2023 A4LE Northeast Annual Regional Conference Liberated Learners

# Hobbs CTECH Center: A Vision for a Community Realized

Theo Pappas AIA | ALEP | NCARB | LEED AP STANTEC ARCHITECTURE

Architect, Senior Planner for Education, CTE Specialist

Westin Philadelphia Liberty Place | Philadelphia, Pennsylvania

Friday, **April 28**, 2023

2:00 PM - 3:00 PM Directors Room





#### **About Stantec**

40+

CTE Projects
In North America

#1

Top 110
Architecture/
Engineering Firms
Building Design &
Construction August 2022

#4

Top 160 K-12
School Architecture
+ AE Firms
Building Design &
Construction September 2022

#4

Top 5 Green
Design Firms – Educational
Facilities
ENR September 2022



# **About Stantec**



Genesee Career Institute (GCI)
Flint, MI



James Reese Career & Technical Center Sugarland, TX



Academies at Loudoun Leesburg, VA



Sterling Aviation Early College HS Houston, TX



Robert Turner College + Career HS Pearland, TX



Olathe West HS Olathe, KS

# AGENDA | Hobbs CTECH Center

#### Part One: Engagement, Discovery and Visioning

I. Welcome to Hobbs, NM!
II. Hobbs Municipal Schools

III. First Steps

IV. Partners and Funding

#### Part Two: Implementation

V. Conceptual Design

**VI.** Hobbs CTECH – Final Design

VII. Schedule and Budget

VIII. Finished Project

#### Part Three: Realization

**IX.** Furniture, Fixtures and Equipment

X. Programs and Staff

XI. Branding

XII. Dedication Day



# Part One: Engagement, Discovery and Visioning

# . Welcome to Hobbs, NM!

## About Hobbs, NM

#### Located in:

Lea County

#### Population:

40,5082020 Census

#### Families:

• 8,572

#### **Leading Industries:**

- Mining/Quarrying
- Gas Extraction
- Retail Trade
- Educational Services

#### Colleges:

- University of the Southwest
- New Mexico Junior College



# II. Hobbs Municipal Schools

# **Hobbs Municipal Schools (HMS)**

**HMS** Enrollment

10,041

Students

67% Hispanic

28% Anglo

5% Black

13 3 1 1 1 1 1 1 Schools Schools School Scho

2

Elementary Schools have a Dual Language Program. English + Spanish 73%

Of HMS students qualify for Free and reduced lunch.

# Why a new CTE Facility?

# CTECH - A Community Story

2010-2021

2017

2018

TJ Parks Superintendent of HMS



TJ Parks
Introduces the
Initial Idea



Private Funding
Identify Players
Develop Action Items
Local Support
Issue a Community Survey

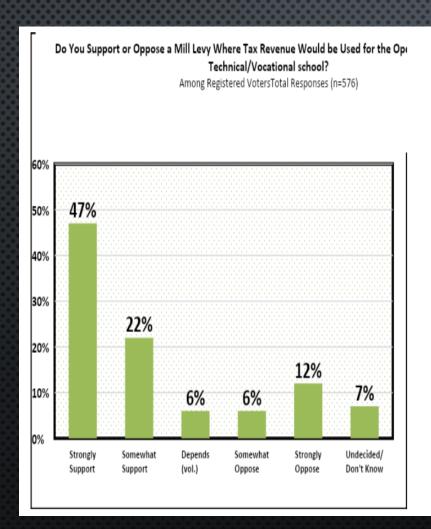


# Hobbs Municipal Schools (HMS)

# Community Survey Results

NEUTRAL

NEED MORE INFORMATION



#### REASONS FOR SUPPORTING OR OPPOSING THE POSSIBLE MILL LEVY TOTAL RESPONSES (N=537) Among Registered Voters who Either Strongly or Somewhat Support or Oppose the Possible MILL LEVY TOP 8 UNAIDED RESPONSES SUPPORT 40% TRADE SKILLS ARE NEEDED HMS NEEDS THE MONEY FOR TECHNICAL/VOCATIONAL SCHOOL 19% 18% TO IMPROVE EDUCATIONAL SYSTEM 9% HMS NEEDS THE MONEY (IN GENERAL) 9% I WANT TO SUPPORT THE SCHOOLS OPPOSE 8% AGAINST TAX INCREASE (IN GENERAL) 5% POOR MONEY MANAGEMENT IN HMS

8%

# III. First Steps

# Proposed Career Technical Education Center for Hobbs Municipal Schools

# Discovery Workshops

02 April - 04 April 2019



# Visioning Session 1 Develop Key Factors and Guiding Principles

02 April – 04 April 2019



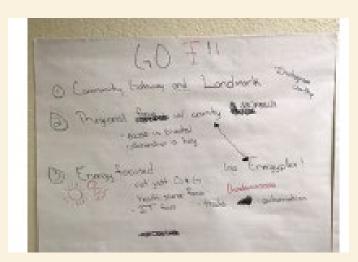


# **Key Factors**

Identity
Image
Theme
Branding

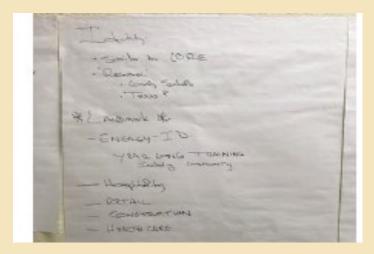
#### **GROUP 1-**

- Community Gateway
- Community Landmark
- Regional Focus w/ County Approach
- Access is Pivotal
- Collaboration is Key
- Energy Focused Not just Oil + Gas but "Energyplex" Solar + Wind
- Health Science Focus
- IT Focus (Trades + Automation)
- Academies



#### GROUP 2-

- Like the "CORE" Rec Center
- Regional Include all County Schools
- West Texas?
- Landmark
- Identity as "Energy"
- Year Long Training (Programs for Community)
- Hospitality Focus
- Retail Focus
- Construction Focus
- Healthcare Focus

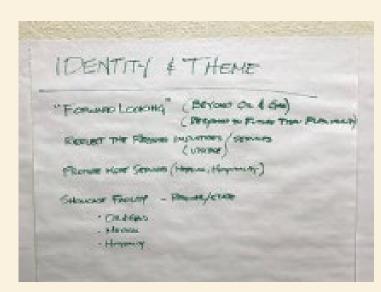


## **Key Factors**

Identity
Image
Theme
Branding

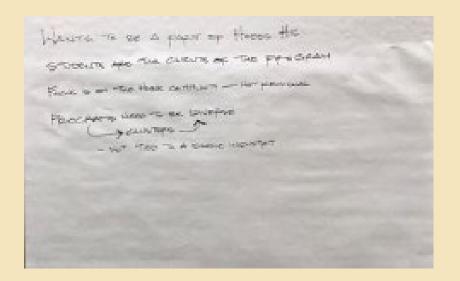
#### **GROUP 3-**

- Forward Looking Beyond Oil + Gas
- Respond to the Future through Flexibility
- Reflect the Regions Industries/Services
- Be Visible
- Promote More Services (Medical/Hospitality)
- Showcase the Facility Regional and Statewide
  - Oil and Gas
  - Medical
  - Hospitality



#### **GROUP 4-**

- Wants to be Part of Hobbs High School
- Students are the Clients of the Program
- Focus on Hobbs Community –
   NOT Regional
- Programs Need to be Diverse
- Not Tied to a Single Industry

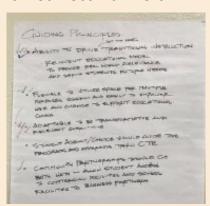


# **Guiding Principles**

Guiding Principles For The Design

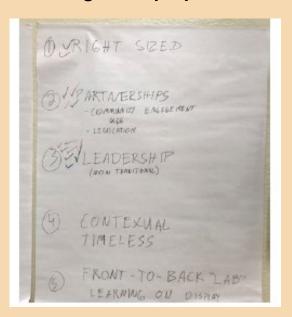
#### **GROUP 1-**

- Ability to "Drive Out The Door" Traditional Instruction
  - Reinvent educational model to provide real world relevance and serve students needs
- Flexible: Ability to Utilize Space for multiple uses quickly and easily to empower us to support educational goals
- Adaptable: To be transformative and relevant over time (Highest Rated Principle)
- Student Agency: Choice should Guide the Programs and Offerings
- Community Partnerships Should go Both Ways: Allow Students Access to Commercial Facilities and School Facility Access to Business Partners



#### GROUP 2-

- Right-Sized
- Partnerships
  - Community Engagement
  - Legislation
- Leadership (Highest Rated Principle)
  - Non-Traditional
- Contextual
  - Timeless
- Front-To-Back "Lab"
  - Learning on Display

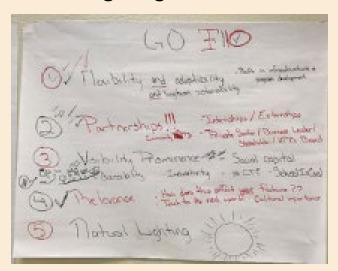


# **Guiding Principles**

Guiding Principles For The Design

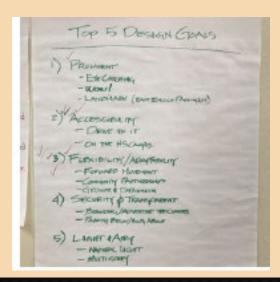
#### **GROUP 3-**

- Flexibility + Adaptability: Long term
   Sustainability
  - Both in Infrastructure + Program Development
- Partnerships (Highest Rated Principle):
  - Internships/Externship
  - Community Buy-In
  - Private Sector/Business
     Leader/Stakeholder/HMC Board
- Visibility + Prominence:
  - Accessibility
  - Inclusivity
  - Social Capital #CTE
  - School is Cool
- Relevance:
  - How does this affect your future?
  - Teach to the Real World Cultural Importance
- Natural Lighting



#### **GROUP 4-**

- Prominent
  - Eye-Catching
  - WOW!!
  - Landmark (East end of Parking Lot)
- Accessibility
  - Drive To It
  - On the High School Campus
- Flexibility + Adaptability (Highest Rated Principle)
  - Forward Movement
  - Community Partnerships
  - Growth + Expansion
- Security + Transparent
  - Branding Advertise the Classes
  - Parking below/ Building above
- Light and Airy
  - Natural Light
  - Multi-Story



# Highest Rated Design Considerations from Stakeholders Input

#### Adaptable

 To be Transformative + Relevant over time

#### **Partnerships**

- Internships/Externships
- Community Buy-in
- Private Sector/Business
- Leader/Stakeholder/HMS Board

#### Flexibility/Adaptability

- Forward Movement
- Community Partnerships
- Growth and Expansion

#### **Prominent**

- Eye-Catching
- WOW!!!
- A New Landmark



# Visioning Session 2 CTE Cluster Prioritization



# New Mexico: Top Ten Job Openings in 2018



(Source: New Mexico Workforce Connection)

- 1. Personal Care Aides
- 2. Food Prep/Service
- 3. Home Health Aides
- 4. Registered Nurses
- 5. General and Operations Managers
- 6. Waiters/Waitresses
- 7. Custodial/Housekeeping
- 8. Medical Assistants
- 9. Cooks/Restaurant Management
- 10. Customer Service Reps

# New Mexico: Fastest Growing Jobs 2018



(Source: Zippia: The Career Expert)

- 1. Personal Care Assistant (142%)
- 2. Home Health Aid (140%)
- 3. Physical Therapist (133%)
- 4. Nurse Practitioner (131%)
- 5. Speech-Language Pathology Internship (125%)
- 6. Child Care Provider (123%)
- 7. Preschool Teacher (122%)
- 8. Medical Technologist (121%)
- 9. Massage Therapist (121%)
- 10. Crew Member (Fast Food) (120%)

# **New Mexico:** Potential Growth Industries







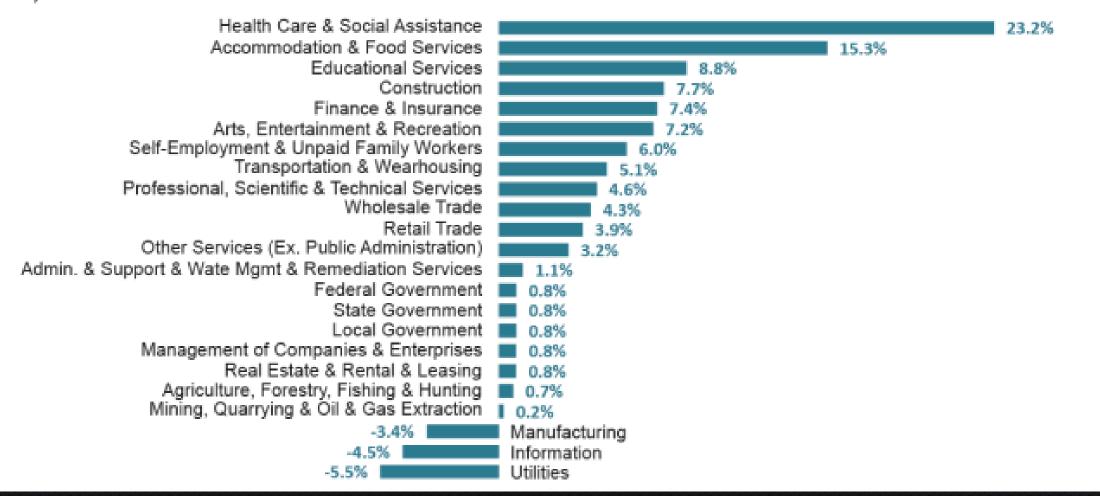
(Source: Investopedia)

- 1. Energy
- 2. Aerospace/Defense
- 3. Tourism/Food Service
- 4. Distribution/Logistics/Transportation
- 5. Advanced Manufacturing
- 6. Digital Media and Film Production
- 7. Administration/Federal Government

# New Mexico: JOB Growth Projections

(Source: New Mexico Department of Workforce Projections)

Exhibit 4: Projected Percentage Employment Growth by Major Industry New Mexico, 2014–2024



# **Hobbs NM: Most Common Employment Sectors**



# Post-Secondary Alignment

**New Mexico Junior College** as a Key Stakeholder

Program of Study: Manufactoring			
High School	Grades/ Completed	Post-Secondary	
9th Grade	-	Fall College Term 1	
English 1		Occupational Safety for Construction OSH2006	
Algebra 1, Geometry or Algebra 2		Plumbing and Safety Fundamentals PLMB1105	
Physcial Science		Blueprint Reading PLMB1110	
New Mexico History and Health		Intro to Gas Fitting and Pipe Laying PLMB1115	
High School 101		Drain Waste and Vent 1 PLMB1120	
PE		Water Piping Systems PLMB1130	
Intro to Skills USA		Trades Math PLMB1305	
<u> 10th Grade</u>		Spring College Term 2	
English 2		College Writing ENG1101	
Geometry, Algebra 2, or IMP		Drain Waste and Vent 2 PLMB1125	
Biology		Plumbing Theiry and Repair PLMB1215	
World History		Plumbing Code Applications PLMB1120	
Intro to Craft Skills		Building Maintance and Repair PLMB1225	
Spanish 1		Gas Code App PLMB1235	
1 Elective		lydronics and Plumbing Systems PLMB123	
11th Grade		Fall College Term 3	
English 3		Introduction to Psychology PSY1101	
Algebra 2, Geometry, or Pre-Calculus		Welding Fundamentals WELD1062	
Chemistry or Environmental Science		Fundamentals of Info Literacy IT1010	
United States History		College Algebra MATH1365	
Spanish 2		Backflow Prevention PLMB1205	
Industrial Tech Level 1		Commercial Plumbing PLMB1210	
Energy Tech Level 1		Spring College Term 4	
<u>12th Grade</u>		Solar Thermal Systems PLMB1320	
English 4		Energy and Water Conservation PLMB1330	
Geometry, Financial Algrebra, College			
Algebra or Pre-Calculus		Refrigerant Fundamentals HVAC1105	
Conceptual Physics		Basic Electricity HVAC1110	
Government and Economics		Heating Systems HVAC1245	
Industrial Tech Level 2		Air Conditioning Systems HVAC1235	
Industrial Tech Level 2			
Industrial Tech Level 2			
Additional High School ConstructionElectives		Degree Plan from Central New Mexico     Community College (CNM)	
Energy Tech Level 2, and Energy Lineman			
Cluster- Manufacturing			

Pathways- Health, Production, Manufacturing, Quality/Assurance, and Environmental

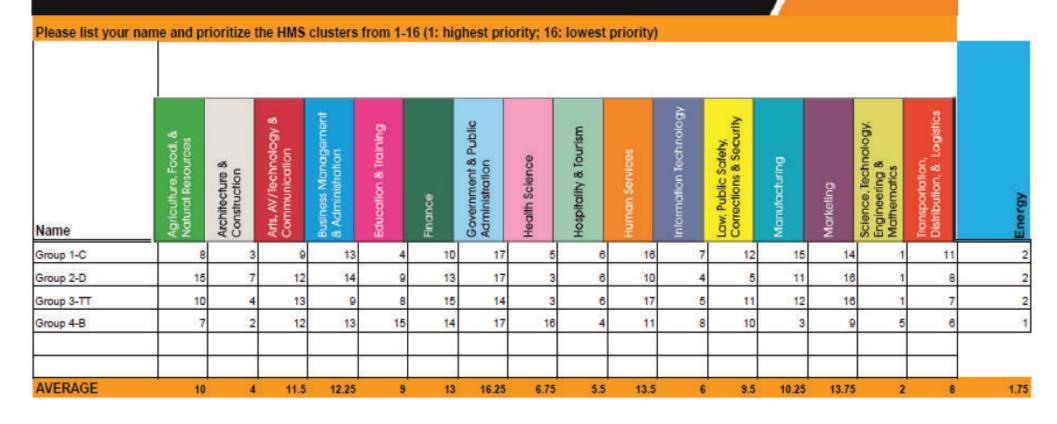
# Selecting Clusters, Pathways + Programs

### Initial Pathways Explored

Types of Vocational Education/Trade Skills  Needed Most in the Community  Total Sample (n=860)  Top 11 Unaided Responses			
OIL FIELD SERVICES	26%		
WELDING	22%		
Construction	19%		
HEALTHCARE	17%		
ELECTRICIAN	16%		
COMPUTER TECHNOLOGY	14%		
Аитомотіче	12%		
PLUMBING	10%		
BUSINESS/OFFICE MANAGEMENT	9%		
None in particular	8%		
Don't know/won't say	14%		

# Career and Technical Education and Industry CLUSTERS AND PATHWAYS





#### TO BE IN NEW BUILDING

TO REMAIN/ BACKFILL INTO EXISTING HIGH SCHOOL

- 1 ENERGY
- 2 STEM
- 3 ARCHITECTURE
- **4 HOSPITALITY**
- 5 IT
- 6 HEALTH SCIENCE
- 7 TRANSPORTATION
- 8 EDUCATION
- 9 LAW
- 10 AG
- 11 MANUF
- 12 ARTS AV
- 13 BUSINESS
- 14 FINANCE
- 15 HUMAN SERVICES
- 16 MARKETING
- 17 GOVERNMENT

# Oil + Gas Industry

Petrophysics

Supply Chain Management

#### **INTERNSHIPS & HIRING PROGRAMS**

Accounting Advanced Analytics & Energy Technologies Engineering Finance Geology & Geophysics Health, Safety & Environment **Human Resources** Information Technology Audit Information Technology Services land Land Administration Marketing Midstream Management

Crude Oil Marketing Representative Assistant Pumper Pumper Corrosion Technician Gas Marketing Representative Senior Internal Auditor Accounts Payable Clerk/General Accounting Regulatory Analyst Operations Analyst – Midstream Electrical Construction Foreman – Production Oil and Gas Marketing Manager **Automation Technician** Gas Measurement Technician Survey Engineering Technician Construction Foreman – Facilities GIS Analyst Pipeline Operator

# Oil + Gas Industry

#### **INTERNSHIPS & HIRING PROGRAMS**

Air Quality Specialist

Drivers

Network Engineer

**Analysts** 

Accountants

Maintenance Supervisor

IT Infrastructure Manger

Mechanical Technician

Truck Technician

#### PETROCHEMICAL INDUSTRY

Plastics

Lubricants

Synthetics

Natural Gas

Liquified Natural Gas

Oil/Heavy Oil

Shale Oil

Deep Water

#### **RESEARCH & DEVELOPMENT**

Micro-Seismic Monitoring

Laser Cutting

Fiber Optics

Nanolaminate Technology

Coating Technology

Horizontal Drilling

Hydraulic Fracturing

3D Seismic Surveying

Enhanced Oil Recovery

Catalytic Cracking

Sub-Sea Deep Water Drilling and Operations

UAV (Unmanned Aerial Vehicles)

Drone Technology: Pipeline and Facility

Inspections and Safety

Sustainability/Climate Change

# Oil + Gas Industry

# **UPSTREAM**

**Exploration & Drilling** 

# **MIDSTREAM**

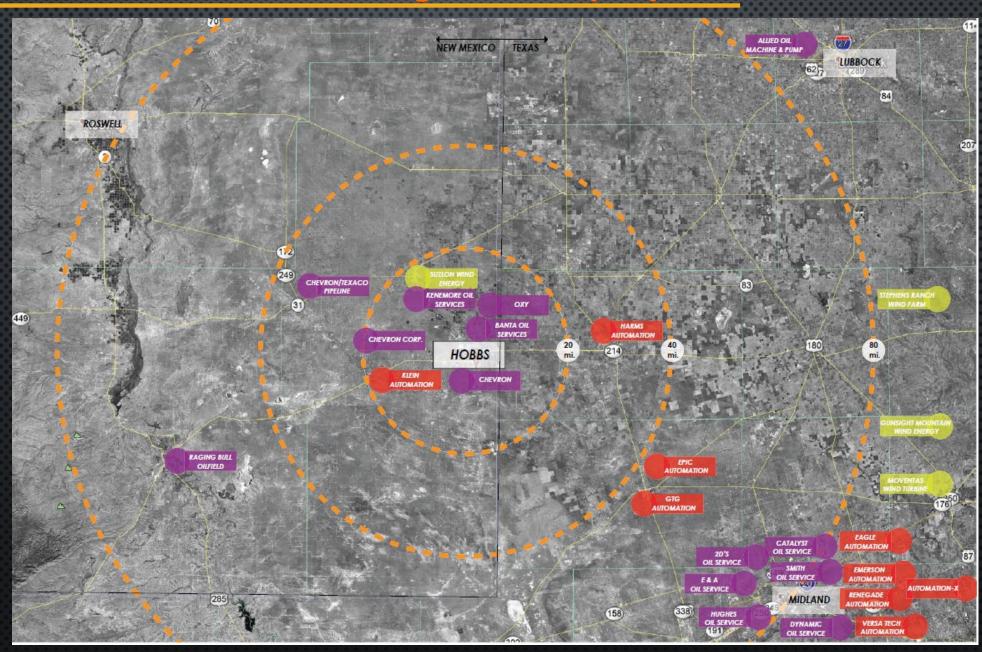
Pre-refined Distribution,
Transportation & Storage

# **DOWNSTREAM**

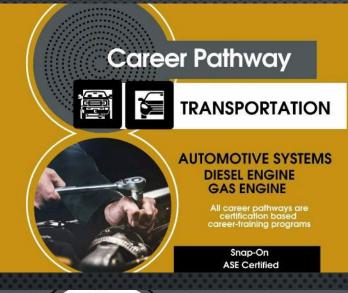
Refining / Products & Distribution



# Key Stakeholders – Local + Regional Employers



## **CTE Programs Served**















# IV. Partners + Funding

## **Meeting Key Partners**











#### Permian Strategic Partnership













































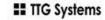












John M. Campbell





#### JF Maddox Foundation



The JF Maddox Foundation believes in the people of **Lea County.** We think big, dig deep and connect the community so that together we can cultivate big-picture possibilities for all our Lea County neighbors. We help bring about the changes that help people here thrive for generations.

We innovate primarily in education, community development, and social services to ensure people are attracted to and thrive in Lea County.

The JF Maddox Foundation was established in 1963 by Jack and Mabel to serve the residents of southeastern New Mexico.

During its history, the Foundation has made grants to a wide variety of non-profit organizations and governmental entities. Grants have been made to organizations involved in education, social programs, and community development for projects which have generally sought to enhance the lives of those living in Lea County, New Mexico.



From left to right: Jim Maddox, Don Maddox, Sue Maddox, and Susan Maddox

#### **Daniels Fund Partner**



The Daniels Fund, established by cable television pioneer Bill Daniels, is a private charitable foundation dedicated to making life better for the people of Colorado, New Mexico, Utah, and Wyoming through its grants program, scholarship program, and ethics initiative.

When Bill was a teenager, his family moved to **Hobbs, New Mexico.** Bill was driven and popular, but his unruly nature prompted his parents to enroll him in the New Mexico Military Institute (NMMI) in nearby Roswell.



The man Bill had become proved to be a fine naval officer and fearless combat pilot in World War II. He was awarded the Bronze Star for "heroism, courage, and devotion to duty" as he made repeated trips to rescue wounded shipmates after a devastating enemy attack on the aircraft carrier USS *Intrepid*. Bill also served during the Korean Conflict. He was instrumental in pilot training for the U.S. Navy during their transition to jet aircraft and retired a decorated Commander

#### **Bond Election**

# 82% Approved

## \$81 Million Total Construction Costs

\$30 Million Southern Heights Elementary \$18 Million – Public School Facility Authority \$22 Million – Hobbs Municipal Schools Taxpayers

\$51 Million Career Technical Educational Facility

City of Hobbs	\$ 10 M
Lea County Legislators	\$ 900 K
Legislators Kernan & Scott	\$ 337 K
JF Maddox Foundation	\$ 10 M
Permian Basin Strategic Partnership	\$ 10 M
Daniels Foundation	\$ 1.6 M
Bond Election	\$ 15 M
ESSER III	\$ 5 M

Partnerships will contribute 63% of the construction costs of the \$81 million projects, contingent on passage of the GO Bond

#### Final Funding Tally

Hobbs Municipal Schools Bond	\$ 15,000,000
JF Maddox Foundations	\$ 10,000,000
Permian Strategic Partnership	\$ 10,000,000
City of Hobbs	\$ 10,000,000
Lea County Commissioners Eidson, Sena & Long	\$ 900,000
State Legislators Kernan & Scott	\$ 337,000
Daniels Foundation	\$ 1,600,000
<u>Other</u>	\$ 6,300,000
TOTAL COST:	\$ 54,137,000

## Part Two: Implementation

## V. Conceptual Design

















Exterior Inspiration | New Mexico Oil Industry Vernacular



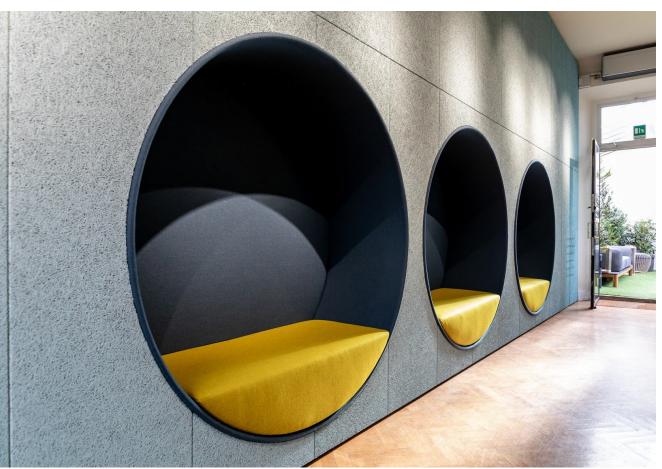






Interior Inspiration | Pipelines





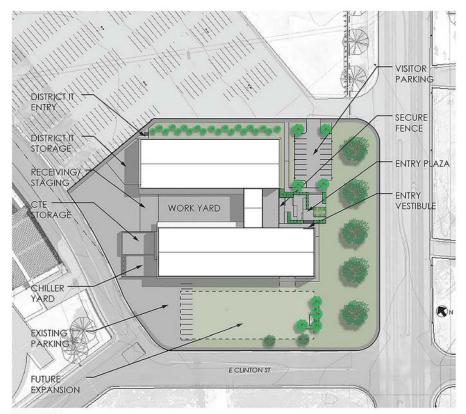


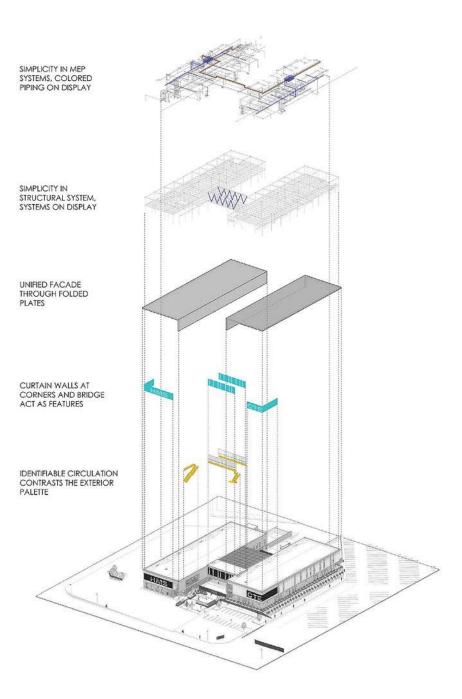
Interior Inspiration | Openings

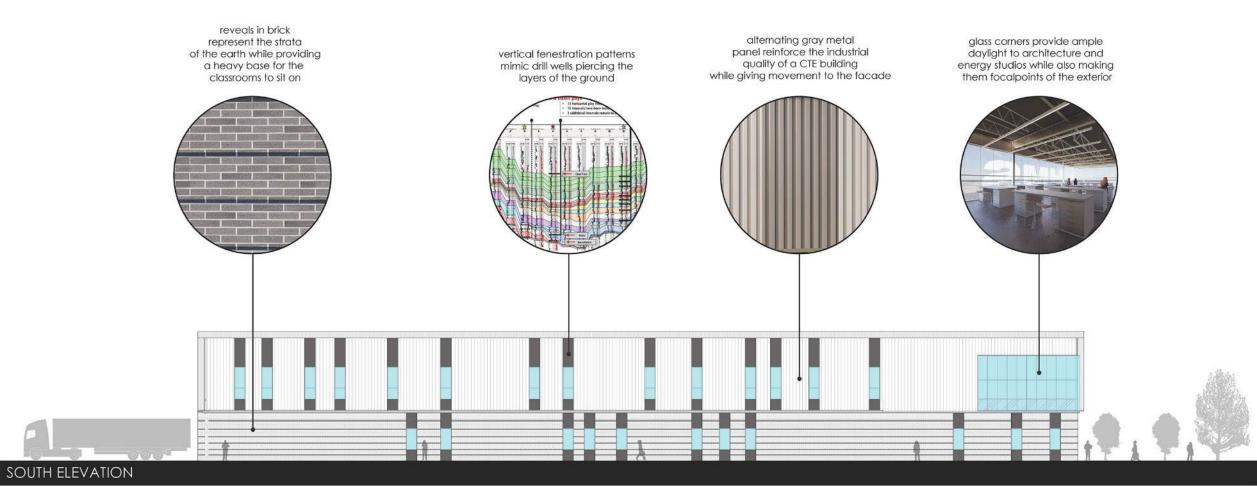
## VI. Hobbs CTECH- Final Design



#### CAMPUS PLAN





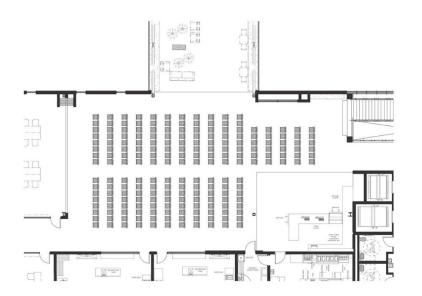




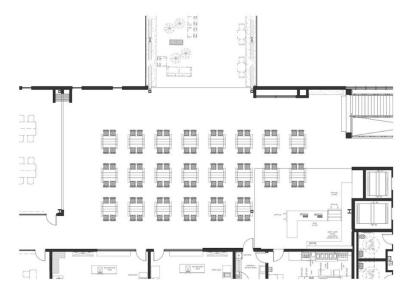
#### LEVEL 2

- 1 architecture studio
- 2 cafe
- 3 flex space
- 4 culinary labs
- 5 classrooms
- 6 robotics studio
- 7 innovation bridge
- 8 energy lab
- 9 information tech labs

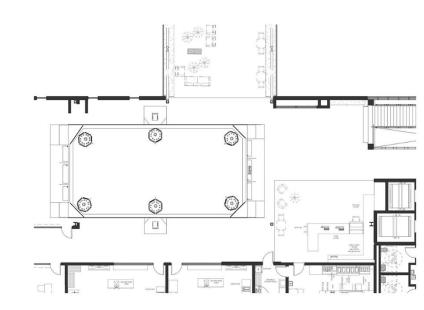




#### **ASSEMBLY**



**DINING/ GAMING** 



**ROBOTICS COMPETITION** 





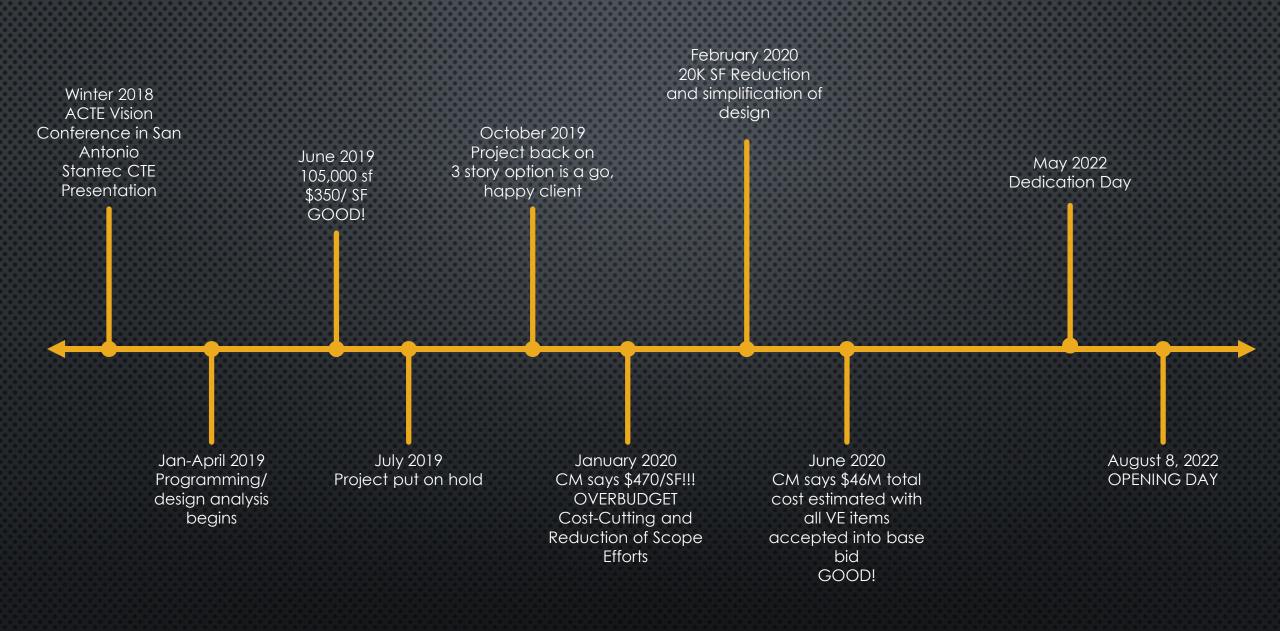


The building faces the prominent highway with branding and school pride displayed on the curtain walls





## VII. Schedule + Budget



### Program + Budget

FIRST CONCEPT	FIRST ESTIMATE	ACTUAL/FINAL
126K square feet	93K square feet	89K square feet
CTECH	CTECH	CTECH
3 stories	2 stories	2 stories

Total Construction Cost	\$ 45,800,000	\$ 33,200,000	\$ 36,100,000
Soft Costs	\$ 4,200,000	\$ 3,400,000	\$ 2,750,000
Furniture, Fixtures Equipment, Technology	\$ 8,500,000	\$ 8,500,000	\$ 7,000,000
NMGRT	\$ 3,980,000	\$ 2,780,000	\$ 3,217,500
TOTAL COST	\$ 62,480,000	\$ 47,880,000	\$ 49,067,500

TCC: \$405psf TPC: \$551psf

## VIII. Finished Project!

































# Part Three: Realization

# IX. Furniture, Fixtures & Equipment

# Furniture, Fixtures & Equipment

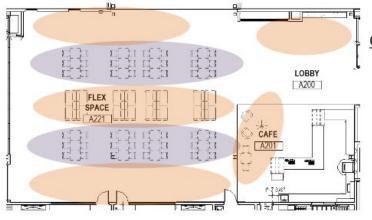
#### Cafe and Flex Space

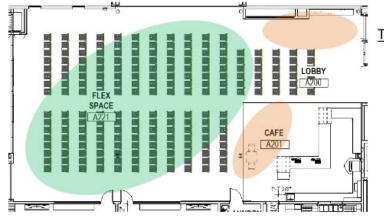
















TRAINING/LECTURE

**DINING/EVENT** 

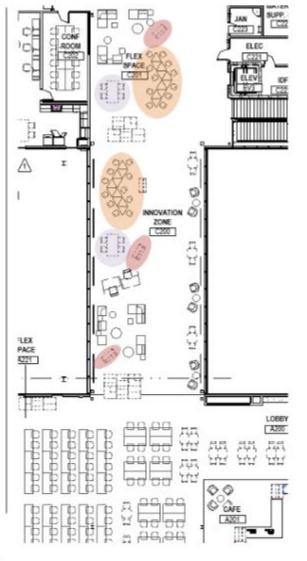






# Furniture, Fixtures & Equipment

#### **Innovation Zone**



#### **GROUP WORK**



 $\begin{array}{c} \text{SmithSystems Interchange Diamond Desk} \\ \hline T\text{-}5 \end{array}$ 



Tabletop: High Rise



#### COLLABORATIVE





Base: Charcoal Grey



Knoll Scribe M-1

**MOBILE MARKER BOARDS** 

SmithSystems Planner table T-4

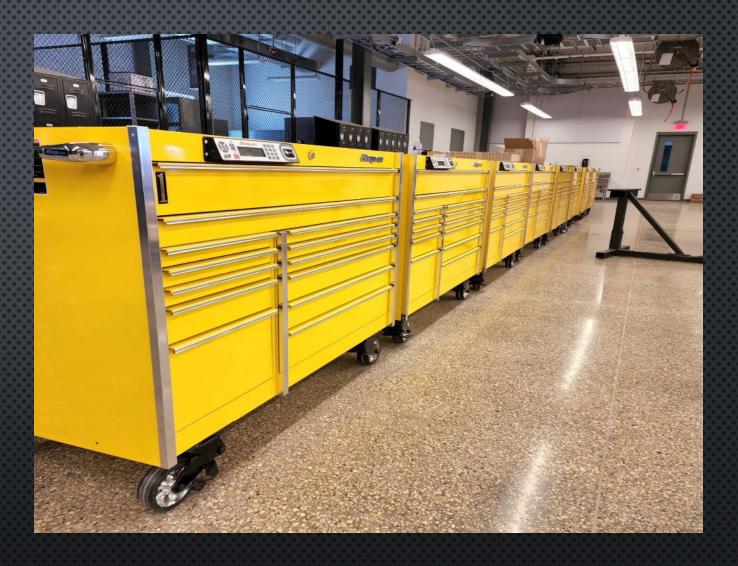




## CTECH Program Equipment

Buy, Buy, Buy Save, Save, Save

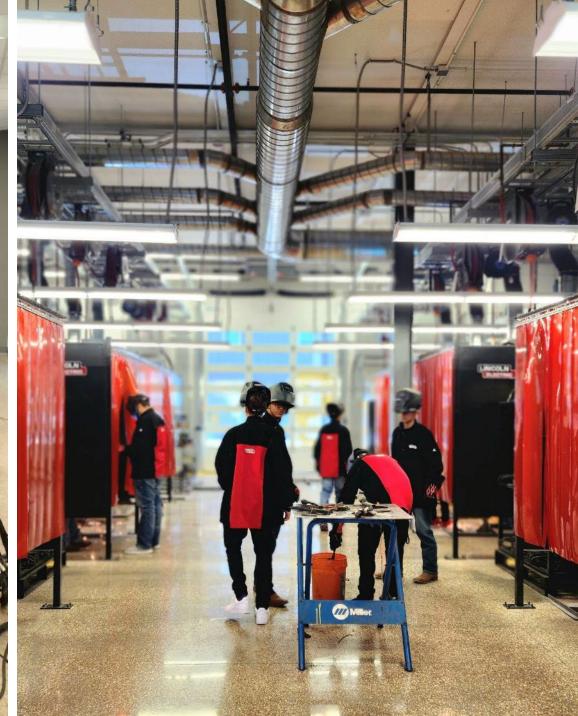




 Orders were placed by Christmas of 2021

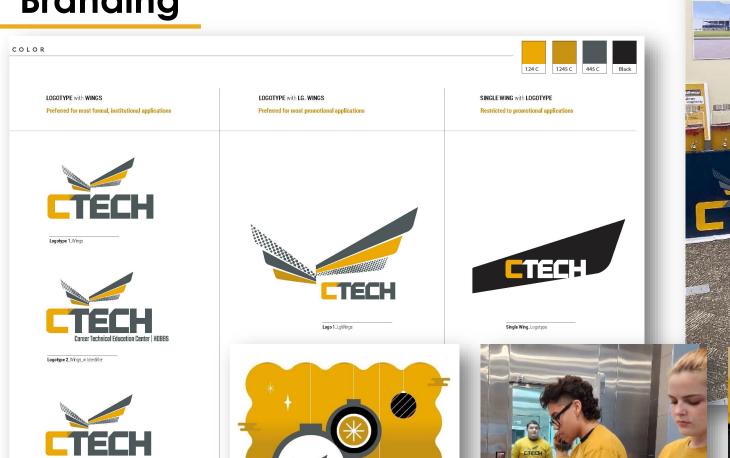






# X. Branding

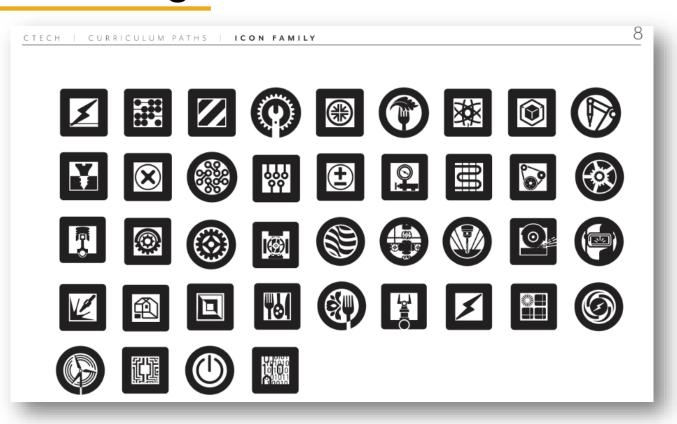
Logotype 3\_Wings\_w Tagline

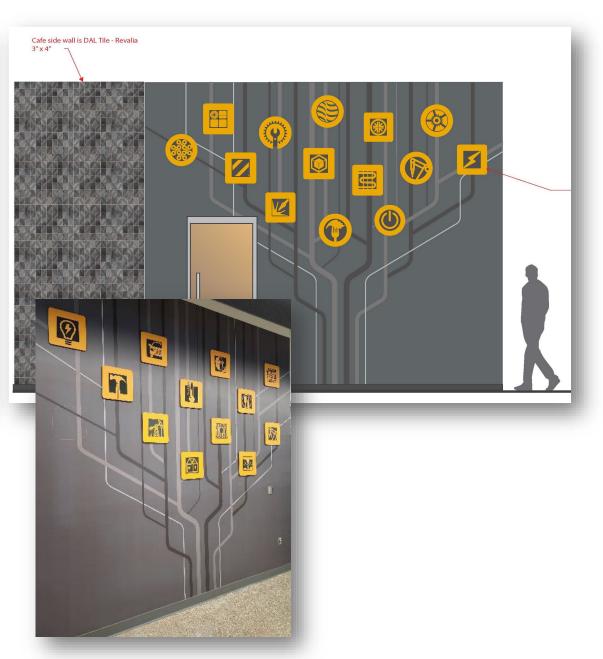


**LTECH** 

























# XI. Programs + Staff

# CTECH Recruiting despite COVID





## CTE Staff Recruiting + Development

# Designing Our Staff (2019 -2020) Prior to Hiring – Recruiting

- CTE licenses (800 level)
- Stipends for Industry Certification (\$10,000)
- Training and Planning
  - Industry
  - "Play School"



## **CTE Staff**







# **CTE Staff**



## **CTE Staff**

# Hire All Staff by 2021/2022



## **CTE Students**

Recruit Students by 2021/2022 School Year

Regional School



# XII. Dedication Day!







May 5 9:3 CT











# Questions + Answers

We invite you to check out our CTE Spotlight Page:







https://www.stantec.com/en/ideas/spotlight/conference/acte

Hobbs CTECH Facebook Page:

www.facebook.com/CTECHobbs/

https://fb.watch/jKOqjbUV2H/