

## Facility Needs Assessment – High School

### CIVIL REVIEW

#### Site Statistics

- High School is located on a 56 acre campus that includes the following:
  - High School Building Footprint Area - 3.2 acres
  - South Parking Lot - 3.1 acres
  - East Parking Lot - 3.1 acres
  - Bituminous Service Drives - 3.6 acres
  - Concrete walkways - 1.3 acres
  - Football Stadium Area - 6.7 acres
  - Soccer Field - 2.0 acres
  - Baseball Field - 3.3 acres
  - Tennis Courts - 0.8 acres
  - Football and Soccer Practice Fields - 7.5 acres
  - Storm Retention Basin - 1.0 acres
  - Remaining Lawn/Wooded Areas - 20.4 acres

#### Parking & Traffic Flow

- High School site consists of two main parking lots. The southwest parking lot is designated for visitor, staff, and student parking. This lot services the south entrance into the school. The west parking lot is designated for student parking and the service drive around this parking lot is where the buses stack for student drop-off and pick-up.
- School did not indicate any issues with traffic flow or lack of parking for either parking lot. The school bus drop-off and pick-up comes in off of Marshall Street and appears to be working well.
- Did observe the traffic flow when the school day ended. Buses had adequate stacking lanes and did not see any congestion occurring between student and bus traffic leaving the property.
- Turning radiuses for the loading dock drive approach and for the service drive to the practice field areas appear to be small.  
**Recommendation: The service drive intersection for the loading dock drive and practice field drive reconstructed with new larger radiuses and improved approach grades.**
- Did observe traffic congestion with the parent pick-up for Walters Elementary School. Parents overflowed onto the service drive that goes around High School. Observed traffic stacking all the way to the High School loading dock areas. (See recommendation for additional drop off/pick up lane in Walters Elem. Report).

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- The entrance approach off of S. Marshall Street is the entrance used by students and buses. Did not observe issues with the turning radiuses or the site lines for traffic exiting onto Marshall Street. The entrance off of North Drive E. is used by visitors, staff, and students. Did not observe any issues with the entrance and the radiuses.

### **Parking Lots & Service Drive Conditions**

- School indicated each lot drains well with no water ponding issues. Asphalt surfaces were replaced in 1994 or 1995. Site observations observed significant size cracking within both parking lots. Cracks ranging in width from 2 – 5 inches were observed. Pavement condition for the southeast parking lot was in fair to good condition. The east parking lot pavement was in fair condition with more signs of surface wear occurring.  
**Recommendation: The east and southwest parking lots including the lot approaches be rehabilitated by a crack repair/mill & resurface or a complete reconstruction that would reconstruct the gravel subbase.**  
**Recommendation: Re-evaluate vehicular traffic circulation to allow two way traffic patterns.**
- Service drives appeared to be in good condition especially near the new elementary school. Service drives around the parking lots and off of North Drive E are in good condition.
- The pavement for the small west parking lot (for maintenance personnel and staff) was in poor condition. Alligator cracking, and pot hole areas were observed along with vehicle tracking over the radiuses into the lawn area.  
**Recommendation: Due to current condition, a complete reconstruction with larger approach radiuses is recommended for this lot.**
- The pavement path to the baseball fields and football stadium was observed to be in poor condition with cracking and pavement deterioration observed.  
**Recommendation: Complete replacement of bituminous pathway.**
- The current parking lot layouts require vehicles to access each parking lot through ten "entrance/exit" approaches. With no internal loop within the parking lot the vehicles that enter a certain isle have to proceed back onto the service drive in order to enter another isle, thus creating potential congestion between vehicles that want to park and vehicles that only want to use the service drives. From a safety standpoint we recommend that traffic wanting to use the parking lot be separated from the service drive traffic with the lot layout designed in a manner where a vehicle using the lot can access all parking spaces without having to leave the lot. This will ultimately reduce the number of times a vehicle has to enter and/or exit each parking lots.

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- Another issue with the existing "entrance/exit" approaches is the berm areas located between each of the approaches has a routine amount of vehicles that encroach onto the grass areas causing continual damage and required maintenance. With no form of barrier provided at each "entrance/exit" approach the vehicles have nothing to warn or stop them from driving off of the pavement edges. Therefore some form of treatment should be considered to help address this issue.

**Recommendation: For each of the High School parking lots a complete redesign of the layout and traffic flow for the parking lots is proposed. The "entrance/exit" approaches into the parking lots will be reduced from ten to four approaches (for each lot). An interior loop will be designed into the new pavement marking plan. At each new approach a combination of concrete curb & gutter and landscape block retaining wall systems will be installed around the radius areas to clearly define the limits of each approach. In addition, the remaining grass island areas surrounding each parking lot will include a landscaped berm with new decorative trees and low maintenance shrubs in order to provide a clear separation between the parking lots and the service drives along with providing further deterrents for vehicles wanting to drive through the grass island areas versus using the designated "entrance/exit" approaches to the parking lot.**

### **Concrete Sidewalk and Pedestrian Walkways**

- Overall concrete sidewalk areas appeared to be in good condition.
- At each of the main entrances to the school the concrete ramp up to the main level of the school did show signs of significant longitudinal cracking that appeared to be due to subbase settlement. School did indicate that they have had to recently inject flowable fill into void areas under these walks in order to raise sidewalk that has settled. No one knows cause of these voids or extent.

**Recommendation: Full reconstruction of concrete ramp (to main level) along with the reconstruction of the subbase that includes provisions addressing the undermining issue that has occurred.**

- Concrete curb & gutter looked to be in good condition in the areas along the walks. Curbing in other areas of the site were in fair to good condition.

### **Site-Storm Drainage Issues**

- A site drainage issue has occurred in the lawn area located in front of the Marshall Street entrance located between the soccer field and school entrance. There have been times when they have had issues mowing the grass in this area. Most likely due to poorly drained soils. Did not observe any issues with the lawn areas due to sustained standing water.

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- It was indicated that groundwater depth was approximately 3 to 4 feet in depth throughout site.
- No significant erosion areas were observed throughout the site.
- The high school site contains one large retention pond with a valved discharge into the City storm sewers. The pond is located at the south end of the site. It was indicated that this valve has never been used and/or exercised and is most likely in operable. All discharge has been provided primarily thru soil infiltration. It was indicated that the highest the water level has ever been observed is approximately 4 feet. The school is able to mow the bottom of the pond twice a year.
- Located at the basin discharge is a trench grate that extends across the entrance drive. The transition between the trench grate and pavement is in poor condition. **Recommendation: Reconstruction of the trench grate with a concrete apron built around grate to eliminate pavement edge up along side of grates. Consider alternatives to removal of grate and still maintain drainage requirements.**
- There was once a previous issue with the City where they thought the storm drainage from the school site was causing a drainage problem to the south at the intersection of Madison St. /Forest St. The end result is the school was able to show the City that they had a valved connection to their storm sewer that had never been required to be opened due to high storm water pond elevations. The City ended up correcting the problem with upgrades to their system.

### Sanitary Utility

- The High School has a gravity sewer lead that discharges into a municipal lift station that is owned and operated by the City of Marshall.
- There is not a significant maintenance issue with the line other than they do have it cleaned once every two years. The school says they have had some flow issues with the line and they think it is due to the line being flat as it leaves the building and proceeds under the south entrance to the school. **Recommendation: If the concrete areas of the south entrance are reconstructed than we recommend that the reconstruction of the sewer lateral be inspected and/or replaced in a manner to improve discharge velocities.**

### Water Utility & Fire Protection

- The High School is served by municipal water from the City of Marshall. The school indicated that they do not have very good pressure from the City main.

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- When the new elementary school was constructed the watermain into the High School was extended to Walters Elementary and then tied back into the City system. The end result is that the watermain feeding the new elementary school and the High School is looped back into the City therefore the school site is fed from two directions. The school indicated that this extension did not seem to have a noticeable improvement with the pressures into the site.
- The school did not have any water flow/ pressure/ or water quality tests of the City watermain extensions feeding the sites.
- The watermain that services the High School also feeds site irrigation for the baseball field and football field. This water is metered and the meter is located between the baseball and football fields. There is a meter for the soccer field as well.
- There is also a 1-inch meter located at the grounds garage.
- The practice fields located at the far north end of the school property has irrigation that is supplied by existing water well. The well is approximately 125 feet deep and has a turbine style pump.
- Near the tennis courts a frost-free spigot is currently providing water. They have had issues with this spigot and would like to replace it with a much more durable type set up.  
**Recommendation: Replacement of entire frost-free spigot assembly with a more durable option (vandalism proof).**
- At the south entrance to the school one hydrant is located at the northeast corner of the southeast parking lot. Another hydrant is located at the north end of the building between the service drive and the school.

### **Athletic Facilities**

#### **Football Field:**

- The school has had to deal with erosion and undermining of the subbase located under the north and south ends of the west side bleachers. They have had to pump flowable fill to reinforce/fill the voids that were created. They think that natural springs are the reason for this undermining that has occurred. No further erosion issues with these bleachers were observed.
- Stadium bleachers were constructed in 1976.
- The school would like a new concrete patio area near the press box that would be designated as an eating area. This was on the wish list for the high school.

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**Recommendation: To construct a new concrete patio area near the press box for an outdoor eating area.**

- Observed concrete spalling issues at the railing posts for the west side bleachers. Observed steel reinforcement that was exposed due to the deteriorated concrete.  
**Recommendation: Replace/reconstruct concrete face of bleachers with new railing supports, replace side rail to bleachers to comply with ICC 300 Safety Code.**
- The outlets for audio, video, and power located on each of the bleachers were in poor condition. Refer to photos.  
**Recommendation: Replace/upgrade all audio, video, and power outlet connections.**
- The outdoor track surface located around the football field was replaced 1994/95 and sub-pavement appeared to be in good condition. The track running surface coating has experienced failures and has been patched. The track aesthetics could be improved.  
**Recommendation: Replace track running surface and restripe.**

#### **Baseball Field:**

- Observed severe erosion occurring under the north side of the west side bleachers. A significant void is present. Appears to be a soil and sheet runoff issue.  
**Recommendation: Place a flowable fill within the void under the bleachers with erosion control reinforcement placed along the edges of the bleachers (both sides) to prevent future erosion from causing same problem.**

#### **Tennis Courts:**

- Noticeable cracks extending down the middle of the tennis courts and in other areas was observed. Some cracks were approximately 1/8" to 1/4" wide (worst case). Overall the court surface appeared to be in good condition with the cracking observed not presenting any trip hazards.  
**Recommendation: Install permanent crack repair measures.**

### **Fencing**

- Many areas around the site the fencing has been rolled up at the bottom. This was very prevalent around the tennis courts, football field, and softball fields. The woven wire fencing and posts were generally in good condition. It appears that a bottom rail could be added to reinforce the bottom of the fences.
- Fencing around the baseball field appeared to be in the worst condition with some areas where the top rail and fence itself were damaged.

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**Recommendation: Place a bottom rail for the fencing that has rolled up at the bottom, and replace the damaged fencing located at the baseball field.**

#### Site Lighting

- Lighting around football field and soccer field was replaced about 6-8 years ago. This lighting has a photo eye and is controlled by a computer.
- School has had issues with maintaining outside wall fixtures.
- The conduit for the west parking lot lighting was replaced from the school to the east edge of the parking lot. No other conduit issues were identified.
- The mercury vapor site lighting is the original lighting for the site.
- Double cobra head type fixtures are located within the parking lots.
- The entry lighting for the south and west entryways into the school appear to be inadequate and is in need of upgrade and improved light intensity/coverage.  
**Recommendation: Place higher intensity light fixtures on the current light fixtures within the entryway with possibly some new poles and fixtures added to further light the student/pedestrian traffic areas of the entryway.**
- Site lighting around the south end of the football stadium is dark and does not provide the proper level of lighting.  
**Recommendation: Place higher intensity light fixtures on the current light fixtures within the entryway with possibly some new poles and fixtures added to further light the areas of the pathway.**

#### Barrier Free Access

- Automatic Entrance is located at the south entrance. Staff indicated that the ramp to this entrance is a maintenance issue (appears to be related to snow removal) but has not had any functional problems.

#### Site Signage

- Site signage was in good condition with wayfinding and identification signs adequately marked.

### ARCHITECTURAL REVIEW

#### Buildings

Original Building constructed in 1970 – Approximately 60 classrooms and support spaces.

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Addition constructed in 1992 – Women’s Team Locker Room and misc. accessibility upgrades.

#### **Basic Construction**

**Building Construction types are identified in the body of the building requirements**

#### **Code Issues**

**Code Issues are identified in the body of the building requirements**

#### **Exterior Envelope**

- The plaster soffit underneath the first floor over hang needs to be painted, there are some water stains, but doesn’t appear that there is any major damage or leaks from it.  
**Recommendation: Clean, seal and repaint all exterior soffit.**
- Some of the exterior intake louvers for the horizontal unit vents are dented and need to be replaced.  
**Recommendation: Replace damaged unit vent louvers.**
- There are a few damaged bricks on the corner of some of the piers.  
**Recommendation: Replace damaged brick by toothing in new brick to match. Install protective corner guards.**
- There are some small damaged areas on the metal fascia panels. The Owner has commented that there has been frequent repair done to the fascia, and the substructure is suspect. The extent of the fascia substructure damage cannot be determined without fascia removal.  
**Recommendation: Repair damaged fascia and re-secure trim pieces.**  
**Option: Replace entire fascia system.**
- Most of the exterior expansion joints/control joint caulking needs to be removed and replaced.  
**Recommendation: Clean and re-caulk existing expansion and control joints.**
- Near the exit off the 2nd floor by the gym wall, brickwork is showing signs of staining from run off from the metal roof panels.  
**Recommendation: Clean and seal existing stained brickwork.**
- All exterior light fixtures need to be replaced.  
**Recommendation: Replace existing exterior light fixtures with new energy efficient vandal resistant fixtures.**

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- There is some damage to the fascia panels; it appears that one of the pine trees is trying to grow into the building by the pool.  
**Recommendation: Pine tree should be removed, fascia panels should be replaced.**
- Combustion air louvers are covered in the Boiler Room.  
**Recommendation: Remove existing air intake louver and install overhead sectional door for boiler access.**
- The top of the masonry screen wall at the loading dock has damage from freeze thaw cycles.  
**Recommendation: Remove / Replace existing damaged masonry courses. Rebuild top of wall and install pre-finished metal capping.**
- Existing concrete steps at the loading dock present a tripping hazard.  
**Recommendation: Remove / Replace existing steps, railings, and ramp.**

### **Interiors**

- Entry doors and storefront framing are single pane glazing in non-thermal aluminum framing. Doors and hardware are worn and have been repaired several times.  
**Recommendation: Replace all exterior storefront framing, doors and hardware with thermal improved framing and insulated glazing.**
- Lobby and corridor floors are terrazzo.
- Corridors walls are a combination of painted cmu and plaster/drywall.  
**Recommendation: Repair drywall and repaint corridors**
- Elevator does not meet current ADA assessable standards.  
**Recommendation: Upgrade current elevator to meet ADA guidelines.**
- Typical office and classroom doors are wood doors in hollow metal frames; they appear to be in generally acceptable condition, except for all the knob hardware.  
**Recommendation: Upgrade door hardware to meet ADA and code guidelines. Replace doors on an as needed basis only.**
- Some corridor walls are plaster and brick, where the brick is; there are not any base moldings.  
**Recommendation: Install 4” rubber base on all exposed brick walls.**
- In all the classrooms there are tack boards & chalkboards that are worn and require replacement.

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**Recommendation: Replace existing VDB's with new VDB's.**

- There are three original classrooms that have been turned into a weight room.
- Media Center entry doors need to be replaced, the frames are in good condition.  
**Recommendation: Replace existing wood doors and hardware.**
- Exterior glazing in Media Center is non-thermal improved aluminum framing with insulated glass.  
**Recommendation: Replace all window framing, with thermal improved framing and insulated glazing.**
- The carpet and furniture in the Media Center was replaced in 1998, and appears worn, and dated in color.  
**Recommendation: Replace existing floor finishes and furniture.**
- Library shelving is metal shelves and becomes unstable when unequally loaded.  
**Recommendation: Provide new Media Center furniture.**
- Corridor Stairways- the handrails are flat steel; do not meet current ADA gripping requirements.  
**Recommendation: Replace existing flat hand railings with new pipe railings.**
- Lockers are 6x52 individual lockers with a small double locker on top of it. Not large enough to handle backpacks and book bags.  
**Recommendation: Replace all existing lockers with new 12"x12" lockers.**
- Building is fully sprinkled.
- Corridor Ceilings are 2x2 lay in tiles, actually appear to be relatively new and replaced.  
**Recommendation: Remove existing ceiling structure as required for installation of new mechanical and electrical systems and reinstall when completed.**
- Typical classroom exterior windows are non-thermal paned, non-insulated glass.  
**Recommendation: Replace all window framing, with thermal improved framing and insulated glazing.**
- Exterior walls appear to be plaster on stud with brick veneer.
- Drinking fountains do not meet handicapped accessibility.  
**Recommendation: Replace drinking fountains to be ADA compliant.**

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- Men and women's toilet room facilities are non-ADA compliant, tile coming off the wall, fixtures and toilet partitions are in need of replacement.  
**Recommendation: Renovate all existing toilet room with ADA layouts and new fixtures and finishes.**
- Typical corridor ceiling light fixtures are 2x4 lay-in, acoustical tile ceiling and 1x4'x, plaster ceilings. Fixtures have been upgraded as part of as school energy retrofit.  
**Recommendation: Replace light fixtures in stairwell to increase light levels.**
- Signage has been upgraded at one point, it is Braille and tactile.
- The VAT in the classrooms could be 9x9 asbestos tiles.  
**Recommendation: Remove/encapsulate existing VAT and install new VCT flooring.**
- Speaker system in the corridor looks like it needs to be replaced. A lot of them are hanging, dented.  
**Recommendation: Replace/upgrade school paging/sound system equipment.**
- Typical fire extinguisher cabinets are old, dented, probably should be updated.  
**Recommendation: Replace all existing fire extinguisher cabinets and fire extinguishers.**
- Typical display cases in corridors, are wood, they are not in bad condition other than a lot of vandal damage and graffiti.  
**Recommendation: Repair and refinish display cases.**
- There are general areas of exposed brick on the interior Corridors that need to be cleaned.  
**Recommendation: Clean and seal exposed interior brick.**
- Entry doors to the Cafeteria are hollow metal doors and frames; it appears that the closures have been reworked.  
**Recommendation: Replace existing doors and frames with heavy-duty hollow metal doors and frames.**

#### **Gymnasium**

- Block construction infill in a structural steel framing system, clear span bar joists,
- Acoustical panels on the sloped metal ceiling.

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- Immediately inside the gymnasium doors is carpeting, and then the wood floor.  
**Recommendation: Replace existing carpeting and sand and refinish wood flooring.**
- Bleachers, are metal seating, the lower rungs have some dents in them.  
**Recommendation: Replace existing bleachers.**
- Main gym doors need to be replaced. Hinges and frames are beginning to wear out.  
**Recommendation: Replace existing doors and frames with heavy-duty hollow metal doors and frames.**
- Corridor 105 (between the gym and the PE locker rooms) ceiling tiles are original, and need to be replaced.  
**Recommendation: Replace existing acoustical panel ceiling with new 2x2 acoustical panel ceiling.**
- The PE Locker Room lockers are original, showing a lot of damage and rust on them. They should be replaced.
- There are some cracks in the plaster ceiling, no evidence of major structural problems.
- The PE locker rooms have gang showers, and gang toilet rooms. Toilet rooms need to be brought up to handicapped accessibility.  
**Recommendation: Remodel locker rooms and replace existing finishes, lockers and fixtures. Make locker rooms and restrooms ADA compliant.**

#### **Gymnasium Balcony**

- Storage room doors all have padlocks on them, deadlocks and padlocks as well as key locks and extra heavy hinge reinforcements.  
**Recommendation: Replace existing doors and frames with new heavy-duty hollow metal doors and frames.**
- There is a drywall bulkhead around the perimeter of the balcony that is damaged and needs to be replaced.  
**Recommendation: Remove existing drywall and install new gypsum board on ¾" plywood on existing framing.**
- Ductwork in the gym is showing signs of peeling paint, and needs to be cleaned and repainted with epoxy.  
**Recommendation: Clean, treat and repaint ductwork with Tnemec epoxy paint.**

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- The railings around the top of the stair well in the Balcony are only double rail, pipe railings, should all be replaced with railing limiting to 4 inch sphere code requirements.

**Recommendation: Replace or rework existing railings to meet current code for liability concerns.**

- There are typical building expansion joints, in the wall between the corridor and pool, all of them need to be cleaned and caulked.

**Recommendation: Clean and re-caulk all expansion and controls joints on interior of building.**

- East wall of gymnasium has experienced some settlement and movement in the wall, minor cracking has been repaired. These are non-load bearing masonry walls due to the steel frame building.

**Recommendation: Repaint gym walls.**

#### **Swimming Pool**

- The swimming pool has a tile deck.
- There is a 6-lane pool with small diving area, stainless steel gutters, and the walls of the pool are also tiled. The pool area has an acoustical lay in ceiling.  
**Recommendation: Remove existing acoustical panel ceiling system and all ductwork. See Mechanical Recommendation. Clean prime and paint all exposed structural metal with Tnemec epoxy paint. Install acoustical panels on walls and ceilings.**
- Exterior doors at the pool need to be replaced.  
**Recommendation: Replace all exterior storefront framing, doors and hardware with thermal improved framing and insulated glazing.**
- Wire molding for the speakers and data systems, and fire alarms, is all rusting.  
**Recommendation: Clean or replace all exposed metal systems in the pool area and repaint with Tnemec epoxy.**
- The bases of the steel columns in the Pool, by the pool deck are almost rusted out. Probably have 8-9 layers of rust that have come off them.  
**Recommendation: Contract a structural engineer to test and make recommendations how to repair column bases.**
- Pool equipment room-evidence of extensive rust was observed.  
**Recommendation: Clean, prime and paint all exposed structural steel and railings with Tnemec epoxy paint.**

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- The basic concrete structure is adequate. No signs of chlorine eating at the reinforcing in the concrete.
- The flooring from the pool access door to the exterior is rubber.
- At the exterior door from the pool corridor, the exterior door set is thermal insulated glass; the interior set is single pane glass. Doors need sweeps on the bottom, a lot of air infiltration.  
**Recommendation: Add weather stripping to exterior doors.**
- Men's team locker rooms should be updated. ADA compliance, tile floor has been patched in a couple spots.  
**Recommendation: Replace existing finishes and lockers and revised locker room for ADA compliance.**
- Hollow metal doors in team locker room throughout.  
**Recommendation: Repair and paint existing hollow metal doors.**
- Wood entrance doors to team locker room needs to be replaced.  
**Recommendation: Replace existing wood corridor doors and hardware.**
- Receiving Room general note:  
**Recommendation: Clean and repaint existing walls and ceilings.**
- Kitchen/Servery-floor is quarry tile, mural painted walls, acoustical tile ceiling,
- Cafeteria has terrazzo floors, acoustical lay in ceiling.  
**Recommendation: Replace existing acoustical panel ceiling system with new 2x2 acoustical panel system.**
- There is some missing terrazzo base where a double door was cut in. Area needs to be finished off and the terrazzo base reinstalled.  
**Recommendation: Trim out and paint wall at new door location, install missing terrazzo base.**
- Cafeteria needs a good painting.  
**Recommendation: Repair and paint Cafeteria walls.**
- There is an abuse panel on the lower 4 feet, runs the perimeter of the cafeteria. This should be replaced; it is starting to show real signs of wear.  
**Recommendation: Replace existing abuse paneling on walls in Cafeteria.**
- Folding partitions in the Cafeteria are showing signs of wear.

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**Recommendation: Review usage and replace folding partitions as required.**

- Brick work in the cafeteria needs to be cleaned.  
**Recommendation: Clean and seal exposed brick.**
- The doors from the corridor into the cafeteria need to be replaced. The glazing needs to be replaced. They don't close properly. Doors have been reinforced with additional hinges.  
**Recommendation: Replace existing doors and frames with new heavy-duty hollow metal doors and frames.**
- Computer lab; In some of the areas the new ceiling is dropping, they are going to need some areas of repair on the 2x2 ceiling fixtures.  
**Recommendation: Repair existing acoustical panel ceilings as required.**
- There are folding partitions in a lot of the classrooms. These are not acoustical units; they should be replaced with either acoustical folding partitions or solid walls.  
**Recommendation: Review usage of folding partitions. Replace partitions not used with solid wall construction, and replace partitions used with STC 50 operable wall units.**

#### **The Art Room**

- All the casework needs to be replaced:  
**Recommendation: Replace existing casework.**
- Art Room: need to install a transition strip between the terrazzo and the sealed concrete floor.  
**Recommendation: Install transition strip at doors.**
- At the corridor ramp going down to the vo-tech wing, the handrail on the ramp is square tubing, should be changed to round tubing.  
**Recommendation: Replace existing hand railings with ADA compliant hand railings.**
- Need to install some kind of non-slip surface on the terrazzo ramp.  
**Recommendation: Install non-skid surface material on ramp.**

#### **Music Rooms-**

- The ceiling needs to be replaced and the entire suite needs updating.  
**Recommendation: Remove existing acoustical panel ceiling and install new 2x2 acoustical panel ceiling system.**  
**Recommendation: Repair/replace damaged acoustical wall panels.**  
**Recommendation: Repaint walls.**

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- Carpeting is old and worn out.  
**Recommendation: Replace existing flooring.**
- Cross-corridor doors by the Choir Room need to be repaired.  
**Recommendation: Remove existing acoustical panel ceiling and install new 2x2 acoustical panel ceiling system.**  
**Recommendation: Repaint walls.**  
**Recommendation: Replace existing flooring.**
- The Orchestra/Band Room is not accessible from the main corridor, it is down a set of stairs, and this presents a handicapped accessibility problem.  
**Recommendation: Review layout and revise current layout to provide ADA accessibility and improve acoustical performance.**
- Note: There is a minor structural problem at the entrance door into Band Room (147) the doorframe and the blocks seem to be shifting.  
**Recommendation: Repair structural damage at lintel in cmu wall at door.**
- Instrument storage casework needs to be replaced.  
**Recommendation: Replace existing music casework.**
- Doors exterior of the band room need to be replaced. Hollow metal, single pane glazing.  
**Recommendation: Remove and replace existing hollow metal doors and frames with new aluminum doors and frames.**
- Acoustics between the band choir rooms need to be improved.  
**Recommendation: Seal walls between vocal and instrumental rooms tight to roof deck.**
- There is a junction box with exposed wiring hanging down from the ceiling in the corridor.  
**Recommendation: Rework existing wiring and distribution system.**
- Drafting and Architectural Labs need power and general updating.  
**Recommendation: Remove existing acoustical panel ceiling and install new 2x2 acoustical panel ceiling system.**  
**Recommendation: Repaint walls.**  
**Recommendation: Replace existing flooring.**
- Down the industrial art wing there are a couple repairs in the terrazzo that if we could do something to make them blend in better it would be more attractive.

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- In the industrial art wing, the toilet room doors are only 2-8", these do not meet code.

**Recommendation: Rework existing toilet rooms to comply with ADA guidelines.**

#### **Auditorium toilet rooms**

- The toilet rooms have been slightly updated in the past. The attempts should be replaced to current ADA code.

**Recommendation: Renovate existing toilet room with ADA layouts and new fixtures.**

**Recommendation: Repaint existing toilet rooms, and replace wall and floor tile.**

- Auditorium has burnt orange carpeting.

**Recommendation: Replace existing flooring.**

- Seating is a red-orange.

**Recommendation: Replace existing seating.**

- It is a relatively small auditorium for the size of the school.

- Stage floor is well used-don't know if the materials have got another life of sanding and refinishing in it.

**Recommendation: Sand and refinish wood flooring, or, Install 1/4" tempered hardboard and finish.**

- Auditorium does not have a fly loft.

#### **Science Lab/Classrooms**

- Casework needs to be replaced

**Recommendation: Replace existing science casework. Remodel space to include gas/air piping and fume hoods.**

- There is folding partitions between two of the science rooms. They don't function properly.

**Recommendation: Review usage of folding partitions. Replace partitions not used with solid wall construction, and replace partitions used with STC 50 operable wall units.**

- Glass in the classroom doors is just standard glass breakable or plastic-probably should all be replaced.

**Recommendation: Replace all glazing in doors with Category II impact resistant glazing.**

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- Concrete floor slab settlement has occurred in the Math classrooms.  
**Recommendation: Install flowable filler to level floor.**
- Athletic scoring equipment appears to be original and outdated.  
**Recommendation: Replace gym basketball backboards and supports.**  
**Recommendation: Replace (2) scoreboards in the gym.**  
**Recommendation: Replace swimming scoreboard in the pool.**

### MECHANICAL REVIEW

#### Heating Plant

- The Building is served by 3 steam boilers. One Johnson 200 HP and two Kewanee 200 HP 837- MBH boilers. Boiler No.1 was replaced in 1998. This boiler is serviceable. The Kewanee boilers need to be replaced.  
**Recommendation: (1) Replace the two 1972 Kewanee steam boilers with 200 H.P. steam boilers to be moved from the Middle School. Replace steam header isolation valves.**  
**Recommendation: (2) replace one 1972 steam boiler with 200 H.P. steam boiler to be moved from the Middle School. Sell the second boiler unit. Purchase a new 40 H.P steam boiler sized to provide steam to the kitchen and the pool heaters during the summer months. Replace steam header isolation valves.**  
**Recommendation: (3) Provide barometric dampers in the flue for 3 boilers and the domestic hot water boiler.**
- The following condensate pumps serve the entire building. Music area, AG wing, gym tunnel, boiler room and kitchen area.  
**Recommendation: Replace all condensate pumps and tanks except the unit in the kitchen area.**

#### Air Conditioning

- The following areas require air-conditioned- all except the pool, gym and locker rooms. The two-story classroom section has a 2 Pipe U.V. in 2-story section.  
**Recommendations: Provide a second run of chilled water to all U.V. to create a four-pipe system for either heating or cooling in intermediate seasons. The cost includes ceiling removal and replacement in the corridors and classrooms.**
- The air conditioning water chiller is in serviceable condition, new compressors were installed.
- Cooling tower. Condition unacceptable.

### Facility Needs Assessment – High School

**Recommendation: Replace the water type-cooling tower with a new unit with multiple variable frequency drive fans.**

#### Air Distribution Systems

- The following spaces are served with air handling units.
  - Gym- (not A/C) Adequate
  - Shop- (not A/C) Adequate
  - Shop Classrooms – Adequate
  - Art Classrooms – Adequate
  - Interior Classrooms – Adequate
  - Media Center- Adequate
  - Locker Rooms- Adequate
  - Administration- Adequate
  - Auditorium- Adequate
  - Cafeteria- Adequate
  - Swimming- Pool air handling unit – Non air conditioned - inadequate

**Recommendation: (1) Replace pool AHU with a heat recovery unit. 16,000 CFM.**

**Recommendation: (2) Replace pool unit with a dehumidification/cooling/heat recovery unit. 16,000 CFM.**

**Recommendation: (3) Add motorized dampers in the kitchen roof top supply air unit.**

- Kitchen Air Conditioning  
**Recommendation: Add two diffusers and ductwork to increase air conditioning capacity in the kitchen.**
- Diffusers and registers are serviceable.
- Ductwork is serviceable except in the pool.  
**Recommendation: Replace all ductwork with aluminum or PVC coated ductwork.**
- Air filters are disposable filters.

#### Unitary Terminal Equipment

- Cabinet heaters are installed in center corridors. Units are serviceable.
- Unit ventilators.  
**Recommendation: Replace the 1972 unit ventilators in classrooms with vertical unit vents with ductwork and 4 ceiling diffusers. Close up the existing fresh air louver and install a new louver to serve the vertical unit. Units to have a hot water heating coil and separate chilled water coil. Cost includes ceiling removal and replacement and exterior wall work.**

### Facility Needs Assessment – High School

- Heating coils- Kitchen area.  
**Recommendation: Replace 2 htg coils serving the kitchen serving line area and the director's office.**

#### Steam Piping

- Steam piping is in tunnels. Condensate lines have developed leaks in the boiler room area. Condition is serviceable. All lines are accessible.

#### Exhaust Systems

- Roof exhaust fan are used to exhaust:
  - Toilet Rooms- Serviceable
  - Classrooms- Serviceable
  - Above Corridors - Serviceable
  - Shop's – Hoods

**Recommendation: Replace fan and hoods to comply with current Health Dept. Standards.**

- Science - Serviceable
- Pool- Exhaust fans are not useable.
- Gym - Replace units

**Recommendation: Replace exhaust fans in the pool and gym.**

#### Temperature Controls

- The building has a pneumatic control system. The supplier is Johnson.  
**Recommendation: 1) Replaced unit vents to have DDC controls. 2) Install DDC controls on existing multizone units to reduce energy cost. Damper operators to remain pneumatic. 3) Install CO2 sensors to reduce outdoor air if not needed on all new equipment and multizone units.**

#### Natural Gas Service

- Service by Consumers Energy  
**Recommendation: Relocate natural gas meter outside per Consumers Energy requirements.**

#### Domestic Water Service/ Softener

- The building has an 8" service, 6" domestic water pipe, 4" Water meter and a 6" fire sprinkler riser with 3 fire zones.  
Water supply is from the city of Marshall.  
**Recommendation: Option (1) Replace the water softener.**  
**Recommendation: Option (2) Scrape, Paint and recondition the soft water system tanks, replace valves. Option 1 or 2 to be determined based on cost.**

## **Facility Needs Assessment – High School**

### **Domestic Hot Water Heater**

- The Domestic hot water heater is Sellers model BT-1208 SM 4361, 3,900,000 BTU, natural gas boiler. The unit is serviceable. Due to the age the unit should be replaced.

**Recommendation: Replace the domestic hot water boiler with a high efficiency heater and provide a 500 gallon domestic hot water storage tank.**

### **Domestic Water Piping- Hot & Cold**

- The piping is located in tunnels and above the ceiling. The condition of the piping is serviceable.

- Shower Heads

**Recommendation: Replace all shower mixing valves in the women and men's locker rooms.**

### **Plumbing Fixtures**

- All fixtures are 35 years old. Change where other barrier free work is done in Toilet Rooms.
  - Water Closets
  - Lav's
  - Urinals
  - Electric water coolers
  - Drinking fountains

**Recommendation: Remodel all restrooms and provide new fixtures.**

### **Floor Drains**

- Floor drains do not have trap primers

**Recommendation: Add trap primers in all remodeled areas.**

### **Sanitary Piping**

- The building is served with cast iron piping below grade and cast iron piping above grade. The condition is acceptable.

### **Acid Waste System**

- Acid waste piping is provided in the following areas:
  - Science Rooms - The system is acceptable.

### **Storm System**

- Storm water piping is acceptable. Roof drains are acceptable

### **Fire Protection**

- The building is fully sprinkled except the janitor closets. The system is serviceable.

### **Facility Needs Assessment – High School**

**Recommendation: Leave as is except sprinkle the janitor's closets per current code. Replace the sprinkler lines in the pool equipment room.**

### **ELECTRICAL REVIEW**

#### **Service**

- Consists of A 3P 3000 AMP. Main lug only bus rating with (4) disconnects one of which is 2000 AMP feeding bus in tunnel. 277/480 volt 3 phase 4 wire. Square D panel.
- 3000 AMPS= 2,493,000 volt AMPS (bus only)
- Primary Service
- Transformer size 1,500 KVA. (= to 1807 AMP) By Owner
- 2168 AMP at 20% overload.
- Power Co. – City of Marshall
- Building is air-conditioned except gym and pool.
- 209,923 sq. ft. @ assumed 5.0 volt amps/ ft squared max. demand = 1, 050 KVA
- 450 KVA spare transformer capacity
- Service is adequate- Serviceable
- Service will support an addition up to 45,000 SQ. FT using 10 VA/ ft squared for the addition.

#### **Lighting**

- Site Lighting- See Civil Section Recommendations
- Building Lighting- T-8 fixtures electronic ballasts, installed in 1998.  
**Recommendation: Add two 2 x 4, 4 tube light in each of 3 stairwells.**
- Occupancy Sensors- None  
**Recommendation: (A) Add occupancy sensors for lighting control in all classrooms.  
(B) Add occupancy sensors for lighting control in all other occupied spaces.**

### **Facility Needs Assessment – High School**

- Light Harvesting /Controls- None
- Stage lighting- inadequate  
**Recommendation: Replace entire stage lighting system.**

#### **Power**

- Power Distribution, panel boards, (some replaced in 1994-95) breakers, spare circuits, and feeders- adequate, except panel boards.  
**Recommendation: Add panel boards to accommodate added classroom circuits for teachers and students computer drops.**
- Power Receptacles, grounding  
**Recommendation: Add circuits and receptacles in computer rooms; add two receptacles in all classrooms.**  
**Recommendation: Add infrastructure and power for (4) computer drops in each classroom.**
- Floor receptacles in the food service serving floor  
**Recommendation: Replace floor receptacles in food serving area.**
- Shops-Special Areas- Adequate
- TVSS- No protection on main panel boards.  
**Recommendation: Provide TVSS protection for main distribution panel and sub distribution panels.**

#### **Life Safety**

- Fire Alarm- 1994-95 Guardian alarm  
**Recommendation: Replace entire system with new Simplex system.**
- Emergency Lighting  
**Recommendation: Add emergency lights in corridors and large group space to comply with current codes.**

#### **Special Systems (SEE ALSO REPORT FROM WRIGHT HUNTER)**

- Public Address System- All classrooms have speakers- System is serviceable. Classrooms cannot call the main office for assistance.
- Program Bell- System is serviceable
- Telephone  
**Recommendation: Add telephones in all classrooms and occupied spaces**

### **Facility Needs Assessment – High School**

- Classroom Computer Drops
- Clocks  
**Recommendation: Provide a wireless GPS clock System for all classrooms.**
- Computer Lab  
**Recommendation: Install surge protection to prevent the burnout of control relays above the ceiling.**
- Sound System-Music, System is serviceable.
- Sound System-Gym-This was replaced- unit is acceptable.
- Sound System-Cafeteria  
**Recommendation: Replace sound system.**
- Sound System-Auditorium  
**Recommendation: Replace the entire sound system.**

### **OWNER EXPRESSED NEEDS**

- During the facility assessment, several areas of the building were brought to Kingscott's attention as requiring potential major upgrades, spatial reallocations, and/or complete replacement. Programming sessions were held to further investigate the expressed needs and to validate the requests. It quickly became evident that the spaces, while good for their day are in need of updating, whether to enhance curricular delivery or to better facilitate the usage needs of the District. Kingscott recommends incorporating these areas into the total scope of the assessment. (SEE attached programming session meeting notes from January 31, 2006).
- To assist the district in the formation of the final scope of the assessment, it is recommended that the final report provide a range of remodeling, replacement, or addition costs to be applied across an effected area of the building. This will provide the District with a magnitude of cost for the associated area in order to assist in evaluation of the overall need.

#### **Recommendations: Remodel existing HS spaces to include:**

- **Major Remodel of Music Suite to include a potential addition for additional storage space and replacement practice rooms.**
- **Major remodel to the Auditorium and stage areas which could lead to a complete replacement of this area of the building. Address needs for additional changing areas and restroom, stage storage areas, fly loft, stage left access space.**
- **Addition to the cafeteria serving and kitchen storage areas.**

### **Facility Needs Assessment – High School**

- **Major remodel to the current Vo-Tech suite to upgrade areas for a potential curriculum change.**
- **Major remodel to the Media Center to achieve better special arrangements and possibly include relocation of the Administration area to the lower level off of the cafeteria.**
- **Main building entry points could eliminate ramping entirely and all building access could be routed through the first floor of the building. (supports relocation of Administration area to first floor level).**
- **Consider enclosure of main entry court areas to capture additional floor square footage.**
- **Classrooms on both floors at the south and east exterior walls are too small for the current class size, and teacher work desk configuration.**

### **HS CAFETERIA & KITCHEN - See Attached Evaluation report from Baker Group.**

### **HS AUDITORIUM PROGRAMMING**

#### **PRESENT**

Jeremy Root	MPS - Band
Justin Valia	MPS - Orchestra
Kathy Petrich	MPS – Vocals
Mike Fitzpatrick	MPS
Ron Behrenwald	MPS
Joyce Phillips	MPS
Doug Phillips	CSM
David Martin	Kingscott
Peter Sarelis	Kingscott

#### **DISCUSSION:**

##### **Existing Condition Concerns:**

- Current seating capacity is approximately 350 - 370 seats. Ninth grade is around 240 students. Currently unable to accommodate two grade levels at one time. Desire to accommodate around 550 - 600 students.
- Safety concerns: “outdated” fly system, lighting control panel, curtains (aesthetics), falling down the steps (lighting), and stage exit triangular stairs.
- Current quantity of curtains is adequate (see original design).
- Pit is rarely used because of safety concerns. Pit size should be increased.
- Storage areas of platforms, risers, band shell, wood stock.
- Back stage area is used for “sectional” practice areas.
- Dressing rooms are inadequately sized. Makeup room is adequate, adjoining restroom spaces are too small. Consider location closer to the music rooms. Room should accommodate 25 students in each (men, women) room. Current room is

### **Facility Needs Assessment – High School**

used for storage, which reduces available space for changing. Ideal, to combine the current dressing rooms into a single space, and create another dressing room of the same size (double current capacity)..

- Choir space is currently utilized as a green room.
- Current acoustics of the space is distracting. Possible HVAC noise. Reverberation is better than the Middle School Auditorium.
- Structural issue / roof leak issue noted at the wall which has the corridor ramp. Roof is scheduled for replacement. Music / Auditorium suite roof area needs replacement.
- Isolation of mechanical units (pump noises) from mechanical mezzanine.

#### **Desires:**

- Sound monitor system for performers on the stage.
- More space “stage right”.
- Scene building location.
- Wireless mic capabilities. Current sound system does not operate. Add hanging mics for recording. Need for audio visual projection system.
- Recording needs. Mixing board. Lighting control systems. Located in the audience. Stage clouds. Band shell.
- Replace current seating units. No tablet arms are desired. Consider rehabilitation of the current units (community perspective). Aisle space will need to increase if the seats are replaced.
- Replace or refinish the stage flooring.

### **HS MEDIA CENTER PROGRAMMING**

#### **PRESENT**

Ron Behrenwald	MPS
Joyce Phillips	MPS
Amy Jones	MPS
Amy Schweitzer	MPS
Doug Phillips	CSM
David Martin	Kingscott
Peter Sarelis	Kingscott

#### **DISCUSSION:**

##### **Existing Condition Concerns:**

- Large group special needs to support staff meetings (50). Ideal to accommodate two classrooms of students (60). Current seating capacity is 64 seats.
- AV storage proximity to front entry (have to leave the front door to go get equipment). Using ½ of conference area for equipment storage.

### **Facility Needs Assessment – High School**

- Computers are configured based on current data drop locations.
- The “L” shape configuration limits the usability of the current space allocation.
- Approximately 12,000 volumes in the current collection. Expect the need to stay the same as currently have.
- Storage of other media equipment cameras etc.

#### **Desires:**

- Additional data capabilities. Flexible to adapt as the room would change.
- Possible conversion of the media equipment storage areas to a drop in computer lab. Supervision by the utilizing teacher (not media staff).
- Computer lab near Library. Additional stations in the MC to accommodate research needs. Wireless computer connection desired.
- Lower bookshelves needed in the floor area.
- Metal bookshelves are unstable when unequally loaded.
- Furniture replacements required.
- Exterior building access point (after hours usage).
- Ability to display student art work.

### **HS MUSIC PROGRAMMING**

#### **PRESENT**

Jeremy Root	MPS - Band
Justin Valia	MPS - Orchestra
Kathy Petrich	MPS - Vocals
Ron Behrenwald	MPS
Joyce Phillips	MPS
Doug Phillips	CSM
David Martin	Kingscott
Peter Sarelis	Kingscott

#### **DISCUSSION:**

##### **Existing Condition Concerns:**

- 115 students for combined Marching Band in the fall. Anticipated growth to 130 – 150 students. 6-8 weeks duration. After Thanksgiving the large group rehearsal need goes away. Gym will not work for marching band practice (acoustics).
- Current space can accommodate approximately 100 students.
- Current practice spaces are used for storage needs. Each discipline could use (2) practice rooms. Need for additional practice rooms. Current size is adequate. Need for an ensemble practice space 8 – 10 musicians (current space is utilized for music library).

### **Facility Needs Assessment – High School**

- Current storage needs to be quantified by staff. Consider lockers for instrument storage. Can a lockable room accommodate storage needs? Yes, if it contains individually locking lockers (needs for student access at all times). Students are not allowed to access the teaching spaces after staff has left the space.
- Band room is vacant after 11:00. Vocal and Orchestra space is utilized all day long.
- Orchestra current size is 25 students, project to grow to 30 -35. Vocal (mixed choir) current size is 24 students, projected to grow to 35. Vocal ensembles maxed at 16 students.
- Standing risers are not currently utilized for vocals. Band and Orchestra no riser use, Band would use if seated risers were available.
- Library is currently housed in (22) 4 drawer file cabinets. Consider a high density storage unit (see current unit at the Middle School).
- Current office areas also serve as instrument repair spaces. Need counter and sink.

#### **Desires:**

- Would like to create a midi-lab that could accommodate 25 – 30 students.
- Improve acoustic characteristics of the teaching spaces. Improve sound isolation of spaces to each other.
- Recording (visual and audio) in both locations (teaching and stage areas). Prefer a built in system. Discussed a mobile cart with built in speakers and mics.
- Video playback needs for learning tools. Projection system?
- Computer stations for music software needs.

#### **Other:**

- Communication systems.
- Environmental controls of instrument storage needs.

### **VO-TECH AREAS PROGRAMMING**

#### **PRESENT**

Ron Behrenwald	MPS
Joyce Phillips	MPS
Doug Phillips	CSM
David Martin	Kingscott
Peter Sarelis	Kingscott

#### **DISCUSSION:**

##### **Existing Condition Concerns:**

- Discussion of the State curricular changes which are driving the need to readdress the vocational tech curriculum.

### **Facility Needs Assessment – High School**

- Metals program was historically an outreach of the Eaton Corporation. Wood shop area is not a traditional wood shop (making furniture, building trades etc.).
- Conflict for students in use of the CATC program and participation in after school programs.
- CAD, Architecture, Engineering program has been very strong.
- AG Science program also exists at the CATC. Lack of instructors. Strong community ties to the current curriculum. Arc welding program has significantly dropped away.
- How will graduation requirements from the State dictate the needed changes to these program areas?
- Greenhouse is outdated.
- Storage needs for the wood shop area is needed.
- Media Access area could be enlarged to accommodate program changes for broadcast journalism, photography etc.
- Proximity to the music spaces for dual usage