A. EXISTING BUILDING INVENTORY	323
B. ARCHITECTURAL FINISHES	324
C. MECHANICAL/ELECTRICAL ASSESSMENT	326
D. EXISTING DEFICIENCIES	330
E. COST ANALYSIS	342



809

VIKING ELEMENTARY SCHOOL

SCHOOL

Viking Voyagers

A. EXISTING BUILDING INVENTORY

Viking Elementary School is located at 809 22nd Avenue S, Grand Forks, ND and was built in 1957 with an addition in 1997 after the flood.

The school is accessible by S 10th Street to the west, 22nd Avenue S to the north, Oak Street to the east, and 24th Avenue S to the south. There is a small parking lot to the north of the school.

FLOOR PLAN



MAIN LEVEL

CILITY ASSESSMENT EXISTING BUILDING INVENTORY **ARCHITECTURAL FINISHES** MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

B. ARCHITECTURAL FINISHES

SUMMARY

Viking Elementary School was built in 1957 and an addition was built in 1997 after the flood. There is no air conditioning in the school which makes it difficult to regulate temperature throughout the building, especially during the warmer months. There are issues with ground water leaking into the basement and moisture that is seeping through the foundation wall and blowing out the plaster. Space is limited in the school, especially in the kitchen and classrooms. Portable classrooms have been placed on site to temporarily address some space issues, but it is not a permanent fix. Exit signs in the building do not have proper illumination (001). Laminate under windows in the cafeteria is warped and lifting (002). Casework and finishes throughout the school are dated, but functional (003). The chimney shows cracking in the concrete masonry unit (CMU) brick and several areas of plaster are damaged as well.

SITE

The asphalt on the site has some cracking (004). Several entrances to the school have uneven concrete which creates issues for accessibility. The school's parking lot is not large enough and could use more stalls. Two portable classrooms are located on the south side of the building (005).

MASONRY

The exterior brick is in overall good condition. The brick mortar and caulking are in good condition. There is some cracking on exterior CMU brick (006), including up the chimney (007).

ADDITIONAL EXTERIOR MATERIALS

Plaster is cracking in some areas. Paint is peeling off the wood on the underside of overhangs around the building (008). Exterior overhangs consist of combustible material and may require sprinklers.

ROOF

The roof was redone 6-7 years ago and is in good condition.

OPENINGS

The door openings and windows within the school are in good condition. Weather stripping could be replaced (009) and potentially door hardware (010). Paint on exterior doors is deteriorating and in poor condition (011). Entrances are not protected with an enclosed vestibule.

CEILINGS

The ceilings within the school are mostly comprised of acoustical ceiling tiles (ACT). The ACT is generally in good condition, but there are some areas with water damage (012).

We viking elementary school

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY **ARCHITECTURAL FINISHES** MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

ARCHITECTURAL FINISHES CONTINUED

WALLS

The interior walls are either painted masonry, painted gypsum board, have vinyl wall coverings, or have tiling. 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

The floors in the school are either carpeting or various types of tiling. The carpet is 9-10 years old, but in overall good condition. Some portions of the original tile are dated, but still in good condition. There is potential asbestos in portions of older tile (013).

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.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



C. MECHANICAL/ELECTRICAL ASSESSMENT

FIRE PROTECTION

• Fire sprinkler system is currently installed throughout the entire building. Depending on the level of work performed in the building, sprinkler systems may need to be modified to accommodate any new work.

PLUMBING

- Most of the plumbing piping in the west wing of the building is original. It was reported that all of the plumbing piping in the south wing was replaced about eight (8) years ago, along with all of the plumbing fixtures. Maintenance staff did not report any issues at the time of the walk through. During any new remodel, the pipe hangers and associated piping in the 1958 addition is recommended to be replaced as part of the long term planning.
- The restroom plumbing fixtures throughout the building are currently white vitreous china fixtures with the water closets being a combination of tank type and flush valve floor mounted toilets. The lavatory faucets are mostly manually operated. The school has been replacing the lavatory sensor faucets with manual faucets as mixing valves and/or sensors start to fail. The sink faucets in the classrooms and break rooms are manually operated.
- Domestic hot water is produced by two natural gas fired instantaneous water heaters and utilize a storage tank for capacity. The domestic hot water heating plant was installed in 2014 and appears to be in good condition.
- Kitchen plumbing fixtures and piping were replaced in 1996 and in appear to be good condition. There is no grease interceptor currently installed on the waste line for the three-compartment sink and other grease producing fixtures. It is recommended and a city requirement that a grease interceptor be installed to protect the waste piping system.
- ASSE 1070 thermostatic mixing valves should be added to public lavatories for scald protection in accordance with the uniform plumbing code.

HEATING

- Heating for the entire building comes from two (2) natural gas fired steam Weil McLain model LGB-14 boilers. The capacity of each boiler is 1,690 MBH. The steam boiler plant is designed to be replaced with a condensing hot water boiler plant as part of the ESCO project that is currently being bid. As part of the ESCO project, all steam and condensate piping and their associated components will be replaced with a hot water hydronic system.
- Existing steam and condensate piping throughout the building is concealed in the soffits, tunnels, walls, and above the ceilings in public areas. The majority of the existing steam and condensate piping where concealed is original to the building and needs to be replaced in order to convert to a hot water system.
- The existing air handling unit serving the West wing of the lower level as well as the two air handling units serving the gymnasium will need to have their steam heating coils replaced with hot water coils. There are classroom unit ventilators serving the cafeteria and classrooms that will need to be replaced to convert to a hot water heating system. An alternate bid for the project will be to replace the gym AHU's completely while adding a hot water coil.
- Perimeter hot water and electric finned tube radiation is installed in some exterior offices, restrooms, and corridors for supplemental heat. Hot water and electric cabinet unit heaters and suspended unit heaters provide heat for vestibules, mechanical rooms, and other similar spaces. These are all original steam units to the building and need to be replaced for the conversion to a hot water system.

VENTILATION AND EXHAUST

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



- The ventilation and exhaust systems in the school include various air handling units, unit ventilators, and various exhaust fans. The indoor air handling units and exhaust fans throughout the building is original and past their useful life. Indoor Air Quality should be addressed throughout the building to meet ASHRAE 62.1 for controllable ventilation rates. Existing indoor air handling units and unit ventilators have inline starters for fan control and pneumatic controls. We recommend the indoor air handling units be replaced with new variable air volume units with VFDs for fan speed modulation, chilled water or DX cooling coils, heating water coils, and DDC controls. Indoor air handling unit for the remodeled gymnasium is currently suspended in the mezzanine. This space is limited and, due to serviceability and clearance requirements, may require new unit to be installed on the roof. Unit ventilators are designed to be replaced with induction displacement units with chilled water coils, hot water coils, and perimeter finned tube radiation to condition the classrooms and cafeteria as part of a 2022/2023 project. The induction displacement units will be paired with a rooftop dedicated outdoor air unit with VFDs for fan speed modulation, energy recovery wheel, chilled water coils, hot water coils, hot water coils, and DDC controls for the ventilation air.
- Ductwork throughout the older portions of the building is at the end of its useful life causing excessive leakage and should be replaced or have the joints sealed when the ductwork is exposed. Supply air ductwork should be insulated when replaced to meet energy code and limit condensation formation.

AIR CONDITIONING

- Split system air conditioning system existing in the administration area. These units are similar to a "Sanyo" with the indoor portion mounted high on a wall and the condensing units are located on the roof. The systems will be in place to supplement the new 2022/2023 HVAC replacement project where chilled beams will be installed within the space to meet ASHRAE 62.1 for ventilation rates, and ASHRAE Standard 55 for cooling and dehumidification.
- The new 2022/2023 project will install an air cooled chiller with necessary piping components, chilled beams, induction displacement beams and replacement AHU's with chilled water coils.

AUTOMATIC TEMPERATURE CONTROLS

• All controls throughout the building are pneumatic controls and original to the building. These pneumatic controls offer limited control capability and no ability for monitoring and alarm. There are not proper controls or air flow monitoring to control ventilation rates based on occupancies or to verify ASHRAE 62.1 requirements for recommended outdoor air are being met. All of the controls within the school are planned to be replaced with Direct Digital Controls (DDC) systems as part of a 2022/2023 project. The DDC systems will be integrated into the existing Grand Forks Public School's Building Automation System for central monitoring and control.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



ELECTRICAL SERVICE

- Electrical service is delivered to the facility by Xcel Energy via 208/120V pole-mounted transformer located on north side of building.
- Power is routed overhead from the transformer to a service mast at the roof of the school, down to the main service entrance switchboard, inside of which is the CT cabinet for metering.
- Peak loads on this transformer in the past 12 months was 64kW (178A), 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 208/120V 800A Square D QED Power Style Switchboard. Power is supplied to all areas of the building from this main switchboard. This includes various distribution panels, mechanical equipment, and branch panels.
- Service entrance switchboard is scheduled to be updated as part of mechanical systems updates taking place within the next year.
- Branch panels throughout building were noted to be in fair condition. While some appear to be nearing the end of their useful life, they are still in working order. These panels are recommended to be replaced with any renovation project.

LIGHTING

- The large majority of the building interior consists of fluorescent and incandescent lighting. Areas such as the gym have been updated to LED lighting.
- School is currently scheduled to undergo a lighting upgrade project that will replace all non-LED lighting with energyefficient LED lighting. This should 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.
- 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

- Lighting within large majority of school was noted to be controlled via manual toggle switch. Very few areas capable of dimming control.
- 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/timeclock.
- All exterior lighting control is suggested to be tied into digital lighting management, as outlined in interior lighting portion above.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

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. Wireless access points were also installed within lower level classrooms. 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 in classrooms. Front office is capable of calling individual classrooms via telephone through the intercom system.
- IP phones are located in all classrooms for room-to-room communication.
- Centrally-controlled clock system has been upgraded to American Time system with clocks located all throughout school. All communication between clocks and central system is done via wireless communication. Clocks consist of primarily analog devices.
- Simplex bell system was also noted to be installed throughout school. It's specific usage was unknown.
- 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.
- Classroom technology varied between classrooms. Technology observed consisted of digital displays, short-throw projectors, and classroom sound reinforcement.

SAFETY & SECURITY SYSTEMS

- A select few 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 school's main entrance.
- System appears to be adequate and can be easily added to by school's IT department, as necessary.
- Fire alarm control panel is Simplex 4007ES. 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 and locations appeared 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.

CILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

D. EXISTING DEFICIENCIES

The analysis of the existing Viking 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.

- Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass. (014)
- Portions of exterior walls are covered with vinyl wall covering on the interior side, which is not to code. (015)
- Multiple classrooms have restrooms that are not accessible. (016, 017)
- Sinks in classrooms are not accessible. (018)
- Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains. (019)
- All boys' and girls' restrooms are not accessible. (020)
- Pipes in restrooms are exposed and should be protected. (021)
- Guard rails for all stairwells do not meet height requirements. (022)
- All stairs are lacking a separate handrail from the guard rail.
- Handrail cross sections exceed size limitations per code. (023)
- Doors in STAR rooms and storage rooms in the gym do not have accessible door hardware. (024)
- Handrails are not present in stairwells leading up to the stage (025) and on ramps leading to portable class-rooms (026).
- All public entrances should be protected with an enclosed vestibule, as required by energy code. (027)
- The stair landing where Door 4 is located has casework and furniture that is impeding on the path of egress.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



Exit signs are dim and should be replaced.



Some laminate under windows in the cafeteria is lifting.



Casework in classrooms is dated, but functional.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



The asphalt on the site has some cracking.



There is some cracking on exterior CMU brick, including up the chimney.



Two portable classrooms are located on the south side of the building.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



There is some cracking on exterior CMU brick.



In areas of overhangs around the building, paint is peeling underneath the wood.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



Weather stripping could be replaced.



Weather stripping could be replaced and potentially door hardware.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



Paint on exterior doors is deteriorating and in poor condition.



The ACT is generally in good condition, but there are some areas with water damage.



There is potential asbestos in portions of older tile.



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

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



Portions of exterior walls are covered with vinyl wall covering on the interior side, which is not to code.



Multiple classrooms have restrooms that are not accessible.



Multiple classrooms have restrooms that are not accessible.



Sinks in classrooms are not accessible.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX





Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains.

Pipes in restrooms are exposed and should be protected.



All boys' and girls' restrooms are not accessible.



Guard rails for all stairwells do not meet height requirements.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX



Handrail cross sections exceed size limitations per code.



Doors in STAR rooms and storage rooms in the gym do not have accessible door hardware.



Stairwells leading up to the stage do not have handrails on both sides.



Handrails are not present in stairwells on ramps leading to portable classrooms.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



All public entrances should be protected with an enclosed vestibule, as required by energy code.

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

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	1,889 SF	2,500 SF	-611
Athletics	2,891 SF	3,600 SF	-709
Circulation	5,561 SF	11,015 SF	-5,454
Classrooms	13,298 SF	17,200 SF	-3,902
Food Service/Cafeteria	3,211 SF	5,020 SF	-1,809
Library/Media Center	1,825 SF	1,268 SF	557
Mechanical/Electrical	1,282 SF	2,754 SF	-1,472
Music	1,103 SF	1,000 SF	103
Restrooms	602 SF	918 SF	-316
Special Education	1,176 SF	1,800 SF	-624

Total Missing Square Footage -14,237

FACILITY ASSESSMENT EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

EXISTING DEFICIENCIES CONTINUED

ADMINISTRATION/PTO COMMENTS AND FEEDBACK

LACK OF COLLABORATION/LEARNING/SUPPORT SPACES

- There is only one staff restroom in the entire school.
 - There are no collaboration spaces.
 - There is not enough storage space in the school.
 - Band and orchestra classes are in the lunchroom this year.
 - The school has been using portable classrooms for three years.
 - The gymnasium is too small for school events.
 - The nurse's off is too small.
 - The teacher's lounge is too small.
 - Several teachers are teaching from portable carts.

SECURITY/SAFETY

• A secure entrance is needed at the school.

PARKING

• There is not enough parking at the school, resulting in the school having to use two rows of parking at the nearby church.

TOP PRIORITY

1. Additional Classroom Space

10
S
>
1
\rightarrow
4
4
_
5
2
O
U
111

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



7707/7/11							EN	JINE	S
Facility Assessment Estimate									
Description	ltem Number	Takeoff Qtv	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									
Replace wire glass throughout the building that is no longer up to code (frame to remain)	Ч	800 SF	\$33.65 / SF	\$26,920					\$26,920
Remove vinyl wall coverings from the inside of exterior walls that is creating a double vapor harrier skim cost existing sheetrock and naint	2	5,820 SF	\$7.16 / SF	\$41,671					\$41,671
Remodel restrooms in classrooms to make them meet accessibility requirements	ĸ	21 Ea.	\$37,497.11 / Ea.	\$787,439				×	\$787,439
Replace casework (20lf of base, top, and upper) per classroom and sinks in classrooms are	4	20 Ea.	\$26,939.88 / Ea.	\$538,798					\$538,798
not accessible Add accessible lower water fountains throughout the building	2	4 Ea.	\$21,944.54 / Ea.	\$87,778					\$87,778
Remodel public restrooms to make them accessible	9	2 Ea.	\$74,892.86 / Ea.	\$149,786				×	\$149,786
Protect exposed pipes under sinks in restrooms	7	1 Ea.	\$6,270.56 / Ea.	; \$6,271				×	\$6,271
Replace guard rails (55 lf) for all stairwells that are not tall enough for code compliance	∞	135 LF	\$199.43 / LF	\$26,923					\$26,923
New guard rails will have a separate handrail from the guard rail.	6		<u> </u>						
Replace all handrails (80 lf) on all stairs	10		/						
Upgrade door hardware with ADA hardware	11	25 Ea.	\$983.61 / Ea.	\$24,590					\$24,590
Add handrails that are missing in stairwells leading up to the stage and on ramps leading to	12	125 LF	\$135.78 / LF	\$16,973					\$16,973
Add interior vestibules at entrances where they are missing	13	4 Ea.	\$22,262.27 / Ea.	\$89,049					\$89,049
Remove casework and storage in the area of the entryway of door 4	14	1 Ea.	\$5,348.37 / Ea.	\$5,348					\$5,348
Total Code Compliance		36,729 SF	\$49.05 / SF	\$1,801,546	\$0	\$0	\$0		\$1,801,546
Security									
Secure entrance and administration office remodel	15	900 SF	\$266.94 / SF				\$240,246		\$240,246
Total Security		900 SF	\$266.94 / SF	\$0	\$0	\$0	\$240,246		\$240,246
Addition/Remodel (Educational Adequacy)									
Administration	16	611 SF	\$339.20 / SF				\$207,251		\$207,251
Art	17	SF	\$351.74 / SF				0\$		0\$
Athletics	18	709 SF	\$360.52 / SF				\$255,607		\$255,607
Auditorium	19	SF	\$485.35 / SF				\$0		0\$
Business Education	20	SF	\$376.82 / SF				0\$		0\$
Circulation	21	5,454 SF	\$376.83 / SF				\$2,055,247		\$2,055,247
Classrooms	22	3,902 SF	\$376.82 / SF				\$1,470,348		\$1,470,348
Common Spaces	23	SF	\$393.12 / SF				0\$		0\$
FACS	24	SF	\$393.12 / SF				0\$		0\$
Food Service/Cafeteria	25	1,809 SF	\$458.33 / SF				\$829,114		\$829,114
Library/Media Center	26	SF	\$395.63 / SF				0\$		0\$
Mechanical/Electrical	27	1,472 SF	\$307.85 / SF				\$453,160		\$453,160
Music	28	SF	\$401.90 / SF				\$0		\$0
Restrooms	29	316 SF	\$464.61 / SF				\$146,817		\$146,817
Science	30	SF	\$431.99 / SF				\$0		¢0
Special Education	31	624 SF	\$340.28 / SF				\$212,332		\$212,332
Technical Education	32	SF	\$381.83 / SF				\$0		\$0

\sim
\Box
ш.
=
~
<u> </u>
7
\cup
()
\cup
()
<u> </u>
S
\sim
1
$\overline{}$
4
7
~
<
10
(\mathbf{U})
\cap
X
()

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



Facility Assessment Estimate										
Description	ltem Number	Takeoff Qty	Total Cost/Unit	Critic	gal	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
Technology Education	33	SF	\$394.37 /	SF				\$0		Υ.
Total Adequacy		14,897 SF	\$377.92 /	SF	\$0	\$0	\$0	\$5,629,877		\$5,629,87
Capital Maintenance										
Interior Upgrades										
Prevent moisture from seeping through the foundation wall and blowing out the plaster	34	1 Ea.	\$21,148.24 /	Ea.		\$21,148				\$21,14
Repair laminate sills windows in the cafeteria that is lifting	35	1 Ea.	\$1,368.12 /	Ea.		\$1,368				\$1,36
Replace dated and damaged casework (50 If of base, top, upper)	36	150 LF	\$389.57 /	LF			\$58,436			\$58,43
Repair plaster that cracking in some areas and paint damaged areas	37	36,729 SF	\$1.65 /	SF		\$60,603				\$60,6C
Replace weather stripping and door hardware at all exterior doors	38	10 Ea.	\$1,368.74 /	Ea. \$	13,687					\$13,68
Replace old VCT, assumed to be contaminated with asbestos, replace with new flooring	39	2,500 SF	\$24.78 /			\$61,950				\$61,95
Interior Upgrades Subtotal		36,729 SF	\$5.91 /	SF						\$217,19
Exterior Upgrades										
Regrade and landscape to prevent ground water from coming into the basement	40	1 Ea.	\$46,391.85 /	Ea. \$	46,392					\$46,39
Mill and overlay north parking lot asphalt	41	13,684 Ea.	\$5.08 <i> </i>	Ea.		\$69,515				\$69,51
Remove and replace uneven sidewalks	42	500 SF	\$17.56 /	SF	\$8,779					\$8,77
Add 42 additional parking stalls to the parking lot since it is not large enough	43	10,500 SF	\$14.84 <i> </i>	SF				\$155,820		\$155,82
Repair cracking on exterior brick and CMU including the chimney	44	36,729 SF	\$3.65 /	SF \$1	34,061					\$134,06
Paint the overhangs around the building	45	1 Ea.	\$13,645.36 /	Ea.		\$13,645				\$13,64
Exterior Upgrades Subtotal		36,729 SF	\$11.66 /	SF						\$428,21
Electrical Upgrades										
Replace branch panels throughout building that are noted to be old that are nearing the end of their useful life	46	36,729 SF	\$3.45 /	SF		\$126,672				\$126,67
Add egress lighting to doors to exterior as is required by Building Code	47	36,729 SF	\$1.21 /	SF		\$44,342				\$44,34
Upgrade of all interior lighting controls throughout to digital lighting management	48	36,729 SF	\$2.51 /	SF		\$92,125				\$92,12
Upgrade of all exterior lighting controls throughout to digital lighting management	49	36,729 SF	\$0.25 /	SF		\$9,213				\$9,21
Update the existing intercom system with a new IP system throughout entire school	50	36,729 SF	\$3.76 /	SF		\$138,188				\$138,18
Add additional door security all exterior doors with access control and monitoring	51	36,729 SF	\$1.21 <i> </i>	SF \$	44,342					\$44,34
Upgrade the fire alarm system to a voice-capable system as is currently required by the North Dakota Building Code	52	36,729 SF	\$0.69 /	SF	25,334					\$25,33
Electrical Upgrades Subtotal		36,729 SF	\$13.07 <i> </i>	SF						\$480,21

m

N 2 1 0 8 2 5

2 2

8

4

ŝ

5

8 0 4 8

8

Viking Elementary School Grand Forks, ND 11/2/2022									STRUCT NEE	No 2
Facility Assessment Estimate										
	ltem					5 yrs Deferred	10 yrs Deferred	Educational	Synergistic with other	
Description	Number	Takeoff Qty	Total Cost/Un	lit	Critical	Maint	Maint	Adequacy	needs	Total Cost
Mechanical Upgrades										
During any new remodel, the pipe hangers and associated piping in the 1958 addition is	53	36,729 SF	\$10.14	/ SF			\$372,432		×	\$372,43
It is recommended and a city requirement that a grease interceptor be installed to protect the version mended and a city requirement that a grease interceptor be installed to protect the unstantiation cortism.	54	36,729 SF	\$4.35	/ SF	\$159,771					\$159,77
use worse public system. ASSE 1070 thermostatic mixing valves should be added to public lavatories for scald protection in accordance with the uniform on unbion code	55	36,729 SF	\$0.32	/ SF	\$11,753				×	\$11,75
Mechanical Upgrades Subtotal		36,729 SF	\$14.81	/ SF						\$543 , 95
Total Capital Maintenance		36,729 SF	\$45.46	/ SF	\$444,119	\$638,769	\$430,868	\$155,820		\$1,669,57(
Total Construction Cost		52,526 SF	\$177.84	/ SF	\$2,245,665	\$638,769	\$430,868	\$6,025,943		\$9,341,24
*** All above estimated costs are total construction costs. These include general cond	itions, CM	fees, permits, in:	surances, bonds, i	taxes						
Contingencies & Soft Costs										
Design Contingency	56	5.0%			\$112,283.27	\$31,938.45	\$21,543.40	\$301,297.14		\$467,06
Construction Contingency	57	5.0%			\$112,283.27	\$31,938.45	\$21,543.40	\$301,297.14		\$467,06
Escalation	58	0.0%			\$0.00	\$0.00	\$0.00	\$0.00		Ş
A & E Fees	59	7.0%			\$157,196.57	\$44,713.83	\$30,160.76	\$421,815.99		\$653,88
FF & E	60	2.0%			\$44,913.31	\$12,775.38	\$8,617.36	\$120,518.86		\$186,82
Owner Contingency	61	1.5%			\$33,684.98	\$9,581.54	\$6,463.02	\$90,389.14		\$140,11
Total Contingencies & Soft Costs					\$460,361	\$130,948	\$88,32 8	\$1,235,318		\$1,914,95
Total Facility Assessment Cost Estimate		52,526 SF	\$214.30	/ SF	\$2,706,027	\$769,717	\$519,196	\$7,261,261		\$11,256,20
Total Critical & Educational Adequacy		52,526 SF	\$189.76	/ SF						\$9,967,28

COST ANALYSIS CONTINUED