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ANNANDALE MIDDLE SCHOOL FACILITY ANALYSIS

Annandale, Minnesota

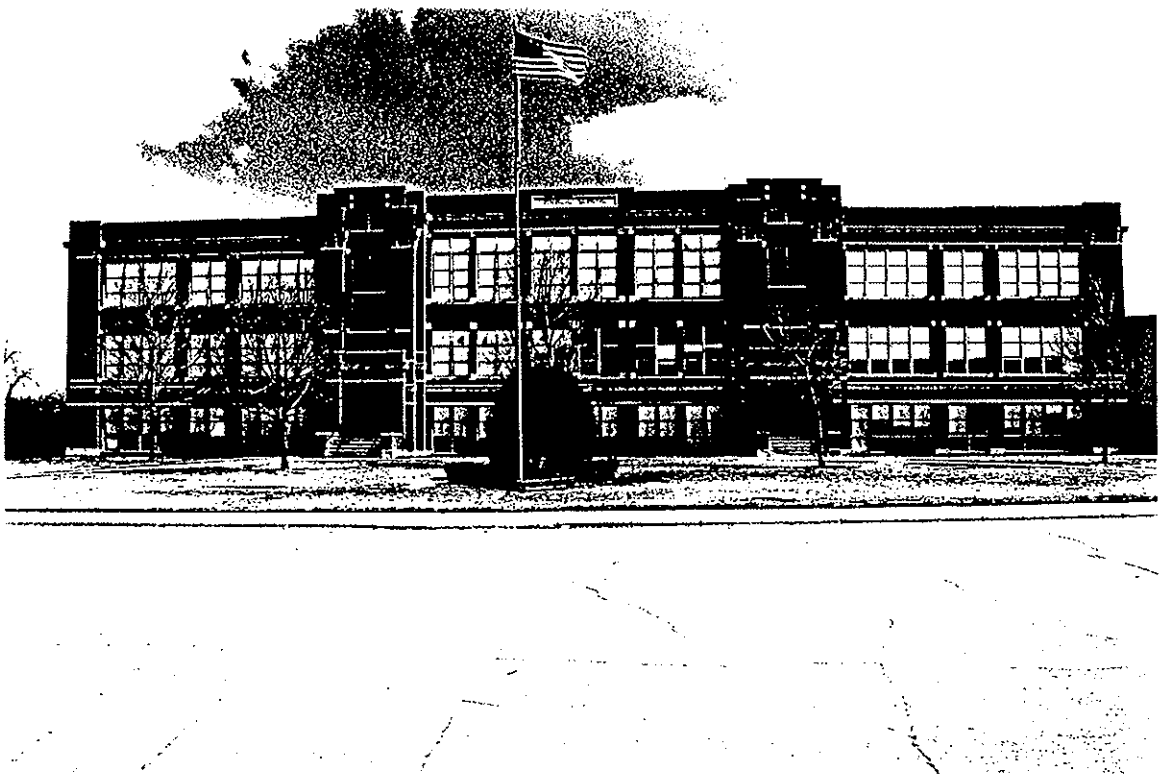
Independent School District No. 876

April 22, 1997

Project No. 97033

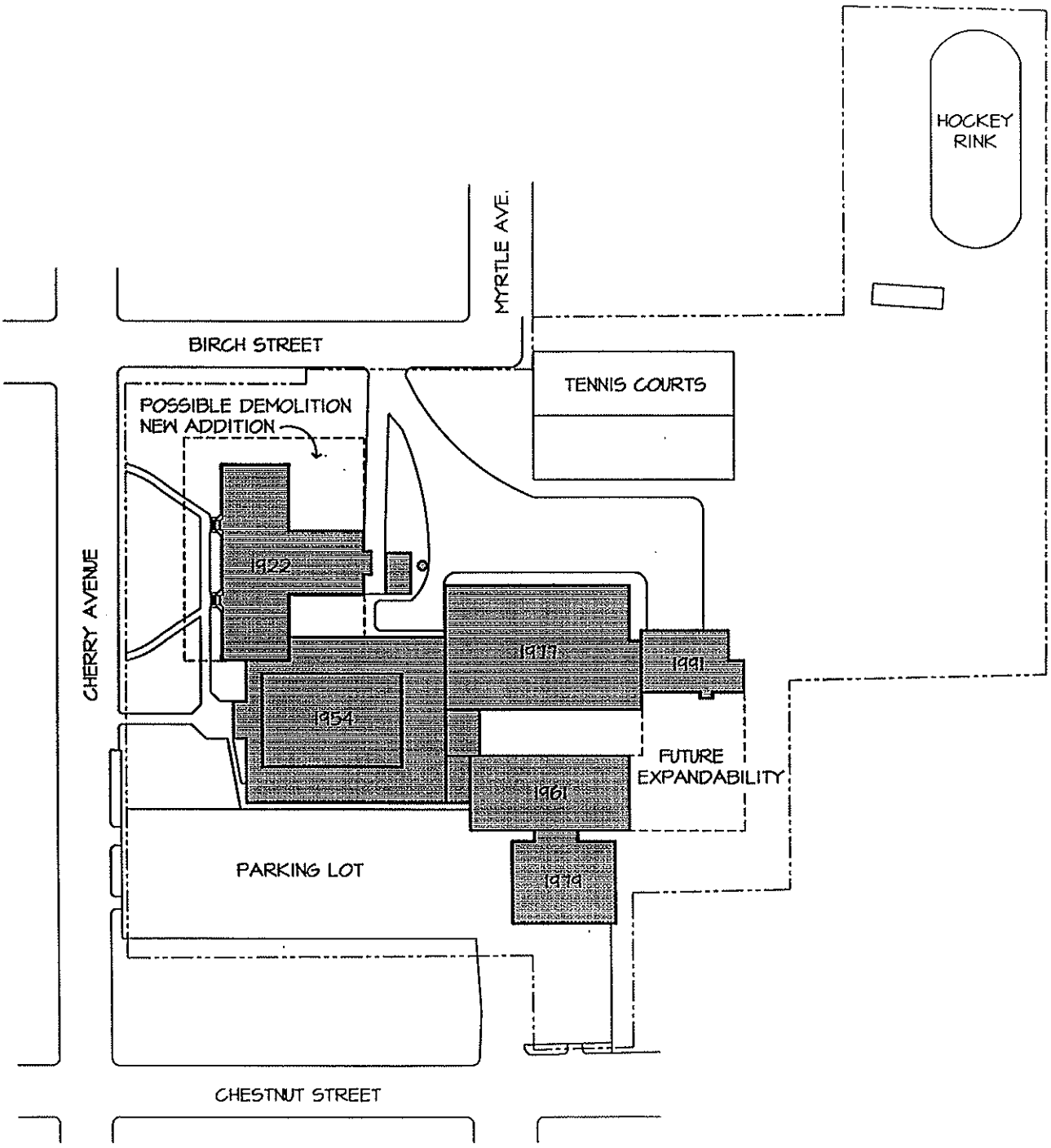
WOLD ARCHITECTS AND ENGINEERS

Annandale Middle School
Independent School District #876



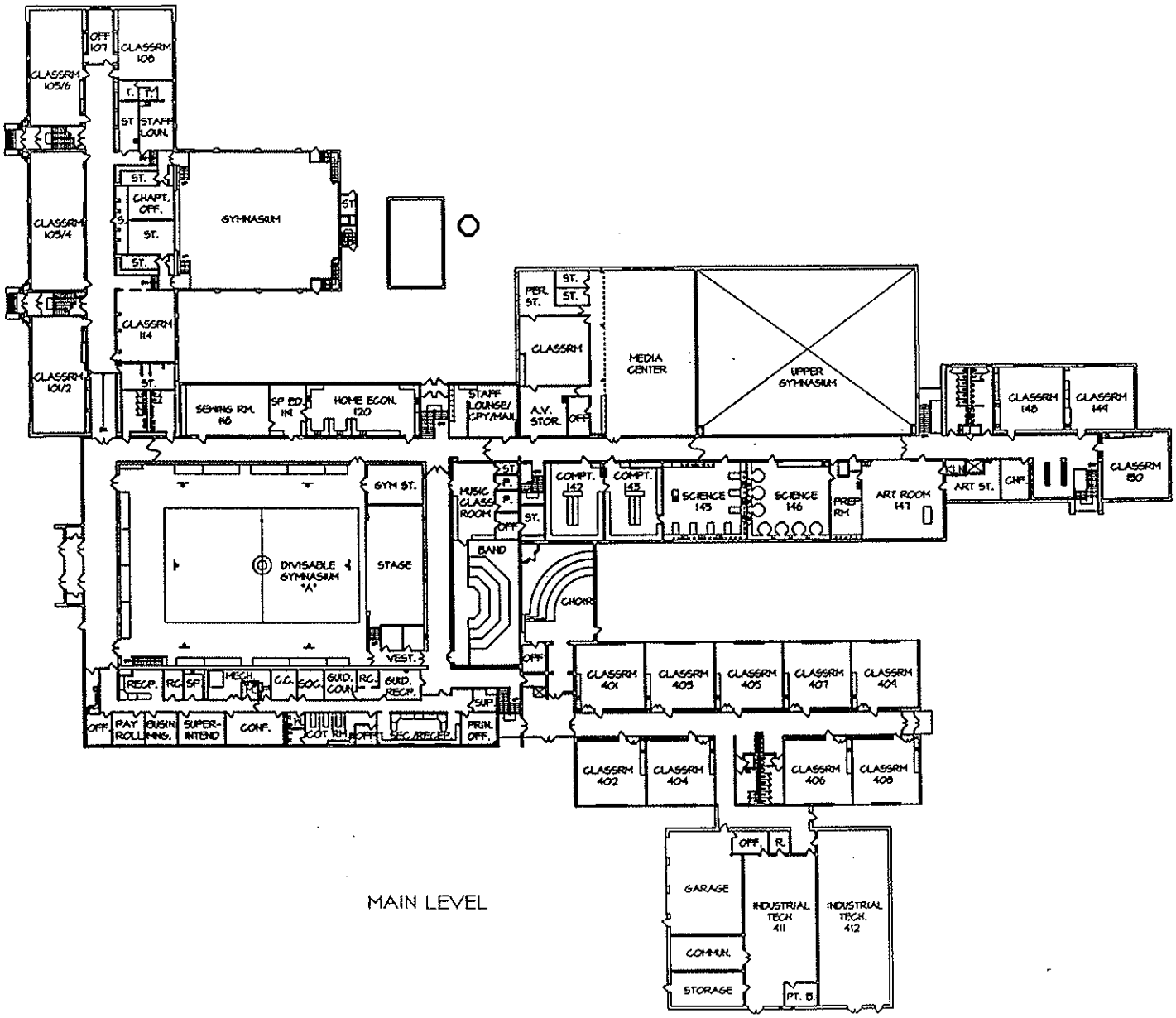
Address:	Box 190 Annandale, Minnesota	**Year(s) Built:**	1922, 1954, 1961, 1977, 1979, 1991
		Gross Area:	150,827 S.F. (includes 12,224 SF of abandoned 3rd floor)
Principal	Roger Ziemann	**Site Area:**	11.5 Acres
		Parking:	131 Stalls
Phone:	(320) 274-8226		

Annandale Middle School
Independent School District #876



SITE PLAN

Annandale Middle School
Independent School District #876



MAIN LEVEL

0 30' 60' 120

FLOOR PLAN

Annandale Middle School
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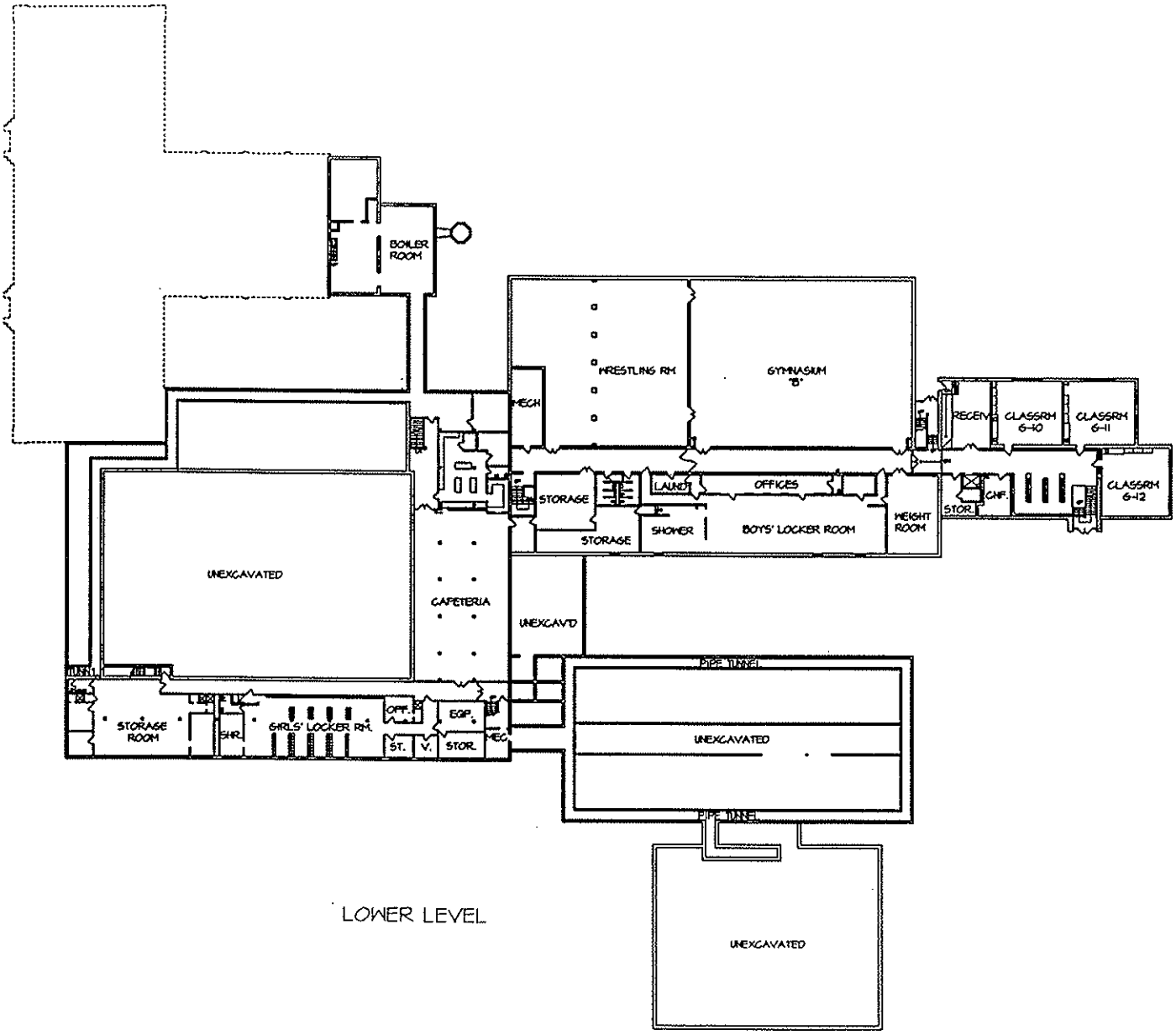

LOWER LEVEL

0 30 60' 120'

FLOOR PLAN

Annandale Middle School
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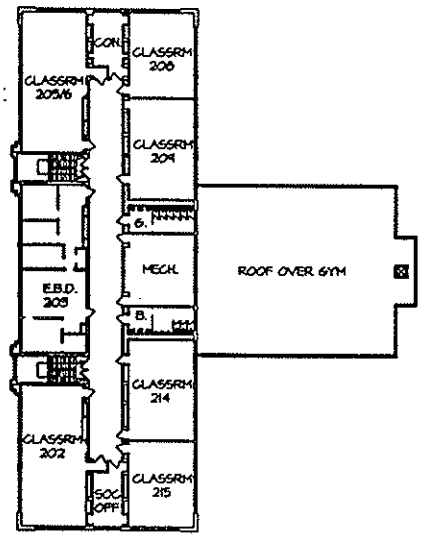
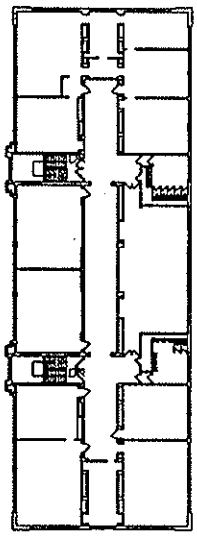
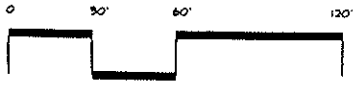


SECOND LEVEL



ABANDONED
THIRD LEVEL



FLOOR PLAN

Annandale Middle School
Facility Analysis Categories
Independent School District #876

The following report investigates current physical and programmatic conditions and deficiencies evident in the East Elementary School, West Elementary School, the Middle School and the High School owned by the School District of New Richmond. The information documented in this report was gathered primarily through field observation and supplemented by evaluation of existing information and discussion with District personnel.

The facility analysis report explores conditions and deficiencies in ten important areas, which are outlined as

- **SITE**

  This section describes the site and its surroundings.

- **EXTERIOR**

  This section describes the exterior envelope including roofing information supplied by the District.

- **INTERIOR**

  This section describes the physical condition of the interior spaces and finishes within the facility.

- **ACCESSIBILITY**

  This section addresses the conformance of the facility to the intentions of accessibility requirements with focus on the following issues: accessible parking, an accessible route to the main entrance, ability to attain all levels of the facility, and access to each teaching space.

- **LIFE SAFETY**

  This section explains life safety and code deficiencies as noted and as discovered during field observation.

- **HAZARDOUS MATERIALS**

  This section covers the information provided by the District concerning asbestos materials present and lead in the water.

- **MECHANICAL SYSTEMS**

  This section documents the existing mechanical systems and components, and their known deficiencies.

- **ELECTRICAL SYSTEMS**

  This section documents the existing electrical systems and components, and their known deficiencies.

- **PROGRAM**

  This section consists of facility programmatic and deficiency issues as addressed by the various facilities' Site administration and staff.

- **TECHNOLOGY**

  This section documents the existing technology systems and components, and their known deficiencies.It covers only non direct instructional technology infrastucture for the various buildings.

- **EXPANDIBILITY**

  This section addresses the factors involved in any increase in building size or modification of the facilities.

Annandale Middle School
Independent School District #876

Analysis

- The Middle School complex consists of the original 1922 building with five major additions. The site consists of approximately 11 acres, with the Middle School complex on the west side of the site. The site is bordered on the west by Cherry Avenue with Birch Street and Myrtle Avenue to the north.

- The amount of off-street parking seems adequate for the current usage.

- Play areas appear minimal, hard surface is minimal, there is one ball field.

- The south parking lot needs regrading and resurfacing because of ongoing standing water issues.

Issues

1 Regrade, resurface and reline south parking lot. Work to include reworking drain pipes and sidewalks.
Priority: **Cost:** **$90,000**

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Analysis

- The original 1922 structure is brick/clay tile bearing walls with a wood joist floor system. The roof system is a slightly sloping steel truss system with wood decking. The building was tuckpointed approximately 25 years ago. The roof is a built-up system, last redone in 1957, flashing was redone in 1963. The roof at the gymnasium leaks periodically and needs to be re-roofed.

- The 1954 gymnasium/offices/classroom addition is steel frame with brick and light weight block infill. The roof system is steel bar joist. The gymnasium roof is rubber membrane and was completed in 1987. The other areas are rubber membrane and were completed recently. During the 1995 renovation the district/middle offices the windows were redone with stucco infill and new insulated aluminum units.

- The 1961 classroom addition is concrete block bearing walls with steel joist roof system. The exterior wall is brick and concrete block with a 1" air space. The roof is a rubber membrane that was completed in 1990.

- The 1977 Media Center addition is concrete block bearing wall with steel joist roof system. The exterior wall is brick and concrete block with 1" rigid insulation between. The roof is the original built-up and has approximately two (2) years life left. When this roof is redone, new insulation should be added.

- The 1980 garage/shop addition is concrete block bearing wall with steel joist roof system. The exterior wall is brick and concrete block with 1" rigid insulation between. The roof is rubber membrane and was completed in 1996.

- The 1991 classroom addition is concrete bearing wall with precast floor deck and steel joist roof system. The exterior is brick and concrete block with a two inch air space filled with 1½" rigid insulation. The roof is the original rubber membrane and has had some flashing/leaking problems.

- Existing face brick and stone work are in good condition. Corner stone between the 2nd and 3rd floor on the 1922 building needs repair. Tuckpointing of the upper west wall 1977 addition is needed.

- The 1922 building has single panel aluminum windows dating from 1957. In the 1954 addition has single pane aluminum windows dating from 1954 on the north elevation. The south elevation windows are insulated aluminum window installed during the 1995 renovation.

Annandale Middle School
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Analysis

- The 1961 addition has original single pane aluminum sliders in pretty good condition. The 1977 and 1991 additions have original insulated aluminum windows in good condition. The 1980 addition has no windows.

- The vestibule (both in the 1954 addition) are single pane aluminum. The inner wood doors on the west entrance need replacing. The south entrance doors need replacing.

- Ground water seepage at northeast corner of 1991 addition.

Issues

1 Tuckpoint upper west wall of 1954 addition.
Priority: **Cost:** **$2,500**

2 Provide new EPDM roof on gymnasium of 1922 building.
Priority: **Cost:** **$47,000**

3 Provide new EPDM roof on the entire 1977 addition.
Priority: **Cost:** **$212,000**

4 Provide thermally insulated window system with some stucco infill at rooms #118-120 in the 1954 addition.
Priority: **Cost:** **$27,000**

5 Provide thermally insulated window system with some stucco infill at 16 window in classrooms at east wing (1961 addition).
Priority: **Cost:** **$43,000**

6 Provide new aluminum entrance system with hardware at south entrance 1954 addition.
Priority: **Cost:** **$8,800**

7 Provide new aluminum outer door frame at east entry at 1961 addition.
Priority: **Cost:** **$4,000**

8 Repair corner stone between 2nd and 3rd floor at 1922 building.
Priority: **Cost:** **$1,000**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
Independent School District #876

Issues

9 Replace entrance doors and hardware adjacent to Gym (1977 addition).
Priority: **Cost:** **$4,000**

10 Excavate 1991 corner and provide new waterproofing, backfill with gravel and install drain tile.
Priority: **Cost:** **$7,500**

Annandale Middle School
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Analysis

- Door at Room 101 in the 1922 building needs to be replaced with a solid core door.
- In the 1922 building, the ceilings are plaster with 12 x 12 acoustic tile adhered to the plaster. Most are in good condition.
- The top floor (3rd floor) in the 1922 building is closed off and not used. (As per Fire Marshall order related to open stairwells.)
- The 1922 building is fully sprinklered.
- In the 1922 building, the lower level and first floor (main level) walls were painted in 1996.
- At Rooms #118-120 in the 1954 building, the new windows (see exterior) need window treatment.
- At Rooms #118-120 in the 1954 addition, remove wallpaper and repaint rooms entirely.
- At the Gymnasium in the 1954 addition west doors (4) are in poor condition (cosmetic) and hardware is in poor working order.
- West inner vestibule doors in the 1954 addition are wood and in poor condition. Hardware also needs replacing.
- In the 1954 addition, the Band Room needs additional acoustic panels.
- The 1954 addition has plaster ceilings with 12 x 12 acoustic tile adhered to the plaster in the Life Skills Rooms #118-120. The District Offices have 24 x 48 lay-in acoustic tile ceilings.
- Cooridor doors at west end in the 1961 addition need replacing and new hardware.
- In the 1961 addition, the recessed floor mat at the east entrance needs to be replaced or infilled.
- Carpet in Room 408 in the 1961 addition needs replacing.

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Analysis

5 In the 1977 addition, ceilings are 24 x 48 lay-in acoustic tile.

6 Science Rooms #145-146 in the 1977 addition need repainting.

7 In the 1977 addition, Gymnasium 'B' needs acoustic panels.

8 Ceilings are 24 x 48 lay-in acoustic tile in the 1977 addition.

9 No interior work is required in the 1980 addition.

10 6th grade classrooms and conference rooms in the 1991 addition need repainting.

11 In the 1991 addition, corner classroom. Replace water damaged carpet.

Issues

1 In the 1922 building, replace the door at Room 101, existing hardware is to be reused.
Priority: **Cost:** **$1,000**

2 Remove wallpaper and paint Rooms 118-120 in the 1922 building.
Priority: **Cost:** **$2,700**

3 In the 1954 addition, replace west doors (4) and hardware at Gymnasium.
Priority: **Cost:** **$4,000**

4 In the 1954 addition, replace existing west inner vestibule doors with hollow metal door. Replace hardware also.
Priority: **Cost:** **$4,000**

5 Provide acoustic panels at the band room in the 1954 addition.
Priority: **Cost:** **$2,300**

6 In the 1961 addition, replace corridor doors (pair) at west end including hardware.
Priority: **Cost:** **$2,000**

7 Infill recessed floor mat with quarry tile in the 1961 addition.
Priority: **Cost:** **$800**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
Independent School District #876

Issues

8 Recarpet Room 408 in the 1961 addition.
Priority: **Cost:** **$3,400**

9 Paint Science Rooms 145-146 in the 1977 addition.
Priority: **Cost:** **$3,100**

10 In the 1977 addition, provide acoustic panels at Gymnasium.
Priority: **Cost:** **$5,000**

11 In the 1991 addition, repaint 6 classrooms and 2 conference rooms.
Priority: **Cost:** **$10,000**

12 Replace carpet in lower level corner classroom in the 1991 addition.
Priority: **Cost:** **$3,400**

Annandale Middle School
Independent School District #876

Analysis

- The Middle School complex has adequate handicap accessible parking, consisting of two (2) on street parking stalls, two (2) stalls in the back parking lot and four (4) stalls in the south parking lot.
- All handicap accessible parking has signage.
- Of the two complex main building entrances one (1954) entrance has power assisted doors.
- The accessible route to the playground does not meet present accessibility standards. Ramp slope is too steep and is accessed through the loading dock.
- Most doors throughout the complex have appropriate level handles with the exception of mechanical spaces and toilet rooms 1954 addition.
- Only the 1991 addition has accessible toilets, 1991 standards. (On each floor). The locker room showers can be made accessible but the district owned accessories have not been installed yet.
- The 2nd floor of the 1922 building is not accessible. 3rd floor is not accessible and not used.
- There is an elevator at the 1991 addition and it meets 1991 accessible codes. A lift at the 1961 entrance requires operation upgrades to meet code.
- Life Studies classrooms and Science classrooms do not have accessible stations.
- The Cafeteria serving line and seating are not designed for the handicapped.

Issues

1 The accessible route to the playground needs to be re-designed.
Priority: 1 **Cost: $11,000**

2 Toilet rooms at the 1961 should be made accessible. (All accessible levels would then have accessible toilets).
Priority: 1 **Cost: $26,000**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
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Issues

3 Provide a accessible elevator at the 1922 building.
Priority: 1 **Cost:** **$100,000**

4 Provide accessible stations (one at life studies, two science rooms).
Priority: 2 **Cost:** **$5,600**

5 Provide accessible seating at Cafeteria.
Priority: 2 **Cost:** **$2,000**

6 Provide accessible drinking fountains (6 locations).
Priority: 1 **Cost:** **$9,000**

7 Provide accessible lever hardware at toilet rooms (1954 addition). Two locations.
Priority: 3 **Cost:** **$1,000**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
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Analysis

- The last State Fire Marshall review was done on February 22, 1993. At that time a number of issues were found not to be acceptable to the Fire Marshall, since that time many issues have been addressed. The following remain:

  Inherent to the design of the 1922 building, are dead-end corridors in excess of 20' on each floor.

  Additional sprinkler heads need to be added at lower stair landing 1991 addition, Gymnasium corridor and upper stair landing 1991 addition.

- The original 1922 building is fully sprinklered. This building is comprised of masonry construction with wood floor and roof joists.

- The lower level of the 1954 and 1977 additions are fully sprinklered.

- Wood construction is noted in the following areas: 1922 building, second level west offices, floor construction.

- The building fire alarm panel is a noncoded zoned system manufactured by Simplex Time Recorder Systems. The main panel is a 4002 series system monitored locally by ADC Monitoring. The panel currently has 12 zones. Humidity creates a trouble signal during days with high humidity.

- Corridor smoke dectectors are needed in the 1922 building.

- Horn strobe units are needed in the Art Room and the Media Center.

- A second lit exit light is needed in the Media Center.

Issues

1 Eliminate dead-end corridors within the 1922 building. (Three locations).
Priority: **Cost:** **$14,000**

2 Provide additional sprinkler heads (4 total) at the 1991 addition as required by the Fire Marshal.
Priority: **Cost:** **$1,200**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
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Issues

3 Complete installation of the fire protection system in areas of the building not currently sprinklered.
Priority: **Cost:** **$164,000**

4 Replace fire alarm wiring causing the system trouble signal. Assume 300 of 18 AWG, 4 pair FEP teflon cable will be used.
Priority: **Cost:** **$1,125**

5 Provide smoke detectors in corridors on each level of the two 1922 building upper floors and connect them to the fire alarm system.
Priority: **Cost:** **$3,000**

6 Provide a horn strobe unit in the Art Room and Media Center.
Priority: **Cost:** **$500**

7 Provide an LED, exit light with battery backup above the north door exiting the Media Center.
Priority: **Cost:** **$250**

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Analysis

- Asbestos containing materials (ACM) have been determined to exist in the boiler rooms and mechanical tunnels. See Management Plan by Central Minnesota Educational Cooperative Service Unit dated July 8, 1989.

- There has been minimal radon issues in this complex.

- Lead testing has indicated low levels in the complex.

- The school has a program to dispose of PCB ballasts and recycle lamps when they are replaced. Approximately 90% of the PCB ballasts have already been addressed. Only the 1922 building remains. See 1922 building light fixture replacement in the electrical section for replacement cost.

- There are four rooms with VAT flooring. (West vestibule nooks, and two storage rooms adjacent to storage). Total square footage 300 SF.

Annandale Middle School
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Analysis

Heating and Ventilation

- Heating is provided by two (2) low pressure steam boilers. They are the original units installed with the 1954 addition. Both boilers apear to be in good working condition. Minor repairs have been made to the boiler jacket. Neither boiler has been retubed.

- Both boilers fire during morning warm-up on very cold days, however, one boiler seems to handle the building during occupied hours. The time clocks to start occupied modes in various areas of the building are staggered to ease morning warm-up.

- A new positive pressure stack for the boilers was installed in 1993 to replace the original masonry stack. When both boilers fire under high loads, combustion fumes can be detected in the boiler room.

- Both boiler burners were replaced in 1996. The burners are set-up to fire either gas or oil.

- There are two 10,000 gallon single wall steel underground fuel oil storage tanks. One tank was installed in 1968 and the other in 1975. Only one tank is currently used. Neither tank has a monitoring system.

- There is an interruptible gas meter providing one pound gas to the boilers. The firm gas is two pounds and is distributed for gas needs throughout the building.

- Each boiler is interlocked with a combustion air damper to open when the boiler fires and close when the boiler is off.

- The boiler make-up water is installed with a check valve in lieu of the code required reduced pressure zone backflow preventer.

- There is a steam to hot water converter installed to provide hot water heat to the 1991 addition. The hot water supply loop has two hot water pumps, though it has been determined that it is only necessary to operate one pump.

- The incinerator was removed in 1996.

- There are a total of five condensate receiver pumps distributed throughout the building to pump condensate back to the boiler room.

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Analysis

12 The 1922 building has a single large air handling unit with steam coils serving the building. All air is returned through the corridor. The air handler heating is controlled by discharge air temperature perimeter radiation provides room heating control.

13 The Toilet Rooms in the 1922 building are not exhaust.

14 The 1954 addition has unit ventilators for perimeter classrooms with radiation. The Band Room has a gas fired rooftop unit added in 1991 for air conditioning. The rooftop unit is not used for heating. The Gym is served by two air handling units with steam coils for heating. Paddle fans were added in 1995 to prevent air stratification. The Administration Offices were remodeled in 1995 and is served by a central variable air volume system with a DX condensing unit on the roof.

15 The 1961 addition is served by unit ventilators with steam coils and steam radiation.

16 The 1977 addition is served by three central air handling units with steam coils for the classroom areas and two central air handling units with steam coils for the Gymnasium. The Gymnasium had two ceiling fans installed in 1995 to prevent air stratification. Eacch of the two computer labs we served by packaged rooftop units with steam heating coils.

17 A storage room in the 1977 building has been converted to a weight room and is not ventilated.

18 The 1980 addition is served by a single central air handling unit with steam heat. Industrial Technology Shop and Auto Mechanics have exhaust systems. A dust collection system serves the wood shop and has a cotton sateen filter bags to recirculate air to the shop.

19 The 1991 addition is served by ceiling mounted unit ventilators with hot water coils. There is no perimeter radiation. Each of the unit ventilators were retrofitted with a duct and diffusers in the lay-in ceiling to improve air distribution.

20 The following areas have exhaust unless otherwise noted: Toilet Rooms, Janitor Closets.

21 The Boiler Room and Mechanical Equipment Rooms are not ventilated.

22 Approximately 50 to 60% of all steam traps for radiation and unit ventilators have been replaced with new TLV traps in the last three years.

23 The exhaust systems in the Science Rooms in the 1977 addition were removed in 1991. They appear, however, to be no complaints about ventilation.

Annandale Middle School
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Analysis

Temperature Control

- The building control systems are pneumatic.
- A new building control air compressor was installed in 1995. The original compressor is set up as a back-up to cycle on if control air pressure drops.
- All buildings occupied/unoccupied timeclock functions have been centralized in the boiler room. The building is zoned typically by the year of construction with additional zones for the 'B' Gym, 'C' Gym, Wrestling Room and Choir Room.
- Air handling systems have economizer cycles.

Air Conditioning

- Packaged rooftop units have been installed in the Band and each of the two computer labs for air conditioning.
- The Administration Offices are air conditioned by a central air handling variable air volume system with a DX condensing unit on the roof. There are some minimal zone control issues.

Plumbing

- The original 1922 building has a 2" water service and the 1954 building has a 3" water service.
- The 1922 building has internal roof drains to a central storm system. The 1977 and 1991 additions have internal downspouts at the perimeter to grade. The 1961 and 1954 have internal roof drains to drywell. The 1980 addition has internal downspouts to an outfall at grade.
- The 1922 building has two 6" sewer services. The 1954 addition has a 6" sewer service. The 1961, 1977 and 1980 additions connect to the 8" city main routed beneath the 1961 and 1977 additions. The 1961 addition has a lift station that pumps to the sewer main. One of the lift station pumps was replaced with a submersible in 1996. The 1991 addition has a 4" sewer service.
- The kitchen has a grease trap.
- The Life Studies classrooms have both gas and electric ranges.

Fire Protection

Annandale Middle School
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Analysis

- Fire protection was added to the buildings in 1991 and 1995. A 6" fire service is located in the 1991 addition.
- The entire 1922 building is sprinklered. A dry pipe system saves the attic areas.
- The lower levels of the 1954 and 1977 additions are sprinklered.
- All other areas are non-sprinklered.

Issues

Heating and Ventilation

1 Retube the each of two boilers.
Priority: **Cost:** **$12,500**

2 Remove each of two underground fuel oil storage tanks and install one new double wall fiberglass tank and electronic monitoring system.
Priority: **Cost:** **$44,000**

3 Provide powered exhaust fans for the toilet rooms in the 1922 building.
Priority: **Cost:** **$10,000**

4 Replace the remaining 50% to 60% at the steam traps on the radiation and air handling units.
Priority: **Cost:** **$20,000**

5 Provide ventilation and exhaust for the weight room in the lower level of the 1977 addition.
Priority: **Cost:** **$10,000**

6 Install an approved reduced pressure zone backflow prevention device on the water make-up to the boiler.
Priority: **Cost:** **$5,000**

7 Upsize the horizontal boiler breeching.
Priority: **Cost:** **$15,000**

Annandale Middle School
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Analysis

Service and Distribution

- The building main electrical service is a 120/208 volt, 3 phase, 4 wire system fed from a pad mount transformer located on the north side of the building. The building electrical power is generated by Northern States Power.

- The main service disconnect is a 1200 ampere fused switch fused at 1200 amperes.

- The building has both a usage meter and a demand meter. Usage readings taken from July 1995 to June 1996 range from a low of 2160 KWH in July to a high of 4840 KWH in November. Demand readings for the same time period range from a low in July of 107 KVA to a high of 221 KVA in May.

- The power factor ranges from 87.4 in July to 93.9 in October. The power factor consistently drops below 90 during the summer months. Switchable power factor correction is recommended.

- The peak demand of 211 Kilovolt Amperes in May of 1996 converts to approximately 613 amperes and a power density of 1.38 watts per square foot.

- The building electrical system is fed from two distribution boards located in the same room as the main switch. The older switch board was manufactured by Square D and is rated at 800 amperes. The newer distribution board was manufactured by Westinghouse and is rated at 1200 amperes. Both distribution boards are in good condition, but have no room for expansion.

- Building panelboards range from new circuit breaker style boards to fairly old screw in fuse style board with open buses. The circuit breaker style boards appear to be in good condition. The fuse style boards should be replaced over the course of time.

- The branch circuit wiring for the building is in metallic conduit and is assumed in good condition.

- The rooms in the 1922 building do not have ample receptacles to service the increasing need for electricity. A minimum of two receptacles should be added to classrooms in this part of the building.

- There is no surge protection in the building. Some type of protection should be installed at the building service entrance and at the panelboards serving computer loads.

Annandale Middle School
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Analysis

- There are a minimal number of standard receptacles next to sinks that should be replaced with ground fault interrupter receptacles.

Lighting

- Fluorescent lighting in the 1954, 1961, 1977, 1980 and 1991 buildings use electronic ballasts and T8 lamps.

- Fluorescent lighting in the 1922 building uses core and coil ballasts and T12 lamps. These light fixtures should be replaced with electronic ballast and T8 lamp light fixtures.

- The Gymnasium in the 1922 building is lit with incandescent light fixtures. These should be replaced with energy efficient lighting.

- Most exterior lighting is controlled by photo cell only. Time clocks have been disconnected due to maintenance problems. New astronomical clocks should be provided in coordination with the photo cells.

- Emergency egress lighting on the outside of the 1991 building was mounted too low and have been broken off. These fixtures should be replaced and raised to a greater height.

- Select classrooms in the 1961 building are over lit and do not have inboard outboard switching. Greater lighting control or light level reduction is needed.

- Exit lights are mainly fluorescent style. A select few in the 1922 building are still incandescent.

- The exterior of the building is lit with HID wall packs. The front and back parking lots do not have lot lighting.

Systems/ Technology

- The building intercom system has been converted to a building wide page system only. Localized building paging is done through the telephone system. The building paging system is a Rauland Borg MCI-210 with 75 switches. Six switches are used for building wide paging. The remaining switches are now vacant.

Issues

Service and Distribution

Annandale Middle School
Independent School District #876

Issues

1 Provide 25KVAR of switchable power factor correction to bring the power factor above 90% during the summer months.
Priority: **Cost:** **$15,600**

2 Replace the five screws in style panelboards in the 1922 addition with circuit breaker panelboards rated 100 amperes with 30 circuits.
Priority: **Cost:** **$3,400**

3 Provide two additional receptacles in each 1922 building classroom.
Priority: **Cost:** **$4,400**

4 Provide selemium based surge protection at the service entrance. Include wiring and a disconnect switch to tie into the main distribution board bus.
Priority: **Cost:** **$6,400**

5 Replace a total of six standard receptacles with GFI style receptacles.
Priority: **Cost:** **$375**

6 Provide connection to exhaust fans denoted in the mechanical issues.
Priority: **Cost:** **$800**

7 Provide conduit, wire and electrical connection for tank monitoring system denoted in the mechanical issues.
Priority: **Cost:** **$400**

Lighting

1 Replace light fixtures with T12 lamps and core and coil ballasts in the 1922 building with light fixtures containing T8 lamps and electronic ballasts.
Priority: **Cost:** **$60,000**

2 Replace the incandescent 1922 gymnasium lighting with multilevel switched, 2 x 2, Biax fluorescent Sport Light fixtures.
Priority: **Cost:** **$12,500**

3 Replace the two existing mechanical time clocks with two astronomical electric time clock to control existing relays and lighting circuits.
Priority: **Cost:** **$4,000**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

Annandale Middle School
Independent School District #876

Issues

4 Provide replacement exterior egress light fixtures and extend the branch circuiting to a higher elevation feed point.
Priority: **Cost:** **$1,600**

5 Provide inboard/outboard switching in 8 classrooms located in the 1961 building to control light levels.
Priority: **Cost:** **$6,800**

6 Replace all existing exit lights with LED style exit lights containing battery back up.
Priority: **Cost:** **$12,500**

7 Provide two pole mounted parking lot fixtures in the south parking lot and two pole mounted fixtures along the roadway north of the buiding. Connect these fixtures to the building time clock lighting control system.
Priority: **Cost:** **$30,000**

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

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Analysis

Curriculum/ Support Areas	Existing Area	Comments
Classrooms - General 1 classroom at 730 S.F. 2 classrooms at 740 S.F. 1 classroom at 764 S.F. 4 classrooms at 820 S.F. 11 classrooms at 828 S.F. 2 classrooms at 878 S.F. 2 classrooms at 1,180 S.F. 2 classrooms at 1,225 S.F. 1 classroom at 1,408 S.F.	**23,336 S.F.**	Standard Classroom for 25 students is 800 SF. Storage space, small group or conference room is 50-150 SF/classroom.
Music 1 storage at 42 S.F. 1 storage at 47 S.F. 1 practice at 60 S.F. 1 practice at 90 S.F. 1 office at 116 S.F. 1 office at 120 S.F. 1 storage at 128 S.F. 1 vestibule at 214 S.F. 1 classroom at 610 S.F. 1 choir at 1,276 S.F. 1 band at 1,553 S.F.	**4,256 S.F.**	Practice Rooms 48 SF each, 80 SF with piano, 120 SF for ensemble. Standard Band/Orchestra is 1,500 SF for 60-100 instrumentalists. Standard Vocal Room is 1,000 SF.
Science Lab 1 prep room at 405 S.F. 2 sciences at 1,224 S.F.	**2,853 S.F.**	Standard Science Classroom/Lab for 25 students is 1,000-1,250 SF. Storage, office and project space for every (2) labs is 600-650 SF.
Industrial Tech 1 research at 87 S.F. 1 paint booth at 140 S.F. 1 office at 157 S.F. 1 communications lab at 470 S.F. 1 storage at 470 S.F. 1 tech classroom at 1,922 S.F. 1 tech classroom at 2,423 S.F.	**5,669 S.F.**	Standard Industrial Tech shop for 25 students is 1,200-2,150 SF.

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Curriculum/ Support Areas	Existing Area	Comments
Art	**1,576 S.F.**	
1 kiln at 52 S.F. 1 storage at 300 S.F. 1 art classroom at 1,224 S.F.		Art Lab for up to 25 students is 1,500 SF. 500 SF for storage.
Personal Family Life Science	**1,920 S.F.**	
1 sewing at 840 S.F. 1 home economics at 1,080 S.F.		Standard Multi-Purpose Lab/Classroom or Food/Nutrition Lab for 24 studens is 1,000-1,325 SF.
Physical Education	**32,559 S.F.**	
2 coaches showers at 30 S.F. 1 vending area at 95 S.F. 1 storage at 116 S.F. 1 laundry at 128 S.F. 1 office at 130 S.F. 1 equipment at 256 S.F. 1 storage at 270 S.F. 1 storage at 416 S.F. 1 office area at 560 S.F. 1 weight room at 740 S.F. 1 girls' locker room at 1,810 S.F. 1 boys' locker room at 2,743 S.F. 1 old gymnasium at 4,150 S.F. 1 wrestling at 4,930 S.F. 1 gymnasium "B" at 6,890 S.F. 1 gymnasium "A" at 9,265 S.F.		Standard Auxiliary gym to be 2,400 SF. Storage area is 250-300 SF per teaching station. Standard Locker/Dressing Room = 24 SF/student.
Media Center	**5,316 S.F.**	
2 storages at 105 S.F. 1 office at 160 S.F. 1 periodical storage at 340 S.F. 1 a.v. storage at 455 S.F. 1 classroom at 863 S.F. 1 media center at 3,288 S.F.		Standard Media Center seats 15 percent of students up to 100. Minimum seating is 35 SF/student. Standard Media Center is 7,000 to 8,000 SF.
Computer Lab	**1,645 S.F.**	
1 computer lab at 805 S.F. 1 computer lab at 840 S.F.		Standard computer lab for 25-30 students is 800-1,100 SF.

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Curriculum/ Support Areas	Existing Area	Comments
Special Services 1 social worker office at 245 S.F. 1 classroom at 345 S.F. 1 EBD area at 1,335 S.F.	**1,925 S.F.**	
Cafeteria 1 cafeteria at 2,910 S.F.	**2,910 S.F.**	Standard floor area is 15 SF per student.
Food Service 1 food prep area at 942 S.F.	**942 S.F.**	
Administration 1 guidance area at 516 S.F. 1 administration area at 1,537 S.F.	**2,053 S.F.**	
Staff 2 conference rooms at 210 S.F. 1 office at 265 S.F. 1 staff lounge at 315 S.F. 1 staff lounge at 670 S.F.	**1,670 S.F.**	
Abandoned 1922 Building (3rd Floor) 2 conference/storages at 278 S.F. 1 boys' restroom at 307 S.F. 1 girls' restroom at 307 S.F. 1 classroom space at 7,537 S.F.	**8,707 S.F.**	
Nurse 1 toilet at 50 S.F. 1 office at 77 S.F. 1 cot room at 340 S.F.	**467 S.F.**	

Site	Exterior	Interior	Accessibility	Life Safety	Hazardous Materials	Mechanical Systems	Electrical Systems	Program	Technology	Expandibility

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Analysis

Curriculum/ Support Areas	Existing Area	Comments
Receiving/Storage	**5,074 S.F.**	
1 storage at 54 S.F.		
3 storages at 95 S.F.		
1 storage at 140 S.F.		
1 storage at 186 S.F.		
1 storage at 195 S.F.		
1 storage at 250 S.F.		
1 storage at 288 S.F.		
1 storage at 604 S.F.		
1 storage at 610 S.F.		
1 receiving area at 612 S.F.		
1 storage at 1,850 S.F.		
Miscellaneous	**3,044 S.F.**	
1 chapter storage at 95 S.F.		
1 chapter office at 288 S.F.		
1 stage at 1,287 S.F.		
1 garage at 1,374 S.F.		
Net Total:	**105,922 S.F.**	
Gross Total:	**150,827 S.F.**	
Net To Gross Factor:	**1.42**	

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Analysis

Analysis

- The Gymnasium sound system is adequate for the space but does not have a page system tie. A larger speaker in the space is needed to allow all call pages to be heard.

- The building telephone system is an ITT 3100 system was installed in 1991 with 16 incoming lines and 80 station capability. The station capability has been fully used on the system. Each classroom, office and miscellaneous usable room has a telephone. There is no tie to the public address system for night bell ring.

- The main building entrance has a Corby card access system. This system is in good working condition and should be expanded to include the West entrance of the building for access to the office area.

- The building security system consists of 11 black and white cameras located in select corridor spaces in the building. Five additional cameras are needed for adequate coverage of the building. A video cassette recorder is needed for surveillance playback. Automatic activation of recording is needed to make the system effective.

- Every classroom has a data system connection with cabling routed back to a hub location. Each of the hubs are tied together with fiber optic backbone cable. The fiber optic link is extended to both Bendix Elementary and Annandale High School.

- The two computer labs each contain 25 plus Macintosh stations and multiple printers. The computers are tied together with an Appletalk Network. Wiring and connections are planned to upgrade to an Ethernet Network.

- The Media Center has an electronic library of ten stations total. The computers are all networked to a CD ROM based file server for information access.

- Select parts of the building have video connections. The cable plan is planned to be expanded into each classroom as a dual cable system. Minimal video equipment exists at present. No video head and equipment exists to process a dual cable interactive system. The building does have a local cable company drop and a signal amplifier at the point of entrance.

- Parts of the Industrial Technology are has been converted to a make shift video production area. Limited eqiupment includes a video cassette recorder, amplifier and mixer.

Issues

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Issues

1 Provide a public address system loud speaker in the gymnasium and tie into the existing building paging system.
Priority: **Cost:** $320

2 Directly replace the existing building telephone by service unit with a unit having greater capacity.
Priority: **Cost:** $0

3 Expand the card access system to include a second entry point at the west end of the school.
Priority: **Cost:** $1,500

4 Provide five (5) additional cameras and connect them to the existing camera survelance system. Provide automatic activation of the recording system.
Priority: **Cost:** $7,100

5 Recable the two 32 station computer labs to replace the Appletalk network with an Ethernet network. Include hubs and cabinets.
Priority: **Cost:** $22,500

6 Provide a dual cable video system throughout the school with local cable company connection and minimal signal processing equipment.
Priority: **Cost:** $45,000

7 Provide a video system head end capable of processing interactive video production and multiple tape recording capability. Include also a single camera and portable cart for interactive use.
Priority: **Cost:** $29,000

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Analysis

- The current site offers limited expansion. The poor soils encountered at the 1991 addition are a cause for concern when reviewing site development costs. The present complex does sprawl in a number of directions causing additional additions to be undesirable from a practical matter. One possibility would be to demolish the 1922 building and to build on its present location. Or with soils correction, a linking of the 1991 and 1961 additions with new construction is possible.

- Currently bus drop off is on Cherry Avenue, which is less than desirable for the 30 busses each day. There is not room to expand without relocating the current parking.

- Core Functions: The existing cafeteria supports students at each shift. This requires more shifts than the recommended three shifts, currently there are five shifts.

- The Media Center does not meet the recommended 7,900-8,400 SF as recommended by the Minnesota Department of Education. Currently the Media Center is 5,300 SF.

- Most classrooms meet the 800 SF recommendation by the Minnesota Department of Education; but Science and Computer labs fall short of recommendations.

- The building main electrical services equipment does not have room for expansion. Any further additions to the building larger than 10,000 ft will create a need to overhaul the main electrical equipment.

- The building fire alarm system has capacity to expand and cover multiple additions to the building.

- The boilers have excess capacity to handle approximately a 100,000 square foot addition.

- The existing heating system is steam. Any sizable addition will most likely need to be served by a steam to hot water convertor located in the existing boiler room.

- A City sewer mark runs beneath the 1977 and 1961 additions at approximately 6'-0" below finished floor. The sanitary sewer in the existing building are very limiting as to how far they can be extended to our addition. Additions to the north or south can easily tie into the city main. Additions to the east or west would need to be routed around the building to the city main.

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- A 3" domestic water service enters the 1954 buidling on the west side and is at capacity. Any addition including new bathroom groups may require a new water service or upgrading the existing service.

- A 6" fire protection service was installed with the 1991 addition. Additional fire protection zones will need to be extended from the service location for any sizable addition.

- Roof drains are typically run to grade at the perimeter of the building.

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SITE	**$90,000.00**
EXTERIOR	**$356,800.00**
INTERIOR	**$41,700.00**
ACCESSIBILITY	**$154,600.00**
LIFE SAFETY	**$184,075.00**
MECHANICAL SYSTEMS	**$116,500.00**
ELECTRICAL SYSTEMS	**$158,775.00**
TECHNOLOGY	**$105,420.00**
Total Cost	**$1,207,870.00**