COLLIN COLLEGE

TECHNICAL CAMPUS

ALLEN, TEXAS

PROJECT CLOSEOUT REPORT

AECOM

NOVEMBER 2021

PROJECT CLOSEOUT REPORT

COLLIN COLLEGE TECHNICAL CAMPUS

SUBMITTED BY:

Date: _____

Nuria Cortes
Document Controls Manager

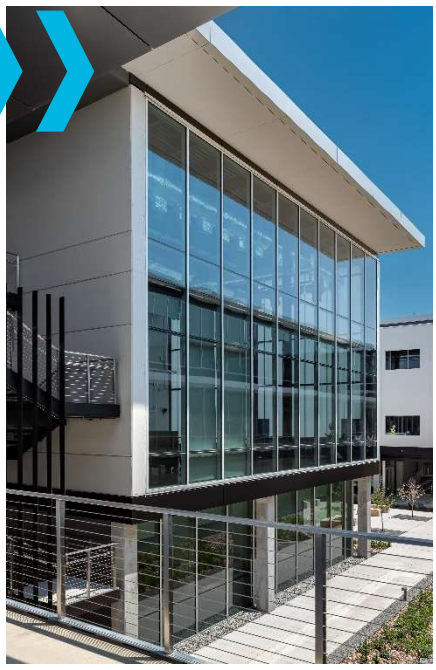
Date: _____

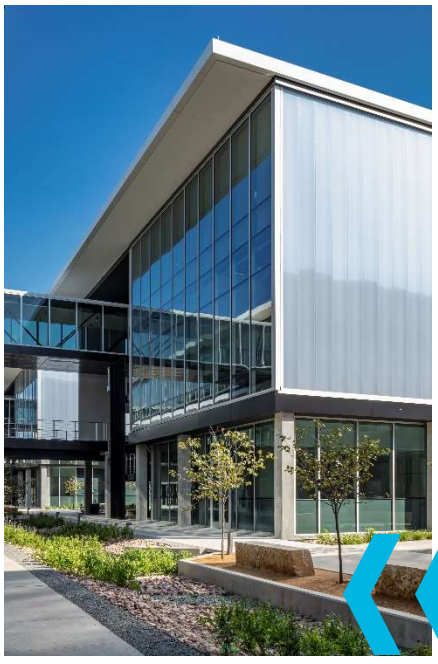
Adrian Grimes
Program Director

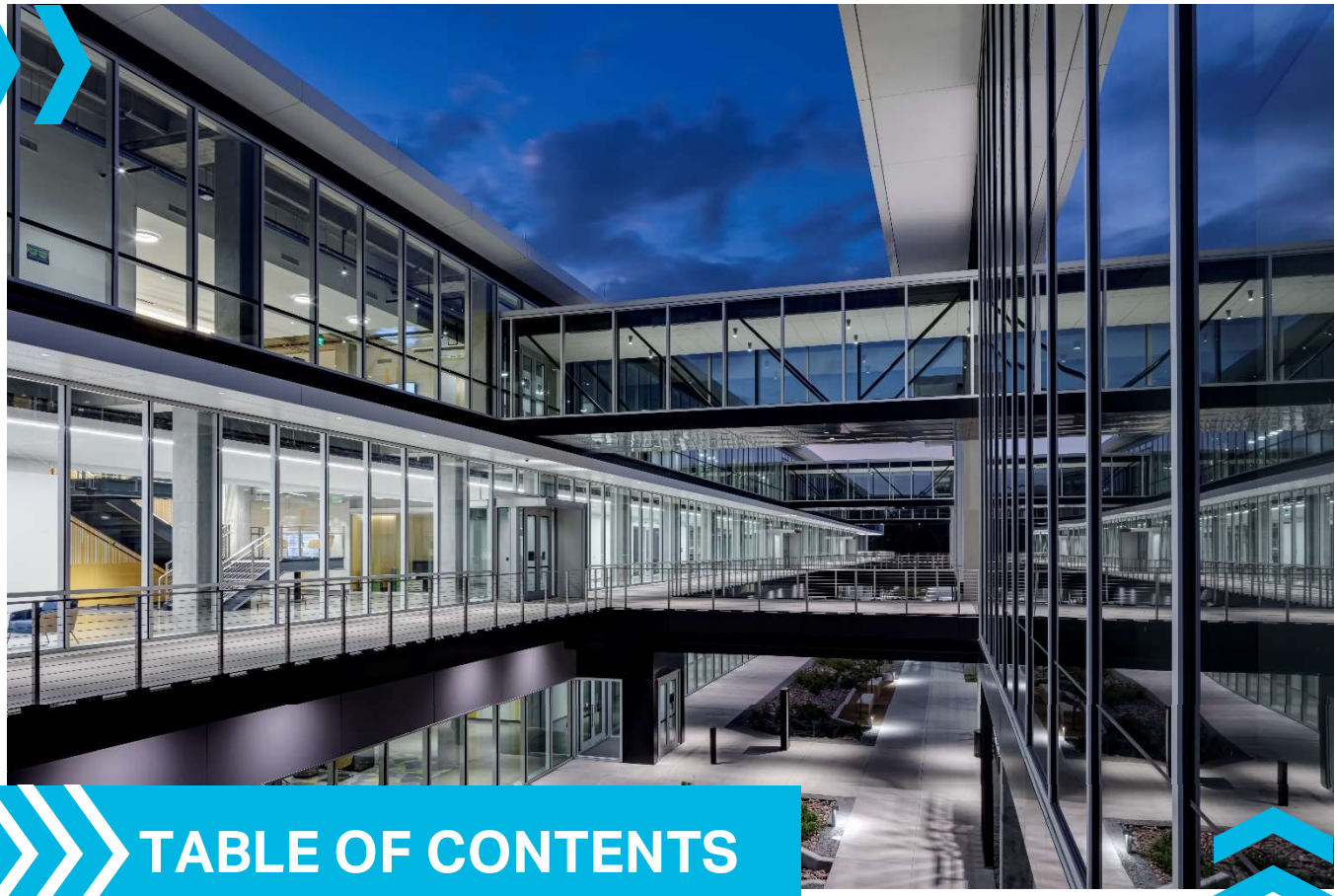
APPROVED BY:

Date: _____

Chris Eyle
Vice President of Facilities and Construction







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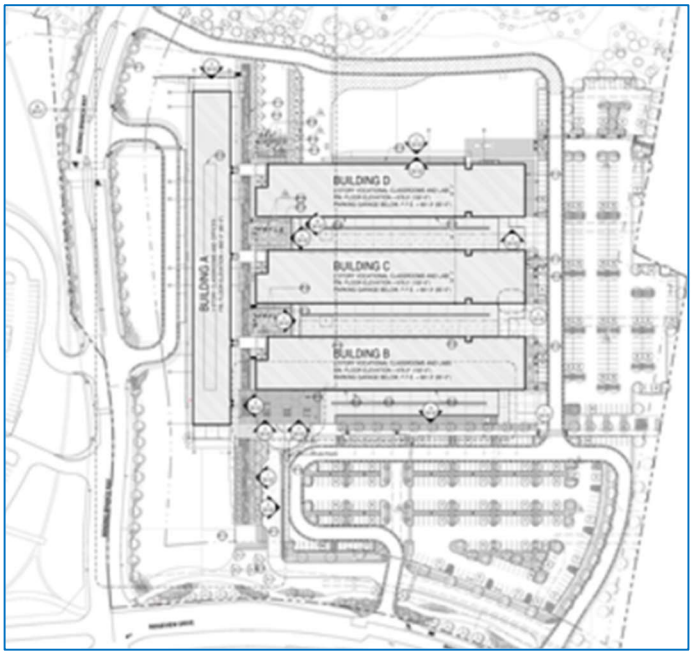
EXECUTIVE SUMMARY

The need for the Technical Campus project came out of the 2016 Collin College Master Plan, which identified an industry-wide shortage of a trained workforce for technical and workforce programs in Collin County, such as construction, automotive and advanced manufacturing. Funding for workforce facilities originally shown in the Master Plan to be located at the three existing College campuses was combined into one project to create a 360,000 square feet Technical Campus in Allen, TX. The original design concept showed four (4) identical stand-alone buildings with four (4) multi-level parking garages. During design concept meetings with College leadership, AECOM and the architect, Perkins & Will, the campus evolved into a 338,000 square feet facility consisting of one (1) Academic Building and three (3) Trade Bar buildings sitting on top of a 450-car underground parking garage.

Design and pre-construction services from the CMAR began in September 2017 and construction started in August 2018. Substantial completion of the project was achieved on August 10, 2020 and student occupancy of the facilities began in late August 2020.

SITE PLANS



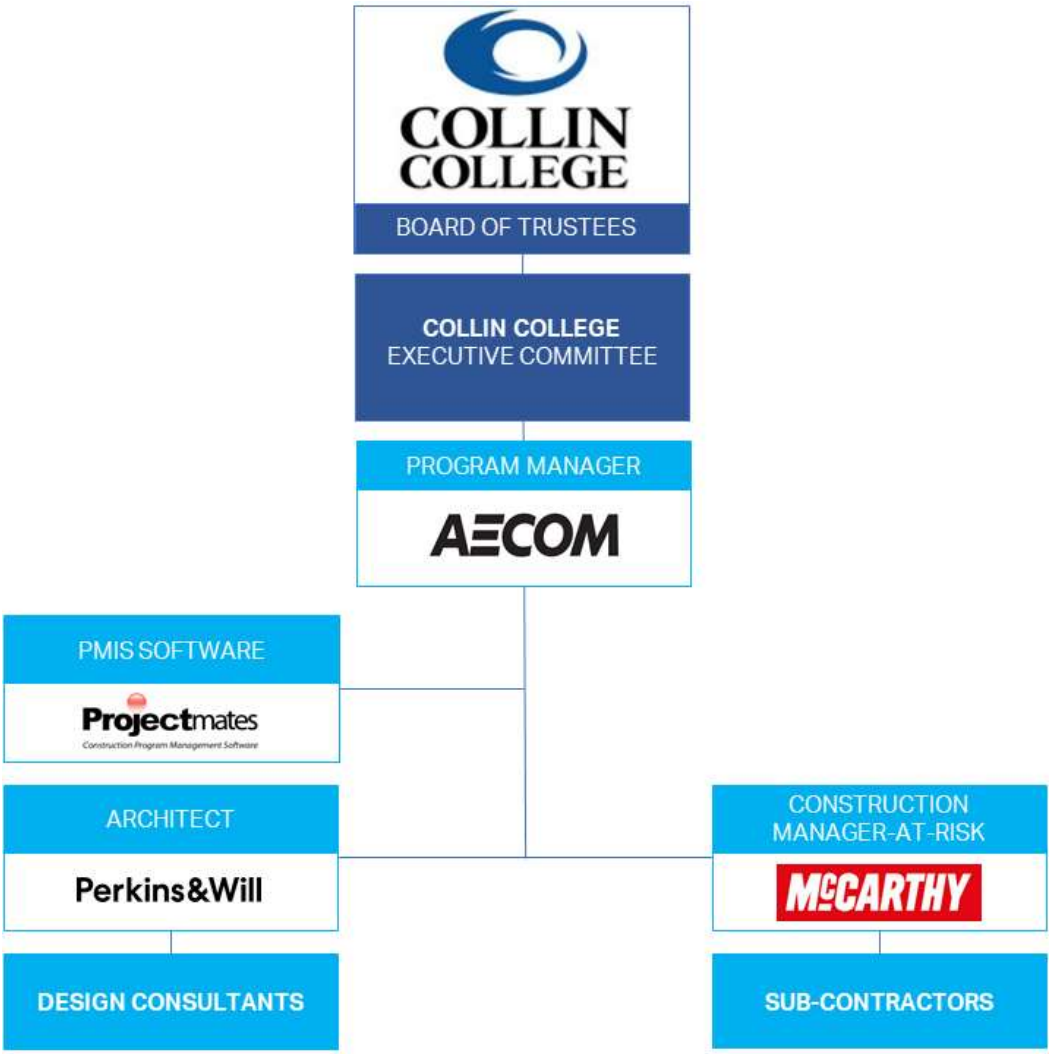
PROCUREMENT AND PROJECT DELIVERY APPROACH

Collin College issued an RFQ for program management services in January 2017 and AECOM was selected as the recommended firm in March 2017. The College Board of Trustees approved the recommendation for AECOM to provide program management services contingent upon the voters approving the $600M bond issue, which was approved in May 2017. AECOM was issued a contract upon the voters passing the bond issue, and immediately began providing program management services.

The major hurdle the project faced from the beginning was the extremely tight deadline for the project to be delivered for occupancy by Fall 2020, which is only three (3) years from project concept to student occupancy. To achieve this desired timeline, AECOM recommended the College utilize the CMAR delivery method for the construction of the project, and that the CMAR be brought on-board at the beginning of the project to deliver pre-construction services while the Architect was working on the design of the campus.

AECOM developed a detailed RFQ and RFP schedule, and worked with the College's Procurement Department to issue RFQ's for professional design and construction services through a full and open procurement process. The detailed scheduling and close coordination with the College allowed for expedited selection and on-boarding of the Architect and Construction Manager. Perkins & Will was selected as the Architect and McCarthy Building Companies, Inc. was selected as the CMAR. Other professional services such as commissioning services and building envelope consulting services were procured using the same transparent process.

PROJECT ORGANIZATION



PROJECT TIMELINE

KEY MILESTONES

2017

MAY

6th Voters approve $600M Bond Issue
16th Program Manager Board Approval
23rd Architect Procurement Method Board Approval
23rd CMAR Delivery Method Board Approval

JUNE

Architect RFQ Issuance
CMAR RFQ Issuance

AUGUST

22nd Architect Selection Board Approval
22nd CMAR Selection Board Approval

SEPTEMBER

26th CMAR PreConstruction Contract Issued
28th Architect Notice to Proceed

2018

APRIL

19th GMP Document submittal (DD Docs)

AUGUST

2nd CMAR Construction Notice to Proceed

JUNE

15th CMAR GMP Proposal Submitted
26th GMP Board Approval

2019

JULY

29th Foundations Complete

NOVEMBER

13th Structures Complete

DECEMBER

20th Roofing Complete

2020

JANUARY

15th Permanent Power Complete

MAY

7th Temporary Certificate of Occupancy

AUGUST

10th Substantial Completion
24th Student Occupancy

2021

NOVEMBER

Project Closeout

PROJECT FINANCIALS

BUDGET SUMMARY

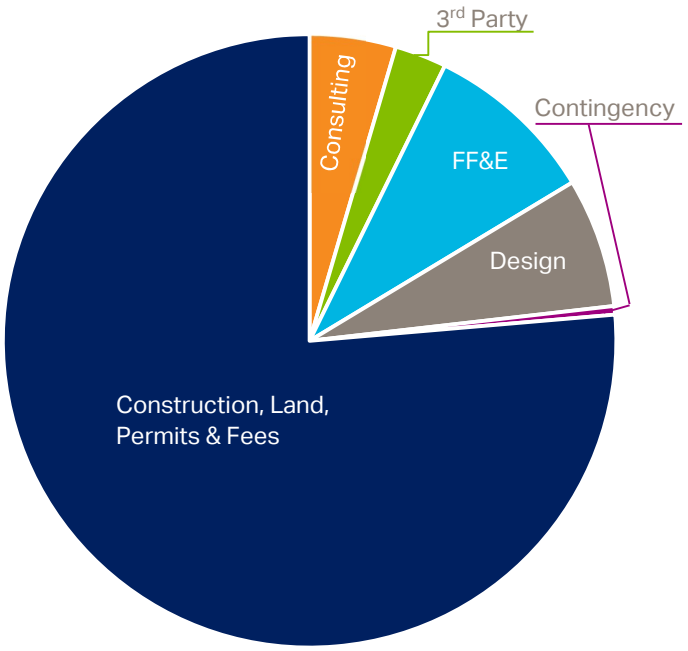
CATEGORY	BUDGET	COMMITMENTS	EXPENDITURES
Design	8,458,678.95	8,458,678.95	8,458,678.95
Consulting	5,272,229.69	5,272,229.69	5,272,229.69
3rd Party Invest, Testing & Verification	1,297,502.37	1,297,502.37	1,297,502.37
FF&E and IT	12,786,060.04	12,786,060.04	12,786,060.04
Construction, Land, Permits & Fees	148,640,895.08	148,640,895.08	148,640,895.08
Misc.	38,501.09	38,501.09	38,501.09
Contingency	-	-	-
TOTAL	**176,493,867.22**	**176,493,867.22**	**176,493,867.22**

FINANCIAL FACTS

$136,999,801
Final GMP Construction Contract Value

279 Total Contracts Issued

917 Total Invoices Processed



MWBE/HUB

SUMMARY

$5,046,286.50 in MWBE/HUB subcontracts awarded.
4% of direct construction cost of work.

2 outreach events were held in 2017.
1 outreach event was held in 2018.

APPENDIX

A. Certificates of Completion
   i. Substantial Completion
   ii. Consent of Surety to Final Payment
B. Certificate of Occupancy Certificates
C. Progress and Final Photos
D. Contract Deliverable File Locations
E. Risk Register
F. Awards and Recognitions

CERTIFICATES OF COMPLETION

SUBSTANTIAL COMPLETION

AIA® Document G704™ – 2017

Certificate of Substantial Completion

PROJECT: *(name and address)*	CONTRACT INFORMATION:	CERTIFICATE INFORMATION:
Collin College 900240.0289 Technical Training Center	Contract For: General Construction Date: September 22, 2017	Certificate Number: 001 Date: August 10, 2020
OWNER: *(name and address)*	**ARCHITECT:** *(name and address)*	**CONTRACTOR:** *(name and address)*
Collin County Community College 3452 TX-399 Spur, Suite 102 McKinney, TX 75069	Perkins and Will, Inc. 2218 Bryan Street, Suite 200 Dallas, TX 75201	McCarthy Building Companies, Inc. 12001 N. Central Expressway, Suite 400 Dallas, TX 75243

The Work identified below has been reviewed and found, to the Architect's best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.
(Identify the Work, or portion thereof, that is substantially complete.)
Documented Project Scope for a new Technical Center comprised of an Academic Building, Trade Bars B, C & D on a new 32-acre site.

Perkins and Will, Inc.		Barbara Rystrom Senior Project Manager	August 10, 2020
ARCHITECT *(Firm Name)*	**SIGNATURE**	**PRINTED NAME AND TITLE**	**DATE OF SUBSTANTIAL COMPLETION**

WARRANTIES
The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:
(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)
As of the date of Substantial Completion the Owner shall be responsible for security, maintenance, heat, utilities damage to the Work and insurance.

WORK TO BE COMPLETED OR CORRECTED
A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:
(Identify the list of Work to be completed or corrected.)
Pending completion of all A/E punch list items recorded by McCarthy in Procore. Punch list walk dates varied in months of June, July and August.
Items from forthcoming field observation report - outstanding items observed as non-compliant issues.

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within thirty (30) days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: $80,000.00

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:
(Note: Owner's and Contractor's legal and insurance counsel should review insurance requirements and coverage.) --
N/A

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

McCarthy Building Companies, Inc.		Jeff Wagner Project Director	10/23/2020
CONTRACTOR *(Firm Name)*	**SIGNATURE**	**PRINTED NAME AND TITLE**	**DATE**
Collin County Community College District		H. Neil Matkin District President	10/26/2020
OWNER *(Firm Name)*	**SIGNATURE**	**PRINTED NAME AND TITLE**	**DATE**

CONSENT OF SURETY TO FINAL PAYMENT

CONSENT OF SURETY COMPANY TO FINAL PAYMENT

Conforms with the American Institute of Architects, AIA Document G707

OWNER ☐
ARCHITECT ☐
CONTRACTOR ☐
SURETY ☐
OTHER

Bond No 82466996, 106932950

PROJECT:
(name, address) Technical Training Center

TO (Owner) Collin County Community College, Ridgeview Drive, Allen, TX,

COLLIN COUNTY COMMUNITY COLLEGE DISTRICT
3452 Spur 399, Room 367
McKinney, TX, 75069-8742

ARCHITECT'S PROJECT NO:

CONTRACT FOR:
ARBH File: Collin College 900240.0289 Technical Training Center
Collin County Community College, Ridgeview Dr., Allen, TX
Collin College 2017 Capital Improvement Program - Technical Training Center

CONTRACT DATE: 9/26/2017

CONTRACTOR: MCCARTHY BUILDING COMPANIES, INC.

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the

(here insert name and address of Surety Company)
TRAVELERS CASUALTY AND SURETY COMPANY
One Tower Square
Hartford, CT 06183

FEDERAL INSURANCE COMPANY
202B Hall's Mill Road
Whitehouse Station NJ 08889

, SURETY COMPANY

on bond of **(here insert name and address of Contractor)**

MCCARTHY BUILDING COMPANIES, INC.
12001 N. Central Expressway, Suite 400
Dallas, TX, 75243

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to **(here insert name and address of Owner)**

COLLIN COUNTY COMMUNITY COLLEGE DISTRICT
3452 Spur 399, Room 367
McKinney, TX, 75069-8742

, OWNER,

as set forth in the said Surety Company's bond.

IN WITNESS, WHEREOF,
the Surety Company has hereunto set its hand this 14th **day of** September, 2021

TRAVELERS CASUALTY AND SURETY COMPANY
FEDERAL INSURANCE COMPANY

Surety Company

Attest: Susan A. Welsh
(Seal):

Signature of Authorized Representative

Christina L. Sandoval — Attorney-in-Fact
Title

NOTE: This form is to be used as a companion document to AIA DOCUMENT G706, CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS, Current Edition

ONE PAGE

CERTIFICATE OF OCCUPANCY CERTIFICATES

McCARTHY

12001 N. Central Expressway, Suite 400, Dallas, Texas 75243
P 972-991-5500 | F 972-991-9249
mccarthy.com

Approved for 60 Day TCO STAFF ONLY
City of Allen Building Division
M. Sizemore, CBO
July 10/2020

June 23, 2020

Larry King
City of Allen
305 Century Parkway
Allen, TX 75013

RE. Collin College Technical Campus

Mr. King,

Please accept this letter as our formal request for a Temporary Certificate of Occupancy for Building A levels 00 through 02 (Permit #013431-2018-CB). The intent of this Temporary Certificate of Occupancy (TCO) is to allow Collin College to begin moving key personnel into Building A to support the setup and stocking of the campus. No students will be occupying this space under this TCO.

Barricades will be setup to separate Building A from the other spaces still under construction. We will also setup designated entrance paths from the surface parking on level 01 to the academic building.

We are requesting this TCO begin on 6/30/20 and extend for 60 days.

Matthew Schrodel
Sr. Project Manager
214-392-3246
McCarthy Building Companies

Temporary Certificate of Occupancy

STAFF ONLY

60 Days
2

Issue date:
07/10/2020
2015 International Building Code
Building Permit No.: 013431-2018-CB

Name of Business: Collin County Community College

Zoning District:	PD-135 cc	Type of Construction:	II B
Occupant Load:	6470	ICC Type of Occupancy:	B Office, Professional
Square Feet	134641	Automatic Sprinkler System:	Yes

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way A "Bldg A"

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as per Allen Land Development Code SEC 4.20

Inspections will be made by the Health and/or Fire Department to ensure continued compliance with applicable codes and regulations.

CITY OF ALLEN

Building Official: _____
Mike Sizemore

Temporary Certificate of Occupancy

Issue dates: **08/07/2020 - 09/11/2020**

2015 International Building Code

Name of Business: **Collin County Community College**
Buildings A through E

Zoning District: PD-135 CC
Occupant Load:
Square Feet:

Type of Construction: II-B
ICC Type of Occupancy: B Office, Professional
Automatic Sprinkler System:

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way ALLEN, TX 75013

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as ***OFFICE USE*** per Allen *Land Development Code SEC 4.20*

Inspections will be made by the Health and/or Fire Department to insure continued compliance with applicable codes and regulations.

Building Official: _____

Michael Sizemore

CITY OF ALLEN

Temporary Certificate of Occupancy

Issue dates: 09/08/2020 - 10/08/2020

2015 International Building Code

Name of Business: **Collin County Community College**
Buildings A through E

Zoning District:	PD-135 CC	Type of Construction:	II-B
Occupant Load:		ICC Type of Occupancy:	B Office, Professional
Square Feet:	508,914 (combined)	Automatic Sprinkler System:	

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way ALLEN, TX 75013

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as ***OFFICE USE*** per Allen Land Development Code SEC 4.20

Inspections will be made by the Health and/or Fire Department to insure continued compliance with applicable codes and regulations.

Building Official: _____
Michael Sizemore

CITY OF ALLEN

Temporary Certificate of Occupancy

Issue date**s: 10/08/2020 - 11/23/2020**

2015 International Building Code

Name of Business: **Collin County Community College**
Buildings A through E

Zoning District: PD-135 CC
Occupant Load:
Square Feet: 508,914 (combined)

Type of Construction: II-B
ICC Type of Occupancy: B Office, Professional
Automatic Sprinkler System:

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way ALLEN, TX 75013

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as ***OFFICE USE*** per Allen Land Development Code SEC 4.20

Inspections will be made by the Health and/or Fire Department to insure continued compliance with applicable codes and regulations.

Building Official: _____
Michael Sizemore

CITY OF ALLEN

Temporary Certificate of Occupancy

Issue dates: **11/23/2020 - 01/08/2021**

2015 International Building Code

Name of Business: **Collin County Community College**
Buildings A through E

Zoning District:	PD-135 CC	Type of Construction:	II-B
Occupant Load:		ICC Type of Occupancy:	B Office, Professional
Square Feet:	508,914 (combined)	Automatic Sprinkler System:	

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way ALLEN, TX 75013

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as ***OFFICE USE*** per Allen Land Development Code SEC 4.20

Inspections will be made by the Health and/or Fire Department to insure continued compliance with applicable codes and regulations.

Building Official: _____

Michael Sizemore

CITY OF ALLEN

Certificate of Occupancy

Issue date: **5/10/2021**
2015 International Building Code
Building Permit No.: 014388-2018-CO

Name of Business: **Collin College**

Zoning District:	CC	Type of Construction:	II-B
Occupant Load:	6470	ICC Type of Occupancy:	B Office, Professional
Square Feet:	338,095	Automatic Sprinkler System:	Yes

Owner of Building: Collin County Community College District
Building Address: 2550 Bending Branch Way ALLEN, TX 75013

Said premises have been inspected by the Building and Code Compliance Department and have been certified as being constructed in substantial compliance with the building code and ordinances of the City of Allen, Texas. This Certificate of Occupancy is issued for the building at the above described location for use as ***College University or Trade School*** per Allen Land Development Code SEC 4.20

Inspections will be made by the Health and/or Fire Department to insure continued compliance with applicable codes and regulations.

Building Official: _____
Michael Sizemore, CBO

CITY OF ALLEN

PROGRESS & FINAL PHOTOS

September 2018

December 2018

April 2019

August 2019

October 2019

January 2020

April 2020

August 2020

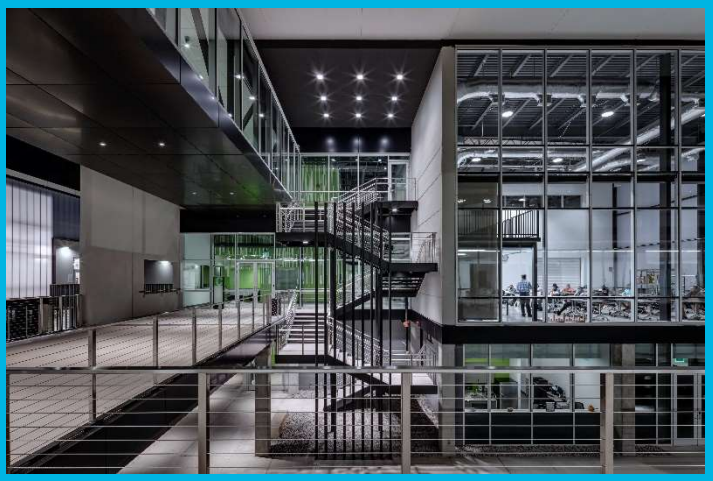
Bioswale Between Academic and Trade Buildings

Bioswale Between Academic and Trade Buildings

Campus Main Entry

Exterior Walkways Between Academic Building and Trade Buildings

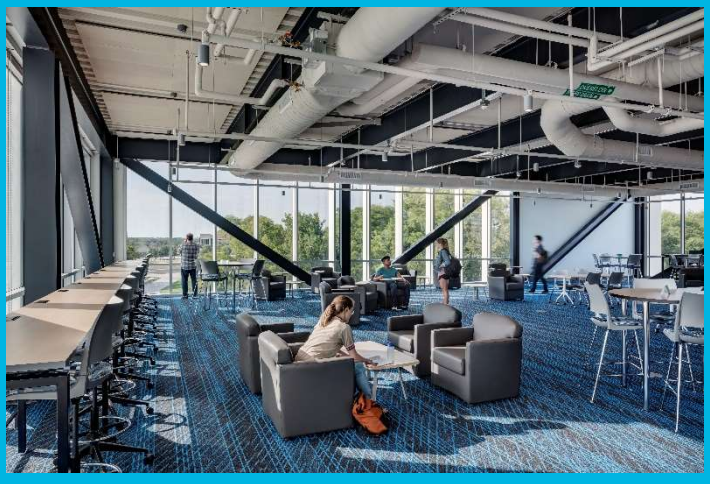
Bridges Connecting Academic Building Trade Buildings



Exterior Stair at the Trade Buildings

Campus Main Entry Lobby

Student Dining & Café Seating



Campus Library

Automotive Lab in Trade Bar D

Welding Lab in Trade Bar B

Central Utility Plant Chiller and Pump Room

Central Utility Plant Boiler Room

Campus Cooling Tower

Additional progress photos are located with the project record files in the PMIS – Projectmates: https://collincollege.projectmates.com/

CONTRACT DELIVERABLE FILE LOCATIONS

Project Records, including design documents, testing reports, construction records, closeout documents and photos, are located within the Project Management Information System (PMIS) – Projectmates located at the following address:

https://collincollege.projectmates.com/

RISK REGISTER

Risk Identification						Potential Impact			Risk Treatment				Risk Status		
Item No.	Date Identified	Project Phase	Description	Risk Owner	Probability	Schedule (Days)	Cost ($)	Funding Source	Response	Action Owner	Action Start Date	Action End Date	Notes	Date Last Updated	Status
1	11/06/17	Construction	Loss of work days due to extreme weather above planned lost days could extend / accelerate work times	Contractor	Medium	TBD	$125,000	GMP Contractor Contingency	McCarthy currently has 2 months of bad weather days built into construction schedule	Adrian Grimes	12/01/17	04/30/19	Continue to carry this contingency until Spring 2019.	11/15/18	Closed
2	11/06/17	Construction	Market escalation may exceed the amount built into the project budget/GMP	Program Manager	Medium	N/A	$75,000	GMP Owner Contingency	McCarthy to perform adequate sub solicitation during pre-construction phase to ensure good sub pricing	Adrian Grimes	12/01/17	03/31/19	Continue to carry this contingency until project is bought out - Spring 2019. Potential tarriffs on materials and equipment.1/9/19-Reduce amount to $100K. 2/18/19-Reduce to $75K	01/03/19	Closed
3	11/08/17	Design / Pre-Construction	Final level of finishes desired by Collin College could be more than industry standard	Contractor	Low	N/A	$150,000	GMP Owner Contingency	Work with Collin staff to ensure all project stakeholders understand level of finishes and features of buildings.	Nick Fiehler	12/01/17	01/31/19	Continue to carry this contingency until Spring 2019. Finish upgrades included within PR #12	11/25/19	Closed
4	11/08/17	Construction	Tree mitigation costs to the City of Allen	Program Manager	High	N/A	$130,000	Program Contingency	Build tree mitigation costs into project documents	Adrian Grimes	12/01/17	03/31/18	Initial Review by City of Allen indicates there will be no tree mitigation costs. Update- City will require additional 168-3" diameter trees on project. 12/20/18-Continue to carry $200K.1/9/19-Reduce amount to $130K. 2019-10-08. Check in the amount of $107,800 for tree mitigation costs.	10/08/19	Closed
5	11/08/17	Construction	Soil modification/replacement costs could be in excess of costs estimated in program budget	Contractor	High	N/A	$600,000	GMP Owner Contingency	Explore all soil modification/bridging techniques before committing to 1 method in final design.	Adrian Grimes	12/01/17	05/30/18	Final soil modification has been agreed upon by GME and McCarthy.11/15/2018-actual site conditions have resulted in $600K in unforseen earthwork costs. 01/03/19 - PCO No. 1 was issued for this cost.	11/15/18	Closed
6	04/10/18	Planning / Procurement	Need for traffic signal @ Ridgeview/Bending Branch Way. City is oppossing at present and probably will not help fund it.	Program Manager	High	N/A	$125,000	Program Contingency	Reserve funding to fund new traffic signal	Nick Fiehler	04/10/18	06/30/19	Keep funding set aside until Allen ISD STEAM Center opens. Allen STEAM Center has opened and City has made no mention for the need of a traffic signal.	01/03/20	Closed
7	04/18/18	Design / Pre-Construction	City of Allen Permitting and Fees	Program Manager	High	N/A	$100,000	Program Contingency	Confirm additional fees beyond the permitting and impact fees the City may require	Adrian Grimes	04/18/18	11/30/18	Per AIA contract, Collin is to pay permit and impact fees.10/1/18- City has agreed that CC does not have to pay sewer/water/roadway impact fees.11/15/18-Total permit fees will be approx. $600K 12/20/18-Actual permit fees to date $530K, other misc. permit fees are pending, continue to carry $100K for misc. fees. 2020 09-16 - last tree mitigation check was paid to the City and all outstanding costs should be addressed.	09/16/20	Closed

Risk Identification						Potential Impact			Risk Treatment				Risk Status		
Item No.	Date Identified	Project Phase	Description	Risk Owner	Probability	Schedule (Days)	Cost ($)	Funding Source	Response	Action Owner	Action Start Date	Action End Date	Notes	Date Last Updated	Status
8	12/12/18	Construction	Install Emergency Responder Signal Repeater/Antenna System	Program Manager	Medium	N/A	$200,000	GMP Owner Contingency	Perform RF signal survey once exterior and interior walls are complete	Nick Fiehler	10/01/19	12/31/19	Start initial ROM cost estimates for RF system and find RF consultant. Contracts have been issued to Four Feathers Alarm. Funding was taken from Prgm Cont.	07/02/20	Closed
9	01/03/19	Construction	Install POE hardware on selected doors	Program Manager	High	N/A	$300,000	GMP Owner Contingency	Work with Collin staff, CMAR & A/E to fully define design and cost impact of change from traditional door hardware to POE door hardware.	Adrian Grimes	12/19/18	03/31/19	Included as part of the GMP reconciliation	04/09/19	Closed
10	01/03/19	Construction	Change exhaust system in welding lab from individual extractor arms to fume hoods	Program Manager	High	N/A	$100,000	GMP Owner Contingency	Work with Collin staff, CMAR & A/E to fully define design and cost impact of change.	Adrian Grimes	12/19/18		12/19/18-Meeting held with stakeholders to define scope of exhaust system. Design changed back to extractor arm system.	01/03/19	Closed
11	12/01/18	Construction	Change from trap guards to trap primers per City of Allen building permit plan review.	Program Manager	High	N/A	$175,000	GMP Owner Contingency	Meet with City to see if they will grant some relief from this requirement, otherwise incorporate change into construction documents.	Adrian Grimes	01/09/19	02/28/19	City building officals are not allowing any relief from this requirement. Cost being carried in RR was $175K, this amount is currently inside CMAR GMP. PCO No. 8 routed and approved.	04/09/19	Closed
12	12/01/18	Construction	Additional u/g data conduit and pullboxes above what was shown in GMP documents	Program Manager	High	N/A	$45,000	GMP Owner Contingency	Received pricing from electrcal sub for the change, seemed excessive.	Adrian Grimes	12/01/18	04/01/19	PCO No. 20 was issued and approved	06/28/19	Closed
13	01/21/19	Construction	Conflict between new storm drain and existing water line @ Ridgeview requires lowering of water line.	Program Manager	High	N/A	$17,838	GMP Owner Contingency	Received pricing from utility sub for the change, seemed excessive.	Adrian Grimes	01/21/19	03/15/19	Directed CMAR to perform this work on a T&M basis. PCO No. 4 routed and approved.	04/09/19	Closed
14	01/25/19	Construction	MDD Audit Costs	Owner	High	N/A	$120,000	Program Contingency	Each Phase I and II project will absorb portion of MDD audit costs.	Ken Lynn	01/25/19	12/31/20	Funding was transferred from Prgm Cont/Risk Register to Consultants to cover the cost	03/12/19	Closed
15	02/19/19	Construction	50% of amount above GMP agreed cost	Contractor	High	N/A	$750,000	GMP Contractor Contingency	50% of amount above GMP agreed cost	Nick Fiehler	02/19/19	03/15/19	Amount being carried in the Contractor Contingency and labeled as pending until PCO has been routed.	04/09/19	Closed
16	02/19/19	Construction	50% of amount above GMP agreed cost	Contractor	High	N/A	$750,000	GMP Owner Contingency	50% of amount above GMP agreed cost	Nick Fiehler	02/19/19	03/15/19	Amount being carried in the Owner Contingency and labeled as pending until PCO has been routed.	04/09/19	Closed
17	02/19/19	Construction	Cost to finish out bookstore shell to B&N standards	Owner	High	N/A	$200,000	GMP Owner Contingency	Need final drawings from B&N to arrive at final finish out price	Nick Fiehler	02/19/19	05/01/19	Included as part of PR #11	09/25/19	Closed
18	02/19/19	Planning / Procurement	Increase to P+W fee to the updated and final GMP amount	Owner	High	N/A	$200,000	Program Contingency	P+W's current contract is based upon a GMP amount of $135,545,801. McCarthy's GMP contract amount is $141,999,801 (includes $3,125,000 of Owner's Contingency). P+W's contract is to be adjusted to reflect the current GMP less Owner's Contigency. Upon completion of the project, P+W's contract will be adjusted to reflect the final GMP amount.	Adrian Grimes	02/19/19	11/30/21	CO adjusting P+W's final contract amount has been completed. Awaiting Board approval.	11/30/21	Closed

Risk Identification						Potential Impact			Risk Treatment				Risk Status		
Item No.	Date Identified	Project Phase	Description	Risk Owner	Probability	Schedule (Days)	Cost ($)	Funding Source	Response	Action Owner	Action Start Date	Action End Date	Notes	Date Last Updated	Status
19	03/01/19	Construction	Additional water proofing requirements per QA/QC review of details with project team	Architect	Medium	N/A	$49,338	GMP Owner Contingency	Review of waterproofing details have revealed there is an opportunity to improve upon details that were part of the GMP details. Project team is reviewing and new details are possible forthecoming.	Nick Fiehler	03/01/19	04/15/19	Meeting held on 03/01/19 with project team to begin reviewing details. Drawings issued as part of PR# 4 - McCarthy to begin pricing. 2019-07-17-PCO 26 Issued for Academic Water Proofing Details in the amount of $50,662 - delta of $100k remaining for the item. Remaining water proofing details for B, C & D were included as part of PR 09; therefore, balance of $49,338 has been zeroed out.	08/14/19	Closed
20	04/09/19	Construction	Revising MSE walls to CIP	Program Manager	High	N/A	$155,000	GMP Contractor Contingency	Project team to work toward minimizing the impact of this change through detail options	Nick Fiehler	04/09/19	04/30/19	Included as part of PCO No. 22	07/17/19	Closed
21	05/16/19	Construction	McCarthy Fee Reduction due to $8M in Equipment Allowance not all being used by McCarthy.	Program Manager	High	N/A	-$194,000	GMP Owner Contingency	Monitor the equipment list.	Nick Fiehler	05/16/19	07/15/19	PCO was issued.	07/02/20	Closed
22	11/19/19	Construction	FF&E purchases above the budgetted amount	Owner	Medium	N/A	$905,540	Program Contingency	Coordinate with College purchasing to track spend amounts for the equipment.	Nick Fiehler	11/19/19	07/31/20	Per review of deduct CO #1, $905,540 to be transferred from Program Contingency to FF&E. $900K transferred to FF&E Budget line	04/08/20	Closed
23	01/29/20	Construction	Budget Sweeps from Budget Balances	Program Manager	High	N/A	-$339,819	Program Contingency	Upon approval of deduct CO #1, budget sweeps per the CO Analysis to be completed in Projectmates	Nick Fiehler	01/29/20	02/15/20	Controls to complete budget transfers in ProjectMates. Transfer completed.	03/18/20	Closed

AWARDS AND RECOGNITIONS

Engineering News Record – 2021 Best Projects Winner

AIA Dallas 2021 Built Design Award

CMAA North Texas 2021 Educational Project of the Year

CMAA North Texas 2021 Program Management Award – Collin College Phase 1 2017 CIP Program

TEXO Distinguised Building Award 2021

ENR Texas & Louisiana

Construction News and Analysis From Arkansas, Louisiana, Mississippi, Oklahoma and Texas

THE COLLIN COLLEGE TECHNICAL CAMPUS FEATURES TWO CANTILEVERS THAT REACH OUT 50 FT, REQUIRING THE TEAM TO INSTALL 100-FT TRUSSES TO SUPPORT THEM.

PHOTO COURTESY PERKINS + WILL

COLLIN COLLEGE TECHNICAL CAMPUS IN ALLEN, TEXAS

Rapid Pace Drives Innovation

LEGACY AWARD WINNER: WENDY LOPEZ • TOP YOUNG PROS

Speedy Delivery, Tilt Wall Challenge Tech Campus

Project team develops fast solutions to handle an inflexible timeline and potential complications surrounding the use of tilt-up construction **BY LOUISE POIRIER**

CANTILEVER
The academic building's south overhang at the waterproofing stage.

An extremely tight schedule that necessitated starting construction before design was complete, along with numerous complications that arose associated with the use of tilt-up construction required innovative solutions from the project team on the Collin College Technical Campus in Allen, Texas.

The 340,000-sq-ft facility, which will specialize in technical and trade education, sits on a 25-acre greenfield site. The campus includes a 42,000-sq-ft shared classroom for Allen ISD, a 151,000-sq-ft academic building, a 23,700-sq-ft conference building, a 177,646-sq-ft building for technical and trade classrooms and a 600-car underground parking garage.

"Collin County here in north Texas is one of the fastest-growing counties not only in the state, but in the country," says Nick Fiehler, AECOM's campus manager for Collin College's 2017 capital improvement program. After hearing from local industry about the need for trades, the college in early 2017 completed a master plan.

"That master plan led to a bond issue that went to the voters here in Collin County in May 2017. That bond was for a $600-million capital improvement program. Projects included three new campuses as well as the technical campus," Fiehler says.

The college had only taken on one-off buildings up to this point—but with the bond passage, it would be opening nearly 700,000 sq ft of space within a three-year period. One of the project team's initial challenges was meeting the strict deadline of opening the campus to students by fall 2020. A project of this type would typically require up to a 20-month design process, Fiehler notes. "But from the architect's notice to proceed in September, we were breaking ground 11-12 months thereafter. So we had to go to [guaranteed maximum price] on design development documents. So that was different for the college," he says. "They had done [construction manager at-risk] before, but never going to GMP on anything but 100% construction documents."

This was not what would be considered a typical

PHOTO COURTESY AECOM

PLACEMENT A steel erection crane places one of the trusses that support the academic building's large cantilever.

TEACHING TRADES The shared build lab for Collin College's carpentry program.

OVERHEAD A aerial shot shows the main academic building to the right, with the three tilt-wall buildings that sit atop an underground parking garage to the left.

fast-track construction method, notes Adrian Grimes, program director with AECOM. "Typically when you do fast track, if you get the foundation package, it's 100% developed and designed," Grimes says. "The college didn't want to do this in different design packages. They wanted to have cost assurance up front. So it wasn't, just say, the finishes weren't 100%—the entire project was at design development level except for some of the foundation work. So it really wasn't a traditional fast-track, GMP-type project....We've all had to work together as a team to really develop and finish the construction drawings while construction was ongoing. So it's been really a continuous design process since the [notice to proceed] was issued to the contractor, and they broke ground 18 months ago."

AECOM advised that the only way to get the job done within the schedule was bringing on the architect and contractor at the same time. An aggressive RFQ/RFP process brought on architect Perkins + Will and construction manager McCarthy Building Cos. simultaneously under CMAR. Current construction costs stand at $142 million.

"We issued the solicitation on June 1, 2017, and we had architect- and CMAR-issued [notice to proceed] in September 2017," Fiehler recalls. "So within about a four-month period, we were already kicking off the design."

Given the lack of finite detail in design development drawings that McCarthy's subcontractors and trade partners are used to seeing, the team had to "do a lot of filling in the gaps to get that price guaranteed for the owner," says Matthew Schrodel, senior project manager with McCarthy. To do that, McCarthy did "five or six design assist concepts with the major trade partners—electrical, mechanical, glass, metal panels, utilities—where basically we brought them on board just as early as we were," Schrodel says.

The subs and trades reviewed drawings and made recommendations—but that advantage also came with risk, as it would be easy to miss items without the detailed drawings. "The team really had make sure we were communicating with the design team and the owner on what exactly we were pricing," he adds.

The project team also went through an intensive value-engineering/preconstruction effort. Initial estimates put the project about $60 million, or 30% over the college budget, Fiehler recalls.

The team tracked over 250 value-engineering items, equal to about $40 million, adds Schrodel. "Some of those items were material selections, then the majority of them were more finer-tooth details that we changed. We didn't change any programming throughout the [value-engineering] process," he says.

Crews broke ground in August 2018, with completion on track for July/August.

INNOVATION SUPPORT

Most higher-education projects have a distinctive feel to them, but when the college decided to go ahead with using tilt-up construction at the recommendation of McCarthy, "it became a question of how the aesthetics of the projects can meet the client standards with using this very simple construction method that you traditionally see in warehouses," says Devin Eichler, project designer with Perkins + Will.

During an early programming stage—after tilt-wall was recommended—the owner wanted to add an underground parking garage, which added potential complications since "typically, tilt-wall buildings are built off the ground floor," says Vandana Nayak, principle with Perkins + Will.

Schrodel explains that McCarthy had to examine

PHOTOS: (TOP RIGHT) COURTESY AECOM; (TOP LEFT AND LOWER RIGHT) COURTESY MCCARTHY BUILDING COS.

CRUCIAL SUPPORT
The McCarthy team installed 10,700 post shores under the elevated deck to support the weight of a 250-ton crane.

WALKING ACROSS
With the help of post shores beneath the elevated deck, the contractor used a crane to install tilt-wall panels.

this "500 foot by 500 foot building and whether we could still do tilt-up construction on a parking garage deck—and we decided that we could." The single-level garage is topped by a concrete deck, topped by three tilt-up buildings, Fiehler adds. "Construction-wise, it's been the most unique thing about the project."

On top of the 5-and-3/4-in. pan deck, the team walked a 250-ton crane and picked up 120,000-lb panels that were poured into place.

"So we had a total weight of about 550,000 pounds on the deck itself," Schrodel explains. "That equated to probably close to a million pounds of load once you did the calculations."

The team installed 10,700 temporary post shores in the garage, spaced from 18 in. to 36 in. on center to support the crane during tilt-up construction on the parking garage deck. "To my knowledge, and to all of our vendors, I'm not sure that's been done before," Schrodel says.

That process took about 12,000 man-hours and came with "a pretty large cost savings for the owner," he adds.

While McCarthy has put cranes on decks before, the team "got a bunch of third-party engineers that do nothing but shoring design involved," says Schrodel. "They all sat around in a conference room and decided that [they] did think that this was possible."

Ultimately, McCarthy's crews placed 30,000 cu yd of concrete, along with 156,000 sq ft of cast-in-place walls and columns. "We also made sure that the garage was completely flat because we really don't know where the world of automobiles is going in the future," Nayak says. "So they will have the capacity to convert that to classrooms or other learning spaces." The use of tilt-wall will also come in handy later, as the potential for expansion has already been built in with the inclusion of knockout panels in the design.

The project also included a polycarbonate system, rather than filling punched-out openings with glass. "Polycarbonate allowed us to run a translucent panel over the top of the tilt panel, which further defined the aesthetics of the campus," Eichler says. By running polycarbonate over large openings within the frosted translucent panels, natural light diffuses into the spaces.

The fact that this is a technical campus is also celebrated in the design, with exposed structure, MEP, concrete columns and concrete deck. "We're achieving that goal to celebrate that by exposing the structure itself," Fiehler says. "And the structure itself will be used as a learning tool as construction trades and the HVAC and carpentry programs are held at the campus."

Another unique design element is the cantilevers that extend about 50 ft out from two stories of either side of the academic building. "We had to install some very large trusses that supported that," Schrodel explains. "We had to figure out how do we get those fabricated and delivered because the total truss link was about 100 ft long, and it couldn't be fabricated in the shop alone."

Through coordination with the steel erector, the steel fabricator and the team's onsite testing and structural engineer, the contractor figured out how to field splice the four 100-ft long trusses to support the cantilevers.

"This involved a large quantity of full-penetration welds and field coordination of the attachment to ensure we had the correct elevation at the end of the truss," Schrodel explains. "This elevation was critical because the truss deflected 3 inches once the concrete decks were placed and temporary supports removed."

JOBS AHEAD

Local industry partners are already asking Collin College when the first career fair will be held because they want to be able to hire the school's graduates, Grimes says. The impact on the community could be anywhere from 1,500 to 2,500 jobs for graduates, he notes.

This project hits close to home for McCarthy, in that it will be teaching tradesmen upon completion. "We're building things like HVAC labs, plumbing labs, carpentry labs—so it's items that we're very knowledgeable about and we can appreciate the labor coming to us and our industry down the road," Schrodel says.

Project officials emphasize that the team effort was key in getting the project to 75% completion so far with more than 600,000 man-hours as of mid-January and no major injuries. "The collaborative efforts between the contractor, the architect and the owner, including all the consultants, have been a really driving factor on this project," says Barbara Rystrom, senior project manager with Perkins + Will. ■

ON THE WEB

For information on other projects under construction in **Texas,** visit *enr.com/texas-louisiana.*

PHOTOS COURTESY MCCARTHY BUILDING COS.