

7

**RESOLUTION**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF EL PASO:**

That the City Council approves a Change Order in the amount of \$321,487.00 to Hensel Phelps Construction Co. (Contractor) for the furnishing and installation of a Class A fire rated felt panel above the new linear plank ceiling to meet NFPA 13 code requirements for the EPIA Terminal Ceiling and Lighting Improvements Project, Contract No. 2023-0199. There is no change in contract time resulting from this Change Order. The new contract sum, including this Change Order notice and any previous change order notices, is \$10,145,074.00. The City Manager, or designee, is authorized to execute any documents and contract amendments needed to carry out the intent of this Resolution.

APPROVED THIS 24 DAY OF October 2023.

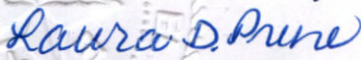
CITY OF EL PASO:



OSCAR LEESER  
MAYOR

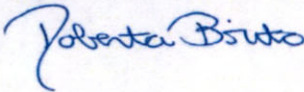


ATTEST:



Laura D. Prine  
City Clerk

APPROVED AS TO FORM:



Roberta Brito  
Assistant City Attorney

APPROVED AS TO CONTENT:



Yvette Hernandez, P.E., City Engineer  
Capital Improvement Department

## Contract Change Order Coversheet /Checklist City of El Paso Capital Improvements Department

Project Name: EPIA Terminal Ceiling & Lighting Improvements Date Received: 9/21/2023  
 Solicitation Number: 2023-0199 Contractor: Hensel Phelps Construction  
 Change Order Number: 03 Date CO was identified: 9/01/2023  
 Funding Type: QOL  General Fund  TX DOT  CDBG  FTA  Airport   
 Contingency: \$ 2,434,250 Original Budget: \$9,737,000 Current Remaining Budget: \$ 2,347,663 PO No.(s): CEP32-2300000295  
 Identified by: DOR  Contractor  User Dept.  CID  Other  (identify : \_\_\_\_\_)  
 Impacts: Cost  Time\*  (Check all that Apply) \* Identify Schedule activity impacted, attach frag-net justifying time.

### No change order shall be approved unless work is ordered in writing by the Owner Designated Rep

If Written Order provided prior to formal execution of CO **attach** copy of the written directive, and justification, as why the direction was necessary prior to a formal agreement. Attach concurrence of representative having authority to execute change order(s) for the city of El Paso, Contract Specific by Resolution. If formal RFP was provided to contractor **attach** copy. If E-mail was direction provided to contractor attach Copy.

### Change order Type Check One: Mandatory Discretionary (Mandatory Violets Written code/standard, or will not function for intended purpose)

If mandatory **attach** justification, Direction from DOR and /or code/ standards references that the CO corrects, or Documentation from User Department Head explaining why the change is required

Differing site condition	<input type="checkbox"/>	Engineering Change/Construction Deficiency	<input type="checkbox"/>
User requested Change **	<input type="checkbox"/>	Substitution Contractor initiated	<input type="checkbox"/>
Designer Directive (ASI)	<input checked="" type="checkbox"/>	Error and omission	<input type="checkbox"/>
Value Engineering Change	<input type="checkbox"/>	Quantity Adjustment	<input type="checkbox"/>

\*\* Identify Funding source Airport Enterprise Grant Funded Projects **attach** Concurrence of Grant Funded program Director

Justification: The Architect's Supplemental Instruction (ASI) No.4 provides an architectural detail that includes a fire-rated felt panel to be placed above an est. 28,000 SF of the Type No. 1 linear plank ceiling system. This addition is a result of an NFPA code requirement for an open ceiling system that states that the open air return cannot exceed 20%. Per the Engineer's calculations, it is currently greater than 20%. Cost classification for this PCO is a Designer Directive (ASI). EPIA concurs with the classification.

The Project Manager determined that the Contractor's cost proposal, which is inclusive of a premium cost for expediting the production timeline of the material in an effort to meet the General Contractor's schedule as time is of the essence, is considered reasonable in comparison between the ROM estimate and the submitted cost proposal by the General Contractor.

### Method Utilized for implementing change

(Reference general conditions 2.5.2) Check all that apply

- |     |                                     |                                     |  |
|-----|-------------------------------------|-------------------------------------|--|
| . 1 | Unit Bid Prices Previously Approved | <input type="checkbox"/>            | (attach Copy of supporting documents)              |
| . 2 | An Agreed upon Lump Sum             | <input checked="" type="checkbox"/> | (Attach record of Negotiations, and Cost Analysis) |
| . 3 | Actual Cost (Force Account Change)  | <input type="checkbox"/>            | (Attach Detailed record as per 2.2.5.2.3)          |

### Cost/Price/Time Analysis

Attach Copy of analyst justifying cost and quantities

Contractors proposed cost: \$321,487.00  
 Final Negotiated amount: \$321,487.00  
 Time: Requested N/A, justified N/A

Independent Cost Estimate prepared Yes , No , Validated, Vender Quotes, Published Data, Previously agreed Costs, Other (attach documentation of cost analysis).

### Contract Change Reference: Reference Plan /Spec change, Describe Change (Attach additional sheets if necessary)

Narrative Description of Change SOW: As per the Architect's Supplemental Instruction No.4, the scope of work shall include furnishing an estimated 28,000 SF of an approved class A fire rated felt panel, installing the panel above all of the new linear plank ceiling system; quality control, equipment, labor, tools and other incidentals as needed to complete the scope of work.

Existing Drawing Reference: N/A

Existing Specification Reference: N/A

New Drawings/Specifications Reference: Architectural Detail 1: Linear Plank Ceiling w/ Felt Panel dated 9/8/2023

User Department Concurrence (if required):	_____	Print Name _____
Requested by Project /Construction Manager:	<u>Victoria Ruiz</u>	Print Name: <u>Victoria Ruiz</u>
Division Manager:	<u>Shane Brooks</u>	Print Name: <u>Shane Brooks</u>
Recommended for Approval by City Engineer:	<u>Michael J. Vonasek</u> Michael J. Vonasek, P.E. Assistant Director Construction	Date: <u>10/04/2023</u>

# CITY OF EL PASO CONSTRUCTION CHANGE ORDER

CONSTRUCTION CHANGE ORDER NO.:	<u>3</u>	DATE:	<u>September 21, 2023</u>	<input type="checkbox"/>	SCOPE CHANGE
PROJECT:	<u>EPIA Ceiling &amp; Lighting Replacement Project</u>	SOLICITATION NO.:	<u>2023-0199</u>	<input checked="" type="checkbox"/>	CONSTRUCTION CHANGE
	<u>0</u>				
Original Contract Amount:	\$ <u>9,737,000.00</u>	Contract Time to Substantial Completion:	<u>480</u>		
Net Change by previous Change Orders:	\$ <u>86,587.00</u>	Total days added due to Change Orders and CQN's:	<u>0</u>		
Net Change by previous Construction Quantity Notices:		Total days added for this Change Order:	<u>0</u>		
Amount of this Construction Change Order:	\$ <u>321,487.00</u>	New Contract Time to Substantial Completion:	<u>480</u>		
New Amended Contract Amount:	\$ <u>10,145,074.00</u>	Current Substantial Completion Due Date:	<u>8/16/2024</u>		
Change Order Percentage:	<u>4.19%</u>				

CONTRACTOR NAME: Hensel Phelps Construction Airport

*Please provide a detailed scope of work of the change order (see back for reason/justification):*

**Change Item #1:** Furnish and install a fire rated felt panel above all Type No. 1 linear plank ceiling system. Estimated quantity is 28,000 SF.

**Scope of Work:** As per the Architect's Supplemental Information (ASI) No. 4, the scope of work shall include furnishing an approved class A fire rated felt panel, installing the panel above all of the new linear plank ceiling system; quality control, equipment, labor, tools and other incidentals as needed to complete the scope of work.

The change item totals an amount of \$321,487.00.

**Time:** The critical path is not affected by this change; therefore, no additional time was justified/granted.

Unless specifically noted this change order addresses all compensation of time and money, including direct and indirect cost associated with the above described scope of work

CONSECUTIVE CALENDAR DAYS ADDED TO COMPLETION TIME: 0 TOTAL CHANGE ORDER AMOUNT: \$ 321,487.00

**CONTRACTOR: Hensel Phelps Construction**

I, Adam McDavitt, of Hensel Phelps agree and accept the terms and conditions of this change order.

Signature: 

Date: 10/09/2023

**CITY OF EL PASO (OWNER)**

I, Yvette Hernandez, P.E. of the City of El Paso hereby authorize and direct the Contractor to proceed with additional work as described in this form.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Yvette Hernandez, P.E.

# CITY OF EL PASO CONSTRUCTION CHANGE ORDER- Pg. 2

CONSTRUCTION CHANGE ORDER NO.: 3 DATE: September 21, 2023  SCOPE CHANGE  
PROJECT: EPIA Ceiling & Lighting Replacement Project SOLICITATION NO. 2023-0199  CONSTRUCTION CHANGE

Project Number G62A224801  
Class 62335  
Department 562  
Fund 3010  
Account 580270

Project Number 0 PURCHASE ORDER # 2300000395  
Class 0  
Department 0  
Fund 0  
Account 0

CONTRACTOR NAME: Hensel Phelps Construction

**PROVIDE REASON/JUSTIFICATION FOR CHANGE ORDER:**

The Architect's Supplemental Instruction No. 4 provides an architectural detail that includes a fire-rated felt panel to be placed above an estimated 28,000 SF of the Type No. 1 linear plank ceiling system. This addition is a result of an NFPA code requirement for an open ceiling system that states that the open air return cannot exceed 20%. Per the Engineer's calculations, it is currently greater than 20%. Cost classification for this PCO is a Designer Directive (ASI). EPIA concurs with the classification.

The Project Manager determined that the Contractor's cost proposal, which is inclusive of a premium cost for expediting the production timeline of the material in an effort to meet the General Contractor's schedule, is considered reasonable in comparison between the ROM estimate and the submitted cost proposal by the General Contractor.

CONSECUTIVE CALENDAR DAYS ADDED TO COMPLETION TIME: 0 TOTAL CHANGE ORDER AMOUNT: \$ 321,487.00

Project Manager recommends approval: \_\_\_\_\_

*Victoria Ruiz*

Assistant Director of Aviation recommends approval: \_\_\_\_\_

*R. Shane Brooks*

# REQUEST FOR PO INCREASE/DECREASE FOR CHANGE ORDER

CONSTRUCTION CHANGE ORDER NO.: 3 DATE: September 21, 2023  INCREASE  
PROJECT: EPIA Ceiling & Lighting Replacement Project SOLICITATION NO. 2023-0199  DECREASE

Project Number G62A224801  
Class 62335  
Department 562  
Fund 3010  
Account 580270

PURCHASE ORDER # 2300000395

CONTRACTOR NAME: Hensel Phelps Construction

AS A RESULT OF THIS CHANGE ORDER, PLEASE MAKE THE FOLLOWING ADJUSTMENT TO THE PURCHASE ORDER:

LINE	ADDED AMOUNT
5	\$ 321,487.00

TOTAL NET CHANGE TO  
PURCHASE ORDER  
  
\$ 321,487.00  
(should match cost below)

Additional funding/direction:  
Please add line 5-1: CO #3 - PCO #09

TOTAL CHANGE ORDER AMOUNT: \$321,487.00

Project Manager Victoria Ruiz

Assistant Director of Aviation recommends approval: R. Juan Brooks

Contract Compliance \_\_\_\_\_

Contract Change Order Documentation Summary and Determination of Cost Reasonableness:

Contract Name: EPIA Terminal Ceiling & Lighting Improvements

Solicitation /Project Number: 2023-0199

Change Order Number: 3

Prepared By: Victoria Ruiz

**RFP:**

In response to an (Select one and entry number and date) RFP number #4 and Field Directive number      dated 9/8/23 (Attach Copy). Or In response to      an unsolicited proposal was provided.

**Initial Cost Estimate:**

Check all that apply:

     No initial estimate of the change order costs was attempted. (Attach Justification countersigned by assigned DM)

     A ROM Estimate in the amount of      was prepared on Date      attach copy

X A Detailed Estimate in the amount of \$ 257,646 was prepared on Date 09/27/2023 attach copy.

     The Design Consultant provided a detailed estimate in the amount of \$      was prepared on Date      attach copy.

**Contractors Proposal:**

The contractor provided a proposal dated 9/11/2023 (attach copy) in the amount of \$321,487 and requesting 0 Calendar/Working days .

The proposal was reviewed as to the required Scope of work and found to accurately reflect the Scope of Work **Yes X No**. If No a formal revision was requested on this date      (attach Copy(s) of request) and received date     , in the amount of \$      and requesting      Calendar/Working days **Or Check if applicable** after review with assigned DM the city elected to proceed with negotiations and address the scope inconsistencies in Negotiations without a proposal revision (list inconsistencies to be addressed in negotiations ).     

Attach continuation sheet if necessary

**Cost evaluation:** Cost reasonableness was determined using the following methods check all that apply.

Utilizing existing Bid Item

Price Analysis

Cost Analysis

(Provide narrative description for each method utilized and how reasonableness was determined)

Attach mark up a proposal with negotiation objectives, including accepted cost, Dated and initialed by the Preparer and Assigned Division Manager. Label Marked UP Proposal:

Narrative description of determination of reasonableness: (Attach Continuation sheets as necessary, include detailed table showing Proposed/Objective /and Negotiated when appropriate. (Sample included)

Narrative:

The 3<sup>rd</sup> Party Project Manager (Broaddus & Associates) reviewed the cost proposal for ASI #4 and developed a cost estimate (see attached). The trade partner unit pricing is inclusive of a premium cost for expediting the production timeline of the material in an effort to meet the General Contractor's schedule as time is of the essence. The project manager determined that the contractor's proposed cost is reasonable and acceptable based on the comparison between the ROM estimate and their cost proposal.



# Department of Aviation

## MAYOR

Oscar Leeser

September 12<sup>th</sup>, 2023

## CITY COUNCIL

### District 1

Brian Kennedy

### District 2

Alexsandra Annello

### District 3

Cassandra Hernandez

### District 4

Joe Molinar

### District 5

Isabel Salcido

### District 6

Art Fierro

### District 7

Henry Rivera

### District 8

Chris Canales

## CITY MANAGER

Tommy Gonzalez

Hensel Phelps Construction Co.  
Adam McDavitt  
4141 Pinnacle Street  
El Paso, Texas 79902

Subject: Terminal Ceiling and Lighting Replacement – RFP #5

Dear Mr. McDavitt,

The following is a request to submit a proposal by Tuesday, September 19<sup>th</sup>, 2023 for completing the following work:

### Scope of Work:

Please refer to the attached file *EPIA C&L\_ASI 04\_230908* dated September 8<sup>th</sup>, 2023 by Carl Daniel Architects. The file includes a design clarification to add a felt panel above all linear panel ceiling systems as required by the local AHJ to achieve code compliance.

**Drawing Changes:** Architectural Detail 1 – Armstrong 9mm Felt Panel with TURF Product Data

**Specification Changes:** N/A

Your proposal shall contain a complete itemized breakdown in sufficient detail to permit an analysis of all material, labor, equipment, subcontractor cost (if applicable), and mark-ups. State additional time required, if necessary. Support your position with a marked-up progress chart depicting the impact of this proposed change to the original contract work.

Sincerely,

*Victoria Ruiz*

Victoria Ruiz

Cc: Gabe Gonzalez, Broaddus & Associates

Attachments: EPIA C&L\_ASI 04\_230908.pdf



**Sam Rodriguez, PE, CM, cfm, cnu-a**  
**Aviation Director**

El Paso International Airport | 6701 Convair Road | El Paso, TX 79925  
O: (915) 212-0330 | FlyElPaso.com



DELIVERING **EXCEPTIONAL** SERVICES





# AIA® Document G710™ – 1992

## Architect's Supplemental Instructions

**PROJECT** *(Name and address):* Ceiling & lighting replacement El Paso International Airport.  
6701 Convair Rd. El Paso, Texas 79925

**OWNER** *(Name and address):* EL Paso International Airport  
6701 Convair Rd. El Paso, Texas 79925

**FROM ARCHITECT** *(Name and address):* Carl Daniel Architects  
305 Leon Street  
El Paso, Texas 79901

**TO CONTRACTOR** *(Name and address):* HENSEL PHELPS  
4141 Pinnacle Street. Suite 215  
El Paso, Texas 79902

**ARCHITECT'S SUPPLEMENTAL INSTRUCTION NO:** FOUR (4)

**DATE OF ISSUANCE:** 8 September 2023.

**CONTRACT FOR:** Tenant Improvement

**CONTRACT DATE:** 8 November 2022.

**ARCHITECT'S PROJECT NUMBER:** 2018-32

OWNER:

ARCHITECT:

CONSULTANT:

CONTRACTOR:

FIELD:

OTHER:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgment that there will be no change in the Contract Sum or Contract Time.

**DESCRIPTION:** The attached architectural details and Armstrong drawings shows option 1 for the Metal works IMMIX Linear plank panel with 9mm felt panel by Armstrong.

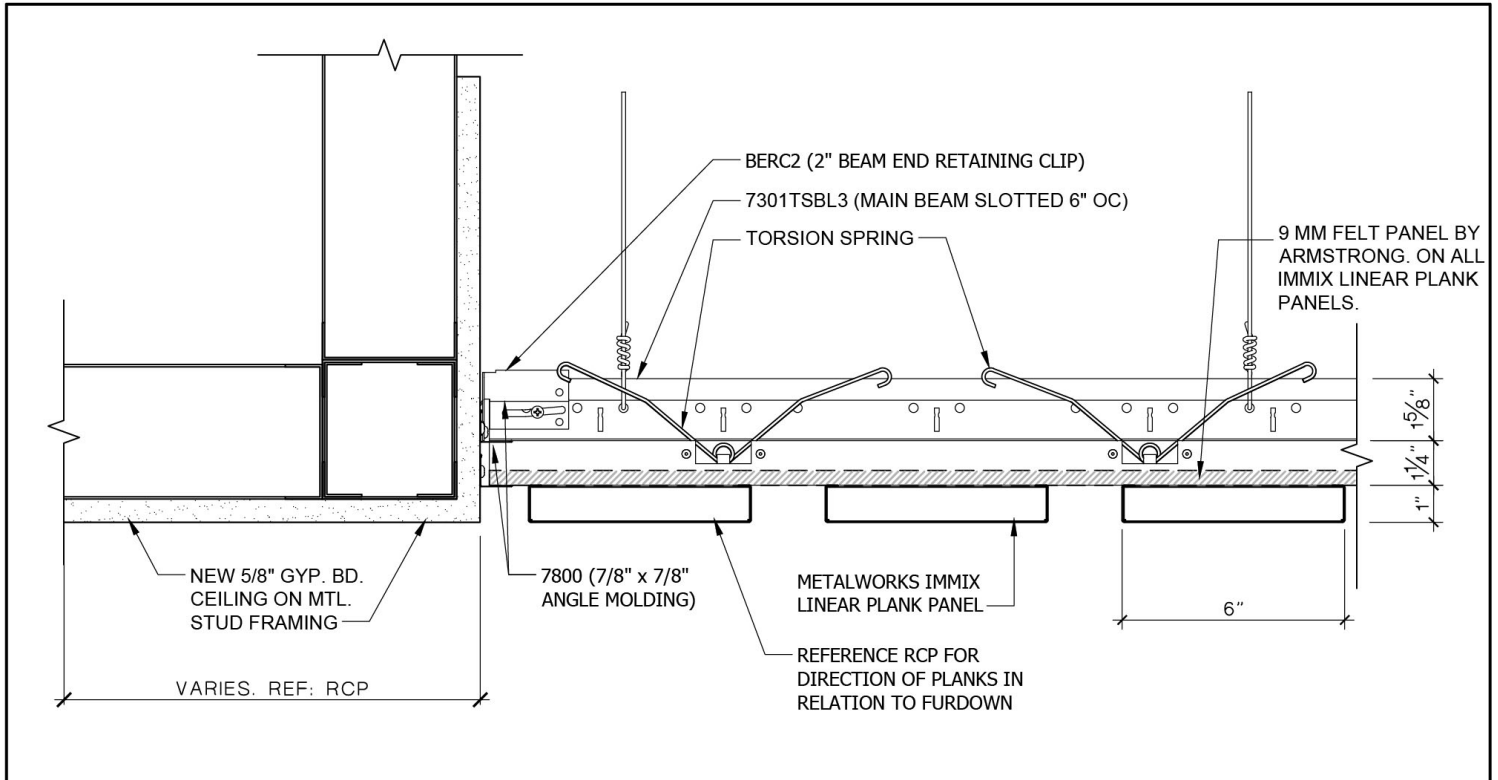
**ATTACHMENTS:**  
*(Here insert listing of documents that support description.)*

**Architectural Details Option 1 and the Armstrong drawings.**

**ISSUED BY THE ARCHITECT:**

  
*(Signature)*

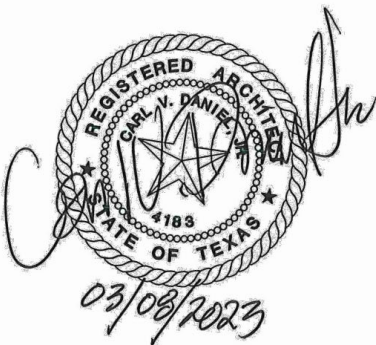
Carl V. Daniel Jr. - President  
*(Printed name and title)*



**OPTION No. 1 - 1" LINEAR PLANK PANELW/ FELT PANEL**

SCALE: 3" = 1'-0"

**1**



**CEILING AND LIGHTS REPLACEMENT**

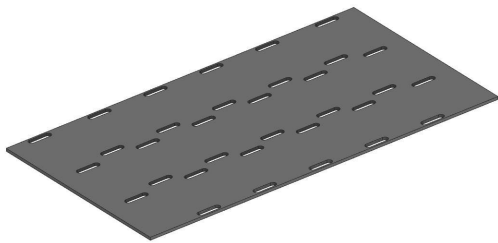
EL PASO INTERNATIONAL AIRPORT

SEPTEMBER , 8 2023

2018-32

DESIGN PROPOSAL

231624 - EL PASO AIRPORT



AXON  
NTS (02)

PLEASE NOTE, THIS PROPOSAL IS TO CONFIRM DESIGN INTENT ONLY. NOT FOR CONSTRUCTION. ALL DETAILS WILL BE DEVELOPED AND FINALIZED DURING OUR SHOP DRAWING PROCESS.

TURF DESIGN OWNS THE RIGHTS, TITLE, AND INTERESTS TO ALL PROPOSALS AND TO ALL PRODUCT DESIGNS PROVIDED THROUGHOUT THE DESIGN PROCESS.



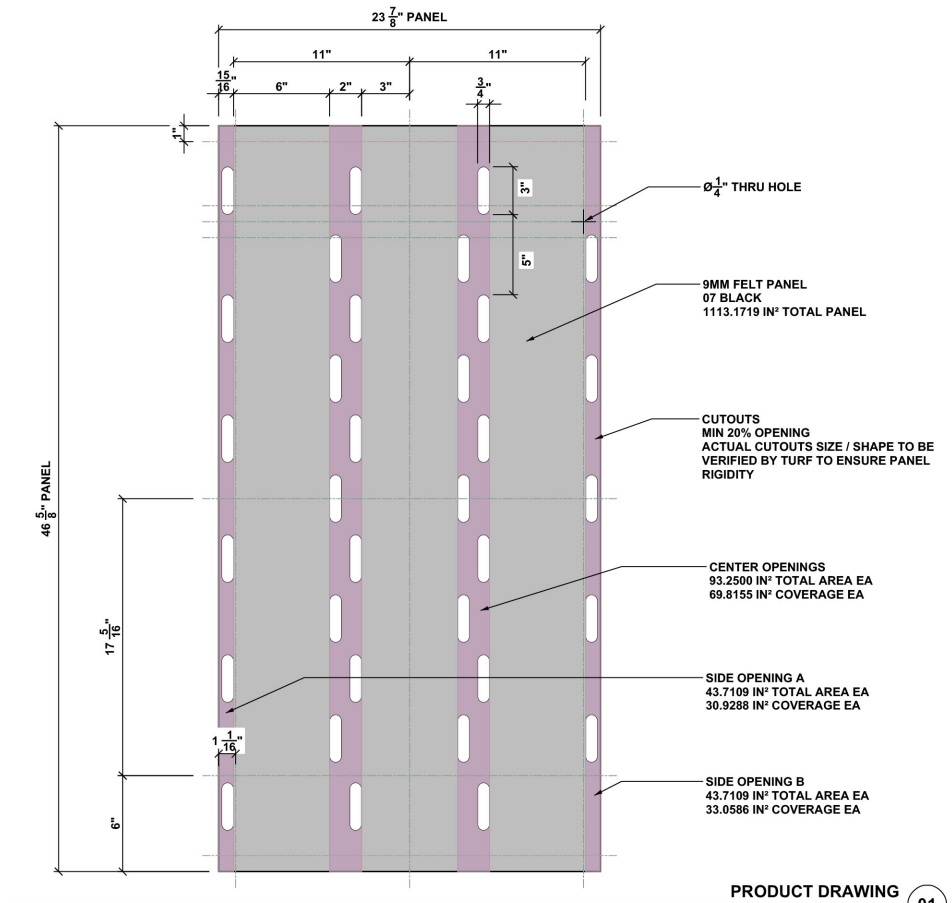
231624 - EL PASO AIRPORT

turf.design

2023-03-06 PROPOSAL, VERSION 2

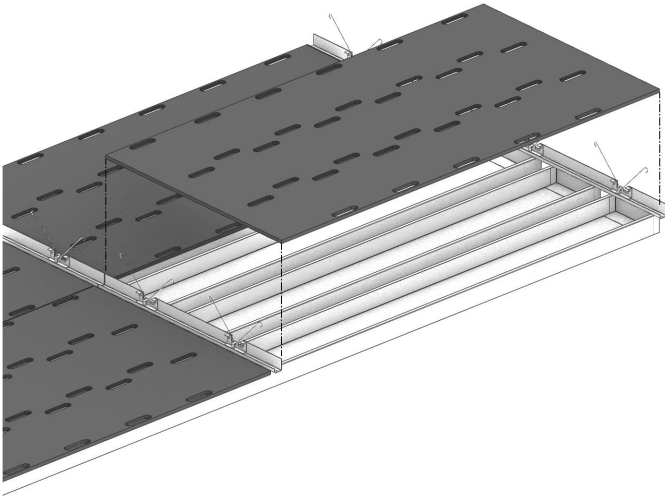
DESIGNED BY TY

01



DESIGN PROPOSAL

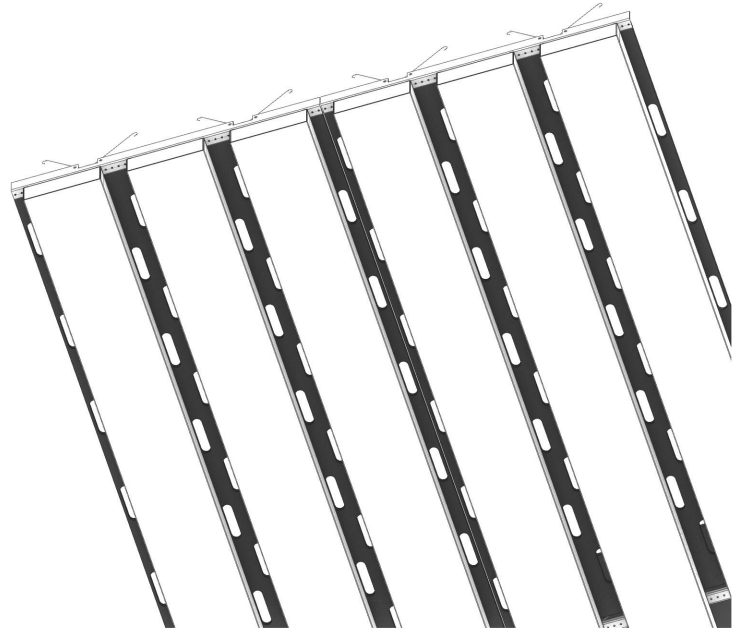
**231624 - EL PASO AIRPORT**



**AXON, PANEL COORD** 02  
NTS

PLEASE NOTE, THIS PROPOSAL IS TO CONFIRM DESIGN INTENT ONLY. NOT FOR CONSTRUCTION.  
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DESIGNS PROVIDED THROUGHOUT THE DESIGN PROCESS.



**AXON, FROM BOTTOM, WITH COORDINATING PANELS** 01  
NTS





September 27<sup>th</sup>, 2023 (Rev. 2)

Ms. Victoria Ruiz, EIT, ACE  
Capital Improvement Program Administrator  
El Paso International Airport  
[ruizvm@elpasotexas.gov](mailto:ruizvm@elpasotexas.gov)

**Re: EPIA Ceiling & Lighting Replacement Projected ASI #04 dated 09/08/2023 – ROM Cost Estimate**

Dear Vikki,

Below is a ROM cost summary of the scope associated with ASI #04 dated 09/08/23 as prepared by CDA Architects. This cost summary was developed based on an analysis of the base bid documents and subsequent design revisions. The values are estimated and may not align with the actual costs submitted by the Contractor and their trade partners.

**ASI #04 ROM Pricing Estimate**

Item	Description	Est. Cost (\$)	Notes
1	Addition of Felt Panel at Type No. 1 Ceilings	144,501	Material Cost: \$4.99/SF @ 28,958
		14,190	Labor Cost: \$0.50/SF @ 28,958
2	Production Acceleration Premium	36,126	25% Premium on Material Cost
3	<b>Subtotal</b>	<b>194,817</b>	
4	Subcontractor OH&P	29,223	15%
5	General Contractor OH&P	33,606	15%
	<b>Total</b>	<b>\$257,646</b>	

Thank you,

Gabe Gonzalez, CCM  
Project Manager  
Broaddus & Associates  
[ggonzalez@broaddususa.com](mailto:ggonzalez@broaddususa.com)

Cc: Raul Rodriguez, Broaddus & Associates



**HENSEL PHELPS**  
Plan. Build. Manage.

Jobsite Address:  
6701 Convair Rd, El Paso TX  
El Paso, TX. 79902

9/11/2023

Victoria M. Ruiz, EIT  
Project Manager  
El Paso International Airport  
6701 Convair Rd, El Paso TX  
El Paso, TX. 79902

Subject: **PCO 009 ASI 004 - Linear Metal Ceiling Felt Panel**  
EPIA - Ceiling and Lighting Replacement

Dear Victoria,

Please find attached for your review and approval the pricing proposal associated with PCO 009. This includes the additional cost for the material and installation of air flow suppression felt panels over all the linear metal ceiling system, per ASI 04

Total Value of Change: **\$ 321,487**

Should there be any questions or comments regarding the above items, please contact the undersigned.

Sincerely,

HENSEL PHELPS CONSTRUCTION CO.

Carlos Chavez  
Project Engineer

*World-Class Innovators. Landmark Buildings. Inspiring Performance.*

# EPIA Ceiling and Lighting Replacement

*El Paso International Airport*

## Change in Work - Cost Analysis Form

Project No. & Name: 2023-0199 - EPIA CLR Date: 9/11/2023  
 Contractor Name: Hensel Phelps Construction Co. Potential Change Order No. PCO 009  
 Description of Change: ASI 004 - Linear Metal Ceiling Felt Panel

Means Code	Description	Quantity	Unit	Unit Cost	Labor	Material & Equipment	Subcontract	
	Diversified Interiors	1	LS	\$ -	\$ -	\$ -	\$ 279,554.00	
		0	LS	\$ -	\$ -	\$ -	\$ -	
		0	LS	\$ -	\$ -	\$ -	\$ -	
		0	LS	\$ -	\$ -	\$ -	\$ -	
	Hensel Phelps Construction	1	LS	\$ -	\$ -	\$ -	\$ -	
		0		\$ -	\$ -	\$ -	\$ -	
		0		\$ -	\$ -	\$ -	\$ -	
		0		\$ -	\$ -	\$ -	\$ -	
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		0		\$ -	\$ -	\$ -	\$ -	
		0		\$ -	\$ -	\$ -	\$ -	
		0		\$ -	\$ -	\$ -	\$ -	
					<b>SUBTOTAL</b>	\$ -	\$ -	\$ 279,554

<b>Managing subcontracted work (per GC 2.5.2.4)</b>	<b>SUBTOTAL</b>	\$ 279,554
Hensel Phelps Contractor's Fee, add...	15.0%	\$ 41,933
		\$ -
		\$ -

**TOTAL FOR THIS CHANGE PROPOSAL \* \$ 321,487**







**Corporate Office:**

4750 Ripley - El Paso, Texas 79922  
P.O. Box 220307 - El Paso, Texas 79913  
(915) 585-0030 - Fax (915) 585-0050

**EPIA Ceiling and Lighting Replacement  
Felt Panel for Air Suppression  
9.11.2023**

**Scope of Work:**

- Add felt panel for airflow suppression over Armstrong IMMX linear metal ceiling panels

<b>Labor Add:</b>	<b>\$33,263.00</b>
<b>Material Add:</b>	<b>\$246,291.00</b>
<b>Total Add:</b>	<b>\$279,554.00</b>

  
Andrew Hawley  
President  
Diversified Interiors

**DIVERSIFIED INTERIORS**  
 4750 Ripley, El Paso, TX 79922  
 Phone: 585-0030 Fax: 585-0050

## Bid Summary

***EPIA Terminal Ceiling and Lighting Improvements-1" Panel (For Construction)***

***Air Flow Suppression over IMMx panels***

Bid No. 13

Selected Sections: 09501 Acoustical wall panels

Selected Typical Areas:

Selected Areas: (unassigned)

Estimator:

Job Class:

Wage Type: **Open**

Job Status: **Sold**

Bid Date/Time: **11/23/2022 10:20:57 AM**

Plans Date: **11/23/2022**

(unassigned)

No.	Condition	Height	Quantity	Unit Price			Total Price	Man Days
				Mat.	Lab.	Total		
1	Air Flow Suppression over IMMx panels		28,958.40 SF	8.51	1.15	9.65 / SF	279,554.14	113.12
<b>Material &amp; Labor Total:</b>							<b>279,554.14</b>	<b>113.12</b>
<b>(unassigned) Total:</b>							<b>279,554.14</b>	<b>113.12</b>
<b>Grand without additional markups Total:</b>							<b>279,554.14</b>	<b>113.12</b>
<b>Additional Markups Total:</b>							<b>0.00</b>	
<b>Grand Total:</b>							<b>279,554.14</b>	



February 26, 2019

Turf Design  
Mr. Dustin Headley  
2000 Fox Ln.  
Elgin, IL 60123

Our Reference: SV30854 / 4788546841

Subject: Report Of Surface Burning Characteristics Tests On Ceiling Panels As Submitted By Turf Design.

Dear Mr. Headley:

This is a Report summarizing the results of a test conducted under the Commercial Inspection and Testing Services (CITS) program of UL LLC (UL) identified as Assignment No. 4788546841.

**GENERAL:**

The results relate only to items tested.

**METHOD:**

Each test was conducted in accordance with Standard ANSI/UL723, Eleventh Edition, dated April 19, 2018, "Test for Surface Burning Characteristics of Building Materials", (ASTM E84).

The test determines the Surface Burning Characteristics of the material, specifically the flame spread and smoke developed indices when exposed to fire.

The maximum distance the flame travels along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index of the material is derived by plotting the progression of the flame front on a time-distance basis, ignoring any flame front recession, and using the equations described below:

A.  $CFS = 0.515 A_T$  when  $A_T$  is less than or equal to 97.5 minute-foot.

B.  $CFS = 4900/(195-A_T)$  when  $A_T$  is greater than 97.5 minute-foot.

Where  $A_T$  = total area under the time distance curve expressed in minute-foot.

The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of photoelectric equipment operating across the furnace flue pipe. A curve is developed by plotting the values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for the material tested as a percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

$$CSD = (A_m/A_{ro}) \times 100$$

Where:

CSD = Calculated Smoke Developed

$A_m$  = The area under the curve for the test material.

$A_{ro}$  = The area under the curve for untreated red oak.

**SAMPLES:**

The samples utilized in this investigation were neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

**Sample Description**

Test No.	System
5	Ceiling Panels 9mm Black Material test

Each test sample consisted of three 8 by 2 ft wide boards butted end-to-end to form the required 24 ft. long surface.

Due to the rigidity of the test samples, supplementary means of support was not required.

RESULTS:

The results are tabulated below are considered applicable only to the specific samples tested.

Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Table 1: Flame Spread Summary

Test No.	Test Code	Sample Description	CFS Calculated Flame Spread (Ceiling)	FSI Flame Spread Index (Ceiling)+	CFS Calculated Flame Spread (Floor)	FSI Flame Spread Index (Floor)++
5	08211813	Ceiling Panels	14.74	15	244.95	245

+ - Flame Spread Index while material remained in the original test position.

++ - Ignition of molted residue on the furnace floor resulted in flame travel equivalent to calculated Flame Spread Index indicated.


Table 2: Smoke Developed Summary

Test No.	Test Code	Sample Description	CSD Calculated Smoke Developed (Prior to Floor Ignition)	SDI Smoke Developed Index (Prior to Floor Ignition)	CSD Calculated Smoke Developed (Entire Test Duration)	SDI Smoke Developed Index (Entire Test Duration)
5	08211813	Ceiling Panels	0.4	0	292.3	300

The Classification Marking of UL on the product is the only method provided by UL to identify products which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Should you have any questions, please contact the undersigned.

Very truly yours



Robert S. Kiefer (ext. 42014)  
Senior Engineering Associate  
Fire Protection Division

Reviewed by:



James F. Smith (ext. 42666)  
Staff Engineering Associate  
Fire Protection Division

Project: 4788546841  
Tested by: ABRAN GARCIA

File: SV30854  
Engineer: JOHN WIESNER

TestCode: 08211813  
Date: 2018-08-21

TEST METHOD: The test was conducted in accordance with UL 723, Eleventh Edition (2018/04/19).

Client Name: Turf Design	Test No.: 5	Hot Test: Yes
Test Duration: 10 minutes	Test Type: Developmental	Burn-Out Required: Yes
Mounting: Rods & Wire		

**Test Sample:** Ceiling Panels  
9mm Black Material test

### FLAME SPREAD RESULTS

#### Ceiling Flame Spread Data

Distance (Feet)	Time (Sec)
Ignition	18
1	26
2	30
3	35

#### Floor Flame Spread Data

Distance (Feet)	Time (Sec)	Distance (Feet)	Time (Sec)
Ignition	36	11	59
1	45	12	61
2	46	13	62
3	47	14	67
4	48	15	68
5	50	16	80
6	51	17	84
7	52	18	87
8	53	19	110
9	55	19.5	111
10	57		

**Calculated Flame Spread (CFS):** 14.74  
**Flame Spread Index (FSI):** 15  
**Time to Ignition (sec):** 18  
**Maximum Flame Spread (ft):** 3.0  
**Area Under the Flame Spread Curve (ft.-min):** 28.6  
**Time to Floor Ignition (sec):** 36  
**Maximum Floor Flame Spread (ft):** 19.5  
**Calculated Floor Flame Spread:** 244.95

### SMOKE RESULTS

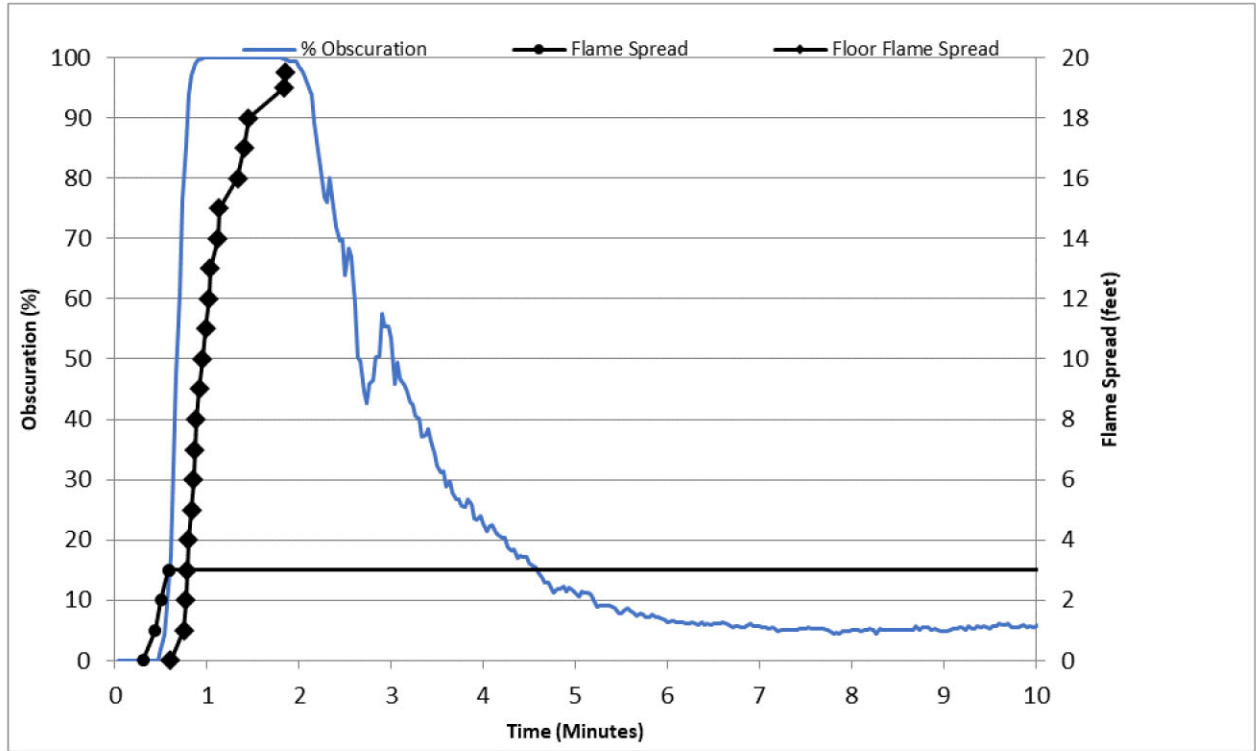
**Calculated Smoke Developed (CSD):** 292.3  
**Smoke Developed Index (SDI):** 300  
**Area Under the Smoke Curve (Obs.-min.):** 281.16  
**Area Under Heptane (Obs.-min.):** 96.18  
**Area Under the Smoke Curve Before Floor Ignition (Obs.-min.):** 0.36  
**Smoke Developed Prior to Floor Ignition:** 0.4

### Post-Test Observations

**Char (Feet From Burner):** 24

# Flame Spread / Smoke Results

## Turf Design Ceiling Panels



Test Num.: 5  
SV30854 / 4788546841  
08211813

Flame Spread Index: 15  
Smoke Developed Index: 300  
Max. Flame Spread (ft.): 3.0



CITY OF EL PASO

# EPIA Terminal Ceiling and Lighting

Change Order



# Project Details

<b>Location:</b>	<b>El Paso International Airport</b>
<b>District(s):</b>	<b>All</b>
<b>Total Budget:</b>	<b>\$14,500,000.00</b>
<b>Construction Contract:</b>	<b>\$9,737,000.00 Hensel Phelps</b>
<b>Change Order Amount:</b>	<b>\$321,487.00 PFC Funds / Airport Funds</b>

# Scope of Work

- NFPA requirements for an open ceiling system state that open air return cannot exceed 20%. To meet this requirements felt must be installed above the ceiling panels.



## MISSION



Deliver exceptional services to support a high quality of life and place for our community.

## VISION



Develop a vibrant regional economy, safe and beautiful neighborhoods and exceptional recreational, cultural and educational opportunities powered by a high performing government.

## VALUES



Integrity, Respect, Excellence,  
Accountability, People

## MISIÓN



Brindar servicios excepcionales para respaldar una vida y un lugar de alta calidad para nuestra comunidad

## VISIÓN



Desarrollar una economía regional vibrante, vecindarios seguros y hermosos y oportunidades recreativas, culturales y educativas excepcionales impulsadas por un gobierno de alto desempeño

## VALORES



Integridad, Respeto, Excelencia, Responsabilidad, Personas