

Requirement Detail

by Asset Name and Category

CENTRAL HS & STC

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Perimeter Drive (SW-N)		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	531,000
Funding Year	-	Funding Type	-
Requirement Location	Perimeter Drive from SW to North	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated perimeter drive.

PHOTOS



Perimeter Drive

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ACTION DESCRIPTION

Repair and overlay bituminous pavement. Reconstruct perimeter drive.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Additional Lane		
Linked System	Parking Lots	Inspection Date	11/30/2006
Prime System	Parking Lots	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	11/30/2007	Total Estimated Cost:	236,000
Funding Year	-	Funding Type	-
Requirement Location	Entrance to Upper Lots	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Drive from entrance to upper lots over capacity

PHOTOS

ACTION DESCRIPTION

Construct additional lane from entrance to upper lot

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Drive and Parking South of S.T.C. Main Building		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	4,720
Funding Year	-	Funding Type	-
Requirement Location	Drive and Parking south of S.T.C. Main Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated drive and parking lot.

PHOTOS



Drive and Parking

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ACTION DESCRIPTION

Crack seal and seal coat bituminous pavement.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

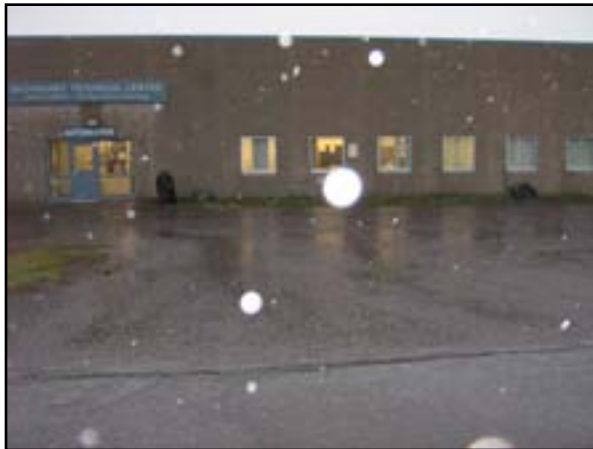
Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Parking Lot at S.T.C. Auto Building		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Auto Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated parking lot.

PHOTOS



Parking Lot

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ACTION DESCRIPTION

Crack seal and seal coat bituminous pavement at S.T.C. Upper Campus.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Parking Lots Adjacent to S.T.C. Main Building		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	11,800
Funding Year	-	Funding Type	-
Requirement Location	Lots adjacent to S.T.C. Main Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated parking lots.

PHOTOS



Parking Lots

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ACTION DESCRIPTION

Crack seal and seal coat parking lots.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Perimeter Drive from Main Entrance South to Student Parking		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	10,620
Funding Year	-	Funding Type	-
Requirement Location	Perimeter Drive	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated perimeter drive.

PHOTOS



Perimeter Drive

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ACTION DESCRIPTION

Crack seal and seal coat perimeter drive.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Staff and Student Parking Lots Adjacent to H.S.		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	41,300
Funding Year	-	Funding Type	-
Requirement Location	Staff and Student Lots Adjacent to H.S.	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated parking lots.

PHOTOS



Staff and Student Lots

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ACTION DESCRIPTION

Crack seal and seal coat. Replace broken curbs and gutter.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Roadway: Main Entrance	Inspection Date	08/01/2006
Linked System	Parking Lots	Finish Date	-
Prime System	Curbs, Rails and Barriers	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	118,000
Action Date	08/01/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Main Entrance		
Savings Description	-		

REQUIREMENT DESCRIPTION

Roadway needed.

PHOTOS

ACTION DESCRIPTION

Remove island and add through lane for vehicular traffic.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central HS-Parking
Asset Number: 210b

Requirement Name	Vehicular Paving: Roadway Access Gate		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Curbs, Rails and Barriers	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	23,600
Funding Year	-	Funding Type	-
Requirement Location	Sr. H.S. to Lower Level Fields	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Crossing arm/gate needed.

PHOTOS

ACTION DESCRIPTION

Add crossing arm/gate to prevent vehicular/atv access.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Sidewalks
Asset Number: 210c

Requirement Name	Pedestrian Paving: Sidewalk Adjacent to SHS Building		
Linked System	Pedestrian Paving	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Sidewalk adjacent to SHS Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated sidewalk adjacent to SHS front entrance and approaches.

PHOTOS



Sidewalk

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ACTION DESCRIPTION

Replace sections of broken concrete.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Sidewalks
Asset Number: 210c

Requirement Name	Sitework: Grounds Adjacent to STC Main Building		
Linked System	Pedestrian Paving	Inspection Date	08/01/2006
Prime System	Edging	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	23,600
Funding Year	-	Funding Type	-
Requirement Location	Adjacent to STC Main Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Ground eroding adjacent to S.T.C. Main Building on hillside at west side of building below perimeter drive.

PHOTOS



Grounds

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ACTION DESCRIPTION

Regrade and stabilize embankment.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central HS-Sidewalks
Asset Number: 210c

Requirement Name	Pedestrian Paving: Sidewalk Adj. to Ball Field and West of Tennis Courts		
Linked System	Pedestrian Paving	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2006	Total Estimated Cost:	22,656
Funding Year	-	Funding Type	-
Requirement Location	Sidewalk adjacent to ball field and west of tennis courts	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Pedestrians currently using road and shoulder along drive adjacent to tennis courts and ball field.

PHOTOS



Sidewalk

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ACTION DESCRIPTION

Add/construct sidewalk.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Site
Asset Number: 210e

Requirement Name	Paving: Tennis Courts	Inspection Date	08/01/2006
Linked System	Site Improvements	Finish Date	-
Prime System	Playing Fields	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	28,320
Action Date	08/01/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Tennis Courts		
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated tennis courts.

PHOTOS

ACTION DESCRIPTION

Crack seal and color coating.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Site
Asset Number: 210e

Requirement Name	Site: Athletic Track	Inspection Date	08/01/2006
Linked System	Site Improvements	Finish Date	-
Prime System	Playing Fields	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	94,400
Action Date	08/01/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Athletic Track		
Savings Description	-		

REQUIREMENT DESCRIPTION

Lane stripes fading, surface needs maintenance in near future (2-3 years).

PHOTOS

ACTION DESCRIPTION

Repair any damaged areas on athletic track and install new black urethane structural spray and restripe on entire athletic track and field event areas.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central HS-Site
Asset Number: 210e

Requirement Name	Site: Retaining Wall	Inspection Date	11/30/2006
Linked System	Site Improvements	Finish Date	-
Prime System	Site Improvements	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	23,600
Action Date	11/30/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Sidewalk to STC		
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated retaining wall along sidewalk to STC

PHOTOS

ACTION DESCRIPTION

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District: Duluth Public Schools
Facility: Central High School
Category: Accessibility

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Accessibility		
Linked System	Equipment and Furnishings	Inspection Date	11/12/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	34,137
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues related to high public use areas of the school, including auditoriums, stadiums, gymnasiums, ticket counters, and the main office. Items include: providing wheelchair viewing positions, providing access to the stage, providing an assistive listening system and lowering counters.

It also includes accessibility issues found in Specialty Areas (science labs, cooking labs, industrial arts areas, as well as the media center/library). Items include: providing accessible work stations in kitchens, providing accessible labs and lowering eyewashes.

PHOTOS



Equipment and Furnishings: Accessibility

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ACTION DESCRIPTION

Correct accessibility issues as required.

District: Duluth Public Schools
Facility: Central High School
Category: Accessibility

Asset Name: Central High School
Asset Number: 210

Requirement Name	Interior Construction: Accessibility		
Linked System	Interior Construction	Inspection Date	11/12/2006
Prime System	Interior Construction	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	75,102
Funding Year	-	Funding Type	-
Requirement Location	Interior	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Accessibility

Asset Name: Central High School
Asset Number: 210

Requirement Name	Plumbing: Accessibility	Inspection Date	11/12/2006
Linked System	Plumbing	Finish Date	-
Prime System	Plumbing	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	JQP Inc.	Total Estimated Cost:	61,427
Action Date	11/12/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Plumbing throughout		
Savings Description	-		

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: Central High School
Category: Accessibility

Asset Name: Central High School
Asset Number: 210

Requirement Name	Site Improvements: Accessibility		
Linked System	Site Improvements	Inspection Date	11/12/2006
Prime System	Site Improvements	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	10,968
Funding Year	-	Funding Type	-
Requirement Location	Exterior	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC - Dehumidification Chiller and Piping Mains		
Linked System	Chilled Water Distribution	Inspection Date	06/28/2006
Prime System	Chilled Water Distribution	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	41,300
Funding Year	-	Funding Type	-
Requirement Location	All Floors - Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Central High School currently has a chiller which was installed in 1993 but rarely runs. Without de-humidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

In addition, some of the chilled water mains are not insulated. Insulation has been purchased and is in boxes in the boiler room, but has not been installed on the chiller mains to the roof, as well as on the chilled water coils that have been replaced over the last 10 years.

PHOTOS



HVAC - Dehumidification Chiller and Piping Mains

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ACTION DESCRIPTION

Re-commission existing chiller for service. Install insulation on the chiller mains to chiller on roof and on replaced coil piping.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC - Upgrade Dust Collector Filtration		
Linked System	Exhaust Ventilation Systems	Inspection Date	07/25/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/25/2009	Total Estimated Cost:	2,950
Funding Year	-	Funding Type	-
Requirement Location	Wood Shop - 1971 North Academic	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The dust collector for the wood shop currently works well and re-circulates air back into the space.

The addition of high efficiency filters on the supply air would provide better indoor air quality.

PHOTOS



HVAC - Upgrade Dust Collector Filtration

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ACTION DESCRIPTION

Add high efficiency filters to the supply air.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Humidity Control in Orchestra Areas		
Linked System	Air Distribution Systems	Inspection Date	11/29/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	11/29/2007	Total Estimated Cost:	100,300
Funding Year	-	Funding Type	-
Requirement Location	Orchestra Equipment Areas	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The existing orchestra equipment areas lack humidity control. This causes instrument damage.

PHOTOS

ACTION DESCRIPTION

Provide a self contained HVAC fan coil system which will dehumidify in the summer and humidify in the winter to protect the instruments.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Replace Air Handling Units for the Main Gyms/Auditorium/Lobby/and Locker Room Areas.		
Linked System	Air Distribution Systems	Inspection Date	07/11/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2012	Total Estimated Cost:	460,436
Funding Year	-	Funding Type	-
Requirement Location	Main Gyms/Auditorium/Lobby/ and Locker Room Areas	Annual Energy/Ops Savings \$	18,505
Savings Description	Energy savings will be generated by reducing the fan cfm and OA ventilation during part load operation utilizing variable speed drives and CO2 controls as well as recovering heat from the locker room exhaust. Additional energy will be consumed during the cooling season to provide dehumidification.		

REQUIREMENT DESCRIPTION

The six (6) air handling systems serving the Main Gyms/Auditorium/Lobby/and Locker Rooms are nearing the end of their service life and will require replacement.

PHOTOS



HVAC: Upgrade Ventilation for the Main Gyms/Auditorium/Lobby/Locker Rooms/Small Gym/Fitness Center and Storage Areas

ACTION DESCRIPTION

Replacement of all six (6) air handling units with modern double wall units with chilled water dehumidification and hot water heating coils. Upgrade Controls System. Test and Balance and Commissioning of air handling units.

All Costs in USD.

The gymnasium units outdoor air intake would need to be re-built as there are damper operational issues.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Upgrade Ventilation for the Cafeteria and Lower Level Social Studies/Child Care Areas.		
Linked System	Air Distribution Systems	Inspection Date	07/11/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2012	Total Estimated Cost:	177,118
Funding Year	-	Funding Type	-
Requirement Location	Cafeteria and Lower Level Social Studies/Child Care Areas	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The two (2) air handling systems serving the Cafeteria and Lower Level Social Studies/Child Care Areas have exceeded the recommended operational life.

In addition, the lower level unit has inadequate zoning for the use of the spaces. Two electric heating coils have been added to the infant care area, but additional zoning is required.

PHOTOS



HVAC: Upgrade Ventilation for the Cafeteria and Lower Level Social Studies/Child Care Areas

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ACTION DESCRIPTION

Replacement of the air handling units and installation of VAV boxes with reheat coils to properly zone the spaces for the current configuration. Upgrade Controls System. Test and Balance and Commissioning of air handling units.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Upgrade Ventilation for the Classroom and Admin Areas		
Linked System	Air Distribution Systems	Inspection Date	07/11/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2009	Total Estimated Cost:	1,703,330
Funding Year	-	Funding Type	-
Requirement Location	Both Floors - All Classroom Spaces in North and South Academic Wings	Annual Energy/Ops Savings \$	1,097
Savings Description	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 systems serving the Classrooms in the North and South Academic Wings have exceeded the recommended operational life. As part of this upgrade, the new mechanical system will incorporated heat recovery and classroom occupancy / CO2 controls to save energy.

PHOTOS



HVAC: Upgrade Ventilation for the Classroom and Admin Areas

ACTION DESCRIPTION

Replacement of the Nine (9) air handling units and installation of VAV boxes with reheat coils to properly zone the spaces for the current configuration. Upgrade Controls System. Test and Balance and Commissioning of air handling units.

All Costs in USD.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Upgrade Ventilation for the Music Areas.		
Linked System	Air Distribution Systems	Inspection Date	07/11/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2012	Total Estimated Cost:	187,384
Funding Year	-	Funding Type	-
Requirement Location	Music Areas	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The one (1) air handling system serving the Music Areas have exceeded the recommended operational life. In addition, the unit has inadequate zoning for the use of the spaces. Additional zoning is required.

PHOTOS



HVAC: Upgrade Ventilation for the Music Areas

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ACTION DESCRIPTION

Replacement of the air handling unit and installation of VAV boxes with reheat coils to properly zone the spaces for the current configuration. Upgrade Controls System. Test and Balance and Commissioning of air handling units.

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Refurbish/Refinish Cabinets		
Linked System	Equipment and Furnishings	Inspection Date	08/29/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2009	Total Estimated Cost:	7,080
Funding Year	-	Funding Type	-
Requirement Location	B4 Office, Kitchen, 106, 107, 115, 126, 128, Prep Room, 133, 151, Main Office, 244, 246, 250, 252 Incl. Prep, 254 Incl. Prep	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing cabinets are scratched, delaminating or worn. Some require panel replacement with all being refinished.

PHOTOS



Equipment and Furnishings: Refurbish/Refinish Cabinets

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ACTION DESCRIPTION

Repair damaged panels, prep surface and refinish. 1800 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Floor Finishes: Replace Carpet	Inspection Date	08/29/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	46,641
Action Date	08/29/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Building		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing carpet is of various vintages and varies in condition from good (but dated) to soiled and worn. Replace.

PHOTOS



Floor Finishes: Replace Carpet

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Floor Finishes: Replace Carpet

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All Costs in USD.

ACTION DESCRIPTION

Remove existing carpet, prepare surface and replace with carpet/ vct per district standards.

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Site Improvements: General Landscaping		
Linked System	Site Improvements	Inspection Date	10/03/2006
Prime System	Site Improvements	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Northern Lights Landscaping	Actual Cost	0
Action Date	10/03/2007	Total Estimated Cost:	10,173
Funding Year	-	Funding Type	-
Requirement Location	Property around facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Appearance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Wall Finishes: Paint Interior	Inspection Date	08/29/2006
Linked System	Wall Finishes	Finish Date	-
Prime System	Wall Finishes	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	343,230
Action Date	08/29/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Building		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing paint currently in good condition, will require painting in future.

PHOTOS



Wall Finishes: Paint Interior

-

ACTION DESCRIPTION

Prep surfaces as required and repaint. 523946 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Wall Finishes: Refinish Wood Wall in Auditorium		
Linked System	Wall Finishes	Inspection Date	08/29/2006
Prime System	Wall Finishes	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2009	Total Estimated Cost:	2,891
Funding Year	-	Funding Type	-
Requirement Location	Auditorium	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing wood panelling at main floor/ stage is nicked and scraped, required refinishing.

PHOTOS



Wall Finishes: Refinish Wood Wall in Auditorium

-

ACTION DESCRIPTION

Strip/ Sand wall panels and refinish. 1100 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Asbestos

Asset Name: Central High School
Asset Number: 210

Requirement Name	Hazardous Components: Abatement	Inspection Date	07/01/2006
Linked System	Hazardous Components Abatement	Finish Date	-
Prime System	Hazardous Components Abatement	Status	Open
Priority	1- Currently Critical (Immediately)	Actual Cost	0
Inspector Name	Wormuth, Kevin	Total Estimated Cost:	1,280,300
Action Date	07/01/2006	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Facility		
Savings Description	-		

REQUIREMENT DESCRIPTION

This facility was built when asbestos was a common component of many building materials. The majority of asbestos in this facility was part of the Structural Fireproofing. Most has been abated, but in some areas it is still present.

PHOTOS

ACTION DESCRIPTION

Abatement of asbestos containing materials throughtout facility.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Lighting Equipment: Occupancy Sensors		
Linked System	Lighting Equipment	Inspection Date	09/19/2006
Prime System	Lighting Equipment	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/19/2012	Total Estimated Cost:	19,169
Funding Year	-	Funding Type	-
Requirement	Classrooms	Annual Energy/Ops	-
Location		Savings \$	
Savings Description	-		

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: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Other Equipment - Walk-In Freezer Basement		
Linked System	Equipment and Furnishings	Inspection Date	09/15/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Stout Mechanical	Actual Cost	0
Action Date	09/15/2007	Total Estimated Cost:	24,143
Funding Year	-	Funding Type	-
Requirement Location	Basement	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

North and South unit - cabinet walls are low R-value fiberglass (not foam lined walls). The seams are leaky and there is water present from under walls.

North unit - system sight glass is 1/2 full of refrigerant and evaporator coil is in poor shape.

PHOTOS



Other Equipment - Walk-In Freezer Basement

-

ACTION DESCRIPTION

Replace cabinet walls in the North and South walk-in freezer. Replace evaporator in the North walk-in freezer.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Other Equipment - Walk-In Freezer Prep Area		
Linked System	Equipment and Furnishings	Inspection Date	09/15/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Stout Mechanical	Actual Cost	0
Action Date	09/15/2009	Total Estimated Cost:	1,623
Funding Year	-	Funding Type	-
Requirement Location	Kitchen - Prep Area	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Compressor shell is very hot. Found oil leak at bottom of compressor. Evaporator has missing electrical cover. Evaporator was iced up 6 hours before next defrost cycle. Door gasket has ice build up, possible heater out.

PHOTOS



Other Equipment - Walk-In Freezer Prep Area

-

ACTION DESCRIPTION

Fix oil leak on compressor. Fix electrical cover and defrost timer. Fix door heater.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Plumbing - Sump Pump Replacement		
Linked System	Plumbing	Inspection Date	07/18/2006
Prime System	Plumbing	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/18/2012	Total Estimated Cost:	11,800
Funding Year	-	Funding Type	-
Requirement Location	Lower Level Mechanical Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The sump pumps in the pump room is 35 years old and beyond it's recommended service life.

PHOTOS



Plumbing - Sump Pump Replacement

-

ACTION DESCRIPTION

Replace the existing vertical sump pumps with a new vertical duplex set of sump pumps with new duplex control panel.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Plumbing: Replace Underground Sanitary Sewer Lines		
Linked System	Plumbing	Inspection Date	11/29/2006
Prime System	Plumbing	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	413,000
Funding Year	-	Funding Type	-
Requirement Location	All Building Areas 35 Years or Older	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Underground sanitary sewer lines require replacement due to tree roots, pipe degradation, and pipe damage due to ground shifting over time.

PHOTOS

ACTION DESCRIPTION

Replace the underground sanitary sewer lines with new.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: Central High School
Asset Number: 210

Requirement Name	Roof System: Replace Roof	Inspection Date	08/10/2006
Linked System	Roofing	Finish Date	-
Prime System	Roof Coverings	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	250,689
Action Date	08/10/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	513
Requirement Location	Multiple Locations		
Savings Description	Energy savings generated from improved roof insulation.		

REQUIREMENT DESCRIPTION

Roof System beyond rated service life. Includes Boiler - Area 9, Small Gym - Area 10, 11 and Locker Room - Area 12.

PHOTOS



Roof System: Replace Roof

-

ACTION DESCRIPTION

Replace EPDM Roof System. Sequence roof-level wall restoration on Areas 10,11 and 12 with reroofing.

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: Central High School
Asset Number: 210

Requirement Name	Elevators and Lifts: Elevator Repair		
Linked System	Elevators and Lifts	Inspection Date	08/28/2006
Prime System	Elevators and Lifts	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schindler Elevator Corp.	Actual Cost	0
Action Date	08/28/2007	Total Estimated Cost:	95,663
Funding Year	-	Funding Type	-
Requirement Location	1971 Cafeteria Wing	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Work required falls into three categories: Code Compliance A17.3, Life Safety Issues and Product Upgrades.

PHOTOS

ACTION DESCRIPTION

Upgrade elevators for code compliance, life safety issues and product upgrades.

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Add Exhaust Hood to Dishwasher	
Linked System	Exhaust Ventilation Systems	Inspection Date 07/12/2006
Prime System	Exhaust Ventilation Systems	Finish Date -
Priority	6- Does Not Meet Current Codes/Standards	Status Open
Inspector Name	Schumacher, Russ	Actual Cost 0
Action Date	-	Total Estimated Cost: 16,520
Funding Year	-	Funding Type -
Requirement Location	Kitchen	Annual Energy/Ops Savings \$ -
Savings Description	-	

REQUIREMENT DESCRIPTION

The existing dishwasher does not have an exhaust hood as required by the 2000 International Mechanical Code. Exhausting the dishwasher steam is critical in maintaining proper indoor air quality in the kitchen.

PHOTOS



HVAC: Add Exhaust Hood to Dishwasher

-

ACTION DESCRIPTION

Add a Type II hood and dishwasher exhaust fan with the required externally insulated aluminum ductwork. Installation to comply with the 2000 International Mechanical Code.

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Replace Kitchen Grease Exhaust Hood / Add Kitchen Make Up Air		
Linked System	Exhaust Ventilation Systems	Inspection Date	07/12/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	6- Does Not Meet Current Codes/Standards	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	153,400
Funding Year	-	Funding Type	-
Requirement Location	Kitchen	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The existing grease exhaust hood has been written up as a non compliant hood by the State Fire Marshall. This hood needs to be replaced with a code compliant grease exhaust hood and fan.

In addition, the kitchen does not have a dedicated make up air unit. Make up air for the kitchen hood is required by the 2000 International Mechanical Code.

PHOTOS



HVAC: Replace Kitchen Grease Exhaust Hood / Add Kitchen Make Up Air

-

ACTION DESCRIPTION

Replace the existing grease exhaust hood and fan and grease duct with 2000 International Mechanical Code compliant kitchen grease hood exhaust system.

Add a dedicated make up air unit with dehumidification.

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: Central High School
Asset Number: 210

Requirement Name	Stairs: Add Handrails	Inspection Date	08/29/2006
Linked System	Stairs	Finish Date	-
Prime System	Stairs	Status	Open
Priority	6- Does Not Meet Current Codes/Standards	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	15,198
Action Date	-	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Auditorium		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing steps in auditorium do not have any handrails and do not meet current codes.

PHOTOS



Stairs: Add Handrails

-

ACTION DESCRIPTION

Add new handrails at aisle stairways.

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: Central High School
Asset Number: 210

Requirement Name	Stairs: Replace Guardrails at Top of All Stairs		
Linked System	Stairs	Inspection Date	08/29/2006
Prime System	Stairs	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	4,012
Funding Year	-	Funding Type	-
Requirement Location	Top landings of stair towers	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Guardrails at top of stairtowers have very large openings and do not meet current code.

PHOTOS



Stairs: Replace Guardrails at Top of All Stairs

-

ACTION DESCRIPTION

Remove existing tube guardrails and replace with code compliant railing.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

Asset Name: Central High School
Asset Number: 210

Requirement Name	Electrical Distribution: Insufficient Capacity		
Linked System	Electrical Service and Distribution	Inspection Date	09/18/2006
Prime System	Electrical Service and Distribution	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2009	Total Estimated Cost:	55,224
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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 200 amp feeders and panels to help carry the extra load of additional receptacles throughout the building. A new 400A distribution panel will also be required to feed new branch panels

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Add Cooling Capability Computer Labs and IT Data Rooms		
Linked System	Cooling Generating Systems	Inspection Date	07/11/2006
Prime System	Cooling Generating Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2007	Total Estimated Cost:	303,378
Funding Year	-	Funding Type	-
Requirement Location	IT Data Rooms - 1971 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

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

PHOTOS



HVAC: Add Cooling Capability to IT Data Rooms

-

ACTION DESCRIPTION

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

This would be done for two computer labs and all three IT rooms.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

Asset Name: Central High School
Asset Number: 210

Requirement Name	Wiring Devices: Insufficient Receptacles		
Linked System	Branch Wiring Devices	Inspection Date	09/18/2006
Prime System	Branch Wiring Devices	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2009	Total Estimated Cost:	113,634
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

In general, classrooms have an insufficient number of receptacles. Computers and other electronics are plugged into power strips due to the lack of receptacles. This limits future addition of electronic devices and presents a fire hazard.

PHOTOS



Wiring Devices: Insufficient Receptacles

-

ACTION DESCRIPTION

Provide five additional 20 amp receptacle per classroom and associated branch wiring. Upgrade will first require additional branch panel boards.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Ceiling Finishes: Repaint Exposed Metal Deck and Exposed Ductwork Ceiling		
Linked System	Ceiling Finishes	Inspection Date	08/29/2006
Prime System	Ceiling Finishes	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	8,113
Funding Year	-	Funding Type	-
Requirement Location	Room 142, 147	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing paint is peeling off of ceiling and ductwork in 147, 142 ductwork poorly painted.

PHOTOS



Ceiling Finishes: Repaint Exposed Metal Deck and Exposed Ductwork Ceiling

-



Ceiling Finishes: Repaint Exposed Metal Deck and Exposed Ductwork Ceiling

-

ACTION DESCRIPTION

Remove peeling paint, prep surfaces and repaint. 3800 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Ceiling Finishes: Replace Suspended Ceiling Tile		
Linked System	Ceiling Finishes	Inspection Date	08/29/2006
Prime System	Ceiling Finishes	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2009	Total Estimated Cost:	7,815
Funding Year	-	Funding Type	-
Requirement Location	Corridor outside locker rooms	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing ceiling tile in poor condition; requires replacement.

PHOTOS



Ceiling Finishes: Replace Suspended Ceiling Tile

-

ACTION DESCRIPTION

Remove existing lay. in ceiling panels, paint grid, install new tile. 1325 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Replace Countertops		
Linked System	Equipment and Furnishings	Inspection Date	08/29/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	11,476
Funding Year	-	Funding Type	-
Requirement Location	Greenhouse Prep Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing countertops in very poor condition replacement required.

PHOTOS



Equipment and Furnishings: Replace Countertops

-

ACTION DESCRIPTION

Replace lab rated countertops with new. 70 L.F.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Replace Roll Down Gym Divider		
Linked System	Equipment and Furnishings	Inspection Date	08/29/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	78,588
Funding Year	-	Funding Type	-
Requirement Location	Gymnasium	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

ISD 709 has reported problems with divider hardware failing, thus causing to lower. Replace divider.

PHOTOS

ACTION DESCRIPTION

Remove existing divider and replace with new. 2700 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Exterior Doors: Replace Rusted Doors		
Linked System	Exterior Doors	Inspection Date	08/29/2006
Prime System	Exterior Doors	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2009	Total Estimated Cost:	48,380
Funding Year	-	Funding Type	-
Requirement Location	Boys/Girls Locker Rooms, North and South Commons Entrance, South Stair, Cafeteria, North Stair, 142, Northwest Corridor.	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing hollow metal doors and frames are rusting at bottom, replacement required.

PHOTOS



Exterior Doors: Replace Rusted Doors

-

ACTION DESCRIPTION

Remove existing doors and frames and replace with galvanized hollow metal at stair towers. 18 doors

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Exterior Walls: Roof-Level Wall Restoration		
Linked System	Exterior Walls	Inspection Date	08/10/2006
Prime System	Exterior Walls	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/10/2009	Total Estimated Cost:	141,600
Funding Year	-	Funding Type	-
Requirement Location	Multiple Locations	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated roof-level walls. Includes Small Gym - Area 10, 11 and Locker Room - Area 12.

PHOTOS



Exterior Walls: Roof-Level Wall Restoration

-

ACTION DESCRIPTION

Tuck point, spot brick replacement, stone repair and joint sealant replacement. Sequence work with reroofing in these areas

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Exterior Walls: Wall Restoration		
Linked System	Exterior Walls	Inspection Date	08/10/2006
Prime System	Exterior Walls	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Inspecc	Actual Cost	0
Action Date	08/10/2012	Total Estimated Cost:	843,700
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated grade-level walls. Leakage reported and investigated at Cafeteria.

PHOTOS

ACTION DESCRIPTION

Tuck point, spot brick replacement, joint sealant replacement, stone repair and resetting, and stucco repair. Refer to investigation report for leakage repair. Allowance of \$462,000 included for Cafeteria leakage repair.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Fittings: Replace Mirrors at Toilet Rooms	Inspection Date	08/29/2006
Linked System	Fittings	Finish Date	-
Prime System	Fittings	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	2,449
Action Date	08/29/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	All Boys and Girls toilet rooms first/ second floors		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing mirrors have reflective surfaces delaminating. Replace.

PHOTOS

ACTION DESCRIPTION

Remove existing mirrors and replace with new. (25) 2'x3' Mirrors

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Fittings: Replace Shower Curtain Frames/ Curtains		
Linked System	Fittings	Inspection Date	08/29/2006
Prime System	Fittings	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	3,304
Funding Year	-	Funding Type	-
Requirement Location	Girls Locker Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing curtain frames are bent/ out of alignment require replacement.

PHOTOS



Fittings: Replace Shower Curtain Frames/ Curtains

-

ACTION DESCRIPTION

Remove existing and replace with new.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Floor Finishes: Replace VCT	Inspection Date	08/29/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	188,069
Action Date	08/29/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Daycare spaces below cafeteria, North and South Corridors- First Floor, 106, 125, 127, 129, 130, 141 Locker Room Corridor		
Savings Description	-		

REQUIREMENT DESCRIPTION

VCT in these rooms are in poor condition, corridor tiles are cracked/ chipped due to subfloor movement, classrooms have shrunk and have formed large gaps.

PHOTOS



Floor Finishes: Replace VCT

-



Floor Finishes: Replace VCT

-

ACTION DESCRIPTION

Remove existing VCT, Repair subfloor and prep for new VCT.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Ductwork Cleaning	Inspection Date	11/29/2006
Linked System	Air Distribution Systems	Finish Date	-
Prime System	Air Distribution Systems	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Schumacher, Russ	Total Estimated Cost:	295,000
Action Date	11/29/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Building Wide		
Savings Description	-		

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: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Plumbing: Replace Lavatory Wash Fountains and Column Showers		
Linked System	Plumbing Fixtures	Inspection Date	07/11/2006
Prime System	Plumbing Fixtures	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2012	Total Estimated Cost:	41,300
Funding Year	-	Funding Type	-
Requirement Location	Drafting Room and Locker Room Showers	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The one lavatory wash fountain in the drafting room will need to be replaced in the upcoming years.

There are nine Bradley column type showers in the main locker rooms.

PHOTOS



Plumbing: Replace Lavatory Wash Fountains and Column Showers

-

ACTION DESCRIPTION

Replace wash fountain with new wash fountain with infrared mixing stations.

Replace the Bradley showers with new column showers.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: Central High School
Asset Number: 210

Requirement Name	Superstructure: Repair Damaged Plaster		
Linked System	Superstructure	Inspection Date	08/29/2006
Prime System	Superstructure	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2007	Total Estimated Cost:	2,749
Funding Year	-	Funding Type	-
Requirement Location	Ceiling of ground level rooms below cafeteria, cafeteria ceiling, ext door at kitchen, window 246, 250 Prep Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing surfaces are water damaged.

PHOTOS



Superstructure: Repair Damaged Plaster

-

ACTION DESCRIPTION

Remove damaged sections as required, investigate source of damage, repair as necessary. 700 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	Controls: VendingMiser Vending Machine Controls		
Linked System	Controls and Instrumentation	Inspection Date	09/23/2006
Prime System	Controls and Instrumentation	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/23/2006	Total Estimated Cost:	3,304
Funding Year	-	Funding Type	-
Requirement Location	Vending Machines	Annual Energy/Ops Savings \$	521
Savings Description	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: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Boiler Room Upgrades	Inspection Date	07/12/2006
Linked System	Heat Generating Systems	Finish Date	-
Prime System	Heat Generating Systems	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Schumacher, Russ	Total Estimated Cost:	279,542
Action Date	07/12/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	7,354
Requirement Location	Boiler Room		
Savings Description	Energy savings generated from replacing older hot water boilers with condensing style boiler(s) to improve the plant's efficiency.		

REQUIREMENT DESCRIPTION

The existing boilers have exceeded the recommended useful life expectancy. Both existing boilers have fuel oil backup. One of the boilers should be replaced with five high efficiency hot water boilers to increase the efficiency of the boiler plant.

One of the boiler has required extensive maintenance. This boiler would be replaced by the new high efficiency boilers.

PHOTOS



HVAC: Boiler Room Upgrades

-

ACTION DESCRIPTION

Keep one existing boiler (which carries the entire building in the winter) and install five high efficiency condensing boilers for increased boiler efficiency.

Install primary circulating pump for the large existing remaining boiler.

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Chilled Water VSD Pumping		
Linked System	Chilled Water Distribution	Inspection Date	09/23/2006
Prime System	Chilled Water Distribution	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/23/2006	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Chilled Water Pumps	Annual Energy/Ops Savings \$	456
Savings Description	Energy savings generated from varying the pump speed with a VSD.		

REQUIREMENT DESCRIPTION

Install variable speed drives to control chilled water loop pumps based on system demand.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Hot Water VSD Pumping		
Linked System	Hot Water Distribution	Inspection Date	09/23/2006
Prime System	Hot Water Distribution	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/23/2006	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Hot Water Pumps	Annual Energy/Ops Savings \$	1,116
Savings Description	Energy savings generated from varying the pump speed with a VSD.		

REQUIREMENT DESCRIPTION

Install variable speed drives to control heating loop pumps based on system demand.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	Kitchen: Replace Electric Booster Heater with a Gas Unit		
Linked System	Domestic Water Distribution	Inspection Date	10/05/2006
Prime System	Domestic Water Distribution	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	10/05/2006	Total Estimated Cost:	18,172
Funding Year	-	Funding Type	-
Requirement Location	Kitchen Dishwasher	Annual Energy/Ops Savings \$	1,588
Savings Description	Energy saving generated by reducing electric demand costs by switching from electric to gas heat.		

REQUIREMENT DESCRIPTION

Replace the electric booster heater that feeds the dishwasher with a gas fired unit.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	Lighting: Lighting Retrofit	Inspection Date	09/20/2006
Linked System	Lighting Equipment	Finish Date	-
Prime System	Lighting Equipment	Status	Open
Priority	1- Currently Critical (Immediately)	Actual Cost	0
Inspector Name	Ruud, Mark	Total Estimated Cost:	44,219
Action Date	09/20/2006	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	1,462
Requirement Location	Entire Facility		
Savings Description	Energy savings generated through more efficient lighting technology.		

REQUIREMENT DESCRIPTION

Lighting project consists of the following:

- 1) Retrofit 34w T12 lighting with 25w T8 lighting
- 2) Relamp 32w T12 lamps with 25w T8 lamps
- 3) Replace Incand. lighting with Fluorescent
- 4) Upgrade exit signs with LED technology

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: Central High School
Asset Number: 210

Requirement Name	Plumbing: Water Conservation Upgrades		
Linked System	Plumbing Fixtures	Inspection Date	09/18/2006
Prime System	Plumbing Fixtures	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/18/2006	Total Estimated Cost:	22,946
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	5,665
Savings Description	Reduce water and sewer usage using new low flow devices.		

REQUIREMENT DESCRIPTION

Replace / Retrofit standard flow flush valves and faucets with low flow devices.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Life Safety

Asset Name: Central High School
Asset Number: 210

Requirement Name	Superstructure: Construct Second Exits From Science/Chemistry Rooms		
Linked System	Superstructure	Inspection Date	08/29/2006
Prime System	Superstructure	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2006	Total Estimated Cost:	45,843
Funding Year	-	Funding Type	-
Requirement Location	Physics #244, Chemistry #246	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing from these rooms has been cited by the State Fire Marshal. Second exits required.

PHOTOS



Superstructure: Construct Second Exits From Science/Chemistry Rooms

-

ACTION DESCRIPTION

Construct new partitions with rated doors to provide required second exit.

District: Duluth Public Schools
Facility: Central High School
Category: Occupant Security

Asset Name: Central High School
Asset Number: 210

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

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: Central High School
Category: Occupant Security

Asset Name: Central High School
Asset Number: 210

Requirement Name	Fire Alarm Systems: Outdated System		
Linked System	Fire Alarm Systems	Inspection Date	09/18/2006
Prime System	Fire Alarm Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2009	Total Estimated Cost:	108,088
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Communication and Security: Cabling Upgrade		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Local Area Networks	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	343,970
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing building cabling has been installed in several stages over the years and contains different categories of cabling.

PHOTOS



Communication and Security: Cabling Upgrade

-

ACTION DESCRIPTION

Replace old and mixed telephone/data cabling with up to date category 6 or 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: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Communication and Security: Clock System		
Linked System	Communications and Security	Inspection Date	09/19/2006
Prime System	Clock and Program Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	53,100
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

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

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: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Communication and Security: Telephone System Upgrade		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Telephone Systems	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/15/2006	Total Estimated Cost:	7,788
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The telephone system should be upgraded to the new District standard of CISCO VOIP. The telephone system should include port for access to the Paging/Intercom system. The Paging/Intercom system should be modified to allow access from the new telephone system.

PHOTOS

ACTION DESCRIPTION

Install a new CISCO phone system. Add paging interface. Remove old system after installation of new.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Communication and Security: Video/TV Distribution Upgrade		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Television Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/15/2009	Total Estimated Cost:	64,900
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Analog Broadcast TV Signals are required by the FCC to be turned off in the Spring of 2009.

PHOTOS

ACTION DESCRIPTION

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

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Communications and Security: Sound Systems, Auditorium Control Booth Upgrades		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Classroom Sound Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/15/2007	Total Estimated Cost:	420,552
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There are little or no enhancement systems in the classrooms.

Auditorium sound System and control booth components (video/projection) does not meet the needs of the Music Department. System needs updating, expansion and upgrades to sound quality. Gymnasium sound system is very inadequate, old and sounds terrible.

PHOTOS

ACTION DESCRIPTION

Upgrade Auditorium sound and video/projection system.

Add audio enhancement systems to Classrooms.

Replace Gymnasium sound system.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Controls and Instrumentation: BAS and Controls Upgrade		
Linked System	Controls and Instrumentation	Inspection Date	10/05/2006
Prime System	Building Automation Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schmidt, Brian	Actual Cost	500,000
Action Date	10/05/2007	Total Estimated Cost:	590,000
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	5,720
Savings Description	Energy saving through optimization and repairs of existing control system.		

REQUIREMENT DESCRIPTION

Upgrade existing, outdated BAS to new Web-based BAS and tie to new District-wide BAS network. This will allow for central monitoring and control of all buildings from the Facilities Management building.

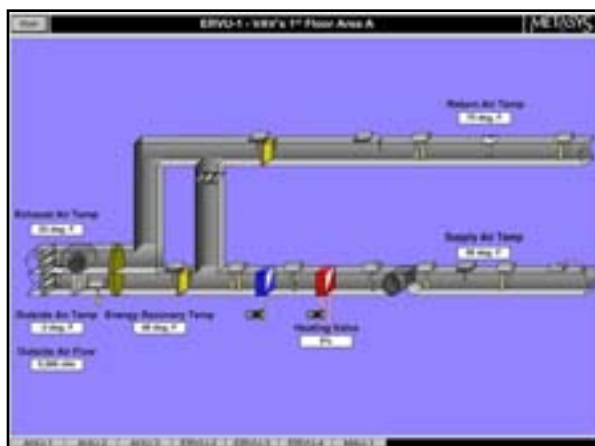
Upgrade existing pneumatic controls (old technology) to new Direct Digital controls.

Upgrade/replace existing temperature control valves, dampers, and actuators. The majority are beyond rated life and many are disconnected and not functioning, thus not operating as energy efficiently as possible.

Replace existing temperature control air compressor and air dryer with new and repair control air line leaks. This will improve the energy efficiency of the existing control system.

The existing controls shall be recommissioned to verify proper sequence of operation and optimize energy efficiency. Additional control and monitoring points shall also be added to the BAS system to optimize HVAC system performance.

PHOTOS



BAS Graphic

ACTION DESCRIPTION

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

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Emergency Power Distribution: Generator Backup		
Linked System	Emergency Light and Power Systems	Inspection Date	09/18/2006
Prime System	Emergency Light and Power Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2007	Total Estimated Cost:	291,342
Funding Year	-	Funding Type	-
Requirement Location	Exterior near Electrical Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

School currently has no backup power system to be used during a power failure. To keep students in school during power outage sufficient lighting must be maintained along with necessary life safety systems.

PHOTOS



Emergency Power Distribution: Generator Backup

-

ACTION DESCRIPTION

Install transfer switch and generator to feed distribution system during a power outage. Generator will be sized to handle the full building demand.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Replace Cabinets and Countertops		
Linked System	Equipment and Furnishings	Inspection Date	08/29/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	24,987
Funding Year	-	Funding Type	-
Requirement	125, 127	Annual Energy/Ops	-
Location		Savings \$	
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing plastic laminate and wood cabinets, and all countertops are very dated. Recommend replacement.

PHOTOS



Equipment and Furnishings: Replace Cabinets and Countertops

-

ACTION DESCRIPTION

Remove wood cabinets and all plastic laminate tops replace with new, repaint all metal cabinets. 175 L.F.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Replace Office Main Counter		
Linked System	Equipment and Furnishings	Inspection Date	08/29/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	6,697
Funding Year	-	Funding Type	-
Requirement Location	Main Office	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing plastic laminate counter is in fair condition, should have accessible lowered section.

PHOTOS



Equipment and Furnishings: Replace Office Main Counter

-

ACTION DESCRIPTION

Remove existing countertop and replace with new casework. 20 L.F.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

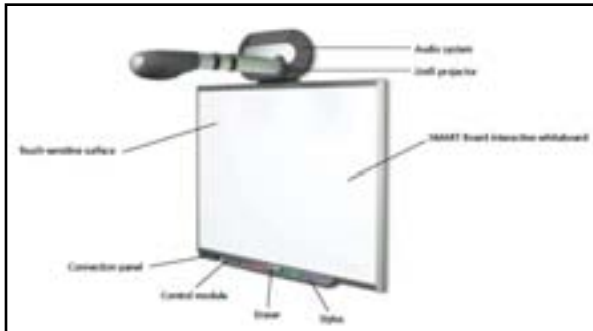
Asset Name: Central High School
Asset Number: 210

Requirement Name	Equipment and Furnishings: Visual Systems (Smart Boards)		
Linked System	Equipment and Furnishings	Inspection Date	08/15/2006
Prime System	Audio-visual Equipment	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	700,920
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Site has one projector and three Smart Boards installed. Four Smart Boards are on order.

PHOTOS



Equipment and Furnishings: Visual Systems (Smart Boards)

-

ACTION DESCRIPTION

Install additional Smart Boards.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Fittings: Replace Chalkboards and Tackboards		
Linked System	Fittings	Inspection Date	08/26/2006
Prime System	Fittings	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	141,364
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing blackboards and tackboards require replacement to modernize and bring up to district standards.

PHOTOS



Fittings: Replace Chalkboards and Tackboards
 -

ACTION DESCRIPTION

Replace or recover existing chalkboards with markerboard surface. 7700 SQFT

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Add Intake Hoods to Outdoor Air Intake Louvers		
Linked System	Air Distribution Systems	Inspection Date	08/10/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	08/10/2007	Total Estimated Cost:	52,392
Funding Year	-	Funding Type	-
Requirement Location	Building Wide - North and West Sides	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The outdoor air intake louvers currently located on the North and West sides of the building experience high wind conditions resulting in snow entering the building intakes.

This freezes dampers and has lead to the degradation of the Gym outdoor air intake plenum.

PHOTOS



HVAC: Add Intake Hoods to Outdoor Air Intake Louvers

-

ACTION DESCRIPTION

Install painted hoods over the outdoor air intake louvers and re-insulate and repair the plenum for the gym unit.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	HVAC: Add Propylene Glycol to Heating System		
Linked System	Hot Water Distribution	Inspection Date	07/12/2006
Prime System	Hot Water Distribution	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2007	Total Estimated Cost:	94,400
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The heating system currently serving the air handling units does not contain glycol, which creates the opportunity for heating coil freeze up.

In addition, all of the air handling units have coil circulating pumps. These pumps could be eliminated if glycol was added to the heating system.

PHOTOS



HVAC: Add Propylene Glycol to Heating System

-

ACTION DESCRIPTION

Add Propylene Glycol into the entire heating system to prevent coil freeze up.

Remove heating coils and install 2 way control valves.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Interior Doors: Replace All Plastic Laminate Interior Doors and Hardware		
Linked System	Interior Doors	Inspection Date	08/29/2006
Prime System	Interior Doors	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/29/2009	Total Estimated Cost:	255,411
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing plastic laminate doors are in fair to poor condition all latchsets are non-compliant knobs, many door lites are non-safety glazed.

PHOTOS



Interior Doors: Replace All Plastic Laminate Interior Doors and Hardware

-

ACTION DESCRIPTION

Remove all plastic laminate doors and replace with new wood doors and hardware. All lites are non- safety glazed. 300 Doors

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

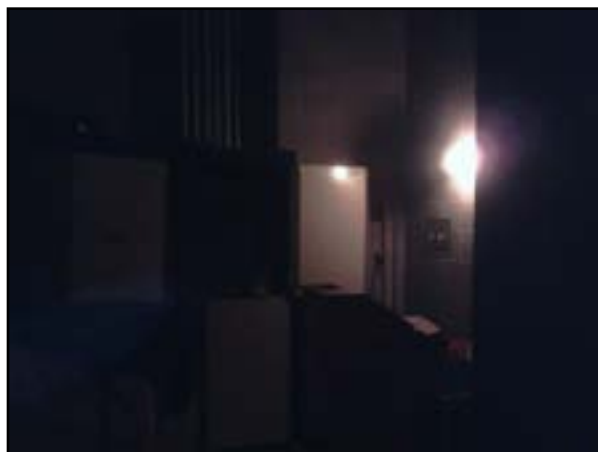
Asset Name: Central High School
Asset Number: 210

Requirement Name	Lighting Equipment: Dimming System		
Linked System	Lighting Equipment	Inspection Date	09/19/2006
Prime System	Lighting Equipment	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	-	Total Estimated Cost:	118,000
Funding Year	-	Funding Type	-
Requirement Location	Stage Area	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Dimming system could be improved with newer system and better technology.

PHOTOS



Lighting Equipment: Dimming System

-

ACTION DESCRIPTION

Replace dimming system with newer system for better stage lighting and control.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Superstructure: Refurbish Auditorium Projection Booth (Control Room)		
Linked System	Superstructure	Inspection Date	08/29/2006
Prime System	Superstructure	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	5,782
Funding Year	-	Funding Type	-
Requirement Location	Auditorium Projection Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing room is in poor condition with multi level wood floor. Wall panels are torn.

PHOTOS



Superstructure: Refurbish Auditorium Projection Booth (Control Room)

-



Superstructure: Refurbish Auditorium Projection Booth (Control Room)

-

ACTION DESCRIPTION

Gut room and reconstruct/ refinish.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: Central High School
Asset Number: 210

Requirement Name	Superstructure: Replace Ramp at Orchestra Room #151		
Linked System	Superstructure	Inspection Date	08/29/2006
Prime System	Superstructure	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	27,506
Funding Year	-	Funding Type	-
Requirement Location	Orchestra Room #151	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing wood ramp is of poor construction, recommend replacement.

PHOTOS



Superstructure: Replace Ramp at Orchestra Room #151

-

ACTION DESCRIPTION

Remove existing wood ramp and reconstruct including new hand rails per code.

District: Duluth Public Schools
Facility: Central High School
Category: Accessibility

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Equipment and Furnishings: Accessibility		
Linked System	Equipment and Furnishings	Inspection Date	11/12/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	6,750
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues related to high public use areas of the school, including auditoriums, stadiums, gymnasiums, ticket counters, and the main office. Items include: providing wheelchair viewing positions, providing access to the stage, providing an assistive listening system and lowering counters.

It also includes accessibility issues found in Specialty Areas (science labs, cooking labs, industrial arts areas, as well as the media center/library). Items include: providing accessible work stations in kitchens, providing accessible labs and lowering eyewashes.

PHOTOS



Equipment and Furnishings: Accessibility

-

ACTION DESCRIPTION

Correct accessibility issues as required.

District: Duluth Public Schools
Facility: Central High School
Category: Accessibility

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Plumbing: Accessibility	Inspection Date	11/12/2006
Linked System	Plumbing	Finish Date	-
Prime System	Plumbing	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	JQP Inc.	Total Estimated Cost:	32,710
Action Date	11/12/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Plumbing throughout		
Savings Description	-		

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

-

ACTION DESCRIPTION

Upgrades as needed to meet plumbing accessibility requirements.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	HVAC: Add Dehumidification Second Floor and Kitchen Make Up Air Units		
Linked System	Cooling Generating Systems	Inspection Date	07/11/2006
Prime System	Cooling Generating Systems	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	82,600
Funding Year	-	Funding Type	-
Requirement Location	Gymnasium/Locker/Cafeteria/ and Life Fitness in 1926 and 1987 Building Addition	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The air handling system serving the second floor and the kitchen make up air unit have no means of dehumidification. Without dehumidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

PHOTOS



HVAC: Add Dehumidification Second Floor and Kitchen Make Up Air Units

-

ACTION DESCRIPTION

Addition of dehumidification coils and condensing units to the two units and installation of closed cell liner inside the air handling units. Installation of new external supply duct insulation. Upgrade Controls System. Test and Balance and Commissioning of air handling units.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	HVAC: Upgrade Ventilation in Classroom Areas		
Linked System	Air Distribution Systems	Inspection Date	06/28/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	135,700
Funding Year	-	Funding Type	-
Requirement Location	Classroom Areas	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The air handling systems serving the classroom areas consist of multizone units. This does not allow for reduction of airflow when space conditions will allow.

In addition, the lower area daycare area has been reconfigured and suffer from inadequate airflow and had no means of dehumidification.

Without de-humidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

PHOTOS



HVAC: Upgrade Ventilation in Classroom Areas

-

ACTION DESCRIPTION

Addition of dehumidification coils to the existing air handling unit which is double wall. Installation of external duct insulation where not exposed, new acoustical ceiling tile, lighting removal and reinstallation or new lights where required. Upgrade Controls System to DDC. Test and Balance and Commissioning of entire system.

District: Duluth Public Schools
Facility: Central High School
Category: Air and Water Quality

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	HVAC: Upgrade Ventilation in Graphic Arts and Small Engine Areas		
Linked System	Air Distribution Systems	Inspection Date	06/28/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	06/28/2009	Total Estimated Cost:	177,000
Funding Year	-	Funding Type	-
Requirement Location	Graphic Arts and Small Engine Areas - Secondary Technical Center Main	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The air handling systems serving the Graphic Arts and Small Engine Areas have oversized make up air units for how the spaces are being utilized. These units are not run when the space is occupied for class time. Ventilation is not provided per the 2000 International Mechanical Code. In addition, this units have no means of dehumidification. Without de-humidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

PHOTOS



HVAC: Upgrade Ventilation in Graphic Arts and Small Engine Areas

-

ACTION DESCRIPTION

Addition of new Air Handling Units, Condensing Units, and externally insulated ducts where required. Upgrade Controls System to DDC. Test and Balance and Commissioning of entire system.

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Floor Finishes: Replace Carpet	Inspection Date	08/28/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	71,881
Action Date	08/28/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Building		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing carpet is worn/soiled and will require replacement.

PHOTOS



Floor Finishes: Replace Carpet

-



Floor Finishes: Replace Carpet

-

All Costs in USD.

ACTION DESCRIPTION

Remove existing carpet, prepare floor, install new carpet and resilient baseboard.

District: Duluth Public Schools
Facility: Central High School
Category: Appearance

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Wall Finishes: Repaint	Inspection Date	08/28/2006
Linked System	Wall Finishes	Finish Date	-
Prime System	Wall Finishes	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	83,982
Action Date	08/28/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Building		
Savings Description	-		

REQUIREMENT DESCRIPTION

Paint in existing building is in very good condition, wil require repainting in future.

PHOTOS



Wall Finishes: Repaint

-

ACTION DESCRIPTION

Prepare existing surfaces as required, repaint.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Roof System: Replace Roof	Inspection Date	08/10/2006
Linked System	Roofing	Finish Date	-
Prime System	Roof Coverings	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	330,268
Action Date	08/10/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	676
Requirement Location	Entire Building		
Savings Description	Energy savings generated from improved roof insulation.		

REQUIREMENT DESCRIPTION

Roof system beyond rated service life.

PHOTOS



Roof System: Replace Roof

-

ACTION DESCRIPTION

Replace EPDM roof system. Sequence roof-level wall restoration with reroofing

District: Duluth Public Schools
Facility: Central High School
Category: Building Code

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Elevators and Lifts: Elevator Repair	Inspection Date	08/28/2006
Linked System	Elevators and Lifts	Finish Date	-
Prime System	Elevators and Lifts	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Schindler Elevator Corp.	Total Estimated Cost:	8,567
Action Date	08/28/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	SE Corner - 1995		
Savings Description	-		

REQUIREMENT DESCRIPTION

Work required falls into three categories: Code Compliance A17.3, Life Safety Issues and Product Upgrades.

PHOTOS

ACTION DESCRIPTION

Upgrade elevators for code compliance, life safety issues and product upgrades.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	HVAC: Add Cooling Capability to IT Data Room		
Linked System	Cooling Generating Systems	Inspection Date	07/12/2006
Prime System	Cooling Generating Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2007	Total Estimated Cost:	35,636
Funding Year	-	Funding Type	-
Requirement Location	IT Data Room - Storage Room by Boiler Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

This IT Data room gets 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 with full economizer capability to utilize free cooling when outdoor conditions allow.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

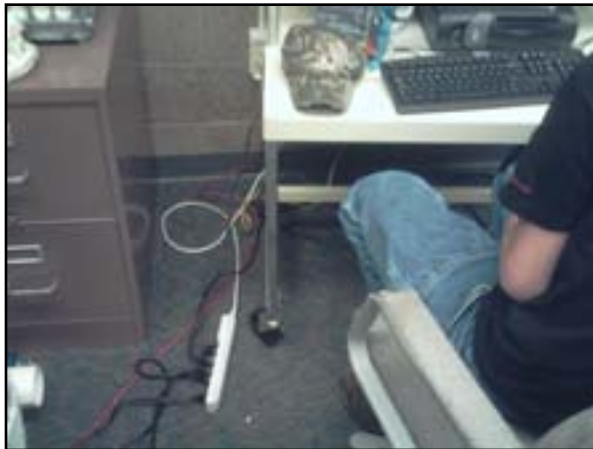
Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Wiring Devices: Insufficient Receptacles		
Linked System	Branch Wiring Devices	Inspection Date	09/18/2006
Prime System	Branch Wiring Devices	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2009	Total Estimated Cost:	25,370
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Some classrooms have an insufficient number of receptacles. Computers and other electronics are plugged into power strips due to the lack of receptacles. This limits future addition of electronic devices and presents a fire hazard.

PHOTOS



Wiring Devices: Insufficient Receptacles

-

ACTION DESCRIPTION

Provide four additional 20 amp receptacle per classroom and associated branch wiring.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Equipment and Furnishings: Replace Countertops		
Linked System	Equipment and Furnishings	Inspection Date	08/24/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/24/2007	Total Estimated Cost:	24,131
Funding Year	-	Funding Type	-
Requirement Location	All Built-in Countertops at Room 320	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing countertops are chipped and damaged, replacement of all tops is required.

PHOTOS



Equipment and Furnishings: Replace Countertops
 -

ACTION DESCRIPTION

Remove existing tops and replace with new wood edged plastic laminate countertops.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Exterior Walls: Wall Restoratiion		
Linked System	Exterior Walls	Inspection Date	08/10/2006
Prime System	Exterior Walls	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/10/2009	Total Estimated Cost:	94,400
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated roof and grade level walls.

PHOTOS



Exterior Walls: Wall Restoratiion
-

ACTION DESCRIPTION

Tuck point, joint sealant replacement, EIFS repair, and paint. Sequence roof-level wall restoration with reroofing.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Superstructure: Refurbish Stair Towers		
Linked System	Superstructure	Inspection Date	08/28/2006
Prime System	Superstructure	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/28/2007	Total Estimated Cost:	18,337
Funding Year	-	Funding Type	-
Requirement	(2) stair towers, all levels	Annual Energy/Ops	-
Location		Savings \$	
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing rubber stair tread risers and skirt sections not adhered to steel stair members. Tops of low walls have plastic laminate installed, most area in poor condition.

PHOTOS



Superstructure: Refurbish Stair Towers

-

ACTION DESCRIPTION

Remove loose sections prep surfaces, re-adhere to steel stair. Remove plastic laminate wall cap and replace with stained/varnished wood cap.

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Controls: VendingMiser Vending Machine Controls		
Linked System	Controls and Instrumentation	Inspection Date	09/23/2006
Prime System	Controls and Instrumentation	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/23/2006	Total Estimated Cost:	1,652
Funding Year	-	Funding Type	-
Requirement Location	Vending Machines	Annual Energy/Ops Savings \$	182
Savings Description	VendingMiser 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: Central High School
Category: Energy and Operational Efficiency

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Lighting Systems: Lighting Retrofit		
Linked System	Lighting Equipment	Inspection Date	10/30/2006
Prime System	Lighting Equipment	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	10/30/2006	Total Estimated Cost:	48,045
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	2926
Savings Description	Energy savings generated by using more efficiency light technology.		

REQUIREMENT DESCRIPTION

- 1) Retrofit 34w T12 fixtures to 25w T8 lighting
- 2) Re-lamp 32w T8 fixtures with 25w T8 lamps
- 3) Replace incandescent & gym HID lighting with Fluorescent
- 4) LED Exit Lighting

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Plumbing: Water Conservation Upgrade		
Linked System	Plumbing Fixtures	Inspection Date	10/05/2006
Prime System	Plumbing Fixtures	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	10/05/2006	Total Estimated Cost:	12,034
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	1,216
Savings Description	Water savings generated by using low flow water devices.		

REQUIREMENT DESCRIPTION

Replace / Retrofit existing plumbing fixtures with new low flow devices.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Occupant Security

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communications and Security: CCTV		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Communications and Security	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2007	Total Estimated Cost:	65,668
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Occupant Security

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Fire Alarm Systems: Outdated System		
Linked System	Fire Alarm Systems	Inspection Date	09/19/2006
Prime System	Fire Alarm Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	19,588
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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

add fully addressable system to main system at school

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communication and Security: Cabling Upgrade		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Local Area Networks	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	75,284
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing building cabling 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 or 6A. Add basic wireless coverage. Standardize quantity of phone and data in classroom and offices.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communication and Security: Clock System		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Clock and Program Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2009	Total Estimated Cost:	29,724
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There is currently no master clock system. A master clock system is necessary to synchronize clocks throughout the building helping students and faculty stay on time.

PHOTOS

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: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communication and Security: Public Address and Sound System		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Intercommunication and Paging System	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2007	Total Estimated Cost:	22,125
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There is currently no paging system installed. A paging system may be needed for security reason.

PHOTOS

ACTION DESCRIPTION

Install new paging system and amplifier and install speakers where needed.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communication and Security: Video/TV Distribution Upgrade		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Television Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/15/2009	Total Estimated Cost:	20,768
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Analog Broadcast TV Signals are required by the FCC to be turned off in the Spring of 2009.

PHOTOS

ACTION DESCRIPTION

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

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Communications and Security: Sound System Upgrades		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Classroom Sound Systems	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	62,304
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Little or no rooms have audio enhancement systems.

PHOTOS

ACTION DESCRIPTION

Add audio enhancement systems to Classrooms.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Controls and Instrumentation: BAS and Controls Upgrade		
Linked System	Controls and Instrumentation	Inspection Date	10/18/2006
Prime System	Building Automation Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schmidt, Brian	Actual Cost	0
Action Date	10/18/2007	Total Estimated Cost:	70,800
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Upgrade existing, outdated BAS to new Web-based BAS and tie to new District-wide BAS network. This will allow for central monitoring and control of all buildings from the Facilities Management building.

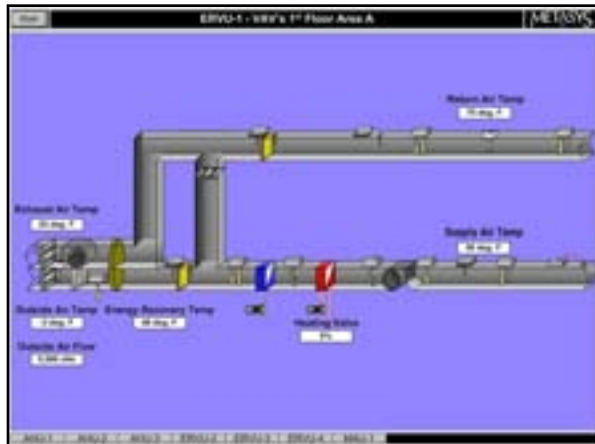
Upgrade existing pneumatic controls (old technology) to new Direct Digital controls.

Upgrade/replace existing temperature control valves, dampers, and actuators. The majority are beyond rated life and many are disconnected and not functioning, thus not operating as energy efficiently as possible.

Replace existing temperature control air compressor and air dryer with new and repair control air line leaks. This will improve the energy efficiency of the existing control system.

The existing controls shall be recommissioned to verify proper sequence of operation and optimize energy efficiency. Additional control and monitoring points shall also be added to the BAS system to optimize HVAC system performance.

PHOTOS



BAS Graphic

-

ACTION DESCRIPTION

All Costs in USD.

Add new BAS and DDC controls to tie into District-wide BAS network.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Equipment and Furnishings: Construct Computer Workstations		
Linked System	Equipment and Furnishings	Inspection Date	08/24/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	-	Total Estimated Cost:	15,718
Funding Year	-	Funding Type	-
Requirement Location	Room 107, 318	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing computer work stations and in serviceable condition but are showing wear. Recommend replacement.

PHOTOS



Equipment and Furnishings: Construct Computer Workstations

-

ACTION DESCRIPTION

Construct (12) new computer work stations meeting district standards.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

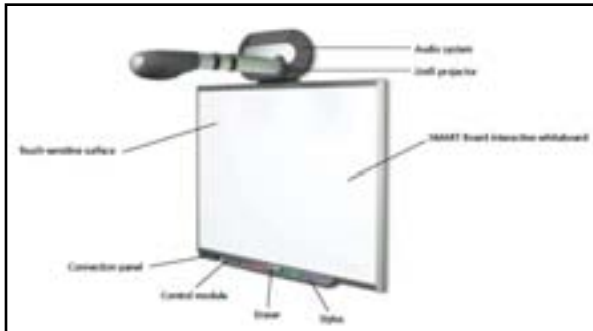
Asset Name: STC Main Campus
Asset Number: 235

Requirement Name	Equipment and Furnishings: Visual Systems (Smart Boards)		
Linked System	Equipment and Furnishings	Inspection Date	08/15/2006
Prime System	Audio-visual Equipment	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	168,740
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Site has some LCD projectors and no Smart Boards installed. One Smart Board is on order.

PHOTOS



Equipment and Furnishings: Visual Systems (Smart Boards)

-

ACTION DESCRIPTION

Install additional Smart Boards.

District: Duluth Public Schools
Facility: Central High School
Category: Beyond Rated Life

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Roof System: Replace Roof	Inspection Date	08/10/2006
Linked System	Roofing	Finish Date	-
Prime System	Roof Coverings	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	227,523
Action Date	08/10/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	466
Requirement Location	Entire Building		
Savings Description	Energy savings generated from improved roof insulation.		

REQUIREMENT DESCRIPTION

Roof system beyond rated service life.

PHOTOS



Roof System: Replace Roof

-

ACTION DESCRIPTION

Replace EPDM roof system.

District: Duluth Public Schools
Facility: Central High School
Category: Capacity

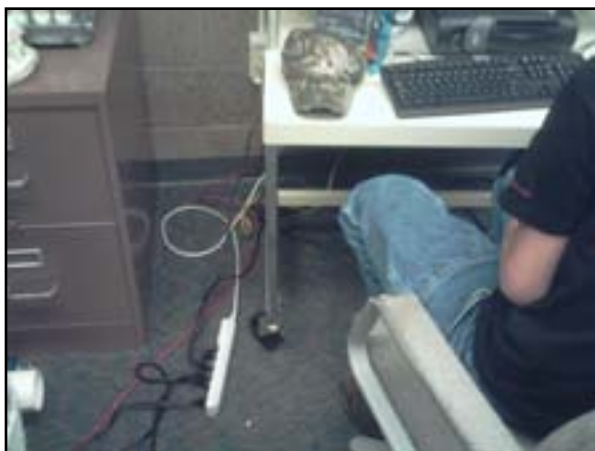
Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Wiring Devices: Insufficient Receptacles		
Linked System	Branch Wiring Devices	Inspection Date	09/18/2006
Prime System	Branch Wiring Devices	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/18/2012	Total Estimated Cost:	10,148
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

With rapid advances in technology, additional receptacles may be required in 6-10 years. The Addition of receptacles will require additional electrical panels.

PHOTOS



Wiring Devices: Insufficient Receptacles

-

ACTION DESCRIPTION

Provide three additional 20 amp receptacle per classroom and associated branch wiring.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Exterior Walls: Wall Restoration		
Linked System	Exterior Walls	Inspection Date	08/10/2006
Prime System	Exterior Walls	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/10/2012	Total Estimated Cost:	29,500
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated joint sealant and deficient concrete in spot locations.

PHOTOS



Exterior Walls: Wall Restoration

-

ACTION DESCRIPTION

Replace joint sealant and patch repair concrete.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Floor Finishes: Repair Deteriorated Concrete		
Linked System	Floor Finishes	Inspection Date	08/28/2006
Prime System	Floor Finishes	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Fern, Bob	Actual Cost	0
Action Date	08/28/2009	Total Estimated Cost:	52,392
Funding Year	-	Funding Type	-
Requirement Location	Construction Technology Lab	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing concrete is pitted due to salt from tires of parked vehicles. Recoating of floor required.

PHOTOS



Floor Finishes: Repair Deteriorated Concrete

-

ACTION DESCRIPTION

Prepare concrete surface, install epoxy coating over entire floor.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Floor Finishes: Replace VCT	Inspection Date	08/24/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	64,835
Action Date	08/24/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Auto systems lab #182		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing VCT is in fair to por condition due to automotive service fluids, cleaners etc. and is not correct product for use recoat entire room with new coating system.

PHOTOS



Floor Finishes: Replace VCT

-

ACTION DESCRIPTION

Remove existing VCT, prep floor, install non-slip epoxy coating suitable for shop use entire room.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Plumbing: Replace Lavatory Wash Fountains		
Linked System	Plumbing Fixtures	Inspection Date	07/11/2006
Prime System	Plumbing Fixtures	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/11/2012	Total Estimated Cost:	8,260
Funding Year	-	Funding Type	-
Requirement Location	Zone 2 and Zone 4	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The two manual lavatory wash fountains are functioning well but planned upgrade to infrared sensors will provide consistency in the district.

PHOTOS



Plumbing: Replace Lavatory Wash Fountains

ACTION DESCRIPTION

Upgrade two wash fountains with infrared mixing stations.

District: Duluth Public Schools
Facility: Central High School
Category: Deferred Maintenance

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Wall Finishes: Repaint Interior	Inspection Date	08/28/2006
Linked System	Wall Finishes	Finish Date	-
Prime System	Wall Finishes	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Fern, Bob	Total Estimated Cost:	21,169
Action Date	08/28/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Building		
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing paint in very good condition, will require repainting in future.

PHOTOS



Wall Finishes: Repaint Interior

-

ACTION DESCRIPTION

Prepare surfaces as required, repaint.

District: Duluth Public Schools
Facility: Central High School
Category: Energy and Operational Efficiency

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Lighting: Lighting Retrofit	Inspection Date	09/21/2006
Linked System	Lighting Equipment	Finish Date	-
Prime System	Lighting Equipment	Status	Open
Priority	1- Currently Critical (Immediately)	Actual Cost	0
Inspector Name	Ruud, Mark	Total Estimated Cost:	34,862
Action Date	09/21/2006	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	1,698
Requirement Location	Entire Facility		
Savings Description	Energy savings generated through more efficient lighting technology.		

REQUIREMENT DESCRIPTION

"Lighting project consists of the following:

- 1) Relamp 32w T8 lamps with 25w T8 lamps
- 2) Replace HID lighting with T8 lighting fixtures
- 3) Upgrade exit signs with LED technology"

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Central High School
Category: Occupant Security

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Communications and Security: CCTV		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Communications and Security	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2007	Total Estimated Cost:	19,913
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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: Central High School
Category: Occupant Security

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Fire Alarm Systems: Outdated System		
Linked System	Fire Alarm Systems	Inspection Date	09/19/2006
Prime System	Fire Alarm Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	18,290
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

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

ADD FULLY ADDRESSABLE FIRE ALARM CONNECTED TO MAIN PANEL AT SCHOOL

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Communication and Security: Clock System		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Clock and Program Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2009	Total Estimated Cost:	9,015
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There is currently no master clock system. A master clock system is necessary to synchronize clocks throughout the building helping students and faculty stay on time.

PHOTOS

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: Central High School
Category: Upgrades

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Communication and Security: Public Address and Sound System		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Intercommunication and Paging System	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2009	Total Estimated Cost:	6,714
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There is currently no paging system installed. A paging system may be needed for security reason.

PHOTOS

ACTION DESCRIPTION

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

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	Controls and Instrumentation: BAS and Controls Upgrade		
Linked System	Controls and Instrumentation	Inspection Date	10/18/2006
Prime System	Building Automation Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schmidt, Brian	Actual Cost	0
Action Date	10/18/2007	Total Estimated Cost:	59,000
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Upgrade existing, outdated BAS to new Web-based BAS and tie to new District-wide BAS network. This will allow for central monitoring and control of all buildings from the Facilities Management building.

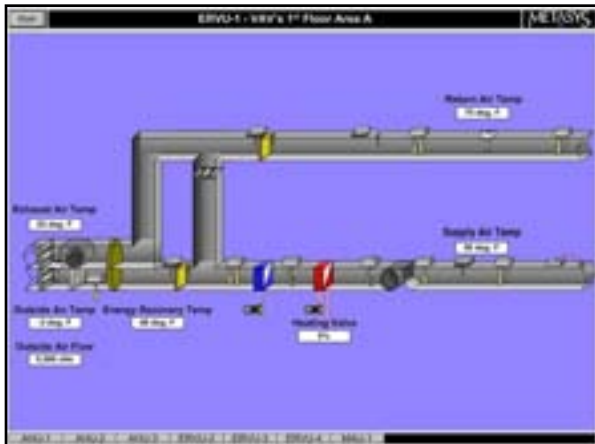
Upgrade existing pneumatic controls (old technology) to new Direct Digital controls.

Upgrade/replace existing temperature control valves, dampers, and actuators. The majority are beyond rated life and many are disconnected and not functioning, thus not operating as energy efficiently as possible.

Replace existing temperature control air compressor and air dryer with new and repair control air line leaks. This will improve the energy efficiency of the existing control system.

The existing controls shall be recommissioned to verify proper sequence of operation and optimize energy efficiency. Additional control and monitoring points shall also be added to the BAS system to optimize HVAC system performance.

PHOTOS



BAS Graphic

-

ACTION DESCRIPTION

All Costs in USD.

Upgrade existing pneumatic controls to new DDC with a BAS to tie into the District-wide BAS network.

District: Duluth Public Schools
Facility: Central High School
Category: Upgrades

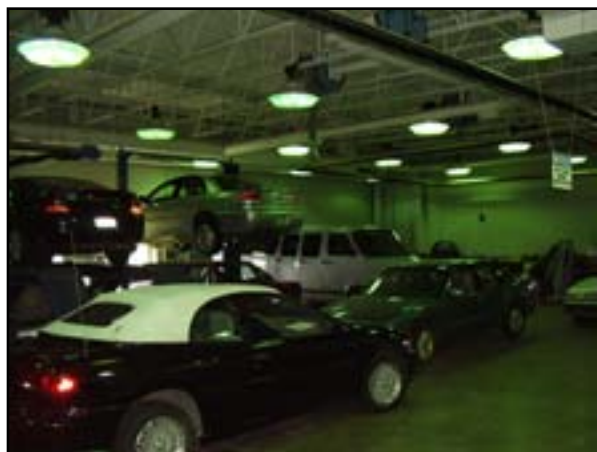
Asset Name: STC Upper Campus
Asset Number: 235

Requirement Name	HVAC - Add Movable Weld Hood Stations		
Linked System	Exhaust Ventilation Systems	Inspection Date	08/20/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	08/20/2012	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Zone 4 STC Annex	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The welding operations could use a movable weld exhaust station to allow for flexibility of work.

PHOTOS



HVAC - Add Movable Weld Hood Stations

-

ACTION DESCRIPTION

Add a movable weld station.