12141 Wickchester Lane
Suite 640
Houston, TX 77079

TEL 713.491.8333
FAX 713.395.5486

www.GarverUSA.com

August 19, 2016

Addendum No.3
To Plans, Contract Documents and Specifications
IFB 16-022/JW, Taxiway D Reconstruction (2016)

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. All bidders shall acknowledge receipt of this Addendum on page C-4 of the sealed bid proposal.

Modifications to the Bid Form:

1. **Replace the following pages:**
   - Proposal pages C-5 to C-14 with the attached pages C-5 to C-14. Removal of the pay item for preformed surface painted sign from item P-620 with adjustments to the paint square footages and the addition of a pay item for the battery backup for the beacon was added as item SS-300-5.2.

Modifications to the Specifications:

1. **Replace the following specifications:**
   - P-620 'Runway and Taxiway Painting' with the attached item P-620 'Runway and Taxiway Painting'. The portions pertaining to preformed thermoplastic airport pavement markings were struck through to remove preformed in-pavement signs from the project.

Modifications to the Plans:

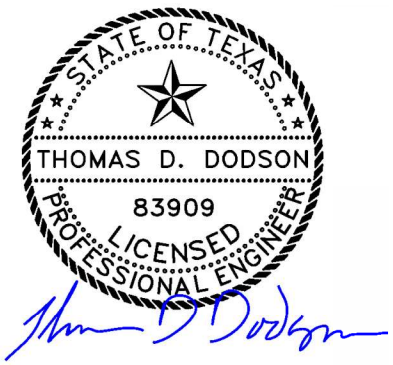
1. **Replace the following sheets:**
   - G-102 'Sheet Index and Summary of Quantities' with the attached sheet G-102 'Sheet Index and Summary of Quantities'.
   - M-101 'Marking Details' with the attached sheet M-101 'Marking Details'.
   - M-103 'Marking and Signage Layout 1' with the attached sheet M-103 'Marking and Signage Layout 1'.

Bidder Questions with Answers:

Questions have been asked at the pre-bid meeting and received by email. The response to these questions is attached to this addendum. Questions are paraphrased and are as understood by Garver.

By: Thomas D Dodson, PE.

Attachments: Bid Form: 10 pages
Revised Plansheets: 3 sheets
Revised Specifications: 10 pages
Response to Bidder Questions: 2 pages



JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BASE BID

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
FAA Section 105	MOBILIZATION	LS	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-120-1	SITE PREPARATION	LS	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-120-2	***LIGHTED RUNWAY CLOSURE MARKERS***	***DAY***	***10***	$_____	$_____
	Unit price in words: _____dollars and _____/100				
D-701-1	30" STORMWATER PIPE	L.F.	292	$_____	$_____
	Unit price in words: _____dollars and _____/100				
D-701-2	REMOVAL OF 30" CONCRETE PIPE	L.F.	390	$_____	$_____
	Unit price in words: _____dollars and _____/100				
D-751-1a	4'X4' SINGLE GRATE INLET (HEAVY-DUTY)	EACH	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
D-752-1	CONNECT 30" RCP TO EXIST. GRATE INLET, COMPLETE IN-PLACE	L.S.	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-101-1	CONCRETE PAVEMENT REMOVAL	S.Y.	17,050	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-101-2	MILLING AND REMOVAL OF ASPHALT PAVEMENT SURFACING (8” TO 0” THICKNESS)	S.Y.	2,110	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-152-1	UNCLASSIFIED EXCAVATION	C.Y.	1,100	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-152-2	BORROW EXCAVATION	C.Y.	6,000	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-152-3	UNSUITABLE EXCAVATION	C.Y.	180	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-154-1	8" SUBBASE COURSE	S.Y.	7,390	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-155-1	16" LIME-TREATED SUBGRADE	S.Y.	7,930	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-155-2	LIME	TON	300	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-156-1	SEDIMENT CONTROL FENCE	L.F.	2,680	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-156-2	INLET PROTECTION	EACH	3	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-501-1	12.5" PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	6,840	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-605-1	CONCRETE JOINT CLEAN AND SEAL	L.F.	9,220	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-620-1	RETRO-REFLECTIVE PAVEMENT MARKINGS	S.F.	***3,500***	$_____	$_____
	Unit price in words: _____dollars and _____/100				
P-620-3	NON-REFLECTIVE BLACK OUTLINE	S.F.	***5,050***	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
P-620-4	PAVEMENT MARKING REMOVAL	L.S.	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
T-901-1	SEEDING, INCLUDING FERTILIZING AND WATERING	ACRE	7.1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
T-904-1	SODDING	SY	970	$_____	$_____
	Unit price in words: _____dollars and _____/100				
T-905-1	TOPSOILING (OBTAINED ON SITE OR REMOVED FROM STOCKPILE 2" THICKNESS)	SY	34,000	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-300-5.1	LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	LS	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-300-5.2	***BEACON BATTERY BACKUP SYSTEM***	***LS***	***1***	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-301-5.1	EXISTING AIRPORT ROTATING BEACON, REMOVED	EACH	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.2	EXISTING CONCRETE ENCASED, ELECTRICAL JUNCTION STRUCTURE, REMOVED	EACH	2	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.3	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EACH	61	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.4	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED	EACH	7	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.5	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED, BASE TO REMAIN	EACH	12	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.6	EXISTING IN-PAVEMENT EDGE LIGHT, REMOVED	EACH	2	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-301-5.7	ABANDONED SIGN BASE, REMOVED	EACH	4	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SS-301-5.8	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED	EA	16	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.1	L-858(L) BASE MOUNTED, 1-MODULE GUIDANCE SIGN, INSTALLED	EACH	2	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.2	L-862 BASE MOUNTED RUNWAY EDGE LIGHT, INSTALLED	EACH	2	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.3	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED	EACH	39	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.4	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED ON EXISTING BASE	EACH	12	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.5	FIELD LIGHTNING ARRESTOR, INSTALLED	EACH	4	$_____	$_____
	Unit price in words: _____dollars and _____/100				
SS-310-5.6	TEMPORARY AIRFIELD LIGHTING	L.S.	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
L-101-5.1	L-802A, AIRPORT ROTATING BEACON, IN PLACE	EACH	1	$_____	$_____
	Unit price in words: _____dollars and _____/100				
L-108-5.1	TRENCHING FOR DIRECT-BURIED CABLE, 18 INCH MINIMUM DEPTH	L.F.	20	$_____	$_____
	Unit price in words: _____dollars and _____/100				
L-108-5.2	NO. 8 AWG, 5 kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	L.F.	6,900	$_____	$_____
	Unit price in words: _____dollars and _____/100				
L-108-5.3	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	L.F.	5,200	$_____	$_____
	Unit price in words: _____dollars and _____/100				
L-108-5.4	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8" MINIMUM DEPTH	L.F.	5,100	$_____	$_____
	Unit price in words: _____dollars and _____/100				
L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1W-2"C	L.F.	5,100	$_____	$_____
	Unit price in words: _____dollars and _____/100				

JACK BROOKS REGIONAL AIRPORT
TAXIWAY D RECONSTRUCTION (2016)
BID FORM

BID ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
L-110-5.2	ENCASED ELECTRICAL CONDUIT, 1W-2"C, WITH FLOWABLE FILL AND SAWCUT PAVEMENT REPAIR	L.F.	140	$_____	$_____
	Unit price in words: _____dollars and _____/100				

TOTAL (BASE BID) $_____

Total price in words: _____dollars and _____/100

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Contract Award will be based on the lowest qualified bidder, depending on the availability of funds.

Bidders understand the Owner reserves the right to reject any irregular proposal and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to State and local laws and ordinances pertaining to the letting of construction contracts. Funding availability will be considered in selecting the bid award. The bidder agrees this bid shall be honored and may not be withdrawn for a period of 90 calendar days after the scheduled closing time for receiving bids.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" and to fully complete the project within:

- **210 Calendar Days** thereafter.

Bidder further agrees to pay as liquidated damages the sum of **One Thousand** Dollars (**$1,000.00)** for each calendar day to complete the work beyond the allotted time or as extended by an approved Change Order or Supplemental Agreement.

The undersigned certifies that the bid prices contained in this bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all commodities upon which prices are extended at the price offered, and upon the conditions contained in the specifications and the Notice to Bidders.

STATE OF_____ COUNTY OF_____

BEFORE ME, the undersigned authority, a Notary Public in and for the State of _____,

on this day personally appeared _____, who
(name)
after being by me duly sworn, did depose and say:

"I, _____ am a duly authorized officer of/agent
(name)
for _____ and have been duly authorized to execute the
(name of firm)
foregoing on behalf of the said_____.
(name of firm)

I hereby certify that the foregoing bid has not been prepared in collusion with any other bidder or other person or persons engaged in the same line of business prior to the official opening of this bid. Further, I certify that the bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities bid on, or to influence any person or persons to bid or not to bid thereon."

Name and address of bidder:_____

_____

Fax: _____ Telephone No. _____

by: _____ Title:_____
(print name)

Signature:_____

SUBSCRIBED AND SWORN to before me by the above-named
_____ on

this the _____ day of_____, 2016.

_____
Notary Public in and for
the State of _____

Bidder Shall Return Completed Form with Offer.

SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
Sect 105	MOBILIZATION	L.S.	1
SS-120-1	SITE PREPARATION	L.S.	1
SS-120-2	LIGHTED RUNWAY CLOSURE MARKERS	DAY	10
D-701-1	30" STORMWATER PIPE	L.F.	292
D-701-2	REMOVAL OF 30" CONCRETE PIPE	L.F.	390
D-751-1	4'X4' SINGLE GRATE INLET (HEAVY-DUTY)	EACH	1
D-752-1	CONNECT 30" RCP TO EXIST. GRATE INLET, COMPLETE IN-PLACE	L.S.	1
P-101-1	CONCRETE PAVEMENT REMOVAL	S.Y.	17,050
P-101-2	MILLING AND REMOVAL OF ASPHALT PAVEMENT SURFACING (8" TO 0" THICKNESS)	S.Y.	2,110
P-152-1	UNCLASSIFIED EXCAVATION	C.Y.	1,100
P-152-2	BORROW EXCAVATION	C.Y.	6,000
P-152-3	UNSUITABLE EXCAVATION	C.Y.	180
P-154-1	8" SUBBASE COURSE	S.Y.	7,390
P-155-1	16" LIME-TREATED SUBGRADE	S.Y.	7,930
P-155-2	LIME	TON	300
P-156-1	SEDIMENT CONTROL FENCE	L.F.	2,680
P-156-2	INLET PROTECTION	EACH	3
P-501-1	12.5" PORTLAND CEMENT CONCRETE PAVEMENT	S.Y.	6,840
P-605-1	CONCRETE JOINT CLEAN AND SEAL	L.F.	9,220
P-620-1	RETRO-REFLECTIVE PAVEMENT MARKINGS	S.F.	3,500
P-620-3	NON-REFLECTIVE BLACK OUTLINE	S.F.	5,050
P-620-4	PAVEMENT MARKING REMOVAL	L.S.	1
T-901-1	SEEDING, INCLUDING FERTILIZING AND WATERING	ACRE	7.1
T-904-1	SODDING	S.Y.	970
T-905-1	TOPSOILING (OBTAINED ON SITE OR REMOVED FROM STOCKPILE; 2" THICKNESS)	S.Y.	34,000
SS-300-5.1	LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	L.S.	1
SS-300-5.2	BEACON BATTERY BACKUP SYSTEM	L.S.	1
SS-301-5.1	EXISTING AIRPORT ROTATING BEACON, REMOVED	EACH	1
SS-301-5.2	EXISTING CONCRETE ENCASED, ELECTRICAL JUNCTION STRUCTURE, REMOVED	EACH	2
SS-301-5.3	EXISTING STAKE MOUNTED EDGE LIGHT, REMOVED	EACH	61
SS-301-5.4	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED	EACH	7
SS-301-5.5	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED, BASE TO REMAIN	EACH	12
SS-301-5.6	EXISTING IN-PAVEMENT EDGE LIGHT, REMOVED	EACH	2
SS-301-5.7	ABANDONED SIGN BASE, REMOVED	EACH	4
SS-301-5.8	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EACH	16
SS-310-5.1	L-858(L) BASE MOUNTED, 3-MODULE GUIDANCE SIGN, INSTALLED	EACH	2
SS-310-5.2	L-862 BASE MOUNTED RUNWAY EDGE LIGHT, INSTALLED	EACH	2
SS-310-5.3	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED	EACH	39
SS-310-5.4	L-861T(L) BASE MOUNTED TAXIWAY EDGE LIGHT, INSTALLED ON EXISTING BASE	EACH	12
SS-310-5.5	FIELD LIGHTNING ARRESTOR, INSTALLED	EACH	4
SS-310-5.6	TEMPORARY AIRFIELD LIGHTING	L.S.	1
L-101-5.1	L-802A, AIRPORT ROTATING BEACON, IN PLACE	EACH	1
L-108-5.1	TRENCHING FOR DIRECT-BURIED CABLE, 18 INCH MINIMUM DEPTH	L.F.	20
L-108-5.2	NO. 8 AWG, 5 kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK, OR CONDUIT	L.F.	6,900
L-108-5.3	NO. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING GROUND RODS AND GROUND CONNECTORS	L.F.	5,200
L-108-5.4	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8" MINIMUM DEPTH	L.F.	5,100
L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1W-2"C	L.F.	5,100
L-110-5.2	ENCASED ELECTRICAL CONDUIT, 1W-2"C, WITH FLOWABLE FILL AND SAWCUT PAVEMENT REPAIR	L.F.	140

Sheet List Table

GARVER

REGISTRATION NO. F-5713

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED PROFESSIONAL ENGINEER
DIGITALLY SIGNED 08/19/2016

REV.	DATE	DESCRIPTION	BY
1	8/8/16	ADDENDUM # 1	TDD
2	8/15/16	ADDENDUM # 2	TDD
3	8/19/16	ADDENDUM # 3	TDD

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TX

TAXIWAY D RECONSTRUCTION (2016)

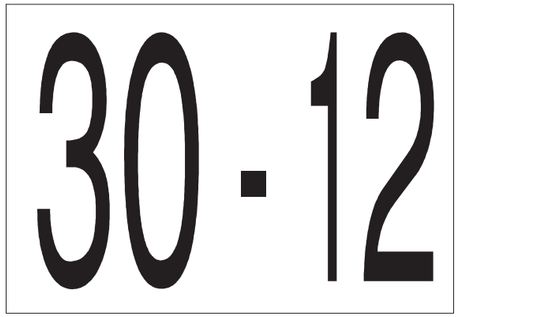
SHEET INDEX AND SUMMARY OF QUANTITIES

JOB NO.: 16121501
DATE: JULY, 2016
DESIGNED BY: TDD
DRAWN BY: JS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-102

SHEET NUMBER **2**

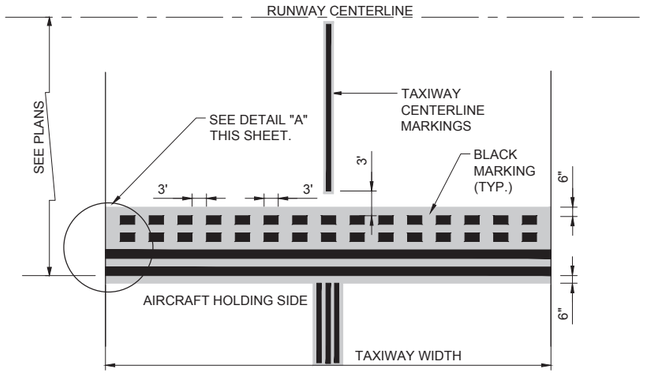


1 / M-101 SURFACE PAINTED HOLD SIGN MARKINGS

SCALE: NONE

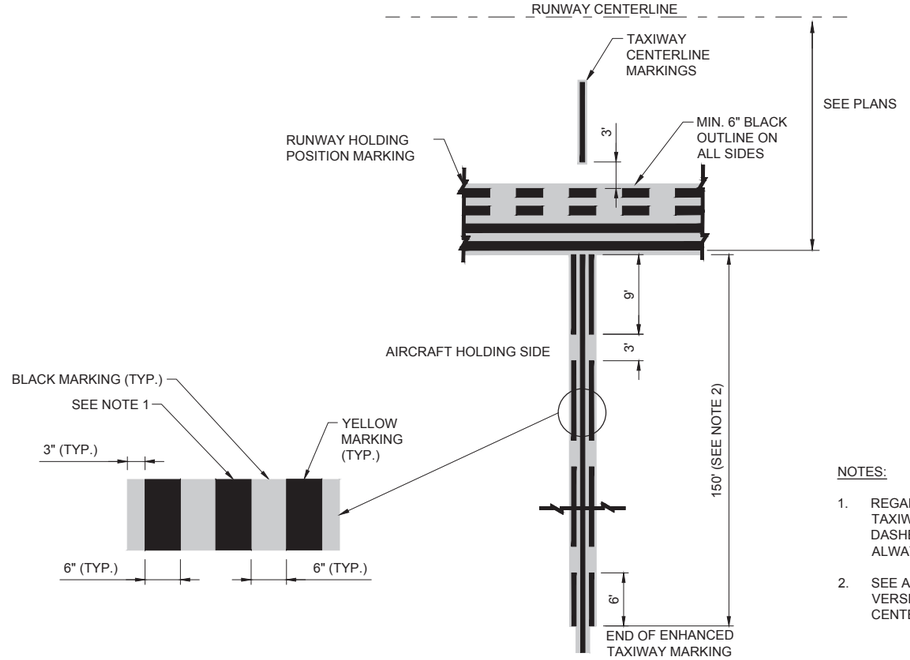
NOTE:

1. RUNWAY SIGN MARKINGS SHALL BE POSITIONED IN ACCORDANCE WITH THE LATEST VERSION OF AC 150_5340.
2. RUNWAY SIGN MARKINGS SHALL BE PAINTED IN ACCORDANCE WITH ITEM P-620. (1)
3. RUNWAY SIGN MARKINGS SHALL HAVE A 6" BLACK OUTLINE.
4. RUNWAY SIGN MARKINGS INSCRIPTIONS ARE 12' IN HEIGHT AND MUST BE MARKED IN ACCORDANCE WITH THE LATEST VERSION OF AC 150_5340 APPENDIX A.



2 / M-101 RUNWAY HOLDING POSITION MARKINGS

SCALE: NONE



NOTES:

1. REGARDLESS OF WHETHER THE TAXIWAY CENTERLINE IS 6" WIDE, THE DASHED ENHANCED MARKINGS SHALL ALWAYS BE 6" WIDE.
2. SEE AC-150/5340-1K, OR LATEST VERSION, FOR CONVERGING ENHANCED CENTERLINE MARKING DETAILS.

3 / M-101 ENHANCED TAXIWAY CENTERLINE MARKINGS

SCALE: NONE

NOTE:

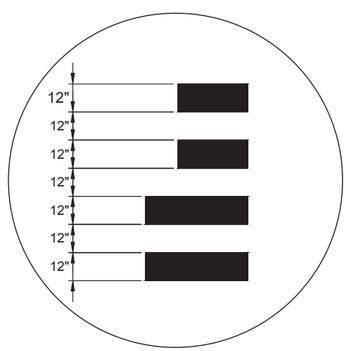
ALL MARKINGS ARE YELLOW WITH 6" BLACK OUTLINE.

4 / M-001 CONTINUOUS TAXIWAY EDGE MARKINGS

SCALE: NONE

NOTE:

1. CONTINUOUS TAXIWAY EDGE MARKINGS ARE YELLOW WITH A 6" BLACK OUTLINE.



NOTE:

ALL MARKINGS ARE YELLOW WITH 6" BLACK OUTLINE.

1A / M-101 DETAIL "A"

SCALE: NONE

GARVER

REGISTRATION NO. F-5713

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED PROFESSIONAL ENGINEER

DIGITALLY SIGNED 08/19/2016

REV	DATE	DESCRIPTION	BY
1	8/19/16	ADDENDUM # 3	TDD

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TX

TAXIWAY D RECONSTRUCTION (2016)

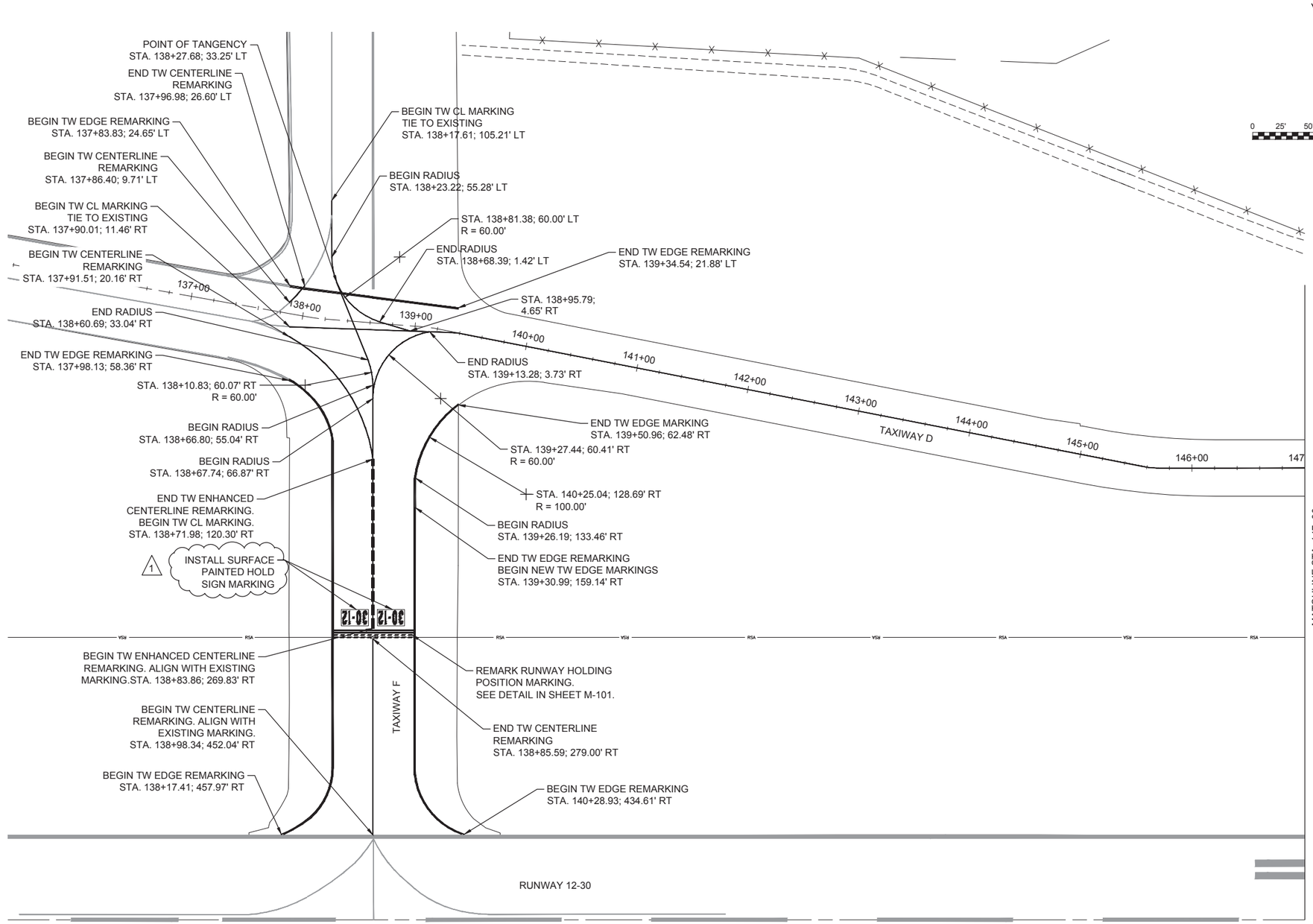
MARKING DETAILS

JOB NO.: 16121501
DATE: JULY, 2016
DESIGNED BY: TDD
DRAWN BY: JS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER **M-101**

SHEET NUMBER **34**



GARVER

REGISTRATION NO.
F-5713

STATE OF TEXAS
THOMAS D. DODSON
83909
LICENSED
PROFESSIONAL ENGINEER
DIGITALLY SIGNED
08/19/2016

REV.	DATE	DESCRIPTION	BY
1	8/19/16	ADDENDUM # 3	TDD

JACK BROOKS REGIONAL AIRPORT
JEFFERSON COUNTY, TX

TAXIWAY D RECONSTRUCTION (2016)

MARKING AND SIGNAGE LAYOUT I

JOB NO.: 16121501
DATE: JULY, 2016
DESIGNED BY: TDD
DRAWN BY: JS

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
M-103

SHEET NUMBER **36**

File: L:\2016\16121501 - BPT TW D Phase 3 FD & Bidding\Drawings\BPT_TWD_M103_PM.dwg Last Save: 8/19/2016 10:44 AM Last saved by: JSuarez
Last plotted by: Suarez, Javier Plot Style: AECmono.ctb Plot Scale: 1:2 Plot Date: 8/19/2016 11:12 AM Plotter used: DWG To PDF.pc3

ITEM P-620 RUNWAY AND TAXIWAY PAINTING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Engineer. The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

MATERIALS

620-2.1 MATERIALS ACCEPTANCE. The Contractor shall furnish manufacturer’s certified test reports for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. The reports can be used for material acceptance or the Engineer may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the Engineer upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers 55 gallons or smaller for inspection by the Engineer. Material shall not be loaded into the equipment until inspected by the Engineer.

620-2.2 MARKING MATERIALS. Paint shall be waterborne in accordance with the requirements of paragraph 620-2.2. Paint shall be furnished in **White (37925), Red (31136), Yellow (33538 or 33655), or Black (37038)** in accordance with Federal Standard No. 595.

a. WATERBORNE. Paint shall meet the requirements of Federal Specification TT-P-1952E, Type I. The non- volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

~~**b. EPOXY.** Paint shall be a two component, minimum 99% solids type system conforming to the following:~~

~~**(1) Pigments.** Component A. Percent by weight.~~

~~**(a) White:**~~
~~Titanium Dioxide, ASTM D476, type II shall be 18% minimum (16.5% minimum at 100% purity).~~

~~**(b) Yellow and Colors:**~~
~~Titanium Dioxide, ASTM D476, type II shall be 14 to 17%.~~

~~Organic yellow, other colors, and tinting as required to meet color standard.~~

~~Epoxy resin shall be 75 to 79%.~~

~~**(2) Epoxy Content.** Component A. The weight per epoxy equivalent, when tested in accordance with ASTM D1652 shall be the manufacturer’s target ±50.~~

~~**(3) Amine Number.** Component B. When tested in accordance with ASTM D2074 shall be the manufacturer’s target ±50.~~

~~**(4) Prohibited Materials.** The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.~~

~~**(5) Daylight Directional Reflectance:**~~

(a) White: The daylight directional reflectance of the white paint shall not be less than 75% (relative to magnesium oxide), when tested in accordance with ASTM E2302.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 55% (relative to magnesium oxide), when tested in accordance with ASTM E2302. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(6) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch to four 3 × 6 inch aluminum panels prepared as described in ASTM E2302. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G154 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating four (4) hour UV exposure at 140°F, and four (4) hours condensate exposure at 104°F.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2b(5) above. Evaluate for conformance with the color requirements.

(7) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(8) Dry Opacity. Use ASTM E2302. The wet film thickness shall be 0.015 inch. The minimum opacity for white and colors shall be 0.92.

(9) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2b(6) to the abrasion test in accordance with ASTM D968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch. Five liters (17.5 lb) of unused sand shall be used for each test panel. The test shall be run on two test panels Both baked and weathered paint films shall require not less than 150 liters (525 lbs) of sand for the removal of the paint films.

(10) Hardness, Shore. Hardness shall be at least 80 when tested in accordance with ASTM D2240.**]**

c. METHACRYLATE. Paint shall be a two component, minimum 99% solids-type system conforming to the following:

(1) Pigments. Component A. Percent by weight.

(a) White:
Titanium Dioxide, ASTM D476, type II shall be 8% minimum. Methacrylate resin shall be 18% minimum.

(b) Yellow and Colors:

Titanium Dioxide, ASTM D476, type II shall be 1% minimum.

Organic yellow, other colors, and tinting as required to meet color standard.

Methacrylate resin shall be 18% minimum.

(2) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(3) Daylight Directional Reflectance:

(a) White: The daylight directional reflectance of the white paint shall not be less than 80% (relative to magnesium oxide), when tested in accordance with ASTM E2302.

(b) Yellow: The daylight directional reflectance of the yellow paint shall not be less than 55% (relative to magnesium oxide), when tested in accordance with ASTM E2302. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:

x .462	x .470	x .479	x .501
y .438	y .455	y .428	y .452

(4) Accelerated Weathering.

(a) Sample Preparation. Apply the paint at a wet film thickness of 0.013 inch to four 3 × 6 inch aluminum panels prepared as described in ASTM E2302. Air dry the sample 48 hours under standard conditions.

(b) Testing Conditions. Test in accordance with ASTM G154 using both Ultra Violet (UV-B) Light and condensate exposure, 72 hours total, alternating four (4) hour UV exposure at 140°F, and four (4) hours condensate exposure at 104°F.

(c) Evaluation. Remove the samples and condition for 24 hours under standard conditions. Determine the directional reflectance and color match using the procedures in paragraph 620-2.2c(3) above. Evaluate for conformance with the color requirements.

(5) Volatile Organic Content. Determine the volatile organic content in accordance with 40 CFR Part 60 Appendix A, Method 24.

(6) Dry Opacity. Use ASTM E2302. The wet film thickness shall be 0.015 inch. The minimum opacity for white and colors shall be 0.92.

(7) Abrasion Resistance. Subject the panels prepared in paragraph 620-2.2c(4) to the abrasion test in accordance with ASTM D968, Method A, except that the inside diameter of the metal guide tube shall be from 0.747 to 0.750 inch. Five liters (17.5 lb) of unused sand shall be used for each test panel. The test shall be run on two test panels Both baked and weathered paint films shall require not less than 150 liters (525 lbs) of sand for the removal of the paint films.

(8) Hardness, Shore. Hardness shall be at least 60 when tested in accordance with ASTM D2240.

d. SOLVENT-BASE. Paint shall meet the requirements of Commercial Item Description A-A-2886B Type I, Type II, and Type III.

e. PREFORMED THERMOPLASTIC AIRPORT PAVEMENT MARKINGS. Markings must be composed of ester modified resins in conjunction with aggregates, pigments, and binders that have been

factory produced as a finished product. The material must be impervious to degradation by aviation fuels, motor fuels, and lubricants.

(1) The markings must be able to be applied in temperatures as low as 35°F without any special storage, preheating, or treatment of the material before application.

(a) The markings must be supplied with an integral, non- reflectorized black border.

(2) Graded Glass Beads.

(a) The material must contain a minimum of 30% intermixed graded glass beads by weight. The intermixed beads shall conform to Federal Specification TT-B-1325D, Type IV **.**

(b) The material must have factory applied coated surface beads in addition to the intermixed beads at a rate of one (1) lb (±10%) per 10 square feet. These factory applied coated surface beads shall have a minimum of 90% true spheres, minimum refractive index of 1.50, and meet the following gradation.

Size Gradation		Retained, %	Passing, %
US Mesh	µm		
12	1700	0 – 2	98 – 100
14	1400	0 – 3.5	96.5 – 100
16	1180	2 – 25	75 – 98
18	1000	28 – 63	37 – 72
20	850	63 – 72	28 – 37
30	600	67 – 77	23 – 33
50	300	89 – 95	5 – 11
80	200	97 – 100	0 – 3

(3) Heating Indicators. The material manufacturer shall provide a method to indicate that the material has achieved satisfactory adhesion and proper bead embedment during application and that the installation procedures have been followed.

(4) Pigments. Percent by weight.

(a) White:
Titanium Dioxide, ASTM D476, type II shall be 10% minimum.

(b) Yellow and Colors:
Titanium Dioxide, ASTM D476, type II shall be 1% minimum.

Organic yellow, other colors, and tinting as required to meet color standard.

(5) Prohibited Materials. The manufacturer shall certify that the product does not contain mercury, lead, hexavalent chromium, halogenated solvents, nor any carcinogen as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

(6) Daylight Directional Reflectance.

(a) White:
The daylight directional reflectance of the white paint shall not be less than 75% (relative to magnesium oxide), when tested in accordance with ASTM E2302.

~~**(b) Yellow:** The daylight directional reflectance of the yellow paint shall not be less than 45% (relative to magnesium oxide), when tested in accordance with ASTM E2302. The x and y values shall be consistent with the Federal Hegman yellow color standard chart for traffic yellow standard 33538, or shall be consistent with the tolerance listed below:~~

~~x .462~~	~~x .470~~	~~x .479~~	~~x .501~~
~~y .438~~	~~y .455~~	~~y .428~~	~~y .452~~

~~**(7) Skid Resistance.** The surface, with properly applied and embedded surface beads, must provide a minimum resistance value of 45 BPN when tested according to ASTM E303.~~

~~**(8) Thickness.** The material must be supplied at a nominal thickness of 65 mil.~~

~~**(9) Environmental Resistance.** The material must be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to aviation fuels, gasoline, and oil.~~

~~**(10) Retroreflectivity.** The material, when applied in accordance with manufacturer's guidelines, must demonstrate a uniform level of nighttime retroreflection when tested in accordance to ASTM E1710.~~

~~**(11) Packaging.** Packaging shall protect the material from environmental conditions until installation.~~

~~**(12) Preformed Thermoplastic Airport Pavement Marking Requirements.**~~

~~**(a)** The markings must be a resilient thermoplastic product with uniformly distributed glass beads throughout the entire cross- sectional area. The markings must be resistant to the detrimental effects of aviation fuels, motor fuels and lubricants, hydraulic fluids, deicers, anti-icers, protective coatings, etc. Lines, legends, and symbols must be capable of being affixed to asphalt and/or Portland cement concrete pavements by the use of a large radiant heater. Colors shall be available as required.~~

~~**(b)** The markings must be capable of conforming to pavement contours, breaks, and faults through the action of airport traffic at normal pavement temperatures. The markings must be capable of fully conforming to grooved pavements, including pavement grooving per advisory circular (AC) 150/5320-12, current version. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastics when heated with a heat source per manufacturer's recommendation.~~

~~**(c)** Multicolored markings must consist of interconnected individual pieces of preformed thermoplastic pavement marking material, which through a variety of colors and patterns, make up the desired design. The individual pieces in each large marking segment (typically more than 20 feet long) must be factory assembled with a compatible material and interconnected so that in the field it is not necessary to assemble the individual pieces within a marking segment. Obtaining multicolored effect by overlaying materials of different colors is not acceptable due to resulting inconsistent marking thickness and inconsistent application temperature in the marking/substrate interface.~~

~~**(d)** The marking material must set up rapidly, permitting the access route to be re-opened to traffic after application.~~

~~**(e)** The marking material shall have an integral color throughout the thickness of the marking material.~~

620-2.3 REFLECTIVE MEDIA. Glass beads shall meet the requirements for **Federal Specification TT-B-1325D, Type I, Gradation A**. Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

CONSTRUCTION METHODS

620-3.1 WEATHER LIMITATIONS. The painting shall be performed only when the surface is dry and when the surface temperature is at least 45°F and rising and the pavement surface temperature is at least 5°F above the dew point or meets the manufacturer's recommendations. **Painting operations shall be discontinued when the surface temperature exceeds 120°F.** Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns.

620-3.2 EQUIPMENT. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless-type marking machine suitable for application of traffic paint. It shall produce an even and uniform film thickness at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray.

620-3.3 PREPARATION OF SURFACE. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other foreign material that would reduce the bond between the paint and the pavement. The area to be painted shall be cleaned by **waterblasting** or by other methods as required to remove all contaminants while minimizing damage to the pavement surface. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the Engineer. *Grinding of the pavement will not be permitted.* After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

Paint shall not be applied to Portland cement concrete pavement until the areas to be painted are cleaned of curing material. Sandblasting or high-pressure water shall be used to remove curing materials.

At least 24 hours prior to remarking existing markings, the existing markings must be ~~removed~~ *prepared* **such that ~~75% existing markings are removed~~** *any loose or contaminated material that will affect the bond of the new paint are removed.* **After removal, the surface shall be cleaned of all residue or debris either with sweeping or blowing with compressed air or both.** *The preparation is NOT to damage the pavement around and beneath the paint being prepared for remarking. Any damage is to be corrected immediately at no additional cost to the Owner.*

Prior to the application of any markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the type of marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufacturer's surface preparation and application requirements must be submitted and approved by the Engineer prior to the initial application of markings.

620-3.4 LAYOUT OF MARKINGS. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 APPLICATION. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the Engineer. The edges of the markings shall not vary from a straight line more than 1/2 inch in 50 feet, and marking dimensions and spacings shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inch or less	±1/2 inch
greater than 36 inch to 6 feet	±1 inch
greater than 6 feet to 60 feet	±2 inch
greater than 60 feet	±3 inch

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted. A period of **30 days** shall elapse between placement of a bituminous surface course or seal coat and application of the paint.

Prior to the initial application of markings, the Contractor shall certify in writing that the surface has been prepared in accordance with the paint manufacturer's requirements, that the application equipment is appropriate for the marking paint and that environmental conditions are appropriate for the material being applied. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the Engineer prior to the initial application of markings.

620-3.6 TEST STRIP. Prior to the full application of airfield markings, the Contractor shall produce a test strip in the presence of the Engineer. The test strip shall include the application of a minimum of 5 gallons of paint and application of 35 lbs of Type I/50 lbs of Type III glass beads. The test strip shall be used to establish thickness/darkness standard for all markings. The test strip shall cover no more than the maximum area prescribed in Table 1 (e.g., for 5 gallons of waterborne paint shall cover no more than 575 square feet).

TABLE 1. APPLICATION RATES FOR PAINT AND GLASS BEADS
~~(See Note Regarding Red and Pink Paint)~~

Paint Type	Paint Square feet per gallon, ft^2/gal	Glass Beads, Type I, Gradation A Pounds per gallon of paint—lb./gal.	Glass Beads, Type III Pounds per gallon of paint—lb./gal.	Glass Beads, Type IV Pounds per gallon of paint—lb./gal.
Waterborne Type I	**115 ft^2/gal max**	**7 lb/gal min (0.85 kg/l)**	**--**	**--**

When pavement markings are required on a newly placed pavement, the pavement markings shall be completed in two applications. The first application shall be 33% of the application rate specified in Table 1. The second application shall be 100% of the application rate specified in Table 1, placed in the opposite direction of the first pass. Glass beads shall only be included in the second application of the pavement markings.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment should be performed.

All emptied containers shall be returned to the paint storage area for checking by the Engineer. The containers shall not be removed from the airport or destroyed until authorized by the Engineer.

~~620-3.7 APPLICATION – PREFORMED AIRPORT PAVEMENT MARKINGS.~~

~~**a. Asphalt and Portland Cement** To ensure minimum single-pass application time and optimum bond in the marking/substrate interface, the materials must be applied using a variable speed self- propelled mobile heater with an effective heating width of no less than 16 feet and a free span between supporting wheels of no less than 18 feet. The heater must emit thermal radiation to the marking material in such a manner that the difference in temperature of 2 inches wide linear segments in the direction of heater travel must be within 5% of the overall average temperature of the heated thermoplastic material as it exits the heater. The material must be able to be applied at ambient and pavement temperatures down to 35°F without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry, and free of debris. A non-volatile organic content (non-VOC) sealer with a maximum applied viscosity of 250 centiPoise must be applied to the pavement shortly before the markings are applied. The supplier must enclose application instructions with each box/package.~~

620-3.8 PROTECTION AND CLEANUP. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose or unadhered reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the Engineer. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and Federal environmental statutes and regulations.

620-3.9 REMOVAL OF EXISTING MARKINGS. *The existing pavement markings shown on the plans to be removed shall be removed without damaging the existing pavement. The markings shall be removed through the use of high-pressure water or other methods approved by the Engineer before removal operations begin. For areas to be repainted, the existing painted surface shall be cleaned by high-pressure water blasting or sand blasting, as required, to remove all foreign material which would reduce the bond between the new paint and the old paint.*

METHOD OF MEASUREMENT

620-4.1 The quantity of runway and taxiway markings to be paid for shall be **the number of square feet of painting including reflective media when required ~~and the number of pounds of reflective media~~** performed in accordance with the specifications and accepted by the Engineer. *Where multiple pavement marking applications are specified, there will be no separate payment for temporary pavement markings (first pass). If either the temporary or final application of pavement markings are not required, the contract quantity shall be adjusted according to the markings actually completed.*

The quantity of runway and taxiway markings to be paid for shall be the number of square feet of painting including reflective media when required, performed in accordance with the specifications and accepted by the Engineer.

620-5.2 *Payment shall be made at a lump sum price for paint marking removal. The price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.*

BASIS OF PAYMENT

620-5.1 Payment shall be made at the respective contract **price per square foot** for runway and taxiway painting and for reflective media *and lump sum for pavement marking removal*. *For paint markings placed on existing pavement markings, there is no separate pay for pavement marking preparation as described in this item and is to be considered inclusive of the pavement markings pay item.* This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-1	Retro-Reflective Pavement Markings – per square foot
~~Item P-620-2~~	~~Preformed Runway Hold Sign Markings – per square foot~~
Item P-620-3	Non-Reflective Black Outline – per square foot
Item P-620-4	Pavement Marking Removal – per lump sum

TESTING REQUIREMENTS

ASTM C371	Standard Test Method for Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders
ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
ASTM D711	Standard Test Method for No-Pick-Up Time of Traffic Paint
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

MATERIAL REQUIREMENTS

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
40 CFR Part 60, Appendix A-7, Method 24	Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings
29 CFR Part 1910.1200	Hazard Communication

FED SPEC TT-B-1325D
Beads (Glass Spheres) Retro-Reflective

American Association of State Highway and Transportation Officials (AASHTO) M247 Standard Specification for Glass Beads Used in Pavement Markings

FED SPEC TT-P-1952E
Paint, Traffic and Airfield Marking, Waterborne

Commercial Item Description A-A-2886B
Paint, Traffic, Solvent Based

FED STD 595 Colors used in Government Procurement

AC 150/5340-1 Standards for Airport Markings

END OF ITEM P-620

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MEMORANDUM

To: Potential Bidders **Date:** August 19, 2016

From: Thomas D Dodson, PE TD

RE: Jack Brooks Regional Airport – Taxiway D Reconstruction (2016)
Bidder Questions

See below for responses to Bidder questions regarding the Taxiway 'D' Reconstruction project at the Jack Brooks Regional Airport.

Question 1: What type of badging is going to be required for the basic labor that will be working on the job site; can it be a simple badge with company name, employee name and employee number?

Answer 1: Employees on the site are to be badged as described in the August 15 question 2 answer.

Question 2: Is there going to be a background check required for all employees on site or just for the employees who will be doing the escorting of people on to the site?

Answer 2: For employees providing escort across the airfield, security badging at the airport will be required. Escorts will also require driver training and communications training prior to being badged. Credentials must be provided for security badging. As noted before, a TWIC credential will be acceptable for credentials for those requiring the security badging.

Question 3: What class is required for the people who will be escorting and who teaches the required class; will the people escorting be the only ones required to take the class?

Answer 3: At the airport, KUSA Aviation (409-727-7900) can provide the training for both driver and radio communications training. Costs for training are to be borne by the Contractor as part of the site preparation work. Workers that are not driving on any active parts of the airport (i.e. open taxiways or aprons) are not required to have driver or communications training.

Question 4: Who all will be required to take the communication class and who teaches the required class?

Answer 4: At the airport, KUSA Aviation (409-727-7900) can provide the training for both driver and radio communications training. Costs for training are to be borne by the Contractor as part of the site preparation work.

Question 5: How do we go about scheduling a walk-through at the airport so that our lighting contractor can look at the site?

Answer 5: There are no other opportunities to see the secure areas of the airport. The one opportunity was given during the pre-bid meeting.

Question 6: Will the required concrete slump be increased due to side-form construction being allowed?

Answer 6: No. The slump requirement for concrete will remain as specified for concrete under item P-501. However, side form placements do allow a slightly higher allowed slump than slip-formed concrete..

Question 7: Can P-154 be substituted for another aggregate base specification?

Answer 7: No. The base material must meet the requirements of Item P-154.

Question 8: The demolition plans show the work on the connector taxiways that is within the Runway Safety Area (RSA). The demolition plan does not show any work on Taxiway 'F' within the RSA. Is the work on Taxiway 'F' requiring a runway closure?

Answer 8: Yes. Any work within 250 feet of the centerline of Runway 12/30 can only be carried out while the runway is closed. The phasing sheets G-301 through G-304 identify the work limitations for the phases of construction. See sheet C-903 for joint sealing and E-101 and E-201 for lighting work that is in Taxiway 'F' that lies within the RSA.

Question 9: Can Phase 1A and Phase 1B work be carried out at the same time?

Answer 9: Yes. While the focus at the beginning of construction should be to begin with Phase 1A, Phase 1B work can be carried out with the Phase 1A work.