



**CITY OF DULUTH**  
Planning Division

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**STAFF REPORT**

<b>File Number</b>	PL 16-013	<b>Contact</b>	Steven Robertson	
<b>Application Type</b>	Special Use Permit, High School in RR-1	<b>Planning Commission Date</b>	May 10, 2016	
<b>Deadline for Action</b>	<b>Application Date</b>	April 11, 2016*	<b>60 Days</b>	June 10, 2016
	<b>Date Extension Letter Mailed</b>	April 28, 2016	<b>120 Days</b>	August 9, 2016
<b>Location of Subject</b>	NE Side of Rice Lake Road, Between Technology Drive and Krueger Road			
<b>Applicant</b>	Duluth Public Schools Academy	<b>Contact</b>	Pacific Education Partners	
<b>Agent</b>	David Chmielewski, Blackhoof Development	<b>Contact</b>	dave@blackhoof.com	
<b>Legal Description</b>	PIN 010-2710-0515			
<b>Site Visit Date</b>	April 30, 2016	<b>Sign Notice Date</b>	April 26, 2016	
<b>Neighbor Letter Date</b>	April 28, 2016	<b>Number of Letters Sent</b>	9	

**Proposal**

The applicant is proposing to construct a new high school, grades 8 -12, approximately 100,610 square feet (2 levels), with 330 parking stalls and a track and field.

	<b>Current Zoning</b>	<b>Existing Land Use</b>	<b>Future Land Use Map Designation</b>
<b>Subject</b>	RR-1*	Recreation/Green Space	Business Park*
<b>North</b>	RR-1	Recreation/Green Space	Business Park/Rural Residential
<b>South</b>	RR-1	Undeveloped	Rural Residential
<b>East</b>	R-2	Elementary School/Office	Urban Residential/Light Industrial
<b>West</b>	MU-B	Recreation/Light Industrial	Business Park

**Summary of Code Requirements (reference section with a brief description):**

Section 50-19.8. A high school in the RR-1 district requires a Special Use Permit.

UDC Section 50-37.10. Special Use Permits. The Planning Commission shall approve the application or approve it with modifications if the commission determines that the application meets the following criteria:

1. The application is consistent with the Comprehensive Land Use Plan;
2. The application complies with all applicable provisions of this Chapter, including without limitation any use-specific standards applicable to the proposed use, development or redevelopment, and is consistent with any approved district plan for the area;
3. Without limiting the previous criteria, the commission may deny any application that would result in a random pattern of development with little contiguity to existing or programmed development or would cause anticipated negative fiscal or environmental impacts on the community.

H. F-1

**Comprehensive Plan Findings (Governing Principle and/or Policies) and Current History (if applicable):**

Business Park-Primarily office and light industrial areas developed in a unified manner, with standards for site design and circulation patterns, signage, landscaping and building design.

Institutional-Applicable to university and college and public school campuses, large religious facilities or governmental campuses, cemeteries, etc. Applies primarily to existing facilities.

This project is related to 3 variances applications, PL 16-014 (to allow more off-street parking spaces than allowed by the zoning code), PL 16-015 (to allow front yard parking in a residential district), and PL 16-029 (to exceed the maximum height allowed for structures in the RR-1 district)

See pages 3 to 7 of the staff report for additional information.

**Discussion (use numbered or bullet points; summarize and attach department, agency and citizen comments):**

- 1) UDC Sec. 50-18.1 (Natural Resources Overlay) The proposed school, athletic field, and accessory parking lots will not be within the shoreland overlay, nor will they be near a designed floodplain. Wetlands will be impacted; a wetland replacement plan that is currently being reviewed by the Duluth WCA Technical Evaluation Panel.
- 2) UDC Sec. 50-23 (Connectivity) A backage road is required to adequately and safely serve this development. The property owner must dedicated a street, utility, and pedestrian easement to the city or the county of at least 66 feet wide as condition of this project. The road width, as suggested by previous communication with the county, should be 36 feet wide. Planning staff recommend that the new road have sufficient room for at least one side of on-street parking (on street parking on both sides of the road would be preferred, if there is room). The applicant has included an internal circulation plan. There currently is no public sidewalk on Rice Lake Road, but the County will construct a 10 foot path on the western side of Rice Lake Road from Central Entrance to Arrowhead Road, which could be connected to this development when the new public road is developed.
- 3) UDC Sec. 50-24 (Parking) - The project is proposing more off-street parking than currently allowed. The applicant is seeking a variance, and the city is also submitting a UDC text change to increase the standard off-street parking requirement. The applicant will need to verify if the snow storage areas designated by the applicant on the site map will sufficient capacity; snow storage cannot take place on required landscaping islands nor in stormwater plans.
- 4) UDC Sec. 50-25 (Landscaping) - The project has planned for some street frontage landscaping along Rice Lake Road and the new backage road, and some tree canopy coverage in the parking lot; staff are still reviewing to ensure compliance. The tree preservation plan is being reviewed by city staff.
- 5) UDC Sec. 50-26 (Screening) - Exterior mechanicals (if provided) and dumpsters/loading area at the NE side of the school must be screened.
- 6) UDC Sec. 50-27 (Signs) - Applicant will need to comply with sign requirements.
- 7) UDC Sec. 50-29 (Sustainability) and 50-30 (Building Design Standards) - Applicant will provide sustainability points (but will need to provide additional information related to preserving pre-development vegetation) and meet design standards
- 8) UDC Sec. 50-31 (Exterior Lighting) - Applicant has submitted a lighting plan that generally conforms to the UDC standards (downcast lighting, no light trespass over the property line). Athletic field lighting will need to be verified, however; strong lighting, if not properly planned and directed, may have an impact on adjacent properties.

**Staff Recommendation (include Planning Commission findings, i.e., recommend to approve):**

- Staff recommend that the Planning Commission hear public comment at the May 10th regular Planning Commission meeting, but table discussion until the June 14th regular meeting. This will allow time for:
- the City Council to consider text changes to the Unified Development Chapter (including off-street parking requirements),
  - the WCA TEP to review additional information and make a recommendation on the proposed Wetland Replacement Plan,
  - the applicant to work with the County to establish a development agreement for construction and cost share of the new road (construction of the new road prior to occupancy of the school will be a condition of approval of the SUP, if granted by the City),
  - the applicant and the City to continue to work on a final stormwater plan (no site clearing or grading permit will be approved by engineering until the final drainage report is approved),
  - allow the Planning Commission more time to review the lengthy staff report and consider additional public input.

**Attachments (aerial photo with zoning; future land use map; site plan; copies of correspondence)**

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**Previous Zoning Applications**

Previous zoning applications for this general area include WRMO variance to construct an approximate 50,000 square foot, 107 parking stall, K-8 school (impacted 9,205 square feet of wetlands). FN 10-087 approved September 14, 2010.

**Environmental Assessment Worksheet**

A mandatory EAW is not required for this project, per Minnesota Administrative Rules 4410.4300. Two categories were reviewed, size of new structure and number of units in a new residential development.

An EAW is required for when new industrial, commercial, and institutional facilities have a gross floor space that meets or exceeds 400,000 square feet (in a city of the first class). This project will be approximately 100,000 square feet.

An EAW is required for residential development if the total number of units that may ultimately be developed on all contiguous land owned or under an option to purchase by the proposer, except land identified by an applicable comprehensive plan, ordinance, resolution, or agreement of a local governmental unit for a future use other than residential development, equals or exceeds a threshold of 100 unattached units or 150 attached units. To staff's knowledge, there are no definitive plans for residential dwellings on this site at this time, although at one point multi-family dwellings were being considered by the applicant and was briefly discussed at a applicant/staff meeting on Thursday, April 28, 2016. Note, however, that the April 6, 2016, Duluth Edison High School Traffic Study included in the trip generation calculation 800 students and 400 dwelling units.

Future land use designation for much of this site is "Rural Residential". According to the 2006 Comprehensive Plan, this land use would typically have: "1 unit/5 or more acres (may vary depending on soils), conservation development encouraged or required, undeveloped areas of large lots are used to complement open space patterns (viewsheds, buffers)." Of the land that the Duluth Pacific Associates LLC owns around the development site, approximately 115 acres has the future land use designation (or sufficient density for approximately 23 single family units).

No citizen petition for an EAW was received by the City.

**Stormwater Plan**

A preliminary stormwater management plan was submitted and reviewed by the City in February 2016. A final drainage report that will need to be prepared for the planned (detailed construction plans); stormwater management system will need to show in detail how the system meet the goals and requirements in the UDC and other referenced documents. No building permit, including site clearing and grading/foundation package will be issued without an approved drainage report. Items that will need to be addressed in the drainage report and final plans are:

1. Roads/driveways (private or public) built to provide access to the project will also need to follow the UDC in regards to stormwater management.
2. The MPCA NPDES CA permit requires a 50' undisturbed buffer from wetlands.

3. The conveyance system for the school will need to be able to capture and convey the 100 year storm event to the storm BMPs to be effective for flood control.
4. An approved wetland disturbance permit.
5. BMPs shall reduce temperature increase impacts for down gradient receiving waters.

Note that snow storage is not allowed to occur on stormwater ponds, or required landscaping elements.

### **Wetland Replacement Plan**

A wetland delineation for this site was prepared on October 22, 2014, submitted for review on November 12, 2014, and approved by the Duluth WCA Technical Evaluation Panel on December 23, 2014.

The wetland replacement plan was submitted, and accepted as complete and ready for review, on Monday April 11, 2016. The wetland replacement plan proposes a total wetland impact of 108,937 square feet (approximately 2.5 acres). Due to its length, the complete study is not included with this planning staff report, but it is public record and available for reading.

The Duluth WCA TEP reviewed the wetland replacement plan at a meeting on Monday, May 2<sup>nd</sup>, and has asked for additional information from the applicant. After reviewing the additional information, the TEP will then make a recommendation to the City to approve, approve with conditions, or deny the replacement plan.

### **Traffic Study**

The City typically requires traffic impact studies for developments where the anticipated traffic will be 100 trips per hour, or 1,000 trips per day. The County, as the road authority for Rice Lake Road, review and accepted, on Thursday April 7, 2016, the revised traffic study. Due to its length, the complete study is not included with this planning staff report, but it is public record and available for reading. Note, however, that the final determination and timeline of the traffic signal at Rice Lake Road and the Edison High School Driveway (Sawyer Avenue) will be determined during any future negotiations between St. Louis County and the developer. Excerpts of the traffic study have been included in the staff report.

Construction of the new road prior to occupancy of the school will be a condition of approval of the SUP, if granted by the City. The applicant and the county should enter into a development agreement for construction and cost share of the new road.

### **Future Land Use and Rezoning**

On Monday April 25, 2016, the Duluth City Council approve Resolution 16-0305R, the proposed future land use designations for some properties along Arrowhead Road and Rice Lake Road. At the time that the Special Use Permit application was submitted and accepted as complete for review, the future land use designation was Business Park. With the City Council action on April 25, the future land use designation has been changed to Institutional. The City will proceed with rezoning this area, and other areas impacted by the future land use change, around June or July of this year. This property would be rezoned from RR-1 to MU-I. A high school is also a Special Use in the MU-I district, though additional or different standards may apply.

The City is anticipated to being a rezoning action shortly, with a public hearing at the Planning Commission tentatively scheduled for June 14, 2016.

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## **Comprehensive Plan**

The guiding principles set the foundation for the entire framework for the comprehensive plan by providing the fundamental concepts by which physical planning needs to take place. The principles can provide direction when the details of the plan are insufficient to clearly resolve issues or make decisions.

Before approving a Special Use Permit, the Planning Commission must determine that the zoning application is consistent with the Comprehensive Land Use Plan. The commission may also deny any application that would result in a random pattern of development with little contiguity to existing or programmed development or would cause anticipated negative fiscal or environmental impacts on the community.

There are 12 guiding principles:

### **Principle #1 - Reuse previously developed lands**

Reuse of previously developed lands, including adaptive reuse of existing building stock and historic resources, directs new investment to sites which have the potential to perform at a higher level than their current state. This strengthens neighborhoods and is preferred to a dispersed development pattern with attendant alteration of natural landscapes and extensions of public services. Site preparation or building modification costs are offset by savings in existing public infrastructure such as streets, utilities, and transit, fire and police services.

### **Principle #2 - Declare the necessity and secure the future of undeveloped places**

Undeveloped areas are an essential part of Duluth's municipal fabric - urban plazas, neighborhood parks, large tracts of public ownership and private lands zoned for minimal development. These minimally or undeveloped areas collectively create an open space system. These areas contribute to Duluth's cultural, health, recreational, and economic value and community identity. This open space system provides vistas, encourages active recreation, provides natural infrastructure as storm water retention, plant and animal habitat and water quality, and is the strongest visual element defining Duluth's sense of place.

### **Principle #3 - Support traditional economic base**

Supporting Duluth's traditional economic foundation maintains jobs, tax base, and opportunity. Economic activity with specific location requirements may be subject to displacement or site competition with changes in real estate values. This traditional economic activity faces change as result of global economic patterns, changing markets, new regulation and aging of extensive infrastructure. Nevertheless, fundamentals remain and the economic contribution, sometimes taken for granted, is significant.

### **Principle #4 - Support emerging economic growth sectors**

Emerging economic sectors add economic, cultural and social diversity. These include higher education, medical, value-added manufacturing, commercial outdoor recreation, historic resources interpretation, arts and music, information technology and visitor services.

### **Principle #5 - Strengthen neighborhoods**

The present city is an historical amalgam of villages and other independent units of government, contributing to the present condition of Duluth being strongly defined by its neighborhoods. This condition should be reinforced through land use, transportation and public service delivery

patterns which strengthen neighborhood identity. New institutional expansions, major public infrastructure or large commercial or industrial uses should not divide historic neighborhood patterns.

**Principle #6 - Reinforce the place-specific**

Public and private actions should reinforce cultural, physical and economic features which have traditionally defined Duluth, its open space and its neighborhoods. This includes commercial areas providing neighborhood goods and services, ravine parks and other natural features that define neighborhood edges and view corridors to the Lake or River which serve to provide location and context.

**Principle #7 - Create and maintain connectivity**

Connectivity is established through our streets and highways, transit system, sidewalks, bikeways and trails, (local and regional). The non-vehicular modes should be considered more than recreation. They are important components of an overall transportation system. Winter maintenance of sidewalks and other public ways is critical to creation of usable pedestrian systems.

**Principle #8 - Encourage mix of activities, uses and densities**

Cities have evolved as a mix of land uses, building types, housing types, and activities. Accommodating choice while protecting investment is a balance to strike in land use regulation. Mixed uses provide opportunity for a diversity of activity that segregated, uniform uses do not provide.

**Principle #9 - Support private actions that contribute to the public realm**

Private building construction and site design influences activity in adjacent public areas. Building form, height, setbacks and detailing effect the adjacent areas. The uses and activity contained in the buildings directly impacts the surroundings. Public areas should benefit from adjacent private investment.

**Principle #10 - Take sustainable actions**

Initiate land use, site design, transportation, building design and materials policies which reduce consumption of finite resources, generation of solid waste and introduction of toxic materials to land, air or waters.

**Principle #11 - Include consideration for education systems in land use actions**

For K-12 and higher education both, there is a connection between land use patterns and educational facilities. School locations in neighborhoods and housing opportunities for higher education students require consideration of impacts on transportation systems, housing densities, parking and non-student uses.

**Principle #12 - Create efficiencies in delivery of public services**

The costs of public service must be considered in land use decisions. Street construction and maintenance, utilities, libraries, fire, police, snowplowing and recreation facilities are services directly related to the physical location of development. Infrastructure should help prescribe development location rather than react to it.

F-6

Staff believe that this zoning application may be supported by:

- Principle 2 (secure the future of undeveloped place), but only if a large portion of the current ski trails are preserved under a conservation easement or similar tool.
- Principle 7 (create and maintain connectivity) but only if the applicant, with the possible participation of the county, commits to paying for the new public road required to service this facility and reduce the congestion that increased after the applicant's other school opened.
- Principle 11 (education systems in land use actions)

Staff believe that this zoning application is not supported by :

- Principle 1 (reuse previously developed lands), other than the (very low impact) ski trail/recreation use, this land is not developed.
- Principle 5 (strengthen neighborhoods), this application does not strengthen neighborhoods; creating new large school uses apart from residential areas does not strengthen neighborhoods and may in fact increase urban sprawl.
- Principle 12 (create efficiencies in delivery of public services), creating additional public infrastructure, even if required by the city to reduce congestion and caused by earlier development, does not create efficiencies in deliveries of public services.

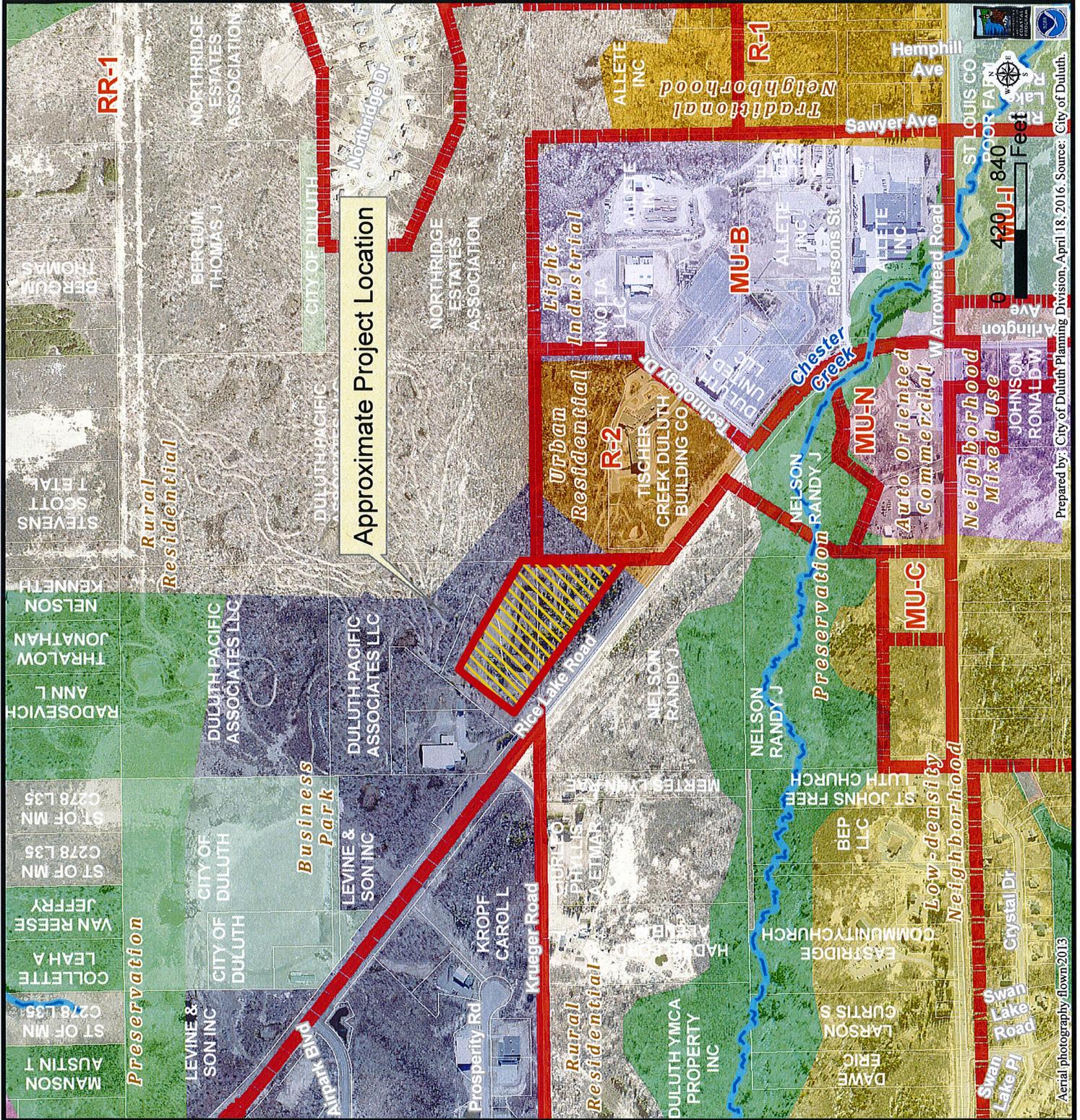
Note that for the 2010 variance for the Edison Elementary School, the staff report stated the principles 1, 10, and 12 applied to the variance application, as well as the following principles:

P&P 1. Water is a defining element in Duluth's physical and cultural landscape. Consistent with the sensitive lands overlay on all stream corridors and shorelines, the City will protect and enhance the quality of streams, rivers, and Lake Superior.

I&PS 1. Prioritize areas for development, restoration, or adaptive reuse that increase utilization of Duluth's existing infrastructure and favor maintenance and reconstruction of older infrastructure over infrastructure expansions.

**Legend**

- Trout Stream (GPS)
- Other Stream (GPS)
- Zoning Boundaries**
- Zoning Boundaries
- Future Land Use
- Preservation
- Recreation
- Rural Residential
- Low-density Neighborhood
- Traditional Neighborhood
- Urban Residential
- Neighborhood Commercial
- Neighborhood Mixed Use
- General Mixed Use
- Central Business Secondary
- Central Business Primary
- Auto Oriented Commercial
- Large-scale Commercial
- Business Park
- Tourism/Entertainment District
- Medical District
- Institutional
- Commercial Waterfront
- Industrial Waterfront
- Light Industrial
- General Industrial
- Transportation and Utilities



**Approximate Project Location**

Aerial photography: flownw/2013

Prepared by: City of Duluth Planning Division, April 18, 2016. Source: City of Duluth.

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**F-8**



Approximate Project Location

**Legend**

- Trout Stream (GPS)
- Other Stream (GPS)
- Wetlands (NRR1)
- 10' Contour (elev. change)

**Floodplain Type**

- General Flood Plain
- Flood Way
- Flood Fringe

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F-9

Aerial photography: flown 2013

Prepared by: City of Duluth Planning Division, April 18, 2016. Source: City of Duluth.

**Legend**

-  Trout Stream (GPS)
-  Other Stream (GPS)
- Water Distribution System**
-  30 - 60" Water Pipe
-  16 - 24" Water Pipe
-  4 - 6" Water Pipe
- Sanitary Sewer Collection System**
-  Sanitary Sewer Collector
-  Sanitary Sewer Interceptor
-  Sanitary Sewer Forced Main
-  Storage Basin
-  Pump Station
- Gas Distribution Main**
-  8" - 16" Gas Pipes
-  4" - 6" Gas Pipes
-  0" - 4" Gas Pipes
- Storm Sewer Collection System**
-  Storm Sewer Pipe
-  Storm Sewer Catch Basin
-  Wetlands (NRR)
- Shoreland Overlay Zone**
-  Cold Water
-  Natural Environment
-  General Development
- Floodplain Type**
-  General Flood Plain
-  Flood Way
-  Flood Fringe

Approximate Project Location



Aerial photography from 2013

Prepared by: City of Duluth Planning Division, April 18, 2016. Source: City of Duluth

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**E-10**





**BUS CIRCULATION**  
 ← (Blue Arrow)  
**PARENT CIRCULATION**  
 ← (Red Arrow)

F-12



F-13



BLACKHOOF



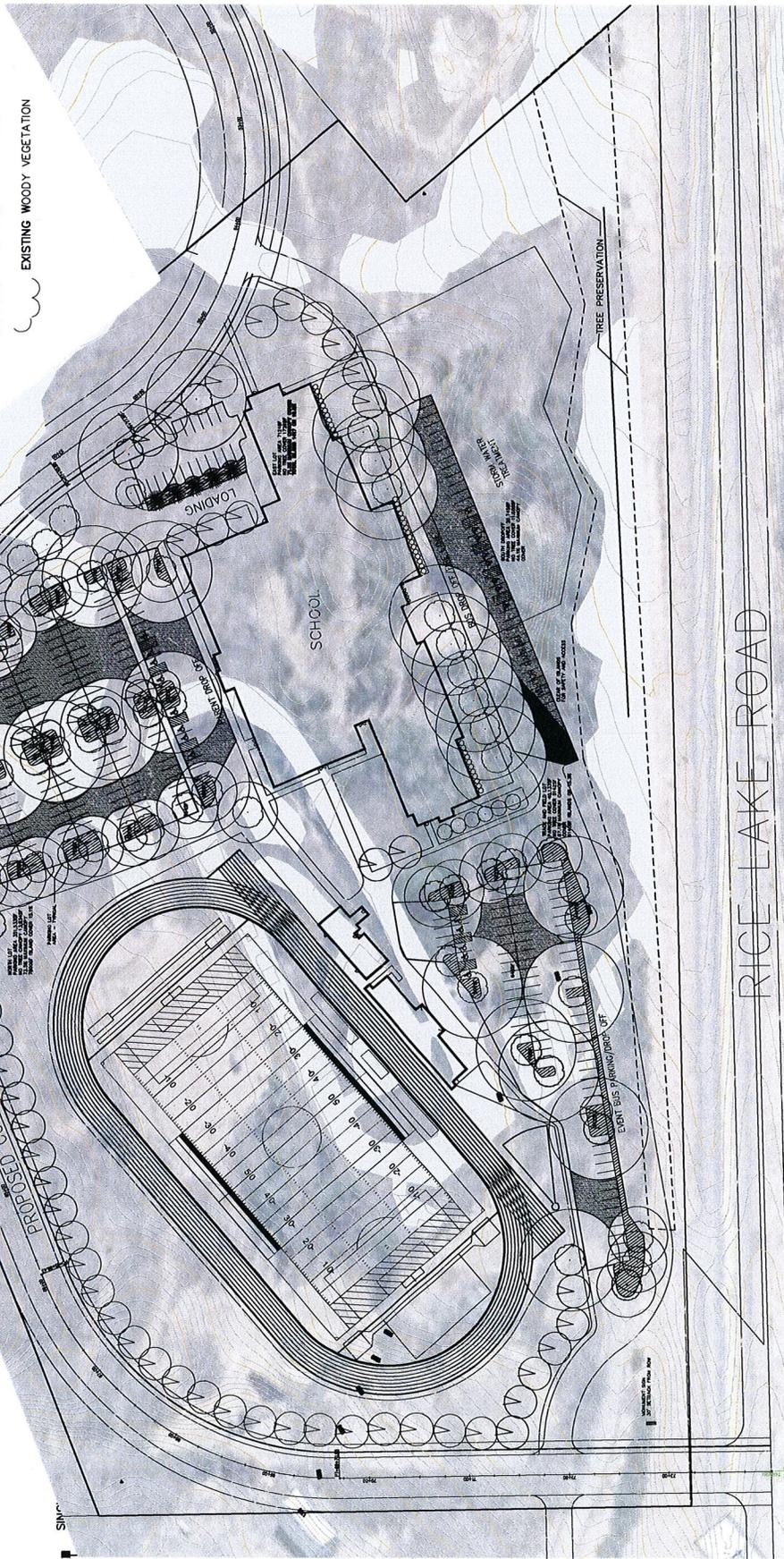
- SPECIAL AND SIGNIFICANT REPLACEMENT TREES**  
 2.5" CALIPER BB SPECIAL TREE REPLACEMENT  
 55 TOTAL TREES: 18 SUGAR MAPLE, 18 BUR OAK, 19 LINDEN  
 SEE TABLE TR.1 FOR REPLACEMENT CALCULATIONS
- SMALL TREE - DOLGO CRAB
  - 2.5" CALIPER BB OR #25 CONT. < MAXIMUM CANOPY RANGE 20' DIA
  - LARGE TREE - WHITE OAK
  - 2.5" BB OR #25 CONT. MAXIMUM CANOPY RANGE ASSUMED 100' DIA
  - LARGE TREE - SUGAR MAPLE
  - 2.5" CALIPER BB OR #30 CONT. MAXIMUM CANOPY RANGE ASSUMED 50' DIA
- SELECT SHRUB SPECIES - MAX HT 4.0'**  
 ANTHONY WATERS SPIREA, COMPACT VIBURNUM  
 GRID, WEALTH SPIREA, MUGO PINE, CUT LEAF SPIREA  
 ARBOR VITAE
- EVERGREEN TREE - 6" BB**  
 MAXIMUM PRACTICAL DIAMETER 20"  
 RED PINE, WHITE PINE, WHITE SPRUCE
- EXISTING WOODY VEGETATION**



- SLOPES OFF EMBANKMENTS TO EXISTING FORESTED AREAS**  
 BWSR 36-311 WOODLAND EDGE NORTHEAST  
 7 LBS./ACRE ON GRASS MIX PORTION  
 1.5 LBS./ACRE ON FORBS  
 50 LBS./ACRE ON SEED OATS (SPRING) OR WINTER WHEAT (FALL). ALL AREAS TO BE SEEDDED MUST BE SPRAYED WITH ROUNDUP SEVERAL WEEKS PRIOR TO SEEDING. USE EXISTING SOIL COVER WITH DOUBLE NET STRAW BLANKET. SECURE WITH 6" STAPLE AT 1 PER SY

- GENERAL TURE**  
 ALL AREAS NOT BUILDING, PARKING, DRIVEWAYS, TRACK AND FIELD OR RIP RAP SLOPE, EDGE EMBANKMENT OR STORM WATER POND WILL BE SEEDDED WITH TURF GRASS AND HYDROMULCHED
- STORMWATER FACILITIES**  
 BWSR 36-361 STORM WATER NE  
 7 LBS./ACRE ON GRASS MIX PORTION  
 1.5 LBS./ACRE ON FORBS  
 50 LBS./ACRE ON SEED OATS (SPRING) OR WINTER WHEAT (FALL). ALL AREAS TO BE SEEDDED MUST BE SPRAYED WITH ROUNDUP SEVERAL WEEKS PRIOR TO SEEDING. USE EXISTING SOIL COVER WITH DOUBLE NET STRAW BLANKET. SECURE WITH 6" STAPLE AT 1 PER SY
- EMBANKMENTS GREATER THAN 2:1**  
 ON SITE BLAST ROCK 2-30"  
 GEOTEXTILE SEPARATOR FABRIC  
 APPLY ENOUGH RIP-RAP TO COVER THE SEPARATOR FABRIC IMPORT  
 MATCHING MATERIAL IF REQUIRED

PROPOSED COUNTY ROAD



RICE LAKE ROAD

F-14

DATE:

PACIFIC EDUCATION PARTNERS

01-26-16 CITY OF SUMMIT, IA  
01-26-16 CITY OF SUMMIT, IA

NO DATE REVISION  
 PROJECT NAME: [illegible]  
 DRAWING TITLE: [illegible]  
 DRAWING NO.: [illegible]  
 DATE: 01-26-16

GENERAL LANDSCAPE PLAN

DPSA 8-12

D1



**IMPERVIOUS AREA: 26,455 SF OR 0.61 ACRES**



F-15





BLACKHOOF



CURTIS

PACIFIC  
EDUCATION  
PARTNERS

02-08-16 CITY UDC SUBMITTAL

NO DATE REVISION

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 02-08-16  
PROJECT: [Signature]

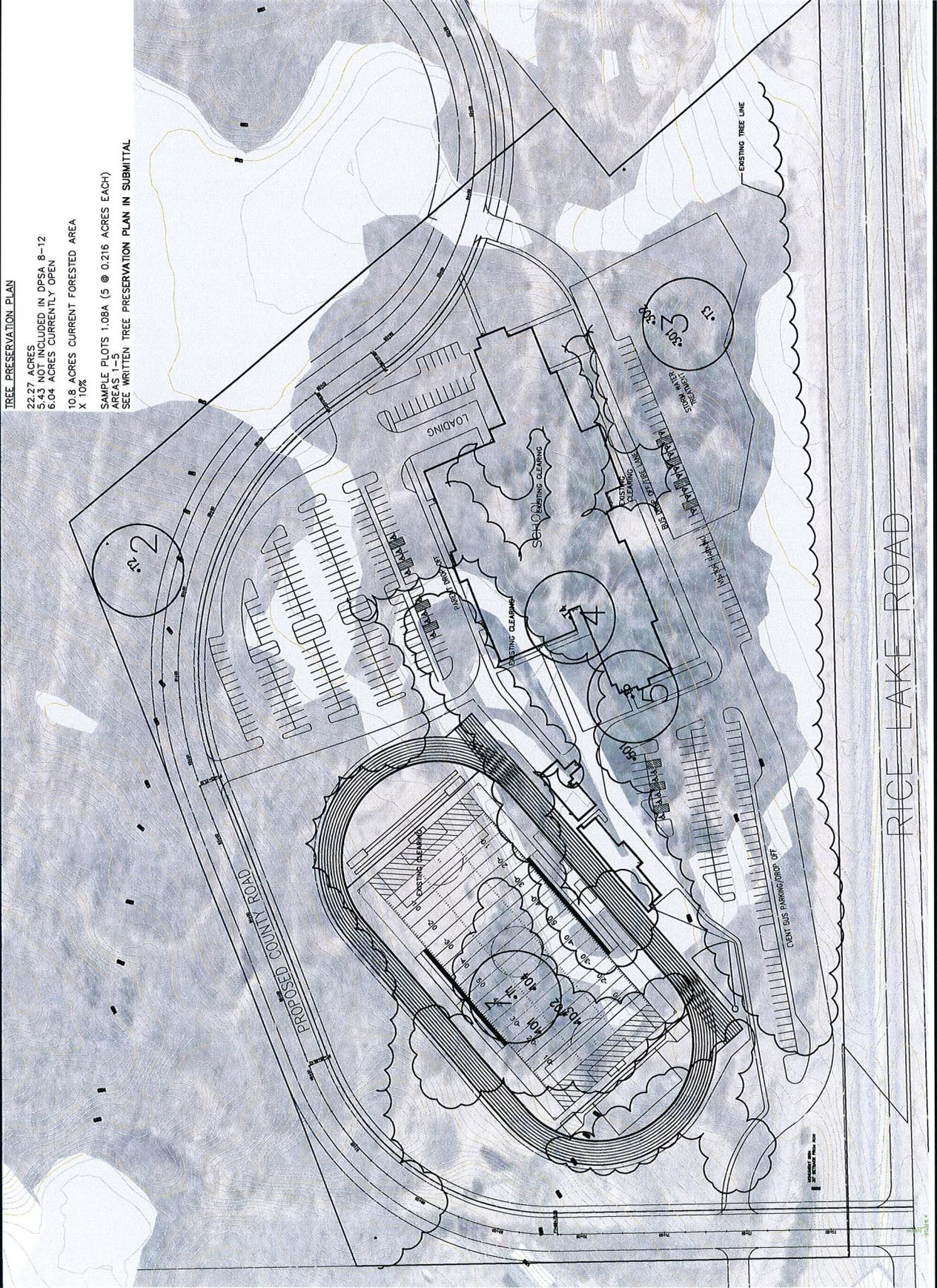
PROJECT NAME:  
DPSA 8-12

DRAWING TITLE:  
TREE  
PRESERVATION  
PLAN

FILE:  
DRAWN BY:  
CHECKED BY:  
PROJECT NO.:  
DRAWING NO.:  
D1

TREE PRESERVATION PLAN

22.27 ACRES  
5.43 ACRES NOT INCLUDED IN DPSA 8-12  
6.04 ACRES CURRENTLY OPEN  
10.8 ACRES CURRENT FORESTED AREA  
X 10%  
SAMPLE PLOTS 1.08A (5 @ 0.216 ACRES EACH)  
AREAS 1-5  
SEE WRITTEN TREE PRESERVATION PLAN IN SUBMITTAL



RICE LAKE ROAD

F-77



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- SINGLE LAMP 1,000 LCF VISIONAIRE PARKING STAR  
PST 2-L-T3 22.5' OR BUILDING MOUNT
- CLUSTER LAMP 875W MH 100 OWHPS 50' STANDARD



CLIENT

PACIFIC  
EDUCATION  
PARTNERS

02-06-16 CITY OF SHERIDAN

NO. DATE REVISION

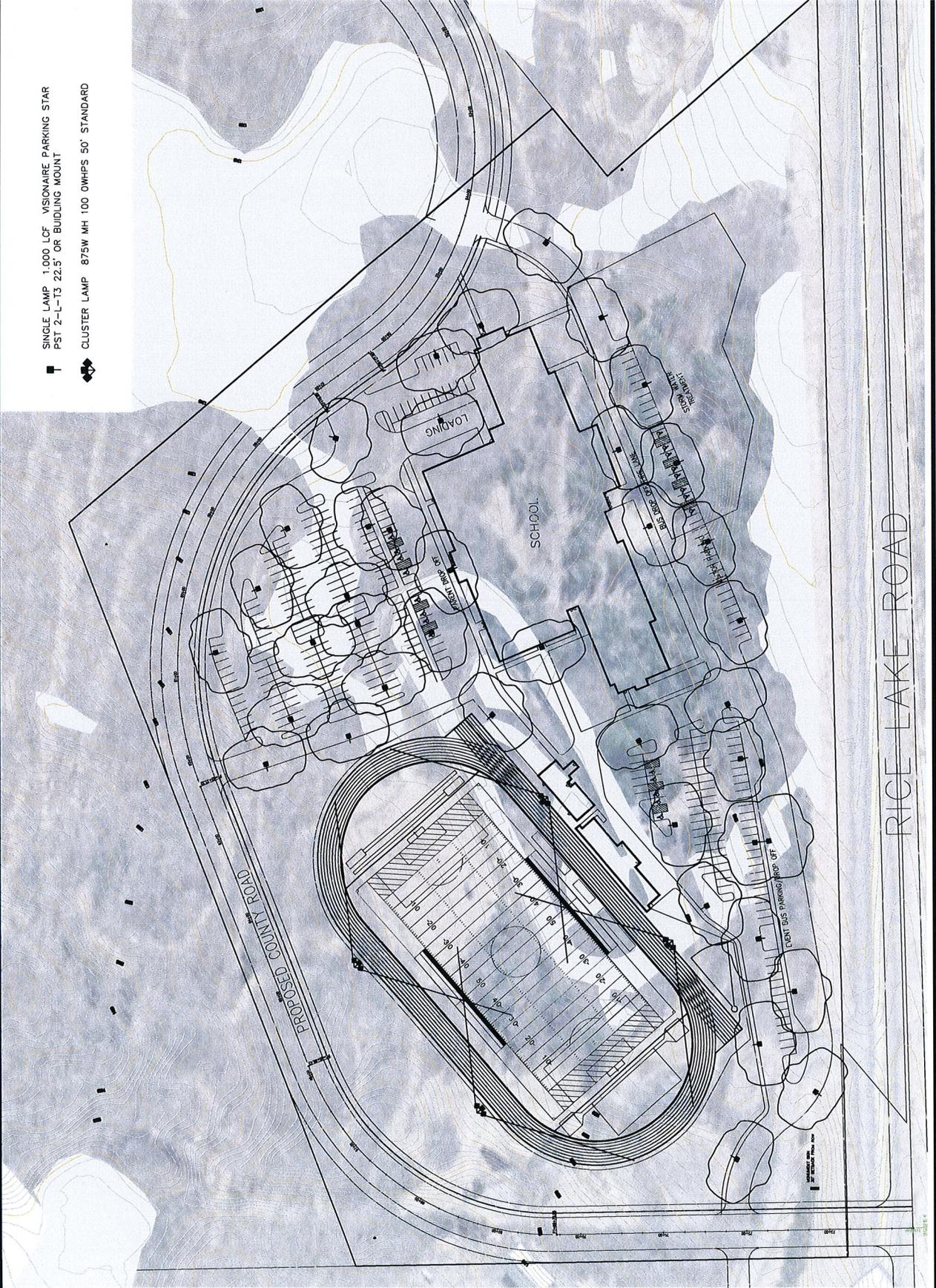
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Typed or Printed Name: DAVID M. CHAMBERLAIN  
Signature: *[Signature]*  
Date: 02-06-16 Proj. No: 00002

PROJECT NAME  
DPSA 8-12

DRAWING TITLE:  
LIGHTING  
PLAN

FILE:  
DRAWN BY:  
CHECKED BY:  
DRAWING NO.: L1



RICE LAKE ROAD

F-18

**FOUNDATIONS**  
 CONSULTANTS  
 3100 W. WISCONSIN AVENUE  
 SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.4400  
 FAX: 414.224.4401

**AROLA**  
 ARCHITECTURE  
 200 WEST 180TH STREET - SUITE 100  
 MILWAUKEE, WI 53222  
 TEL: 414.224.4400  
 FAX: 414.224.4401

**EAPC**  
 ARCHITECTS & ENGINEERS  
 112 N. Roberts Street, Suite 300  
 FARGO, ND 58102  
 TEL: 701.785.5555  
 FAX: 701.785.5556

**Northland**  
 CONSULTING ENGINEERS, LLC  
 1000 W. WISCONSIN AVENUE, SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.4400  
 FAX: 414.224.4401

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**PRELIMINARY**  
 NOT FOR CONSTRUCTION  
 DATE: 04.28.16

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 PROJECT OWNER:  
 DULUTH, MINNESOTA 55811

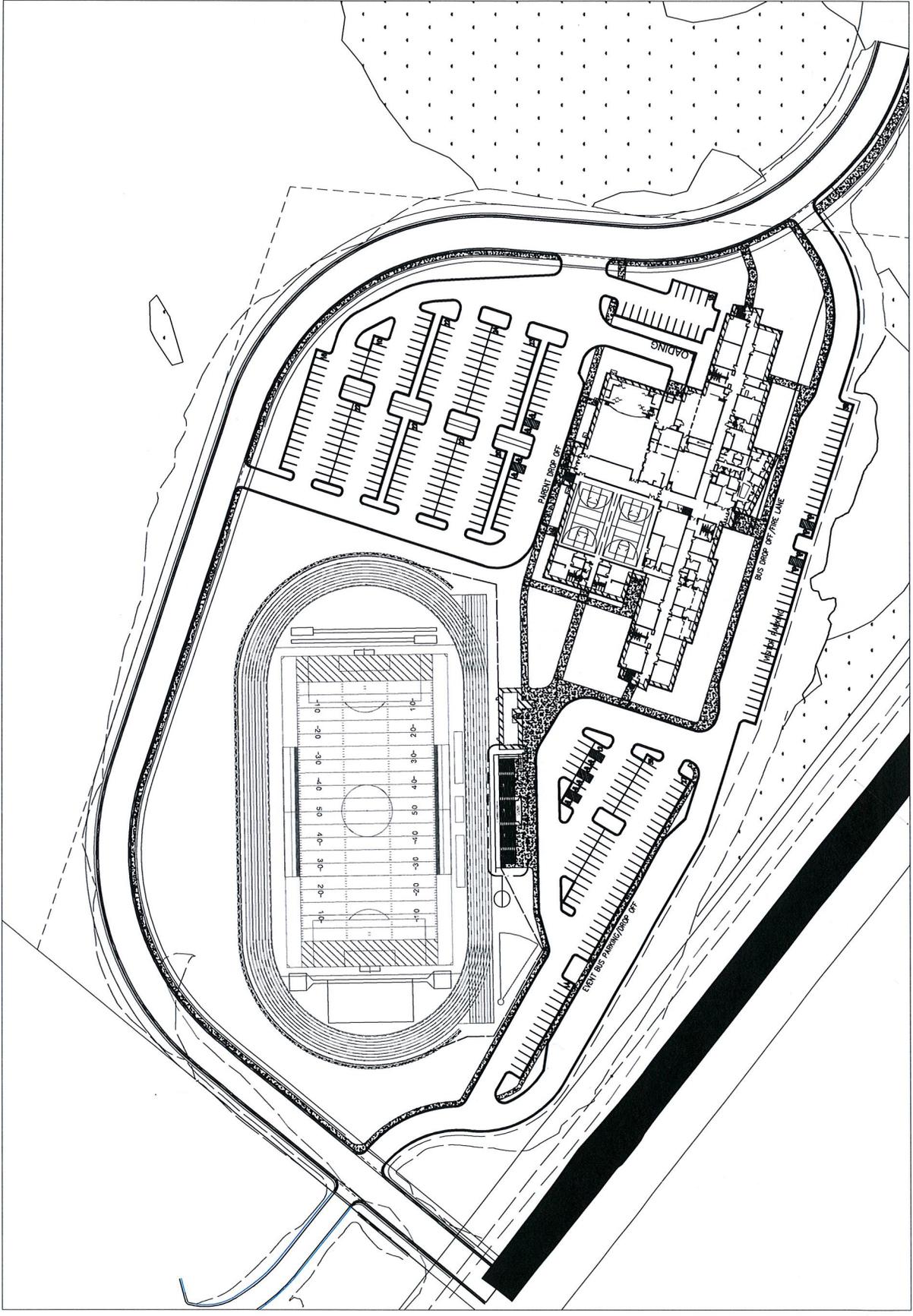
REVISIONS

ISSUED DATE:  
 XX-XX-XXXX

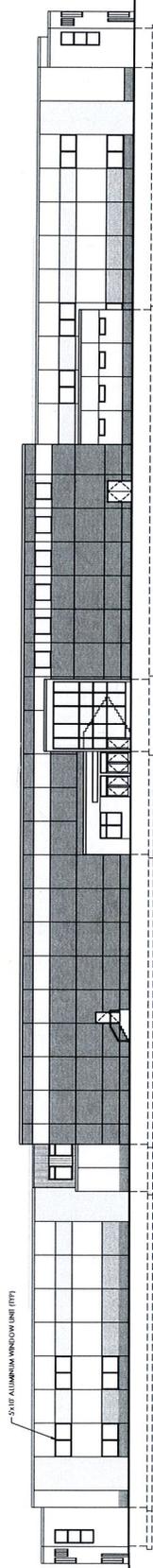
PROJECT NO.: 1529  
 DRAWN BY: RJA, JJB  
 APPROVED BY: GPS

SCALE = 1" = 20' AT FULL SCALE  
 KEY

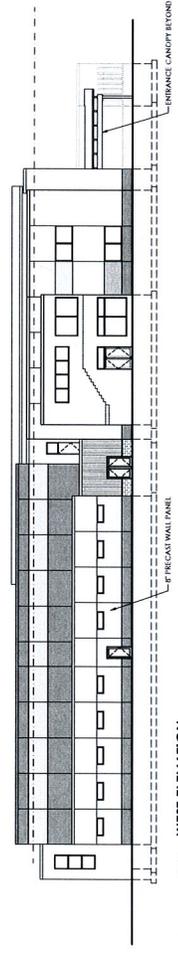
SHEET NO.  
**SITE**



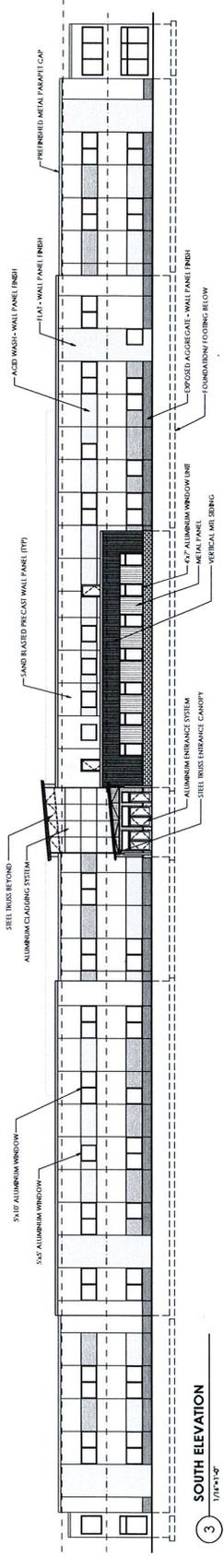
F-19



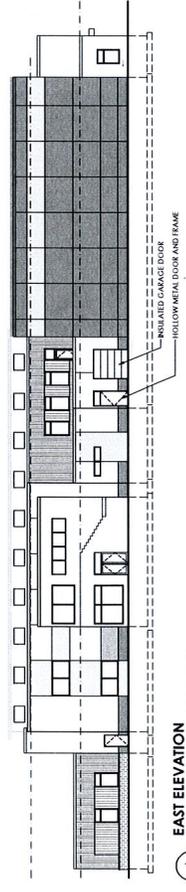
1 NORTH ELEVATION  
 1/8"=1'-0"



2 WEST ELEVATION  
 1/8"=1'-0"

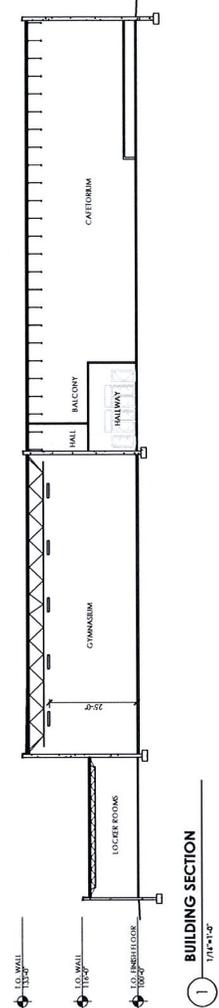
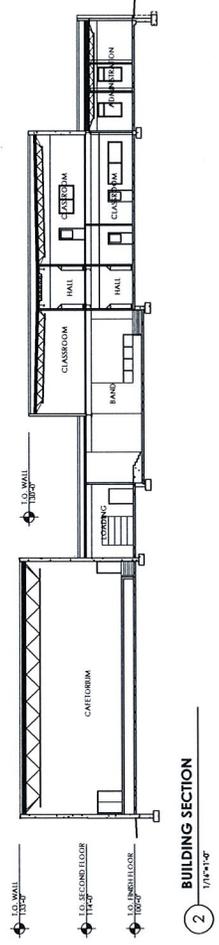
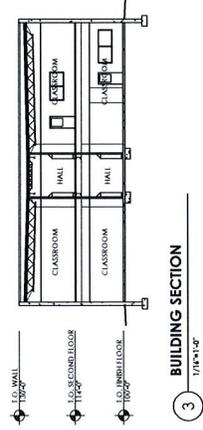


3 SOUTH ELEVATION  
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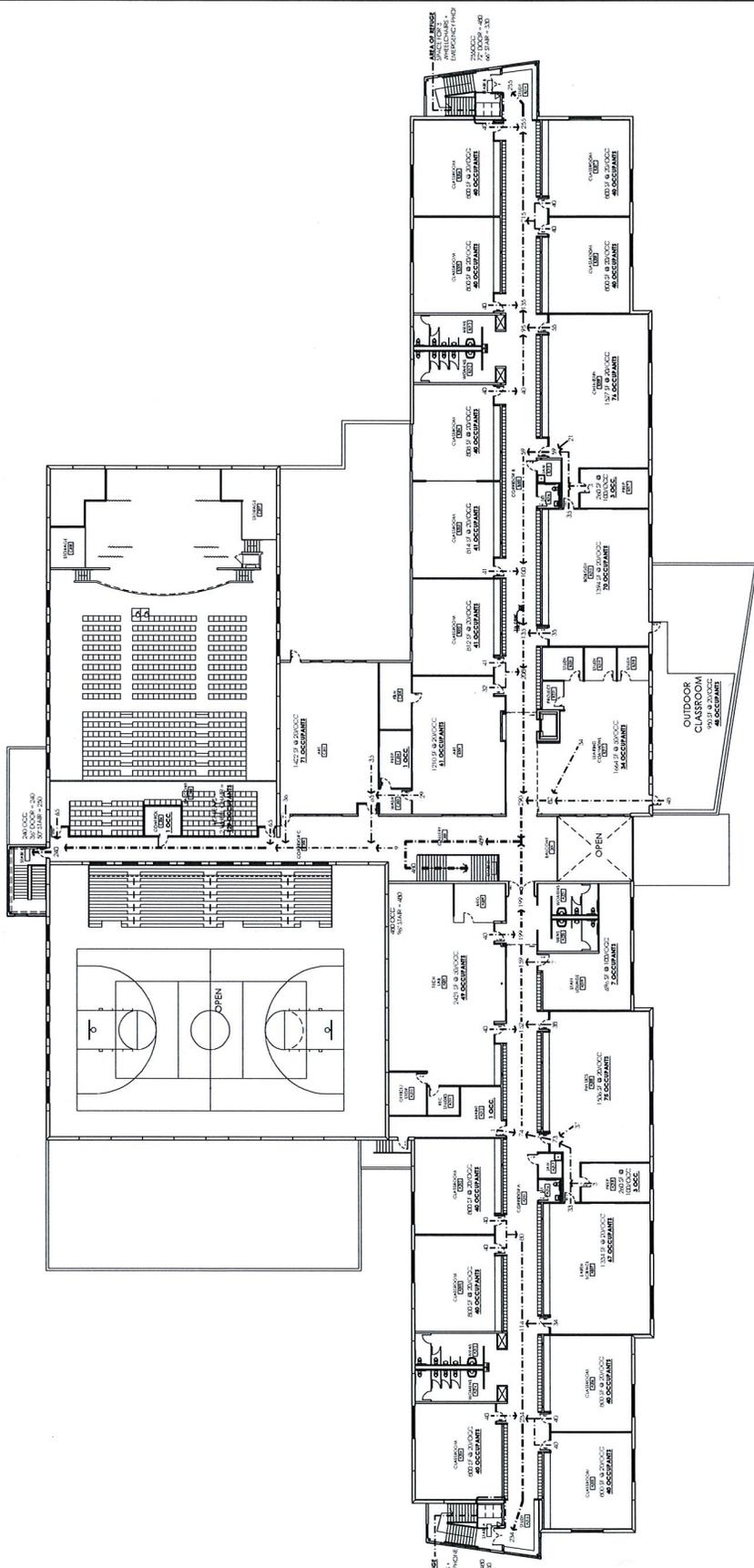
4 EAST ELEVATION  
 1/8"=1'-0"

F-20



F-21





**OCCUPANT LOAD NOTES:**  
CLASSROOMS  
MINIMUM WIDTH - 27'-0" (MIN. 118' x 12' = 23'  
MINIMUM WIDTH - OTHER: 118' x 0.18 = 17'  
MINIMUM # PEOPLE UNITS: 118' x 30" = 6 UNITS

- LIFE SAFETY LEGEND:**
- EXIT ACCESS TRAVEL DISTANCE
  - COMMON PART OF EGRESS TRAVEL
  - COMBINATION OF EGRESS TERMINATION POINT
  - PART OF TRAVEL WITH OBSTRUCTION AND DISTANCE
  - EXIT SIGN
  - EMERGENCY LIGHT
  - COMBINATION OF SIGN / EMERGENCY LIGHT
  - MANUALLY OPERATED
  - FIRE EXTINGUISHER
  - 1 HOUR FIRE-RESISTIVE WATER CONSTRUCTION
  - 2 HOUR FIRE-RESISTIVE WATER CONSTRUCTION
  - FIRE RATED DOOR / FRAME ASSEMBLY
  - (NUMBER INDICATES RATING IN MINUTES)
  - 1 - 15' OCCUPANT LOADING FOR EXITS (WITH EXPRESS WIDTH)
  - 15 - OCCUPANT LOADING FOR EXITS (EXPRESS WIDTH)
  - 15 - OCCUPANT LOADING FOR EXITS (EXPRESS WIDTH)

1 SECOND FLOOR LIFE SAFETY PLAN  
1/16" = 1"

F-23



**FOUNDATIONS**  
 ARCHITECTURE  
 1000 W. WISCONSIN AVE. SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.2200  
 FAX: 414.224.2201

**CONSULTANTS**  
**AROLA**  
 ARCHITECTURE STUDIO, LLC  
 1000 W. WISCONSIN AVE. SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.2200  
 FAX: 414.224.2201

**EAPC**  
 ARCHITECTS ENGINEERS  
 1000 W. WISCONSIN AVE. SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.2200  
 FAX: 414.224.2201

**ALL SOLUTIONS**  
 1000 W. WISCONSIN AVE. SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.2200  
 FAX: 414.224.2201

**Northland**  
 CONSULTANTS  
 1000 W. WISCONSIN AVE. SUITE 200  
 MILWAUKEE, WI 53233  
 TEL: 414.224.2200  
 FAX: 414.224.2201

**NOT FOR CONSTRUCTION**  
 DATE: 03/02/2006 LICENSE NO. 46726  
 SIGNATURE: DAVID BOLE, PE

OWNER:  
 PROJECT OWNER:  
 DULUTH, MINNESOTA 55811

PROPOSED BUILDING FOR:  
**DECS 8-12 SCHOOL**

ISSUED DATE:  
**04/15/2016**

PROJECT NO.:  
**15-004-C**

DRAWN BY:  
**JDO**

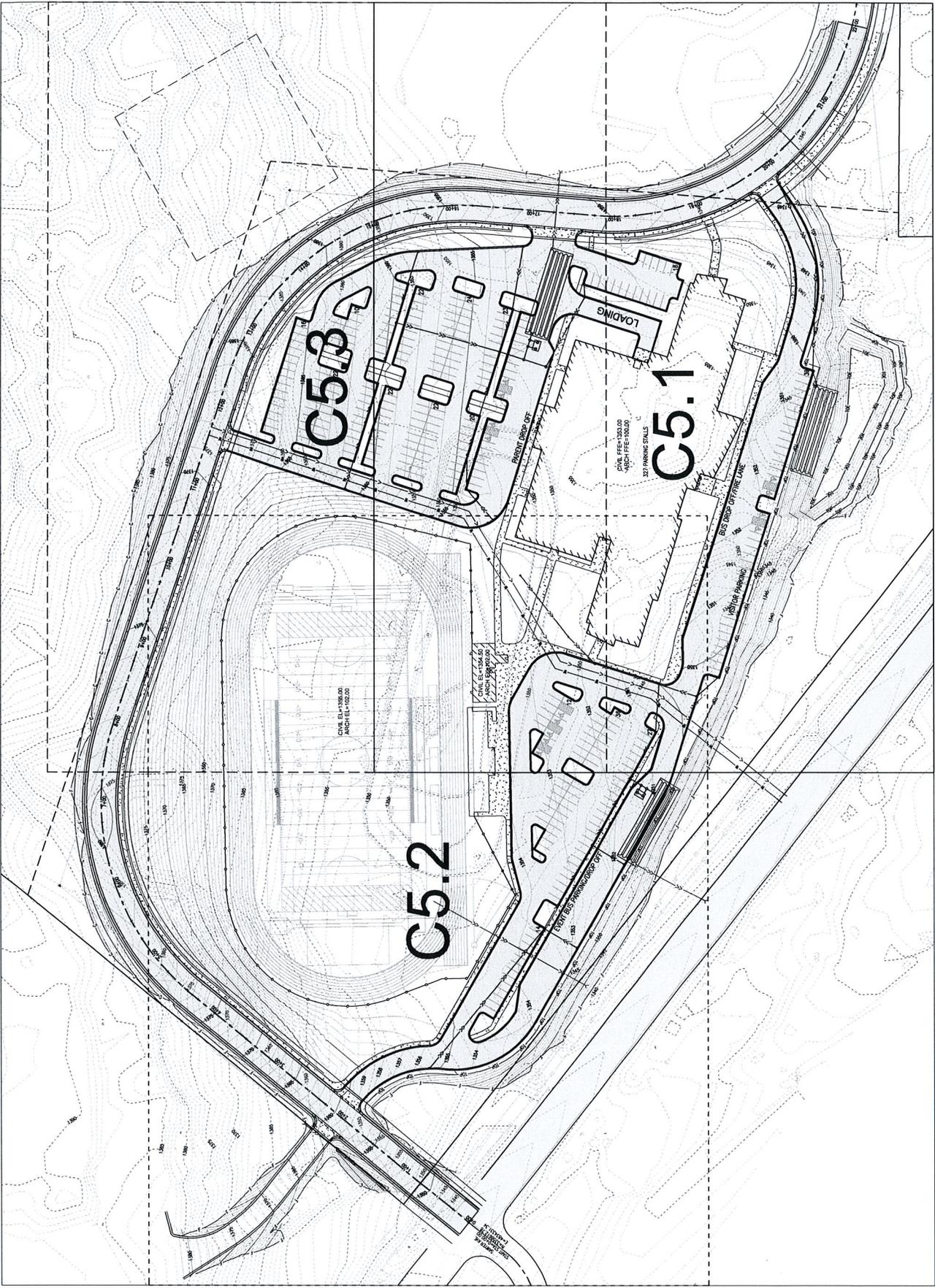
APPROVED BY:  
**ARE**

SCALE = 2" AT FULL SCALE

N  
 W  
 E  
 S

0 25 50 75

SHEET NO.  
**C5.0**



F-25



THESE PLANS HAVE BEEN PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ARCHITECT IN THE STATE OF MINNESOTA. I HEREBY CERTIFY THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES.

SIGNATURE: DAVID ROSE, PE  
 DATE: 06/06/2016 LICENSE NO. 46761

PROPOSED BUILDING FOR:  
**DECS 8-12 SCHOOL**  
 43xx RICE LAKE ROAD  
 DULUTH, MINNESOTA 55811

REVISIONS

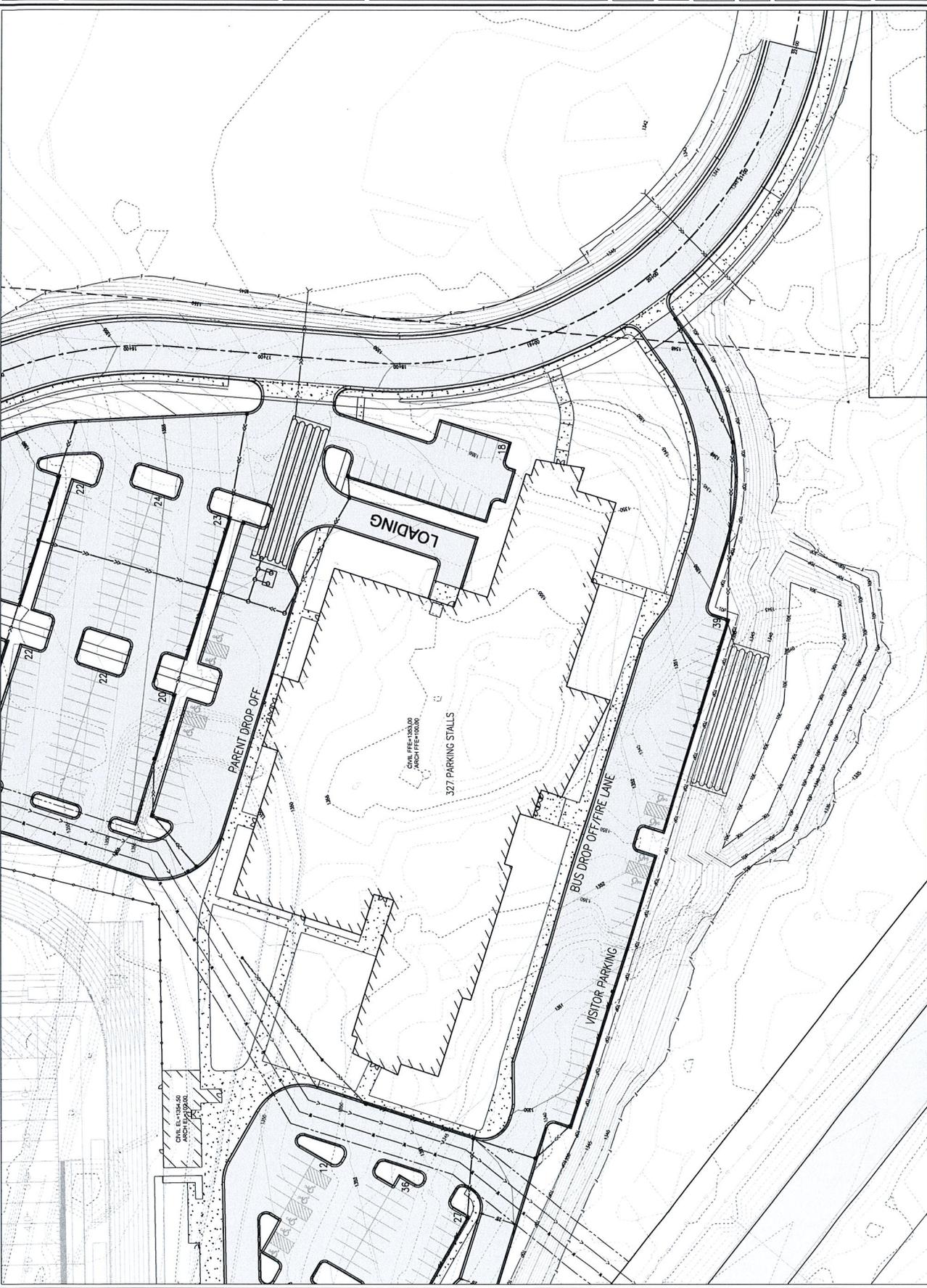
ISSUED DATE  
 04/15/2016

PROJECT NO. 15-504-C  
 DRAWN BY JDO  
 APPROVED BY ARZ

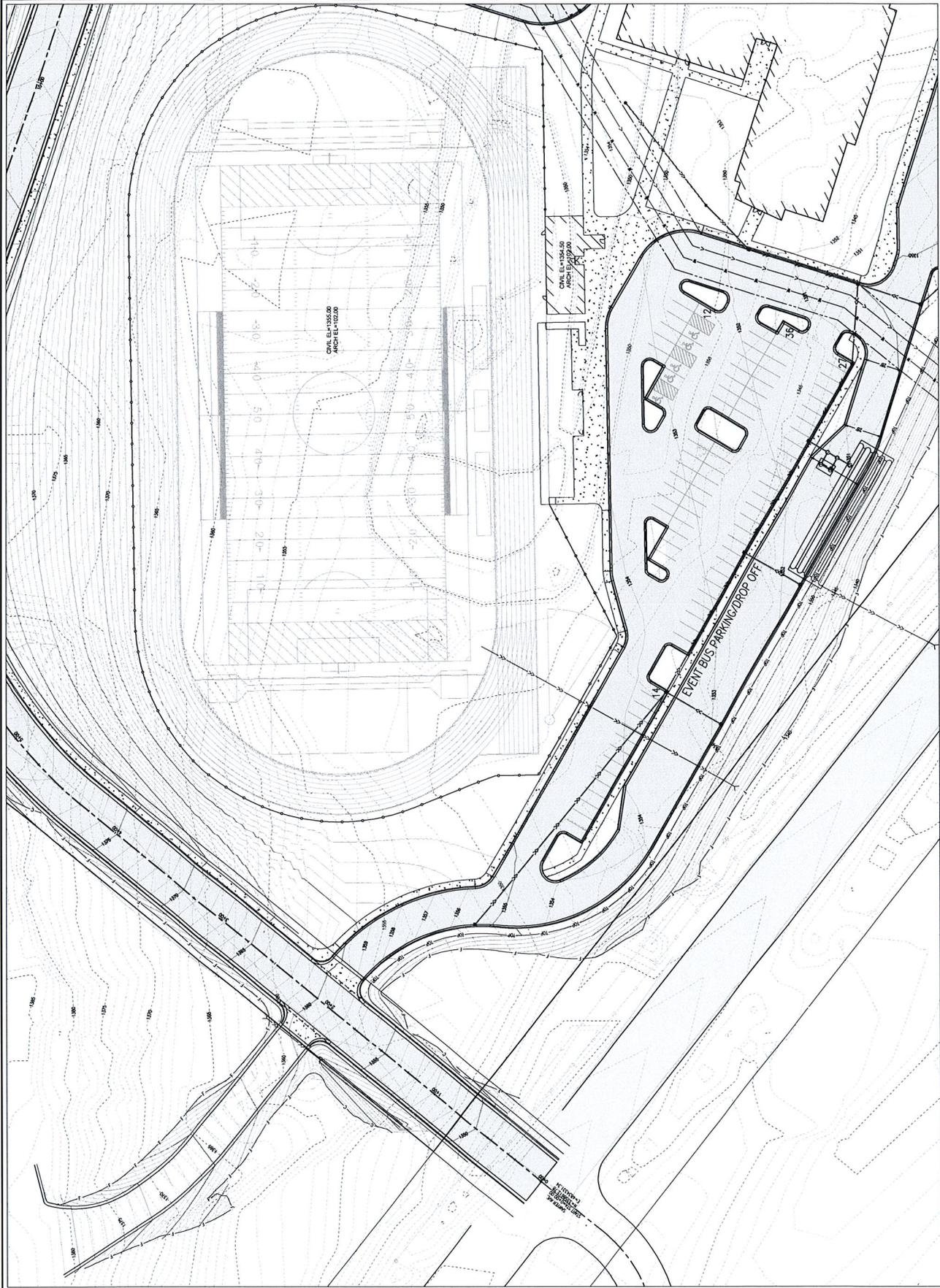
SCALE = 2" AT FULL SCALE



SHEET NO.  
**C5.1**



*F. 26*



**FOUNDATIONS!**  
 ARCHITECTURE & INTERIORS  
 1127 N. W. 10th Street, Suite 200, Ft. Lauderdale, FL 33304  
 TEL: 561-533-7777  
 FAX: 561-533-7778

**CONSULTANTS**  
**FAROLA**  
 ARCHITECTURE DESIGN LLC  
 1127 N. W. 10th Street, Suite 200, Ft. Lauderdale, FL 33304  
 TEL: 561-533-7777  
 FAX: 561-533-7778

**EAPC**  
 ARCHITECTS ENGINEERS  
 1127 N. W. 10th Street, Suite 200, Ft. Lauderdale, FL 33304  
 TEL: 561-533-7777  
 FAX: 561-533-7778

**Northland**  
 COMMERCIAL REAL ESTATE EXPERTS  
 1127 N. W. 10th Street, Suite 200, Ft. Lauderdale, FL 33304  
 TEL: 561-533-7777  
 FAX: 561-533-7778

**SPONSOR:** DAVID BOUTER  
**DATE:** 04/15/2016 **LICENSE NO.:** 46726

**PROPOSED BUILDING FOR:**  
 DECS 8-12 SCHOOL  
 43XX RICE LAKE ROAD  
 DULUTH, MINNESOTA 55811

**OWNER:**  
 PROJECT OWNER

**REVISIONS**

**ISSUED DATE**  
 04/15/2016

**PROJECT NO.:** 15-594-C  
**DRAWN BY:** JDO  
**APPROVED BY:** ARZ

**SCALE:** 1/8" = 1' AT FULL SCALE

**KEY**

**LEGEND**

**SHEET NO.:**  
 C5.2

F-27



THIS IS A COPY OF THE PLAN, SPECIFICATIONS, CONTRACT DOCUMENTS AND NOT A DIRECT SUPERVISION AND SHALL BE A PART OF THE CONTRACT DOCUMENTS. THE LAND OF THE STATE OF MINNESOTA, UNDER THE LAND OF THE STATE OF MINNESOTA.

DATE: 04/15/2016 LICENSE NO. 46726

OWNER: PROJECT OWNER

PROPOSED BUILDING FOR:  
DECS 8-12 SCHOOL  
43xx RICE LAKE ROAD  
DULUTH, MINNESOTA 55811

ISSUED DATE: 04/15/2016

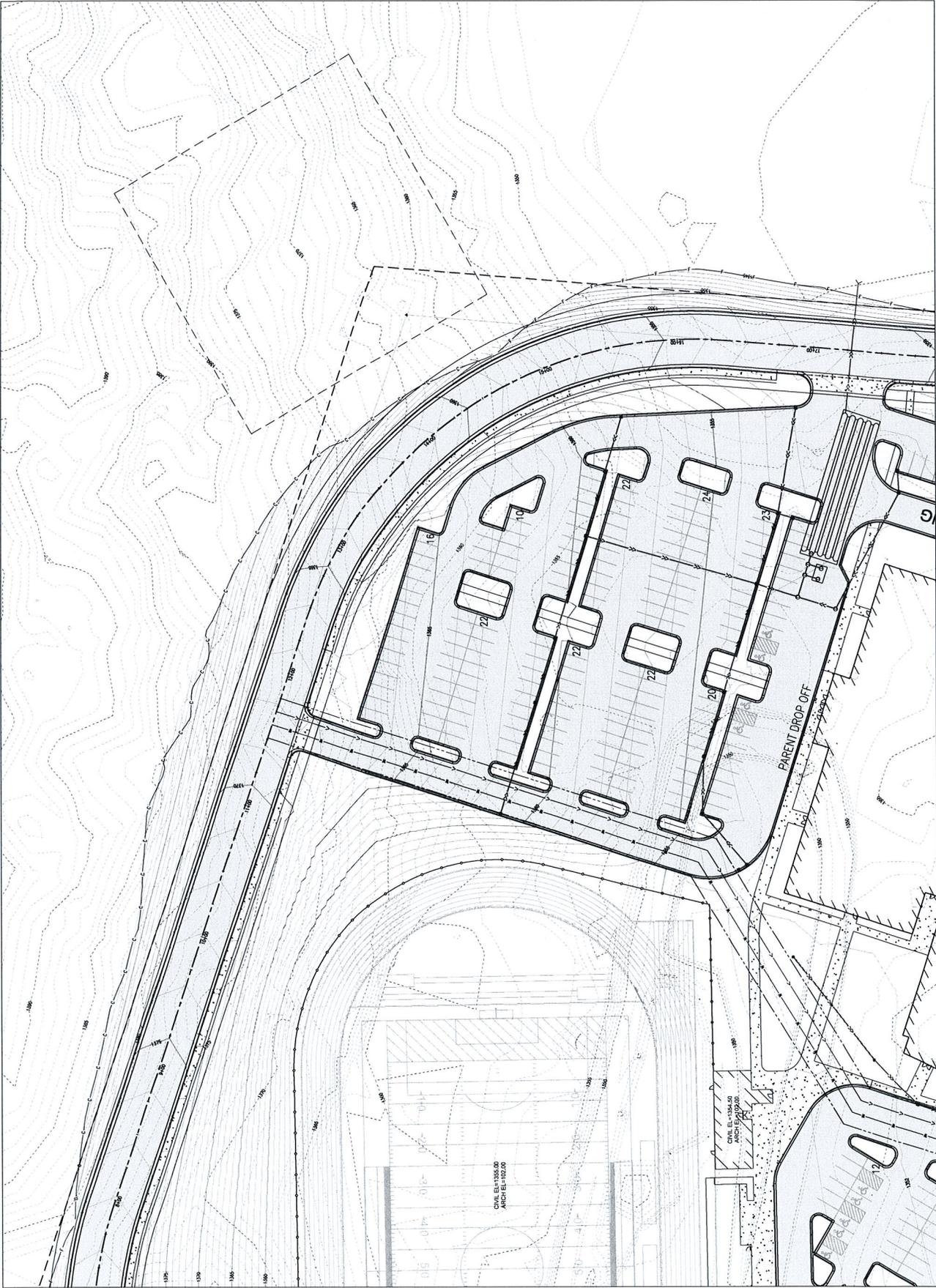
PROJECT NO.: 15-504-C

DRAWN BY: JDO  
APPROVED BY: ARZ

SCALE: 1/2" = 1' AT FULL SCALE



SHEET NO. C5.3



F-28



March 11, 2016

To Whom It May Concern,

Duluth Public Schools Academy, also known as Duluth Edison Charter Schools, (4020-07) is committed to academic and personal excellence for every student. We achieve our mission and vision through the following principles:

- Expect a commitment of excellence from the students, families and staff.
- Appreciate each student's diverse character and interests through an active approach to curriculum, programs and projects.
- Provide a safe and accepting learning environment.
- Sustain a culture of teaching living the following core values -- respect, responsibility, compassion, courage, hope, integrity, justice and wisdom.
- Uphold the professional innovation, creativity and collegiality of exceptional staff.
- Require sound and responsible business and operational management practice.

Our school opened in the fall of 1997 as a response to ISD 709's call for a public charter school in the city. The opening enrollment of about 450 students has now grown to 1,370 students. Over time we have been housed at the Central Administration Building and former Kenwood and Washburn schools. At this time, we have about 280 students in our K-5 Raleigh Academy in West Duluth and the remainder in our K-8 North Star Academy. North Star Academy was built by Tischer Creek Duluth Building Company and opened in the fall of 2011.

We offer a rich curriculum that includes reading, math, science and social studies instruction as well as daily specialist subjects of music, Spanish, art, and physical education. We offer math, reading and behavior interventions for students with those needs. We have enjoyed great growth throughout our history and been asked more and more by our families to open a high school.

Significant research was done by a Board appointed task force over the past years to research the feasibility of opening a high school. This included enrollment and financial projections, programmatic design work, and research on potential sites for a high school. In a parent/guardian survey in 2013 to measure interest in a DPSA high school 491 families (49 percent) responded. In those responses 420 (86 percent) said it was very likely their child would attend, 50 (10 percent) likely and only 21 (four percent) not likely. Clearly the demand by our families exists.

Our focus is on providing a high school that meets the needs of students moving into the 21<sup>st</sup> century workforce. The Manhattan Institute states that nationally 70 percent of all students in public high schools graduate but only 32 percent are ready to attend a four year college. We want to change that.

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Our intent is to take the culture and academic programming in our current North Star Academy (grades K-8) and Raleigh Academy (grades K-5) and shape a rich high school program for our students. We will begin with grades nine/ten and then expand to a 9-12 program with at approximately 660 students by 2019-20.

To fulfill this vision our high school program will:

1) Offer a student advisory with the same teacher for all four years creating a strong connection between each student and at least one adult. This is where students will develop their college/career ready work plan as part of the state's focus on the World's Best Workforce. This will include a plan to ensure high school graduation.

2) Adopt DPSA's school wide PBIS focus of being safe, kind and responsible as well as our shared core values -- wisdom, justice, courage, compassion, hope, respect, integrity and responsibility to shape our school culture.

3) Address the needs of the "whole" student by meeting or exceeding required Minnesota graduation standards and offering a rich arts program that includes music and visual arts.

4) Provide students with differentiated learning opportunities through blended learning that allow mastery of required standards for students interested in post-secondary education or career training to better prepare them for the rigor and demands of continued learning.

5) Offer a variety of after school programs or extra curricular options that include sports (beginning with Junior Varsity teams), speech, theater, music, and more as student interests dictate.

6) Utilize a multi-tiered level of supports framework to assist students with academic or behavioral needs with a particular focus on reading and math skills.

7) Utilize digital and telecommunication technologies to enable collaborative learning with national and international colleges, universities and businesses related to STEM (science, technology, engineering and math).

Please let me know of any additional questions or concerns.

Sincerely,



Bonnie Jorgenson, Head of School

F-31



GREGORY P. STROM, ARCHITECT  
2150 culas road - duluth, minnesota

phone (218) 525-4326 cell: (218) 391-7334  
email: gps-foundations@gmail.com

COMMERCIAL

RESIDENTIAL

## DSPA 8-12 SCHOOL

### ADDITIONAL INFORMATION SECTION

#### SECTION 3.11 CHECKLIST

##### Site Plan

A site plan has been included that includes information about sidewalks, driveways, parking lots and existing pedestrian features and a building footprint. Note that the existing western driveway onto Rice Lake Road is proposed be shifted slightly west as part of the St. Louis County backage road (Sawyer Road) construction plan. Another connection is associated with the site, connecting the proposed High School Campus, past the north end of the existing North Star Academy elementary school, west of the existing Minnesota Power campus and back to Arrowhead Road at the intersection of Arrowhead and Rice Lake Road South.

Parking – See variance Request Section 3.10

##### Snow Storage

Some of the parking lot islands could be used as limited snow storage. Most snow storage will occur in the storm water pond at the southern most edge of the proposed HS Campus. The remainder of snow storage will occur at the outer perimeter of paved roads and parking areas. This practice is similar to most commercial snow storage scenarios. In heavy years, there is plenty of space in the storm water pond.

##### Architectural Plans

Floor plans and elevations are included for the proposed High School as well as a more detailed plan drawing of the structures servicing the track and field facilities. A 3D color rendering is being provided to give a true image of how the campus will appear to the public.

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The major building systems will be architectural precast concrete wall panels with metal wall panel accents at selected locations. The plan is laid out for a welcoming feel while maintaining the security required of modern schools. The proposed parking locations are critical to that plan security, especially the proximity the visitor parking to the front door. The layout also sets up event areas at the rear and side so that the bulk of the parking has been moved from the front of the building to the side and rear yards.

Mechanical and service equipment (such as trash and recycling) have been placed at locations where the building will naturally screen them from public view. These items will be further screened using walls and or fences or vegetation as prescribed in the UDC.

### **Sidewalks**

Sidewalks are included on all pick up and drop off areas on the north and south sides of the building. Sidewalks are also included between the track and field facility and the parking lot to the south, between the visitor bus drop of and the track and Field parking lot, and through the center of the student and staff lot north of the school building.

### **Current Pedestrian Access**

There is no pedestrian access to the site but for a shoulder along Rice Lake Road and via ski trails that come near to the existing Northstar Academy Campus. The site is proposed to be connected internally with a network of sidewalks. This campus will be connected to the sidewalk that is proposed to run along the County Backage Road. The proposed County Backage Road will connect Rice Lake Road, to Arrowhead Tennis, to Snowflake Nordic, DPSA 8-12, to Northstar Academy, to United Health, to Involta, to Minnesota Power to Arrowhead and beyond.

### **Landscape Plan**

Nearly all forested wetland along the frontage with Rice Lake Road will be preserved. Shrubs of 36-48" in height and spread will be placed between the sidewalk and the front façade of the proposed school where there is not adequate space for a colonnade of trees and snow/salt crush is a consideration. Shrub species will be all or any of the following:

- Anthony Waterer Spirea
- Compact Viburnum
- Bridal Wreath Spirea
- Mugo Pine

F. 33

Cut Leaf Spirea

Arbor Vitae

All minimum 2 gallon size at planting

Large Tree species will be Minimum 2.5" caliper at planting:

White Oak

Red/Silver Maple

Sugar Maple

Red Pine

White Pine

White Spruce

Small Tree species will be:

Dolgo Crab (*Malus 'Dolgo'*) or equivalent

Minimum 2.5" caliper at planting

### Screening

For perimeter planting and parking lot screening along public streets, existing vegetation is being preserved. Along the proposed Sawyer Avenue backage road, street trees have been prescribed. For this plan, a line of trees has been specified around the west, north and east sides of the proposed campus in the event the Sawyer Avenue project does not go as planned.

A loading and dumpster area is planned for the northeast side of the proposed High School building and will be heavily screened.

### Tree preservation

Nearly all trees that exist in the forested wetland along the entire project frontage with Rice Lake Road will be preserved with the exception of those trees that must be removed for the utility extension. That corridor must be maintained open, but will be re-vegetated with herbaceous vegetation and will be allowed to re-vegetate with native Specked Alder which is a hydrophyte via natural succession.

### Loading Zones

Loading of supplies for the school will occur through a loading dock on the northeast side of the building. Student Pick up and drop off will occur along the front façade of the proposed School building and along the north façade. Further visitor bus parking and pickup/drop off will be provided south of the track and field parking area.

### Signage

Lettering will be placed on the front and rear façade of the building near drop off areas.

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A 6.9' tall and 8' long monument sign will be added to the SW corner of the property near the entrance off of Rice Lake Road, if permitted and in the budget.

### Lighting

LED parking lot lighting has been selected with a maximum of 1FC coverage. The attached analysis is for a sign shoebox light on a pole.

Athletic field lighting has been prescribed for the track and field area. This lighting will be similar to the lighting that has been constructed at the Duluth East High School track and field.

Respectfully Submitted:  
Greg Strom, Architect

F-35



COMMERCIAL

GREGORY P. STROM, ARCHITECT  
2150 culas road - duluth, minnesota

phone (218) 525-4326 cell: (218) 391-7334  
email: gps-foundations@gmail.com

RESIDENTIAL

## DSPA 8-12 SCHOOL

### SUSTAINABILITY CHECKLIST

4 POINTS REQUIRED

#### Location:

0.25 Development on a previously undeveloped site that is located immediately adjacent to existing city roadway and utility infrastructure.

#### Energy Efficiency:

0.75 Meet ASHRAE standard 189.1 (Section 7.4.6) for lighting.

#### Passive Solar:

1.00 Building's longer access is east-west orientation for maximum solar exposure.

#### Vegetation:

0.75 Retain at least 20% of the existing pre-development natural vegetation.

#### Transportation:

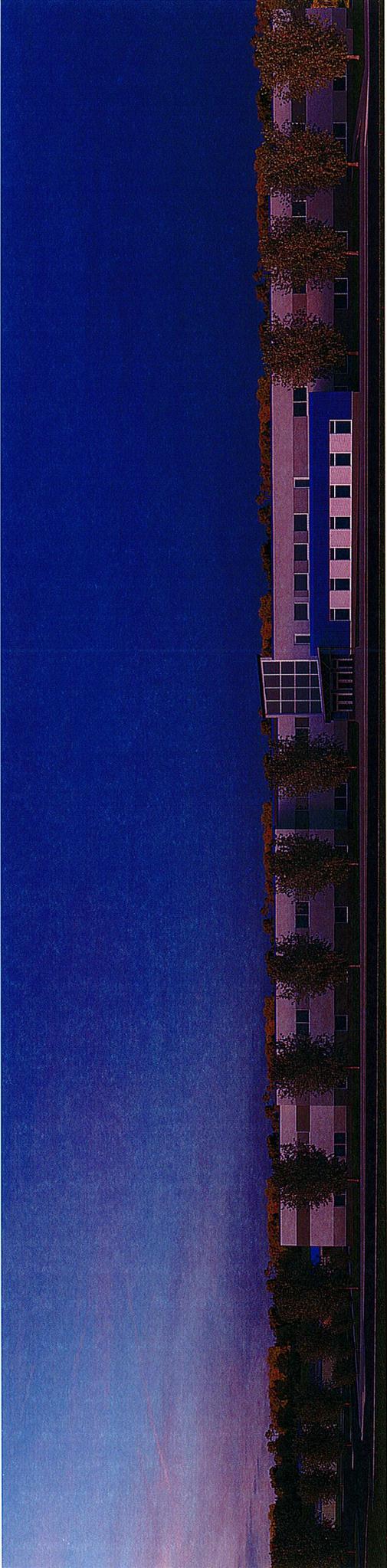
1.50 Source a minimum of 20% by cost of construction materials from recycled products or products manufactured, extracted, harvested, or recovered within 250 miles of the site.

4.25 Total

Respectfully Submitted:

Greg Strom, Architect

F-36



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# Excerpt from Wetland Replacement

Project Name and/or Number: CMS

## PART FOUR: Aquatic Resource Impact<sup>1</sup> Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) <sup>1</sup>	Size of Impact <sup>2</sup>	Overall Size of Aquatic Resource <sup>3</sup>	Existing Plant Community Type(s) in Impact Area <sup>4</sup>	County, Major Watershed #, and Bank Service Area # of Impact Area <sup>5</sup>
3/4	WETLAND	FILL	P	53053	923472	PUB3	SEE BELOW
6/7	WETLAND	FILL	9	55884	923472	PF03B	SEE BELOW

<sup>1</sup>If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

<sup>2</sup>Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

<sup>3</sup>This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

<sup>4</sup>Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3<sup>rd</sup> Ed. as modified in MN Rules 8420.0405 Subp. 2.

<sup>5</sup>Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

NONE: Wetland Bank #1532, 02- Lake Superior South, BSA 1

## PART FIVE: Applicant Signature

Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: David M. Chmielewski Date: 04-06-16

I hereby authorize DAVID CHMIELEWSKI to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

David M. Chmielewski 4/6/16

<sup>1</sup> The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

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## **WCA AND 404 ADDITIONAL INFORMATION**

### **WETLAND EVALUATION**

The site was visited in the fall of 2014 and wetlands were delineated within the area of interest. A NOD dated December 9th, 2014 was issued by the LGU representative the SSLSWCD, on behalf of the City of Duluth for the Wetland Conservation Act. Site plan and architectural development led by the firm of Foundations Architecture has been underway since August of 2015. Those concepts have been included in this application as exhibits.

On December 10th, the applicant met with representatives from the LGU and the USACE.

### **EXISTING CONDITIONS (SETTING)**

The DPSA 8-12 wetlands proposed for impact are as follows:

Wetland groups 1, 2 and 3 (proposed for impact) could be characterized as PUB3 (type 3) and PFO3B (type 7). Wetland 1 has been converted from prior wetlands noted as being PSS1 (type 6) and PFO3B in an LGU no net loss decision dated December 7th, 2001. See exhibit 1 and 1.1. This decision permitted a change in wetland type of 1.3 acres of wetland for the creation of a speed skating oval. Excavated material was hauled off site (source George Hovland).

Wetland 1 has maintained standing water since we began evaluating the site. A small part of wetland 3 is the wetland formed by the drainage to the wetlands along Rice Lake Road. This drainage is primarily forested and is a PF03B wetland.

Wetland 2 appears to be fed from surface runoff from the adjacent clearing which is used for a ski staging area in the winter and a recreational field in the summer. Flows from the hillside to the north also provide hydrology for this wetland entity.

The area surrounding the site is mostly wooded. To the north, there is forest comprised of relatively mature Aspen, Birch, White Pine, Ash, Balsam Fir and Maple. This forest is bisected by ski trails that make up the Snowflake Nordic Center, which is a non-profit ski organization that provides groomed ski trails for school events and members as well as camping and hiking in the summer months.

The immediate watershed feeding wetland 1 is 6.19 acres to the north; nearly all forested, with some turf, a small portion of the Chalet and a small portion of the ATC overflow parking area. This wetland appears to have minimal bounce in the water level and drains overland out of its southwest corner, eventually draining into the wetlands that bank into Rice Lake Road, then through a culvert under Rice Lake Road and into the wetland complex surrounding the headwaters of Chester Creek.

Wetland 2 is fed by approximately 6.04 acres of immediate watershed, which is almost entirely forested, with the exception of ski trails. There is no evidence of any bounce and minimal surface water in this wetland entity, which is a finger to a larger wetland entity.

Wetland 1 has been altered by human activity, lacks diversity of vegetation, contained little or no emergent or submergent vegetation at the time of the wetland delineation or during any subsequent visits. The most apparent value of this wetland appears to be storm water runoff detention.

Wetland 2 and 3 are of moderate value, as they contain a diverse plant community of hardwoods, softwoods and understory. Some ski trails bisect these wetland entities and there is land clearing immediately to the west of wetland 2 and to the north of wetland 3. To the east is

F-39

a large wetland complex, to the south are patches of forest and cleared areas, then Rice Lake Road. As mentioned earlier, to the north is the forested watershed. Wetland three accepts drainage from the north, including discharge from wetland 2. It is essentially wet due to presence of Rice Lake Road, which effectively dams flows moving south, forcing those flows through two culverts.

The total size of the wetland entity group that wetland 1, 2 and 3 are part of is 21.16 acres, not including hydraulic connections that pass under Rice Lake Road (not including wetlands on the other side of Rice Lake Road, which are significant).

There is no fish habitat potential in wetland 1, 2 and 3. Wetland 1 is very shallow and likely freezes out most winters. These wetlands do, however, eventually drain into Chester Creek which is a designated trout stream. This is not a direct connection, but about 1360 LF of straight line distance to reach the first semblance of tributary channel. See exhibit 2. Wetland 1 does not have an overstory of significant woody vegetation, but is ringed on the edges by Aspen and some Speckled Alder. Wetland 2 and 3 have a dominant overstory of Aspen and Black Ash.

Habitat Structure in wetlands 2 and 3 is moderate because the site does stay fairly saturated, runoff bounce is minimal, and there is some biodiversity in the native vegetation that exists. We observed no significant wildlife utilizing these wetland entities, probably due to the time of year. In the case of wetland 1, the lack of emergent and submergent vegetation and a lack of dark organic substrate may reduce its attractiveness as amphibian habitat. Catkins and buds on the Alder and Aspen are known to be a feed source for some herbivores. As well as the Ash seed and understory vegetation. Deer browsing was not evident, but the plant cover density could provide cover for a variety of game and non-game species.

In summary wetland 1 has a low functioning value and wetland 2 and 3 have a moderate value functioning wetlands. While they are regulated wetlands, no special circumstances appear to exist that would warrant preservation. Given that reality, and the proximity to the headwaters of Chester Creek, storm water attenuation functions of these wetland entities must be extended through any planned development.

## **PROJECT HISTORY**

On May 6<sup>th</sup>, 2010 a Proposed Project Review and Comment document was submitted by Duluth Public Schools Academy (DPSA) Charter #4020 to the Minnesota Department of Education.

In the state of Minnesota, Charter Schools are public schools that are funded by lease aid payments from the Minnesota Department of Education. Charter schools are not constructed with funds levied from local property tax increases. The purpose of this study was to provide information regarding the condition of the existing facilities, both past and present, projected student enrollment, and why DPSA was making a case for a new facility.

In 2010, enrollment was at 984 students; enough to warrant a discussion about either renovating the buildings they were currently leasing at the Kenwood and Washburn sites, finding another facility that could be utilized, or constructing a new facility. The Raleigh facility would remain as a K-5 with 277 students. Technical evaluations of their existing facilities revealed that they were not cost effective to renovate, and therefore, a search for other facilities would be required. The other aspect of these sites was that the lease arrangements with ISD 709 were becoming increasingly untenable, although at the time, ISD 709 was allowing a lease

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arrangement with a Public Charter School. In 2011, Northstar Academy, K-8 was constructed on a site formerly owned by George Hovland across Technology Drive from United Health Care, to replace the Kenwood and Washburn sites.

In 2014, a charter school developer by the name of Caleb Roope of Pacific Education Partners (PEP) was made aware of DPSA's desire to plan and construct a high school. Another site selection process commenced and numerous sites were once again presented by Atwater Group. Many of these sites had been vetted during the DPSA K-8 site search. In the State of Minnesota, Public Charter Schools cannot own their own facilities. The educational entity and the facility entity must be separate. It is often a private developer that will pull the physical development together to accommodate the educational entity. That developer may transfer ownership to another ownership entity that is closely tied to the educational entity. The bonding used to pay for construction is serviced by lease aid payments from the State.

Ultimately, George Hovland was again approached. This was not the first time that the Snowflake Nordic Center was evaluated for development. Before the great recession of 2009, this land had been evaluated for housing, but the economy was blamed for the retraction of construction plans.

Eventually, with other sites vetted, it was decided by PEP to purchase what is currently called the Snowflake Nordic Ski Center, a non-profit organization operating on the Hovland property. A wetland delineation was completed and a clause was added to the purchase agreement that Snowflake Nordic must operate in its current or near current state for at least the next five years. It was George Hovland's wish that the Ski Centers trails on the 160 acres of land be largely maintained, and the Chalet or the functions of the Chalet be preserved. Blackhoof Development was contracted by PEP to perform the wetland work on the site and tasked with assembling the design team that would be responsible for preliminary planning work on the site.

## **WORK PROPOSED**

Public Charter High School, grades 8-12, approximately 100,610 SF (2 level), 320 parking stalls storm water treatment, track and field, access drives. See attached exhibits.

## **AVOIDANCE AND MINIMIZATION STATEMENT**

### **Mitigation Requirements**

The mitigation sequence spans the life of a project. Mitigation is a sequence of actions required by various regulatory efforts to protect and enhance wetlands and the environment that we live in. It involves understanding the affected environment and assessing the effects of actions throughout project planning, development, and construction. This concept is not limited to wetlands, but also involves the erosion/sediment control, storm water, transportation safety and other critical issues.

Project proposers are required to consider ways to make as little impact to wetlands as possible in all stages of the project. All unavoidable impacts to wetlands and other "waters" require compensatory mitigation. Any relevant and reasonable mitigation measures that could improve the project must be identified.

During every phase of project development through construction, each step in the mitigation sequence must be completed before proceeding to the next. This means

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that opportunities to avoid an impact must be evaluated before compensation for the impact is considered.

## **COMPENSATORY MITIGATION**

The total proposed impact is 108,937 SF. Of this total, 14,050 SF is directly related to the mandated County Backage Road.

Attached is a purchase agreement for wetland credits within the watershed.

## **PROJECT PURPOSE AND NEED**

Pursuant to M.S. 123B.71, Duluth Public Schools Academy (DPSA) and its Board of Directors has submitted a Review and Comment document for action by the Minnesota Department of Education.

DPSA began operating in August of 1997 as a public charter school and currently serves 1,380 students, grades K-8. After a two year task force study, and significant demand by the student families, they are adding a high school component to our program beginning in fall of 2017

Tischer Creek Duluth Building Company, the affiliated building company for DPSA, will finance this facility through bond financing underwritten by Piper Jaffray and Company. The total cost of the project is \$27 million.

The wetland delineation, airport clear zone mapping, current zoning, topography, DOE requirements, DPSA requirements, proximity to Rice Lake Road and Utilities and existing traffic considerations are the main layers of consideration for the proposed DPSA 8-12 campus location. Many questions have been posed, by a multitude of groups. Questions such as why are wetlands being impacted? Why is the campus not further into the site away from Rice Lake Road? Why is a connection being required by St. Louis County? Why is this high school being constructed at all? Why isn't the school constructed already? Why is it taking so long? The answers to these questions can shed some light into why this wetland replacement plan is being submitted.

Numerous site plans were developed by Blackhoof Development in concert with LHB. Both firms have extensive experience with site planning and wetland considerations. LHB has extensive experience with the design of public schools. Armed with a building program developed by DPSA, Blackhoof and LHB were tasked with doing a "fit" plan. That is, place the required program elements onto the site.

The program requirements developed by DPSA were broken down into "must haves" starting in November of 2014. Knowing that lease aid from the State of MN limits what can be done financially for a new educational facility, without the ability to levy funds from the local tax base, the "must have" items are a way of setting a threshold that cannot be compromised. The basis of this "must have" list is not a wish list, it is a list of mandatory fundamental items that through years of experience and observation, DPSA has identified as "must have" to provide an adequate High School educational facility.

The result of this program planning can be distilled into three programmatic areas:  
1. A school building

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2. A track and field

3. Parking (The "must have" list required 450 parking stalls. We immediately paired this down, and set a goal for 300 stalls.)

All of these items result in a quantifiable amount of land that is needed. Early drafts of the facility program attached exhibit 4. Later drafted by LHB, exhibit 5. The MN DOE emphasizes 25-35 acres of land for a facility with this program, site planning of the program elements had just begun.

Attached Exhibit 4.1 For those who do not work in the design and construction industry, this is how the process works. Fundamental questions are asked that result in different site plans being manifested. These site plans have resulting consequences, financially, socially and environmentally.

A multi-level school is discussed to reduce cost and impact to the site. Numerous concepts were explored but were rejected for a variety of reasons, including, but not limited to:

#### Access

- UDC restrictions to parking in "front yard"
- Protective covenants that do not allow excessive manipulation or destruction of Snowflake Nordic Operations
- Excessive bedrock
- Steep topography
- Site Program elements
- Access to Rice Lake Road
- Access to proposed County Road

## OFF SITE LOCATIONS AND CONFIGUATIONS

An extensive search for land began in 2010 for DPSA North Star Academy. After that building was constructed in 2011, remaining parcels were re-evaluated for the High School Campus, and one new parcel was made available.

The sites evaluated must be:

Large enough to accommodate the site and building program  
Located within the geographic core area for the student population  
Contain adequate road access and infrastructure  
Contain the appropriate zoning or could be rezoned without issues

The department of education advises that 25-35 acres of land be acquired to accommodate a typical high school campus.

### Site 1

Duluth Armory Site: This site was considered as an available existing building with potential for re-use. The Duluth Armory site was evaluated and found to be unsuitable for a high school because it did not have adequate parking, had renovation and structural issues that added

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ALL LOCAL SCHOOLS HAVE BEEN REVIEWED FOR WETLANDS. THIS DRAWING IS THE RESULT OF A VISUAL INSPECTION OF THE PROJECT AREA. THE DRAWING IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF THE CONSULTANT.

DATE: 08/26/2014  
 DRAWN BY: JDO  
 CHECKED BY: JDO  
 PROJECT NO.: 15-804-C  
 SHEET NO.: 2

PROPOSED BUILDING FOR:  
 DECS 8-12 SCHOOL  
 43XX RICE LAKE ROAD  
 DULUTH, MINNESOTA 55811

OWNER:  
 PROJECT OWNER:  
 REVISIONS:

ISSUED DATE:  
 XX-XX-XXXX

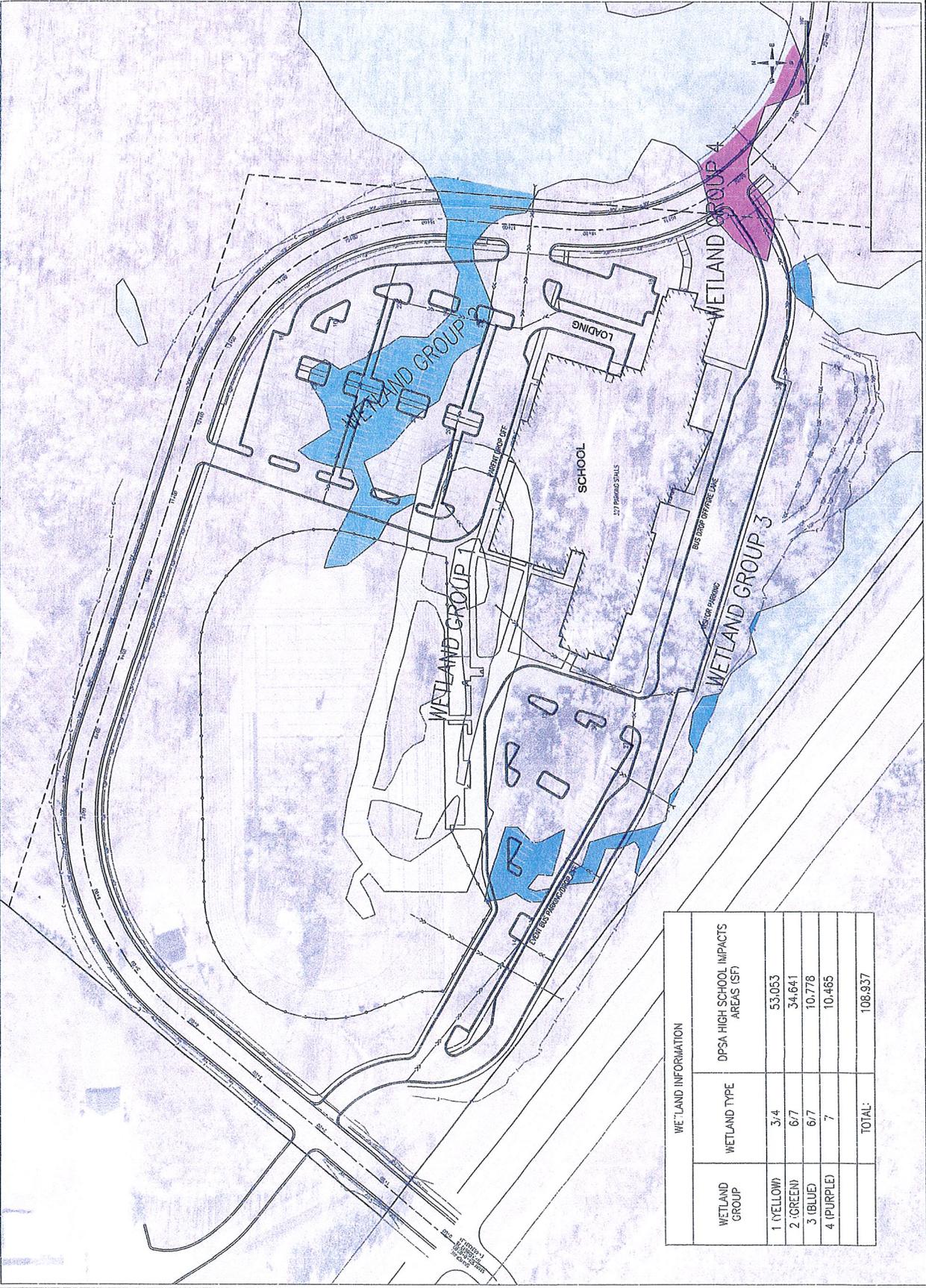
PROJECT NO.: 15-804-C  
 DRAWN BY: JDO  
 APPROVED BY: JDO

SCALE: 1/4" = 1'-0" AT FULL SCALE

KEY

SHEET NO.

C4.1 SITE PLAN



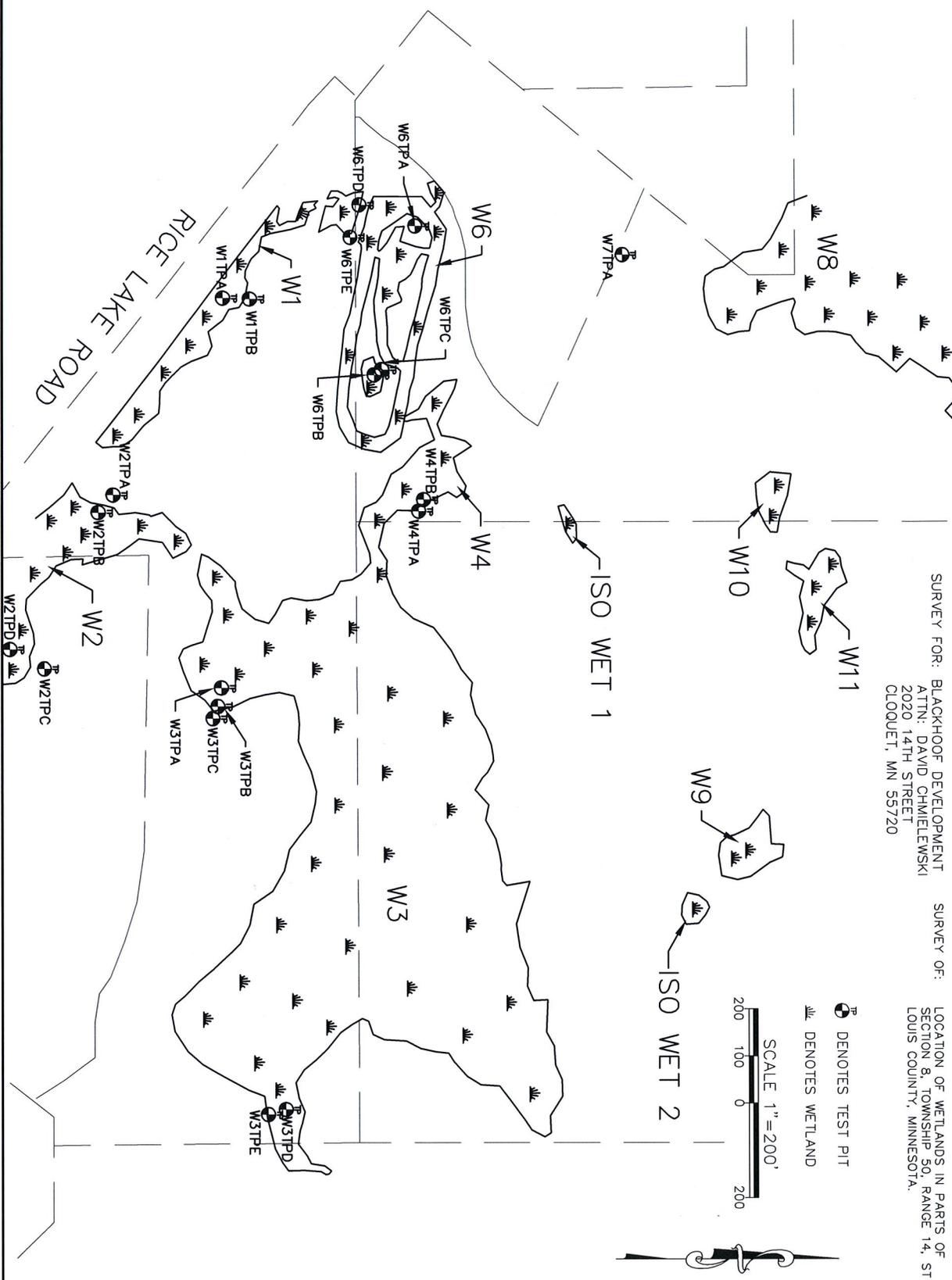
WETLAND INFORMATION		
WETLAND GROUP	WETLAND TYPE	DPSA HIGH SCHOOL IMPACTS AREAS (SF)
1 (YELLOW)	3/4	53,053
2 (GREEN)	6/7	34,641
3 (BLUE)	6/7	10,778
4 (PURPLE)	7	10,465
TOTAL:		108,937

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**STRAIGHTLINE SURVEYING, INC.**

P.O. Box 510, 500 Fitz Blvd  
 Moose Lake, MN 55767  
 E-MAIL: banderson@straightlinesurveying.com

Telephone: (218)-485-4811  
 Fax: (218)-485-4811



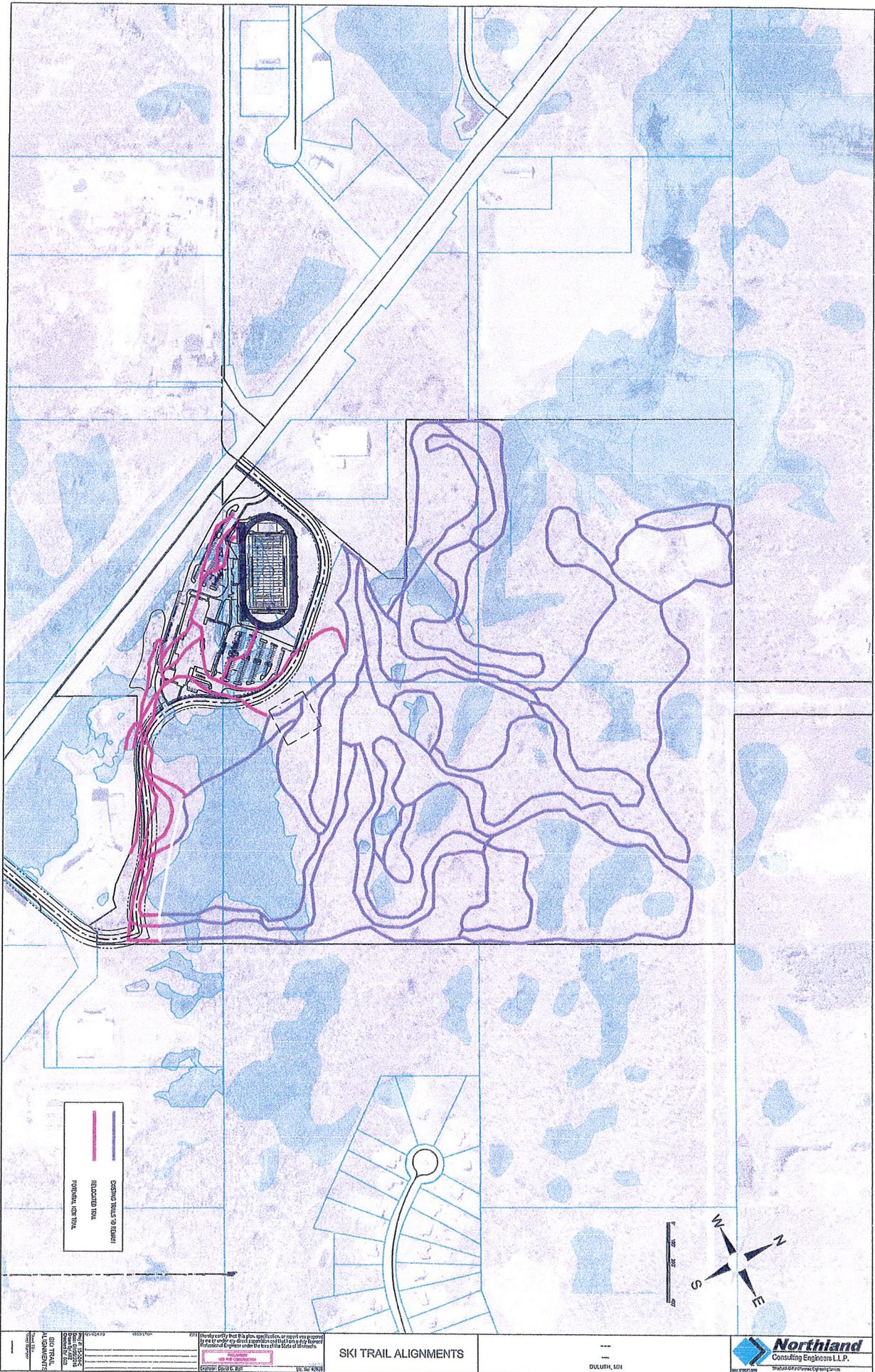
SURVEY FOR: BLACKHOOF DEVELOPMENT  
 ATTN: DAVID CHMIELEWSKI  
 2020 14TH STREET  
 CLOQUET, MN 55720

SURVEY OF: LOCATION OF WETLANDS IN PARTS OF  
 SECTION 8, TOWNSHIP 50, RANGE 14, ST  
 LOUIS COUNTY, MINNESOTA.

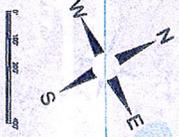
I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

*Benjamin H. Anderson* 45498 11-07-2014 2014-196 ST LOUIS  
 Benjamin H. Anderson License No. Date Job No. Book No.  
 4 P. 22

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EXISTING TRAILS TO BE MAINTAINED  
 PROPOSED NEW TRAIL



SKI TRAIL ALIGNMENTS



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# Excerpt from Traffic Study



## Memorandum

SRF No. 0159014

**To:** David Bolf, PE  
Northland Consulting Engineers

**From:** Matt Pacyna, PE, Senior Associate  
Tom Sachi, EIT, Engineer

**Date:** April 6, 2016

**Subject:** Duluth Edison High School Traffic Study

### Introduction

SRF has completed a traffic study for the proposed Duluth Edison Charter High School and apartment complex located north of Rice Lake Road (CSAH 4) between Technology Drive and Krueger Road in the City of Duluth (see Figure 1: Project Location). The proposed high school will be located to the west of the existing Northstar Academy Charter School. The main objectives of this study are to review existing operations within the study area, evaluate traffic impacts to the adjacent roadway network, and recommend any necessary improvements to accommodate the proposed developments. The following sections provide the assumptions, analysis, and study conclusions/recommendations offered for consideration.

### Existing Conditions

The existing conditions were reviewed to establish a baseline in order to identify any future impacts associated with the proposed development. The evaluation of existing conditions includes peak period intersection turning movement counts, field observations, and an intersection capacity analysis.

### Data Collection

Peak period turning movement and pedestrian counts were collected by SRF during the week of October 5, 2015 at the following study intersections:

- CSAH 4 and Airport Road
- CSAH 4 and Technology Drive
- CSAH 4 and Airpark Boulevard
- CSAH 4 and Arlington Avenue/Arrowhead Road
- CSAH 4 and Krueger Road
- CSAH 4 and Sawyer Avenue/Arrowhead Road

In addition to the intersection turning movement counts, short-term pulse (i.e. 15-minute) counts were collected at driveways within the study area and at Persons Street in order to establish travel patterns. The traffic data focused on the a.m. (7:30 a.m. to 8:30 a.m.) and school afternoon/p.m. (4:00 p.m. to 5:00 p.m.) peak hours. It should be noted that the afternoon school and p.m. peak hour occurred at the same time, due to the current Northstar Academy Chart School hours (8:30 a.m. to 4:00 p.m.). Historical annual average daily traffic (AADT) volumes within the study area, provided by the Minnesota Department of Transportation (MnDOT), were also reviewed.

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Figure 1

**Project Location**  
 Duluth Edison Charter School Expansion Traffic Study  
 City of Duluth, MN

**SRE** Consulting Group, Inc.  
 0159014  
 December 2015  
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## Proposed Development

The proposed Edison Charter High School and apartment complex development is located along CSAH 4, west of the existing Northstar Academy Charter School (see Figure 4 – Site Plan) in the City of Duluth. Once fully completed and occupied, the proposed development is expected to consist of an 800 student charter high school and 400 apartment units. It should be noted that upon initial construction, opening is planned for the year 2017. However, full occupancy of the high school is not planned until approximately year 2020.

Access to the proposed development is planned along CSAH 4 approximately 250 feet south of Krueger Road. However, if the proposed development is approved, Krueger Road would be realigned opposite of the development access, creating a four-legged intersection. Access to the site is also planned via the new Sawyer Avenue extension from Arrowhead Road to Krueger Road.

## Year 2020 Build Conditions

To help determine impacts associated with the proposed development, traffic forecasts were developed for year 2020 build conditions. Year 2020 build conditions take into account the year 2020 no build condition and traffic generated by the proposed development. The evaluation of year 2020 build conditions includes a trip generation estimate for the proposed development and an intersection capacity analysis.

### Trip Generation

To account for traffic impacts associated with the proposed development, a trip generation estimate for the proposed land use was developed for the a.m. and p.m. peak hours as well as a daily basis. These estimates, shown in Table 6, were developed using the *ITE Trip Generation Manual, Ninth Edition*.

**Table 6. Trip Generation Estimates**

Land Use Type (ITE Code)	Size	A.M. Peak Hour Trips		P.M. Peak Hour Trips		Daily Trips
		In	Out	In	Out	
<b>Proposed Land Use</b>						
Apartments (220)	400 Dwelling Units	41	163	161	87	2,660
High School (530)	800 Students	234	110	77	155	1,368
<b>New System Trips</b>		<b>275</b>	<b>273</b>	<b>238</b>	<b>242</b>	<b>4,028</b>

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The proposed development is expected to generate approximately 548 a.m. peak hour, 480 p.m. peak hour and 4,028 daily trips. These trips were distributed throughout the area based on the directional distribution shown in Figure 5, which was developed based on existing area travel patterns and engineering judgment. It should be noted that an internal multi-use reduction was not applied for trips between the proposed apartments and high school. Since the proposed high school is expected to be a charter school, students living in the apartments are not likely to be destined to attend the school unless families enroll accordingly. Therefore to provide a conservative analysis, no multi-use internal reductions were applied. The resultant year 2020 conditions are shown in Figure 6.

### Intersection Capacity Analysis

To determine how the planned roadway network will accommodate year 2020 build conditions, an intersection capacity analysis was completed using Synchro/SimTraffic software. In addition to the existing intersections, the proposed development driveway was reviewed to determine if any queuing or delay issues are expected under year 2020 build conditions. Once again, the analysis was completed for both the 15- and 60-minute time periods. The CSAH 4 and Sawyer Avenue/Arrowhead Road intersection was assumed to continue to have split phasing for the north/south approaches.

Results of the year 2020 build intersection capacity analysis shown in Table 7 indicate that the CSAH 4 and Krueger Road/High School Access intersection is expected to operate at an overall LOS D during the p.m. peak 15-minute periods. During the p.m. peak 15-minute period, significant queuing and delays at the development access are expected. Side-street/driveway access is also expected to continue to be difficult at the CSAH 4/Airpark Boulevard intersection during the p.m. peak 15-minute period. Additionally, the CSAH 4 and Arlington Avenue/Arrowhead Road intersection is expected to operate at a LOS D during the a.m. peak hour.

**Table 7. Year 2020 Build Intersection Capacity Analysis – 15 Minute Interval**

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay
CSAH 4 and Airport Road	A	8 sec.	B	12 sec.
CSAH 4 and Airpark Boulevard <sup>(1)</sup>	A/C	22 sec.	B/F	76 sec.
CSAH 4 and Krueger Road/High School Access <sup>(1)</sup>	A/D	30 sec.	D/F	150 sec.
CSAH 4 and Technology Drive	B	10 sec.	C	18 sec.
CSAH 4 and Arlington Avenue/Arrowhead Road	D	38 sec.	C	31 sec.
CSAH 4 and Sawyer Avenue/Arrowhead Road	C	25 sec.	C	34 sec.

(1) Indicates an unsignalized intersection with side-street stop control, where the overall LOS is shown followed by the worst approach LOS. The delay shown represents the worst side-street approach delay.

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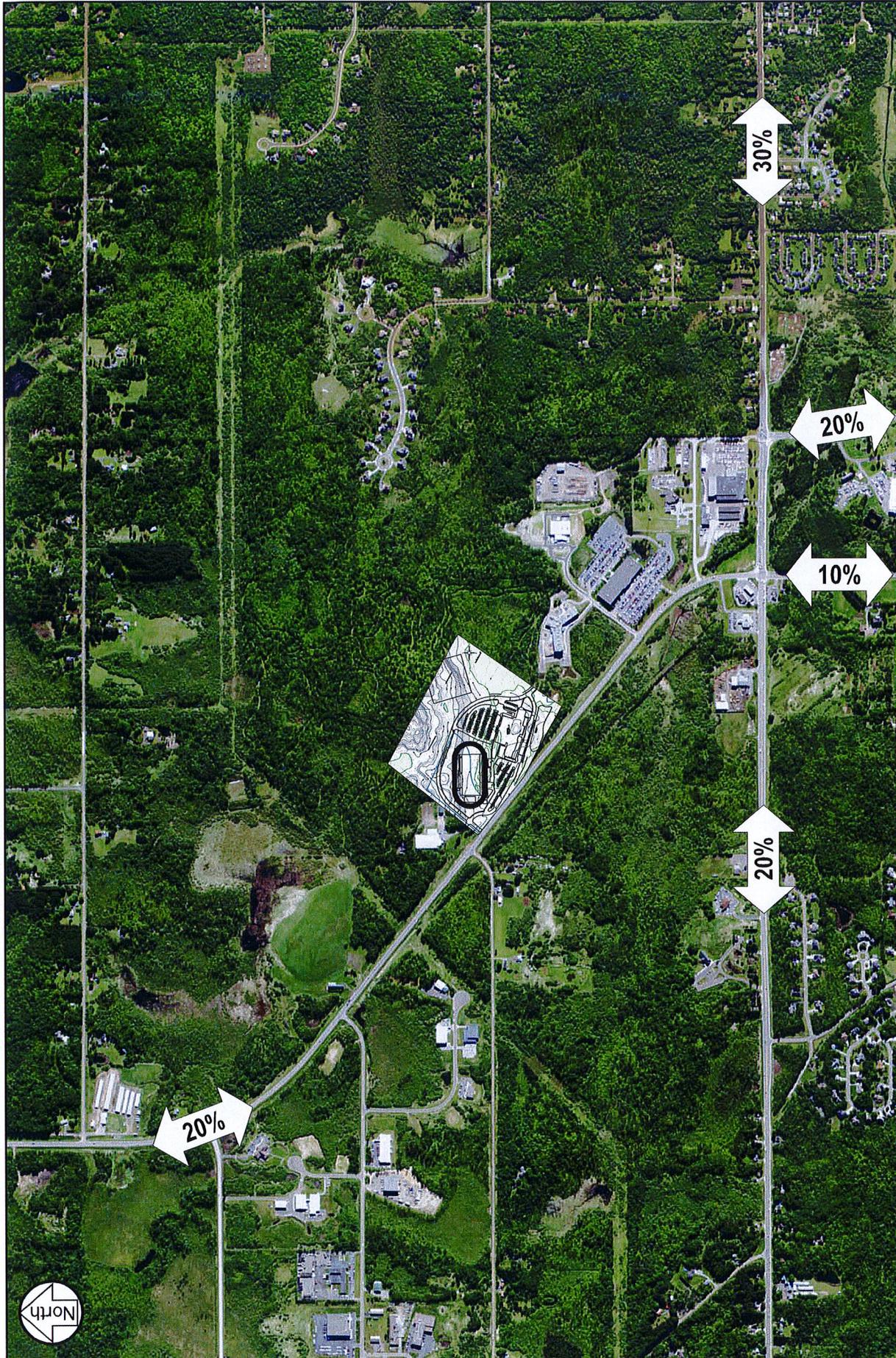


Figure 5

**Directional Distribution**  
 Duluth Edison Charter School Expansion Traffic Study  
 City of Duluth, MN



0159014  
 December 2015

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## Site Plan/Access Review

A review of the proposed site plans was completed to identify any issues and recommend potential improvements with regard to site access, traffic control, and circulation. Based on this review, the following issues were identified that should be discussed further and/or incorporated:

- 1) Internal traffic controls were not identified. However, traffic controls, signing, and striping should be incorporated based on the Manual on Uniform Traffic Control Devices (MUTCD). In particular, it is important to identify traffic controls at intersections between internal roadways/driveways to minimize vehicular conflicts and driver confusion.

It should be noted that several site plan improvements were already incorporated into the site plan as part of the development process.

## Summary and Conclusions

The following study conclusions and recommendations are offered for your consideration:

1. Results of the existing intersection capacity analysis for the peak 15-minute interval indicates that the CSAH 4/Airport Road intersection operates at LOS D during the p.m. peak 15-minute period.
  - a) Side-street left-turns were observed to be difficult from both Airport Road and Airpark Boulevard onto CSAH 4 during the p.m. peak 15-minute period. Southbound left-turns at the CSAH 4 and Arlington Avenue/Arrowhead Road intersection are difficult during both the a.m. and p.m. peak hours.
  - b) Internal queuing was present for the Northstar Academy Charter School and Optum/United Health Group driveways along Technology Drive during the school start and end times. These operations occur primarily during the peak 15-minute period before and after school.
2. Results of the existing intersection capacity analysis for the 60-minute peak period indicates that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours.
  - a) The significant side-street left-turning delay for motorists on Airport Road turning left onto CSAH 4 continues throughout the entire peak hour. A traffic signal is planned to be installed at this intersection to address this issue.
3. The following improvements are planned to be constructed by the year 2020.
  - a) New traffic signal at CSAH 4 and Airport Road
  - b) Extension of Sawyer Avenue to Krueger Road
  - c) Realignment of Krueger Road to the south to align with the proposed development access.
    - Contingent upon construction of the proposed development.

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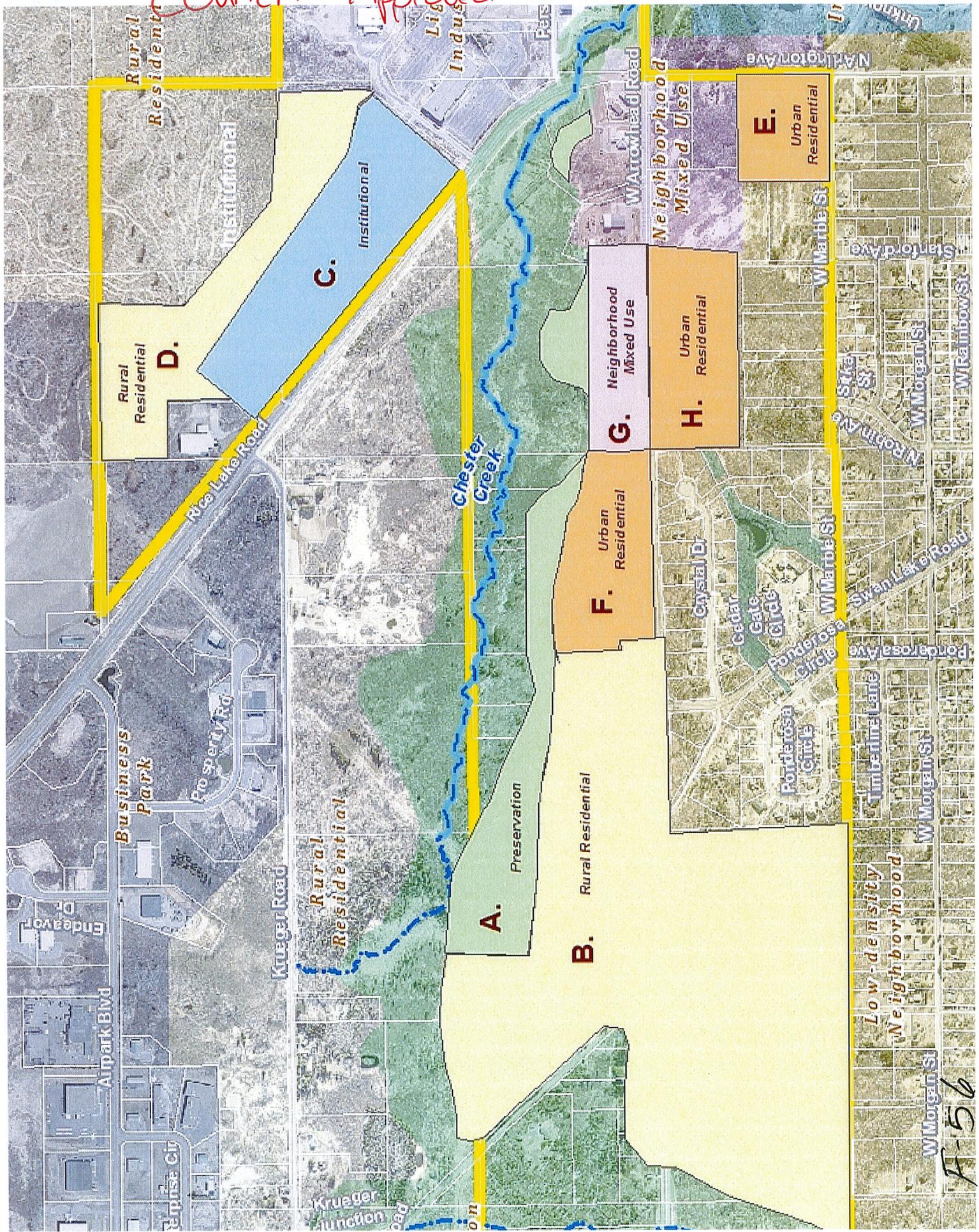
4. Existing traffic volumes were modified to reflect year 2020 no build conditions, including an annual growth rate of one percent, which is consistent with area planning documents.
5. With the extension of Sawyer Avenue, approximately 2,300 to 3,100 vehicles per day are expected to use Sawyer Avenue under year 2020 no build conditions.
6. Results of the year 2020 no build intersection capacity analysis for the peak 15-minute interval indicates that all intersections are expected to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak 15-minute periods.
  - a) Side-street delay at Airpark Boulevard is expected to be approximately 55 seconds (LOS F) during the p.m. peak 15-minute period.
  - b) The queuing issues along Technology Drive and CSAH 4 are expected to improve due to the extension of Sawyer Avenue as motorists will have an alternative route to consider.
7. Results of the year 2020 no build intersection capacity analysis for the 60-minute peak period indicates that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours. This includes the current north/south split phasing at the CSAH 4 and Sawyer Avenue/Arrowhead Road intersection.
  - a) If split phasing were to be removed, the overall operations are improved in the p.m. peak hour and maintained during the a.m. peak hour. However, the south approach would need to be re-stripped to include dual left-turn lanes and share thru/right-turn lane.
8. The proposed development is expected to consist of an 800 student charter high school and 400 apartment units. This will generate approximately 548 a.m. peak hour, 480 p.m. peak hour and 4,028 daily trips.
9. Results of the year 2020 build intersection capacity analysis indicate that the CSAH 4 and Krueger Road/High School Access intersection is expected to operate at an overall LOS D during the p.m. peak 15-minute period.
  - a) Significant side-street queuing and delays over two and a half minutes are expected at the Krueger Road/High School Access.
10. Results of the year 2020 build condition intersection capacity analysis for the 60-minute peak period indicate that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours.
  - a) The average side-street delay at the proposed development driveway is expected to extend over 30 seconds during the p.m. peak hour.
11. Results of the signal warrant sensitivity tests indicate that there are multiple scenarios in which a traffic signal warrant is expected to be met. The exact timeframe in which a signal warrant will be met is dependent upon when construction is completed, market conditions, and the scale of the adjacent apartment complex.

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12. To address the operational issues identified, the following improvements are offered for consideration.

- a) CSAH 4 and Krueger Road/High School Access
  - Add southbound and northbound left- and right- turn lanes on CSAH 4.
  - Widen the Krueger Road/High School Driveway access to include a right- and shared thru/left-turn lanes.
  - Coordinate with County staff and other stakeholders to determine the traffic signal installation timeframe. At a minimum, if/when the Krueger Road/High School access intersection is constructed, the underground traffic signal infrastructure (conduit and hand holes) should be installed.
- b) CSAH 4 and Arlington Avenue/Arrowhead Road
  - *Optional* - Restripe to include an additional southbound left-turn.
- c) CSAH 4 and Sawyer Avenue/Arrowhead Road
  - Construct a southbound left-turn lane.
  - *Optional* - Remove the split timing at the north and south approaches of the intersection and replace with protected-only or flashing yellow arrow left-turn phasing.
    - Requires the restriping of the south approach to include dual left-turn lanes and a shared thru/right-turn lane.
  - *Optional* - Construct a westbound right-turn lane.
- d) Incorporate traffic controls, signing, and striping based on the Manual on Uniform Traffic Control Devices (MUTCD).

# Council Approved Future Land Use



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