

# Requirement Detail

by Asset Name and Category

**LAKWOOD**

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood - Parking  
**Asset Number:** 500a

<b>Requirement Name</b>	Vehicular Paving: Bus Drive		
<b>Linked System</b>	Parking Lots	<b>Inspection Date</b>	08/01/2006
<b>Prime System</b>	Paving and Surfacing	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Inspec	<b>Actual Cost</b>	0
<b>Action Date</b>	08/01/2009	<b>Total Estimated Cost:</b>	35,400
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement</b>	Bus Drive	<b>Annual Energy/Ops</b>	-
<b>Location</b>		<b>Savings \$</b>	
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Very good current condition but will need overlay in about 5 years.

**PHOTOS**

**ACTION DESCRIPTION**

Overlay entire bus drive east of building.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood - Parking  
**Asset Number:** 500a

<b>Requirement Name</b>	Vehicular Paving: Gravel Parking and Drive Areas		
<b>Linked System</b>	Parking Lots	<b>Inspection Date</b>	08/01/2006
<b>Prime System</b>	Paving and Surfacing	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Inspe	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	295,000
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Gravel Drive West of Building	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Gravel drive west of building and gravel parking lot southeast of building need new curbing and paving in future.

**PHOTOS**

**ACTION DESCRIPTION**

Install new concrete curbing and pave gravel drive and parking areas at the site.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Life Safety

**Asset Name:** Lakewood - Sidewalks  
**Asset Number:** 500b

<b>Requirement Name</b>	Pedestrian Paving: Concrete Stoops and Sidewalks		
<b>Linked System</b>	Pedestrian Paving	<b>Inspection Date</b>	08/01/2006
<b>Prime System</b>	Paving and Surfacing	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Inspec	<b>Actual Cost</b>	0
<b>Action Date</b>	08/01/2007	<b>Total Estimated Cost:</b>	9,440
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Stoops and Sidewalks	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Exterior concrete stoops and portions of concrete sidewalk are damaged or settled and should be replaced.

**PHOTOS**

**ACTION DESCRIPTION**

Replace settled concrete stoops outside doors and also damaged portions of sidewalk at site.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood - Site  
**Asset Number:** 500c

<b>Requirement Name</b>	Site: North Playground		
<b>Linked System</b>	Site Improvements	<b>Inspection Date</b>	08/01/2006
<b>Prime System</b>	Site Improvements	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Inspec	<b>Actual Cost</b>	0
<b>Action Date</b>	08/01/2009	<b>Total Estimated Cost:</b>	7,080
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	North Asphalt Playground	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

North asphalt playground in good current condition but will need overlay in 3-5 years.

**PHOTOS**

**ACTION DESCRIPTION**

Overlay asphalt playground north of building.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Accessibility

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Interior Construction: Accessibility		
<b>Linked System</b>	Interior Construction	<b>Inspection Date</b>	11/12/2006
<b>Prime System</b>	Interior Construction	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	JQP Inc.	<b>Actual Cost</b>	0
<b>Action Date</b>	11/12/2009	<b>Total Estimated Cost:</b>	5,607
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Interior	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

This requirement includes accessibility issues encountered while you move through the school. Items include: providing elevator or ramp, adding/modifying handrails (only if the level is not served by an elevator or other accessible route), widening doors, replacing door hardware, eliminating protruding hazards and all permanent room identification signage as well as directional signage (adding signs, replacing signs and relocating signs).

**PHOTOS**



Interior Construction: Accessibility

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**ACTION DESCRIPTION**

Make necessary modifications to correct accessibility issues as needed.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Accessibility

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Plumbing: Accessibility	<b>Inspection Date</b>	11/12/2006
<b>Linked System</b>	Plumbing	<b>Finish Date</b>	-
<b>Prime System</b>	Plumbing	<b>Status</b>	Open
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	JQP Inc.	<b>Total Estimated Cost:</b>	4,478
<b>Action Date</b>	11/12/2009	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Plumbing throughout		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

This requirement includes accessibility issues in toilet rooms, locker/shower rooms and drinking fountains. All requirements for upgrading a toilet or locker/shower room are included in this category, even if they are not plumbing (i.e. relocating stall partitions to provide 60 in. wide stall, relocating toilet paper dispenser or grab bars, etc.). Items include: replacing drinking fountains, raising/lowering toilets, installing grab bars, relocating toilet paper or towel dispensers, adding handheld shower wands, and providing 60 in. wide fully compliant toilet stalls.

Note: the actual cost to complete work in toilet rooms may be increased by a decision to do work beyond what is required for accessibility, such as re-tiling, replacing all fixtures, replacing all stall partitions, etc.

**PHOTOS**



Plumbing: Accessibility

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**ACTION DESCRIPTION**

Upgrades as needed to meet plumbing accessibility requirements.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Accessibility

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Site Improvements: Accessibility		
<b>Linked System</b>	Site Improvements	<b>Inspection Date</b>	11/12/2006
<b>Prime System</b>	Site Improvements	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	JQP Inc.	<b>Actual Cost</b>	0
<b>Action Date</b>	11/12/2009	<b>Total Estimated Cost:</b>	4,231
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Exterior	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

This requirement includes accessibility issues from the moment you are on school grounds until you get to the front door. Items include: adding and identifying accessible parking and adding or modifying accessible routes (sidewalks).

**PHOTOS**



Site Improvements: Accessibility

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**ACTION DESCRIPTION**

Correct exterior accessibility issues as required.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Air and Water Quality

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Add Dehumidification to the Classroom Areas		
<b>Linked System</b>	Cooling Generating Systems	<b>Inspection Date</b>	07/12/2006
<b>Prime System</b>	Cooling Generating Systems	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	225,970
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	West Classrooms and East Classrooms	<b>Annual Energy/Ops Savings \$</b>	1,006
<b>Savings Description</b>	Energy savings will be generated by using heat exchangers to recover exhaust air energy in order to pre-condition make-up air. In addition, each classroom occupancy controls will reduce ventilation rates and control the lighting to save energy when rooms are not in use. Additional energy will be consumed to provide dehumidification during the cooling months.		

**REQUIREMENT DESCRIPTION**

The air handling units (AHU-1 and AHU-2) serving the classroom areas have no means of dehumidification. Without dehumidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions. As part of this upgrade, the new mechanical system will incorporated heat recovery and classroom occupancy / CO2 controls to save energy.

**PHOTOS**



HVAC: Add Dehumidification to the Classroom Areas

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**ACTION DESCRIPTION**

*All Costs in USD.*

Addition of a dehumidification coils to the air handling units serving the West and East Classrooms via modification and internal closed cell AHU liner. The supply duct is already externally insulated in mechanical rooms and above ceilings. Upgrade the controls system. Test and Balance and Commissioning of the air handling systems.

VAV boxes with hot water reheat coils would be added to the ductwork in the classrooms. New acoustical tile ceilings would be installed.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Air and Water Quality

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Add Dehumidification to the Media Center and Office Areas		
<b>Linked System</b>	Cooling Generating Systems	<b>Inspection Date</b>	07/12/2006
<b>Prime System</b>	Cooling Generating Systems	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	104,194
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Center Section and Administration/Classroom Areas	<b>Annual Energy/Ops Savings \$</b>	1,006
<b>Savings Description</b>	Energy savings will be generated by using heat exchangers to recover exhaust air energy in order to pre-condition make-up air. In addition, each classroom occupancy controls will reduce ventilation rates and control the lighting to save energy when rooms are not in use. Additional energy will be consumed to provide dehumidification during the cooling months.		

**REQUIREMENT DESCRIPTION**

The air handling unit (AHU-3) serving the Media Center and Office Areas has no means of dehumidification. Without dehumidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions. As part of this upgrade, the new mechanical system will incorporate heat recovery and classroom occupancy / CO2 controls to save energy.

**PHOTOS**

**ACTION DESCRIPTION**

Addition of a dehumidification coils to the air handling unit serving the Media and Office Areas via modification and internal closed cell AHU liner. The supply duct is already externally insulated in mechanical rooms and above ceilings. Upgrade the controls system. Test and Balance and Commissioning of the air handling systems.

VAV boxes with hot water reheat coils would be added to the ductwork in the Media Center and Office Areas. New acoustical tile ceilings would be installed.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Air and Water Quality

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Dehumidification Chiller and Piping Mains		
<b>Linked System</b>	Chilled Water Distribution	<b>Inspection Date</b>	07/12/2006
<b>Prime System</b>	Chilled Water Distribution	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	233,640
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Building	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Lakewood Elementary School has no means of dehumidification. Without dehumidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

**PHOTOS**



HVAC: Dehumidification Chiller and Piping Mains

**ACTION DESCRIPTION**

Addition of an air cooled chiller, pumps, and insulated chilled water pipe distribution system. Chiller to be screened for appearance purposes.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Air and Water Quality

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Plumbing: Water Softener Installation		
<b>Linked System</b>	Plumbing	<b>Inspection Date</b>	07/13/2006
<b>Prime System</b>	Plumbing	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	07/13/2009	<b>Total Estimated Cost:</b>	5,900
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Boiler Room - Mechanical/Receiving Area	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Lakewood Elementary School get it's domestic water from a well water system. This system has had issues with sand. A water filter has been recently installed which has helped with the sand issue, but the water is still hard. A water softener would help reduce the maintenance required on the plumbing fixtures.

**PHOTOS**



Plumbing: Water Softener Installation

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**ACTION DESCRIPTION**

Install a domestic water softener on the hot water supply to the building.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Appearance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Floor Finishes: Replace Carpet	<b>Inspection Date</b>	07/26/2006
<b>Linked System</b>	Floor Finishes	<b>Finish Date</b>	-
<b>Prime System</b>	Floor Finishes	<b>Status</b>	Open
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Siddens, Lance	<b>Total Estimated Cost:</b>	17,135
<b>Action Date</b>	07/26/2007	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Corridors		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Replace existing corridor carpet with vinyl composition tile (VCT). Approximately 285 S.Y. in area

**PHOTOS**



Floor Finishes: Replace Carpet

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**ACTION DESCRIPTION**

Replace approximately 285 S.Y. of existing carpet with vinyl composition Tile (VCT) in corridors.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Appearance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Floor Finishes: Replace Carpet	<b>Inspection Date</b>	07/26/2006
<b>Linked System</b>	Floor Finishes	<b>Finish Date</b>	-
<b>Prime System</b>	Floor Finishes	<b>Status</b>	Open
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Siddens, Lance	<b>Total Estimated Cost:</b>	112,223
<b>Action Date</b>	07/26/2012	<b>Funding Year</b>	-
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Classrooms, Library, Office (Main)	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

The current carpet condition in classrooms, library, and main administrative office areas are good but, will exhibit normal deterioration over time.

**PHOTOS**



Floor Finishes: Replace Carpet

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**ACTION DESCRIPTION**

Replace approximately 1700 S.Y. of existing carpet in classrooms, library, and administrative offices. Upgrade quality of existing (heavier backing).

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Appearance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Site Improvements: General Landscaping	<b>Inspection Date</b>	10/03/2006
<b>Linked System</b>	Site Improvements	<b>Finish Date</b>	-
<b>Prime System</b>	Site Improvements	<b>Status</b>	Open
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Northern Lights Landscaping	<b>Total Estimated Cost:</b>	16,751
<b>Action Date</b>	10/03/2007	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Property around facility		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

There are areas around the facility (lawn, trees, shrubs and perennials) that require care to improve appearance. There are negative slope areas around the facility bringing drainage towards the facility instead of away from the facility. There are lawn areas around the immediate building requiring restoration.

**PHOTOS**

**ACTION DESCRIPTION**

Pruning, cultivating and mulching of existing trees, shrubs and perennials. Correct negative slope around foundations by installing soil and sod. Restore lawn at stressed and/or non existing lawn areas around immediate building by installing soil and sod.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Appearance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Wall Finishes: Paint Interior Gypsum Board		
<b>Linked System</b>	Wall Finishes	<b>Inspection Date</b>	07/26/2006
<b>Prime System</b>	Wall Finishes	<b>Finish Date</b>	-
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Siddens, Lance	<b>Actual Cost</b>	0
<b>Action Date</b>	07/26/2012	<b>Total Estimated Cost:</b>	80,565
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Classroom, offices, etc.	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Re-paint existing gypsum board surfaces.

**PHOTOS**



Wall Finishes: Paint Interior Gypsum Board

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**ACTION DESCRIPTION**

Re-paint existing gypsum board in classrooms, offices, work rooms, etc.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Beyond Rated Life

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Lighting Equipment: Occupancy Sensors		
<b>Linked System</b>	Lighting Equipment	<b>Inspection Date</b>	09/19/2006
<b>Prime System</b>	Lighting Equipment	<b>Finish Date</b>	-
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Ruud, Mark	<b>Actual Cost</b>	0
<b>Action Date</b>	09/19/2012	<b>Total Estimated Cost:</b>	5,898
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement</b>	Classrooms	<b>Annual Energy/Ops</b>	-
<b>Location</b>		<b>Savings \$</b>	
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

The existing classroom occupancy sensors are single technology sensors and will need replacement in the mid term future. Dual technology sensors offer improved performance.

**PHOTOS**

**ACTION DESCRIPTION**

Remove and replace existing classroom occupancy sensors with dual technology occupancy sensors.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Beyond Rated Life

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Other Equipment - Walk-In Freezer		
<b>Linked System</b>	Equipment and Furnishings	<b>Inspection Date</b>	09/15/2006
<b>Prime System</b>	Equipment and Furnishings	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Stout Mechanical	<b>Actual Cost</b>	0
<b>Action Date</b>	09/15/2007	<b>Total Estimated Cost:</b>	25,830
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Receiving Area	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Cabinet is old, panels are sagging and there are gaps in seams. Condensing unit runs constantly. There is a frost line to head of compressor. Water is pooling up onto cabinet. Evaporator is also in poor condition.

**PHOTOS**



Other Equipment - Walk-In Freezer

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**ACTION DESCRIPTION**

Install new cabinet walls, air cooled condenser and evaporator.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Beyond Rated Life

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Roof System: Replace Roof	<b>Inspection Date</b>	08/01/2006
<b>Linked System</b>	Roofing	<b>Finish Date</b>	-
<b>Prime System</b>	Roofing	<b>Status</b>	Open
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Inspec	<b>Total Estimated Cost:</b>	681,549
<b>Action Date</b>	08/01/2012	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	1231
<b>Requirement Location</b>	Entire Building		
<b>Savings Description</b>	Energy savings generated from improved roof insulation.		

**REQUIREMENT DESCRIPTION**

Roof system beyond rated service life. Includes roof Areas 1-4.

**PHOTOS**



Roof System: Replace Roof

**ACTION DESCRIPTION**

Replace the ballasted EPDM roofs in this area. Sequence work with roof-level wall restoration.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Beyond Rated Life

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Site Furnishings: Playground Upgrade / Replacement		
<b>Linked System</b>	Site Furnishings	<b>Inspection Date</b>	10/03/2006
<b>Prime System</b>	Site Furnishings	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Earl F. Anderson	<b>Actual Cost</b>	0
<b>Action Date</b>	10/03/2007	<b>Total Estimated Cost:</b>	81,916
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Facility Grounds	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Playground equipment (built in 1990) was relocated onto the site in 1992. The hillside slide does not meet safety standards. There is no path for accessibility. The playground equipment does not meet current safety and ADA requirements. Site is close to adequate for population size.

**PHOTOS**



Site Furnishings: Playground Upgrade / Replacement

**ACTION DESCRIPTION**

Replace existing playground with new equipment to meet needs of enrollment. Replace surface material with district standard and replace edging as needed.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Capacity

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Electrical Distribution: Insufficient Capacity		
<b>Linked System</b>	Electrical Service and Distribution	<b>Inspection Date</b>	08/11/2006
<b>Prime System</b>	Electrical Service and Distribution	<b>Finish Date</b>	-
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	08/11/2012	<b>Total Estimated Cost:</b>	18,290
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Existing Branch Panels are lacking capacity for additional circuits. Panels must be added to accommodate circuits needed for additional receptacles in classrooms.

**PHOTOS**



Electrical Distribution: Insufficient Capacity

**ACTION DESCRIPTION**

Provide two new 100 amp feeders and panels to help carry the extra load of additional receptacles throughout the building. Panels will be fed from existing electrical service.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Capacity

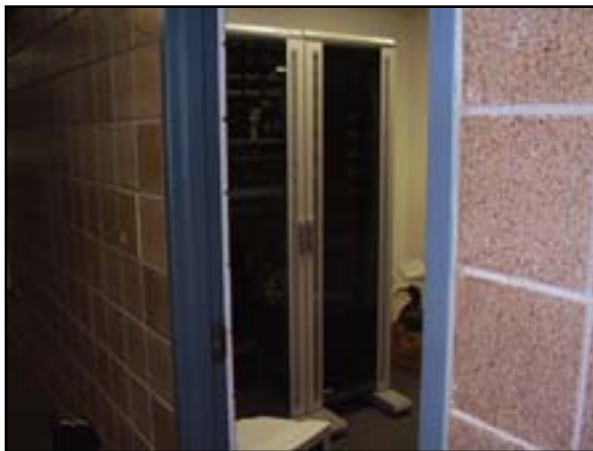
**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Add Cooling Capability to Computer Lab and IT Data Room		
<b>Linked System</b>	Cooling Generating Systems	<b>Inspection Date</b>	07/11/2006
<b>Prime System</b>	Cooling Generating Systems	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	07/11/2007	<b>Total Estimated Cost:</b>	133,930
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	IT Data Room - Center Section off Media Center	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

The Computer Lab and IT Data rooms get hot, which could cause technology equipment failure.

**PHOTOS**



HVAC: Add Cooling Capability to IT Data Room

-

**ACTION DESCRIPTION**

Provide a fan coil with a DX cooling coil and full economizer capability to utilize free cooling when outdoor conditional allow.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Capacity

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Wiring Devices: Insufficient Receptacles		
<b>Linked System</b>	Branch Wiring Devices	<b>Inspection Date</b>	07/21/2006
<b>Prime System</b>	Branch Wiring Devices	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	30,090
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

With rapid advances in technology, additional receptacles may be required in 6 to 10 years to keep pace with the growing number of electronics used in classrooms.

**PHOTOS**



Wiring Devices: Insufficient Receptacles  
Wiring Devices: Insufficient Receptacles

**ACTION DESCRIPTION**

Provide 2 additional receptacles per room with one new circuit provided to each room. New branch panels will be required to obtain the additional circuits.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Exterior Doors: Replace Doors and Frames		
<b>Linked System</b>	Exterior Doors	<b>Inspection Date</b>	08/11/2006
<b>Prime System</b>	Exterior Doors	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Siddens, Lance	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	95,580
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	All exterior doors and frames	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

All existing exterior doors and frames are steel. Exterior frame at room 107 is rusting and deteriorating rapidly. Previous center posts have been replaced due to rust and are a constant maintenance issue per building engineer. Steel doors and frames to be replaced with aluminum.

**PHOTOS**



Exterior Doors: Replace Doors and Frames

-

**ACTION DESCRIPTION**

Replace 20 exterior steel doors and 11 exterior steel frames with aluminum doors and frames.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Exterior Walls: Wall Restoration		
<b>Linked System</b>	Exterior Walls	<b>Inspection Date</b>	08/01/2006
<b>Prime System</b>	Exterior Walls	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Inspec	<b>Actual Cost</b>	0
<b>Action Date</b>	08/01/2007	<b>Total Estimated Cost:</b>	289,100
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Building	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Deteriorated roof-level and grade-level walls for entire building. Severe deterioration is located at rock-face CMU sills.

**PHOTOS**



Exterior Walls: Wall Restoration

-

**ACTION DESCRIPTION**

Tuck pointing, spot CMU replacement, CMU sill replacement, joint sealant replacement, and painting. Sequence roof-level wall work with reroofing work.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Floor Finishes: Replace Damaged Quarry Tile		
<b>Linked System</b>	Floor Finishes	<b>Inspection Date</b>	07/26/2006
<b>Prime System</b>	Floor Finishes	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Siddens, Lance	<b>Actual Cost</b>	0
<b>Action Date</b>	07/26/2009	<b>Total Estimated Cost:</b>	1,965
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Main Entry Corridor (Front Entry)	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Replace cracked quarry tile in front entry corridor on main office side.

**PHOTOS**



Floor Finishes: Replace Damaged Quarry Tile  
 -

**ACTION DESCRIPTION**

Replace approximately 15- 20 S.F. of cracked quarry tile in front entry corridor near main office.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Deferred Maintenance

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Ductwork Cleaning	<b>Inspection Date</b>	11/29/2006
<b>Linked System</b>	Air Distribution Systems	<b>Finish Date</b>	-
<b>Prime System</b>	Air Distribution Systems	<b>Status</b>	Open
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Schumacher, Russ	<b>Total Estimated Cost:</b>	64,900
<b>Action Date</b>	11/29/2012	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Building Wide		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Clean the duct systems that are not replaced by the indoor air quality upgrade.

**PHOTOS**

**ACTION DESCRIPTION**

Clean ductwork that is not replaced due to indoor air quality upgrades.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Energy and Operational Efficiency

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Controls: VendingMiser Vending Machine Controls		
<b>Linked System</b>	Controls and Instrumentation	<b>Inspection Date</b>	09/23/2006
<b>Prime System</b>	Controls and Instrumentation	<b>Finish Date</b>	-
<b>Priority</b>	1- Currently Critical (Immediately)	<b>Status</b>	Open
<b>Inspector Name</b>	Ruud, Mark	<b>Actual Cost</b>	0
<b>Action Date</b>	09/23/2006	<b>Total Estimated Cost:</b>	826
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Vending Machines	<b>Annual Energy/Ops Savings \$</b>	89
<b>Savings Description</b>	VeningMiser controls cycle power to the vending machine during unoccupied times to save energy.		

**REQUIREMENT DESCRIPTION**

Install VendingMiser controls on vending machines.

**PHOTOS**

**ACTION DESCRIPTION**

-

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Energy and Operational Efficiency

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Boiler Room Upgrades	<b>Inspection Date</b>	07/12/2006
<b>Linked System</b>	Heat Generating Systems	<b>Finish Date</b>	-
<b>Prime System</b>	Heat Generating Systems	<b>Status</b>	Open
<b>Priority</b>	4- Mid Term Needs (6-10 Yrs)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Schumacher, Russ	<b>Total Estimated Cost:</b>	133,576
<b>Action Date</b>	07/12/2012	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	676
<b>Requirement Location</b>	Boiler Room - 1918 Building		
<b>Savings Description</b>	Energy savings generated from operating a more efficient steam boiler.		

**REQUIREMENT DESCRIPTION**

The existing steam boilers have had operational and maintenance in the past. One boiler is electric (4 stage) and One boiler utilizes fuel oil as fuel. Each boiler is capable of carrying the building by itself. Neither boiler is rated for hot water operation on the nameplate.

**PHOTOS**



HVAC: Boiler Room Upgrades

-

**ACTION DESCRIPTION**

Install one medium efficiency boiler that would operate on fuel oil or propane. Install one high efficiency condensing boiler for primary operation and increased boiler efficiency.

Install primary circulating pump for the medium efficiency boiler.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Energy and Operational Efficiency

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Steam System Steam Trap Upgrades		
<b>Linked System</b>	Steam Distribution Systems	<b>Inspection Date</b>	09/07/2006
<b>Prime System</b>	Steam Distribution Systems	<b>Finish Date</b>	-
<b>Priority</b>	1- Currently Critical (Immediately)	<b>Status</b>	Open
<b>Inspector Name</b>	Ruud, Mark	<b>Actual Cost</b>	0
<b>Action Date</b>	09/07/2006	<b>Total Estimated Cost:</b>	867
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Facility Wide	<b>Annual Energy/Ops Savings \$</b>	224
<b>Savings Description</b>	Heating savings attributed to leaking steam traps that result in the overheating of tunnel areas or steam venting in condensate receiver tanks.		

**REQUIREMENT DESCRIPTION**

- 1) Complete survey all steam traps system wide to locate failed traps.
- 2) Replace or repair of failed traps depending on trap age, condition, and availability of replacement part kits.

**PHOTOS**

**ACTION DESCRIPTION**

-

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Energy and Operational Efficiency

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Lighting: Lighting Retrofit	<b>Inspection Date</b>	09/20/2006
<b>Linked System</b>	Lighting Equipment	<b>Finish Date</b>	-
<b>Prime System</b>	Lighting Equipment	<b>Status</b>	Open
<b>Priority</b>	1- Currently Critical (Immediately)	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Ruud, Mark	<b>Total Estimated Cost:</b>	64,717
<b>Action Date</b>	09/20/2006	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	4,518
<b>Requirement Location</b>	Entire Facility		
<b>Savings Description</b>	Energy savings generated through more efficient lighting technology.		

**REQUIREMENT DESCRIPTION**

Lighting project consists of the following:

- 1) Retrofit/Replace 34w T12 fixtures with 25w T8 lighting
- 2) Relamp 32w T8 lamps with 25w T8 lamps
- 3) Replace HID lighting with T8 lighting fixtures
- 4) Replace Incand. lighting with Fluorescent
- 5) Upgrade exit signs with LED technology
- 6) Gym Occupancy Sensors

**PHOTOS**

**ACTION DESCRIPTION**

-

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Energy and Operational Efficiency

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Plumbing: Add Domestic Water Heat Exchanger	<b>Inspection Date</b>	07/12/2006
<b>Linked System</b>	Plumbing	<b>Finish Date</b>	-
<b>Prime System</b>	Plumbing	<b>Status</b>	Open
<b>Priority</b>	5- Recommendations/ Improvements	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Schumacher, Russ	<b>Total Estimated Cost:</b>	35,046
<b>Action Date</b>	-	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Boiler Room - Mechanical Receiving		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Provide a domestic water heat exchanger. This will allow for an alternate fuel source selection.

**PHOTOS**



Plumbing: Add Domestic Water Heat Exchanger

**ACTION DESCRIPTION**

Provide a domestic hot water heat exchanger and all required piping and controls.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Life Safety

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Fire Protection: Add Fire Protection Sprinkler System		
<b>Linked System</b>	Fire Protection	<b>Inspection Date</b>	07/13/2006
<b>Prime System</b>	Fire Protection	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	197,060
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Lakewood Elementary does not currently have a fire protection sprinkler system. Although this was not required by code during the original construction, the district may want to consider sprinkling this building for facility consistency.

**PHOTOS**



Fire Protection: Add Fire Protection Sprinkler System

**ACTION DESCRIPTION**

Install new wet fire protection sprinkler system throughout building.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Occupant Security

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communication and Security: Access Control		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	09/19/2006
<b>Prime System</b>	Security and Detection Systems	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	09/19/2009	<b>Total Estimated Cost:</b>	23,600
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Doors need ability to be locked down with access allowed only to authorized people. Also doors without card readers should be monitored for unauthorized access.

**PHOTOS**



Communication and Security: Access Control

-

**ACTION DESCRIPTION**

Install 6 proximity card readers at main entry doors for both public and personal  
 And add magnetic door contacts to all other exterior doors on a alarm system.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Occupant Security

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communications and Security: CCTV		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	11/30/2006
<b>Prime System</b>	Communications and Security	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	11/30/2007	<b>Total Estimated Cost:</b>	67,687
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

There are currently no cameras located in the school. Cameras would add an increased security throughout the school which is becoming more critical.

**PHOTOS**

**ACTION DESCRIPTION**

Provide cameras throughout school. Camera locations provided by ISD 709.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Occupant Security

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Fire Alarm Systems: Outdated System		
<b>Linked System</b>	Fire Alarm Systems	<b>Inspection Date</b>	09/19/2006
<b>Prime System</b>	Fire Alarm Systems	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	09/19/2009	<b>Total Estimated Cost:</b>	70,800
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Fire alarm systems are old analog system. System is prone to malfunctions and is very hard to identify exact area of alarm. It is also difficult to troubleshoot and find malfunctions.

**PHOTOS**



Fire Alarm Systems: Outdated System

-

**ACTION DESCRIPTION**

Replace fire system with a fully addressable fire system.  
 This will allow for quick response to exact alarm device  
 And allow for better maintenance and safety

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communication and Security: Cabling Upgrade		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	08/16/2006
<b>Prime System</b>	Local Area Networks	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	The Westlund Group	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	71,390
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Facility	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Existing building has older categories of cabling.

**PHOTOS**



Communication and Security: Cabling Upgrade

-

**ACTION DESCRIPTION**

Replace old and mixed telephone/data cabling with up to date category 6 of 6A. Add basic wireless coverage. Add high bandwidth Fiber Optic Cabling between wiring closets. Standardize quantity of phone and data in classroom and offices.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

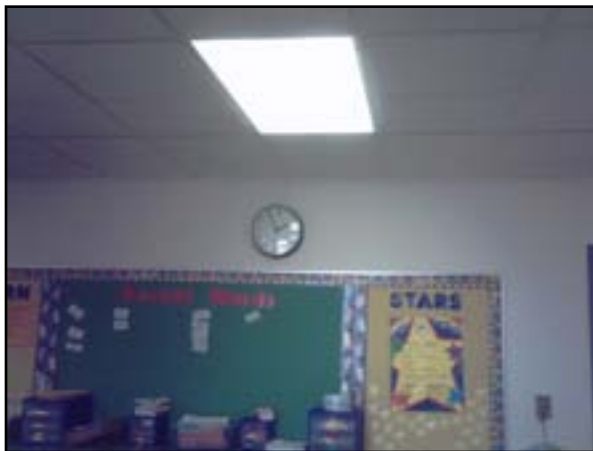
**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communication and Security: Clock System		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	09/19/2006
<b>Prime System</b>	Clock and Program Systems	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	09/19/2009	<b>Total Estimated Cost:</b>	25,960
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Master clock systems no longer keep clocks in time. Most are only used for running the bells. Atomic clocks may not receive a signal through the brick buildings. Many clocks do not work at all.

**PHOTOS**



Communication and Security: Clock System

-

**ACTION DESCRIPTION**

Install new wireless master clock system. The main clock receives the GPS signal for exact time and then sends signal to other clocks in facility. This will allow for accurate time and less tardiness between classes.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

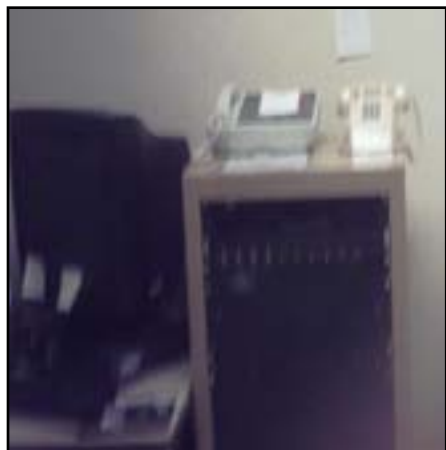
**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communication and Security: Public Address and Sound System		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	09/19/2006
<b>Prime System</b>	Intercommunication and Paging System	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Crotteau, Paul	<b>Actual Cost</b>	0
<b>Action Date</b>	09/19/2009	<b>Total Estimated Cost:</b>	19,588
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Building Wide	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

PA system is 25+ years old but is still functional.  
 There are no speakers located in hallways or commons areas.

**PHOTOS**



Communication and Security: Public Address and Sound System  
 -

**ACTION DESCRIPTION**

Update paging head end with new system and amplifier  
 And install speakers where needed.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communication and Security: Video/TV Distribution Upgrade		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	08/16/2006
<b>Prime System</b>	Television Systems	<b>Finish Date</b>	-
<b>Priority</b>	3- Necessary - Not Yet Critical (3-5 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	The Westlund Group	<b>Actual Cost</b>	0
<b>Action Date</b>	08/16/2009	<b>Total Estimated Cost:</b>	25,960
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Facility	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Analog Broadcast TV Signals are required by the FCC to be turned off in the Spring of 2009. Site utilizes satellite signal provided by Charter Cable.

**PHOTOS**

**ACTION DESCRIPTION**

Install new TV Distribution System capable of digital signals in all classrooms and administrative areas as required. Include additional channels.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Communications and Security: Sound System Upgrades		
<b>Linked System</b>	Communications and Security	<b>Inspection Date</b>	08/15/2006
<b>Prime System</b>	Classroom Sound Systems	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	The Westlund Group	<b>Actual Cost</b>	0
<b>Action Date</b>	08/15/2007	<b>Total Estimated Cost:</b>	93,456
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Facility	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

The 1st & 2nd Grade Classrooms have Audio Enhancement systems. The Gymnasium Sound System is inadequate and un-usable. There is tremendous echo and no coverage.

**PHOTOS**

**ACTION DESCRIPTION**

Add audio enhancement systems to remaining classrooms.  
 Replace Gymnasium sound system.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

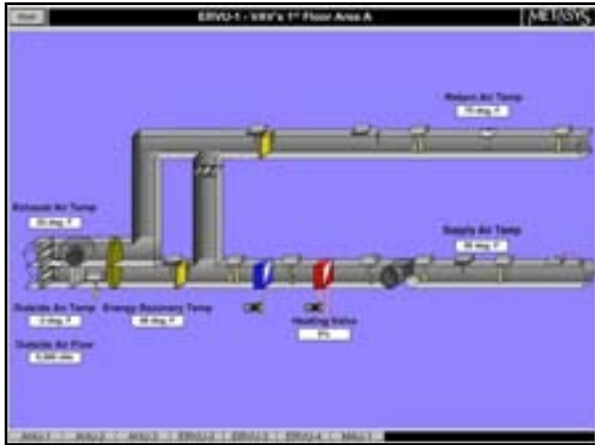
<b>Requirement Name</b>	Controls and Instrumentation: BAS and Controls Upgrade		
<b>Linked System</b>	Controls and Instrumentation	<b>Inspection Date</b>	07/11/2006
<b>Prime System</b>	Building Automation Systems	<b>Finish Date</b>	-
<b>Priority</b>	2- Potentially Critical (1-2 Yrs)	<b>Status</b>	Open
<b>Inspector Name</b>	Schmidt, Brian	<b>Actual Cost</b>	0
<b>Action Date</b>	07/11/2007	<b>Total Estimated Cost:</b>	141,600
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire building	<b>Annual Energy/Ops Savings \$</b>	1,065
<b>Savings Description</b>	Energy saving through optimization and repairs of existing control system.		

**REQUIREMENT DESCRIPTION**

Replace existing BAS headend to Web-based headend to tie to District-wide BAS network. Replace existing DDC and pneumatic controls with new JCI DDC controls to allow integration to District wide BAS.

Retro commission existing control system as well as add miscellaneous points and to optimize HVAC system performance.

**PHOTOS**



Controls and Instrumentation: BAS and Controls Upgrade

**ACTION DESCRIPTION**

Upgrade existing BAS and control system to new web based DDC system to tie to District-wide BAS network. Add additional monitoring and control points to optimize BAS system.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

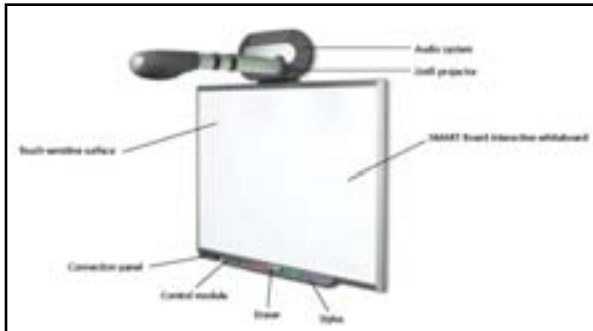
**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Equipment and Furnishings: Visual Systems (Smart Boards)		
<b>Linked System</b>	Equipment and Furnishings	<b>Inspection Date</b>	08/15/2006
<b>Prime System</b>	Audio-visual Equipment	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	The Westlund Group	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	220,660
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Entire Facility	<b>Annual Energy/Ops Savings \$</b>	-
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

Site has no Smart Boards installed. One Smart Boards is on order.

**PHOTOS**



Equipment and Furnishings: Visual Systems (Smart Boards)

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**ACTION DESCRIPTION**

Install additional Smart Boards.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

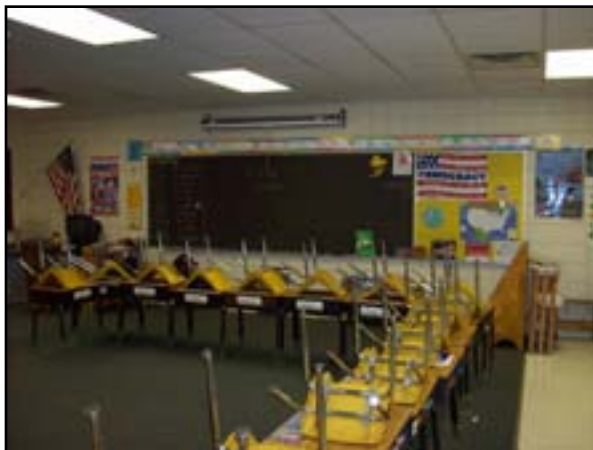
**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	Fittings: Blackboards (chalkboards)	<b>Inspection Date</b>	07/26/2006
<b>Linked System</b>	Fittings	<b>Finish Date</b>	-
<b>Prime System</b>	Fittings	<b>Status</b>	Open
<b>Priority</b>	5- Recommendations/ Improvements	<b>Actual Cost</b>	0
<b>Inspector Name</b>	Siddens, Lance	<b>Total Estimated Cost:</b>	10,566
<b>Action Date</b>	-	<b>Funding Type</b>	-
<b>Funding Year</b>	-	<b>Annual Energy/Ops Savings \$</b>	-
<b>Requirement Location</b>	Classrooms		
<b>Savings Description</b>	-		

**REQUIREMENT DESCRIPTION**

District desired replacement of chalkboard with marker board.

**PHOTOS**



Floor Finishes: Replace Carpet

-

**ACTION DESCRIPTION**

Replace approximately 576 S.F. of chalkboard with markerboard.

**District:** Duluth Public Schools  
**Facility:** Lakewood Elementary School  
**Category:** Upgrades

**Asset Name:** Lakewood Elementary School  
**Asset Number:** 500

<b>Requirement Name</b>	HVAC: Heating System Conversion - Steam to Hot Water		
<b>Linked System</b>	Steam Distribution Systems	<b>Inspection Date</b>	07/11/2006
<b>Prime System</b>	Steam Distribution Systems	<b>Finish Date</b>	-
<b>Priority</b>	5- Recommendations/ Improvements	<b>Status</b>	Open
<b>Inspector Name</b>	Schumacher, Russ	<b>Actual Cost</b>	0
<b>Action Date</b>	-	<b>Total Estimated Cost:</b>	98,294
<b>Funding Year</b>	-	<b>Funding Type</b>	-
<b>Requirement Location</b>	Mechanical Penthouse - Mechanical/Receiving Area	<b>Annual Energy/Ops Savings \$</b>	1,698
<b>Savings Description</b>	Energy savings generated from converting from a steam system to a how water system that includes condensing style boiler(s).		

**REQUIREMENT DESCRIPTION**

The air handling units have steam heating coils, while the rest of the building utilizes hot water as a heating medium. A steam system requires substantially more maintenance than a modern hot water heating system due to steam traps, condensate pumps, and chemical treatment.

**PHOTOS**



HVAC: Heating System Conversion - Steam to Hot Water

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**ACTION DESCRIPTION**

Replace all steam air handling unit heating coils with hot water coils. The entire building will then be served by hot water as a heating medium.

Install side stream filter to help filter sand from heating system.