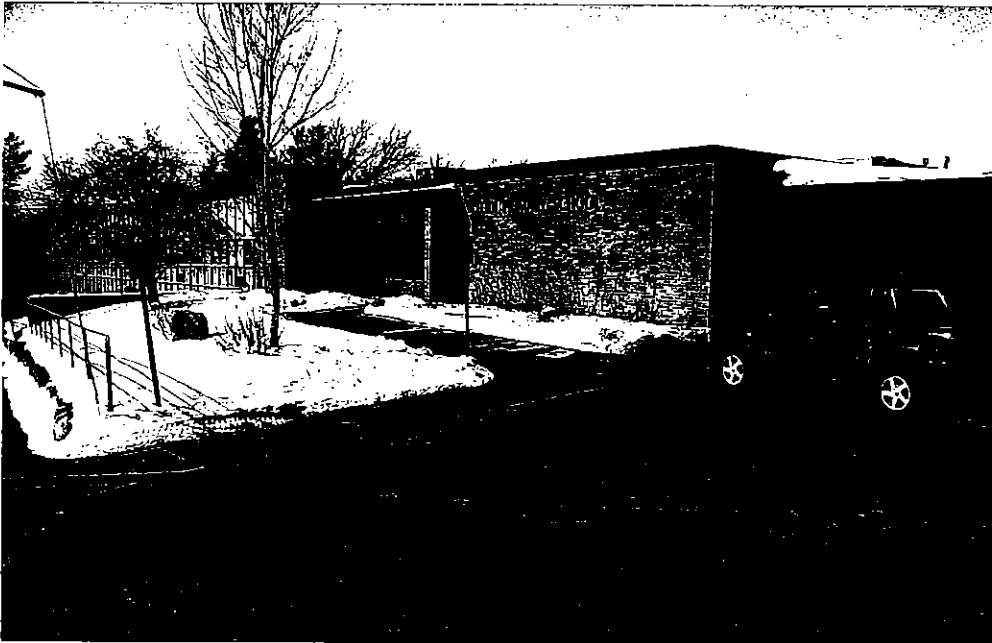




## Lodi Primary School Facilities Assessment



PRA Project #07042  
4 September, 2007

School District of Lodi  
Lodi Primary School - Assessment

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# School District of Lodi

## Facilities Assessment

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### **Assessment Introduction**

This study analyzes the existing Lodi Primary School facility with respect to physical and spatial assets and deficiencies. The existing facilities survey consisted of a non-destructive review of architectural, plumbing, mechanical, and electrical conditions. Plunkett Raysich Architects (PRA), Fredericksen Engineers, and Muermann Engineering performed the analysis. The Educational Space study examines the sizes, locations, and adjacencies of educational spaces with respect to curricular and student population information made available to PRA by the School District of Lodi.

Options are generated in response to identified physical and education space needs. In the review of options phase of the Study, preliminary plans are developed for the selected options, where appropriate. A pro/con analysis is provided based on input from administration and understanding of the Lodi community. The analysis provides estimated cost comparison, where appropriate.

PRA is privileged to provide this Primary School Assessment Study to the School District of Lodi. PRA gratefully acknowledges the assistance and cooperation of the Superintendent of Schools, Business Manager, Facilities Manager, Administration, and the Board of Education of the School District.

## History

The Lodi Primary School we see today is a collection of building additions built in multiple phases over the past 89 years to meet the changing needs of the community of Lodi. The current building iteration has been in place since 1993 and encloses approximately 59,070 square feet. The original Lodi Primary School was constructed in 1918 on the north end of the current site. This building appears to have been a single story structure enclosing approximately 12,850 square feet. Some time prior to 1949, this original building received a small wood frame addition on its east side enclosing approximately 2,550 square feet. In 1949, the original building was added to and remodeled. This addition, to the original building's south, is a single story structure of approximately 7695 square feet currently housing classrooms, the teachers lounge, boys and girls restrooms, school councilor spaces, as well as some storage, student support, and computer network spaces. In turn, the 1949 addition was added to in 1959. This addition, to the south of the 1949 building, is a two story structure enclosing 14,170 square feet that currently houses classrooms, restrooms, and storage space. The school was added to again in 1975. At that time the small pre-1949 addition to the original 1918 building was removed, and approximately 18,855 square feet of single story structure was added. This addition currently houses the I.M.C., classrooms, restrooms, student support spaces, and the administrative offices. In 1981, the building was enlarged again. This time by a 9,120 square foot gymnasium addition that also included restrooms, and locker rooms. The most recent changes to the facility occurred in 1993 with the removal of most of the original 1918 structure, a 5,485 square foot music room and storage addition on the north end of the 1975 & 1981 additions, and a 1,340 square foot kitchen addition to the east side of the 1981 addition. All that survives of the original building structure is a 2,405 square foot section that houses the current maintenance office and custodial areas and boiler room on the northwest corner of the facility.

### The rating system used in the narrative that follows to describe the condition of building materials and systems:

- *Excellent:* No wear or deterioration. No specific maintenance or refurbishment needed at this time.
- *Above Average:* Wear or deterioration is very minor. No or very little specific maintenance or refurbishment needed at this time.
- *Good:* Wear or deterioration is moderate. Minor maintenance or minimal specific refurbishment is needed at this time.
- *Below Average:* Wear or deterioration is significant. Major maintenance or specific replacement is recommended in the near future.
- *Poor:* System or material is failing and is beyond repair. Immediate replacement is recommended.

## The Site



Description: The site is an irregularly shaped plot of land covering approximately 4.75 acres. It is bounded on the east by Woodlawn Ave., on the south by Pleasant St., on the west by Corner St. Steeply sloped in several areas, it presents over 50 feet of vertical change from the highest spot at the southeast corner to the lowest spot at the southwest corner. The slopes of the site are overcome by the use of a variety of concrete, concrete masonry, and stone masonry retaining walls that provide some terracing for the building, play ground, and parking areas, while in other areas, steep slopes transition the grades to the surrounding public streets and sidewalks. These terraced areas are connected to each other and to the public roads and sidewalks by a combination long sloping sidewalks, stairs, and strategically placed vehicle access points. There are two sets of playground equipment. The older set is to the north and appears to be in good condition. The more recent set is to the east of the building and appears to be in above average condition.

There is hard surface playground to the northeast of the building between the two playground sets. On site parking is limited and is provided by two unconnected asphalt parking lots. The lots are separated from each other by a large retaining wall. The larger contains approximately 35 parking spaces and is located on the eastern and highest portion of the site. It is accessed from Pleasant St. and has no vehicular connection to the building. Pedestrian access from this lot to the school main entrance is accomplished only by using stairs to the smaller (and lower) parking lot. The second parking lot is located to the immediate south of the 1981 gymnasium addition and appears to have been constructed as part of that project. It is very small, containing parking for approximately 8 cars and a small receiving area. It is also used as a special needs student drop off. In that function it is very small, moderately difficult to enter, turnaround, and then exit. It is connected to the main entrance by a concrete side walk approximately 55-60 feet in length. It provides two spots dedicated to handicap accessible parking. The accessible route to the front entrance appears to be on the cusp of the maximum allowable slopes allowed by current accessibility standards. There is no on site bus drop off.

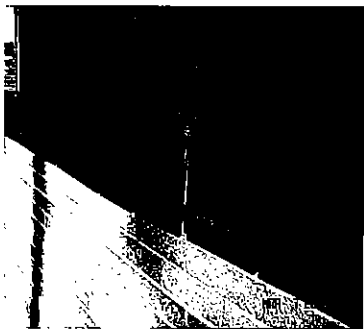
**Assessment:** The site has presented, and continues to present, challenges, in site design, building design, and in the maintenance of both. The terraced areas for the building, parking and play areas are no larger than minimally necessary. This makes for a crowded site with difficult vehicle access, the crossing of student walkways and vehicle ways used by service vehicles, multitudes of steep walkways, exterior stairs, retaining walls, and unfavorable situations in regard to handicap accessibility and student safety. Vehicle ways immediately about the building; creating poor storm water and melt water drainage and icing situations, potentially dangerous pedestrian conflicts, potential building / vehicle conflicts, and a difficult snow removal situation. On site parking is limited and not particularly convenient to the building entrances, and the condition of the asphalt surfaces is below average to poor. They appear to be at the end of their service life and should be completely removed and replaced in the next 1-2 years. Dumpsters are unsecured leaving them as an accessible hazard to children and their location requires the garbage trucks to drive across areas regularly populated by students. Further expansion of the facility, while possible, is not practical, and would require extensive and expensive earthwork to create additional space suitable for building, adequate play and parking areas and adequate storm water control measures.

### The Building Exterior

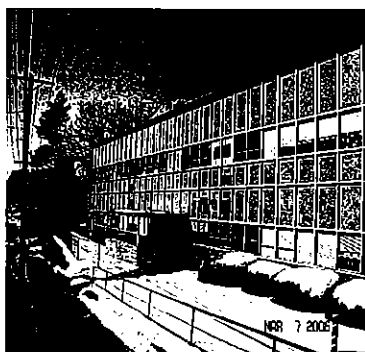
**Description:** On the exterior, the building presents a wide variety of materials one would expect to see at a facility that was built in multiple phases over 89 years. We'll examine the building exterior by date of construction.



**1918:** The exterior walls that remain exposed are a terra cotta colored brick with dark random accents laid in a common bond pattern typical of the era. The walls have been patched in places with sections of mismatched brick, and have been tuck-pointed in some spots with a mismatched color mortar and even caulk in other locations. Other areas display deteriorated mortar joints in need of tuck-pointing. The windows in the boiler room appear to be original steel single glazed multiple lite units which are in below average condition. The exterior doors and frames are steel and are showing some corrosion near the bottoms. Some portions of the 1918 building have been covered with an exterior insulated finish system (EIFS) at some time in the early 1990's. The EIFS is in good condition. The roofing over the custodial and maintenance areas is a ballasted membrane, while the roofing over the boiler room is a built up type roof. Both roof types are in above average condition.



**1949:** The remaining exposed exterior walls (west) of the addition are a combination of light tan / light orange brick laid in a common bond pattern on the lower portion of the wall, while the upper portion of the wall is a redish – orange stained vertical wood casing. It appears that the upper section of the wall was originally a glazed aluminum storefront type system. This system was removed and infilled with stud framing and aluminum clad wood casement windows in approximately 1980. The windows are in good condition. The brick work appears to be in above average condition, while the condition of the siding is below average and is showing its age with some popped nails, minor cracking and splitting. The roof on this section of the building is a built up system and is in above average condition.



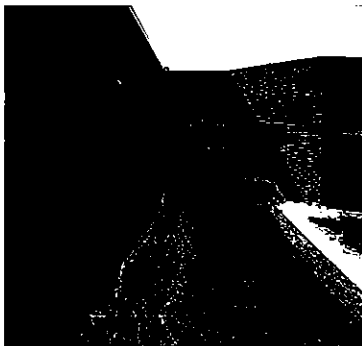
**1959:** The remaining exposed exterior walls are a combination of brick masonry and clear anodized aluminum curtainwall with clear glazed vision panels and enameled insulated steel spandrel panels. The brick color is a good match to the previous 1949 brick and is laid in running bond pattern. The brick work below the curtainwall shows a few spots of minor deterioration, but generally speaking is in good condition. The wide expanses of curtainwall on the south face of the building are an almost signature element of school building design from the late 1950's and 1960's. The condition of the system is good, although the thermal performance of the system, even when brand new, was poor. Exterior doors and frames are steel, are painted a pale blue color, and are showing some corrosion near the bottoms. The roof on this section of the building is a built up system and is in above average condition.



*1975:* The remaining exposed exterior walls show two different finishes. The portion of the addition facing south at and near the main building entrance is full height brick, in colors that match the adjacent 1959 addition well, and laid in a running bond pattern. The condition of the brick work is above average. The portion facing north presumably matched the south face when constructed, but has been covered with EIFS at some time in the early 1990's. The EIFS is in good condition. The windows and doors are a bronzed anodized aluminum storefront and are in good condition. The roof on this section of the building is a built up system and is in above average condition.



*1981:* The remaining exposed exterior walls show two different finishes. The single story portion facing south is full height brick and matches the adjacent 1975 addition well. The brick is in above average condition. The wall enclosing the gymnasium proper is concrete masonry faced with an unique exterior insulated finish system that involves hand placing exposed stone aggregate into a parged stucco type coating on 2 inches of rigid insulation. The EIFS is in generally good condition but shows numerous areas of minor vehicle and "playground" damage. Doors and frames are steel and painted a medium brown color are in good condition. The roof on this section of the building is a built up system and is in above average condition.



*1993:* The final additions to the facility are done in full height brick. The color is a somewhat imperfect match to the adjacent 1981 addition, and has the additional detail of accent bands done in a dark colored header course every 12 or 13 courses not shown in previous brick work. Doors and frames are of steel construction and are painted a medium brown color. The brick, doors, and frames are in above average condition. Windows in this addition are prefabricated aluminum clad wood units. The windows are in above average condition. The roofs on these two additions are a ballasted membrane and appear to be in above average condition.

**Assessment:** The facility as it stands today is an unattractive accumulation of a wide variety of building masses, colors, materials, textures, and architectural styles. Much of the facility pre-dates what would currently be considered minimal insulation practices and likely has sub-standard thermal performance. Approximately 50% of the exterior facility skin is clad with brick masonry. With the noted exceptions in the 1918 portion, the brick is generally in good or above average condition and could be expected to remain so for the foreseeable future with proper maintenance. Approximately 33% of the facility skin is clad with an exterior insulated finish system (EIFS) of two different types. The condition of the EIFS is good, but displays a variety of dents, punctures, tear outs, and abrasions. Generally speaking EIFS is a poor choice for the skin of a school building as it does not stand up well to the abuse of children at play. It is also a poor choice specifically at this building because it has been installed in areas subject to damage from snow plows and other vehicles. In schools it often requires frequent patching which is generally obvious and unattractive. The EIFS could be expected to last another 5-15 years with appropriate maintenance. Approximately 17% of the building is clad with an aluminum curtainwall system, all dating from 1959. As mentioned in the 1959 description, it had poor thermal performance when it was installed, and it has probably only worsened over the following 48 years. Despite its thermal and aesthetic challenges, it is a durable system, and could be expected to last at least another 15-20 years. The entire facility was re-roofed in the early 1990's, and only one very minor roof problem was reported to have occurred since then. The current roof could reasonably be expected to last another 15-20 years with appropriate maintenance.

### The Building Interior

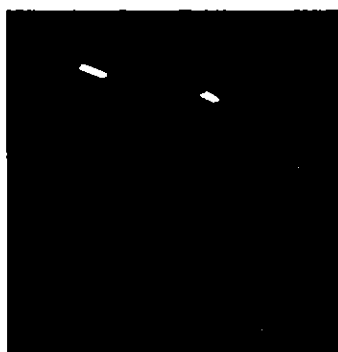
*Description:* As noted on the exterior descriptions, the building interiors very much reflect the cumulative nature of the facility. Finishes and décor vary from addition to addition, and sometimes even vary within the same room. Various portions of the building have been updated as part of the numerous addition projects, while others have not. We'll examine each area of the building by use rather than date of construction.

*Maintenance / Mechanical:* The walls are primarily painted brick. Ceilings where they exist are usually suspended acoustical panels. The boiler room appears to have a suspended plaster ceiling typical of those found in old boiler rooms. When installed, this was intended to provide fire rated protection for the roof structure, but has since been compromised in many locations and is in below average condition. It is no longer an effective fire barrier. Flooring in areas that have it is 12 x12 inch vinyl composition tile (VCT). It is in good condition.

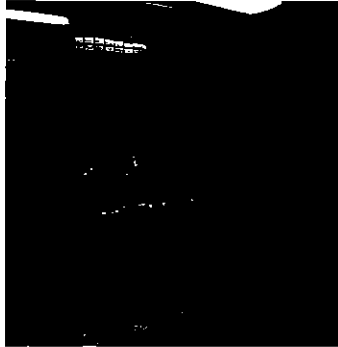


*Classrooms:* Walls consist of painted plaster, painted concrete masonry, or vinyl faced modular demountable partitions. All have sinks and casework in various configurations. The casework is in good to below average condition and seems to be insufficient in quantity. Ceilings are either suspended acoustical panels (1949, 1981, & 1993 additions) or painted plaster (1959 addition). Ceilings are in generally good condition, with minor exceptions. Floors are generally 12 x 12 VCT. Condition of the VCT is generally good. Room sizes for 1<sup>st</sup> and 2<sup>nd</sup> grades class rooms vary somewhat but are a generally adequate 850-925 square feet. The Kindergarten classrooms are undersized by 200 – 300 square feet by today's standards, and also lack the in-room style restrooms and coat / boot storage typically found in more recent designs.

*LMC:* The LMC is an open and centrally located space of approximately 3600 square feet. It is surrounded on all four sides by open corridor and access to the space is semi-controlled with the used of bookcases, low partitions, and furniture. The space includes a computer lab in addition to the typical elementary school library amenities. Ceilings throughout are 2 x 4 acoustical ceiling panels. The ceilings are in good condition. The space is mostly carpeted with some areas of VCT. The flooring is in good condition. The location of the space is advantageous in that it is at the very heart of the building and is very close to all the classroom spaces. Conversely, the open nature of the space lends it self to acoustic conflicts, both from the corridors in to the LMC, but also occasionally from the LMC to the nearby classrooms. The space also lacks any connection to the exterior for views or day lighting possibilities.



*Gymnasium and associated spaces:* The gymnasium is a space of approximately 5,570 square feet in area and has approximately 23 feet of clear vertical space. It also is used as the cafeteria and has had storage spaces added on for gym equipment and cafeteria tables in the 1993 addition. The floor is VCT. The VCT is in good condition, and is considered an appropriate floor finish for the age groups currently in the school. The ceiling is exposed steel structure. Both the bottom of the structural deck and the top ten feet of the concrete masonry walls have been sprayed with what appears to be a foam type insulation. This condition is visually unattractive and would not appear to very resistant to damage from ball strikes. I have concern about the appropriateness of this installation and recommend that its condition be monitored closely to prevent the material from falling to where it can come into contact with students and staff. I further recommend that the district seek to obtain and MSDS sheet or other independent testing verification for the material to determine its appropriateness to be exposed in a gymnasium or cafeteria context.



*Toilet Facilities:* As one would expect in a school built in many phases over many years, the toilet facilities vary considerably in size, access, and finish. Currently the entire facility provides 10 water closets, 13 urinals, and 15 lavatories for boys, 19 water closets, 14 lavatories for girls, and 3 dedicated toilet rooms with 1 water closet and 1 lavatory each for staff members. From a quantity standpoint, the fixture count for students is adequate, while the staff could probably use 1 additional toilet room. From a location standpoint, the restrooms are spread well throughout the facility. A few areas lack toilet facilities. Recent school design typically includes restrooms specifically dedicated to kindergarten rooms, where children are still of an age to require some occasional teacher assistance, and the nurse's room where sick students would typically have direct access to a toilet room. All restrooms but one do not meet current handicap accessibility requirements in various ways.

Some are close to compliance, and do not meet requirements in minor ways. These would still allow some use by many handicapped students, while other restrooms could be difficult for handicapped students or teachers to even enter, let alone use. Most rooms have tiled or terrazzo floors and walls, and painted plaster ceilings. These are in good to below average condition.

*Administrative Areas:* The administrative offices are immediately adjacent to and provide visual control of the building main entrance, although visitors are not forced through the office area. Included in this area are spaces for Work Room, Clerical Space, Principal's Office, Reading Specialist Office, Nurses' Office, Conference Room, Staff Toilet, Data Room, and Storage. Floor finishes are generally carpeting, with VCT in work room, nurse's office, and ceramic tile in the toilet room. The floor finishes are in above average condition. Ceilings are all suspended acoustical panels. The panels are in good condition. Wall finishes are vinyl faced modular demountable partitions, which are in good condition. All spaces are cramped. There is no dedicated "Time out" space.



*Corridors, Exiting, Accessibility, and Fire Separations:* The typical corridor is eight to ten feet wide and has VCT floors, acoustic panel ceilings, and painted or tiled wall surfaces. The finishes are in generally in good condition, with isolated areas that are below average. One condition noted as potentially dangerous is an unsecured access panel to a piping tunnel in the floor in the 1959 section. Most student coat/boot/backpack storage is on open hooks or movable cubbies in the corridors. While this is common practice in many older schools, fire departments in some municipalities discourage or restrict this practice because of the added danger of cluttering exit pathways with combustible materials. Exiting is generally good. Grade level exits are available to all floor levels and there are no true dead end corridors. One significant exiting problem exists. The exits labeled "D" & "E", while technically providing grade level exiting ("D" has a shallow wooden ramp at the east door to get wheel chair bound students to grade), once the building has been exited, there is no

safe practical route away from the building. Both are very near the edge of very steep and essentially un-walkable slopes that for all intents and purposes trap those (both able bodied and otherwise) using these exits in a small area very close to the building. The handicapped accessible route throughout the facility is good with one notable exception. The lower floor of the 1959 portion of the building is completely inaccessible. No elevator exists to connect to the main floor, and site slopes are without handrails and are steeper than can be considered accessible to gain entry from the exterior. The primary egress point (Exit "J") used by students to gain access to the outdoor playground requires the student to negotiate interior stairs. Once outside students must negotiate additional exterior stairs, or detour to a longer route, which takes them through the parking lot and across vehicle ways to get to most play areas. The building code adopted by Wisconsin in 2002 brought with it a limitation on the size of a building allowed without breaking the building into compartments or "fire areas". Because all additions to the facility were complete prior to the code change, the existing building is well past its allowable area, and has no existing fire compartmentalization.



Lodi School District  
 Primary School - Existing Facilities Survey

Architectural

The following table summarizes the useful life expectancy of the building materials and components mentioned in the narrative if the building materials and components are well maintained.

Component	Description	Condition	Useful Life Expectancy	10 year cost	Remarks
<b>Site</b>					
Paved Parking & Playground Areas	Asphalt	Poor	0 years	\$75,000	Full replacement recommended
Playground Equip. North		Good	10 years	\$500	Maintenance
Playground Equip. East		Above Average	15 Years	\$500	Maintenance
Retaining walls	Concrete	Good	10 years	\$0	
	Concrete masonry	Above Average	20 years	\$0	
	Stone	Below Average	1-5 years	\$100,000	Full replacement
<b>1918 Building</b>					
Roof	Ballasted Membrane	Above Average	15 years	\$500	Maintenance
Walls	Built Up Bitumen	Above Average	15 years	\$3,000	Tuck point
	Brick masonry	Below Average	15 years		
	EIFS	Good	15 years	\$1,500	Patch minor damage
Windows	Single glazed steel	Below Average	1-5 years	\$10,000	Full replacement.
Doors / Frames	Steel	Good	10 Years	\$500	Frames rusted at bottoms
<b>1949 Building</b>					
Roof	Built Up Bitumen	Above Average	15 years	\$500	Maintenance
Walls	Brick masonry	Above Average	25 years	\$500	Maintenance
	Wood siding	Below Average	5 years	\$5,000	Patch and stain
Windows	Aluminum Clad Wood units	Good	10 years	\$0	
Doors / Frames	No exterior doors remain	N/A	N/A	\$0	
<b>1959 Building</b>					
Roof	Built Up Bitumen	Above Average	15-20 years	\$500	Maintenance
Walls	Brick Masonry	Above Average	30 years	\$500	Maintenance
Windows	Aluminum Curtain wall	Good	5-10 years	\$500	Maintenance
Doors / Frames	Steel	Good	10 years	\$1,500	Frames rusted at bottoms
<b>1975 Building</b>					
Roof	Built Up Bitumen	Above Average	15 years	\$500	Maintenance
Walls	Brick Masonry	Above Average	40 years	\$500	Maintenance
Windows	EIFS	Good	15 years	\$2,000	Patch minor damage
Doors / Frames	Aluminum Storefront	Good	10-15 years	\$0	
	Aluminum Storefront	Good	10-15 years	\$0	
<b>1981 Building</b>					
Roof	Built Up Bitumen	Above Average	15 years		
Walls	Brick Masonry	Above Average	35 years	\$500	Patch minor damage
	EIFS	Good	15 years	\$0	
Windows	No windows in this addition		15 years	\$0	
Doors / Frames	Steel	Good			
<b>1993 Building</b>					
Roof	Built Up Bitumen	Above Average	15 years	\$500	Maintenance
Walls	Brick Masonry	Above Average	35 years	\$500	Maintenance
Windows	Aluminum Clad Wood units	Above Average	15-20 years	\$0	
Doors / Frames	Steel	Good	15 years	\$0	

Lodi School District  
 Primary School - Existing Facilities Survey

Architectural

Component	Description	Condition	Useful Life Expectancy	10 year cost	Remarks
<b>Building Interior</b>					
Ceilings	Suspended acoustical panels	Varies	5-15 years	\$30,000	Replace 50%
	Plaster/Drywall		15 years	\$3,000	Patching
	Exposed structure	Good		\$0	Exposed Insulation potentially dangerous
Floors	VCT	Varies	2-10 years	\$20,000	Replace 50%
	Carpet	Varies	2-10 years	\$40,000	Replace 50%
	Ceramic Tile	Good	10-15 years	\$5,000	Patching
	Terrazzo	Good	20 years	\$1,000	Maintenance
Walls	Painted Drywall	Good	10-15 years	\$15,000	Repaint
	Painted Brick Masonry	Good	30-40 years	\$25,000	Repaint
	Painted Concrete Masonry	Good	40-50 years	\$10,000	Repaint
	Vinyl Covered Gypsum partition	Above Average	15-20 years	\$2,500	Patching
Cabinetry / Counters	Plastic Laminate Casework	Varies	2-10 years	\$70,000	Replace in Classrooms
<b>HVAC</b>					
Boilers	1959 Steam boilers	Below Average	1-5 years	\$550,000	Replace boilers
1949 Air handling.	Unit vents & 1975 air handling system	Below Average	1-5 years	\$115,000	Replace RTU's
1959 Air handling	Steam unit ventilators	Below Average	1-5 years	\$115,000	Replace RTU's
1975 Air handling	Roof top / heating cooling units	Below Average	1-5 years	\$115,000	Replace RTU's
1981 Air handling	Interior AHU with steam coil plus 2 small steam cabinets eaters	Below Average	1-5 years	\$75,000	Replace Gym steam air handling
1993 Air handling	Interior AHU with steam coil plus 2 small steam cabinets eaters	Above Average	5-10 years	\$75,000	Add DX coil & convert to VAV
Exhaust Systems	Mechanical ventilation provided to all required spaces	Good	10 years	\$0	
Air Conditioning	Existing out of date and inefficient	Below Average		\$100,000	Add AC to Classroom unit vents
Temperature Controls	Existing out of date and inefficient		1-5 years	\$175,000	convert to digital controls
<b>Plumbing</b>					
Water Distribution	2 inch line at SW Corner	Good	2-5 years	\$30,000	Relocate away from sanitary
	2 inch line at Kitchen	Good	2-5 years		
Water Heater	Building WH	Above Average	7 years	\$3,000	Replace
	Kitchen WH	Below Average	1 year	\$3,000	Replace
Sanitary Service	4" from building, 6" from Gym	Below Average			Relocate away from water
Toilet Rooms	Toilets original, not ADA compliant. Sinks have ADA faucets, urinals floor mounted	Below Average	1-5 years	\$115,000	Replace 100% toilets, replace 100% Lavs
Drinking Fountains	Compliant with ADA	Good	5-10 years	\$10,000	Replace 25%
Class room sinks		Below Average	1-5 years	\$20,000	Replace 100%
Fire Sprinkler System	None at this time	N/A	N/A		

Component	Description	Condition	Useful Life Expectancy	10 year cost	Remarks
<b>Electrical</b>					
Service & Distribution	1200A, 120/208V 3 phase, 4 wire	Above Average		\$0	
Panel boards		Above Average		\$15,000	
Generator		N/A		\$0	Not feasible in building
Lighting		Good		\$90,000	Add T8 lamps and ballasts
Fire Alarm	Simplex 4001 - does not comply with current requirements	Above Average		\$85,000	Add horns and strobes to comply, upgrade system
Intercom	Dukane MACS system	Above Average		\$0	
Data Distribution	Data rack not in dedicated room	Above Average		\$0	
Telephone	Recently upgraded Fujitsu switch	Above Average		\$0	
Keyless Entry	2 doors only - networked to High School	Above Average		\$0	
<b>Estimated 10 Year Maintenance and Upgrade Cost Total</b>				<b>\$2,117,500</b>	

**Site and Building Deficiencies:**

1. Asphalt paved areas are in poor condition and need replacement as soon as budget will allow.
2. Slopes of building site cause poor exiting conditions on buildings west and northwest sides.
3. Interaction of site vehicle and pedestrian traffic potentially unsafe.
4. Access to play areas requires the use of stairs.
5. Dumpsters are unenclosed.
6. The site has inadequate provisions for parent pick-up and drop-off.
7. Restrooms do not meet current handicap accessibility requirements.
8. Lower floor level completely inaccessible by handicapped.
9. Aluminum Curtainwall system has poor thermal performance.
10. Boilers Need to be replaced.
11. Many Roof top units need to be replaced.
12. Interior air handling units need to be replaced.
13. Water service or sanitary sewer entrance should be relocated.
14. Water heaters will need to be replaced.
15. Toilets are outdated and need to be replaced.
16. Sinks and lavatories are outdated and need to be replaced.
17. Lighting fixtures need new ballasts and new lamping.

The following report is the result of a site survey of the existing plumbing systems at the Lodi School District Primary Elementary School and dialogue with District staff. The surveys and discussions with the Staff were completed by Larry Schultz of Muermann Engineering, LLC on March 7<sup>th</sup>, 2007. Inquiries were also made to the water utility to gather additional information. Recommendations made in this report are not to be considered required. Actual required work can only be determined on a specific scope of work (i.e. a specific renovation or addition proposal).

### Primary Elementary School

#### Water Distribution:

This facility is served by a 2 inch water service in the southwest corner of the main building. This service enters the building on the Lower Level to serve the building. Presently, the water service comes into the building within a few feet of the sanitary sewer.

There is also a 2 inch water service serving the kitchen area.

#### Water Heater:

The existing water heater in the boiler room appears to be in good condition. It is presently 7 years old and should have another 8 years of useful life.

There is a water heater serving the kitchen that is presently 14 years old and will need to be replaced in the near future, due to expected useful life of this equipment.

#### Sanitary Service:

There is an existing 4 inch sanitary service that exists the building below the Lower Level floor at the southwest corner. There are no sump pumps in the building as everything drains by gravity to the street.

There is a 6 inch sanitary leaving the Gym addition restrooms. The kitchen drainage was added to this sanitary sewer.

#### Storm Service:

This facility currently has minimal problems with storm drainage with the exception of the building exit near Rm 502 on the north side. Storm water ponds after a strong storm and may need yard grading to correct. This was not observed during our walk-through, but indicated by building and grounds.

#### Toilet Rooms:

The existing water closets appear to be original to the 1940's or 1950's. No ADA height water closets were observed in the building.

The school maintenance personnel have done a good job of replacing lavatory faucets with ADA wristblade handles as most are currently wristblade type.

Urinals are stall type which can be used by physically handicapped males.

#### Drinking Fountains:

The drinking fountains in the facility appear to be at proper height for ADA requirements and proper push button operation. Most fountains measure 29 to 34 inches to the rim of the drainage surface.

Fire Sprinkler System:

The facility is not sprinkled at this time.

Classroom Sinks:

A few classroom sinks became detached from the water heater during a building addition years ago. Maintenance personnel added a 5 gallon electric water heater under the sink of Rm 205 and connected the classrooms.

Primary Elementary Recommendations

Water Distribution:

The existing 2 inch water service needs to be relocated from its present location to provide distance from the sanitary sewer below the Lower Level classroom floor. There is a potential for contamination of the water service if a sanitary pipe leaks.

Water Heater:

The existing water heater in the boiler room is small and, as long as the teachers seem to be tolerating the availability of hot water, we do not recommend replacement of the water heater at this time. Otherwise, replacing the existing 50 gallon, 40 mbh water heater with a new 75 gallon, 180 mbh water heater will solve any lack of hot water issues.

The existing water heater in the kitchen will need replacement in the near future. However it is functioning at this time.

Sanitary Service:

We recommend relocation of the sanitary sewer or water service to relieve the potential of sewage contaminating the 2 inch water service. There was a coupling break in the sanitary pipe next to the water meter at the time of our inspection that indicates the piping may be old enough to need replacement with new.

Storm Service:

We recommend regrading outside the north entrance of the building and Rm 502, to alleviate the standing water issue.

Toilet Rooms:

If ADA upgrades are needed in the future, replacement of some water closets will be needed. ADA height fixtures will need to be installed and underfloor drainage piping may need to be relocated to properly install the water closet.

Existing fixtures are nearing the end of their useful life. This could be an area of upgrade.

Drinking Fountains:

Drinking fountains may be nearing the end of their useful life as well. Discussions with Maintenance did not disclose equipment issues.

Fire Sprinkler System:

If future additions are provided, fire protection may need to be added which will require a new 6 inch water service for fire sprinkler water.

Classroom Sinks:

Existing sinks are nearing the end of their useful life since it seems they some were installed in the 40's and 50's.

Opinion of Cost

1.	Fire protection for a new addition	\$2.50/sf
2.	New water service whether for fire protection upgrade or to correct present 2 inch meter location	\$30,000
3.	Replace existing water heaters	\$3,000 each
4.	Install new ADA water closet	\$3,000 each
5.	Replace a sink, classroom or toilet room	\$1,000 each
6.	Replace a drinking fountain	\$2,000 each
7.	Replace a water closet (other than ADA water closet)	\$800 each

The following report is the result of site surveys of the existing electrical systems at all of the Lodi Primary Elementary School District building and dialogue with District Buildings and Grounds Staff. The surveys and discussions with the Staff were completed by Curt Krupp of Muermann Engineering, LLC on March 7, 2007. This gathering of information was completed to determine the condition of the existing equipment and systems. Recommendations made in this report are not to be considered required. Actual required work can only be determined on a specific scope of work (i.e. a specific renovation or addition proposal).

### **Primary Elementary School**

#### Existing Conditions

##### Electrical Service and Distribution:

The existing service is 1200A, 120/208V 3-phase, 4-wire. The existing switchboard has additional space for breaker additions.

##### Panelboards:

The panelboards appear to be in good condition with the exception of the panels located in the oldest part of the building and boiler room. These panels were dated and could use upgrading. The kitchen panel is noted to be full.

##### Emergency Generator and Transfer Switch:

No generator is installed in this facility.

##### Lighting:

The majority of the lighting within this building consists of 2x4 lay-in fluorescent fixtures with T12 lamps and ballasts. The district has upgraded a very minimal amount of fixtures in this building. The gym lighting is metal halide type high-bay. The exit lights, for the most part, are LED with some old-style incandescent type still remaining.

It appears that the emergency lighting was also recently upgraded.

##### Fire Alarm:

A Simplex 4001 non-addressable fire alarm system is currently installed in the facility. Horns and strobes were located in the corridors. No strobes were observed in classrooms or bathroom areas. The system, as is, does not comply with current fire alarm codes.

##### Intercom System:

The facility contains a Dukane MACS system serviced by Master Comm. Speakers are installed in public areas and classrooms. The head-end is located in the office area storage room. The system also controls the clocks off the main master clock furnished as part of the intercom.

##### Data Distribution:

The main data closet is located in the office area. Data cable is terminated on the patchpanel on a wall rack. Data cabling is cat 5 type. The only down-side observed with this installation is the data rack is accessible and located in a room designated for other uses.

Telephone Distribution:

The telephone system was recently upgraded to a Fujitsu phone switch. This is located in the teacher's lounge area. Each classroom has a single line phone; offices have multi-line sets.

Keyless Entry:

The existing building contains a keyless access system on two doors. This system is networked to the high school system. No other type of security system is installed in this facility.

Primary Elementary School Recommendations

Electrical Service and Distribution:

The existing service switchgear does have physical space for additional breakers and has additional ampacity to add additional load. If any large loads are added, such as air conditioners or large additions, the service will require an upgrade. Also if building additions are added in the location of the new main switchboard, a new service location will be required.

Our opinion of estimated construction cost: based on future plans

Panelboards:

Replace panels with new NQOD industrial type panelboards in boiler room. Leave existing feeders and circuits as is; only replace panels one-for-one.

Our opinion of estimated construction cost: \$15,000

Emergency Generator and Transfer Switch:

It would not be feasible to install a new emergency generator set for this building as the fire alarm and emergency lighting is currently done with battery paks.

Lighting:

If remodeling is done or there are any new additions added, we would recommend providing new T8 lamps and ballasts. Replacing the existing lamps and ballasts by the district as the T12 lamps and ballasts fail will achieve greater energy savings. We would also recommend providing motion sensors to shut lights off and dual level switching.

Our opinion of estimated construction cost (lighting): \$1.50/sf

Our opinion of estimated construction cost (motion sensors): \$100/room

Fire Alarm:

Add strobes and horns to comply with current fire alarm codes. This would include adding strobes to classrooms and bathroom areas, and all public use spaces. Also provide an upgrade to provide an addressable type fire alarm system to allow each device to be monitored independently, similar to your new high school. This would bring the facility up to full code compliance.

Our opinion of estimated construction cost: \$1.50/sf

Intercom System:

Leave existing system in place as it appears to be functioning properly and can be added to with new speakers and clocks if building additions are performed.



Data Distribution:

If new additions or additional data drops are required, we would recommend category 6 outlets be provided in the new areas. A possible new rack and cabling could be added to allow for additional room onto the existing rack.

Telephone Distribution:

Leave existing system in place as it is fairly new and can be expanded to allow for additional phones, if required. As district needs change, however, a possible upgrade to an IP based phone switch may be considered.

Keyless Entry:

Leave system as is. Expand as required to allow for additional doors or additional means of controlling the existing doors. It appears to be functioning properly and is expandable in its present state.

**General**

Overall, electrically, the building was in good condition and well maintained. To achieve greater energy savings, T8 lamps and ballast can be installed in all 4' fluorescent fixtures as the T12 fail. Also all exit lights could be changed to LED type. Most were changed, but we did observe some old-style incandescent type.

The panelboards, for the most part, are adequate with the exception of the oldest portion of the building. We would recommend upgrading these at some point in the future with commercial grade NQPD type panelboard. The service is in good condition and has additional capacity for future loads.

The fire alarm system could be upgraded to a new addressable type with full coverage to comply with all current codes to include horns and strobes in all areas.

The clock, intercom, keyless entry, and data systems can be expanded in their present state and appear to be functioning properly for this facility.

Media delivery in the classrooms may be something to look at during a remodel project as there are various means to delivery media, such as smart boards, overhead projectors, assisted listening systems, etc. Currently your rooms are not set up to allow for this capacity. If a large building upgrade or remodeling is done, perhaps additional media delivery devices should be looked at.

The following report is the result of site surveys of the existing electrical systems at all of the Lodi Primary Elementary School District building and dialogue with District Buildings and Grounds Staff. The surveys and discussions with the Staff were on or about March 7, 2007. This gathering of information was completed to determine the condition of the existing equipment and systems. Recommendations made in this report are not to be considered required. Actual required work can only be determined on a specific scope of work (i.e. a specific renovation or addition proposal).

## DESCRIPTION OF EXISTING SYSTEMS

### Boiler

The boiler plant consists of one Cleaver-Brooks gas fired steam boiler. The boiler has an output of 150 HP, or 5,000,000 BTUH. The boiler was installed in 1959. It is located in the 1949 Boiler Room.

Low pressure steam is distributed to the following areas:

- 1949 Classroom unit vents and miscellaneous radiators
- 1959 Classroom unit vents and miscellaneous radiators
- 1983 Gym air handler and cabinet heaters
- 1993 Art and Music air handler and booster coils
- 1993 Kitchen unit heaters and cabinet heaters.

Steam is distributed via tunnels to the 1949 and 1959 classroom wings. Condensate pumps located in the tunnels return condensate to the boilers. Distribution to the 1983 and 1993 additions is via overhead piping. Condensate pumps area located in the Locker area, Gym Storage, and Kitchen Storage rooms.

The boiler condensate is chemically treated to prevent pipe corrosion.

### Air Handling and Ventilating Systems

#### 1949 Building

There are three classrooms on the west side of the building (206, 208 and 209) that are served by the original Herman-Nelson steam unit ventilators. The units bring in code required fresh air through exterior louvers.

East facing classroom (205, 207) unit vents were removed in 1975 and are served by the 1975 multi-zone air handling system. A small DX fan coil unit serves the Teacher's Lounge.

#### 1959 Addition

Lower level classrooms (100-104) are served by horizontal ceiling mounted steam unit ventilators. Code required fresh air is ducted from exterior louvers to the unit vents. Upper level classrooms (200-204) are served by vertical steam unit ventilators. Fresh air is brought in directly to the unit vents via exterior louvers.

#### 1973 Addition

The central LMC is served by (2) packaged rooftop heating/cooling units. The units are nominal 8 ton cooling and 197 MBH gas heating each. The units bring in code require fresh air for ventilation and have "economizer" cycles that utilize up to 100% outdoor air for free cooling when conditions permit. Classrooms surrounding the LMC are served by a packaged rooftop multi-zone heating/cooling unit. The unit is a nominal 34 ton cooling and 375 MBH gas heating. This unit has (12) zones (rooms 300-308, 310, 205 and 207). The rooftop unit provides both heated and cooled air streams simultaneously. Room thermostats modulate mixing dampers in the zone ducts to blend the heated/cooled air to the proportions that will satisfy their set points. The rooftop unit brings in code required fresh air for ventilation and has an economizer cycle. The office area is served by (2) packaged rooftop heating/cooling units. The units are nominal 4 ton and 2 ton cooling, 90 MBH and 45 MBH gas heating. The 2 ton unit serves two exterior facing offices and vestibule. The 4 ton unit serves the interior offices. Each unit brings in a fixed amount of code required fresh air for ventilation. The units do not have economizers.

1981 Gym Addition

A 4000 CFM air handling unit with a steam heating coil supplies ventilation air to the Gym. The unit is located above a toilet room and access is difficult. The unit brings in fresh air for ventilation and has an economizer, but no mechanical cooling. There is no space in the air handling unit for a cooling coil. In addition, two small steam cabinet heaters located near the gym ceiling provide supplemental heat. Adjacent locker and toilet rooms are exhausted with air that is transferred from the Gym.

1994 Kitchen, Music, Art Addition

The kitchen is heated with a steam cabinet unit heater. The surrounding Receiving and Storage rooms have steam unit heaters. There is no fresh air ventilation directly supplied to the kitchen. Make-up air is transferred from the adjacent Gym. A 4200 CFM air handling unit suspended in the Gym storage room serves the Music and Art rooms. This unit supplies air to both rooms through duct mounted steam booster coils, which are controlled by room thermostats. There is space in the air handler for a cooling coil. The unit brings in code required fresh air and has an economizer.

Exhaust Systems

Mechanical exhaust systems are provided for all code required areas. (Kitchen Dishwasher, Toilets, Locker Rooms.) Per the original HVAC plans, all systems were designed to exhaust code required air quantities.

Air Conditioning

As previously mentioned, the following areas have mechanical cooling systems;

- 1975 IMC (2) 8 ton rooftop units
- 1975 Classrooms 34 ton multi-zone unit
- 1975 Office Areas (1) 4 ton and (1) 2 ton rooftop unit
- Teacher's Lounge (1) DX split system

The 1993 Music and Art air handler could have cooling incorporated. None of the 1949 and 1959 building unit vent systems can have AC adapted to them. New units or systems would be required.

Temperature Controls

The temperature control system is primarily pneumatic. Components from various manufacturers are used throughout the building.

**CONDITION OF EXISTING SYSTEMS**

Boiler

The Cleaver-Brooks steam boiler is 48 years old. ASHRAE lists the average life expectancy of steel fire-tube steam boilers as being 35 years. The present boiler is well beyond its useful life expectancy, as are the piping and condensate return systems.

The boiler has been well maintained, however. It is routinely inspected by Becker Boiler, and the tubes and refractory have been repaired or replaced as required. The on-going program of boiler water chemical treatment is helping to prolong the life of the boiler.

Recently, a leak in the steam piping was discovered between floors in the 1959 building. This required cutting a hole in the outside of the building in order to access the pipe and ventilate the interstitial space between floors. This piping is 48 years old, and may reflect the consequences of age as well as previous years where chemical treatment programs may not have been in place. It is likely that additional pipe failures will present themselves. Some of the piping in the 1949 building is 58 years old and also likely to develop leaks.

Air Handling and Ventilating Systems

With the exception of the 1993 Music, Art and Kitchen systems, all existing ventilating and air conditioning systems are beyond their ASHRAE useful life expectancies which are:

- Unit ventilators 25 years
- Rooftop heating/cooling units 15 years
- Air handling units 20 years

**OPERATIONAL CONSIDERATIONS**

Steam Heating System

The major steam system components are 48 years old. Deterioration is becoming apparent. The boiler is oversized for the load it is handling, and therefore inefficient. Oversized steam boilers have about 60% seasonal efficiency at best. There is no stand-by boiler. If the boiler fails, the school may need to be shut down. Steam heat does not provide good temperature control. Steam is always at 212°F and tends to overheat most of the time. Boiler water chemical treatment is an on-going expense. Trap maintenance is an on-going expense.

Rooftop Heating and Air Conditioning Units

The units are 32 years old. They simply will not last much longer. The 1975 units are inefficient by today's standards. Air cooled refrigeration equipment is available today with EER's of 13.0 or higher. The existing units probably have EER's in the range of 7.0. The multi-zone rooftop unit is especially inefficient. As mentioned, it maintains two airstreams, one hot and one cold, and blends these airstreams to satisfy the room thermostats. This is extremely inefficient. Multi-zone systems are not used today due to their high energy consumption.

Temperature Controls

Pneumatic control systems are becoming obsolete. Modern buildings use digital control systems. These systems are precise, programmable, flexible, and cost effective. They can reduce energy consumption when properly applied.

**SUMMARY**

Almost all of the existing HVAC equipment, including boilers, piping, ventilating units and air conditioning units is beyond its' ASHRAE useful life expectancy. The present boiler is functional, but 48 years old. It is vastly oversized and therefore inefficient. The steam piping has begun to show signs of deterioration. The 1976 rooftop systems are inefficient by today's standards. Plus, they are 15 years beyond their life expectancies. The present pneumatic control system is old technology. Modern control systems are digital. The present HVAC systems should not be relied on to serve any planned upgrades or additions to the present building. Although still functional, the equipment is old, obsolete, and inefficient. New equipment should be installed and the systems upgraded if the present facility is to be remodeled or expanded.

**RECOMMENDATIONS**

If renovations or additions to this facility are contemplated, the existing HVAC systems should be upgraded.

Convert from steam to hot water heat. Provide modular high efficiency boilers, new hot water piping, unit vents, and other terminal devices. Hot water heat will provide higher efficiency and better temperature control. Modular boilers will provide redundancy and stand-by capacity.

Estimated Cost: \$550,000

Replace all rooftop HVAC units with new high efficiency units. Replace the multi-zone system with a Variable Air Volume (VAV) unit and VAV boxes in the distribution ductwork for zone control. VAV systems are energy efficient in that they only provide enough cooling to satisfy the actual load and minimize the amount of "reheat" that is required to maintain room temperature.

Estimated Cost: \$350,000

Replace the Gym steam air handling unit with a unit having a hot water heating coil, a DX cooling coil and a high efficiency air cooled condensing unit.

Estimated Cost: \$75,000

Add a DX cooling coil to the Music/Art air handling unit, replace the steam heating coil with a hot water coil, and convert from constant volume reheat to VAV.

Estimated Cost: \$75,000

Add air conditioning to all new hot water classrooms unit vents (currently 13 total) with DX coils and remote condensing units.

Estimated Cost: \$100,000

Convert to digital controls.

Estimated Cost: \$175,000

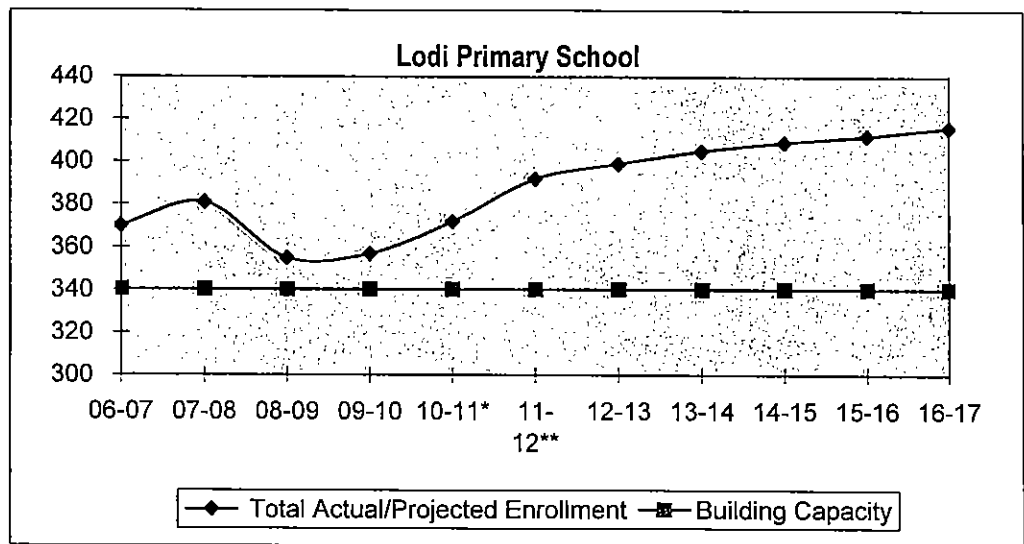
School District of Lodi  
Educational Space Needs

9/4/07

Enrollment Capacity

Lodi Primary School

	Enrollment Year Beginning										
	06-07	07-08	08-09	09-10	10-11*	11-12**	12-13	13-14	14-15	15-16	16-17
4K Program	0	0	0	0	17	17	17	17	17	17	17
Early Childhood	17	17	17	17	17	26	26	26	26	26	26
Kindergarten	110	116	106	112	114	118	119	120	121	122	123
First Grade	134	112	119	108	114	116	120	121	122	123	125
Second Grade	109	136	113	120	110	115	117	121	123	124	125
Total Actual/Projected Enrollment	370	381	355	357	372	392	399	405	409	412	416
Building Capacity	340	340	340	340	340	340	340	340	340	340	340



\* Note: The student increase beginning in 2010 represents an added K4 program enrollment

\*\* Note: The student increase beginning in 2011 represents an expanded Early Childhood enrollment

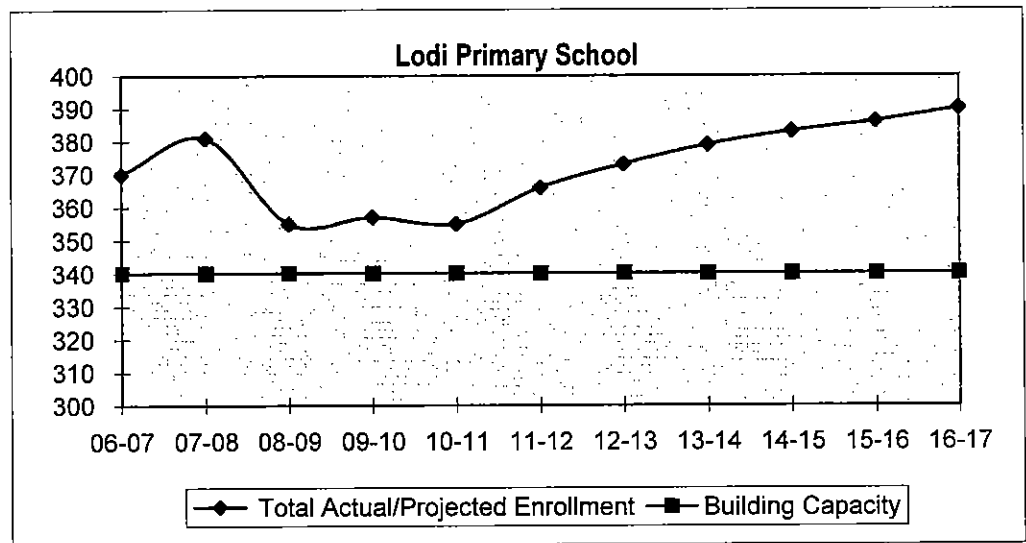
School District of Lodi  
Educational Space Needs

9/4/07

Enrollment Capacity

Lodi Primary School

	Enrollment Year Beginning										
	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17
4K Program*	0	0	0	0	0	0	0	0	0	0	0
Early Childhood*	17	17	17	17	17	17	17	17	17	17	17
Kindergarten	110	116	106	112	114	118	119	120	121	122	123
First Grade	134	112	119	108	114	116	120	121	122	123	125
Second Grade	109	136	113	120	110	115	117	121	123	124	125
<b>Total Actual/Projected Enrollment</b>	<b>370</b>	<b>381</b>	<b>355</b>	<b>357</b>	<b>355</b>	<b>366</b>	<b>373</b>	<b>379</b>	<b>383</b>	<b>386</b>	<b>390</b>
<b>Building Capacity</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>	<b>340</b>



\* Note: The student programs would remain the same, does not include a K4 program or increased Early Childhood enrollment.





# Lodi School District

## Educational Space Needs

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### Overview

Through interviews with administration, School Board members and space utilization data, this section provides a quantitative measure of spaces needed for current and future programs.

The number of classrooms indicated is projected based on current and future enrollments. The school's current populations were obtained from the spreadsheet Third Friday in September 2006 Enrollment data provided by the School District of Lodi. The calculations factor in the published student population targets used for open enrollment in each.

We have based our building enrollment projections on the information contained within the APL 'School Enrollment Projection Series School District of Lodi, May 2007' report provided by the School District of Lodi. For this analysis PRA used the 'baseline projection model', represented on page 16 of the previously mentioned report.

There are three questions that need to be answered in order to discern overall space needs. These questions are:

1. Is the existing capacity adequate to service the needs of the district today and in the future? If not, what are the additional space needs required?
2. Are there any building space deficiencies that should be addressed immediately?
3. What facilities will be required in order to accommodate visionary programs?

Those questions will be answered in the following sections titled Capacity (current and future), Deficiency and Vision. The results are reviewed in the Summary section.

### Capacity

Is the existing capacity adequate to service the needs of the district today and in the future? If not, what are the additional space needs required? All evaluations assume that the district will continue to place students based on available space, does not change the curriculum, will continue to use the rooms as identified, and that the population grows at the expected rate.

#### Lodi Primary School

There are several ways to assess the existing primary school capacity. First, the capacity of a building can be evaluated by looking at the raw building capacity. The raw building capacity is the number of rooms multiplied by the target student to teacher ratio multiplied by 90% (which is a planning guideline for the student station utilization factor which takes into account the fact that not all classes can be equally subdivided into rooms if grade level configurations are followed). Current primary enrollment is 369. The raw capacity is 340 students. Inadequate capacity is indicated.

$$\begin{array}{ccccccc} \text{Average Room Capacity (Students/Room)} & \times & \text{Number of Rooms} & \times & \text{Student Utilization Factor} & = & \text{Enrollment Capacity} \\ 20 & & 19 & & 90\% & & 342 \end{array}$$

Secondly, the requirement for the number of rooms required can be determined by using the district target student teacher ratio and the existing enrollment. This assumes that children will be moved from room to room to exactly fill the available space. From the chart below we can see that there is the necessity for 30.75 or 31 rooms currently, and a need for 32 rooms by 2011. There are currently 28 core curriculum rooms indicating that there is a need for approximately 3 more rooms currently and 4 more rooms by 2011.

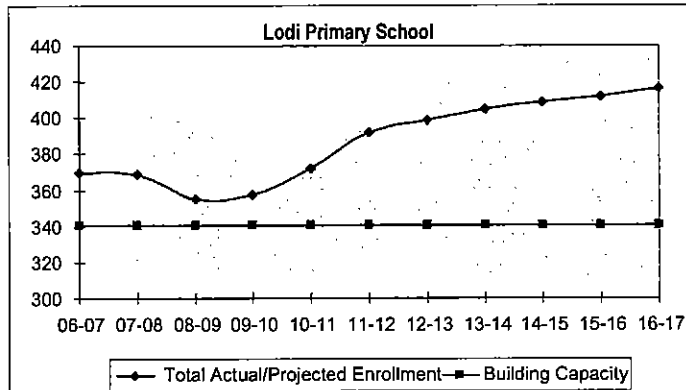
	Current Enrollment	2011 Future Enrollment	Max Class Size	Number of Sect. Per Room	Efficiency Factor	Current Number of Rooms Required (Rounded to next highest ¼ Room)	Future Number of Rooms Required (Rounded to the next highest ¼ Room)
4K Program	0	17	9	2	90%	0	2.25
Early Childhood	17	26	9	2	90%	1.25	1.75
Kindergarten	111	118	20	1	90%	6.25	6.75
First Grade	132	116	20	1	90%	7.50	6.50
Second Grade	109	115	20	1	90%	6.25	6.50
Combined	369	392				21.25	23.75

# Lodi School District Educational Space Needs

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Lastly, the capacity can be evaluated relative to the district target student teacher ratio. This capacity is calculated by taking the number of sections per program multiplied by the target student/teacher ratio, adding those capacities together and multiplying by the efficiency planning factor of 90%. In this case, 340 students can be accommodated and current enrollment stands at 369, future enrollment at 392. There is inadequate capacity by 29 students currently and 52 by the year 2011.

This graph represents the average enrollment capacity superimposed over the past and future enrollment for the Lodi Primary School. The current and future enrollment exceed the average enrollment capacity.



# Lodi School District

## Educational Space Needs

### Space Deficiencies

Are there any building space deficiencies that should be addressed? Based on district information provided, floor plan analysis and utilizing national room size standards, the following list of space deficiencies have been identified. All evaluations assume that the district will continue to place students based on available space, does not change the curriculum, will continue to use the rooms as identified, and that the population grows at the expected rate. The space deficiencies identified below do not take into account the future needs of any of the schools. Those deficiencies are located within the future/vision section of this document.

### Lodi Primary Center

Function/Grade	Qty.	Area (SF)	Extend (SF)	Recommended		Existing Room Numbers
				Area (SF)	Extend (SF)	
Administration	1	975	975	2,000	2,000	Prin., Office, Conf., Work, Nurse
Guidance	1	351	351	250	250	210, 210A
Early Childhood	1	870	870	1,200	1,200	301
Kindergarten	6	882	5,294	1,200	7,200	200, 201, 302, 303, 305, 307
1st Grade	7	912	6,382	900	6,300	202, 203, 204, 206, 208, 209, 306
2nd Grade	5	1,004	5,021	900	4,500	100, 101, 102, 103, 104
Art	1	1,698	1,698	1,698	1,698	501
IMC	1	2,838	2,838	3,000	3,000	w/o computer lab
Computer Lab	1	700	700	1,000	1,000	w/LMC
Music	1	1,527	1,527	1,527	1,527	502
Special Ed.	1	2,466	2,466	3,100	3,100	SE resource, OT/PT, T-1
Speech	1	204	204	200	200	213
Staff	1	374	374	374	374	Teacher Lounge
Locker Rooms	2	805	1,610	200	400	Phy. Ed. Office, P.T.
LGI	1	-	-	1,400	1,400	
Gym/Café	1	5,520	5,520	8,775	8,775	Separate Gym/Café

There isn't adequate administrative area. Several standard classrooms are being utilized as Kindergartens at this time and are inadequate. The Kindergarten classrooms are currently undersized. The early childhood rooms is substantially smaller than adequate. The standard classrooms; 1<sup>st</sup> grade and 2<sup>nd</sup> grade are of adequate size. The LCM/computer lab, special ed, speech and storage areas are all deficient. Another multi-purpose for cafeteria room should be added which would also be used for LGI. The total area of additional assignable space is ~7,100 square feet, requiring an addition of approximately 11,800 square feet, and approximately 4,200 square feet of remodeling.

# Lodi School District

## Existing Building Space Program

Lodi Primary School

Floor	Room Number	Name	Use	Area (SF)
'01	100	2nd Grade		890
'01	101	2nd Grade		885
'01	102	2nd Grade		885
'01	103	2nd Grade		999
'01	104	2nd Grade		1,362
'01	105	Women's Toilet		280
'01	106	Men's Toilet		900
'01	107	Storage		180
'01	108	Custodial		60
'02	200	Kindergarten		850
'02	201	Kindergarten		885
'02	202	1st Grade		885
'02	203	1st Grade		999
'02	204	1st Grade		915
'02	205	OT / PT		851
'02	206	1st Grade		885
'02	207	SE Resource		737
'02	208	1st Grade		874
'02	209	1st Grade		901
'02	210	Guidance		173
'02	210A	Guidance		178
'02	211	Teacher Lounge		374
'02	211A	Storage		27
'02	211B	Toilet Room		27
'02	212	Storage		79
'02	212A	Storage		33
'02	213	Speech / Language		204
'02	214	Men's Toilet		156
'02	215	Women's Toilet		148
'02	216	Electrical		176
'02	217	Maint. Office		145
'02	218	Mechanical		216
'02	219	Custodial		257
'02	220	Boiler Room		688
'02	300	T-1		878
'02	301	EC		870
'02	302	Kindergarten		870
'02	303	Kindergarten		846
'02	304	ED Assistant		950
'02	305	Kindergarten		923
'02	306	1st Grade		923
'02	307	Kindergarten		920

'02	308	Staff	345
'02	309	LMC Offices	208
'02	310	Teacher Resource	208
'02	311	Storage	215
'02	501	Art	1,400
'02	501A	Storage	207
'02	501B	Kiln	91
'02	502	Music	1,527
'02	600	Gymnasium	5,520
'02	601	Mechanical (Electrical)	160
'02	602	Women's Locker Room	110
'02	603	Men's Locker Room	145
'02	604	Custodial	60
'02	605	Storage	240
'02	606	Storage	240
'02	607	Table Storage	122
'02	608	Kitchen Storage	120
'02	609	Kitchen	495
'02	610	Receiving	171
'02	611	Locker Room	383
'02	612	Toilet Room	138
'02	613	Locker Room	422
'02	614	Toilet Room	138
'02	615	Food Service	125
'02	1000	Toilet Room	48
'02	1001	Offices	370
'02	1002	Reading Specialist	122
'02	1003	Principal	176
'02	1004	Shaft	43
'02	1005	Conference Room	182
'02	1006	Data Room	86
'02	1007	Nurse Office	170
'02	1008	Work Room	77
'02	1009	LMC	3,330
'02	1010	Men's Toilet	230
'02	1011	Women's Toilet	230

**Total Gross Area (SF)** **59,074**

**Assignable Area (SF)** **43,138**

Total Assignable / Total Gross 73.02%

# School District of Lodi

## Review of Options

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### Overview

This section analyzes different viable building options and approaches based on the existing facilities surveys and educational space needs. From this analysis, concept plans of the selected options are provided to help visualize the options. This is necessary to provide the project cost ranges indicated. The cost ranges included in this report in the Budget section to follow are based on construction cost projected for 2007, plus related project costs. Site acquisition and land costs are included as reference only to be verified by local real estate market. Operational and staffing expenses are not addressed as part of this study.

### Option 1:

#### Market for possible alternative uses

- Community Center for Lodi community
- Senior Citizen Center of Lodi community
- MATC satellite campus
- Renovate facility to accommodate other function/s.
  - 59,074 sq.ft @ ~\$80/sq.ft. = \$4,725,920
  - Elevator for accessibility = \$85,000
  - Mechanical upgrades = \$1,325,000
  - Electrical upgrades = \$194,610
  - **Estimated cost Option 1: \$6,330,530**
- Options that would not be feasible for alternative uses, consider Option 2
  - Housing, apartments or condominium
  - Retail
  - Commercial business

#### Pros:

- Building will be repurposed for community use.

#### Cons:

- Cost for renovation of existing building plus cost for new Primary School (see Option 4).

# School District of Lodi

## Review of Options

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### Option 2:

#### Demolition of existing building and fair market value of exiting land

- 59,074 sq.ft = 770,000 cu.ft. @ .45/cu.ft. = \$350,000
- Fair market value of land, 4.75 acres @ \$275,000/acre (to be verified): \$1,306,250
- Total difference \$956,250
- Hazardous material abatement- flooring, piping, roofing, (estimate) \$130,000
- **Total cost of Option 2: \$826,250 asset**

#### Pros:

- Abandons current Primary School site.

#### Cons:

- Build new building that would be additional cost to taxpayers.

# School District of Lodi

## Review of Options

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### Option 3:

#### **Renovate to maintain facility as an educational site. Would include expanded program for Early Childhood and increased student enrollment**

- Major renovation; computer lab, accommodate toilet rooms for Early Childhood, Kindergarten, kitchen, office for elevator  
4,200 sq.ft. @ \$150 = \$630,000
- New addition; 2 classrooms to accommodate renovation + 4 classrooms, cafeteria, LGI, elevator lobby  
11,800 sq.ft. @ \$175 = \$2,065,000
- Elevator for accessibility = \$85,000
- Sub-Total Budget Estimate: \$2,780,000 plus 20% contingency
- Mechanical upgrades = \$1,325,000
- Electrical upgrades = \$194,610
- **Total Budget Estimate Option 3: \$4,825,610**

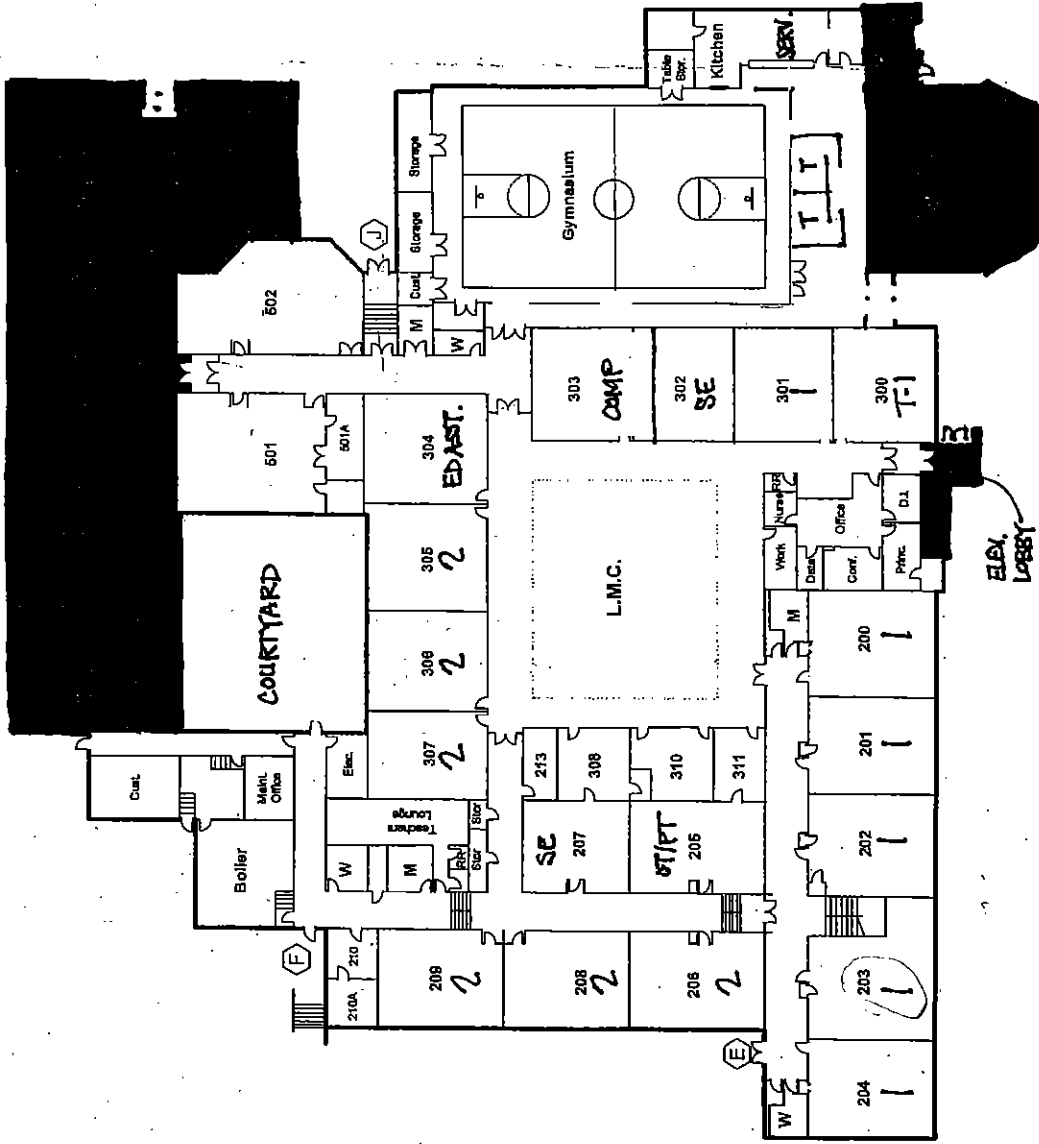
#### Pros:

- Keeps current Primary School site in use.

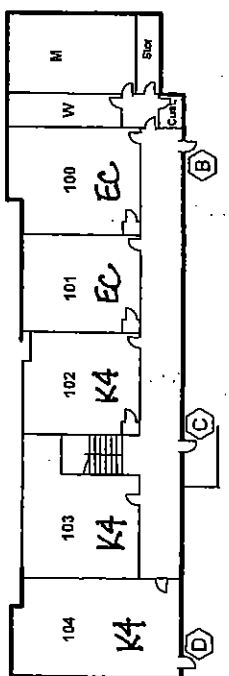
#### Cons:

- Difficult to accommodate new cafeteria.
- Investing money into an aging facility.
- Primary School on current site, with hazardous site conditions.
- Construction disruption.
- Difficult construction.





Remodeled Area  
 Building Addition



# School District of Lodi

## Review of Options

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### Option 4:

#### Build new Primary School on new site

- New Construction; 71,000 sq. ft. @ \$165.00/sq.ft = \$11,715,000
- New Site cost; ~10 acres @ \$125,00/acre = \$1,250,000
- Furniture; 65,000 sq.ft. @ \$4.00 = \$260,000
- Off-Site development cost; roads, utilities = to be determined
- Technology; equipment, fiber optic cable = to be determined
- **Total Budget Estimate Option 4: \$13,225,000** plus off-site development cost and Technology

#### Pros:

- New facility for 40-60 years.

#### Cons:

- Substantial cost to the taxpayers.

# School District of Lodi

## Recommendation

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### Overview

This section provides our recommendation for the School District of Lodi to consider when reviewing the options outlined for consideration.

The existing Primary Building is in adequate condition with a few items identified within existing facility assessment that are below average. Those items include: brick masonry and windows on 1918 building envelope, wood siding on the 1949 building envelope. These items could be repaired, along with general maintenance of the building for a few more years within useful life expectancy. Mechanical and Electrical infrastructure of the building is in adequate condition for a few more years within useful life expectancy. The School District should closely assess any major upgrades to the building, it is our recommendation that only general maintenance is performed to the building for the next few years.

Currently the buildings academic program provides for 19 classrooms for grades Kindergarten through second grade, 06-07 enrollment is 370, an average of 19.5 students per classroom. Per our building capacity formula the buildings student capacity is 340. The difference in student capacity to classrooms available would be 1.5 additional students per classroom for an average of 21 students per classroom. The ratio of students per classroom at 21, in our opinion, is adequate within standards throughout Wisconsin.

The enrollment projections, at conducted by the Applied Population Laboratory, University of Wisconsin-Madison conclude that the School District of Lodi student population will decrease after the 07-08 school year to increase to the same level in 14-15 school year. Which in our opinion, the building is adequate to support the project student enrollment until the 2014-15 school year.

If the School District of Lodi is to consider increased Early Childhood enrollment and expanded program offering for K4 program, the current Primary School building would not, in our opinion, support the expanded enrollment. We have developed, in Option 3, a solution to the expanded student enrollment, but recommend that the Board of Education evaluate the option closely by the pro-con analysis.

It appears that the School District of Lodi should consider the future facility needs for the students of the District by considering the useful life expectancy of the current Primary School building. The building is the oldest of the facilities within the district and someday will require major facility upgrades that might not be considered feasible to undertake. It is our recommendation that the School District of Lodi review alternative options for future replacement of the Primary School building, by reviewing land within the School District boundary that will be available for future development. It would be our recommendation that the School District actively pursue the most appropriate site and enter in to an agreement for future purchase. The cost for land, especially the required amount of land for a school building, is and will continue to escalate.

Our recommendations are based on our assessment of the current Primary School building, our understanding of the future student enrollment and experience of working with other School Districts within the Dane County area, and throughout Wisconsin.

## School Enrollment Projections, 2007-2016

When considering all of the projections provided in this report, it is important to recognize that school enrollment projections are more accurate in the immediate future (especially for grades K-5), than they are further into the future. More specifically, these projections are more reliable over the next five years (up to 2011/2012) than they are in the following years.

### Baseline Projection

The Baseline model (Table 8) projects enrollments using the assumption that average trends year to year, grade to grade, will continue into the future. This model extrapolates long term enrollment and birth trends into the future. The Baseline model projects that enrollment will decrease by 2.5%, showing a decrease in K-12 enrollment from 1,668 students in 2006 to 1,626 students in 2011. The projections show a gradual increase to 1,653 students by 2016.

**TABLE 8**  
**School District of Lodi**  
**Baseline Projection Model, 2007/08-2016/17**

	SCHOOL YEAR									
	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17
K	116	106	112	114	118	119	120	121	122	123
1	112	119	108	114	116	120	121	122	123	125
2	136	113	120	110	115	117	121	123	124	125
3	110	137	115	121	111	116	118	123	124	125
4	137	115	143	119	126	115	121	123	128	129
5	124	137	115	144	120	127	116	122	124	129
6	125	125	138	116	144	121	128	117	123	125
7	128	125	125	139	117	145	121	128	117	123
8	123	127	125	125	138	116	144	121	128	117
9	134	128	133	130	130	144	121	151	126	133
10	137	133	127	132	130	130	144	121	150	126
11	149	140	136	131	135	133	133	147	124	154
12	126	143	135	132	126	131	128	128	142	120
<b>TOTAL</b>	<b>1,654</b>	<b>1,649</b>	<b>1,632</b>	<b>1,625</b>	<b>1,626</b>	<b>1,634</b>	<b>1,638</b>	<b>1,647</b>	<b>1,655</b>	<b>1,653</b>
K-12	1,654	1,649	1,632	1,625	1,626	1,634	1,638	1,647	1,655	1,653
K-5	734	727	713	721	706	715	718	734	745	755
6-8	375	377	388	379	399	382	394	366	368	365
9-12	545	544	532	525	521	538	526	547	543	533
K-2	364	338	340	337	349	356	363	366	369	373
3-5	370	389	373	384	357	359	355	368	376	382