Huckabee

JARRELL INDEPENDENT SCHOOL DISTRICT

1916 Building Renovations

February 16, 2022

SCHEMATIC DESIGN PRESENTATION

JARRELL INDEPENDENT SCHOOL DISTRICT
1916 BUILDING RENOVATIONS

Huckabee

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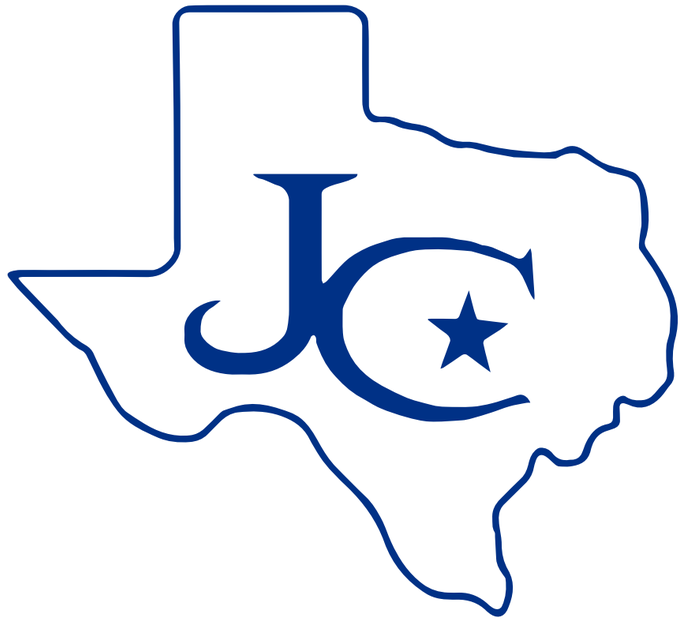
TABLE OF CONTENTS



DISTRICT BOARD OF TRUSTEES

Crystal Phalen	Board President
Jenny Arnold	Board Vice President
Tamara Dozier	Board Secretary
Troy Clawson	Board Member
Bruce Epstein	Board Member
Rebecca Kirby	Board Member

BUILDING COMMITTEE AND CONTRIBUTING STAFF

Dr. Toni Hicks	Superintendent
James Larremore	Director of Operations
Pennee Hall	Executive Director, HR
Jay Olivier	Executive Director, Tech.
Janine Nemec	
Jessica Murray	
Amy Clemens	

PROGRAM MANAGEMENT

ESC Region 13

Sledge Engineering, LLC

CONSTRUCTION MANAGER AT RISK

Satterfield & Pontikes Construction, Inc.

PROJECT TEAM

LaShae Baskin, RID

Director of Austin, Huckabee

Michael Morow, AIA

Principal, Huckabee

Mike Hall, AIA

Director of Design, Huckabee

Mike Vermeeren, AIA

Director of Planning, Huckabee

Tina Alford, AIA

Project Architect, Huckabee

Jesus Rodriguez,

Architectural Associate, Huckabee

Anna Abascal,

Interior Designer, Huckabee

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE

Langan

Austin, TX

STRUCTURAL ENGINEERING

RSCR Engineers

San Antonio, TX

MEP ENGINEERING

Hendrix Consulting Engineers

Round Rock, TX

TECHNOLOGY

CRUX

Fort Worth, TX

ENVELOPE/ROOF

Engineered Exteriors

Austin, TX

Introduction
The 1916 building was elected to undergo renovations to include a new Board Room, Executive Conference Room and Staff Development and Training areas as part of the 2021 Bond Election. The two-story structure that resides in heart of Jarrell has been designed to not only serve the District but also function as a space for the Community of Jarrell. The first floor is comprised of the new Board Room, Large Meeting Room, Executive Conference Room and a large welcoming Lobby which will house memorabilia that shows the history of the 1916 Building. The Board Room will also function as a staff development and training space. The large meeting room on first floor can be utilized by staff as well as a meeting space for community clubs, group or functions; complete with a kitchenette. The upper floor of the building will house a number of administrative functions including an open workspace, private and shared offices and a break area. The design of the space is sensitive to the fact of Jarrell's continued growth and is laid out in such a manner to allow for future additions to easily interact with the current design.

Paving Improvements
Vehicular access will be provided using existing drives and fire lanes currently constructed around the 1916 building. Modifications are anticipated to be limited to flatwork with reinforced concrete to improve pedestrian access.

Water Improvements
Fire suppression and domestic water service are currently provided to the adjacent Middle School site with an internal looping network of 12" water mains. From this system domestic service is provided to the 1916 building. No modifications are anticipated.

Wastewater Improvements
Sanitary sewer service is currently provided to the 1916 building with gravity mains extended from the adjacent Middle School. No modifications are anticipated.

Drainage Improvements
Access to the stormwater drainage system can be found southeast of the 1916 building. Anticipate new area drains to be needed north and east of the building east side entry.

Electric & Gas Service
Current electric and gas services to be utilized and adjusted as necessary.

Landscape & Irrigation Improvements
Plantings are anticipated to be limited to grass sod unless otherwise requested. All areas disturbed by construction will be stabilized with sod. Irrigation will be provided where necessary.

Structural
The structural design will be made in accordance with the following codes:
•International Building Code, 2012 Edition.
•Structural Steel: 'Specification for Structural Steel Buildings', The American Institute of Steel Construction, Fourteenth Edition.
•Structural Concrete: "Building Code Requirements for Structural Concrete ACI 318-11", The American Concrete Institute.
•Metal Deck: Steel Deck Institute, 2011.
•Structural Masonry – ACI 530-11
•Welding: Structural Welding Code – Steel, Twenty Second Edition, American Welding Society (AWS D1.1 and AWS D1.3).

Description of Structural Systems
The foundation design will be in accordance with the geotechnical engineering report, not yet complete. However, we anticipate the use of a soil supported slab system with spread footings supporting steel columns. New columns will be placed along the perimeter and interior of the building.

The second floor framing will consist of light gauge purlins spaced at 2'-0" on center, supported by steel wide flange beams. The purlins will be supporting a 4" concrete slab on top of a non-composite metal deck. Steel columns will continue through the second floor to support the roof framing.

Roof Framing anticipated to be light gauge purlins spaced at 4-0" on center will be supported by steel wide flange beams. 1 ½" metal deck will be supported by the purlins.

Lateral force resisting system: The existing multi-width brick walls will serve as the main lateral force resisting system.

Structural Members and Design: Load Assumptions
Dead Loads – loads actually calculated.
Live Loads
- Roof20 PSF
- Offices50 PSF
- Corridors100 PSF
- Assembly areas100 PSF
- Mechanical spaces150 PSF
- Wind speed120 MPH

Member Stresses:
Concrete – 28 day ultimate compressive strength
- Soil supported slab system, 3000 PSI
- Filled CMU reinforced cells, 3000 PSI
- Concrete reinforcing steel, 60,000

PSI Structural steel
- Light gauge framing, Fy = 50,000 PSI
- Beams, Fy = 50,000 PSI
- Columns, Fy = 46,000 PSI
- Metal Deck, Fy = 33,000 PSI

Mechanical
The HVAC system shall be designed with energy efficient quality equipment, ease of maintenance and equipment accessibility in mind. The system will be designed to control the interior temperature and humidity to uniform comfort conditions. Large spaces may be zoned separately by exposure and space function. This will allow for controlling a specific area (zone) by temperature and run time to provide maximum energy efficiency.

Mechanical system shall consist of all new equipment for the building. New units will be either high-efficiency elec/electric DX units or high-efficiency VRF split systems. All MDF and IDF data rooms will have separate air conditioning systems for 24/7 control. Outside air will be provided from outside air intake louvers with filter boxes.

COVID-19 Measures – The industry is still discovering the best method to protect building occupants from the spread of infectious disease. We are implementing the most common-sense effective strategies known to protect the inhabitants with the most reasonable cost.
Filtration can be increased up to MERV 13 without changing out of standard filter sizes or having dramatically negative effects on energy consumption. MERV 8-13 is considered in the normal filtration range with 13 being on the cleaner side.
Bipolar Ionization – Bipolar Ionization is being implemented with specific strategy from HCE for best protection. This means that if an infected person does come into spaces, in addition to other measures, this technology does its best to render viruses inert with enough exposure time. See manufacture's data for actual claims. These devices are a one-time cost and last for many years without annual parts or maintenance. Once they reach end of useful life then they should be replaced.

Plumbing
Throughout the building, domestic cold water will be routed to plumbing fixtures. The piping system will be sized based on the Plumbing Code requirements. The piping system will be insulated to prevent condensation from occurring on the exterior of the pipe.
Domestic hot water will be generated from a central water heater. The water heaters will generate and store hot water at 140°F.
A complete waste and vent system will be provided to collect sanitary waste from all plumbing fixtures, floor drains, and any other equipment, in accordance with the Plumbing Code, unless indicated otherwise.
Majority of roof drainage is planned to be handled by collector and downspouts by Architect.
Plumbing fixtures will be Grade A commercial quality and will be low water consumption type fixtures.

Electrical
A new 208Y/120V, 3-phase, 4-wire electrical service will be provided to the building.Lighting will be served at 120V and motors larger than 1/2 horsepower will be served at 208V, 3-phase.
Separate dedicated electrical rooms shall be provided as required for each level of the building.
LED lighting will be utilized throughout the building. Building interior lighting control schemes shall comply with the requirements of IECC 2015 Edition. Offices and conference rooms shall be provided with dual technology occupancy sensors, and switches for a dimming lighting control system. Lighting control schemes will be further discussed with the Owner as the design progresses.

Fire Alarm System
A digital, addressable voice alarm closed circuit, electrically supervised automatic and manual fire detection alarm system shall be provided. The system will consist of manual pull stations and audio-visual devices at means of egress throughout corridors, area smoke detectors, heat detectors in equipment rooms and smoke detectors in storage rooms. Duct mounted detectors in supply and return duct of air handling equipment for air handling system shutdown as required by code. The fire alarm system design will comply with the Americans with Disabilities Act regulations, and Texas Accessibility Standards (TAS), and the National Fire Protection Association NFPA 101, and NFPA 72, and the International Building Code (IBC).

Technology
Premise Distribution System
A. The scope of work for premise distribution shall include new fiber optic cabling and termination hardware utilizing Passive Optical Networking (PON) from Tellabs connecting to the OLT in the Middle School IDF. The system design shall include passive fiber optic splitters located in the telecommunications spaces, Optical Network Terminals (ONT's) installed in ceilings shall provide PoE and network connectivity to wireless access points, surveillance cameras, VoIP handsets and standard data cabling connectivity. The IDF in the 1916 Building shall also support the centralized power supply for the building.
B. All fiber shall be Single Mode, manufacturer is to be selected from a list of acceptable options in the specifications.
C. Copper cabling
  a. Copper cabling shall be designed between all ONT devices and their supported connections to include all wireless access points, VoIP handsets, displays, projectors, computers, printers, access control panels, building management systems and surveillance cameras.
D. Termination support equipment / MDF and IDF room build out
  a. The Middle School MDF shall support the OLT. Fiber termination hardware and all power for the PON system shall be centralized in new IDF in the 1916 Building. The IDF shall include all equipment racks, back boards, ladder rack, and grounding bars as per District standards.
E. Termination support equipment /IDF room build out - One new IDF room will be constructed for this project. All racks, termination hardware etc. shall match Owner specifications.
F. Grounding – All equipment in the IDF will be properly bonded and grounded per TIA standards and BICSI best practices.
G. Area network requirements – No new connectivity is required as the school is existing and currently functional.
H. Digital signage locations will receive network cabling as required for functionality.
I. Wi-Fi – General
  • Wireless access point locations will receive network cabling as required.
  • Wireless access points will be furnished and installed by Jarrell ISD IT.
J.Pathways
  • Will consist of j-hooks and/or basket tray in corridors and accessible ceiling spaces.
  • Conduits and sleeves will be required for locations with inaccessible ceilings such as clear story/high volume, hard lid/gypsum, etc.

JSD IT shall furnish and install active electronics for network connectivity such switches, routers, bridges, and wireless access points. The complete phone system will be furnished and installed by JISD IT.

Audio Visual Systems
The Board Room will be a space with the ability to operate as two independent meeting spaces or as one combined space for larger meetings or presentations. When combined, both spaces will share any and all video and audio source signals. Video distribution/matrixing for both rooms by an Extron presentation switcher located in the equipment rack. Two ceiling-mounted motorized projector screens with two ceiling-mounted laser projectors per room on the plan north and south walls (4 total). One wall plate HDMI transmitter wall-mounted under each projector screen for presentation. One OFCI wireless presentation device per room. Streaming encoder for audio recording only. Streaming and video recording may be used in the future. Overhead pendant speakers in open ceiling for audio reinforcement. 12 channels of wireless microphone for board meetings and professional development. One Bluetooth wall plate receiver in each room. Processing and amplification equipment in rack. One wall-mounted 7" touch panel in each room for video routing, volume source selection and levels, and room configuration. Control Processor is built into presentation switcher. All headend equipment will be stored in a wall-mounted pivoting equipment rack located in the mechanical/electrical room.

The Conference and Meeting Rooms will consist of an Owner furnished, and Contractor installed wall wall-mounted flat panel display. HDMI transmitter in floor box underneath conference table. OFCI wireless presentation device. Built-in display speakers. Control through display remote.

Security
Access control and/or door monitoring shall be provided as follows:
  A. ACS system Manufacturer: Verkada
  B. Card reader Manufacturer: Verkada
  C. Door hardware Manufacturer: Allegion
  D. Door monitoring via Door Position Sensor will be at all exterior door locations and roof hatches.
  E. Request to exit (REX) devices will be used on all exterior doors. Door hardware will have integrated REX wired into the panic hardware.
  F. Card readers shall be deployed to areas identified by the Owner including main entry, staff entry, cafeteria staff entry and athletics.
  G. Wall mounted access control panels shall be installed in the existing MDF and IDF(s) as needed to support the ACS.
  H. Additional credentials and other consumables shall be determined by the Owner during the design phase.

Video Surveillance Sysyem basis of design:
  A. Video management server: Verkada.
  B. Camera manufacturer: Verkada.
  C. Camera types (fixed, ptz, etc.): Fixed domes and bullet style cameras will be used. Typically, interior cameras are domes and exterior cameras are bullets.
  D. Interior cameras shall observe the following: Corridors, entries/exits, gathering spaces and the board room.
  E. Exterior cameras shall be covered as-directed by Jarrell ISD IT.
  F. JISD is working on a refresh of the existing surveillance system and will provide new camera locations when available to assist in design. Any existing cameras affected by the project will be taken down during demo and reinstalled after renovation work is complete.
  G. Pole mounted cameras: none.
  H. Video programming requirements: TBD
  I. Storage Server: Storage is included on each camera and video footage is available via the Verkada cloud.
  J. VMS: Verkada
  K. Licenses: To be furnished by the contractor for each camera in-scope.

Intrusion Alarm basis of design:
  A. Manufacturer: Verkada.
  B. Keypads have been removed from the design per review meeting discussion.
  C. Motion detectors are only in rooms without camera coverage. In areas where cameras are present, the cameras will serve as motion detectors in the Verkada system.

Meetings To Date

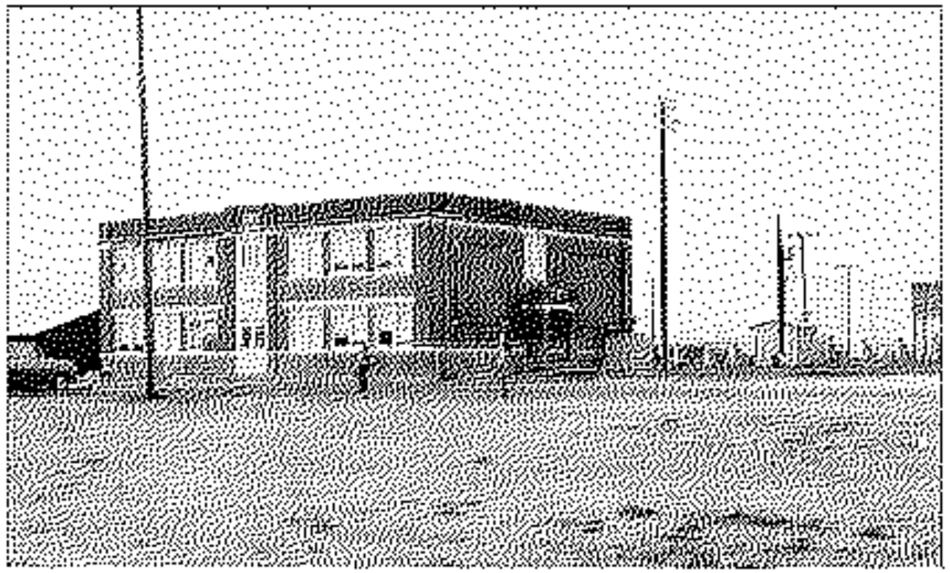
Design Committee Meetings
- December 14, 2021
- January 11, 2022
- January 25, 2022
- February 02, 2022
- February 15, 2022

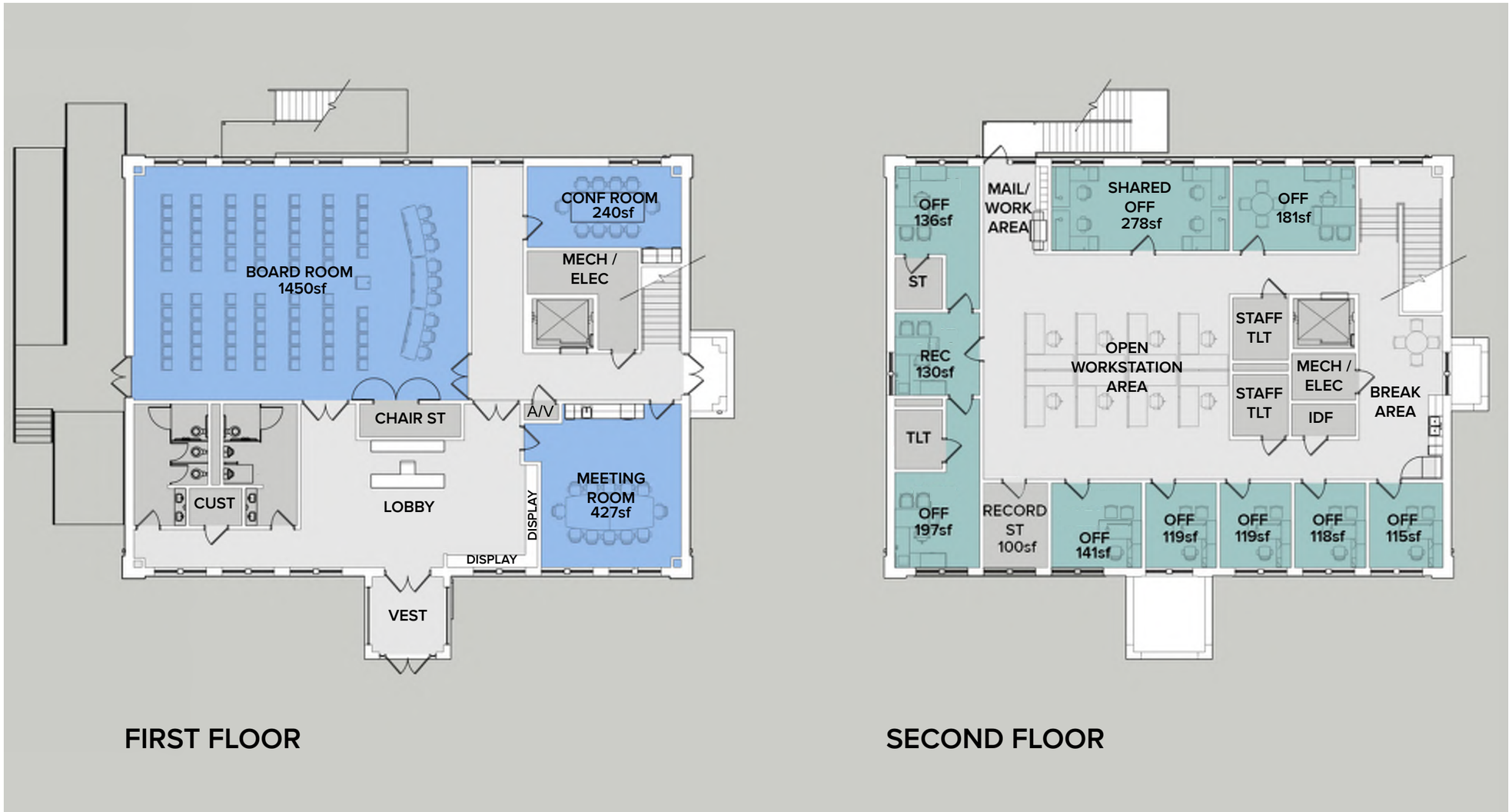
Technology Meeting
- February 03, 2022

Upcoming

Design Committee Meetings
- February: Interiors and Finishes
- March: History Content Meeting
- March: Progress Review Meeting

District Meetings
- March: Design Development Page Turn
- April: Construction Document Page Turn





FIRST FLOOR

SECOND FLOOR

COLOR LEGEND

- Administration Office
- Board Room / Meeting Space
- Circulation
- Support Space

0 10 20 40

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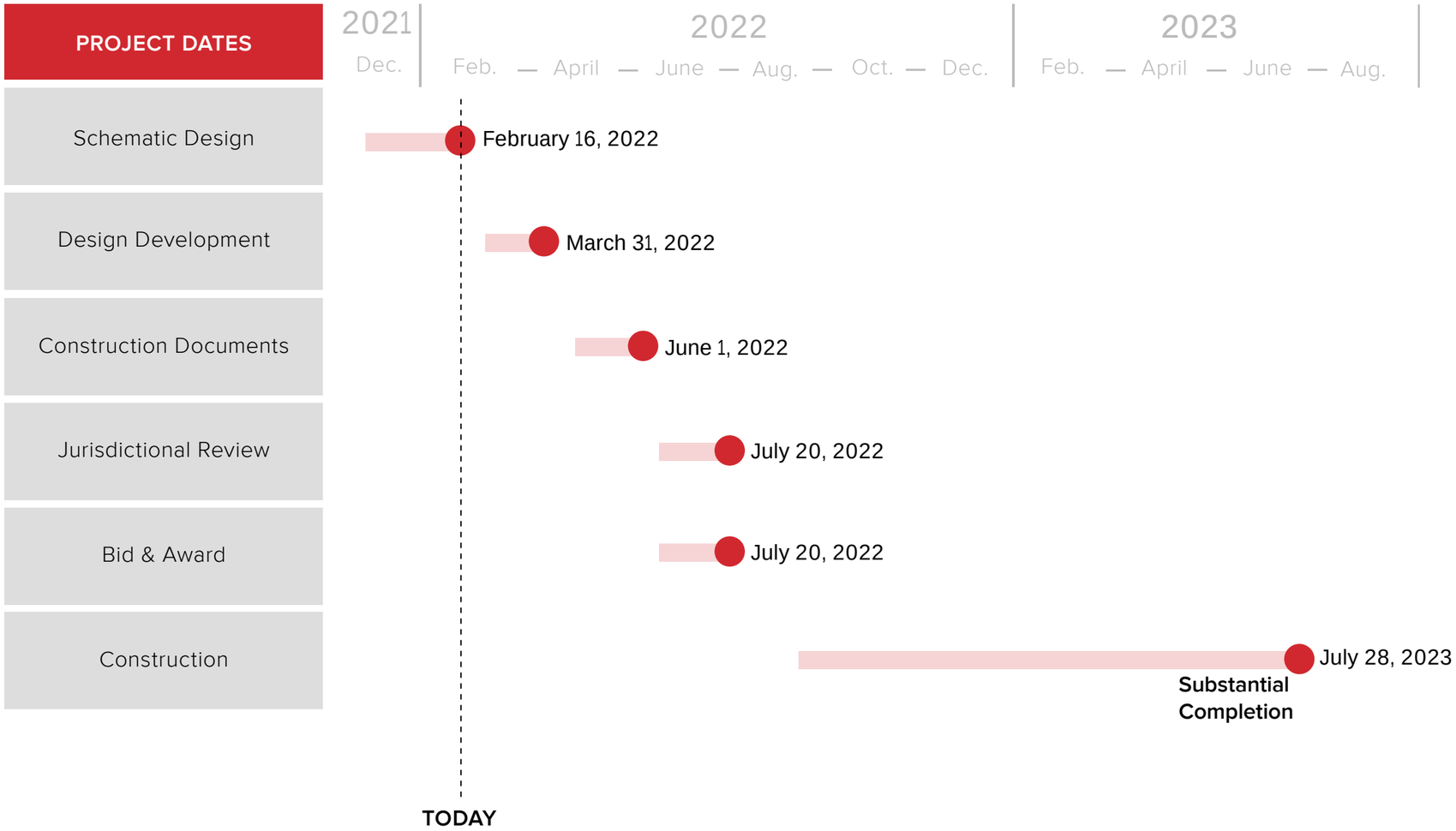
Bond Construction Budget:	.....$4,877,000
Opinion of Probable Cost (Beginning Construction August 2022)	.....$4,256,964



MORE THAN ARCHITECTS

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION.
MICHAEL A. MOROW, TX REGISTRATION #25557