

JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4
SEPTEMBER 27, 2023

SCHEMATIC DESIGN PRESENTATION





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Program Management

Stephen Dorman, Sledge Engineering, LLC

Project Design Team

| | |
|-----------------------------|-----------------------------|
| Michael Morow | Scotty Denny |
| Principal, Huckabee | Senior Designer, Huckabee |
| Andrew Cartwright | Hannah Earle |
| Project Architect, Huckabee | Interior Designer, Huckabee |
| Michael Hall, AIA | Jenna Norton |
| Design Director, Huckabee | Planning, Huckabee |

Civil Engineering & Surveying

Langan / Adams

MEP Engineering

Hendrix Consulting Engineers

Structural Engineering

Huckabee

Technology/Security

CRUX

Food Service

Foodservice Design Professionals

Roofing Consultant

Engineered Exteriors



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Introduction

Jarrell New Elementary School #4 is a new stand-alone facility designed to serve 900 students in grades Pre-Kindergarten through 5th grade, with a maximum capacity of 1,000. Grade level alignment, the program of spaces, and the project budget were discussed and developed during a series of meetings with the district. With the success of the design of Double Creek Elementary (ES #3), where Huckabee work with JISD's design committee and contributing staff to confirm and refine the program and design intent, it was determined by the Bond committee to continue this design as a prototype for Elementary School #4.

Civil

Overview

The proposed elementary school property is undeveloped and consists of a 13.207 acre tract (Parcel 11) within the Berry Creek Highlands development. The tract is located approximately 2.65 miles northwest of I-35 and TX- 195 within the City of Georgetown in Williamson County. The parcel is zoned residential/public facility per the approved PUD Ordinance No. 2018-36. Of note, be mindful that utilities and site access are dependent on the construction progress of the Berry Creek Highland (BCH) development.

Existing Conditions

The site has been partially cleared by the Berry Creek Highlands development for earthwork staging and spoils area. The topographic survey illustrates three electrical transformers and two small concrete foundations. A site removals plan will be developed and pending the proposed site layout, the small pads and select trees may be removed. The electrical transformers are expected to stay

Paving Improvements

The site has street frontage to the north on Berry Creek Highland (BCH) Way and east on Cowboy Canyon Drive. The main access to the school is expected to be from Cowboy Canyon Drive on the east side of the tract. There is existing new sidewalk adjacent to the property line on these two frontages. The new site pavement is anticipated to be constructed using reinforced concrete. The necessary subgrade treatment consists of stripping all vegetation and organic topsoil. Subgrade fill material consist of select fill or processed on-site excavated limestone. Subgrade treatment to be confirmed with final geotechnical report.

Grading Improvements

The site topography falls generally from an elevation of 818 to an elevation of 801 oriented northwest to southeast across the tract. At this time, we have assumed a preliminary finished-floorelevation of 812. Cut and fill values will be monitored throughout the design process in an attempt to provide site balance. Subgrade preparation will consist of stripping all vegetation and organic topsoil of exposed subgrade. The final geotechnical report will determine foundation type and subgrade treatment. Select fill and excavated on site limestone is to be used as fill material for site grading.

Stormwater Drainage Improvements

The site is expected to include an underground stormwater drainage system consisting of curb inlets, grate inlets, and connections to roof drains. Drainage will collect to the southeast corner of the site where the detention and water quality ponds will discharge to a 36-inch storm line, to be provided by the BCH development.

Stormwater Quality Improvements

The site is located within the Edwards Aquifer Recharge Zone and water-quality permitting through the Texas Commission on Environmental Quality (TCEQ) will be required. The permanent water quality measures and storm water detention areas will be located on the southeast side of the site.

Water Improvements

Per the BCH Phase 1 plans a 12-inch PVC water main will be constructed in Cowboy Canyon Drive. A stub, of unknown size at this time, to service the school will provided near the middle of the Cowboy Canyon Drive frontage. We expect this to be a 4-inch line to provide domestic water with a separate meter. We anticipate two additional connections for an on-site private 8-inchloop to service the proposed fire hydrants and building interior fire-suppression system.

Wastewater Improvements

In coordination with the Berry Creek Highland development an 8-inch sanitary stub will be provided near the southeast corner of the site and will be stubbed and capped. The anticipated system for all on-site sewage is to be gravity and flow to this single connection point. From this connection point the sewage will convey through the BCH development network for treatment.

Electric And Gas Improvements

Extents of existing electric and gas services are unknown at this time. According to the survey, there is a gas main of unknown size along the BCH Way frontage. There are also 3 electric transformers at the southwest corner of BCH Way and Cowboy Canyon Drive. Both gas and electric are to be coordinated with the developer and respective franchise utility provider.

Foundation Preparation

Foundation preparation will consist of removing vegetation, organic topsoil, and stratum I clays. Exposed subgrades are to be thoroughly proof rolled to locate weak, compressible soils. Voids created by large roots and boulders are to be backfilled with compacted select fill. The select fill is to be crushed stone or gravel aggregate. The foundation preparation will be confirmed with the final geotechnical report.

Landscape & Irrigation Improvements

Plantings will be selected to satisfy district and governing requirements. Areas disturbed by construction will be turf stabilized with either sod or seed. Irrigation will be metered and provided where necessary to support required plant material.

Building Design

The compact building plan is designed with the two-story high library space as its hub. The two-story classroom wing surrounds and looks onto this central library space. The library's learning stair provides opportunities for presentations and collaboration. Adjustable instructional spaces are located between grade-level houses, presenting the opportunity for enhanced learning opportunities, ability for "bumper" classes, and additional capacity up to 1,000 students. The classroom wing configuration maximizes opportunities for natural light. If the budget allows, operable partitions will be provided between each pair of classrooms for grades 1-5, creating additional opportunities for collaboration. A one-story wing consisting of the gym, cafeteria and Music room sits aside the classroom wings. The gym, cafeteria and restrooms can be isolated from the remainder of the building for after-hours events and can be accessed from both the front and rear parking lots. The gym space will be designed as a hardened space for bad weather events. The Music room is located directly behind the stage and has access via ramp to the stage.

Students arriving on foot, by bike, or by car will enter through the main front entrance. Students arriving by bus will enter next to the



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gym. Visitors will enter through a secure vestibule and be directed through the office. Covered walkways are provided at both front and rear entrances to shelter students. The outdoor play slab can be accessed from the gym or classroom wing. It is anticipated that the foundation system will be slab on grade, but the geotechnical investigation will confirm. The primary structural frame will be steel and exterior back-up and interior walls will have steel stud framing. The kitchen area and hardened gym space will consist of structural CMU.

The exterior of the building will be primarily limestone, with metal panel accents at upper areas. Interior finishes are to be solid vinyl tile flooring, with carpet tile and porcelain tile in select areas. Wall finishes in the corridors will be a durable finish wainscot such as ceramic tile.

Structural System

The building design is in accordance with the requirements of the following Construction Industry Codes and Specifications

- International Code Council, International Building Code (IBC) 2015
- American Society of Civil Engineers. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures
- American Concrete Institute. ACI 318-14, Building Code and Commentary for Structural Concrete
- American Concrete Institute. ACI 530-13, Building Code Requirements and Specification for Masonry Structures
- American Institute of Steel Construction. Steel Construction Manual, 14th Edition
- American Iron and Steel Institute. AISI Specification for the Design of Cold-Formed Steel Structural Members, 2012
- Steel Deck Institute. Diaphragm Design Manual, 3rd Edition
- Steel Deck Institute. Design Manual for Composite Decks, Form Decks, and Roof Decks; Publication 31

Description of Structural System

- Foundation System: The foundation system will likely consist of a 5" thick slab over a vapor barrier on grade, as well as grade beams spanning between piers at load-bearing walls and perimeter walls. Drilled piers will also be present at isolated column locations.
- Framing System: The building is comprised of a steel framing,

load-bearing masonry walls. Lateral stability of the building will consist of brace frames, moment frames, and masonry shear walls.

- Second Floor Framing: The second floor framing consists of 5" total thickness of normal weight concrete on 2" composite steel deck. The second floor slab will be supported by steel beams designed to act compositely with the concrete slab.
- Roof Framing Systems: The roof framing consists of steel bar joists or steel beams typically spaced at approximately 6'-0" on center. The 1.5" deep, 20 gage (minimum) steel roof deck is supported by the bar joists and serves as the roof diaphragm as part of the lateral support system. There will also be long-span metal deck.
- The gymnasium will be designated as a hardened space. The hardened space will consist of CMU load-bearing reinforced walls. The structure will be designed to resist pressures associated with a 135-mph wind speed.

Design Basis

- Concrete: $f'c = 3.0$ ksi at 28-days
- Structural Steel:
 - W and WT Shapes: ASTM A992 $F_y = 50$ ksi.
 - M, S, C, MC: ASTM A36 $F_y = 36$ ksi.
 - Square and Rectangular HSS: ASTM A 500 Gr. B $F_y = 46$ ksi.
 - Angles and Plates: ASTM A 36 $F_y = 36$ ksi.
 - Structural Fasteners: ASTM A 325 Bolts $F_u = 120$ ksi.
 - Anchor Bolts: ASTM F1554 Gr. 55 $F_u = 75$ ksi
 - Welding Electrodes: E70XX $F_u = 70$ ksi.
- Concrete Masonry: $f_m = 1,700$ psi with Type N mortar and 2,000 psi grout

Lateral Stability

- Wind and Seismic analysis are performed in accordance with the design codes listed above. The lateral force resisting design shall be based on the controlling load. Seismic resisting systems and special requirements as prescribed in IBC, ASCE 7, and AISC have been taken into account. Lateral loads are transferred from the roof and second floor diaphragms to the foundation by use of brace frames, moment frames, and masonry shear walls.

MEP

Project Description

- The following narrative depicts a brief description of the mechanical, electrical, plumbing and fire protection systems planned for the new Jarrell ISD - Elementary School #4.
- The scope of the project shall include Mechanical, Electrical and Plumbing design.
- All systems shall be installed in accordance with the International Building Code (IBC) and the latest edition of all applicable Codes as approved by State Fire Marshal, NFPA, and NEC. The project will be designed and constructed with systems and materials appropriate for private development and good engineering practice.
- Applicable Codes, Regulations, and Design Standards
 - National Electrical Code (NEC) - 2020 Edition.
 - Occupational Safety and Health Act (OSHA).
 - ANSI 17.1 Safety Code for Elevators and Escalators.
 - National Fire Protection Association (NFPA 13) – Automatic Sprinkler Systems
 - National Fire Protection Association (NFPA 14) – Standpipe Systems
 - National Fire Protection Association (NFPA 20) – Centrifugal Fire Pumps
 - National Fire Protection Association (NFPA 54) – National Fuel Gas Code
 - National Fire Protection Association (NFPA-780) – Lightning Protection Code – 2004 Edition.
 - American Society of Sanitary Engineers Standards as applicable.
 - American Society of Plumbing Engineers Data Book for design standards.
 - National Fire Protection Association (NFPA-101) – Life Safety Code – 2003 Edition.
 - National Fire Protection Association (NFPA-110) – Emergency and Standby Power Systems.
 - International Building Code (IBC) – 2015 Edition.
 - International Fire Code (IFC) – 2018 Edition.
 - International Building Code (IBC) – 2018 Edition.
 - International Plumbing Code (IPC) – 2018 Edition.
 - International Mechanical Code (IMC) – 2018 Edition.
 - International Energy Conservation Code (IECC) – 2018 Edition
 - Texas Accessibility Standards, Architectural Barriers Act,



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Article 9102, Texas Civil Statutes.

- Americans with Disabilities Act of 2010.
- Underwriters Laboratory Requirements and Listings for Use in Fire Protective Signaling Systems.
- 22. ASHRAE 90.1 Energy Standards for Buildings except Low-Rise Residential Building – 2007 Edition.
- ASHRAE 62.1 – 2007 Edition.
- NEMA – National Electrical Manufacturer's Association.
- NECA – National Electrical Contractors Association.
- IEEE Standard 1100 – Powering and Grounding Sensitive Electronic Equipment.
- IEEE Standard 142 – Grounding of Industrial and Commercial Power Systems.
- IEEE Standard 241 – Electric Power Systems in Commercial Buildings.
- IEEE Standard 242 – Protection and Coordination of Industrial and Commercial Power Systems.
- IEEE Standard 446 – Emergency and Standby Power Systems for Industrial and Commercial Applications.

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.

Calculation Method

- Heat gain and loss calculations will be with factors from the ASHRAE Handbook of Fundamentals and ASHRAE 90.1 latest editions. The heating and cooling loads shall include building loads such as building envelope loads (wall, roof and glass), occupant loads, lighting loads, equipment and appliances loads, outside air (ventilation) loads in accordance with ASHRAE Standard 62. Component resistance values used in determining "U-factors" are taken from the ASHRAE Handbook of Fundamentals.

Mechanical Systems

- Mechanical system shall consist of DX high-efficiency gas fired rooftop units and makeup air (MAU) units to pre-

condition the outside air for humidity and temperature control.

- Larger areas will be conditioned using DX high-efficiency multi-stage rooftop units (RTU's). The space will be zoned using separate units for exterior and interior to provide for better space comfort and control. These units will also be provided with hot gas reheat for humidity control as space type dictates.
- Classrooms shall have a separate RTU unit and thermostat for individual control.
- All rooftop units will be gas heat.
- All MDF and IDF data rooms will have separate air conditioning systems for 24/7 control.

Ventilation Requirements and Pressure Relationships

- All floors of the building will have ventilation rates per IMC and ASHRAE 62.1 and the building will be under positive pressure. IAQ procedure will also be used for outside air requirements.
- A makeup air unit (MAU) shall be used to provide neutral ventilation air.

Controls and EMS

- Provide a direct digital electronic automatic temperature control system for the entire building. The system shall consist of direct digital control (DDC) systems for the HVAC equipment, an operator's terminal with keyboard for communication with and programming of the distributive memory in the direct digital controllers and shall incorporate all equipment necessary to provide the sequence of operation. All digital equipment designed to provide protection against interference by external voltages when operated in a commercial environment. This system shall use electronic temperature sensors, interfaced through standalone DDC controllers and unitary controllers. Control system shall have graphics indicating building floor plan, equipment identification and equipment indication and monitoring. BAS will be specified with power monitoring of strategic loads to allow Owner to track energy usage for entire building as well as separate building into HVAC, lighting and low voltage/receptacle load. This allows Owner to maximize building performance over time.
- All temperature control devices shall be standard catalog products and shall essentially duplicate equipment which has been in satisfactory service for at least 3 years. A minimum of

90% of the control equipment shall be by the installing manufacturer.

- Work to include a complete automatic temperature control system including any and all control devices, 120 volt (not provided by electrical contractor) and low voltage wiring and conduit, DDC controls, valves, dampers, relays, control modules, sensing devices, switches, and instrumentation necessary to obtain all functions and sequences.
- Control System Software shall provide for monitoring and recording of after-hours operation of units.
- Temperature Sensors:
 - Space Temperature Sensors: Provide with blank institutional type locking cover, single scaled set point adjustment and zone bus jack for zone terminal connection. All space sensors shall have built-in override switch and local set point adjustment.
- Manufacturers: Controls coordinate with Owner requirements.

Ductwork Construction

- Ductwork, unless otherwise specified herein, shall be constructed of new, prime grade, continuous hot dip mill galvanized, lock forming quality steel sheets and shall have a galvanized coating of 1-1/4 ounces total for both sides per square foot. The gauges of metal to be used and the methods of duct construction shall conform to the requirements for the class of work involved as set forth in the latest edition of "Standard Practice in Mechanical Sheet Metal" as published by SMACNA. Each sheet shall be stenciled with the gauge and manufacturer's name. If coil steel is used, coils shall be stenciled throughout on ten-foot (10') centers with the gauge and manufacturer's name.
- All dimensions are inside clear dimensions. Sheet metal size shall be increased to allow for duct liner where applicable.
- Seal all transverse joints, seams and fitting connections with "KINGCO 11-376 Super Seal", UL listed Mastic to prevent air leakage. Oil base caulking and glazing compounds are not acceptable.
- Rectangular Ducts
 - Where special rigidity or stiffness is required, construct ducts of metal two-gauge numbers heavier.
 - Ducts larger than 30" and larger to have Ductmate 35 slide on connections. Use metal cleats, metal corner cleats for non-breakaway joints, use plastic cleats for breakaway joints, ductwork 440 tape, #795 duct sealer and 5511M sealant. Fabricate and install per manufacturer's instructions.
- Ductwork shall be internally lined with antimicrobial coating for sound attenuation at discharge of units and return plenums as noted or detailed.



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- Ductwork shall be externally insulated as follows:
 - The Contractor may use a 3/4, 1 or 1-1/2-pound density product with a minimum thickness of two inches (2") and a minimum installed R-value of 6.0. Density, thickness and installed R-value to be clearly indicated on submittal. Installed R-value must be 6.0 or higher.
 - Fiberglass duct wrap insulation is to have a factory FSK or FRK facing which acts as the vapor barrier. Maximum permeability rating is 0.02 perms.
 - Use only labeled Type UL181AP tape. Maintain a complete vapor barrier throughout all ductwork insulation applications.
- Flexible Duct: Only above suspended or hard ceilings:
 - Provide duct listed as UL-181 Class I air duct and constructed in compliance with NFPA 90A. ATCO Series 36.
 - Maximum length five feet (5'). Install with not more than one (1) 90 full radius degree bend.
 - Make joints with Nashua brand UL181A-P duct tape and 1/2" wide positive locking panduit straps.
 - Exterior skin is to be tough vapor barrier reinforced metalized polyester jacket, tear and puncture resistant.
 - Airtight inner core with no fiberglass erosion into airstream.
 - R-Value: 6.0 at 75 degrees F. mean temperature.

Air Filters

- All air filters to be listed as Class 2 by Underwriters Laboratory, Inc., Building Materials Directory.
- Media: Non-woven, lofted cotton bonded to 96% free area welded wire support grid. Not less than 6.6 square feet media area per square foot of filter face area. Arranged in radially pleated configuration and bonded continuously to inside perimeter of high wet-strength beverage board cell sides.
- Cell Design: 2" deep with beverage board diagonal supports at entering air and leaving air faces of each cell.
- Air Cleaning Performance: Minimum MERV 13.

Fire Dampers

- Provide and install all fire dampers in all ductwork which passes through any rated egress pathways, as required by Local Building and Fire Safety Codes.
- All dampers UL approved and of type required by NFPA 90A.
- Install all dampers per manufacturer's instructions.
- All dampers shall have a UL555S leakage classification of II.
- Sleeves for fire dampers shall be of gauge as described in

NFPA 90A and as a minimum of 18 gauge for dampers up to thirty-six inches (36") wide and fourteen(14) gauge for dampers which exceed thirty-six (36") in width.

- Manufacturers: Ruskin, Air Balance, Arrow, Nailor or approved equal.

Ductwork Supports

- Support all duct work to prevent sag, undue play and swing. Provide a hanger within twelve inches (12") from unit supply and return.
- Low Pressure Ductwork:
 - Ducts 40" and Less: Provide with 1" x 18-gauge straps fastened to ductwork and to building construction. Space not more than eight feet (8') on center. Hanger straps shall lap under duct a minimum of one inch (1") and have a minimum of one (1) fastening screw on the bottom and two (2) on the side.
 - Ducts Over 40": Provide mild steel rods fastened to angle iron stiffeners with nuts and to building construction with appropriate inserts, flanges or clamps. Space not more than four feet (4') on center with rods and angle supports.
 - Use minimum twelve (12) gauge wire with saddle for support of flex duct. Maximum permissible sag is 1/2" per foot of spacing between supports. Use one-inch (1") strap (minimum) for all round sheetmetal runouts; minimum 8'-0" o.c.

Plumbing

Domestic Cold-Water Supply System

- A new underground domestic cold-water service will be provided to the building, supplied from a site water main. Where the domestic water service enters the building a shut-off valve will be provided. 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.
- Service valves will be provided at each branch line serving two or more plumbing fixtures. All plumbing fixtures and equipment connections will be provided with local stop ball valves. Additional service valves will be provided, to isolate the system for maximum maintainability.
- Access panels will be provided with adequate space to

operate the valves in walls and non-accessible ceilings.

- Water hammer arrestors will be provided on all water rough-ins serving plumbing fixtures

Domestic Hot Water Supply System

- Domestic hot water will be generated using two natural gas fired water heaters for kitchen and satellite electric water heaters for restrooms with integral storage tanks. The storage tanks will be constructed of unlined duplex alloy stainless steel. The units will be insulated, in compliance with ASHRAE 90.1 for thermal efficiency, and will have a minimum efficiency of 90%. The water heaters will generate and store hot water at 140°F. Point-of-use thermostatic mixing valves will reduce final delivery temperatures of hot water to the building plumbing fixtures to 110°F. The hot water piping system will have in-line circulation pumps to maintain the hot water temperature to within 10 degrees of the supplied temperature.
- The domestic hot water piping system will be sized similar to the domestic cold-water system. The hot water supply and return piping will be insulated to minimize heat loss.

Sanitary Waste and Vent Systems

- 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.
- Vent piping will be black steel above ceiling.
- The drainage piping system will be designed with a minimum slope of 1/4-inch per foot for pipe sizes less than 3-inch and 1/8-inch per foot for sizes 3-inch and larger.
- The building will have sanitary sewer lines discharging to the site sanitary sewer system.
- Floor and wall cleanouts will be strategically placed to avoid being located in sensitive areas.
- Floor drains will be provided for equipment requiring drains, toilet rooms with water closets, and mechanical equipment rooms.
- Each floor drain will be provided with a p-trap and a trap primer.

Storm Drainage System

- All of roof drainage is planned to be handled by collector and downspouts by Architect. There are no internal roof drains or associated piping

Plumbing Fixtures



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- Plumbing fixtures will be Grade A commercial quality and will be low water consumption type fixtures. Water closets will be dual flush type with 1.28 gallon per flush fixtures. The urinals will be 0.125 gallon per flush fixtures. Lavatories will have 0.50 gpm faucets and the sinks will have a 1.5 gpm flow control devices. Water closets will be floor mounted using lead stub-outs and brass flanges and urinals will be wall hung and provided with concealed support carriers. Lavatories, mop sinks, laboratory sinks and kitchen sinks will be provided with domestic hot and cold water. All vitreous china fixtures will be white in color. Where applicable, fixtures will be in compliance with the Americans with Disabilities Act.
- Wall hydrants will be provided on the exterior walls to provide wash down of entries, and other exterior areas around the building. Hydrants will be freeze-proof recessed type with hinged door, integral vacuum breakers and loose key.
- Roof hose bibs will be provided for washing of roof equipment.

Natural Gas System

- Natural gas will be provided to the building from the site natural gas main. Reference Civil drawings for routing. A natural gas meter with regulator will be located outside the building, by the gas utility company. The natural gas piping system will enter the building and be piped to the rooftop units, domestic water heaters and gas-fired kitchen equipment. The domestic water heaters will be provided with flues and combustion air intakes routed up through the roof or to sidewall. The natural gas piping system will be sized based on the International Fuel Gas Code.

Fire Protection Systems

- The building will be provided with an automatic fire protection sprinkler system. A fire water service supply will be extended into the building. Dry type sprinkler systems will be provided for areas where the sprinkler heads and piping will be exposed to freezing condition external to the buildings. The dry type sprinkler systems will include air compressor, dry pipe valve, air maintenance device, etc. The wet and dry sprinkler systems will be hydraulically designed in accordance with the requirements of all agencies having jurisdiction. System will include piping, sprinklers, wet and dry alarm valve assemblies, tamper switches, flow switches, valves, drains, inspector test, test drains, fire department connections, sprinkler heads, roof

manifolds, etc.

- Sprinkler heads in light hazard finished areas with suspended ceiling will be quick response, flush concealed with white cover plates. Heads in non-finished areas such as Mechanical Equipment Rooms, Electrical Rooms, etc., will be chrome-plated brass. (Verify for use in Electrical rooms).
- The sprinkler systems will conform with all applicable provisions of the Owner's Insurance, NFPA Standards 13, 14 and other appropriate NFPA Standards, state and local codes.
- A fire pump could be required depending on water pressure tests.
- Pre-action, double interlock wet pipe system to be used in server room and IT machine room.

Electrical

Electrical Utilities:

- Power will be brought to the building from the local electric utility company. The service to the building will be 480Y/277V, 3-phase, 4-wire on the secondary of the building pad mount transformer. MSB is located in Main Electric Room. Lighting will be served at 277V and motors larger than 1/2 horsepower will be served at 480V, 3-phase. Energy-efficient, low voltage, indoor, dry-type transformers that are DOE 2016 compliant will be used inside the building electrical rooms to transform down to 208Y/120V for convenience receptacles and other small loads.
- Building surge suppression systems will be installed in the building at the main switchgear, 480Y/277V distribution panels, and 208Y/120V branch circuit panelboards for protection of building loads from surges both from lightning and utility transients as well as building switching transients.

Interior Electrical Distribution System

- 1Furnish all labor, testing, supplies and materials, including but not limited to, installation of light fixtures, cutting and chasing, coordination with other trades on the job, etc, necessary for the installation of complete electrical systems. Include temporary electrical power and lighting to satisfy OSHA requirements. Verify all conditions and measurements at site.
- The building main electrical room shall house the building switchboard. The main electrical room personnel doors shall open in the direction of egress and shall be equipped with panic bars, pressure plates or other devices that are normally

latched but open under simple pressure in accordance with N.E.C article 110.26 (c)(3).

- Separate dedicated electrical rooms shall be provided as required for each wing of the school. These rooms shall be strategically and centrally located within the building to minimize voltage drop problems. The electrical rooms will have branch circuit panelboards, DOE 2016 compliant dry type transformers and 208Y/120 Volt branch circuit panelboards. Separate dedicated 480Y/ 277 Volt panelboards for HVAC equipment and lighting branch circuits shall be provided.
- DOE 2016 complaint, aluminum windings dry type transformers shall be provided to serve all non-linear load branch circuit panelboards.
- Connection point provided for future portables.

Interior Lighting Systems

- LED lighting will be utilized throughout the building. Building interior lighting control schemes shall comply with the requirements of IECC. All offices and classrooms 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.
- All lighting will be provided with a color temperature of 4000°K and a color rendering index of 85 (CRI = 80) to be confirmed by District.
- Emergency lighting and means of egress lighting shall be provided in accordance with NFPA Life Safety Code (NFPA 101) and shall all be served by integral battery packs.
- All exit light fixtures shall be LED type.
- Illumination levels shall comply with the requirements set forth by IES, allowable power densities, and the building program requirements unless otherwise indicated by the Owner. footcandle levels shall be minimized in areas where task lighting is used.
- All exterior lighting shall be LED type lighting in weatherproof fixtures mounted on poles, walls, or soffits as required to meet lighting requirements. All exterior lighting shall be time clock and photocell with motion-controlled dimming. All exterior fixtures shall be full cutoff design.
- Provide life-safety lighting in all exit paths in accordance with IES minimum foot-candle recommendations and AIA guidelines.
- All requirements of IECC will be adhered to during the design of the lighting, this will include the use of automatic shut-off via time of day schedule, occupancy sensors and/or dual level switching.
- All specialty lighting will be coordinated with Architect.



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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 audio-visual devices at means of egress throughout corridors, area smoke detectors, heat detectors in equipment rooms and smoke detectors in storage rooms. Pull station at fire riser room and Admin area only. Full area smoke detection where possible. Duct mounted detectors in supply and return duct of air handling equipment for air handling system shutdown as required by code. Carbon monoxide (CO) detectors in all classrooms served by gas fired heating device. 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 & Security

Project Scope Of Work

The scope of work for this project includes the new elementary campus. This will include the implementation of new telecommunication spaces, premise distribution, classroom audio video, facility intercom system, local sound systems, physical security systems including access control and surveillance.

There is currently no storm shelter required within this jurisdiction.

This section is intended to define the standards, criteria and assumptions used for the development of design documentation concerning the premise distribution, AV and security systems infrastructure.

The systems design and specifications are based on Jarrell ISD Guidelines, client input, industry standards and best practices.

Premise Distribution System (PDS)

Basis of Design

- The Premise Distribution System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating this system with the General contractor provided rough in, electrical and pathways.
- The scope of work for premise distribution shall include new

physical fiber optic cabling and termination hardware utilizing Passive Optical Networking (PON) from Tellabs. The system design shall include passive fiber optic splitters located in the ceilings of the building, 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 Optical Line Terminal (OLT) will be installed in the MDF room. The MDF shall also support the centralized power supply for the building.

- Optical splitters shall be designed in ceiling enclosures.
- All fiber shall be Single Mode.
- Copper cabling
 - 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.
- Termination support equipment / MDF and IDF room build out
 - The MDF shall support the OLT and fiber termination hardware and all power for the PON system shall be centralized in this space. The MDF shall include all equipment racks, back boards, ladder rack, and grounding bars as per District standards.
- Termination support equipment / Data Center, MDF and IDF room build out - One MDF and multiple new IDF rooms will be constructed for this project. All racks, termination hardware etc. shall match Owner specifications.
- Grounding – All equipment in the MDF and IDF(s) will be properly bonded and grounded per TIA standards and BICSI best practices.
- Area network requirements - Two four-inch conduit shall be installed between the MDF location and the Service Provider pedestal at the street. Fabric innerduct shall be installed to provide separate pathways inside the conduit.
- Digital signage locations will receive network cabling as-required for functionality.
- 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.
- Teacher Workstations
 - Shall receive two data drops each at one location and will originate from the nearest optical splitter.

- Office
 - Shall receive two data drops each at one location and will originate from the nearest optical splitter.
- 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.
- Costing for the fiber network system is pending finalized design and input from Tellabs.

Network Electronics, Wireless Access Points And Ups Equipment

Basis of Design

- Jarrell ISD IT shall furnish and install active electronics and UPS equipment for network connectivity such switches, routers, bridges, and wireless access points.

Phone System

Basis of Design

- The complete phone system will be furnished and installed by Jarrell ISD IT.

Building Paging & Clock System

Basis of Design

- A new intercom system shall be based on the existing District specifications.
 - Valcom
- Intercom speakers shall be added to all classrooms, corridors, and general areas.
- Exterior speakers are required on all sides of the building - two at each corner and every 100ft in between.
- D. Clocks will be installed inside the main building in the corridors, office, gym, and cafeteria area

Gymnasium Local Sound System

Basis of Design

- A. The Gymnasium Local Sound System design provided shall be Owner Furnished and Installed
- (OFOI). CRUX shall provide construction documents that will assist



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4

with coordinating this system with the General contractor provided rough in, electrical and pathways.

- AUDIO SYSTEMS
 - Ceiling-mounted 360-degree speaker centrally located in the gym.
 - Amplifier, DSP, and associated audio processing equipment located in rack.
 - Two mobile monitors for the gym floor.
 - One Wireless microphone combo (Handheld/body pack).
 - Rack-mounted mixer, CD player w/Bluetooth and 3.5mm input for audio sources
 - Assisted listening system.
- VIDEO
 - Wall plate HDMI input.
 - Wall-mounted laser projector and motorized screen.
- CONTROL
 - Wall plate volume controller for overall volume level.

Cafeteria Local Sound System
Basis of Design

- The Cafeteria Local Sound System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating this system with the General contractor provided rough in, electrical and pathways.
- VIDEO SYSTEMS
 - Ceiling-mounted projector with HDMI receiver focused to the stage.
 - Wall plate HDMI extender for source device located on or near stage.
- AUDIO SYSTEMS
 - Flush-mount ceiling speakers if ceiling is drop-tile. Pendant style speakers if open.
 - Amplifier, DSP, and associated audio processing equipment located in rack.
 - Four wired microphone inputs.
 - Two on-stage monitors.
 - One wireless microphone combo (Handheld/body pack).
 - Rack-mounted mixer, CD player w/bluetooth and 3.5mm input for audio sources
 - Assisted listening system.
- CONTROL
 - Rack-mounted touch panel controller for display power,

source select, and overall volume.

- RACKS AND ENCLOSURES
 - On-stage wall rack with storage and horizontal power.

Classroom Audio Visual System
Basis of Design

- The Classroom Audio Visual System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating this system with the General contractor provided rough in, electrical and pathways.
- VIDEO SYSTEMS
 - Owner furnished, and Contractor installed wall-mounted flat panel display on articulating mount with OFE wireless presentation device.
 - Wall plate HDMI pass-thru at teacher station.
- AUDIO SYSTEMS
 - Built-in display speakers.

Conference Room Audio Visual Systems
Basis of Design

- The Conference Room Audio Visual System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating vthis system with the General contractor provided rough in, electrical and pathways.
- VIDEO SYSTEMS
 - Owner furnished, and Contractor installed wall wall-mounted flat panel display.
 - HDMI transmitter in floor box underneath conference table.
- AUDIO SYSTEMS
 - 1. Built-in display speakers.

Access Control System (ACS)
Basis of Design

Access control and/or door monitoring shall be provided as follows:

- The Access Control System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating this

system with the General contractor provided rough in, electrical and pathways.

- ACS system Manufacturer: Verkada
- Card reader Manufacturer: Verkada
- Door hardware Manufacturer: Allegion
- Door monitoring via Door Position Sensor will be at all exterior door locations and roof hatches.
- Request to exit (REX) devices will be used on all exterior doors. Door hardware will have integrated REX wired into the panic hardware.
- Card readers shall be deployed to areas identified by the Owner including main entry, staff entry, bus drop entry, cafeteria staff entry and athletics, band and fine arts point of entry.
- Wall mounted access control panels shall be installed in the MDF as needed to support the ACS.
- A minimum of two (2) lock down buttons will be installed in the main reception areas.
- Door release buttons shall be installed in the reception areas for controlling doors leading from the office to the main corridor.
- Additional credentials and other consumables shall be determined by the Owner during the design phase.

Video Surveillance System (VSS)
Basis of Design

- The Video Surveillance System design provided shall be Owner Furnished and Installed (OFOI). CRUX shall provide construction documents that will assist with coordinating this system with the General contractor provided rough in, electrical and pathways.
- Video management server: Verkada.
- Camera manufacturer: Verkada.
- Camera types (fixed, ptz, etc.): Fixed domes and bullet style cameras will be used. Typically interior cameras are domes and exterior cameras are bullets.
- Interior cameras shall observe the following: Corridors, entries/exits, gathering spaces and the main office.
- Exterior cameras shall observe the following: Drop-off and pickup areas, playgrounds, garden/outdoor learning spaces and other areas as-directed by Jarrell ISD IT.
- Pole mounted cameras: none.
- Video programming requirements: TBD
- Storage Server: Storage is included on each camera and video footage is available via the Verkada cloud.
- VMS: Verkada



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- Licenses: To be furnished by the contractor for each camera in-scope.

Intrusion Alarm Basis of Design

- There is no stand-alone intrusion system for this project. In areas where cameras are present, the cameras will serve as motion detectors in the Verkada system.

Exclusions:

- None at this time

Food Services

Receiving Area:

- One (1) door entering into the kitchen, the door size is to accommodate the largest cart used for deliveries.
- Receiving door to include a glass view window panel, intercom, door bell, sufficient lighting and air screen located over the door.
- A time clock may be required at the receiving door.
- Security camera may be required and located outside the receiving door.
- The width of the receiving corridor is to be 6'-0" minimal.

Custodial/Chemical/Laundry Area:

- Residential washer/dryer-stack or side by side.
- Mop sink.
- Mop and broom holder.
- One (1) 48" long chemical shelf.

Restroom and Locker Room:

- To be located near the receiving door and office.
- One restroom to be provided with one (1) locker room.
- Number of lockers and coat hooks to accommodate total amount of employees within the kitchen.

Office:

- To be located near the receiving corridor to monitor all food deliveries into the kitchen area and the locker room/toilet.
- Vision panels to be located to allow the manager to view the kitchen and the receiving corridor.
- Size is to accommodate to total amount of staff required within this space.
- A safe to be provided per the owners direction.

Dry Storage Area:

- To be sized to accommodate one (1) delivery a week.
- Shelving to be 24" wide, height 86" maximum.

Cold Storage Assembly:

- To be size to accommodate 7 day inventory.
- To be located in the rear of the kitchen to accommodate a main receiving corridor.
- To be located across from the preparation and production area to minimize cross traffic from the other kitchen support areas.
- An alarm system to be provided to monitor the temperature.
- The refrigeration system to be located within 75' of the assembly or on the roof above the kitchen.

Production Area:

- The production area is to be located across from the freezer assembly. To be located to minimize any cross traffic from the other kitchen support areas.
- Production equipment to be sized to accommodate the total student population.
- Exhaust hoods to be designed to accommodate all production equipment. Exhaust system to be sized to accommodate 300 cfm per linear foot of exhaust hood. Supply air to be sized at 60% of exhaust cfm per linear foot.
- Production equipment to include the following-Quantities to accommodate the student population.
 - Double stack convection ovens
 - Double stack combi oven
 - 40 gallon tilt braising pan
 - Six Burner Range
 - Support worktables with a meat sink and pot rack

Preparation Area:

- The preparation area is to be located across from the walk-in cooler assembly and to be located to minimize any cross traffic from the other kitchen support areas.
- The preparation area is to include the following equipment:
 - Preparation table with two sinks and pot rack
 - Support tables
 - Disposer
 - Can opener
 - Pan rack

Bakery Area:

- The bakery area is to accommodate scratch or par bar baked cooking.
- The bakery area is to be located across from the dry storage room and to be located to minimize any cross traffic from the other kitchen support areas.
- The cooking equipment is to include the following:
 - 20 qt mixer with stand
 - Heated/Proofing cabinet
 - Support worktables with pot racks
 - Pan rack

Holding:

- Single door heated pass-thru cabinet and a single door pass-thru refrigerator to be located behind each serving line.

Servery Area:

- The servery area is to be located between the seating and the kitchen area. A store front glass wall or roll down door is to be provided between the serving line and the seating area.
- A full wall with the holding equipment to be located between the kitchen and the servery area.
- The entrance to the servery is to be located so that the queuing of the students does not interfere with the seating.
- The serving line to be designed to accommodate the owners menu as required.
- Beverages to be located near the Cashier or at the beginning of the serving line.
- Serving lines to be sized to accommodate the student population and number of periods. Each serving line to accommodate approx. 100 students per line per period. The serving lines are to and to include the following:
 - Silverware/tray dispenser
 - Refrigerated grab n' go merchandiser or milk dispenser
 - Five (5) hot food wells, recessed to accommodate a sheet pan.
 - Heated merchandiser (High School/Middle School)
 - Refrigerated cold pan or frost top
 - Flat top counter
 - Ice cream merchandiser
 - Cashier station



COSTS

| | |
|---|--------------|
| ELEMENTARY SCHOOL #4 OPINION OF PROBABLE COST | \$41,992,486 |
| (BEGINNING CONSTRUCTION MARCH 2024) | |



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4

| Jarrell ISD Program | | | | | | | |
|--|----------|-----------------------|-----------------|---------|----------------------------|--------------------------------------|--|
| New Elementary School #4 | | Program of Spaces | | | Capacity | | |
| Goal Student Capacity: 900 | Quantity | Area per space (S.F.) | Net Area (S.F.) | Remarks | Student Capacity Per Space | Max Capacity (TEA- Instruct. Spaces) | Functional Cap. (District Pref.- Instruct. Spaces) |
| INSTRUCTIONAL SPACES | | | | | | | |
| Instructional | | | 43,966 | | | | |
| PK Classrooms | 5 | 803 | 4,015 | | 22 | 110 | 99 |
| Kindergarten Classrooms | 7 | 807 | 5,649 | | 22 | 154 | 139 |
| 1st Grade Classrooms | 7 | 865 | 6,055 | | 22 | 154 | 139 |
| 2nd Grade Classrooms | 7 | 826 | 5,782 | | 22 | 154 | 139 |
| 3rd Grade Classrooms | 7 | 826 | 5,782 | | 22 | 154 | 139 |
| 4th Grade Classrooms | 7 | 827 | 5,789 | | 22 | 154 | 139 |
| 5th Grade Classrooms | 7 | 828 | 5,796 | | 25 | 175 | 158 |
| Large Flex Classrooms | 2 | 825 | 1,650 | | | | |
| Small Flex Classrooms | 8 | 431 | 3,448 | | | | |
| Instructional Support | | | 2,172 | | | | |
| Teacher Planning Room | 4 | 319 | 1,276 | | | | |
| Teacher Restrooms | 6 | 66 | 396 | | | | |
| Grade Level Storage | 4 | 125 | 500 | | | | |
| General Support | | | 2,766 | | | | |
| Single-user Restrooms (PK-K) | 12 | 48 | 576 | | | | |
| Group Restrooms | 6 | 241 | 1,446 | | | | |
| Custodial Closets | 3 | 147 | 441 | | | | |
| Electrical Rooms | 3 | 101 | 303 | | | | |
| INSTRUCTIONAL - SUBTOTAL NET AREA (sf) | | 90 | 48,904 | | | | |



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4

| SPECIAL PROGRAM SPACES | | | | | | | |
|--------------------------------------|---|-------|-------|-------|----|----|---|
| Resource | | | | 1,817 | | | |
| Resource / Special Programs | 4 | 247 | 988 | | | | |
| Literacy | 2 | 295 | 590 | | | | |
| Speech Therapy | 1 | 239 | 239 | | | | |
| Life Skills / Behavioral | | | | 2,819 | | | |
| Behavioral | 1 | 435 | 435 | | | | |
| OT/PT | 1 | 435 | 435 | | | | |
| Closet | 2 | 17 | 34 | | | | |
| Sensory | 1 | 409 | 409 | | | | |
| Closet | 2 | 17 | 34 | | | | |
| Life Skills | 1 | 882 | 882 | | 10 | 10 | 9 |
| Restroom/Changing/Shower | 1 | 108 | 108 | | | | |
| Laundry Room | 1 | 17 | 17 | | | | |
| SPED Kitchen | 1 | 264 | 264 | | | | |
| Storage | 1 | 106 | 106 | | | | |
| De-escalation room | 1 | 73 | 73 | | | | |
| WH Closet | 1 | 22 | 22 | | | | |
| Instructional Support | | | | 325 | | | |
| Teacher Restroom | 1 | 69 | 69 | | | | |
| SPED Storage | 2 | 128 | 256 | | | | |
| SPECIAL PROGRAMS - SUBTOTAL NET AREA | | 24 | 4,961 | | | | |
| | | | | | | | |
| Specials | | | | | | | |
| Music | | | | 1,094 | | | |
| Music Room | 1 | 903 | 903 | | | | |
| Instrument Storage | 1 | 191 | 191 | | | | |
| Science | | | | 1,256 | | | |
| Science Classrooms | 1 | 999 | 999 | | | | |
| Science Prep Storage | 1 | 257 | 257 | | | | |
| STEM | | | | 846 | | | |
| Maker Space | 2 | 423 | 846 | | | | |
| Art | | | | 1,374 | | | |
| Art Classroom | 1 | 1,074 | 1,074 | | | | |
| Art Storage | 1 | 207 | 207 | | | | |
| Art Media Storage | 1 | 93 | 93 | | | | |
| FINE ARTS - SUBTOTAL NET AREA (sf) | | 9 | 4,570 | | | | |



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4

| PHYSICAL EDUCATION | | | | | |
|---|---|-------|-------|--|--------|
| PE | | | | | |
| Gymnasium | 1 | 4,743 | 4,743 | | |
| PE Support | | | | | |
| Gym Office | 1 | 152 | 152 | | |
| General Equipment Storage | 1 | 309 | 309 | | |
| FINE ARTS - SUBTOTAL NET AREA (sf) | | | | | 3 |
| | | | | | 5,204 |
| CORE SPACES | | | | | |
| Multipurpose Space | | | | | 4,950 |
| Stacks | 1 | 3,508 | 3,508 | | |
| Ancillary Spaces | | | | | |
| Office/Workroom | 1 | 275 | 275 | | |
| Learning Stairs | 1 | 305 | 305 | | |
| Makerspace | 2 | 223 | 446 | | |
| Literacy Library | 1 | 194 | 194 | | |
| Green Room | 1 | 222 | 222 | | |
| Dining | | | | | 4,843 |
| Dining Area | 1 | 4,518 | 4,518 | | |
| Storage | 1 | 325 | 325 | | |
| Stage & Ramps | | | | | 1,126 |
| Platform | 1 | 983 | 983 | | |
| Ramps | 1 | 143 | 143 | | |
| Kitchen & Serving | | | | | 2,675 |
| Kitchen - Food Preparation and Scullery | 1 | 1,528 | 1,528 | | |
| Warewash | 1 | 232 | 232 | | |
| Dry Storage | 1 | 189 | 189 | | |
| Freezer/Cooler | 1 | 247 | 247 | | |
| Serving Lines | 1 | 195 | 195 | | |
| Office | 1 | 81 | 81 | | |
| Locker Room | 1 | 53 | 53 | | |
| Laundry / Custodial Room | 1 | 74 | 74 | | |
| Toilet | 1 | 76 | 76 | | |
| General Support | | | | | 534 |
| Girls Multi-Use Restroom | 1 | 267 | 267 | | |
| Boys Multi-Use Restroom | 1 | 267 | 267 | | |
| CORE SPACES - SUBTOTAL NET AREA (sf) | | | | | 22 |
| | | | | | 14,128 |



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4

| MAIN ADMINISTRATION | | | | | |
|--|---|-----|-------|------|--|
| Administrative Spaces | | | | 7074 | |
| Controlled Vestibule | 1 | 355 | 355 | | |
| Reception / Waiting | 1 | 322 | 322 | | |
| Reception Toilet | 1 | 53 | 53 | | |
| Principal's Office | 1 | 251 | 251 | | |
| Asst. Principal Office | 2 | 179 | 358 | | |
| Offices | 5 | 152 | 760 | | |
| Testing Storage | 1 | 93 | 93 | | |
| Itinerant | 1 | 384 | 384 | | |
| ARD Conference Room | 1 | 387 | 387 | | |
| Conference Room | 1 | 442 | 442 | | |
| Work Room @ Admin | 1 | 375 | 375 | | |
| Work Room @ 2nd Floor | 1 | 412 | 412 | | |
| Small Work Area | 1 | 138 | 138 | | |
| Admin Toilets | 2 | 73 | 146 | | |
| Vault (Student Records) | 1 | 101 | 101 | | |
| Admin Storage | 3 | 112 | 336 | | |
| Bookroom | 1 | 565 | 565 | | |
| Teacher Dining | 1 | 649 | 649 | | |
| FAC | 1 | 809 | 809 | | |
| FAC Toilet | 1 | 50 | 50 | | |
| Electrical Rooms | 1 | 88 | 88 | | |
| Clinic | | | | 727 | |
| Clinic | 1 | 288 | 288 | | |
| Office | 1 | 101 | 101 | | |
| Clinic Toilet/Shower | 1 | 74 | 74 | | |
| Isolation Room | 1 | 109 | 109 | | |
| Clinic Storage | 1 | 155 | 155 | | |
| MAIN ADMINISTRATION - SUBTOTAL NET AREA (sf) | | 34 | 7,801 | | |

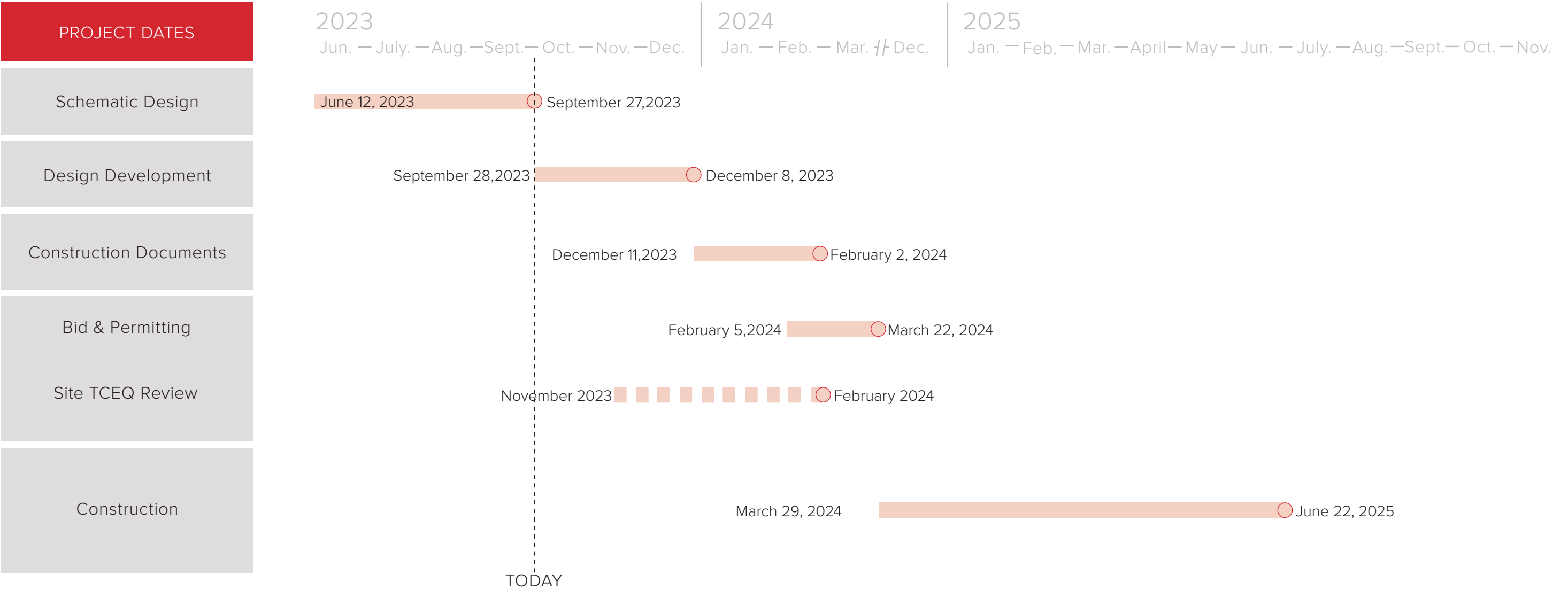


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NEW ELEMENTARY SCHOOL #4

| GENERAL FACILITY SUPPORT | | | | | | |
|---------------------------------------|---|-----|------|--|-------|---------|
| Vertical Access - Stairs | 5 | 463 | 2315 | | | |
| Elevator | 1 | 63 | 63 | | | |
| Storage | 1 | 81 | 81 | | | |
| Custodial Office | 1 | 314 | 314 | | | |
| Main Electrical | 1 | 206 | 206 | | | |
| Riser Room | 1 | 91 | 91 | | | |
| MDF | 1 | 190 | 190 | | | |
| GEN.FACILITY - SUBTOTAL NET AREA (sf) | | | | | 11 | 3,260 |
| CAMPUS SUBTOTAL NET AREA (sf) | | | | | 193 | 88,828 |
| CAPACITY TOTALS | | | | | 1,065 | 959 |
| SUBTOTAL WALLS & CIRCULATION (sf) | | | | | 35% | 31,179 |
| CAMPUS TOTAL GROSS AREA (sf) | | | | | | 120,007 |



JARRELL INDEPENDENT SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL #4



THIS SITE PLAN IS CONCEPTUAL IN NATURE AND IS NOT A COMPLETE SITE ANALYSIS. FURTHER STUDY THE FOLLOWING MUST STILL BE COMPLETED: SITE DRAINAGE, GRADING, UTILITY/TOPOGRAPHICAL SURVEYS, GEOTECHNICAL DATA, PHASE I ENVIRONMENTAL IMPACTS, ZONING, AND EASEMENTS.

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SITE PLAN KEY

- ENTRY VESTIBULE
- ENTRY
- VISITOR / EVENT PARKING
- PARENT DRIVE
- PLAY AREA
- OUTDOOR LEARNING
- ART PATIO
- PLAY FIELD
- WALKING TRAIL
- BUS LOOP
- STAFF/EVENT PARKING
- SERVICE DRIVE
- FIRE LANE ACCESS
- WATER QUALITY POND
- FUTURE PORTABLES

LINE TYPE LEGEND

- BUS DRIVE
- PARENT DRIVE
- PROPERTY LINE

SITE PLAN STATISTICS

ACREAGE

SITE: 13.2 ACRES

PARKING

THE CITY OF GEORGETOWN REQUIRES 3 PARKING SPACES PER CLASSROOM.

FOR A 900 STUDENT (MAX. 1,000) CAPACITY ELEMENTARY SCHOOL, APPROXIMATELY 171 PARKING SPACES WILL BE REQUIRED. 6 OF THE PROVIDED SPACES WOULD BE ACCESSIBLE.

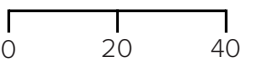
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SITE PLAN

COLOR LEGEND

- Academic Space
- Academic Support
- Administration
- Administration Support
- Athletic Space
- Athletic Support
- Circulation
- Dining
- Dining Support (Kitchen)
- Fine Arts
- Fine Arts Support
- Library
- Library Support
- Support Space



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FLOOR PLAN - LEVEL 1

COLOR LEGEND

- Academic Space
- Academic Support
- Administration
- Athletic Space
- Circulation
- Dining
- Support Space



0 20 40



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FLOOR PLAN - LEVEL 2

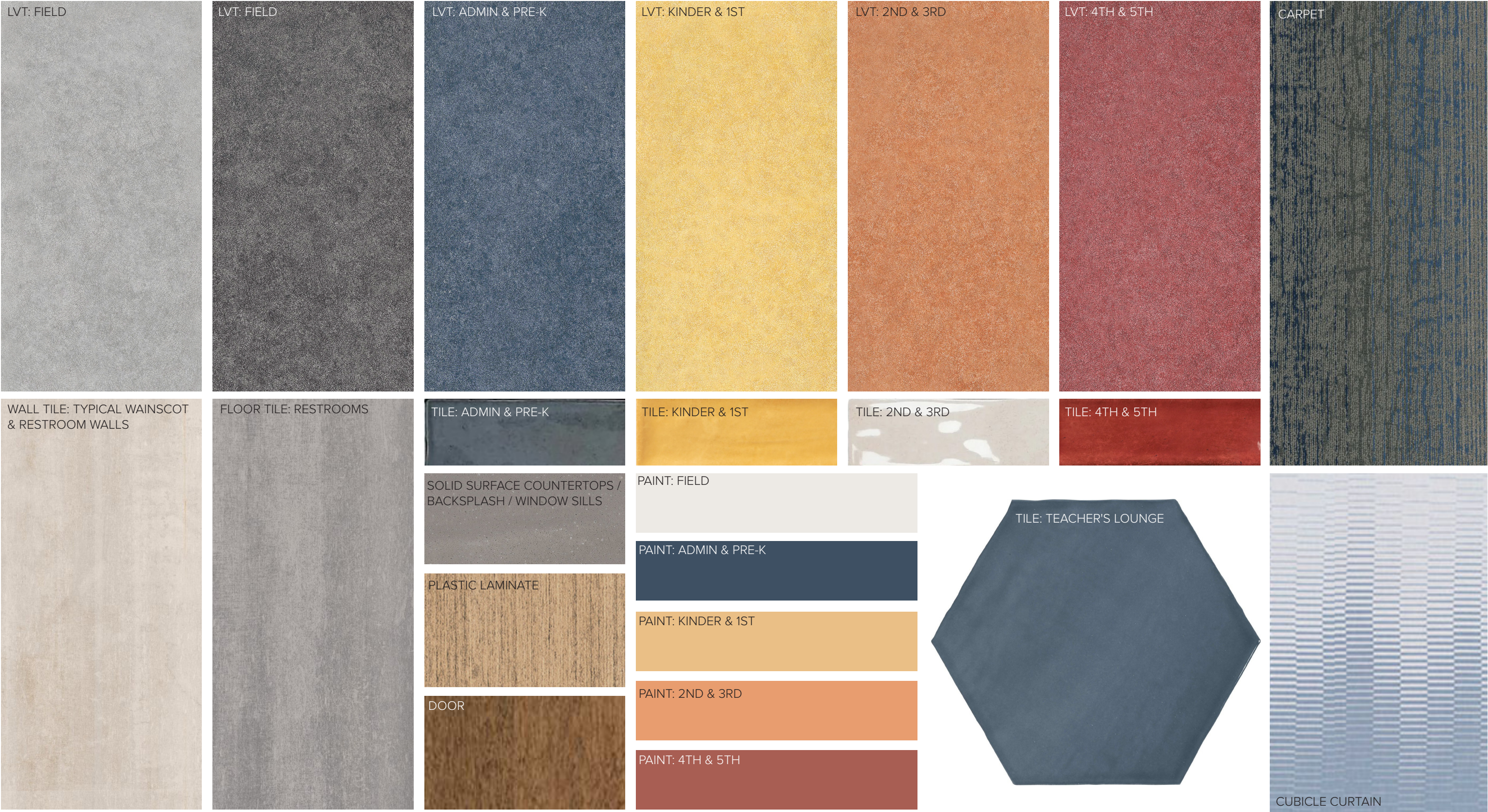


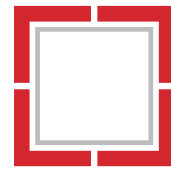


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EXTERIOR RENDERING - CLASSROOM WINGS





MORE THAN ARCHITECTS