sustainability Submittals:

  - Certificates for percentage of recyclable base materials, recyclable transfer film and organic water-based inks.
     Coating Process documentation of polyurethane powders emitting zero or near zero volatile organic compounds (no VOC's).

## QUALITY ASSURANCE

- Manufacturer Qualifications: Minimum 3 years experience manufacturing similar products. Manufacturer shall have capability to provide a "delegated design" responsibility including prototypes, value engineering and budget analysis.
- Quality Assurance Process: The following services shall be provided by the manufacturer to deliver the specified product for installation.

  - Project Management: Management of the design facilitation, review, prototype and implementation process.
     Value Engineering: Reviewing possible cost saving approaches for single or multiple production pieces.
  - 3. Prototype Development: Creating a full design element or portion of the element that reflects the final production piece.

  - Production/Fabrication: Creation of the final production piece.

    Coating and Embedding: The powder coating and embedded decoration of the final production piece. 5.
  - Installation and Service: Installation of the final production piece as well the maintenance of the final piece after installation.
- Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - Finish areas designated by Designer.
  - Do not proceed with remaining work until workmanship is approved by DESIGNER and the OWNER.
- 3. Rework mock-up area as required to produce acceptable work.

# DELIVERY AND HANDLING

- Deliver products in appropriate protective covering and crating to fully protect all materials, surfaces and components against damage.
- All delivered materials shall be delivered free of any defect including, but not limited to cracks, scratches, peeling, bubbling, adhesive tapes, marker writing, etc.
  - Contractor shall be responsible for full replacement of materials that is delivered damaged.

#### PROJECT CONDITIONS 17

Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

#### 1.8 SEQUENCING

Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

#### 1.9 WARRANTY

Manufacturer's Warranty: Provide manufacturer's standard warranty for up to 10 years depending on location, substrate, environment and amount of direct sunlight.

## PRODUCTS

#### 2.1 MANUFACTURERS

Acceptable Manufacturer: Direct Embed Coating Systems; 6 Morris St., Paterson, NJ 07501. ASD. Tel: (954) 925-0410. Email: info@ directembedcoating.com. Web: http://www.directembedcoating.com.

Requests for substitutions will be considered in accordance with provisions Section 05550: General Conditions

## COATING SYSTEM

- INIG SYSTEM

  Powder Coating with Embedded Image using DECS Equipment: As manufactured by Direct Embed Coating Systems. Coating shall be resistant to abrasion, humidify and corrosion, anti-graffitis, creat be resistant, non-combustible, super-durable (UV resistant), and TGIC free (non-toxic). Suitable for both interior and exterior applications. Coating shall withstand high traffic and extreme weather.
- 1. Substrate Material: As indicated on the Drawings.
- Image Source: As indicated on the Drawings.
  Color: As indicated on the Drawings.
- 4 Finish: Matte

#### 3. EXECUTION

## EXAMINATION

- Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify DESIGNER and OWNER of unsatisfactory preparation before proceeding.

## PREPARATION

Clean surfaces thoroughly prior to installation. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

## INSTALLATION

Install in accordance with manufacturer's instructions and in proper A. relationship to adjacent surfaces

## PROTECTION

- A. Protect installed products until acceptance of the project by the OWNER or the OWNER'S REPRESENTATIVE.
- Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 09999 - DECORATIVE METAL COATINGS / DYE SUBLIMATED PRINTED GRAPHICS

# PROJECT EXECUTIVE SUMMARY

## E. Fabrication: Bracket And Panel Assembly

Brackets / Panel Configuration. Contractor shall be responsible for confirming, coordinating and verifying all sign panels, messages, graphic layouts, panel orientation, margins, shape, brackets, panel edges, and mounting hole positions with the proposed bracket design, configuration and assembly method, as it relates to the orientation and positioning on a new or existing pole to which it is installed on.

Pedestrian Sign Panels: This includes single and double-sided panels that may require a singular orientation and specific margin clearance, on either side of the panel, in order to work properly with the assembly to the bracket, pole (existing or new) and positioning of the panel in the correct direction, when placed in the field.

Contractor shall be responsible for replacement of all panels that are incorrect due to the Contractor's failure to notify the DESIGNER and OWNER prior to the commencement of any step of the panel or bracket fabrication process.

- 1. Most Current policy on Geometric Design of Highway and
- Most Current Standard Specification for Structural supports for Highway Signs, Luminaries and Traffic Signals
- 3. Most Current AASHTO Roadside Design Guide

Existing Poles
Prior to submitting a bid the CONTRACTOR shall become familiar
with all existing pole types utilized on the project and include all
necessary costs for coordination, different mounting methods and materials required for the project.

See 10436 / Section 1.3 PERFORMANCE REQUIREMENTS and Section 3.1 (C) INSTALLATION for Structural Engineering requirements associated with existing structures, including poles.

Installation: Underground Vaults/Basements
Prior to bidding, to the greatest extent practical the CONTRACTOR
shall make themselves familiar with all underground basement/vault
locations that may interfere with a potential sign location footer, by
obtaining plans and historical records from the OWNER. Bidders
project lump sum cost shall be inclusive of all fees associated with
unique footer designs that may be required as part of this work.

# Installation: Call Utilities Before Digging

Installmenton: Call Utilities Before Digging
Prior to any digging the contractor shall contact all required utility
company's. Including, but not limited to Water, Gas, Electric,
Fiber-Optics, Cable, Telephone, etc.). It is the responsibility of
the Contractor to coordinate all calls, utility checks and footer
production so that it will not delay the installation of the sign
program.

Installation: Concrete and Surface Replacement
CONTRACTOR shall replace all surfaces with like materials. All new
surfaces adjacent to and within 25-0° sq ft opost, including the
entire excavated area shall be returned to the same condition and
quality, including, materials, finish and grading that was present
prior to excavation.

When pouring a underground footer within a area that contains a surface brick or specialty pavers. The pattern of bricks / pavers shall be removed, stored and replaced in the exact same positioning in the order they were removed.

When locating a footer within a single larger pavement block adjacent to at least 2 expansion joints, the entire block of pavement shall be removed and replaced with the same materials and finish of adjacent sidewalk areas – up to 25 sq ft. (5' – 0"  $\times$  5' – 0")

## Existing Poles

Prior to submitting a bid the CONTRACTOR shall become familiar with all existing pole types utilized on the project and include all necessary costs for coordination, different mounting methods and materials required for the project.

Field Surveys Prior to Beginning Work
Contractors representatives will be present at all field surveys and
site markings prior to installation. See Section 10436 and 10437 for
CONTRACTORS staff responsibilities.

Check / Stop / Ask (Obvious Errors)
CONTRACTOR shall, when at all practical, confirm sign messages in the field prior to final installation.

- CONTRACTOR shall notify the DESIGNER and OWNER of any CON INAC TON shall notify the DESINISHEN and OWNEH of any obvious incorrect message, spelling, arrow direction, pictogram and any other graphic elements OR any condition in the envi-ronment (new or previously identified) that reduces the sign(s) effectiveness, visibility or creates a situation where the sign is presenting incorrect information or creates a hazard (regardless of its safety factor or simple common sense).
- 2. Failure to notify the OWNER and DESIGNER of any obvious error or faulty condition prior to installation will result in the CONTRACTOR replacing the sign or rectifying the condition in the environment, at no additional cost to the OWNER or DESIGNER.

# Traffic Control

Develop general Maintenance and Protection of Traffic plans for whicular and pedestrian traffic in accordance with the current MUTCD, State DOT and Municipal requirements. Details for traffic control device must conform to the standard State DOT details.

The contractor shall apply for all permits required by the OWNER and municipality for the purposes of traffic control. The cost for all permits and coordination shall be included within the Lump Sum Bid Proposal; this includes but is not limited to equipment, manpower, police presence or any other devices or personnel required for traffic control.

# Removal Of Existing Signs (if Requested as part of the Bid) The contractor shall remove all existing wayfinding, directional and trailblazer signs as indicated in the Comments section of the project Message Schedule. This work shall be sequenced and coordinated with the installation of the new sign program.

Removal of existing signs shall be included in the CONTRACTORS, Lump Sum Project Cost.

CONTRACTOR shall confirm with the OWNER prior to submitting their bid, the full scope of work related to removal, including footer removal, post removal and disposal.

Attic Stock (if Requested as part of the Bid)
Contractor shall supply attic stock components of posts, sign panels, brackets and other components as requested and as outlined on the Bid Form.

END OF EXECUTIVE SUMMARY

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SECTION 2 Programming

**SL** Sign Locations







































