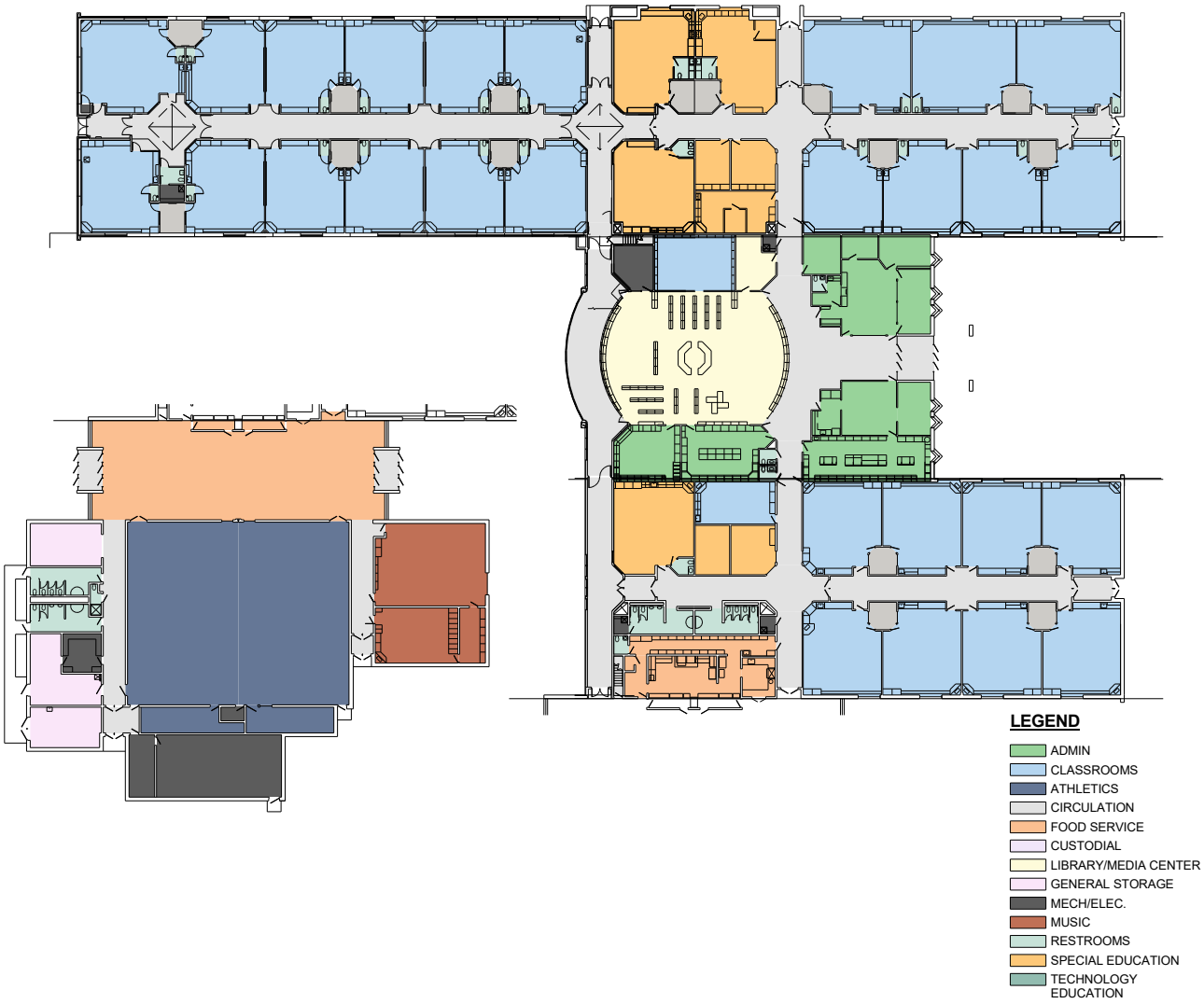
CENTURY ELEMENTARY SCHOOL

A. EXISTING BUILDING INVENTORY

Century Elementary School is located at 3351 17th Avenue S in Grand Forks. The school was originally built in 1989 and an addition of a southwest classroom wing was built in 1991.

Century is accessible to the north by 17th Avenue S, to the west by S 34th Street, and to the south by Primrose Court. The school is bordered to the east by Lions Park. Student pick-up and drop-off takes place in the smaller parking lot to the north of the school. This lot can be accessed from both 17th Avenue S and S 34th Street. There is a larger parking lot to the south of the school that can be accessed by S 34th Street.

FLOOR PLAN



FLOOR PLAN

B. ARCHITECTURAL FINISHES

SUMMARY

Century Elementary School was built in 1989 and has since received one addition in 1991. The school lacks a fire suppression system and could benefit from some cosmetic cleaning and repairs.

SITE

The exterior sidewalks, curbs, and pavement are in good condition. Some movement in the concrete is prevalent, especially at Door 11 and 12 where the concrete inclines toward the building. There are some exposed outlets on the exterior of the building that should be covered and the light outside of Door 3 is broken. The gutter outside of the cafeteria is broken and all gutters should be cleaned out.

MASONRY

There is some cosmetic cracking in the concrete masonry unit (CMU) and brick throughout the building, both exterior and interior. CMU is cracked above the red, metal decorative roof in commons area, exterior bricks at the corner of angled windows are pulling away, and the brick is cracked aligning with the edge of the stoop by Door 4 and 7. All exterior masonry should be cleaned. Weeps appear to be below grade, which doesn't allow for proper drainage. Mortar could be repaired in some areas as it is cracking and wearing, especially outside of the music room window (001).

ADDITIONAL EXTERIOR MATERIALS

In addition to masonry, the exterior façade also consists of exterior insulation and finish systems (EIFS) and metal siding (002). The EIFS is damaged outside of the cafeteria and the metal siding has some minor denting throughout, but appears to be in good condition.

ROOF

There are no notable roof issues.

OPENINGS

The door openings within the school are in good condition. Door 8B is rusting and has paint chipping off. Windows are in good condition as well, but there has been water leakage above the window in the music room (003).

CEILINGS

The main ceiling finish throughout the building is acoustical ceiling tile (ACT). There are several ACT tiles that have water damage. The damage is most apparent in classrooms 10, 12, and 21, and the girls' restroom across from rooms 68 and 69. There is a ceiling leak in the corner of the resource room. The skylight at Door 11 is cracked. Alternative options should be explored for the skylights that are by entrances and in the library, due to the cost and difficulty of maintaining them.

ARCHITECTURAL FINISHES CONTINUED

WALLS

The interior walls consist mainly of painted masonry, painted gypsum board, vinyl wall coverings, and tile. There are some minor cosmetic wall damages throughout the school. The most notable cosmetic issues consist of cracks in the wall between the kitchen and cafeteria, crack in the wall outside of the instrumental music room (004), and some areas where the vinyl wall covering is releasing from the gypsum substrate (005). Large portions of exterior walls are covered with vinyl covering on the interior side. It is recommended the vinyl wall covering be removed from the interior surface of exterior walls, as this could potentially create a double vapor barrier and trap moisture within the walls. Current code does not permit the use of vinyl wall covering on outside walls for this reason.

FLOORING

There are no notable issues with the flooring throughout the school. Most rooms have carpet which appears to have been updated and is in good condition.

SECURITY

Although security cameras are present at the doors, there is no direct visibility from the office to the main entrance. Ideally, all visitors should be directed into the office upon entry, before gaining access into the school.

C. MECHANICAL/ELECTRICAL ASSESSMENT

FIRE PROTECTION

- The facility is currently not sprinkled. It is recommended that with a major facility upgrade that an NFPA 13 compliant wet sprinkler system be installed throughout the facility when required by the Grand Forks local jurisdiction having authority. There is an existing 8" water main routed along the East side of the building where a dedicated 6" sprinkler main could be brought into the building.

PLUMBING

- The majority of the plumbing throughout where spaces have not had remodeled with complete piping replacement has piping in place from the original 1989 construction set and the addition in 1992. The piping is currently of age where it does not require a dedicated change out project.
- There are (3) electric domestic water heater that have been recently replaced and in good working order. The primary water heater is a commercial line of AO Smith located in the boiler room. Another electric water heater has been added above the kitchen and another above the library. The water heaters would only need to be replaced based on a failure and would be able to fixed or replaced rather easily and quickly as water heaters of this type are not long lead time items and typically in stock at wholesale houses.
- The kitchen does not currently include a grease interceptor where required by the City of Grand Forks to collect grease before discharging to the city sewer. A grease interceptor should be installed to be in compliance with the city of Grand Forks. The plumbing fixtures within the kitchen should be replaced during the next kitchen remodel project as they are original.
- The restroom plumbing fixtures throughout the building are currently white vitreous china fixtures. Fifteen toilets have been replaced within the last two years. There are currently (4) gang bathroom groups that are original and are showing sign of their age and should be replaced. The district has been replacing sensor activated lavatory faucets with manual type as fixtures start to fail. The sink faucets in the classrooms and break rooms are manually operated. During any toilet room remodeling, all of the existing toilet carriers, fixtures and corresponding drain, waste & vent as well as domestic hot and cold water should be replaced while the chases would be accessible prior to concealing the piping when completed.
- ASSE 1070 compliant thermostatic mixing valves should be added to public lavatories for scald protection to comply with the current plumbing code.

HEATING

- The heating plant consisting of (2) Thermal Solutions Arctic 3,000 MBH condensing boilers, (2) 25 HP heating pumps, (2) 3 HP boiler pumps, vertical bladder tank and other miscellaneous hydronic specialties were replaced with the 2021 project and do not need to be upgraded at this time.
- The original unit heaters, cabinet unit heaters, finned tube radiation, and terminal heating coils are still in place and updated with controls only during the 2021 project. These units can remain in operation as long as continued maintenance of the motors and cleaning of the coils is completed. During any remodel work, it would be recommended to replace the existing components to allow for new motors for maintenance purposes and covers for aesthetics.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

VENTILATION AND EXHAUST

- The existing air handling units 1 through 6 and 8 had modifications during the 2021 project. The project consisted of replacing components needed for the controls retrofit whereas the existing AHU's themselves remained in place. The air handling units are approximately 30 years old and are not up to current energy standards in regards to casing construction (insulation) or leakage rates and therefore should be replaced. The units are currently in operational condition so it would not be an immediate necessity to replace these units, but these units should be budgeted for replacement in the next 5-10 years if not sooner.
- Air handling unit #7 was completed replaced with the 2021 project and is completely up to date with no modifications required.
- The kitchen has a dishwasher exhaust fan with a type II hood. There is a kitchen makeupair fan system connected to the type I hood along with the grease exhaust fan. Continued regularly scheduled maintenance will keep this system operational until a full remodel of the kitchen takes place at which time the system should be upgraded with variable air volume controls in lieu of constant volume for energy savings.
- Ductwork throughout the building is original to the building and addition and will likely have excessive leakage. Any areas where being remodeled should have the existing ductwork replaced with joints sealed to reduce air leakage.

AIR CONDITIONING

- The chilled water system including a JCI 125 nominal ton air cooled chiller, 25 HP chilled water pumps, compression tank and other miscellaneous hydronic specialties were replaced with the 2021 project and do not need to be upgraded at this time.

AUTOMATIC TEMPERATURE CONTROLS

- Controls throughout the building were changed from pneumatic to electronic (Johnson Controls) with the 2021 project and do not need to be upgraded. Changes to automatic temperature controls would only be recommended when there are changes associated with replacing air handling units, domestic hot water system, etc. It is anticipated that during an AHU replacement project where controls have been recently upgraded that the majority of the existing controllers and automatic temperature control components can be reused.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

ELECTRICAL SERVICE

- Electrical service is delivered to the facility by Xcel Energy via 300KVA 480/277V padmount transformer located on east exterior of building.
- Power is routed underground from the transformer to a wall-mounted CT cabinet just to the south. Power is then routed through the exterior wall and into the service entrance switchboard within a mechanical room.
- Peak load on this transformer in the past 12 months was 252kW (304A), as provided by Xcel Energy.
- Electrical service appears to be acceptable, as is. Capacity is adequate.

STANDBY POWER

- A generator is not currently located on-site.
- No improvements are suggested for generator power. While emergency generator power is useful, it is not required.

POWER DISTRIBUTION

- The service entrance switchboard is a 480/277V 800A Siemens Series 6. Power is supplied to all areas of the building from this main switchboard. This includes various distribution panels, mechanical equipment, and branch panels.
- Branch panels throughout building were noted to be very fair condition. A few panels have been added over time for renovation projects.
- There are no suggestions for updates to branch panels, at this time.

LIGHTING

- The large majority of the building interior consists of fluorescent and incandescent lighting. Areas such as the halls and classrooms have been updated to LED lighting.
- An upgrade of all interior lighting to energy-efficient LED lighting is suggested. This would cut lighting energy usage by 50-75%.
- Lighting at exterior of building has been upgraded to energy-efficient LED lighting with either new light fixtures, or new LED bulbs within existing light fixtures. It was noted that several stretches of the exterior did not have any lighting.
- Emergency egress lighting provided via battery back lighting. Exit signage appeared to be adequate.
- The addition of building mounted exterior emergency egress lighting at each and every exit door is suggested.

LIGHTING CONTROL SYSTEMS

- Other than a few bathrooms with automatic lighting control, lighting within large majority of school was noted to be controlled via manual toggle switch. Very few areas utilize dimming operation.
- Upgrade of all lighting controls throughout to digital lighting management is suggested. This includes, but is not limited to, occupancy sensors, vacancy sensors, daylight sensors, dimming controls in majority of spaces, and digital monitoring of all controls via manufacturer provided software.
- All exterior lighting is controlled via photocell and/or timeclock.
- All exterior lighting control is suggested to be tied into new digital lighting management, as outlined in interior lighting portion above.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

COMMUNICATIONS SYSTEMS

- Majority of data cabling within school consists of Category 5 and 5e cabling, with all newly-installed cabling being Category 6. Several wireless access points were noted throughout building. Coverage seemed to be adequate for general use.
- Telecom service appears to be adequate and is being updated over time, internally.
- Intercom system consists of Simplex 5100 Series Building Communication System. Recessed speakers were noted to be located all throughout circulation areas and classrooms.
- IP phones are located in all classrooms for room-to-room communication.
- Centrally-controlled clock system is manufactured by Simplex with clocks located all throughout school. All communication between clocks and central system is done via hardwiring.
- It is suggested that the existing intercom system be updated to new IP system throughout entire school. This would provide the functionality to adjust the utilization and grouping of each individual speaker, as desired. This system would also include an upgraded wireless clock system. The intercom system and clock system would communicate with manufacturer provided software to set schedules, announcements, bells, etc.
- A bell system was noted throughout hallways. Function of the bells was unknown at the time of walkthrough.
- Classroom technology varied between classrooms. Technology observed consisted of digital displays and classroom sound reinforcement.

SAFETY & SECURITY SYSTEMS

- Roughly 5 exterior entrance doors currently utilize electronic door hardware for entrance.
- It is suggested that additional door security is added to all exterior doors for the purposes of access control and monitoring.
- Security camera systems, at the interior and exterior, have been updated over time to IP-based cameras. A buzz-in system consisting of a 2-way speaker and camera is located at the main entrance.
- System appears to be adequate and can be easily added to by school's IT department, as necessary.
- An intrusion detection system consisting of motion detection throughout hallways was installed several years back, but has since been disconnected entirely because of false alarms.
- Fire alarm control panel was recently updated to Simplex 4100ES. Panel is capable of voice evacuation, but currently utilized horns throughout school. Pull stations noted to be located at each exit of building. Fire detection noted to be adequate. Notification consists of strobes and horn/strobe devices. Locations of notification devices was noted to be adequate.
- It is suggested that the fire alarm system be upgraded to a voice-capable system as is currently required by the North Dakota Building Code This system would emit voice messages instructing occupants what to do in an emergency situation. This would be in lieu of a horn sounding in an emergency, as the system currently does.

D. EXISTING DEFICIENCIES

The analysis of the existing Century Elementary School has been broken down into three categories: code compliance/ Americans with Disabilities Act (ADA) compliance, educational adequacy, and capital maintenance. The facility has been assessed for deficiencies as defined below:

1. Code Compliance/Americans with Disabilities Act (ADA) Compliance

This includes evaluation of the current building codes required by the City of Grand Forks and the State of North Dakota. Non-compliant items within the building have been identified and are listed below.

- Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains.
- Various doors have hardware that is not accessible, most notably in storage rooms and classroom restrooms.
- Restrooms in the building are not accessible. This includes restrooms in classrooms (006), across from the gym, outside the library, in the sick room, across from rooms 68/69, and in the kitchen.
- Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass (007).
- Several sinks in the building are not accessible, specifically in the resource room, library work room, lounge, sick room, classrooms, and restrooms. (008)
- Portions of exterior walls have vinyl wall covering on the interior side, which is not to code.
- Door 7 does not have a direct access to a public way.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

CEN-ES 001

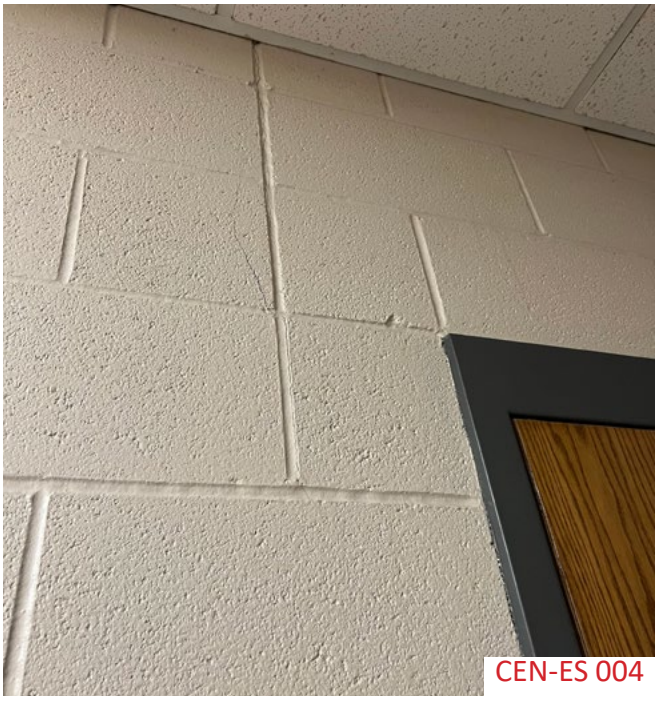
Mortar could be repaired in some areas as it is cracking and wearing, especially outside of the music room window.

CEN-ES 002

In addition to masonry, the exterior façade also consists of EIFS and metal siding.

CEN-ES 003

Windows are in good condition as well, but there has been water leakage above the window in the music room.



CEN-ES 004

The most notable cosmetic issues consist of cracks in the wall between the kitchen and cafeteria, crack in the wall outside of the instrumental music room.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

CEN-ES 005

Some areas where the vinyl wall covering is releasing from the gypsum substrate.

CEN-ES 006

Restrooms in the building are not accessible. This includes restrooms in classrooms

CEN-ES 007

Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass

CEN-ES 008

Several sinks in the building are not accessible, specifically in the resource room, library work room, lounge, sick room, classrooms, and restrooms.

EXISTING DEFICIENCIES CONTINUED

EDUCATIONAL ADEQUACY

This is a review of applicable Department of Public Instruction recommendations as they relate to Grand Forks Public Schools' curriculum. To understand educational space deficiencies, we have evaluated educational models, curriculum configurations, and quantity and quality of existing spaces in comparison to the option of a modern, purpose-built educational facility.

Area	Current Square Footage	DPI Recommended Square Footage	Difference
Administration	4,078 SF	3,098 SF	980
Athletics	5,949 SF	6,600 SF	-651
Circulation	12,610 SF	21,562 SF	-8,952
Classrooms	25,956 SF	25,700 SF	256
Common Spaces	1,565 SF	2,250 SF	-685
Food Service/Cafeteria	4,857 SF	6,258 SF	-1,401
Library/Media Center	3,255 SF	1,545 SF	1,710
Mechanical/Electrical	3,755 SF	5,391 SF	-1,636
Music	1,975 SF	3,300 SF	-1,325
Restrooms	1,672 SF	1,797 SF	-125
Special Education	4,974 SF	5,450 SF	-476

Total Missing Square Footage	-12,305

EXISTING DEFICIENCIES CONTINUED

ADMINISTRATION/PTO COMMENTS AND FEEDBACK

SECURITY CONCERNS

LACK OF LEARNING/COLLABORATION/SUPPORT SPACES

- The current commons area is not great for collaboration.
- Improved spaces are needed for special education and specialized programs.
- There is a lack of areas for sensory space.
- There is not enough space in the cafeteria. Breakfast meal and encore can be difficult.
- More classroom space is needed for the future.

UPDATED FURNITURE, EQUIPMENT, AND FIXTURES

- Furniture and equipment could be more conducive to 21st Century learning.
- Windows need updating.
- Audio/intercom system needs updating.

PARKING/STUDENT DROP-OFF AND PICK-UP

- There are not enough parking spaces
- Student drop-off and pick-up need improvements.

ACCESSIBILITY IMPROVEMENTS

- The school is need of specialized restrooms for medically fragile students.
- The playground is not ADA accessible.

TOP PRIORITIES

1. Safety/Healthy Environment
2. More Collaborative/Community Spaces
3. More Space for Special Education

E. COST ANALYSIS

Century Elementary School
Grand Forks, ND
11/2/2022

CONSTRUCTION ENGINEERS

Facility Assessment Estimate

Description	Item Number	Takeoff Qty		Total Cost/Unit			Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
ADA and Building Code Compliance												
Add accessible lower water fountains throughout the building	1	8	Ea.	$21,944.54	/	Ea.	$175,556					$175,556
Upgrade door hardware with ADA hardware	2	50	Ea.	$983.61	/	Ea.	$49,180					$49,180
Remodel restrooms in classrooms to make them meet accessibility requirements	3	19	Ea.	$37,497.11	/	Ea.	$712,445				X	$712,445
Remodel public restrooms across from the gym to make them accessible and the bathrooms next to the kitchen	4	4	Ea.	$74,892.86	/	Ea.	$299,571				X	$299,571
Remodel single user restrooms outside the library, in the sick room, across from rooms 68/69	5	7	Ea.	$37,497.11	/	Ea.	$262,480				X	$262,480
Replace wire glass throughout the building that is no longer up to code (frame to remain)	6	1,600	SF	$33.65	/	SF	$53,840					$53,840
Replace casework (20lf of base, top, and upper) per room and sinks in classrooms, library work room, lounge, and sick room that are not accessible	7	31	Ea.	$26,939.88	/	Ea.	$835,136					$835,136
Remove vinyl wall coverings from the inside of exterior walls that is creating a double vapor barrier, skim coat existing sheetrock and paint	8	12,000	SF	$7.16	/	SF	$85,920					$85,920
Add sidewalk at door 7 that connects to a public way.	9	300	SF	$17.56	/	SF	$5,267					$5,267
Total Code Compliance		**75,387**	**SF**	**$32.89**	**/**	**SF**	**$2,479,397**	**$0**	**$0**	**$0**		**$2,479,397**
Security												
Secure entrance and administration office remodel	10	820	SF	$266.94	/	SF				$218,891		$218,891
Total Security		**820**	**SF**	**$266.94**	**/**	**SF**	**$0**	**$0**	**$0**	**$218,891**		**$218,891**
Addition/Remodel (Educational Adequacy)												
Administration	11		SF	$339.20	/	SF				$0		$0
Art	12		SF	$351.74	/	SF				$0		$0
Athletics	13	651	SF	$360.52	/	SF				$234,697		$234,697
Auditorium	14		SF	$485.35	/	SF				$0		$0
Business Education	15		SF	$376.82	/	SF				$0		$0
Circulation	16	8,952	SF	$376.83	/	SF				$3,373,409		$3,373,409
Classrooms	17		SF	$376.82	/	SF				$0		$0
Common Spaces	18	685	SF	$393.12	/	SF				$269,288		$269,288
FACS	19		SF	$393.12	/	SF				$0		$0
Food Service/Cafeteria	20	1,401	SF	$458.33	/	SF				$642,117		$642,117
Library/Media Center	21		SF	$395.63	/	SF				$0		$0
Mechanical/Electrical	22	1,636	SF	$307.85	/	SF				$503,648		$503,648
Music	23	1,325	SF	$401.90	/	SF				$532,516		$532,516
Restrooms	24	125	SF	$464.61	/	SF				$58,076		$58,076
Science	25		SF	$431.99	/	SF				$0		$0
Special Education	26	476	SF	$340.28	/	SF				$161,971		$161,971
Technical Education	27		SF	$381.83	/	SF				$0		$0
Technology Education	28		SF	$394.37	/	SF				$0		$0
Total Adequacy		**15,251**	**SF**	**$378.71**	**/**	**SF**	**$0**	**$0**	**$0**	**$5,775,721**		**$5,775,721**

Century Elementary School
Grand Forks, ND
11/2/2022

CONSTRUCTION ENGINEERS

Facility Assessment Estimate

Description	Item Number	Takeoff Qty		Total Cost/Unit			Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
Capital Maintenance												
Interior Upgrades												
Repair the cosmetic cracking in the CMU and brick throughout the building	29	75,387	SF	$0.26	/	SF		$19,601				$19,601
Remove rust and paint exterior door 8B	30	1	Ea.	$321.38	/	Ea.		$321				$321
Investigate and repair the water leakage above the window in the music room	31	1	Ea.	$2,368.35	/	Ea.	$2,368					$2,368
Replace damaged ACT	32	5,000	SF	$9.54	/	SF		$47,676			X	$47,676
Investigate and fix the leak in the ceiling in corner of the resource room.	33	1	Ea.	$46,324.98	/	Ea.	$46,325					$46,325
Repair the damaged minor cosmetic wall damages throughout the school	34	75,387	SF	$0.24	/	SF			$18,093			$18,093
Repair vinyl wall covering where it is peeling away from the wall	35	75,387	SF	$0.36	/	SF		$27,139				$27,139
Interior Upgrades Subtotal		**75,387**	**SF**	**$2.14**	**/**	**SF**						**$161,523**
Exterior Upgrades												
Replace damaged sidewalk	36	800	SF	$17.56	/	SF	$14,046					$14,046
Protect exposed outlets on the exterior of the building that are not. covered	37	1	Ea.	$2,694.93	/	Ea.	$2,695					$2,695
Replace light outside of door 3 that is broken	38	1	Ea.	$934.65	/	Ea.	$935					$935
Repair the gutter outside of the cafeteria that is broken and clean out all gutters	39	1	Ea.	$3,671.15	/	Ea.	$3,671					$3,671
Repair the exterior brick masonry by a combination of tuckpointing, brick replacement and cleaning as needed	40	75,387	SF	$3.78	/	SF	$284,963					$284,963
Weeps appear to be below grade, which doesn't allow for proper drainage.	41				/	0						$0
Repair damaged EFIS outside of the cafeteria	42	1	Ea.	$12,039.75	/	Ea.	$12,040					$12,040
Remove the skylight at door 11 that is cracked, infill with structural steel and roofing	43	196	SF	$296.45	/	SF	$58,104					$58,104
Replace the roof when it nears the end of its useable lifetime	44	75,387	SF	$34.79	/	SF	$2,622,714					$2,622,714
Remove and infill the rest of the skylights (6)	45	1,344	SF	$296.45	/	SF			$398,429			$398,429
Exterior Upgrades Subtotal		**75,387**	**SF**	**$45.07**	**/**	**SF**						**$3,397,596**
Electrical Upgrades												
Add egress lighting to doors to exterior as is required by Building Code add additional exterior lighting where there are several stretches of the exterior that do not have any lighting	46	75,387	SF	$1.35	/	SF	$101,772					$101,772
Upgrade of all interior lighting controls throughout to digital lighting management	47	75,387	SF	$2.51	/	SF		$189,221				$189,221
Upgrade of all exterior lighting controls throughout to digital lighting management	48	75,387	SF	$0.25	/	SF		$18,847				$18,847
Update the existing intercom system with a new IP system throughout entire school.	49	75,387	SF	$3.76	/	SF		$283,455				$283,455
Add additional door security all exterior doors with access control and monitoring	50	75,387	SF	$0.85	/	SF	$64,079					$64,079
It is suggested that the fire alarm system be upgraded to a voice-capable system as is currently required by the North Dakota Building Code This system would emit voice messages instructing occupants what to do in an emergency situation. This would be in lieu of a horn sounding in an emergency, as the system currently does.	51	75,387	SF	$7.21	/	SF		$543,540				$543,540
Electrical Upgrades Subtotal		**75,387**	**SF**	**$15.93**	**/**	**SF**						**$1,200,915**

COST ANALYSIS CONTINUED

Century Elementary School
Grand Forks, ND
11/2/2022

CONSTRUCTION ENGINEERS

Facility Assessment Estimate

Description	Item Number	Takeoff Qty		Total Cost/Unit			Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
Mechanical Upgrades												
Add sprinklers to the building including a new water service line	52	75,387	SF	$13.05	/	SF	$983,955					$983,955
It is recommended and a city requirement that a grease interceptor be installed to protect the waste piping system and replace kitchen plumbing fixtures.	53	1,320	SF	$65.98	/	SF	$87,094					$87,094
During any toilet room remodeling, all of the existing toilet carriers, fixtures and corresponding drain, waste & vent as well as domestic hot and cold water should be replaced while the chases would be accessible prior to concealing the piping when completed.	54	75,387	SF	$1.14	/	SF	$85,564				X	$85,564
ASSE 1070 thermostatic mixing valves should be added to public lavatories for scald protection in accordance with the uniform plumbing code.	55	75,387	SF	$0.32	/	SF	$24,124					$24,124
The original unit heaters, cabinet unit heaters, finned tube radiation, and terminal heating coils are still in place and updated with controls only during the 2021 project. These units can remain in operation as long as continued maintenance of the motors and cleaning of the coils is completed. During any remodel work, it would be recommended to replace the existing components to allow for new motors for maintenance purposes and covers for aesthetics.	56	75,387	SF	$0.56	/	SF			$42,217			$42,217
The existing air handling units 1 through 6 and 8 had modifications during the 2021 project. The project consisted of replacing components needed for the controls retrofit whereas the existing AHU's themselves remained in place. The air handling units are approximately 30 years old and are not up to current energy standards in regards to casing construction (insulation) or leakage rates and therefore should be replaced. The units are currently in operational condition so it would not be an immediate necessity to replace these units, but these units should be budgeted for replacement in the next 5-10 years if not sooner.	57	75,387	SF	$2.54	/	SF			$191,483			$191,483
The kitchen has a dishwasher exhaust fan with a type II hood. There is a kitchen makeup air fan system connected to the type I hood along with the grease exhaust fan. Continued regularly scheduled maintenance will keep this system operational until a full remodel of the kitchen takes place at which time the system should be upgraded with variable air volume controls in lieu of constant volume for energy savings.	58	75,387	SF	$0.98	/	SF		$73,879				$73,879
Ductwork throughout the building is original to the building and addition and will likely have excessive leakage. Any areas where being remodeled should have the existing ductwork replaced with joints sealed to reduce air leakage.	59	75,387	SF	$8.56	/	SF		$645,313				$645,313
Mechanical Upgrades Subtotal		**75,387**	**SF**	**$28.30**	**/**	**SF**						**$2,133,628**
Total Capital Maintenance		**77,911**	**SF**	**$88.48**	**/**	**SF**	**$4,394,449**	**$1,848,993**	**$650,221**	**$0**		**$6,893,663**
Total Construction Cost		**93,982**	**SF**	**$163.52**	**/**	**SF**	**$6,873,845**	**$1,848,993**	**$650,221**	**$5,994,612**		**$15,367,672**

**** All above estimated costs are total construction costs. These include general conditions, CM fees, permits, insurances, bonds, taxes*

Century Elementary School
Grand Forks, ND
11/2/2022

CONSTRUCTION ENGINEERS

Facility Assessment Estimate

Description	Item Number	Takeoff Qty		Total Cost/Unit			Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
Contingencies & Soft Costs												
Design Contingency	60	5.0%					$343,692.27	$92,449.64	$32,511.07	$299,730.61		$768,384
Construction Contingency	61	5.0%					$343,692.27	$92,449.64	$32,511.07	$299,730.61		$768,384
Escalation	62	0.0%					$0.00	$0.00	$0.00	$0.00		$0
A & E Fees	63	7.0%					$481,169.18	$129,429.49	$45,515.50	$419,622.85		$1,075,737
FF & E	64	2.0%					$137,476.91	$36,979.85	$13,004.43	$119,892.24		$307,353
Owner Contingency	65	1.5%					$103,107.68	$27,734.89	$9,753.32	$89,919.18		$230,515
Total Contingencies & Soft Costs							**$1,409,138**	**$379,044**	**$133,295**	**$1,228,895**		**$3,150,373**
Total Facility Assessment Cost Estimate		**93,982**	**SF**	**$197.04**	**/**	**SF**	**$8,282,984**	**$2,228,036**	**$783,517**	**$7,223,508**		**$18,518,044**
Total Critical & Educational Adequacy		**93,982**	**SF**	**$164.99**	**/**	**SF**						**$15,506,491**