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<td>Who owns the Facility?</td>
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If owned by a third party, explanation of ownership:

If match is financed, explanation of financing terms:

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### Financial Data (School District and BOCES Applicants)

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TRINIDAD 1 - Trinidad MS Building System/ Safety Upgrades - Trinidad MS - 1909

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Condition Budget Summary

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BEST FY2019-20 GRANT APPLICATION SUMMARIES

Applicant Name: TRINIDAD 1
Project Title: Trinidad MS Building System/ Safety Upgrades

County: Las Animas
Applicant Previous BEST Grant(s): 2

Has this project been previously applied for and not funded? Yes
If Yes, please explain why: This is a two-part question with two-part answer. Yes, the project was previously applied for, and yes, the project was previously awarded. The district was not initially awarded funding in the FY2018-19 grant cycle, but were eventually given the opportunity.

Project Type:
- ☑ Roof
- ☑ Asbestos Abatement
- ☑ Water Systems
- ☑ Fire Alarm
- ☑ Lighting
- ☑ Facility Sitework
- ☑ Renovation
- ☑ Electrical Upgrade
- ☑ Boiler Replacement
- ☑ Land Purchase
- ☑ HVAC
- ☑ Energy Savings
- ☑ Technology
- ☑ ADA
- ☑ Window Replacement
- ☐ Other

General Information About the District / School, and Information About the Affected Facilities:

DISTRICT OVERVIEW
The Trinidad School District was established in 1866 (ten years before Colorado was granted Statehood) and is the oldest school district in the State of Colorado. From 1872-1932, the Trinidad School District 1 ("TSD1") was just one among the 131 other school districts in Las Animas County. Despite the breadth of other school districts in Colorado, Trinidad School District 1 was the first school district in the state of Colorado to be accredited by the North Central Association of Secondary Schools. At present, the district has one K-1 elementary school, one elementary school housing grades 2-5, one middle school housing grades 6-8, and one high school housing grades 9-12, with a total enrollment of 953 students.

ACADEMICS AND EDUCATIONAL PROGRAMMING
Trinidad School District 1 helps K-12 students develop life skills relevant to their community and the world. The district prepares students to enjoy and excel in academics, arts, and extracurricular activities, while recognizing their civic responsibilities. Along with providing a well-rounded and diverse education, the district provides the support needed for each student to reach his or her highest academic, social, and leadership potential.

AFFECTED FACILITIES
The Trinidad Middle School building (which presently includes all past additions detailed in Question #5) has years of deferred maintenance and aging infrastructure; the holistic renovations detailed in this application will ensure that its students have a modern educational environment that propels them towards success, while keeping them healthy, safe, and comfortable. This BEST Grant Application focuses on the Trinidad Middle School building for one simple reason: Conditions are incompatible with the district’s and the state’s mission to provide all students with safe, healthy learning environments where they can reach their academic and leadership potentials.

HISTORICAL SIGNIFICANCE
Trinidad Middle School, specifically the original 1911 building is a part of Trinidad’s history and will remain a viable facility within the district.
Our district’s history is embedded in famous "Trinidad Brick" walls of the middle school. It sits atop a hill in the heart of Trinidad, CO, contributing to the character of our city as much as cobblestone streets and Victorian-style architecture that has remained here for over a century. This building has served the generations of Trinidad Miners for over a century, and this renovation will make certain it will serve as the foundation for next era of Trinidad School District 1.

CURRENT MAINTENANCE PROGRAM
TSD1 employs two full-time maintenance staff with support by a nine full-time custodial staff to manage the operations and maintenance in the district. This dedicated maintenance team, although understaffed, is led by TSD1’s Facilities Director Jeff Roybal who himself is a native of Trinidad, CO, a graduate of TSD1’s Class of 1995, and the devoted parent to two current...
TSD1 students.

The general responsibilities of the district’s maintenance team include performing routine maintenance on the interior and exterior of each building, maintaining athletic facilities and preparing for athletic events, and seasonal mowing and snow removal at each school campus. The district operates on a "Work Order/Request for Supplies Needed" system, meaning building administrators initiate a request for specific work and/or request replenishment of supplies. This procedure assures timely response and control of supplies and is tracked through an organized recording system for inventory control and tracking as supplies are purchased and used.

The district also manages an annual equipment and facility maintenance program that includes general servicing of HVAC systems such as changing out of filters, replacing parts, and thorough inspection in accordance with manufacturers' recommendations.

**Deficiencies Associated with this Project:**

The deficiencies outlined in this application describe the highest priorities of current deferred maintenance challenges we must undertake. The corresponding solutions to these challenges reflect our vision, and nearly two years of detailed strategic planning for a complete restoration of Trinidad Middle School.

I. RELEVANT HEALTH ISSUES

1) INDOOR AIR QUALITY MEASUREMENTS

As part of our comprehensive facilities assessment, sensors that measure indoor air quality were placed in various classrooms throughout the middle school specifically to quantify levels of carbon dioxide (CO2) in the building. The sensors were placed in four rooms and recorded CO2 levels every 15 minutes from Dec. 11, 2017 to Jan. 3, 2018.

CO2 concentrations are measured in parts per million (PPM), or the number of CO2 molecules found in one million molecules of air. For context, CO2 concentration levels that match ambient outdoor conditions are typically around 450 PPM, and concentrations of CO2 at or below 600 PPM are considered good indoor air quality.

Per the standards set by OSHA and ASHRAE, the maximum allowed concentration of CO2 that can be designed for supplying ventilation is steady-state 1,000 PPM in classrooms. Other spaces such as gymnasiums, cafeterias, and auditoriums have generally higher acceptable conditions. At concentrations in the learning environment above this level, students can begin to experience decreased levels of cognitive function leading to decreased performance, concentration, and productivity. In addition, temporary physical symptoms can include headaches, drowsiness, and eye or throat irritation. These symptoms do generally resolve quickly after being removed from the exposure.

The peak CO2 levels recorded in the sample rooms at Trinidad Middle School were as follows:

- 763 PPM - Room 117 (classroom)
- 931 PPM - Room 217 (classroom)
- 2056 PPM - Room 224 (classroom)
- 1162 PPM - Room 227 (classroom)

These results demonstrate, definitively, that on nearly every day of occupation, Trinidad Middle School is not receiving adequate fresh-air ventilation to maintain even the minimal standards of acceptable indoor air quality levels, or code-required amounts of fresh air. This is a direct result of the absence of mechanical ventilation in this portion of the middle school and exacerbated by the reliance on consistently defective operable windows.

Classroom observation and sensor data explain the issues further:

1) The rooms whose teachers are able to prop their windows open measured CO2 concentrations that were at least close to or within acceptable standards.

2) Conversely, rooms whose teachers do not open windows consistently, due to sensitivity or discomfort from outside air temperature, and are the rooms that have notably worse air quality measurements.
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Another method for improving indoor air quality for the upper floors specifically, is to open the southeast windows of the building, and then to turn on large louvered ventilation fans located on the northwest side to manually exchange the air. The challenge with this strategy is that it is not possible when the building is occupied or when outdoor weather conditions are unfavorable.

CONCLUSION
It is problematic to rely on defective windows and the discretion of individual room occupant's comfort preferences to ensure all occupants are breathing healthy indoor air quality. Improving ventilation by mechanical means in the classrooms is a significant health priority in the middle school and should be addressed immediately.

2) DEFECTIVE HVAC SYSTEM, NO COOLING OR MECHANICAL VENTILATION
Trinidad Middle School does not have cooling, mechanical ventilation, or effective automation or control, and overall, the current HVAC system is wholly inadequate, ineffective and fundamentally defective.

The absence of cooling in the Middle School is the primary source of thermal comfort issues, and it makes the building very uncomfortable for all occupants. Students and teachers simply cannot perform to their best in the learning environment when they are uncomfortable, relative to standards of expected comfort conditions.

As previously mentioned, the classrooms have no mechanical ventilation, nor are they receiving the code-required amount of fresh air through their passive/natural design due to difficulties associated with operable windows in the climate area. Poor air quality is a major concern in these classrooms, and it is imperative to bring the school up to modern comfort and indoor air quality standards.

The Middle School is served by a number of different heating-only systems, each varying in vintage, and each with a varying set of deficiencies. A summary of each system, and the area of the building they serve, is provided below.

The original 1911 building, where most classrooms are located, is served by hot water baseboard convectors located around the perimeter walls; which are largely ineffective. The mechanical room providing hot water to this area is located adjacent to the 1993 gym, and it contains very low-efficiency natural-draft hot water boilers.

The 1922 auditorium is conditioned by a large 1993 rooftop heating & ventilation unit (HVU) with natural gas furnace. At 26 years old, it is well past its ASHRAE recommended lifespan of 15-years and in need of replacement. This unit does not provide cooling, making the space very uncomfortable during performances with large audiences and due to the use, the high-powered stage lights. In addition, the 1993 rooftop furnace is not designed to supply adequate outside air to the space when the auditorium is full, which means that indoor air quality can degrade quickly during a performance.

The 1993 addition includes a gymnasium and cafeteria that are conditioned by large rooftop H&V furnaces installed in 1993. The classrooms in this area use hot water cabinet heaters and fan coil units and are unfortunately subject to the cooling, ventilation, and control problems that plague the rest of the facility.

The 1964 addition, formerly Park Street Elementary, is conditioned by hot water baseboard convectors installed in 1993. It also does not have cooling and relies on very difficult-to-open windows for ventilation air.

A Johnson Controls building automation system (BAS) was installed during the 1993 renovation, but it is antiquated, no longer supported, and the maintenance staff cannot currently access it. As a result, all heating equipment operates 24/7 during the winter and is still consistently ineffective.

It should be noted that since 2009, the climate zone cooling design conditions have increased a full 1°F from 92.9 to 93.9°F. On a micro-level, the number of Cooling Degree Hours (CDH), or the measure of cooling capacity needed over a base of 80°F, has increased over 14% since 2009. Politics aside, the local climate where these schools reside is becoming
increasingly warmer and, coupled with more heat generating technology, is increasing the need for cooling.

3) WINDOWS
The windows in the 1911 and 1922 areas were replaced in roughly 1993-1994 with aluminum framed double-pane glass, though despite their age and relatively modern specifications, they have become a continuous source of maintenance issues, including general inoperability, air and water infiltration, and perpetual maintenance costs. Unfortunately, they are also the only current source of outdoor air ventilation, which is ineffective.

The windows were replaced with low-quality stock windows, with the original window openings being framed in to accommodate the slightly smaller window size. These spaces around the windows are not properly sealed or insulated, resulting in significant air infiltration, and subpar thermal performance. Many of the windows cannot lock open and must be propped open (commonly with a stack of books) when students and teachers are trying to compensate for the lack of cooling, the ineffective HVAC system, or if they require some fresh air ventilation.

The 1964 addition of classrooms have original single-pane aluminum framed windows below a large area of glass block along the exterior walls. Although great for natural light, the glass block and single paneled windows only add to the lack of thermal comfort in the spaces.

4) HAZARDOUS MATERIALS
Based on the district’s last annual report, Asbestos Containing Material, or ACM, can be found (or is suspected) in many instances throughout most portions of the Middle School, specifically in the following materials and locations:
1. The corrugated pipe insulation on the old low-pressure steam piping throughout the 1911 and 1922 portions of the building.
2. The debris and contaminated soil in the crawlspaces beneath the 1911 and 1922 portions of the building.
3. The cement board in the fume hood in room 219.
4. The white, woven electrical wiring insulation on the stored stage lights in the prop room of the auditorium.
5. The acoustical plaster on the ceilings and walls throughout much of the 1964 addition.
6. The 12-inch by 12-inch floor tiles in the restrooms of the 1964 addition.
7. The 9-inch by 9-inch floor tiles throughout much of the 1964 addition, where it is exposed in some cases and under carpet in others.
8. The reflector paper in the light fixtures of the North entryway, restrooms, and principal’s room of the 1964 addition.
9. The gypsum wallboard of the walls and ceilings throughout much of the 1964 addition.
10. The cement panels on the exterior, above the windows, on the east side of the 1964 addition.

II. SAFETY, SECURITY & ACCESSIBILITY DEFICIENCIES

1) SECURED ENTRY & MONITORING
The main entrance to Trinidad Middle School is located at the lower level of the 1911 portion of the building. It uses a locked double entry door, which is controlled from the reception desk in the school office. The office is located across a main corridor from the entry door, with no direct visual control of the entry. Once the door is unlocked, the visitor is admitted into a main corridor of the building with unrestricted access to the entire building.

The need for a secured vestibule with a security camera, and a direct, secure passthrough window into the school office is of the highest priority for the administration and staff. This would allow greater control over people entering the building and provide the ability to contain someone within the vestibule in the event of a threat.

The external security cameras are insufficient in their ability to provide views of all possible entry points into the building. The security camera system was designed for small building applications and cannot meet the needs of a school building. Further, the system is not on a dedicated computer system that would allow continuous live monitoring. The cameras live feeds can be checked on one of the school administrator’s computers, and there is a DVR system capable of recording a certain number of
hours of footage to be reviewed later.

2) EGRESS VULNERABILITY
Over time, the warping, settling, and aging hardware has resulted in exterior doors that do not properly close and secure on their own. To overcome this issue, a majority of exterior doors are held shut with removable bars to prevent the doors from opening on their own. When the doors are opened, however, they need to be manually pulled shut to latch. The bars are left in place to prevent students from exiting through the doors and inadvertently leaving them ajar.

The inconsistent operability and the frequency of uncontrolled access of the exterior doors creates a serious security vulnerability, severely inhibits egress in case of an emergency, and violates the fire code.

3) FIRE PROTECTION
There is currently a wet-pipe fire suppression system that was installed in 1992, however, only in the 1911 and 1922 portions of the building. There is a dry-pipe system in the unconditioned attic of the 1911 building, although the dry valve is broken making the system unreliable for fire protection.

At one time there were smoke evacuation vents on the roof above the stage, but they have since been covered by the roofing system. It is unknown if the system would still function if the vents were uncovered. The roof vents should be uncovered to test the functionality of the system. If the vents no longer function as designed, system replacement is essential.

The current fire alarm system throughout the building consists of buzzers and strobes. If possible, the entire building should be brought up to modern standards by adding voice evacuation to the fire alarm system.

4) ADA ACCESSIBILITY
There are several elements throughout the building that pose an accessibility challenge or safety hazard. Over the years, proactive efforts have been made to provide accessible restrooms throughout the building, including newer fixtures and larger stalls. However, the restrooms in the building are still notably deficient from the current ADA standards and require extensive remodeling to meet these standards. In many cases, this includes replacing toilets, toilet partitions, grab bars, lavatories, faucets, toilet accessories, doors and door hardware, and adequate signage. Each restroom should be modified to provide an accessible stall and lavatory for at least one boy and one girl.

The two main stairwells in the 1911 portion of the building have handrails and guardrails at insufficient heights, and the ramp in the center of the building lacks sufficient handrail extension at the top and bottom of the ramp. Several interior doors throughout the building have knob-type hardware and should be replaced with ADA-compliant lever-type hardware. Existing interior door closers should be replaced to comply with ADA push/pull forces.

On the exterior, the south parking lot includes a pair of designated accessible parking stalls, although the building lacks an adequately accessible route from those parking spaces into the building. There are no other accessible egress routes from the building, and all egress points either have stairs or ramps with too much slope, or insufficient handrails or guardrails.

Additional areas of refuge should be located at exit doors to allow for rescue in the event of a fire. At a minimum, a new accessible route, including an ADA-compliant ramp, should be added to the lower level entrances of the 1911 and 1964 portions of the building.

The main entrance to Trinidad Middle School is locked, with entry controlled by the office staff. There is an ADA-accessible push-button operator for one of the double doors, but this door cannot be remotely unlocked by office staff. Further detail of these concerns and corresponding solutions are described in the Security Concerns section below.

III. BUILDING ENVELOPE, INFRASTRUCTURE & SITE DEFICIENCIES

As to be expected with a building that was constructed in the early 20th century, and a property that has been actively used
for more than 100 years, there are a number of interiors, exteriors, and general site issues that are due to be addressed. The following deficiencies are not independent of one another; as one commonly affects the other, in terms of both deterioration and restoration. For instance, the building's deficient foundational vapor barriers, water infiltration, storm water drainage, and parking lots all interact and could be best addressed through a holistic approach to facility improvement.

1) MORTAR JOINTS ON EXTERIOR facade
The exterior walls of the 1911 and 1922 construction are original red brick, and given its age, some of the mortar joints have deteriorated due to weathering. In general, the mortar joints and brickwork appear structurally sound and exhibit weather-related erosion consistent with a building of this vintage. Previous repointing campaigns appear to have closely matched the original red tint mortar. Where the first-floor brick has decorative projecting brick bands, the mortar joint weathering is more advanced than at the upper floors, due to a combination of the projecting bands (which catch rain water) and the proximity to irrigation sprinklers at grade.

2) WINDOW LINTELS & SANDSTONE SILLS
Steel angle lintels support the brick above window openings at the 1911 building. At several brick bearings, step cracking is present, a result of the steel lintel corroding, and rust jacking forces caused by the expansion of the corroded steel within the brick walls. This is typically from corrosion of the angle, and it is cracking the brick in some areas.

The condition assessment by a professional structural engineer indicates that structural integrity of the window lintels is not a concern, nor do they appear to have such severe distress as bowing or rust holes through the metal - The condition of the embedded portions of the angles, however, cannot be reviewed without making exploratory openings at the bearings. If the lintels are not addressed, additional corrosion of the lintels over time may result in reduced capacity of the lintels to support the brick above them.

There are numerous stone window sills that are eroded/delaminating, primarily located on the lower level exteriors. While age and exposure of the sills contribute to this, the process is exacerbated by moisture exposure from years of nearby irrigation systems.

In general, the sandstone exhibits natural weathering consistent with its age, and exfoliation of layers of sedimentary stone was noted. Most of the weathered areas occur at the first-floor window sills. Many of these low sills have been previously patched with a cementitious patch material that is now failing. The upper elevation sandstone appears to be better protected from the weather and is in fair to good condition, but mortar joints are typically eroded between the stone units.

3) VAPOUR BARRIER IN BELOW GRADE WALLS
The 1911 and 1922 building portions are built on concrete footings with a crawlspace under the structure. The building site slopes to the southeast, so the northwest interior wall of the lower level of the building is a concrete foundation wall with an assumed plaster parget coat applied directly over the concrete. When the building was constructed in the early 1900s, there was no visible water-proofing/vapor barrier applied to these below grade walls.

There does not appear to be any serious structural water damage to the foundation wall, as visible in the limited area of the crawlspace through an access trapdoor in one of the classrooms in the southeast corner of 1911 portion of the building, there are eroded mortar joints that should be repointed. However, on all below-grade walls along the northwest side of this original building, along with the below-grade walls beneath the auditorium stage, there is extensive evidence of water infiltration and water damage to the interior plaster surfaces.

Remediation has already been performed on one portion of such walls on the northwest side of the first-floor computer rooms, by excavating on the outside of this wall and installing a moisture barrier. The interior of this wall also had a partial framed wall added to hide the moisture damage that had already occurred.

The top of the concrete foundation wall of the auditorium is exposed and exhibits freeze-thaw deterioration consistent with its age and exposure. No significant signs of structural deterioration or step cracks from differential settlement were observed. The surfaces of the concrete water table are craze cracking. These shallow cracks are not structurally significant at
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this time, but freeze-thaw delamination is likely if additional water is allowed to enter into the concrete.

In many areas, hard surface paving is located up against the building wall, either sloping toward the building or insufficiently sloping away from the building. This directs water toward the foundation wall, exacerbating the infiltration issues on the below-grade walls.

4) INTERIOR FLOORING
The subfloors in select rooms of the first floor of the 1911 portion of the building show noticeable sagging, and deteriorated plywood is visible in some closets and storage rooms. The cracking and delaminating vinyl floor tiles appear to be failing due to moisture issues emanating from the crawlspace below. The crawlspace lacks a vapor barrier over its earthen floor and exhibits efflorescence, a sign of water infiltration, on the inside face of the brick foundation walls. The vinyl floor tiles are glued to an OSB floor sheathing over wood floor joists. The OSB underlayment appears to have been installed over the original diagonal board floor sheathing.

The vinyl floor tiles are relatively vapor impermeable, and it is likely that moisture from the basement level migrates to the underside of the tile and is blocked at the tile's glue-line, resulting in glue de-bonding. The cracking of the floor tiles is at approximately 4 ft. on center lines that likely align with the joints between OSB floor panels. The rigid floor tiles cannot accommodate the moisture related expansion and contraction of the OSB panels across the floor joint.

Floor tiles throughout the two higher floors of the 1911 portions of the building need to be replaced with a more flexible flooring system suitable for the plywood subfloors used on these stories. A limited structural review of the floor joists in the crawlspace did not reveal such significant signs of structural overstress as sagging or fractured floor joists, but joists may need to be replaced if areas of water damage are found when replacing the floor tile.

5) EXTERIOR DRAINAGE
Storm water drainage from the roof of the auditorium is directed out scuppers or partial downspouts that are not properly directed away from the building face. There is evidence of water damage in several locations from water running down the face of the brick, particularly on the southeast facade. If left untreated, this will lead to further, severe deterioration of the brick facade on this part of the building and contribute to moisture issues in the basement crawlspace.

In locations where downspouts carry water to the ground level, there is insufficient slope to carry the water away from the foundation. Roof drainage should be reevaluated, and sufficient scuppers and downspouts should be added. Downspouts should be directed to a splash block or swale that will direct the water away from the building.

6) PARKING LOTS, SIDEWALKS & ROADS
The Middle School campus has two distinct parking lots, one at the front of the main entrance, and another behind the school on the west side. Each parking lot has handicap accessible parking spots, although limited and somewhat indistinguishable. The primary access road runs along the east of the facilities and is accessible via Park Street.

Drainage around the Middle School and High School properties is a significant issue. Water runoff drains and gathers in the area between Trinidad Middle School and Trinidad High School, and over time has contributed to the extensive deterioration of the parking lots, sidewalks and roadways, as well as the immediate areas surrounding the school.

The deterioration includes severe cracking and settlement of the asphalt parking lot and drive lanes, as well as the concrete sidewalks. This deterioration causes a safety hazard for students and pedestrians and compromises the accessible route to the school. The poor condition of these parking lots and concrete roads necessitates a comprehensive replacement.

7) ELECTRICAL DISTRIBUTION
The 1964 addition uses the electrical system original to its construction. This system is still functioning correctly, but the electrical needs of this portion of the building have exceeded its capacity, making it due for a comprehensive upgrade.

There is a backup generator located at the northwest corner of the 1993 gym, but it only powers an emergency lighting and
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fire suppression system, and it usually does not work when there is a power outage. The only server room for the entire
district is also located in this building; its only backup power source are some UPSs that cannot provide service for a sufficient
length of time.

The 1911 and 1922 portions received an electrical upgrade to a modern main distribution panel, sub-panels, and wiring at the
time of the 1993 renovation. The system meets modern building codes and is safe to operate; unfortunately, many
classrooms in these wings lack the appropriate number of outlets for a modern classroom.

IV. TECHNOLOGY DEFICIENCIES

Today’s standards for student learning include not only a safe, secure, and healthy facility for all teachers and students, but
also the opportunity for those students and teachers to have access to a minimum standard of advanced educational
technology. District leaders recognize this critical shortfall and have identified it as critical to the future success of our district's
students. These advancements not only make for a positive learning environment, but also provide new opportunities for
student engagement and interactive learning. Foundational deficiencies that need immediate attention are outlined below:

1. The network equipment in Independent Distribution Facility (IDF) across the district are at minimum 15 years old. The core
switch located in the high school facility is inadequate to meet the current and future needs of the building. The majority of
the network equipment district wide does not support PoE (Power over Ethernet), which is used to power everything from
wireless access points, to security cameras and door locks to name just a few. More and more life safety devices are utilizing
this method and the district is currently unable to take advantage of these types of devices. Alternative methods for powering
them is much more costly and labor intensive.

2. Wireless connectivity is another serious issue in need of a solution. Strong and reliable wireless connectivity should be
available in every classroom with the ability to accommodate not only district-owned devices, but allowing for Bring Your Own
Device, or BYOD connectivity to visitors. Currently all connections from the Main Distribution Facility (MDF) and building level
IDFs is CAT5 copper wire, limiting the speed of connectivity, as well as system stability between the edge of the network and
the internet and/or data center.

3. The district is currently utilizing a Cisco ASA 515 firewall that has reached its end-of-life and end-of-service. Combined with
other firewall issues, these factors leave the district vulnerable to ever-increasing cyber threats that exist in today’s global
environment. The same can be said for the existing Content Filter, which prevents access to unauthorized web sites as
required by the Federal Government and is required by law to prevent access to age inappropriate content.

Proposed Solution to Address the Deficiencies Stated Above:

I. HEALTH SOLUTIONS (INDOOR AIR QUALITY, THERMAL COMFORT, MECHANICAL & VENTILATION SYSTEM)

1) NEW HVAC SYSTEM & BUILDING AUTOMATION SYSTEM

Several options for a replacement HVAC system have been considered to effectively address lack of cooling, poor ventilation,
deteriorating equipment, and on-going maintenance costs. Three systems - Ground-source Heat Pumps (GSHP), Air-Source
Variable Refrigerant Flow (VRF), and Four-Pipe Hydronic (4-pipe) - represent the best qualitative fit and then were
quantitatively analyzed through a Life-Cycle Cost Analysis (LCCA) exercise. An LCCA accounts for such factors as annual
maintenance and energy costs, in addition to the first-cost. This analysis created an overall picture of the true "cost of
ownership" and operating each system, not just installed first cost.

After careful review, the district is confident that the implementation of an Air-Source Variable Refrigerant Flow (VRF) along
with a Dedicated Outdoor Air System (DOAS) will provide the best long-term solution to the middle school facility.

VRF system are large-capacity, sophisticated versions of ductless multi-split air-conditioning or heat pump systems, which
include multiple indoor evaporators connected to a single condensing unit containing one or multiple inverter-driven (variable-
speed) compressors. VRF systems have the additional capability of connecting ducted style fan coil units, among many indoor
unit styles.
The term variable refrigerant flow refers to the ability of the system to control the amount of refrigerant flowing to each of the evaporators, enabling the use of numerous evaporators of differing capacities and configurations, individualized comfort control, simultaneous heating and cooling in different zones, and heat recovery from one zone to another. Refrigerant has the highest carrying capacity of any HVAC fluid due to phase change ability over water and air, thus making it the most energy efficient option and most feasible when applying to an existing facility renovation.

Each condensing unit uses multiple variable speed compressors. The inverter-driven compressors, coupled with efficient indoor unit fan operation, result in heating and cooling efficiencies that exceed high-efficiency water-cooled systems. A dedicated outdoor air system (DOAS) will be installed with the VRF equipment to provide exceptional fresh air ventilation in all areas of the Middle School, which represents the most efficient method to deliver effective indoor air quality.

The gymnasiums, auditorium, and cafeterias will be served by new packaged gas/DX rooftop units (RTUs) that can provide cooling, are easily scheduled, and use demand control ventilation to ensure the proper amount of ventilation air is always received in the space. With current ducting in place, we can effectively reduce the required size of the condensing units and capital costs of the new VRF system. A VRF system is inherently not as effective at serving larger more densely-occupied spaces.

A new BAS will be installed in conjunction with the new HVAC system at the Middle School. These systems can be controlled from a central interface and will have mobile accessibility for authorized staff. Equipment will be scheduled to setback the space temperature, where most utility-cost-effective, and close outside air dampers to reduce heat loss and usage during unoccupied periods. More advanced control sequences will be implemented, such as demand controlled ventilation (CO2 control), variable volume pumping, supply air temperature reset, static pressure reset, and optimal start. These strategies and sequences are aimed at optimizing comfort, ventilation, and efficiency of the new system.

Lastly, the new HVAC and control systems will undergo a rigorous 3rd party commissioning process, which ensures the adherence of the work to the design intent and acts as a method of quality control. In general, projects which are commissioned use 16% less energy, result in a more comfortable building, and have far fewer issues after construction.

This design solution represents the most cutting-edge HVAC system to provide the industry best comfort control, indoor air quality and energy and utility cost efficiency.

2) REPLACE WINDOWS & DOORS TO SOLVE VENTILATION, THERMAL COMFORT, SECURITY, EGRESS & ENVELOPE DEGRADATION

The need to replace all exterior windows and doors will be addressed in conjunction with the secured vestibule, HVAC renovation, replacement of window lintels and sills, and egress deficiencies. Modern window and door systems have better thermal performance than older systems, because of double panes, thermal-break technology in their frames, and low- emissivity coatings on glass. A thermal break means that there is no contiguous metal conductor to carry heat from one side of the building envelope to the other.

These changes improve the indoor air quality, address safety concerns, and make the temperature within the building more comfortable for building occupants. Moreover, these changes translate into a new HVAC system that is more appropriately sized and designed to serve only the thermal loads that are intrinsic to the building and its occupants, not those that are wasted on unnecessary infiltration and the heat gains and losses due to poor insulation.

All the exterior doors, frames, and associated hardware throughout the building will be replaced. The solutions include:

1. Adding door closers that are designed to handle the air/wind pressures around the building.
2. Adding code-compliant panic hardware to all egress doors throughout the building.

3) ABATEMENT HAZARDOUS MATERIALS

The following areas will be abated in conjunction with facility improvement project scope:

1. Steam pipe insulation, debris and soil contamination demolition in 1911 crawlspace.
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2. Cement board in the fume hood in room 219.
3. White, woven electrical wiring insulation on the stored stage lights in the prop room of the auditorium.
4. Acoustical plaster on the ceilings and walls in the 1964 addition.
5. 12x12 inch & 9x9 inch floor tiles in the 1964 addition.
6. Reflector paper in the light fixtures of the North entryway, restrooms, and principal's room of the 1964 addition.
7. Gypsum wallboard of the walls and ceilings in the 1964 addition.
8. Cement panels on the exterior, above the windows, on the east side of the 1964 addition.

II. SAFETY, SECURITY & ACCESSIBILITY SOLUTIONS

1) SECURITY SOLUTIONS
A secured (enclosed) vestibule will be added to the lower level main entry. The existing exterior wall will remain, and the double entry doors will be replaced with doors that have secure and accessible door hardware. The secure vestibule will be created by adding a new interior wall with a second set of double (secured) doors to the main hallway. The new vestibule will be equipped with a security camera, and a direct, secure pass-through window into the school office.

The school office will be relocated from its current location across the main corridor east of the main entrance, allowing direct visibility of the new vestibule. The new office location would require the relocation of the existing Nurses Station and two classrooms. The Nurse would be moved farther to the north to maintain a central location, as well as close proximity to the School Office and main entry.

The pass-through window will allow a staff person in the school office to be able to talk to visitors face to face, without automatically allowing visitors access to the school, a substantial safety improvement from the current design. The school staff will have the ability to remotely lock/unlock both sets of doors to the secure vestibule, allowing greater control over who enters the building and providing the ability to contain someone within the vestibule in case of a threat.

The district administration offices would relocate to either the existing school office or west of the secured vestibule. If relocated to the west of the secured vestibule, a secure pass-through window and door could be added from the vestibule for visitors to access the District Office without having to enter the main hallway of the school.

To properly secure the Middle School access via Park Street, new entry doors and security access controls will be installed, allowing access only to approved district staff.

2) EGRESS SOLUTIONS
Detailed above as "Replace Windows & Doors to Solve Ventilation, Thermal Comfort, Security, Egress & Envelope Degradation."

3) FIRE PROTECTION SOLUTIONS
Fire Protection issues detailed in the deficiency section will be adequately resolved by:
1. Replacing the dry-valve to the attic of the 1911 portion and testing for functionality of the existing system.
2. Uncovering the roof vents above the stage and testing the system for functionally. If not working properly, the system will be replaced.
3. Upgrading the entire fire alarm system, to include voice evacuation.

4) ACCESSIBILITY SOLUTIONS
Scope details for the renovation of restrooms for ADA compliance throughout the building include:
1. New accessible fixtures and signage in the restrooms on all three levels of the 1911 building.
2. New accessible fixtures and signage in the restrooms in the north end of the lower level of the 1911 building.
3. New accessible fixtures and signage in the restrooms on the second level of the 1911 building.
4. New accessible fixtures and signage in the restrooms on the third level of the 1911 building.
5. Remove one toilet, add accessible stalls, and add new accessible fixtures and signage in both restrooms in the corridor of
the 1993 addition.
6. Replace door hardware on restrooms of 1993 locker rooms.
7. New accessible fixtures, signage, door hardware, and remove old plumbing connections from the restrooms in the upper level of the Park Street building.
8. Retrofit the existing urinals with 0.5 gpf valve diaphragms or replace the entire fixture with 0.25 or 0.13 gpf fixtures.
9. Upgrades to ADA Compliance & Modern Safety Standards include:
10. New handrails and higher guardrails on all stairwells in the 1911 building.
11. New handrails with compliant top and bottom extensions on accessible ramp in 1993 addition.
12. Replace all door knobs throughout the Park Street building with accessible lever-type door hardware.
13. In conjunction with exterior excavation and replacing parking lots and sidewalks, improve marking and signage of accessible parking space and re-pave path to accessible entrance.
14. In conjunction with exterior excavation and replacing parking lots and sidewalks, replace accessible ramp, handrails, and guardrails to main entrance of 1911 building.
15. New accessible ramp for upper-level entrance via Park Street.
16. Block access to unsafe stairs and elevated track in 1922 gym.

III. BUILDING ENVELOPE, INFRASTRUCTURE & SITE SOLUTIONS

1) REPOINT EXTERIOR facade
All elevations in the 1911 and 1922 auditorium exteriors need repointing of the eroded mortar joints. This includes grinding out the existing joint to a minimum depth of 3/4", or until sound mortar is encountered, and installing new pointing mortar in 1/4" deep lifts.

A mortar analysis will be performed to determine an appropriate compatible repair mortar and color mockups will be performed prior to work. The entire entry elevation shall be repointed, with spot repointing of approximately 20% of the side and rear elevations where the mortar has eroded. All window opening jamb brick joints will be repointed during proposed window replacement. This will allow the new window perimeter sealants to be bonded to new, sound mortar.

2) REPLACE WINDOW LINTERLS & LOWER-LEVEL SANDSTONE STILL
Simultaneous resolution of the corroded lintels and sandstone sills is essential to properly and effectively replacing the windows and addressing exterior facade issues. This typically includes exposing, cleaning, painting, and flashing them - or replacing corroding lintels with new galvanized steel angles.

Exploratory openings at several of the more severely cracked window heads will be performed to determine if replacement of the corroding angles with new support angles is needed. An estimated 14 lintels will require replacement; a conceptual lintel repair sketch is included in the supplemental structural analysis of the Middle School.

Bonding new window perimeter sealants to failing stone would be a poor investment; instead, the severely deteriorated sandstone sills will be replaced during any window replacement program, patching any sills that are salvageable.

Repairing or replacing deteriorated sandstone sills prior to installing new windows will provide a sound substrate for the new window perimeter sealants to be bonded to. Also, a more compatible stone patch material will be identified for this soft stone. This will likely be a latex modified repair mortar, rather than the portland-cement based material that appears to have been used unsuccessfully in the past. Many of the first-floor sills appear deteriorated to the point where replacement with new carved stone sills will be more economical than repairing widespread delamination and stone section loss.

Maintenance of mortar joints is a key element to slowing the natural weathering process of the sandstone. Deteriorated joints on skyward facing elements could be repaired with a non-staining (non-bleed) silicone or urethane to provide a more durable sealant joint between stone units.

3) REMEDIATE & INSTALL PROPER VAPOR BARRIER IN BELOW GRADE WALLS
Proper vapor protection will be installed around all below-grade walls, requiring some excavation around the building perimeter to apply the waterproofing, and then regraded to provide proper slope away from the building. The site drainage from downspouts and irrigation will be addressed by moving or modifying items that focus rain water against the exterior face of the foundation walls.

On the interior, there will be repointing of the eroded mortar joints in the crawlspace. During the brick repointing, several of the bricks will be removed where signs of water penetration are most severe, to inspect the wood joist ends for decay. If significant wood decay is encountered, floor joists may require supplemental bearing support, such as a pressure-treated wood ledger epoxy bolted to the brick wall. This is not anticipated to be a widespread issue, but local joist bearing repairs should be anticipated.

After this construction, there will be periodic monitoring of the crawlspace to identify localized leaks and use repairs and installations, such as an injected blind side chemical grout waterproofing, as needed. This is done by drilling holes from the crawlspace, or by locally exposing the outer face or the foundation walls by excavation, in order to install waterproofing.

The exposed portions of the concrete foundation wall of the auditorium will be protected with a clear penetrating sealant, and the joint between the foundation wall and sidewalk will be sealed.

This solution is an iterative process, possibly requiring a second sealant application in some areas to ensure a complete waterproofing, and typically comes with a 2-year installer’s warranty and a 10-year manufacturer’s warranty.

4) REPLACE INTERIOR FLOORING
To address the crawlspace moisture issues, we will install a vapor barrier and vent the crawlspace, or install a floor covering that can accommodate the moisture drive issues, such as carpet with a moisture resistant glue. The solution for complete replacement of the failing floor tiles in the 1911 building will include:

1. Removal and demolition of current failing tile floors.
2. During the floor-replacement, identification and replacement of all failed subfloors.
3. Replacement of the water-damaged flooring and subfloor in the science storage room and installation of a proper mop sink for cleaning use.
4. Installation of a new building-wide flooring system.
5. On the water-damaged ceiling joists above the light booth in the auditorium, repair of any structurally-significant water damage, and replacement of the affected decorative ceiling tiles as necessary.

5) IMPROVED DRAINAGE
Sufficient scuppers and downspouts will be added around the Auditorium to improve drainage around this section of the building. Those downspouts will be directed to a splash block or swale to direct the water away from the building.

6) REPLACE SITE PARKING LOTS, ROADS & SIDEWALKS
The district has multiple opportunities for economies of scale, due to the degraded site conditions at Trinidad Middle School and anticipated exterior excavation, new entrance ramps, additional accessible parking, and site draining improvements. A complete replacement of parking lots, sidewalks and roadways simply makes sense. This scope summary includes:

1. Scarify and recompact base
2. New asphalt & new pavement
3. Cast-in-Place concrete curbing and barriers
4. Paved sidewalks
5. Proper slopes for site drainage

7) ELECTRICAL DISTRIBUTION SYSTEM UPGRADES
Upgrades are needed to improve electrical system deficiencies, expand the current electrical infrastructure and support classroom needs. These consist of the following improvements:
1. Replace Electrical System in 1964 Addition - This includes new electrical service and distribution, circuit breakers, safety switches, panelboards, branch wiring, switchgear and grounded receptacles. New components and construction will satisfy all code requirements, while improving safety with ground fault circuit interruption, arc flash mitigation, and surge protection.

2. Replace Generator & Add Servers to Back-up Circuit - An appropriately-sized standby generator will be installed with an automatic transfer switch. This transfer switch will detect an interruption to the utility electric service and automatically start the standby generator. Computer servers, refrigerators, freezers, and other equipment will be added to the standby power system to maintain essential building functions during power outages.

3. Add Outlets in Classrooms - Receptacles will be added to classrooms to provide room layout flexibility, reduce circuit overloading, and provide the ability to install new projectors, battery chargers, smart boards, and computers, in each classroom.

4. LED Lighting & Occupancy Sensor Upgrade - This solution includes replacing all T8 32-watt lamps and ballasts with the latest and most efficient product in lighting technology - LED lamps. These are 50%+ more efficient than T8s and do not require ballasts to operate.

V. TECHNOLOGY SOLUTIONS
Trinidad School District recognizes that meaningful improvements to the classroom educational environment go beyond improvements to thermal comfort and proper ventilation. District leaders also seek to create a modern technological foundation to support educational advancement and innovation. To lay the foundation to support future expansion of technology, the district plans to move forward with three key priority projects:

1) TECHNOLOGY INFRASTRUCTURE UPGRADES
a. Replace all switches districtwide with newer, faster, and more scalable models to improve connection speeds.
   b. Increase intra-building speeds and the internet connection to better handle and allow for faster Internet access.
   c. Replacement of the CAT5e connections from the building MDFs to closet IDF’s with Fiber Optic connections. This allows for faster connection speed, more connections, and less traffic congestion, and it supports a school environment that is equipped for future technology needs.

2) UPGRADE TO MODERN DATA CENTER
Critical to this project is a new data center with new servers, premise backup, and server redundancy along with cloud-based back-ups. Equipment additions and upgrades include new servers, as well as SAN (storage for user files), core switches, fiber connectivity, firewall/content filter, self-contained cooling equipment racks, data backup/recovery, uninterruptable PowerSource, cabling, and software licenses. These improvements will ensure the district is at the leading edge of advanced IT infrastructure for the foreseeable future.

3) SMART CLASSROOM IMPLEMENTATION
A total of 30 classrooms spaces in the Trinidad Middle School will be retrofitted with new equipment and infrastructure to meet the current standards for a SMART classroom. Those components include dedicated workstation/lectern, current PC configuration, monitors to allow for digital inking and instructional interaction, ceiling mounted speakers, a sound system capable of handling multiple audio sources, and a HD projection unit.

How Urgent is this Project?
If Trinidad School District is unable to adequately fund the needed improvements to Trinidad Middle School, these major deficiencies will continue their day-to-day negative impact on the health, safety, and overall educational experiences of our students. The District is past the point where interim improvements can have a positive effect on these system’s operation or effectiveness. The continued reactive upkeep is no longer fiscally wise to pursue, nor is it responsible in our role as custodian of taxpayer money.

Many of these systems are interdependent, making it nearly impossible to single out any one need as more important than the others. All of these improvements, in one way or another, impact the health and safety of our students - as well as the
learning of our students - and all improvements must be addressed immediately and comprehensively.

The time has never been better to resolve the critical deficiencies described in this application. Trinidad leaders are at a critical juncture to avoid the expected or imminent failure of many of the building systems and infrastructure issues. In some cases, in fact, system failures have already occurred.

As the facility stands today, the following areas have already reached a point of failure:
1. Mechanical HVAC System
2. Window Systems
3. Secured Egress (Exterior Doors)
4. Fire Protection Systems
5. ADA Accessibility
6. Site Drainage
7. Interior Flooring
8. Educational Technology Adequacy

Systems on a path of expected or imminent failure, if not immediately addressed include:
1. Safety & Security Inadequacies
2. Mortar Joints & Window Lintel
3. Vapor Barrier Deficiencies
4. Plumbing & Electrical Systems
5. Parking Lots & Roadways

ECONOMIES OF SCALE
Although addressing the entirety of Trinidad Middle School constitutes a significant financial investment by the district, the Trinidad community, and the BEST Program, it eliminates the quantitative costs inherent in a multi-phased approach. Overall budget and timeliness of projects can be maximized by avoiding such additional factors as the annual inflation of construction costs, availability of qualified contractors, the remobilization of major trades, one-off project developments of professional services such as design and construction management, gaps in project management, changes in district leadership, and changing economic conditions. Streamlining these many interrelated projects ultimately delivers the highest value and return on investment.

Most importantly, however, the district's ability to wholly address Trinidad Middle School allows us to continue the pursuit of the strategic plan of the Facility Maintenance Master Plan and focus on other Tier I and Tier II projects, most notably, the facility needs of Trinidad High School.

Synergies and economies of scale are apparent in architectural and engineering design, contractor trades, pricing, mobilization, and construction management. Project scopes that are developed, bid and implemented in conjunction with one another will result in a better project outcome - and a lowest first cost. It is the best path for ensuring that Trinidad Middle School is brought up to the standards of a modern education facility, without leaving critical improvements to an unknown timeline. It is what our students need, and what our community deserves.

Does this Project Conform with the Public School Facility Construction Guidelines? Yes

If not, provide an explanation for the use of any standard not consistent with the guidelines:

How Does the Applicant Plan to Maintain the Project if it is Awarded?

CAPITAL RENEWAL BUDGET
The district will include a minimum of $225 per student per year in new funding allocated to district's Capital Renewal Budget, which is estimated to be $250,000 in increased funds. Of these new funds, $75,000 will be earmarked and dedicated specifically towards the preventative maintenance of the projects and major components at Trinidad Middle School. This budget will maximize the life of the project and ensure funding for future replacement costs, which, according to ASHRAE and manufacturer data is approximately 20-25 years for major equipment.

PREVENTATIVE MAINTENANCE PLAN
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We have detailed reactive O&M spending on the maintaining, band-aiding, and emergency repairing of defective systems in the middle school over the previous two fiscal years. On average, we have committed $46,699.29/yr. of O&M budget funds towards the deficiencies outlined in this application, none of which has actually improved our situation.

As these deficiencies would be due for comprehensive replacement as a result of this project, the district can conservatively anticipate an immediate reduction in annual maintenance expenditures of approximately $40,000 at Trinidad Middle School by completing of this project.

We have submitted as a supplemental document the details anticipated maintenance expenditures for proactive upkeep, both professionally and in-house, of this project’s major systems. This has been used during our financial planning to this point as a basis for a Preventative Maintenance and Capital Renewal Plan. Based on this due diligence, the district is planning for committed annual expenditures of $26,829.66/yr., conservatively, specifically towards these major systems.

By eliminating the current reactive, sunk-cost spending at the middle school, and dedicating time and resources to preventative maintenance, we would conservatively net $13,170.34/yr. in available operating budget funds as a result. These funds, and any others realized in diligent tracking, will remain committed to the district’s operations and maintenance budget, and be applied directly to utility costs to help offset the expected increases resulting from the new cooling system. Local funding also would be increased to offset costs of additional utility expenses and provide for outside professional service support, proper warranty coverage and seasonal service programs.

TRAINING
We will ensure our staff receives dedicated support and on-boarding by requiring design professionals and installing trade contractors to provide onsite hands-on training and education throughout the project. Schedules and training programs will be developed for relevant scopes and approved by our Director of Facilities and district administration.

Periodic training will be provided throughout the construction process, as this affords staff our greatest opportunity to learn the intricacies of the systems. Formal training sessions will be provided after construction and commissioning is completed and systems are fully operational, at which point the staff has gained initial familiarity with the installed measures.

On-going post-project training and support will be required for as long as needed to ensure that our staff receive the proper knowledge for turnover of the systems and operations, maintenance, repairs and replacement responsibilities. This will include formal refresher training and informal on-the-spot training.

SUMMARY
Should this district be awarded this grant and complete this project, the pressure on our current maintenance program would be relieved. We would eliminate substantial sums of reactive expenditures currently used to simply maintain. Additional funding would then be designated in annual appropriations for maintenance and upkeep, incorporating manufacturer’s recommendations for proper service and maintenance, as well as a determination of the need for supplemental staff support.

By reallocating budget funds and the time and labor of our staff from reactive to proactive, we are confident in our ability to sustain the life of this shared investment for years to come. Preventative maintenance will be carried out and logged throughout the lifetime of the new systems and equipment and include appropriate monthly and seasonal inspections, and routine in-house responsibilities like filter changing, balancing and cleaning.

Describe the condition of the public school facility at the time it was purchased or constructed and, if the facility was not new or was not adequate as a public school facility at that time, provide the rationale for purchasing the facility or constructing it in the manner in which you did:

The original portion of the modern-day Trinidad Middle School facility was constructed in 1911 as the district’s new high school facility and served as such until 1972 when it became Trinidad Middle School. Over its 108-year history, the facility has been expanded to over 116,00 square feet through the completion of four major additions, the latest in 1993.

Describe the history of capital improvements made to the facility by the district/charter school in order to make it suitable for students. Include a list of all capital projects undertaken in the affected facility in the last 3 years:
BEST FY2019-20 GRANT APPLICATION SUMMARIES

HISTORY OF RELEVANT CAPITAL IMPROVEMENTS TO TRINIDAD MIDDLE SCHOOL

1922 - Two new additions were added to the facility, which at the time served as Trinidad High School. The addition to the east included an 800-seat auditorium with a stage and a lower-level dressing room. The addition to the west* included a gymnasium with elevated track, locker rooms, an indoor swimming pool, and an upper-level band room.

*Please Note: The west addition which includes the pool, band room and original gym is not included in this request funding in application.

1927 - The district constructed Miner Stadium, an athletic field and track beside the facility.

1964 - Park Street Elementary School ("Park Street") was constructed as a new facility, adjacent to the 1911 facility and was converted into an addition to the building as part of a 1993 expansion.

1972 - The facility officially becomes Trinidad Middle School as it stands today when construction was completed on new Trinidad High School.

1993 - Trinidad Middle School completed the largest additions to the facility, including a new gymnasium, cafeteria, classrooms and an atrium which connected Park Street as part of the facility. This project was funded by a Colorado Association of School Boards Lease-Purchase Program, utilizing the district’s own financial reserves to subsequently pay off the Lease-Purchase obligation.

LAST THREE YEARS

2015 - Upgrades to lighting, interior security camera, access controls, and security fencing to protect students on playgrounds. The district has also secured grant funding for the updating of kitchen equipment at all cafeterias including cooking equipment, cafeteria seating equipment, refrigeration equipment, etc., through the Wellness Program.

What options outside of the BEST grant has the applicant investigated or leveraged to address the school’s facility needs?

Trinidad School District 1 has explored all available, and impactful options for funding regarding these necessary capital improvements including lease-purchase financing and voter-approved mill levy overrides, neither of which are possible at this time.

Moreover, as an integral part of our strategic planning over the past two years, the administration and Board of Education have explored (and will continue to strongly consider) reducing the district’s annual operating costs through facility consolidation in order to more accurately reflect our space needs. With the help of the professionals in our development team, a space utilization study was created and revised to help us in our near-term decision making.

It is clear at this time, though, that without the assistance of a significant funding source like a BEST Grant, we will quickly run out of the funding sources needed to help put our district’s deferred maintenance/budget issues back on solid footing.

Nevertheless, the district plans to pursue a General Obligation Bond for at least some of the critical capital improvement projects outlined in this application and our Facility Maintenance Master Plan. These replacements, and others, are paramount for the health, safety, and security of students and teachers within the Trinidad School District 1.

How do you budget annually to address capital outlay needs in your district/charter? Include $/FTE for the prior fiscal year:

During 2017-2018 Fiscal Year, approximately $225/FTE was spent by the district towards capital outlay projects, which were primarily made up of emergency repairs and reactive upkeep of current systems. To best prepare for the upcoming year's capital projects and facility needs, the district collaborates with our Head of Facilities and maintenance personnel, administrators, principles, and school board members on how to best prioritize and commit towards anticipated capital outlay projects.

If relevant to your project, what are your current annualized utility costs, and what amount of reduction in such costs do you expect to result from this project?

The City of Trinidad is the provider of utility services including water, wastewater, natural gas, and electricity within the City.
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During the most recent fiscal year, this district incurred a total cost of $324,957.12 for those utility services.

The addition of mechanical cooling in all areas of Trinidad Middle School creates a new source of electrical energy usage and will result in an increase in the middle school's associated utility costs. This was discussed at length between the district and engineering team during the preliminary engineering audit in 2017, and we have been financially planning for the increased utility costs.

A majority of the increased usage will be offset by immediate reductions in energy use and utility costs resulting from the other extensive energy efficiency measures in this project, specifically, the LED lighting, modern building automation system, controls sequences, operations strategies, high-efficiency mechanical equipment, new windows and a proper seal to the building's envelope.

As part of the Capital Renewal Plan detailed earlier in this application, we have factored in these increased costs into the increased FTE and are dedicating portions of the expected increase in annual O&M savings. We are confident that our goal of achieving a financially net-neutral impact to Trinidad Middle School's operations budget is attainable.

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<tr>
<td>Hard Costs Per Sq Ft:</td>
<td>$138.40</td>
</tr>
<tr>
<td>Cost Per Pupil:</td>
<td>$67,024</td>
</tr>
<tr>
<td>Gross Sq Ft Per Pupil:</td>
<td>435</td>
</tr>
<tr>
<td>Is a Master Plan Complete?</td>
<td>Yes</td>
</tr>
<tr>
<td>Who owns the Facility?</td>
<td>District</td>
</tr>
</tbody>
</table>

CDE Minimum Match %: 34%
Actual Match % Provided: 29%
Is a Waiver Letter Required? Yes
Contingent on a 2019 Bond? Yes
Source of Match: Bond November 2019

Escalation %: 6%
Construction Contingency %: 12%
Owner Contingency %: 5%
Historical Register? No
Adverse Historical Effect? No
Does this Qualify for HPCP? Yes

Financial Data (School District and BOCES Applicants)

<table>
<thead>
<tr>
<th>District FTE Count:</th>
<th>901</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessed Valuation:</td>
<td>$118,525,990</td>
</tr>
<tr>
<td>PPAV:</td>
<td>$131,549</td>
</tr>
<tr>
<td>Unreserved Gen Fund 17-18:</td>
<td>$1,209,970</td>
</tr>
<tr>
<td>Median Household Income:</td>
<td>$37,064</td>
</tr>
<tr>
<td>Free Reduced Lunch %:</td>
<td>75%</td>
</tr>
<tr>
<td>Existing Bond Mill Levy:</td>
<td>4.64</td>
</tr>
<tr>
<td>3yr Avg OMFAC/Pupil:</td>
<td>$1,196.86</td>
</tr>
</tbody>
</table>

Bonded Debt Approved:
Year(s) Bond Approved: $4,750,000
Bonded Debt Failed: $4,750,000
Year(s) Bond Failed: 18
Outstanding Bonded Debt: $1,960,000
Total Bond Capacity: $23,705,198
Bond Capacity Remaining: $21,745,198