



2016 Application for Special Land Use Action

Staff contact: Dan Olson
 tel: 763-531-1142 fax: 763-531-1188
 dan.olson@crystalmn.gov
 4141 Douglas Dr N Crystal MN 55422
 www.crystalmn.gov

PROPERTY: Address: 3420 Nevada Ave. N. Henn. Co. P.I.D. 20-118-21-21-0008
3447 Louisiana Ave. N., 3415 Louisiana Ave. N. 20-118-21-21-0007
20-118-21-24-0017

PROJECT TITLE: Beacon Academy

APPLICANT: Friends of Beacon Tel: 763-546-9999

Email address: amroder@beaconacademy.com Fax: _____

U.S. Mail address: 9060 Zanzibar LN N, Maple Grove, MN 55311-1241

PROPERTY OWNER: Olivet Baptist Church of Minneapolis Tel: 763-353-8765

Email address: steve.chambers@cornerstonecrystal.org Fax: _____

U.S. Mail address: 3420 Nevada Ave. N, Crystal, MN 55427

TYPE OF APPLICATION: (check all that apply)	APPLICATION FEE (nonrefundable)	REQUIRED ATTACHMENTS (See description on page 2)
<input type="checkbox"/> Administrative Appeal	\$200	1 - - - - 6 -
<input type="checkbox"/> Comprehensive Plan Amendment	\$500	- - - - - 6 -
<input checked="" type="checkbox"/> Conditional Use Permit	\$500	1 - - - - 6 -
<input type="checkbox"/> Lot Division / Realignment of Lot Lines	\$500	- - 3 - - 6 -
<input type="checkbox"/> Plat	\$500 + \$50 per lot over 2	- 2 - - 5 6 7
<input type="checkbox"/> Rezoning or Zoning Text Amendment	\$500	- - - - - 6 -
<input checked="" type="checkbox"/> Site Plan Review	\$500	- 2 - 4 - 6 7
<input type="checkbox"/> Vacation of a public street or easement	\$500	- 2 - - - 6 -
<input type="checkbox"/> Variance	\$500	1 - - - - 6 -
<input type="checkbox"/> Planned Development	\$1,000	- 2 - - 5 6 7
<input type="checkbox"/> Telecommunication Tower	\$5,000	- 2 - 4 - 6 7

TOTAL FEE: \$ 1000 ATTACHMENTS: 1, 2, 4, 6, 7

- SIGNATURES:** The applicant and property owner certify that:
- I am making application for the described action by the City and am responsible for complying with all requirements with regard to this request. This application should be processed in my name. The City should contact me regarding any matter pertaining to this application.
 - I have read and do understand the instructions supplied by the City of Crystal for processing this application, and I will keep myself informed of the deadlines for submission of material and of the progress of this application.
 - The documents and information I have submitted are true and correct to the best of my knowledge.

Amy Marie Roder 4-11-16 (date)
 APPLICANT (date)

Steve Chambers 4-11-16 (date)
 PROPERTY OWNER (date)
 DIRECTOR OF OPERATIONS

FOR OFFICE USE ONLY: Application # 2016-04 Accounting # 0100.4418
 Receipt # 132-857 Date Received 4-12-2016
 Acknowledgement letter sent 4/19/2016 If application incomplete, was 60-day rule language included? Yes
 Plan Comm hearing 05/09/2016 City Council action / / Approved? Yes No Other
 NOTES: _____

CITY OF CRYSTAL

PROPOSED CONDITIONAL USE PERMIT AND SITE PLAN APPLICATION FOR BEACON ACADEMY

PUBLIC HEARING NOTICE
7:00 P.M. ON MONDAY, MAY 9, 2016
CRYSTAL CITY HALL (4141 DOUGLAS DR N)

The Crystal Planning Commission will consider a Conditional Use Permit (CUP) and Site Plan application from Beacon Academy to locate at the existing Cornerstone Church/Lionsgate Academy property at 3420 Nevada Avenue North.

General summary of the proposal:

- Beacon Academy is a public charter school currently located in Maple Grove with an enrollment of 400 students in grades K-8. Beacon is proposing to purchase and relocate to the property at 3420 Nevada Avenue North in Crystal, with classes beginning in Fall, 2017.
- The current users of the 3420 Nevada property are Lionsgate Academy and Cornerstone Church. It is anticipated that Lionsgate would move out in summer 2016 and Cornerstone would move out in summer 2017.
- Beacon would add approximately 15,000 square feet of classroom space along the west side of the building at 3420 Nevada and increase their enrollment to 750 students.
- School buses and staff would access the site from Louisiana Avenue using the existing parking lot and driveways on the east side of the building. Parents would access the site from Nevada Avenue for student pick-up and drop-off, with a second driveway to be added approximately 90 feet south of the existing driveway on Nevada.
- The existing church-owned house at 3447 Louisiana would be included in the purchase. Beacon intends to demolish this house and incorporate the site into the school grounds.

The public is invited to view the proposal at Crystal City Hall during normal business hours or on the city website at www.crystalmn.gov/city_departments/land_use_applications.php. The Planning Commission staff report will be available for viewing after May 6th at the same weblink.

To discuss the proposal or submit written comments for the record, please contact Dan Olson, City of Crystal, 4141 Douglas Dr. N., Crystal, MN 55422, dan.olson@crystalmn.gov or 763-531-1142.

To speak directly to the Planning Commission, please attend the public hearing on Monday, May 9, 2016 at 7 p.m. at Crystal City Hall.

LEGAL NOTICE: Notice is hereby given that the Planning Commission of the City of Crystal will meet on May 9, 2016 at 7:00 p.m. at Crystal City Hall, 4141 Douglas Drive North, in said City, to consider a Conditional Use Permit and Site Plan Application for Beacon Academy to locate at the existing Cornerstone Church property (3420 Nevada Avenue North). After holding the public hearing, the Commission is expected to make a recommendation to the City Council for their meeting on Tuesday, May 17, 2016. Persons desiring to be heard are invited and encouraged to attend the public hearing. Persons unable to attend may submit written comments prior to the date of the hearing to: Dan Olson, City of Crystal, 4141 Douglas Dr N, Crystal MN 55422. Auxiliary aids for handicap persons are available upon request at least 96 hours in advance. Please call the City Clerk at 763-531-1145 to make arrangements. Deaf and Hard of Hearing callers should contact the Minnesota Relay Service at 800-627-3529 V/TTY or call 711 to be connected to a TTY.

**Beacon Academy
Application for a Conditional Use Permit and Site Plan Review
3420 Nevada Avenue North, Crystal**

1. Project Proposal Overview

Beacon Academy plans to purchase 3420 Nevada Avenue North and use the site for its K-8 public charter school. Beacon plans to renovate the interiors of the existing buildings and add a 15,000 square foot addition on the northwest side of the facility. The facility is currently 61,208 square feet and the addition will bring the facility to 76,208 square feet. The lot size is 12.52 acres or 545,371 square feet. The projected opening date for the school is September 2017. Construction is projected to begin in September 2016. Friends of Beacon (FOB), an affiliated building company (ABC) will acquire and develop the site through tax-exempt bond financing.

Originally, in 1965, this site was developed as a public elementary school. Currently, Olivet Baptist Church of Minneapolis d/b/a Cornerstone Church owns the site and since 2008 has shared its use with Lionsgate Academy, a public charter school. Lionsgate is moving to a new site in Minnetonka and will open there for the start of school in September 2016. Cornerstone Church will occupy the worship space on site until August 2017, and then will move to a new location. When Beacon Academy opens its doors in September 2017, both Lionsgate and Cornerstone will have moved.

3420 Nevada Avenue North is zoned Low Density Residential (R-1). Schools are allowed as a conditional use within the R-1 district. Beacon is submitting this Conditional Use Permit application along with a Site Plan application, which is required for the building addition.

2. Description of Beacon Academy

In 2004 Beacon Academy, a public charter school opened its grades K-3 school in Plymouth, MN. In 2010, due to a need for more space, Beacon Academy moved to Maple Grove where it currently leases space in the lower level of the Church of the Open Door at 9060 Zanzibar Lane North. Its mission is "to provide Twin Cities' families with a proven, rigorous and content-rich curriculum integrated with sequential Spanish language instruction. The school will create a results-driven small learning community built around a culture of positive character development and committed parental involvement."

In 2012 Beacon Academy began searching for a larger space and one that better fits its programming needs. The site at 3420 Nevada Avenue in Crystal offers Beacon permanent classroom space, display space in classrooms and hallways, and playground/green space for students. The Crystal site will also accommodate Beacon's plans to expand its offerings to more students.

(See *Beacon Academy Overview*, attached.)

3. Current Activity on the Site

Cornerstone Church has been located at 3420 Nevada Avenue North since 1984. Cornerstone Church has a congregation of 906 members. Two services are held on Sunday mornings which approximately 420 people attend, parking 80-100 vehicles on the site. Cornerstone has a Wednesday evening program which 120 children attend; parents drop the children off and approximately 50 cars park. They also hold an annual fall kick-off with attendance similar to that of a Sunday service.

Lionsgate Academy Charter School has been located at 3420 Nevada Avenue since September 2008. It is a grades 7-12 charter school specializing in educating students with autism spectrum disorders. Lionsgate Academy currently has 118 students and 125 staff on site. (They will increase their enrollment to 150 students at their new site.) Because of the nature of its mission, Lionsgate Academy has a very low student to staff ratio, with approximately 8-15 students in a classroom with two teachers. Students arrive at 8:00 am and are dismissed at 2:50 pm. Two days a week, students stay for after-school activities until 3:45 pm. About 50% of the students (approximately 58) are transported to and from school in 15 7-passenger vans. Lionsgate also has two in-district transportation routes using 2 larger vehicles for 15 students. The remaining 41 students arrive and depart in parent vehicles, with some carpooling (several students drive themselves to school and park on site).

4. Beacon Academy Enrollment and Facilities

Beacon Academy currently has 415 students in grades K-8. Like Lionsgate Academy, Beacon draws students from communities throughout the metro area, including the City of Crystal. Currently, Beacon has 18 classrooms, two per grade. There are 71 staff on site. The school day begins at 9:00 am and ends at 3:30 pm.

Beacon plans to increase its enrollment over the next 5 years. It plans to add one classroom per grade to a total of 3 classrooms per grade and a maximum of no more than 750 students and 110 staff. At 3420 Nevada Avenue, with the building addition, there will be 27 classrooms, allowing for three classrooms per grade, as well as a computer lab, media center, art room, Spanish classrooms, and special education classrooms.

The addition will use exterior materials similar to those on the existing building to ensure a cohesive look to the facility. The addition will be one story and the elevation will match that of the existing building. No additional exterior lighting on the site is planned.

5. Transportation Plan for Beacon Academy

Beacon Academy intends to manage its traffic so that students, staff and neighborhood residents are safe; arriving and departing vehicles access the site easily; and the neighborhood is not negatively impacted. As part of its site planning process, Beacon Academy hired Spack Consulting to carry out a traffic review to help estimate traffic volumes at maximum enrollment and to recommend traffic management strategies.

Currently, at Beacon's site in Maple Grove, five school buses transport 280 students, approximately 68% of the student body, to and from school. Approximately 135 students come to school in parent vehicles. The Crystal site is 13 miles from the current site.

At maximum enrollment (anticipated in 2021) it is projected that 8-10 school buses will transport 70% of the students (525), and parents (individually and in carpools) will transport the remaining 30% of students (225, some of whom are siblings) to and from school (approximately 175-200 parent vehicles). One hundred ten staff would be on site every day and most will be driving to school as well. As this is a K-8 school there are no student drivers. Beacon encourages families to use school bus transportation, and anticipates that more students will live closer to school in Crystal and that bus and carpool use will increase.

Enrollment and Transportation Summary

	Lionsgate Academy	Beacon Academy (current)	Beacon Academy (at maximum enrollment)
Enrollment	118	415	750
Buses/vans	17	5	8-10
Parent vehicles (approx.)	41	110	175-200
Staff on site	125	71	110

Beacon will implement the following traffic management strategies:

a. Separation of parent vehicles and buses. Parent vehicles will enter and exit the site from Nevada Avenue, keeping the majority of the school traffic on a municipal state aid street (as required by Crystal zoning code Section 515.33, Subd. 4) and away from surrounding residential areas. School buses will enter and exit the site from Louisiana Avenue, keeping the traffic on that street to a minimum, and separating bus and car traffic on site. All student drop-off and pick-up will happen on the site adjacent to building entrances.

b. Added driveway for parent and staff vehicles. As part of its traffic management plan, Beacon is proposing to add a driveway to the site from Nevada Avenue North. It will be located just to the south of the existing driveway. The new driveway will allow vehicles to enter the site, drop off students, and then continue through and out of the site via the northern driveway to Nevada Avenue. At maximum enrollment (expected in 2021) approximately 175-200 parent vehicles will arrive at the site in the morning between 8:30 and 9:00 am to drop students off, and will pick students up in the afternoon between 3:30 and 4:00 pm. The added driveway will allow more vehicles to stack off of the streets. There is room for cars to pull over and let their children out, while other cars can continue to move along the driveway. There is a sidewalk along the existing north driveway. There is also parking between the driveways for parents who wish to park and get out of their cars to accompany their children. (See attached site plan.)

c. School bus traffic. At maximum enrollment, 8-10 school buses will enter the site at the northern entrance on Louisiana Avenue, unload children by the building, and then exit the site by the southern entrance on Louisiana Avenue. Similarly they will pick children up in the afternoon. Buses will be able to stack up along the east side of the building. Buses will not park on the street.

d. Staff vehicles. Approximately 110 staff will enter and exit the site from Nevada Avenue and park in the lots to the south and east of the building. Staff will arrive before 8:30 am and will leave after 4:00 pm, which will minimize interaction between their vehicles and the school buses and parent vehicles on the site. Staff will park in the lots to the south (18 parking spaces), to the east (77 parking spaces) and to the north (19 spaces) of the building.

e. Traffic monitoring. Beacon Academy staff will be outside before and after school directing students. Staff will meet children at the buses outside the main entrance of the building on the east side, and staff will meet children outside the entrance on the west side of the building where they will be dropped off and picked up by parents. Beacon will work with families throughout the year to ensure the successful operation of its traffic management plan.

f. Signage. The entrances and exits to the site will be well marked, helping make the flow of traffic smooth and safe. Parking as well as vehicular flow on the site itself will be clearly marked, including bus drop-off areas, parent drop-off areas, staff parking, parent parking, and one-way directions on the Nevada driveways.

g. Communications. In addition to signage at the driveways, school orientation and communication materials will be used to reinforce instructions to parents to use the Nevada Avenue driveway and parking area for drop off and pick up students. The school will also use these communication channels to encourage the use of its bus services, and carpooling.

h. Bicycle transportation. Bike racks and shower facilities will be provided at Beacon Academy.

i. Other traffic. Although students will use the school entrance facing Nevada at the beginning and end of the school day, the main entrance to the school faces Louisiana Avenue. Therefore, during the school day, occasional delivery trucks and parent vehicles will arrive at the building from Louisiana Avenue.

j. School-wide events. Once per year, at the annual picnic, all families and staff will be at the school together. At this event, the school parking lots are likely to fill, and some parking is likely to occur on surrounding streets. Beacon could also approach businesses on Nevada Avenue about using their parking lots for this event.

6. Recreational and playground activities

Beacon Academy students have recess once per day for 25 minutes. Currently, recess is held from 11:25 am - 12:25 pm. As enrollment grows, Beacon anticipates that children will be at recess, in small groups, between 11:00 am and 1:00 pm. Students will use the fields and green space on the west side of the school. Students will also be outside sometimes during gym class in fall and spring. The gym teacher would take one class of 28 students at a time outside for 35-45 minutes.

7. Off-Street Parking Requirements

There are 167 existing parking spaces on the site. Beacon plans to remove 9 spaces with the construction of the building addition, which will leave 158 parking spaces on the site.

As required by the City of Crystal, Off-Street Parking Requirements, 515.13 Subd. 5, the number of spaces required by an elementary and junior high school is:

Parking Requirements for Elementary/Junior High School	Current Enrollment (415) (2 classrooms/grade)	Maximum Enrollment (750) (3 classrooms/grade)
Base requirement	10 spaces	10 spaces
1 space/classroom	18	27
1 space/40 students	11	19
TOTAL SPACES REQUIRED	39 spaces	56 spaces

The site has adequate parking for Beacon Academy.

8. Landscaping Requirements

Beacon Academy will landscape the site and will meet the requirements of the Crystal Code Section 520.13, *Landscaping Standards*. Landscaping plans include plantings at the entrances, trees along the new west side driveway, trees to screen the east side parking lot, trees along the north and east sides of the property, and plantings around the addition. The landscaping beautifies the site, buffers it from surrounding uses, and shades and screens parking areas. Landscaping will be maintained by Beacon Academy. No trees will be removed from the site during construction. No new roof or ground mechanical equipment will be added to the site. Dumpsters will be screened. (See the attached landscaping plan.)

9. Stormwater Management

Because Beacon plans to add a 15,000 square foot addition, stormwater management strategies will be implemented. A biofiltration system will be integrated into the site, west of the new addition and north of the new driveway. (See the attached site plan.)

10. House on northeast corner of the site

There is a house, 3447 Louisiana Avenue, on the NE corner of the site. The house is currently owned by Cornerstone Church and is included in the purchase by Beacon Academy. Beacon Academy plans to remove the house during construction of the school addition. The trees around the house will be left intact. Beacon Academy's plan is to add a playground in this area.

11. Neighborhood Informational Meeting

Beacon Academy held an information meeting for neighbors on Monday, March 21, 2016, 6:00 - 7:00 pm at Cornerstone Church. The City of Crystal provided Beacon with a list of addresses for the surrounding neighborhoods and property owners were invited to the meeting. Plans for the site, including the addition, were presented and time was spent answering the questions and concerns of those in attendance. Questions generally concerned traffic and how it would be managed so as not to adversely impact the neighboring properties.

12. Standards for Elementary Schools in R-1 Zoning Districts (515.33, Subd. 4)

Beacon Academy meets the standards for elementary schools in R-1 districts:

- a. The side setbacks are double that required by the zoning district
- b. The facility is served by arterial, collector or municipal state aid streets, and pedestrian facilities are as necessary to accommodate the traffic generated by the facility
- c. All requirements of 515.05 subd 3 (Conditional Use Permit) and 520 are considered and satisfactorily met

13. General Conditional Use Standards (Subd. 7, 8)

Beacon Academy meets the general conditional use standards.

- a. No more than 50% of lot may be covered by structures. Lot coverage will be 14%.
- b. Height is not to exceed 2 stories or 32 feet. Height will be one story.
- c. The front and rear setbacks must be 30 feet from the lot line and the side setbacks must be 5 feet. Actual setbacks will be ___ along Louisiana Avenue and ___ along Nevada Avenue.

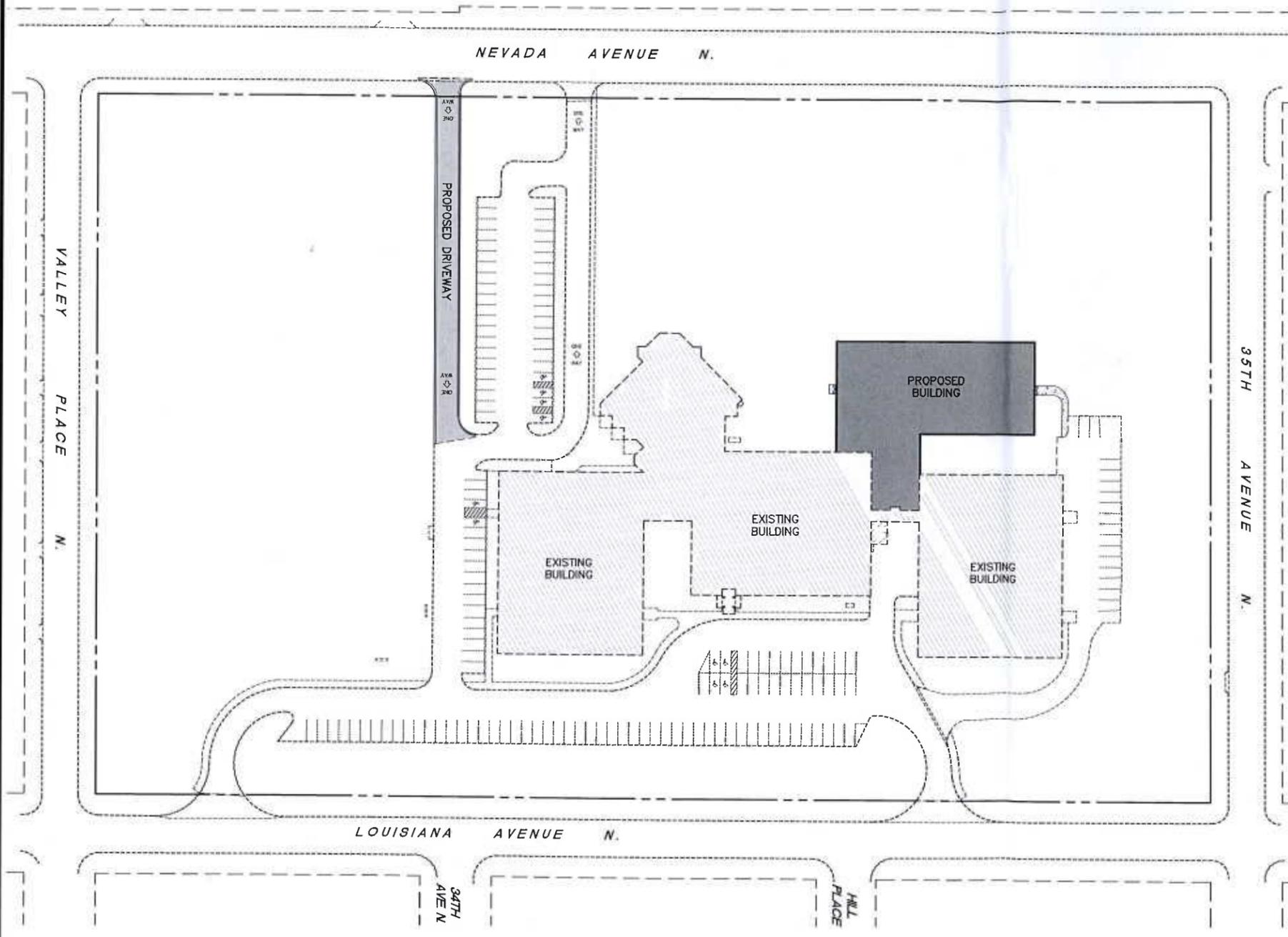
14. Attachments

- a. Beacon Academy Overview
- b. ALTA survey of the site
- c. Site plan
- d. Architectural drawings and floor plans of the existing building and the addition
- e. Landscape plan
- f. City of Crystal form to combine parcels
- g. Table of Project Cost

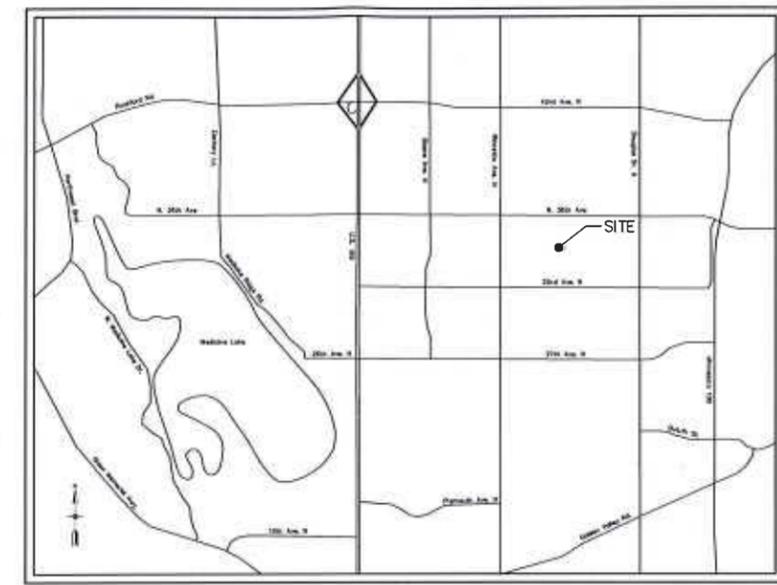
BEACON ACADEMY

~ SITE IMPROVEMENT PLANS ~

CRYSTAL, MINNESOTA



VICINITY MAP



PROJECT OWNER

FRIENDS OF BEACON
ANN MARIE RODER
9060 ZANZIBAR LANE N.
MAPLE GROVE, MN 55311
763-546-9999

CIVIL ENGINEER

CARLSON MCCAIN, INC.
JOSEPH RADACH
3890 PHEASANT RIDGE DRIVE NE #100
BLAINE, MINNESOTA 55449
763-489-7900

ARCHITECT

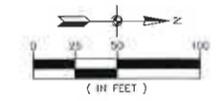
RIVERA ARCHITECTS, INC.
DEBORAH RATHMAN
775 FAIRMOUNT AVENUE
ST. PAUL, MN 55105
651-222-3245

LANDSCAPE ARCHITECT

CARLSON MCCAIN, INC.
SCOTT BILBEN
3890 PHEASANT RIDGE DRIVE NE #100
BLAINE, MINNESOTA 55449
763-489-7900

SHEET INDEX

- C1. COVER SHEET
- C2. EXISTING CONDITIONS & REMOVALS PLAN
- C3. SITE & SIGNAGE PLAN
- C4. GRADING, DRAINAGE & EROSION CONTROL PLAN
- C5. STORMWATER POLLUTION PREVENTION PLAN
- C6. UTILITY PLAN
- C7. DETAILS
 - L1. LANDSCAPE PLAN
 - L2. LANDSCAPE PLAN



BENCHMARKS	
1. TOP NUT OF FIRST FIRE HYDRANT SOUTH OF 35TH AVENUE N. WEST SIDE OF NEVADA AVENUE N.	ELEVATION = 900.00
2. TOP NUT OF FIRE HYDRANT NORTHEAST QUADRANT OF 35TH AVENUE N AND LOUISIANA AVENUE N.	ELEVATION = 900.00



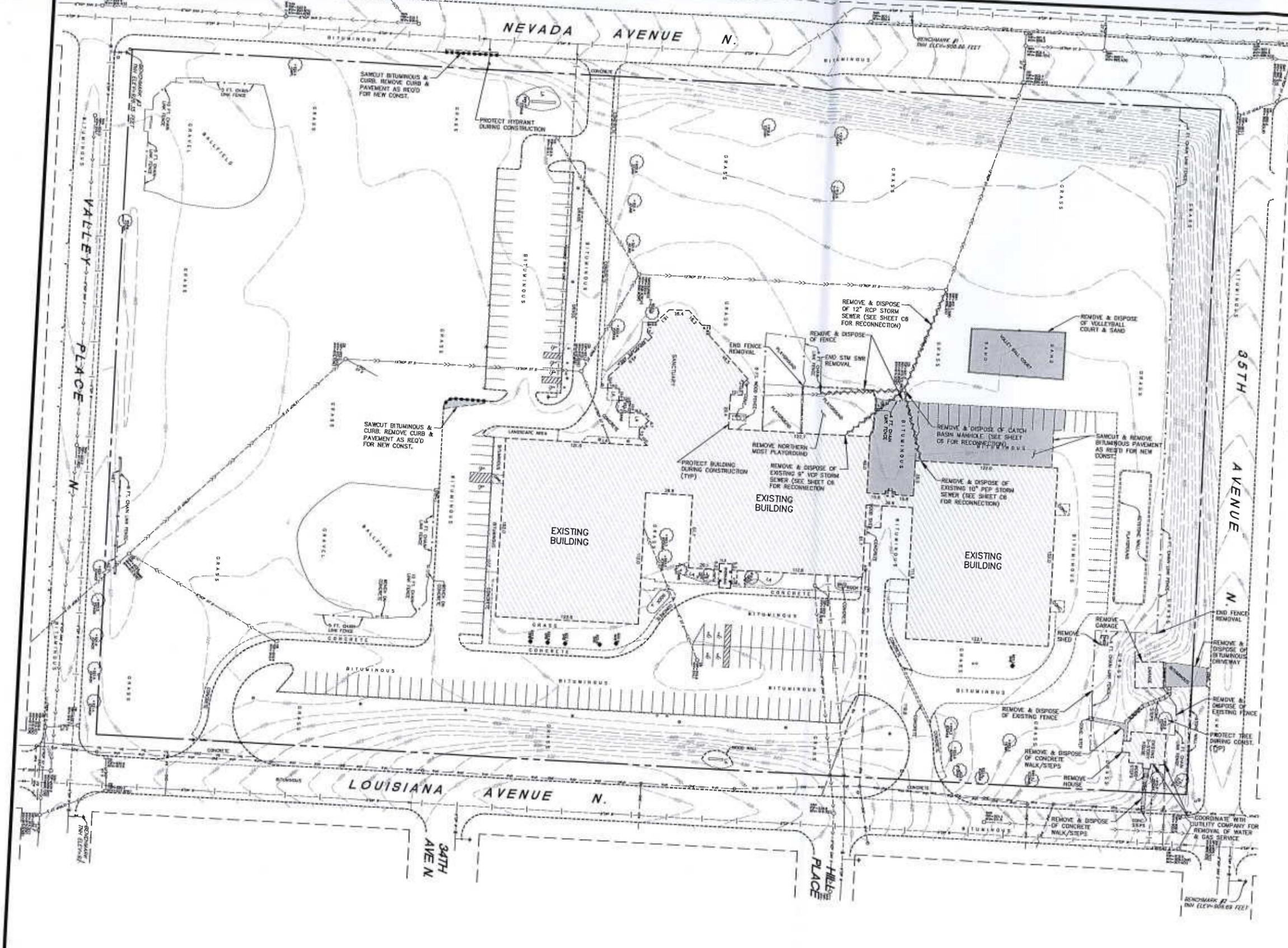
Carlson McCain
 ENVIRONMENTAL - ENGINEERING - SURVEYING
 3890 Pheasant Ridge Dr. NE #100, Blaine, MN
 Phone: 763-489-7900 Fax: 763-489-7959

COVER SHEET
BEACON ACADEMY
 3420 Nevada Avenue North
 Crystal, MN 55427

FRIENDS OF BEACON
 9060 Zanzibar Lane North
 Maple Grove, MN 55311

REVISIONS	
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Name: Joseph F. Radach, P.E.
 Signature: *J. Radach*
 Date: 04/11/10 License #: 45899



LEGEND

EXISTING	REMOVAL
PROPERTY LINE	-----
EASEMENT LINE	-----
CURB LINE	-----
BITUMINOUS PAVEMENT	-----
CONCRETE WALK	-----
SANITARY SEWER	-----
STORM SEWER	-----
WATER MAIN	-----
UNDERGROUND GAS	-----
ELECTRIC	-----
OVERHEAD ELECTRIC	-----
CATCH BASIN	-----
MANHOLE	-----
HYDRANT	-----
GATE VALVE	-----
LIGHT POLE	-----
POWER POLE	-----
COMMUNICATION BOX	-----
TRAFFIC CONTROL	-----
SNOW	-----
FENCE LINE	-----

REMOVAL PLAN NOTES

- EXISTING CONDITIONS BASED ON THE SURVEY PROVIDED BY SUNDE LAND SURVEYING, LLC.
- ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, DEPTH AND TYPES OF EXISTING UTILITIES AND TO NOTIFY THE OWNER AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR VARIATIONS FROM THE PLANS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, APPEARANCES AND STRUCTURES NOT INDICATED FOR REMOVAL. DAMAGE CAUSED BY OCCULTATION OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR TO REMOVE/RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. THE CONTRACTOR SHALL COORDINATE THESE ACTIVITIES WITH THE UTILITY COMPANIES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL THE REMOVALS SHOWN ON THE PLANS AND SHALL CONFORM/ADHERE TO ALL COVERING STATE AND LOCAL REGULATIONS. ALL PERMITS, APPLICATIONS AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL SAWCUTS SHALL BE FULL-DEPTH CUTS.



BENCHMARKS

- TOP NUT OF FIRST FIRE HYDRANT SOUTH OF 35TH AVENUE N, WEST SIDE OF NEVADA AVENUE N. ELEVATION = 906.65
- TOP NUT OF FIRE HYDRANT NORTH-EAST QUADRANT OF 35TH AVENUE N AND LOUISIANA AVENUE N. ELEVATION = 906.65

Carlson McCain
 ENVIRONMENTAL - ENGINEERING - SURVEYING
 3890 Pleasant Ridge Dr. NE #100, Blaine, MN
 Phone: 763-489-7900 Fax: 763-489-7959

EXISTING CONDITIONS & REMOVALS PLAN

BEACON ACADEMY
 3420 Nevada Avenue North
 Crystal, MN 55427

FRIENDS OF BEACON
 9060 Zanzibar Lane North
 Maple Grove, MN 55311

REVISIONS

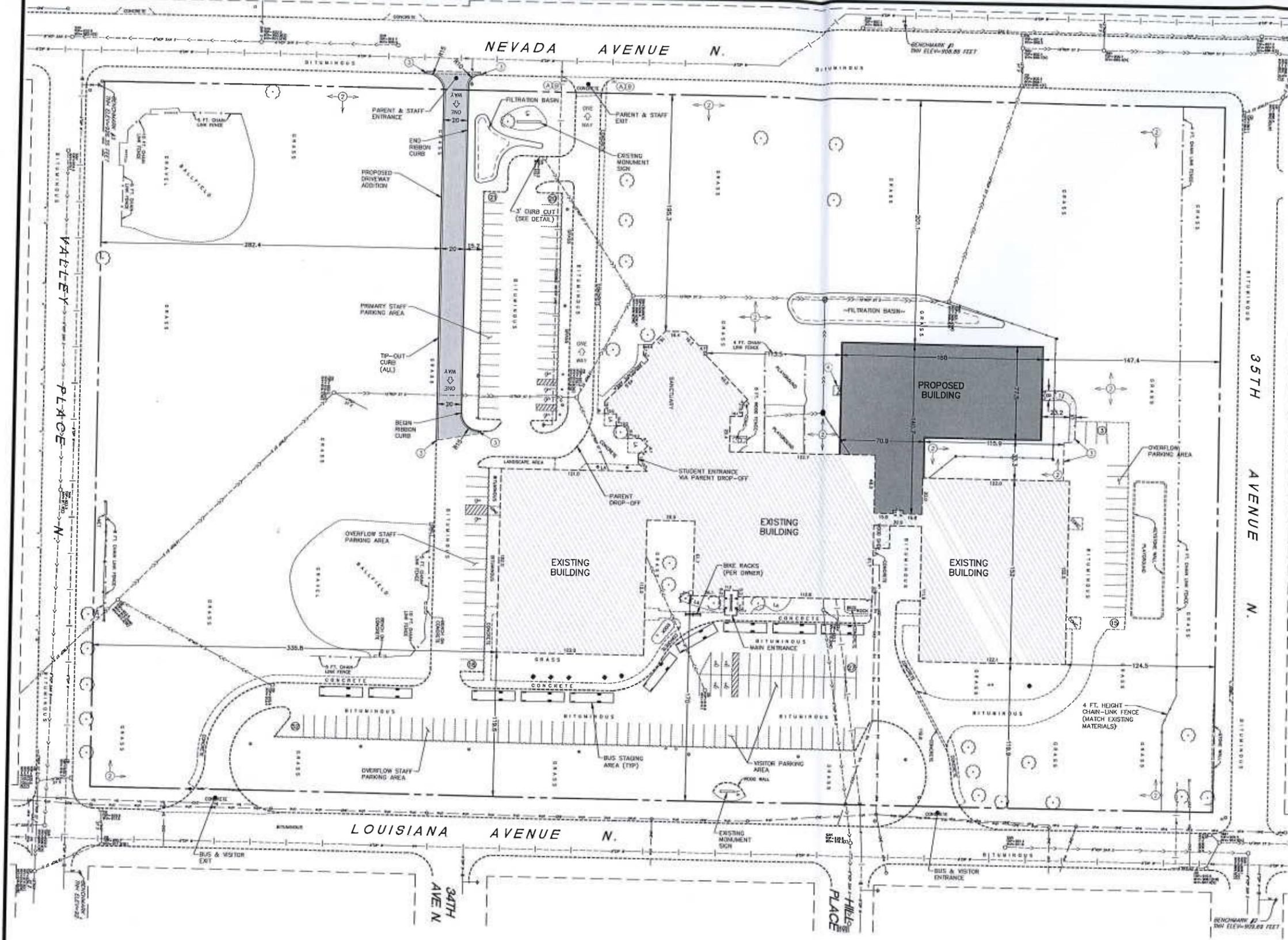
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DRAWN BY: BRS
 ISSUE DATE: 04/11/16
 FILE NO: 6102

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

Name: Joseph T. Radtch, P.E.
 Signature: [Signature]
 Date: 04/11/16 License #: 45889





LEGEND

PROPERTY LINE	EXISTING	PROPOSED
EASEMENT LINE	---	---
CURB LINE	---	---
BITUMINOUS PAVEMENT	▨	▨
CONCRETE WALK	▨	▨
SANITARY SEWER	---	---
STORM SEWER	---	---
WATER MAIN	---	---
UNDERGROUND GAS	---	---
UNDERGROUND ELECTRIC	---	---
OVERHEAD ELECTRIC	---	---
CATCH BASIN	□	□
MANHOLE	○	○
HYDRANT	○	○
GATE VALVE	○	○
LIGHT POLE	○	○
POWER POLE	○	○
COMMUNICATION BOX	○	○
TRAFFIC CONTROL	○	○
FENCE LINE	---	---

SITE PLAN NOTES

- EXISTING CONDITIONS BASED ON SURVEY PROVIDED BY SUNDE LAND SURVEYING, LLC.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
- ALL CURB AND GUTTER SHALL BE B612 UNLESS OTHERWISE NOTED.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO THE START OF SITE WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF DISCREPANCIES AND/OR VARIATIONS FROM THE PLAN.
- UNLESS OTHERWISE SHOWN ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS AND DRIVES PER THE FOLLOWING REQUIREMENTS:
 - CONTROL JOINT MAX. SPACING: WALKS-8' O.C. ALL OTHERS-10' O.C.
 - SAW CUT CONTROL JOINTS MINIMUM 1/2" CONCRETE THICKNESS.
 - EXPANSION JOINTS MAX. SPACING: WALKS-24' O.C. ALL OTHERS-40' O.C.
- AT ALL POINTS WHERE A CHANGE IN PAVEMENT THICKNESS OCCURS AND/OR WHERE NEW PAVEMENT WILL MATCH EXISTING PAVEMENT, AN EXPANSION JOINT SHALL BE PROVIDED.
 - DO NOT ALL EXPANSION JOINTS: 24" O.C. MAX.

SIGNING AND STRIPING NOTES

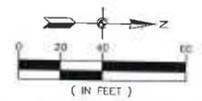
- ALL SIGNS SHALL BE PLACED 18" MINIMUM BEHIND CURB UNLESS OTHERWISE NOTED.
- SIGNAGE SHALL INCLUDE SIGN, POST, HARDWARE, CONCRETE FOOTING AND STEEL CASING (IF REQUIRED).
- PARKING LOT STRIPING SHALL BE 4" SOLID WHITE PAINT.
- ALL SIGNS SHALL MEET THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) FOR RETRO REFLECTIVITY AND INSTALLATION.

SIGN SCHEDULE (PER MMUTCD)

- Ⓢ STOP SIGN: R1-1 (24" x 24")
- Ⓧ DO NOT ENTER: R5-1 (30" x 30")

SITE PLAN KEYNOTES

- 4" CONCRETE WALK.
- LANDSCAPE AREA. SEE LANDSCAPE PLAN.
- MATCH EXISTING CURB & GUTTER/PAVEMENT.
- 4" CONCRETE STOOP.



BENCHMARKS

- TOP NUT OF FIRST FIRE HYDRANT SOUTH OF 35TH AVENUE N. WEST SIDE OF NEVADA AVENUE N. ELEVATION = 908.86
- TOP NUT OF FIRE HYDRANT NORTHEAST QUADRANT OF 35TH AVENUE N AND LOUISIANA AVENUE N. ELEVATION = 305.82

PARKING SUMMARY

STANDARD STALLS	446
HANDICAP STALLS	10
TOTAL STALLS	456

SITE DATA

ZONING:	R-1
	LOW DENSITY RESIDENTIAL
TOTAL AREA:	545,228 SF
EXISTING:	
IMPERVIOUS:	171,272 SF 31%
PERVIOUS:	373,954 SF 69%
PROPOSED:	
IMPERVIOUS:	182,336 SF 33%
PERVIOUS:	352,890 SF 67%



Carlson McCain
 ENVIRONMENTAL • ENGINEERING • SURVEYING
 3890 Pheasant Ridge Dr. NE #100, Blaine, MN
 Phone: 763-489-7900 Fax: 763-489-7959

SITE & SIGN PLAN

BEACON ACADEMY
 3420 Nevada Avenue North
 Crystal, MN 55427

FRIENDS OF BEACON
 9060 Zanzibar Lane North
 Maple Grove, MN 55311

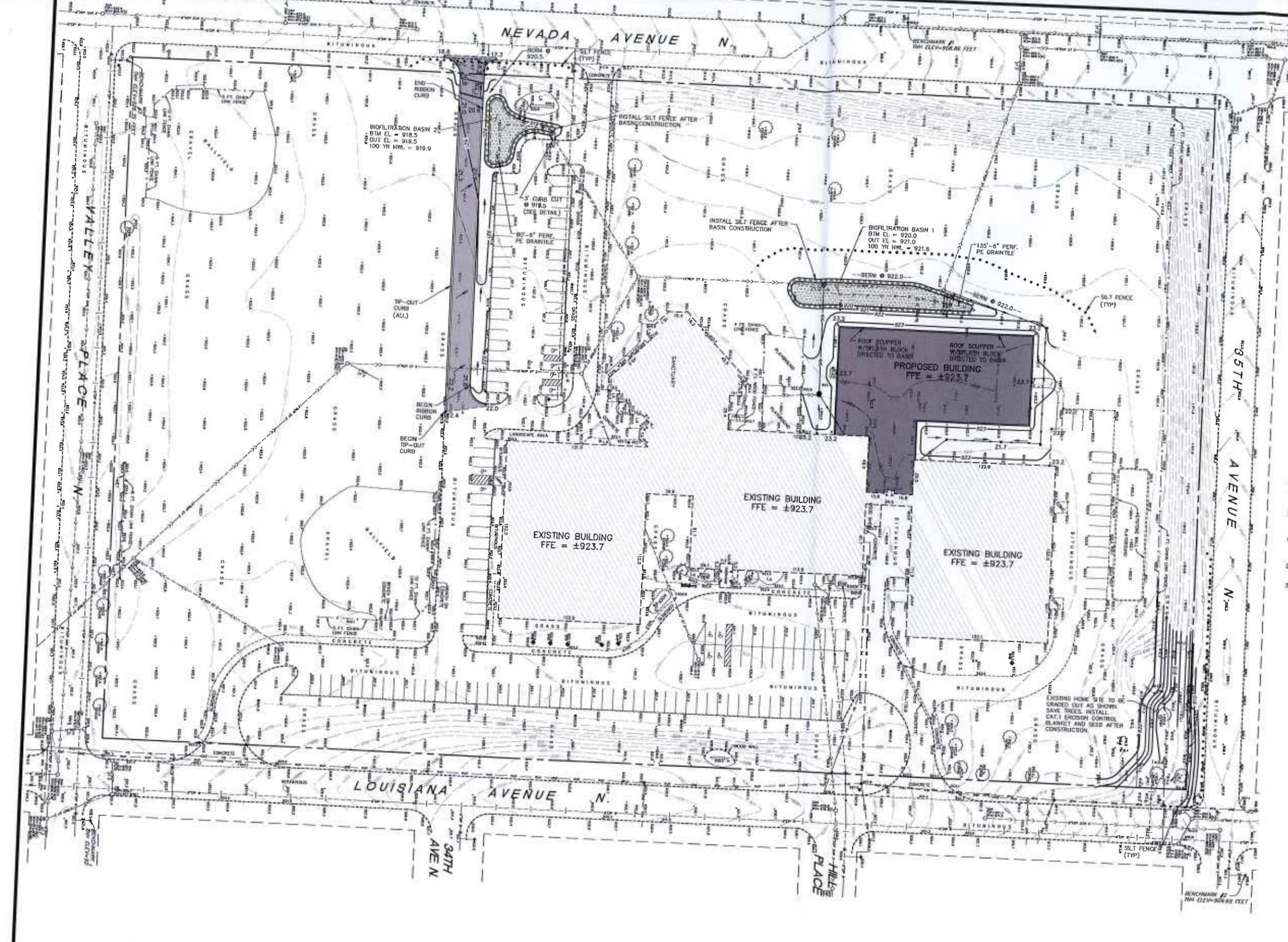
REVISIONS

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DRAWN BY: SRS
 ISSUE DATE: 04/11/10
 FILE NO: 6100

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

Name: Joseph T. Kuehler, P.E.
 Signature: [Signature]
 Date: 04/11/10 License #: 45889



LEGEND

EXISTING	PROPOSED
PROPERTY LINE	---
EASEMENT LINE	---
CURB LINE	---
BITUMINOUS PAVEMENT	[Hatched]
CONCRETE WALK	[Dotted]
SANITARY SEWER	---S---
STORM SEWER	---SS---
WATER MAIN	---W---
UNDERGROUND GAS	---G---
UNDERGROUND ELECTRIC	---E---
OVERHEAD ELECTRIC	---O---
CATCH BASIN	[Symbol]
MANHOLE	[Symbol]
HYDRANT	[Symbol]
GATE VALVE	[Symbol]
LIGHT POLE	[Symbol]
POWER POLE	[Symbol]
COMMUNICATION BOX	[Symbol]
TRAFFIC CONTROL SIGN	[Symbol]
FENCE LINE	---F---
10' CONTOUR	---10---
2' CONTOUR	---2---
SPOT ELEVATION (CURB ELEVATIONS ARE TO GUTTER LINE)	---E---
TOP OF CURB ELEV. CUTTER LINE ELEV.	---T---
EMERGENCY OVERFLOW	[Symbol]
SILT FENCE	---S---

GRADING NOTES

- EXISTING CONDITIONS BASED ON THE SURVEY PROVIDED BY SUNDE LAND SURVEYING, LLC.
- SILT FENCE AND EXISTING CATCH BASIN INLET PROTECTION SHALL BE INSTALLED PRIOR TO GRADING CONSTRUCTION, AND SHALL BE MAINTAINED UNTIL THE SITE HAS BEEN STABILIZED. (SEE SWPPP)
- CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO THE START OF GRADING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF DISCREPANCIES OR VARIATIONS FROM THE PLAN.
- CONTRACTOR SHALL STRIP, STOCKPILE AND RESPREAD SUFFICIENT TOPSOIL TO PROVIDE A MINIMUM OF 4" OF TOPSOIL OVER ALL DISTURBED AREAS THAT WILL BE SODED, SEEDED OR LANDSCAPED.
- TURF ESTABLISHMENT SHALL BEGIN AS SOON AS POSSIBLE BUT IN NO CASE LATER THAN 7 DAYS AFTER GRADING COMPLETION.
- ALL SLOPES SHALL BE A MAXIMUM OF 3:1.

GOVERNING SPECIFICATIONS

- THE LATEST EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE CITY OF CRYSTAL SPECIFICATIONS.
- THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- THE LATEST EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) STANDARD SPECIFICATIONS.



BENCHMARKS

- TOP NUT OF FIRE HYDRANT SOUTH QUADRANT OF 35TH AVENUE N, WEST SIDE OF NEVADA AVENUE N. ELEVATION = 906.86
- TOP NUT OF FIRE HYDRANT NORTHEAST QUADRANT OF 30TH AVENUE N AND LOUISIANA AVENUE N. ELEVATION = 906.89



Know what's below. Call before you dig.

GRADING, DRAINAGE & EROSION CONTROL PLAN

BEACON ACADEMY
3420 Nevada Avenue North
Crystal, MN 55427

FRIENDS OF BEACON
9060 Zanzibar Lane North
Maple Grove, MN 55311

REVISIONS

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DRAWN BY: HRS
ISSUE DATE: 04/11/16
FILE NO: 8105

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

Name: Joseph T. Radtch, P.E.
Signature: [Signature]
Date: 04/11/16 License #: 45889



PROJECT INFORMATION
 PROJECT NAME: BEACON ACADEMY
 PROJECT LOCATION: CRYSTAL, HENNEPIN COUNTY, MINNESOTA
 PROJECT OWNER: FRIENDS OF BEACON

RESPONSIBLE PARTIES
 THE OWNER MUST IDENTIFY A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMP'S WHO WILL OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMP'S.

SITE MANAGER: _____
TRAINING DOCUMENTATION: _____
INSPECTION REPRESENTATIVE: _____
TRAINING DOCUMENTATION: _____

EXISTING SITE CONDITIONS
 THE SITE IS LOCATED SOUTH AND EAST OF THE INTERSECTION OF NEVADA AVENUE NORTH AND 35TH AVENUE NORTH IN CRYSTAL, MINNESOTA. THE SITE IS BOUNDED ON THE NORTH BY 35TH AVENUE N, ON THE EAST BY LOUISIANA AVENUE N, ON THE SOUTH BY VALLEY PLACE N, AND ON THE WEST BY NEVADA AVENUE N. THE SITE IS CURRENTLY USED AS A CHURCH AND MAGNET SCHOOL. THE TOTAL SITE AREA IS 12.52 ACRES, OF WHICH 3.93 ACRES ARE IMPERVIOUS SURFACE.

THE SITE HAS A SLOPING TOPOGRAPHY, WITH ELEVATIONS RANGING FROM 932 IN THE EAST, DOWN TO 900 IN THE NORTHWEST. STORMWATER FROM THE SITE IS COLLECTED IN ON-SITE STORM SEWER BEFORE DISCHARGING OFF-SITE TO TRUNK STORM SEWER. ALL STORMWATER FROM THE SITE ULTIMATELY DISCHARGES TO BASSETT CREEK.

PROPOSED SITE CONDITIONS
 BEACON ACADEMY PLANS ON IMPROVING THE SITE BY CONSTRUCTING A 15,000 SQUARE FOOT BUILDING ADDITION AND A NEW DRIVEWAY. DURING CONSTRUCTION, APPROXIMATELY 1.7 ACRES WILL BE DISTURBED. AFTER THE SITE IMPROVEMENTS ARE CONSTRUCTED, THE SITE WILL CONTAIN 4.19 ACRES OF IMPERVIOUS SURFACE, FOR A NET INCREASE OF 0.26 ACRES.

STORMWATER FROM THE NEWLY CONSTRUCTED IMPERVIOUS SURFACES WILL BE DIRECTED TO TWO BIOPFILTRATION BASINS. THESE BASINS WILL PROVIDE WATER QUALITY TREATMENT AND RATE CONTROL. FOR THE ADDITIONAL IMPERVIOUS SURFACE, THE BASINS WILL OUTLET TO THE EXISTING ON-SITE STORM SEWER.

SOIL INFORMATION
 IN MARCH 2016, AMERICAN ENGINEERING TESTING DRILLED SIX SOIL BORINGS TO APPROXIMATE ON-SITE SOILS. THE BORINGS INDICATE THAT ON-SITE SOILS CONSIST PRIMARILY OF CLAYEY SAND WITH AREAS OF SANDY LEAN CLAY. THESE SOILS FALL WITHIN THE HYDROLOGIC SOIL GROUP (HSG) 'C'.

WETLAND CONSIDERATIONS
 THERE ARE NO KNOWN WETLANDS ON SITE.

STORMWATER RECEIVING WATERS
 ALL STORMWATER FROM THE SITE WILL ULTIMATELY DISCHARGE TO CITY OF CRYSTAL TRUNK STORM SEWER, WHICH ULTIMATELY DISCHARGES TO BASSETT CREEK.

SPECIAL/IMPAIRED WATER CONSIDERATIONS
 THE NORTHWOOD LAKE IS LISTED AS AN IMPAIRED LAKE AND IS LOCATED APPROXIMATELY 0.100 FEET NORTHWEST OF THE SITE LOCATION.

ADDITIONAL BMP'S REQUIRED INCLUDE: SOIL STABILIZATION WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS CEASED, TEMPORARY SEDIMENT BASIN FOR COMMON DRAINAGE AREAS OF 5 ACRES OR MORE, AND A REQUIRED WATER QUALITY VOLUME OF 1" OF RUNOFF FROM NEW IMPERVIOUS SURFACES.

STORMWATER MANAGEMENT PLAN
 BECAUSE THE PROPOSED CONSTRUCTION WILL NOT RESULT IN THE CREATION OF ONE OR MORE ACRES OF IMPERVIOUS SURFACE, THE MPCA CONSTRUCTION STORMWATER PERMIT OR BASSETT CREEK WATER MANAGEMENT ORGANIZATION DO NOT REQUIRE WATER QUALITY TREATMENT. THE CITY OF CRYSTAL REQUIRES 100-YEAR STORMS.

THE TWO PROPOSED BIOPFILTRATION BASINS PROVIDE 0.10 ACRE FEET OF STORAGE, AND PROVIDE ADEQUATE RATE CONTROL FOR THE SITE. SEE STORMWATER MANAGEMENT PLAN FOR DETAILED INFORMATION.

PRIOR TO START OF CONSTRUCTION
 THE FOLLOWING STORMWATER POLLUTION PREVENTION MEASURES SHALL BE IMPLEMENTED PRIOR TO COMMENCING ANY GRADING AND EROSION CONTROL PLANS FOR LOCATIONS.

- SILT FENCE**
 SILT FENCE SHALL BE INSTALLED AT THE LIMIT OF GRADING ON ANY FILL SLOPE. ADDITIONAL SILT FENCE MAY BE REQUIRED IN CUT SLOPE AREAS. SILT FENCE SHALL ALSO BE INSTALLED AROUND ANY INFILTRATION/FILTRATION PRACTICE.
- ROCK CONSTRUCTION ENTRANCE**
 ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE FIELD ENTRANCES TO THE SITE.
- CATCH BASINS**
 ALL CATCH BASINS SHALL BE PROTECTED WITH INLET PROTECTION DEVICES APPROVED BY THE LOCAL GOVERNING UNIT. THESE DEVICES, INFRASAFE PROTECTION DEVICES, FILTER FABRIC, BIO ROLLS AND STRAW BALES.

DURING CONSTRUCTION
 THE FOLLOWING STORMWATER POLLUTION PREVENTION MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION. REFER TO GRADING AND EROSION CONTROL PLANS FOR LOCATIONS.

- PHASED GRADING**
 TO THE EXTENT POSSIBLE, GRADING SHALL BE PHASED TO MINIMIZE THE AMOUNT OF DISTURBED AREAS DURING SITE CONSTRUCTION.
- TRACKED SEDIMENT**
 ANY SEDIMENT TRACKED FROM THE SITE ONTO THE STREET SHALL BE REMOVED IMMEDIATELY UPON DETECTION. ROCK CONSTRUCTION ENTRANCE SHALL BE INSPECTED AND REPAIRED IF INUNDATED WITH SEDIMENT.
- STOCKPILES**
 STOCKPILES SHALL BE PLACED IN AN AREA THAT WILL MINIMIZE THE NEED FOR RELOCATION. IF A STOCKPILE WILL REMAIN IN PLACE FOR AN EXTENDED PERIOD OF TIME, STABILIZATION MEASURES SHALL BE IMPLEMENTED, INCLUDING BUT NOT LIMITED TO, SEEDING AND SILT FENCING. TEMPORARY STOCKPILES MUST HAVE SILT FENCE OR OTHER WATER CONTROLS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, CONDUITS OR DITCHES.
- TOPSOIL**
 UPON GRADING COMPLETION, A MINIMUM OF 4 INCHES OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS, EXCLUDING PROPOSED STREETS AND PARKING AREAS.
- RESTORATION**
 ALL DISTURBED AREAS NOT ACTIVELY WORKED SHALL BE RESTORED WITH SEED AND MULCH, EROSION CONTROL BLANKET AND/OR SOO WITHIN 7 DAYS.
- SLOPES**
 IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTHS OF GREATER THAN 75 FEET FOR SLOPES WITH A GRADE OF 3:1 OR STEEPER.
- DRAINAGE DITCHES**
 THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM THE SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 24 HOURS OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.
- PIPE OUTLETS**
 PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.
- CATCH BASINS**
 ALL CATCH BASINS SHALL BE PROTECTED WITH INLET PROTECTION DEVICES APPROVED BY THE LOCAL GOVERNING UNIT. THESE DEVICES, INFRASAFE PROTECTION DEVICES, FILTER FABRIC, BIO ROLLS AND STRAW BALES.
- DUST**
 CONSTRUCTION DUST SHALL BE CONTAINED TO THE EXTENT POSSIBLE. IF THE SITE BECOMES EXCESSIVELY DUSTY, APPROPRIATE MEASURES SHALL BE TAKEN TO REDUCE DUST BEING TRANSPORTED FROM THE SITE. DUST CONTROL MEASURES INCLUDE, BUT ARE NOT LIMITED TO, WATERING AND CALCIUM CHLORIDE APPLICATION.
- DEWATERING**
 DEWATERING ACTIVITIES SHALL BE CONDUCTED WITH AND APPROVED BY THE LOCAL GOVERNING UNIT. IF THERE WILL BE ANY DEWATERING OR BASIN DRAINING THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE, THE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE WHENEVER POSSIBLE. APPROPRIATE BMP'S SHALL BE USED FOR EROSION AND SEDIMENT CONTROL AND ENERGY DISSIPATION.
- CONSTRUCTION MATERIALS AND DEBRIS**
 CONSTRUCTION MATERIALS SHALL BE STORED IN AN ORDERLY MANNER AND IN AN AREA THAT WILL MINIMIZE CONFLICTS WITH OTHER CONSTRUCTION ACTIVITIES. CONSTRUCTION DEBRIS SHALL BE CONTAINED IN DUMPSTERS AND REMOVED FROM THE SITE AS NECESSARY.
- CHEMICALS**
 CHEMICALS SHALL BE STORED IN A SAFE AREA IN SEALED CONTAINERS WITH THE ORIGINAL LABELING AND MATERIAL SAFETY DATA SHEETS AVAILABLE.
- SPILLS AND CONTAMINATION**
 IF FUEL, OIL OR A HAZARDOUS CHEMICAL IS SPILLED OR DETECTED DURING CONSTRUCTION ACTIVITIES, ALL APPROPRIATE AGENCIES SHALL BE IMMEDIATELY NOTIFIED, INCLUDING, BUT NOT LIMITED TO, THE MINNESOTA DUTY OFFICER AT 800-422-0798.
- CONCRETE WASHOUT AREA**
 ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. AN IMPERMEABLE COMPACTED CLAY LAYER IS SUFFICIENT. CONCRETE WASHOUT IN THE AGGREGATE ROAD BASE IS ALLOWED. A SIGN MUST BE INSTALLED AT EACH WASHOUT FACILITY TO DIRECT EQUIPMENT OPERATORS TO THE APPROPRIATE LOCATION.

NOTICE OF TERMINATION
 THE PERMITEE(S) MUST SUBMIT A NOTICE OF TERMINATION (NOT) TO THE MPCA WITHIN 30 DAYS AFTER FINAL STABILIZATION IS COMPLETE, OR ALL AREAS OF THE SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION.

INSPECTIONS & RECORD KEEPING
 STORMWATER POLLUTION PREVENTION INSPECTIONS SHALL OCCUR ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS MAY BE CEASED DURING PROZEN GROUNDS CONDITIONS WHERE WORK HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS. THE REQUIRED INSPECTIONS AND MAINTENANCE PRIOR TO RESUMING CONSTRUCTION, WHICHEVER COMES FIRST, DURING THE COURSE OF CONSTRUCTION, IT MAY BE DETERMINED THAT ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES MAY BE NEEDED, OR CERTAIN MEASURES ARE NOT PRACTICAL TO INSTALL. IN THESE CASES, AN AMENDMENT TO THE SWPPP SHALL BE MADE, AND SUPPORTING REASONS SHALL BE DOCUMENTED IN THE SWPPP.

- RECORD NAME OF INSPECTOR AND DATE AND TIME OF INSPECTION.
- RECORD RAINFALL AMOUNT SINCE MOST RECENT INSPECTION.
- INSPECT ROCK CONSTRUCTION ENTRANCES FOR SEDIMENTATION. INSPECT ADJACENT STREETS FOR SEDIMENT TRACKING.
- INSPECT SITE FOR EXCESSIVE EROSION AND SEDIMENT ACCUMULATION.
 - INSPECT SILT FENCE AND OTHER TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES FOR EROSION, SEDIMENTATION AND MALFUNCTIONING.
 - INSPECT FLARED END SECTIONS FOR EROSION AND SEDIMENTATION.
 - INSPECT PONDS, INFILTRATION BASINS, TEMPORARY SEDIMENTATION BASINS AND ALL OTHER BMP'S FOR EROSION AND SEDIMENTATION.
 - INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS FOR EVIDENCE OF SEDIMENT BEING DEPOSITED BY EROSION.
- INSPECT SITE AND ADJACENT PROPERTIES FOR CONSTRUCTION DEBRIS, TRASH AND SPILLS.
- INSPECT STABILIZED AREAS FOR EROSION.
- RECORD RECOMMENDED REPAIRS, MAINTENANCE AND/OR REPLACEMENTS REQUIRED TO ENSURE EROSION AND SEDIMENTATION CONTROL MEASURES ARE SUFFICIENT.
- RECORD RECOMMENDED AMENDMENTS TO THE SWPPP.
- RECORD REPAIRS, MAINTENANCE AND/OR REPLACEMENTS THAT WERE COMPLETED SINCE THE LAST INSPECTION.

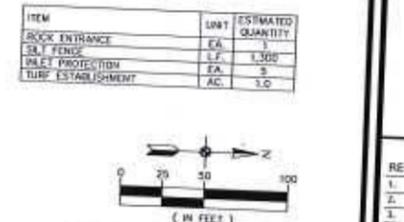
NOTE: FOR AREAS THAT HAVE UNDERGONE FINAL STABILIZATION, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH.

MAINTENANCE
 THE OWNER/CONTRACTOR IS RESPONSIBLE FOR THE OPERATION, INSPECTION AND MAINTENANCE OF ALL STORMWATER POLLUTION PREVENTION MEASURES FOR THE DURATION OF THE PROJECT. THE FOLLOWING GUIDELINES SHALL BE USED TO DETERMINE NECESSARY REPAIRS, MAINTENANCE AND/OR REPLACEMENT OF THE EROSION AND SEDIMENTATION CONTROL MEASURES.

- ROCK CONSTRUCTION ENTRANCES SHALL BE REPAIRED OR REPLACED IF THE ROCK BECOMES INUNDATED WITH SEDIMENT AND/OR EXCESSIVE SEDIMENT IS BEING TRACKED FROM THE SITE. SEDIMENT TRACKING ONTO ADJACENT STREETS SHALL BE REMOVED. MEASURES SHALL BE TAKEN IMMEDIATELY UPON DISCOVERY.
- SILT FENCE SHALL BE REPAIRED OR REPLACED WHEN SEDIMENT REACHES 1/3 THE HEIGHT OF THE SILT FENCE, THE SILT FENCE IS DAMAGED AND/OR THE SILT FENCE BECOMES NONFUNCTIONAL. MEASURES SHALL BE TAKEN WITHIN 24 HOURS OF DISCOVERY.
- CATCH BASIN INLET PROTECTION DEVICES SHALL BE CLEANED WHEN SEDIMENT REACHES 1/2 THE HEIGHT OF THE SEDIMENT TRAP AND/OR REPAIRED OR REPLACED IF THE DEVICE BECOMES NONFUNCTIONAL. MEASURES SHALL BE TAKEN WITHIN 72 HOURS OF DISCOVERY.
- FLARED END SECTIONS SHALL BE CLEANED IF DEBRIS IS RESTRICTING FLOW OR IF SEDIMENT HAS ACCUMULATED AT THE OUTLET. IF A FLARED END SECTION BECOMES NONFUNCTIONAL OR DAMAGED, IT SHALL BE REPAIRED OR REPLACED. MEASURES SHALL BE TAKEN WITHIN 72 HOURS OF DISCOVERY.
- IF SEDIMENT IS OBSERVED OFF-SITE OR NEAR SURFACE WATERS, THE SOURCE OF SEDIMENT SHALL BE DETECTED AND ADDITIONAL MEASURES SHALL BE IMPLEMENTED. THE PERMITEE(S) SHALL COORDINATE SEDIMENT RETRIEVAL FROM SURFACE WATERS WITH ALL APPROPRIATE AGENCIES. MEASURES SHALL BE TAKEN WITHIN 7 DAYS OF DISCOVERY.
- PONDS, INFILTRATION BASINS, TEMPORARY SEDIMENTATION BASINS AND EXCESSIVE SEDIMENTATION HAS OCCURRED. TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND THE SEDIMENT REMOVED WHEN SEDIMENT HAS FILLED THE BASIN TO 1/2 ACCUMULATE IN INFILTRATION BASINS. MEASURES SHALL BE TAKEN WITHIN 72 HOURS OF DISCOVERY.

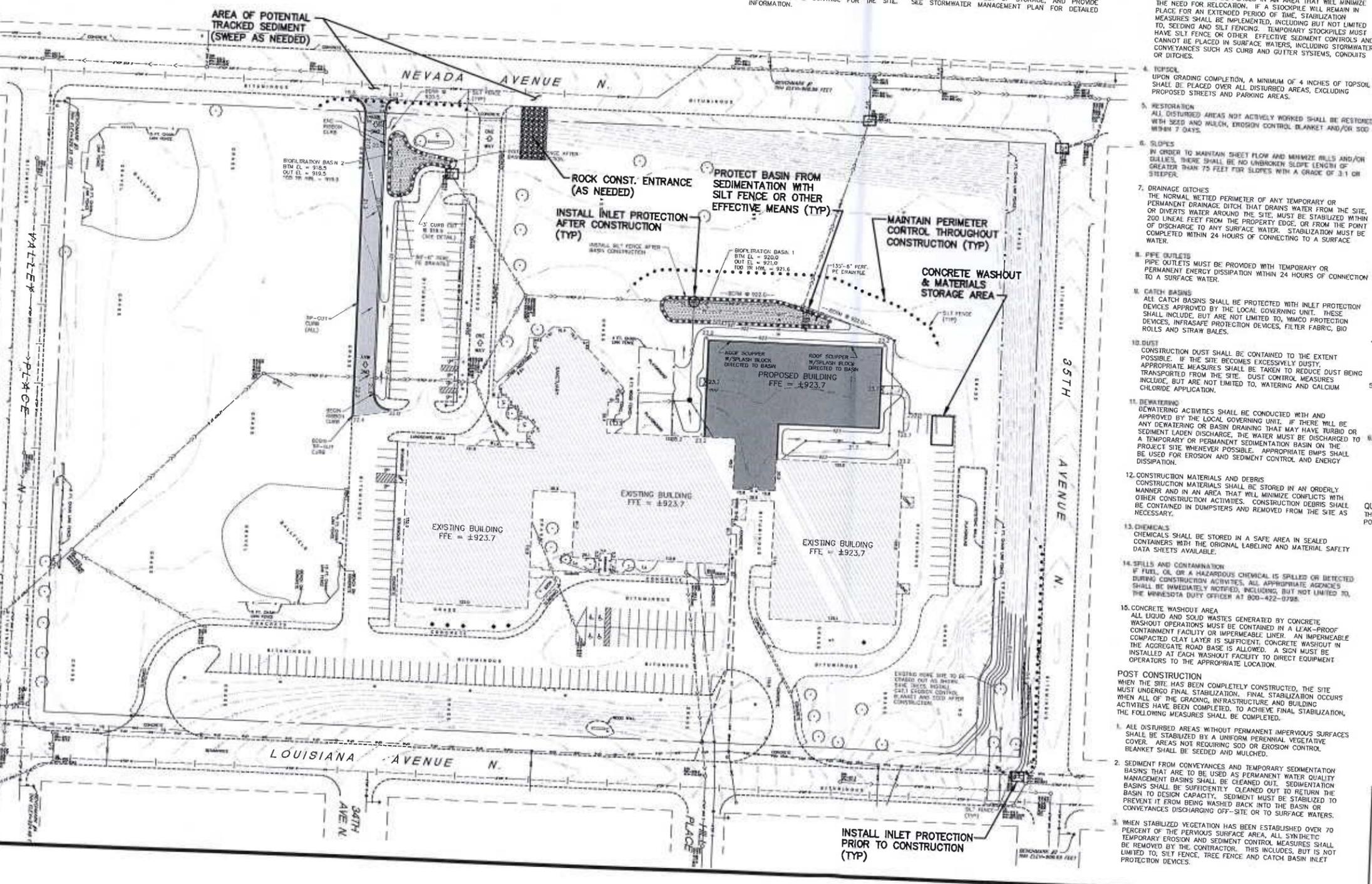
QUANTITIES
 THE FOLLOWING TABLE PROVIDES ESTIMATED QUANTITIES FOR STORMWATER POLLUTION PREVENTION THROUGHOUT THE PROJECT.

ITEM	UNIT	ESTIMATED QUANTITY
ROCK ENTRANCE	EA	1.000
SILT FENCE	LF	1.300
SILT PROTECTION TIRE ESTABLISHMENT	EA	5.0
	AC	3.0



BENCHMARKS

- TOP HUT OF FIRST FIRE HYDRANT SOUTH OF 35TH AVENUE N, WEST SIDE OF BEACON ACADEMY. ELEVATION = 905.86
- TOP HUT OF FIRE HYDRANT NORTHEAST CORNER OF 35TH AVENUE N AND LOUISIANA AVENUE N. ELEVATION = 908.80



POST CONSTRUCTION
 WHEN THE SITE HAS BEEN COMPLETELY CONSTRUCTED, THE SITE MUST UNDERGO FINAL STABILIZATION. FINAL STABILIZATION OCCURS WHEN ALL OF THE GRADING, INFRASTRUCTURE AND BUILDING ACTIVITIES HAVE BEEN COMPLETED, TO ACHIEVE FINAL STABILIZATION, THE FOLLOWING MEASURES SHALL BE COMPLETED.

- ALL DISTURBED AREAS WITHOUT PERMANENT IMPERVIOUS SURFACES SHALL BE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER. AREAS NOT REQUIRING SOO OR EROSION CONTROL BLANKET SHALL BE SEEDED AND MULCHED.
- SEDIMENT FROM CONVEYANCES AND TEMPORARY SEDIMENTATION MANAGEMENT BASINS SHALL BE CLEANED OUT. SEDIMENTATION BASINS SHALL BE SUFFICIENTLY CLEANED OUT TO RETURN TO PREVENT IT FROM BEING WASHED BACK INTO THE BASIN OR CONVEYANCES DISCHARGING OFF-SITE OR TO SURFACE WATERS.
- WHEN STABILIZED VEGETATION HAS BEEN ESTABLISHED OVER 70 PERCENT OF THE PVIOUS SURFACE AREA, ALL SYNTHETIC TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED BY THE CONTRACTOR. THIS INCLUDES, BUT IS NOT LIMITED TO, SILT FENCE, TREE FENCE AND CATCH BASIN INLET PROTECTION DEVICES.



Carlson McCain
 ENVIRONMENTAL ENGINEERING - SURVEYING
 3890 Pleasant Ridge Dr. NE #100, Blaine, MN
 Phone: 763-489-7900 Fax: 763-489-7959

STORMWATER POLLUTION PREVENTION PLAN
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REVISIONS

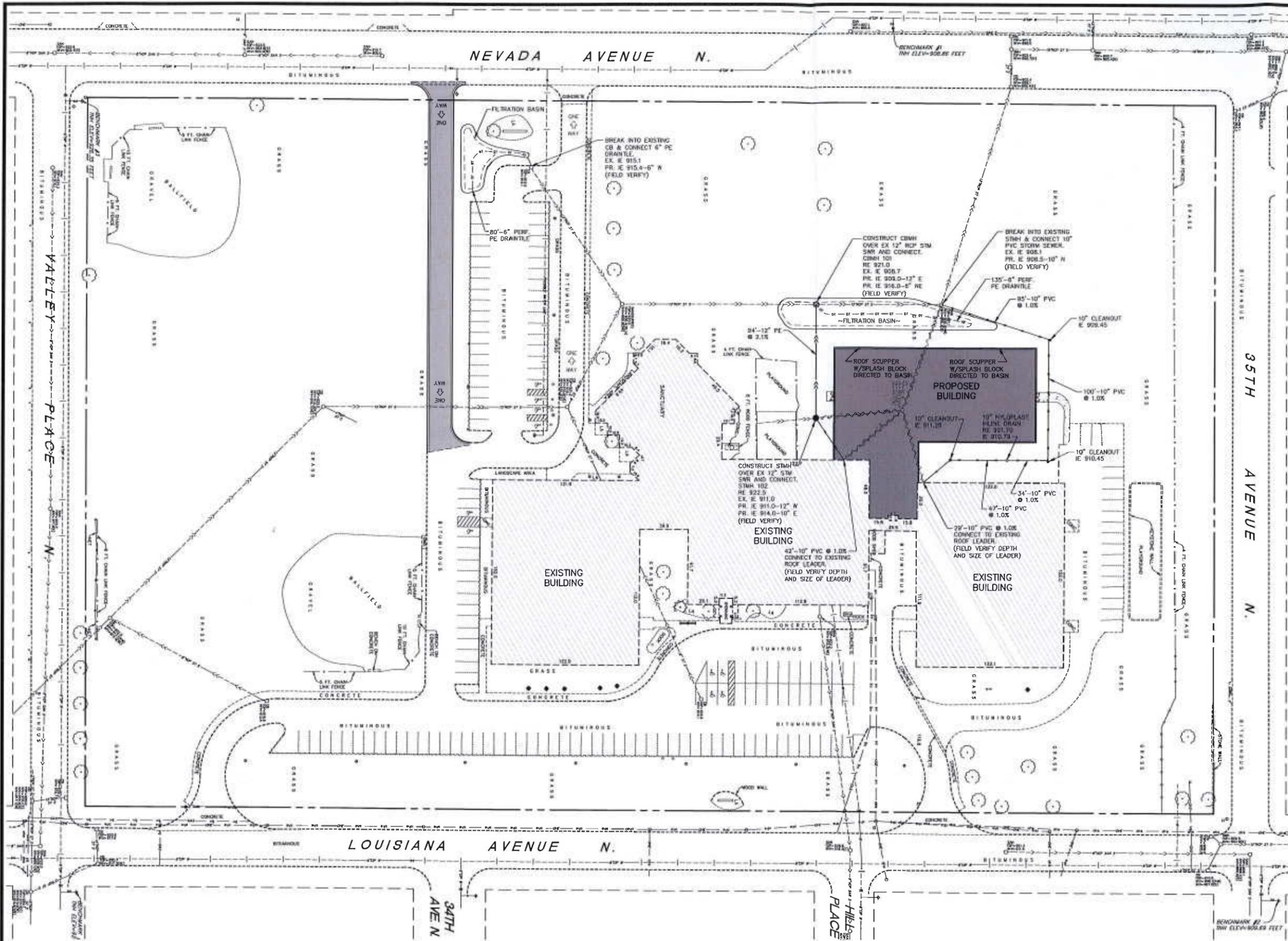
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DESIGNED BY: _____
 ISSUE DATE: 04/11/16
 FILE NO.: 8185

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

Name: Joseph T. Radach, P.E.
 Signature: _____
 Date: 04/11/16 License #: 45889

C5 of 7



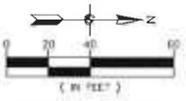
LEGEND

	EXISTING	PROPOSED
PROPERTY LINE	---	---
EASEMENT LINE	---	---
CURB LINE	---	---
BITUMINOUS PAVEMENT		---
CONCRETE WALK	-----	---
SANITARY SEWER	---	---
STORM SEWER	---	---
WATER MAIN	---	---
UNDERGROUND GAS	---	---
UNDERGROUND ELECTRIC	---	---
OVERHEAD ELECTRIC	---	---
CATCH BASIN	□	□
MANHOLE	○	○
HYDRANT	○	○
GATE VALVE	○	○
LIGHT POLE	○	○
POWER POLE	○	○
COMMUNICATION BOX	○	○
TRAFFIC CONTROL	○	○
SIGN	○	○
FENCE LINE	---	---

- UTILITY PLAN NOTES**
- EXISTING CONDITIONS BASED ON THE SURVEY PROVIDED BY SURGE LAND SURVEYING, L.L.C.
 - GOVERNING SPECIFICATIONS: THE LATEST EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", THE CITY OF CRYSTAL STANDARD SPECIFICATIONS AND ENGINEERING GUIDELINES AND THE MINNESOTA PLUMBING CODE.
 - STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) STANDARD SPECIFICATIONS & THE MINNESOTA PLUMBING CODE.
 - A MINIMUM OF 2 FEET VERTICAL SEPARATION SHALL BE REQUIRED FOR ALL UTILITY CROSSINGS.
 - CATCH BASINS IN THE CUTTER LINE SHALL BE SANDED 0.17'. ELEVATIONS SHOWN ON THE PLANS REFLECT THE SANDED ELEVATIONS.

STORM SEWER SCHEDULE

STRUCTURE	NEENAH CASTING or EQUAL
TYPE & No.	SIZE
CBMH-101	48" DIA. R-4342
STMH-102	48" DIA. R-1733



BENCHMARKS

- TOP NUT OF FIRST FIRE HYDRANT SOUTH QUADRANT OF 35TH AVENUE N, WEST SIDE OF NEVADA AVENUE N. ELEVATION = 900.86
- TOP NUT OF FIRE HYDRANT NORTHEAST QUADRANT OF 35TH AVENUE N AND LOUISIANA AVENUE N. ELEVATION = 900.89

**Carlson
McCain**
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UTILITY PLAN
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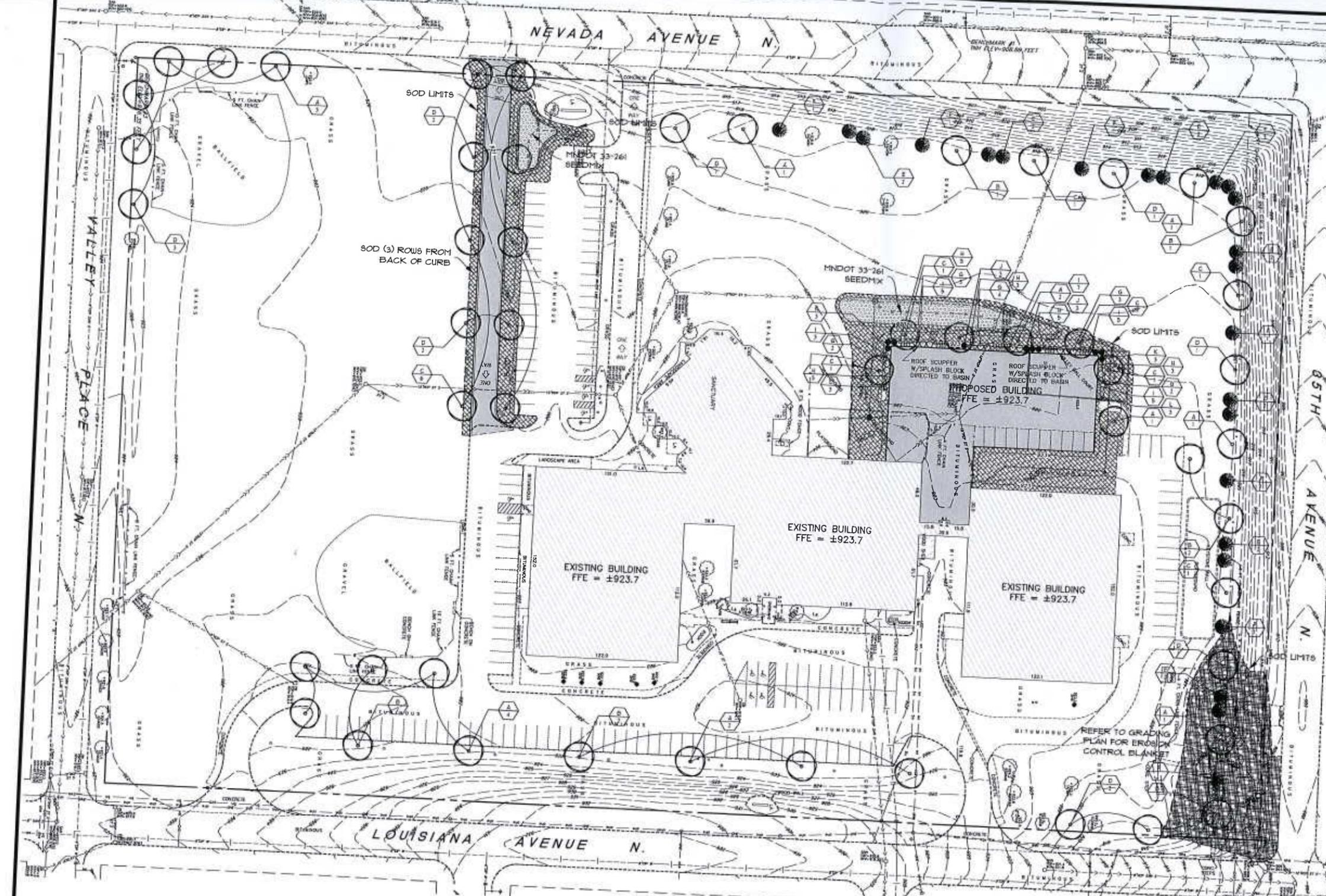
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DRAWN BY: JRS
ISSUE DATE: 04/11/18
FILE NO: 1809

I hereby certify that the plans, specifications or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Name: Joseph T. Radtch, P.E.
Signature: [Signature]
Date: 04/11/18 License #: 45889





LANDSCAPE NOTES

- SHREDDED HARDWOOD MULCH TYPICAL IN ALL SHRUB AND GROUND COVER AREAS UNLESS OTHERWISE NOTED. USE A LANDSCAPE FABRIC IN ALL PLANTING BEDS. MULCH TO BE MIN 3" THICK WITH NO LANDSCAPE FABRIC VISIBLE.
- POLY EDGER TYPICAL WHERE PLANTING BEDS INTERFACE WITH SOD.
- 4" OF ORGANIC/BLACK SOIL IS REQUIRED FOR ALL LANDSCAPE AREAS.
- SOD ALL AREAS DISTURBED DUE TO GRADING AND WHERE NOTED ON THE PLAN.
- IRRIGATION SHALL BE PROVIDED FOR ALL SOD AND LANDSCAPE AREAS UNLESS OTHERWISE NOTED.
- HEAVY COMMERCIAL GRADE POLY EDGER SHALL BE USED AROUND THE PERIMETER OF LANDSCAPE BEDS NOTED ON PLAN.
- REFER TO DETAIL SHEET L2 FOR GENERAL NOTES, PLANTING SPECIFICATIONS, PLANTING NOTES, IRRIGATION NOTES, AND PLANTING DETAILS.
- REFER TO GRADING PLAN FOR GRADES AND EROSION CONTROL.
- REMOVE ANY BURLAP, TWINE, ROPES AND/OR WIRING FROM THE TOP AND SIDES OF ROOT-BALL FOR ALL BALLED & BURLAP PLANTS.
- REMOVE CONTAINERS AND CUT CIRCLING ROOTS IF PLANTS ARE CONTAINER GROWN. ALL PLANTINGS SHALL RECEIVE FERTILIZER AS FOLLOWS:
0-20-20 GRANULAR FERTILIZER APPLIED AT THE TIME OF PLANTING AT A RATE OF 12 OZ PER 2.5" CALIFER INCHES OF TREE AND 6 OZ PER SHRUB.

PLANT LEGEND

- OVERSTORY TREE 2.5" CAL
- ORNAMENTAL TREE 1.5" CAL
- SHRUB / GROUND COVER 24" - 36" HT.
- PERENNIALS 18" - 24" DIA
- MNDOT 33-261 SEED MIX
- GENERAL TURF SEED MIX
- SOD/SEED LIMITS

SEEDMIX: MNDOT 33-261

Common Name	Scientific Name	Rate (lb/1000)	Rate (lb/acre)	% of mix	% of weight
Red clover	<i>Trifolium pratense</i>	1.00	1.00	10.00	1.00
White clover	<i>Trifolium repens</i>	1.00	1.00	10.00	1.00
Annual ryegrass	<i>Lolium multiflorum</i>	1.00	1.00	10.00	1.00
Perennial ryegrass	<i>Lolium perenne</i>	1.00	1.00	10.00	1.00
Smooth bromegrass	<i>Cynodon dactylon</i>	1.00	1.00	10.00	1.00
Hard fescue	<i>Festuca arvensis</i>	1.00	1.00	10.00	1.00
Sheep fescue	<i>Festuca ovina</i>	1.00	1.00	10.00	1.00
Timothy	<i>Phleum pratense</i>	1.00	1.00	10.00	1.00
Orchard grass	<i>Dactylis glomerata</i>	1.00	1.00	10.00	1.00
Red top	<i>Lolium subulatum</i>	1.00	1.00	10.00	1.00
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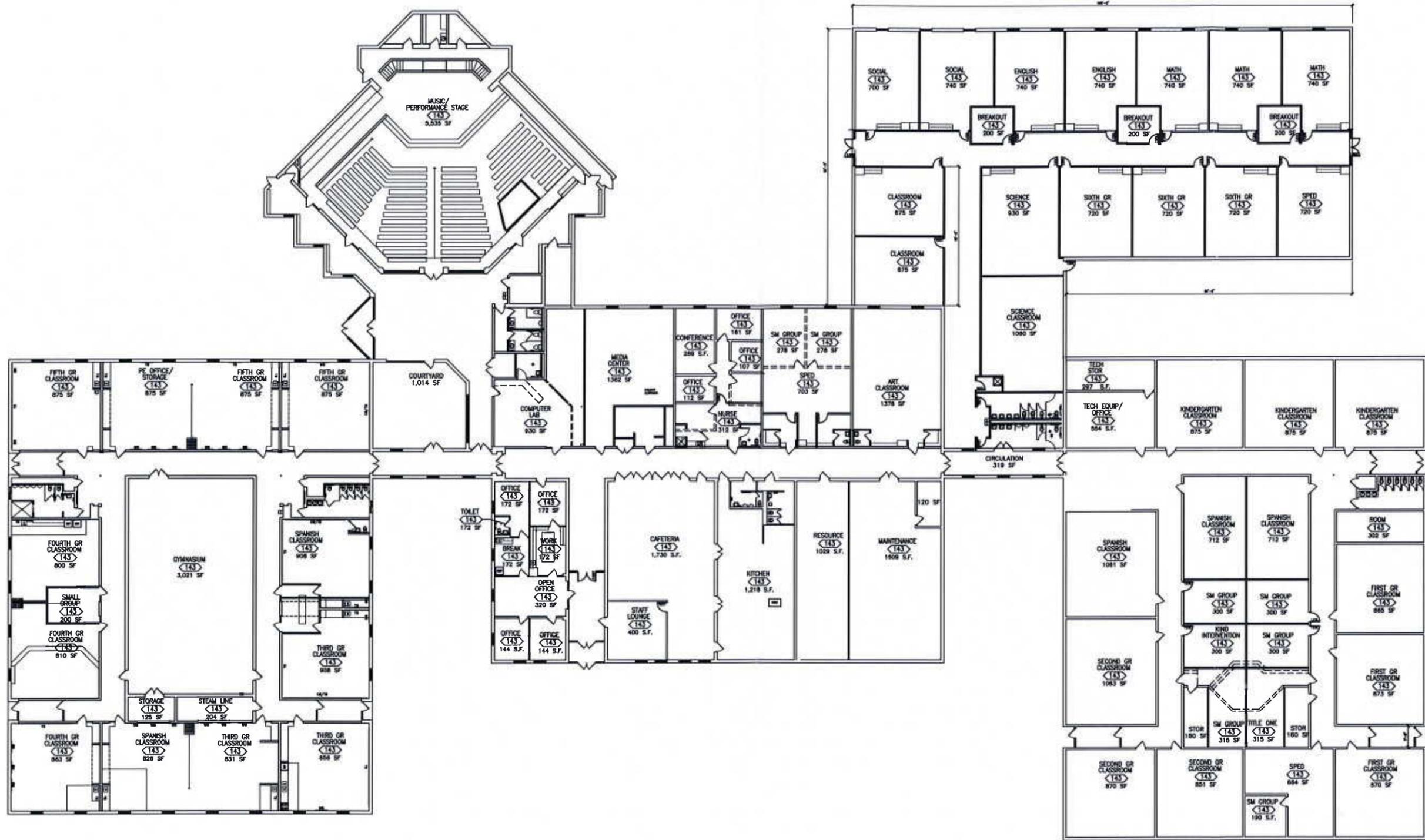
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BEACON ACADEMY

1 FIRST FLOOR PLAN
PLAN

1/8" = 1'-0"





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BEACON ACADEMY

1 FIRST FLOOR PLAN
PLAN

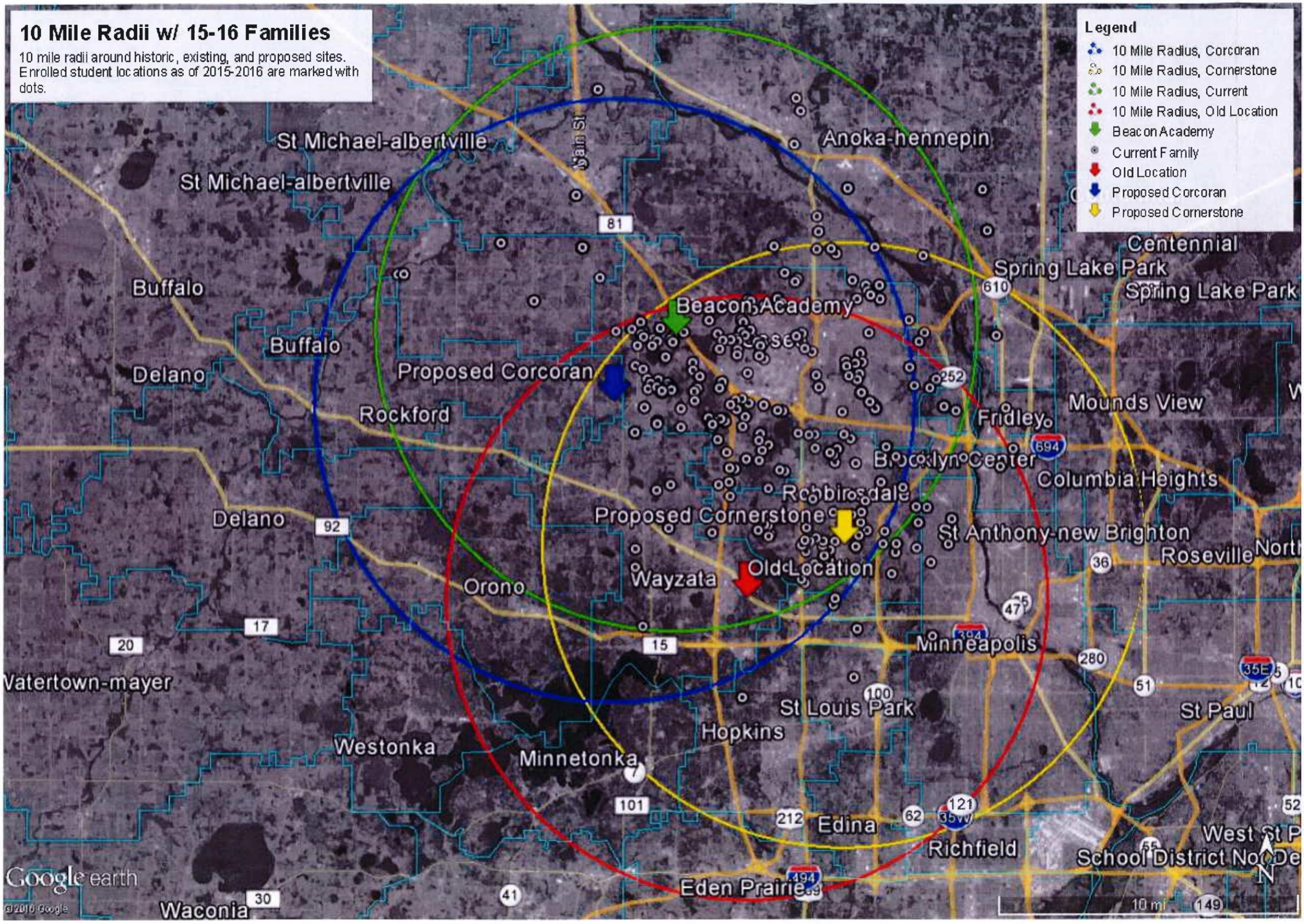
1/8" = 1'-0"



10 Mile Radii w/ 15-16 Families

10 mile radii around historic, existing, and proposed sites. Enrolled student locations as of 2015-2016 are marked with dots.

- Legend**
- 10 Mile Radius, Corcoran
 - 10 Mile Radius, Cornerstone
 - 10 Mile Radius, Current
 - 10 Mile Radius, Old Location
 - Beacon Academy
 - Current Family
 - Old Location
 - Proposed Corcoran
 - Proposed Cornerstone





Technical Memorandum

To: Joe Radach, PE, Carlson McCain, Inc.

From: Bryant Ficek, P.E., P.T.O.E.

Date: April 7, 2016

Re: Beacon Academy Traffic Review

Beacon Academy is a charter school providing kindergarten through 8th grade classes. A new location is proposed in the City of Crystal, between Nevada Avenue/Louisiana Avenue and 35th Avenue/Valley Place. This technical memorandum examines the proposed school in terms of expected traffic generation and site circulation.

Conclusions

Based upon the information and analysis in this report, the following conclusions and recommendations are made:

- The proposed school is expected to generate up to 227 entering trips and 189 exiting trips during a typical weekday a.m. peak hour. Traffic during the school afternoon peak and the normal p.m. peak hour are expected to be up to 125 in/153 out and 73 in/76 out, respectively.
- The proposed site circulation should be improved through consideration of Space, Time, and Behavior categories. Specific recommendations include:
 - Separate bus and parent drop-off/pick-up areas.
 - A new access to Nevada Avenue, creating a one-way loop road around the west side parking lot for drop-offs/pick-ups.
 - A sidewalk adjacent to the new road to extend the stacking spaces for drop-offs/pick-ups.
 - A sidewalk connection to the existing sidewalk on Louisiana Avenue, north of 35th Avenue.
 - Staggered start and end times for classes.
 - Before and/or after school activities, such as sports, arts, or general child care.
 - Bicycle parking on-site.
 - Facilities, like showers if possible, for staff that may bike or walk/run to work.
 - Incentives to encourage bus, biking, walking/running to work/school as well as carpooling.
 - Planned procedures to accommodate drop-offs/pick-ups, usually involving older students, staff, and/or volunteers to ensure safety.
 - Publicizing procedures and any incentives to ensure families are aware of options, of the expected behaviors, and of any potential incentives.

Following these recommendations will direct most traffic toward Nevada Avenue, as desired by the City, and provide for smooth traffic operations during the peak periods. See attached figure for these recommendations.

Trip Generation

The proposed school is expected to serve kindergarten through 8th grade students. Several methods were examined to determine the expected traffic to and from the site:

- Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition* – a national standard compiling the results of studies across the country.
- Spack Consulting Local Trip Generation – the results of our studies on other school projects.
- Direct Calculations – using expected student and staff numbers with national data to translate those numbers into vehicles.

Three peak periods were examined in terms of expected trip generation; a.m. coinciding with the regular morning peak, school p.m. coinciding with the release of general classes, and p.m. coinciding with the regular afternoon peak. Using the above methods, the expected trip generation for the proposed school is shown in Table 1.

Table 1 – Expected Beacon Academy Trip Generation

Projection Method	AM Peak Hour		School PM Peak		PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
ITE – Land Use 534 ^A	186	152	95	116	55	58
Spack Consulting School ^B	211	127	68	91	42	66
Direct Calculations ^C	227	189	125	153	73	76

^A Trip Generation rates for an Elementary School based on 750 students.

^B Compilation of local data for elementary school within the Twin Cities.

^C Assumes trip modes, student to car ratios, arrivals/departures during peak periods based on national data.

During the morning peak hour, up to 227 vehicles are expected to arrive at the proposed site with the majority of those dropping off children and then exiting the school. As shown, the a.m. peak hour is anticipated to be the busiest under any method. After-school activities, including sports, arts, and child care, spread traffic out during the afternoon times.’

Site Circulation

School traffic tends to have very defined peak traffic as most parents will seek to drop-off and pick-up their student(s) close to the class start and end times. To provide for an orderly movement of vehicles into and out of the proposed site, three general categories are examined:

- Space
- Time
- Behavior

The Space category refers to the physical location of movements and parking around the school. In general, conflicting movements should be avoided and different modes of travel should be separated. Additional information considered is the desire of the City to have most traffic, parent drop-off/pick-up in this case, directed toward Nevada Avenue.

To achieve these goals, bus and passenger vehicles should be separated. Bus traffic should be provided on the east side using the existing two access roads to Louisiana Avenue. This space should be restricted to buses only during the school start and end times, but could allow for parking at other times.

Keeping parent traffic toward Nevada Avenue can be achieved by creating a loop road using the existing access to Nevada Avenue and creating a new road to the south. This road should provide for one-way traffic, entering on the new south road and looping around to the existing north road. Cones and/or facility personnel can prevent vehicles from crossing over to the Louisiana Avenue access points.

To provide sufficient space for the drop-offs and pick-ups, a sidewalk should be provided on the south side of the new road. This will provide a large stacking area for cars and a safe walking spot for children away from the vehicle movements. The cones and/or monitor at the intersection between the west and east sides of the parking/driving areas will allow for safe crossing of children to the school.

The only existing sidewalk in the surrounding area is on the west side of Louisiana Avenue, to the north of 35th Avenue. If a significant amount of children are expected to use that sidewalk, a connection should be provided between that existing sidewalk and the internal sidewalks on the proposed school grounds. If necessary, a school crossing guard (older students, volunteers, and/or staff) could be provided to monitor and assist children at the crossing of 35th Avenue.

The Time category refers to the start and end times of school sessions. With several grades, these times could be offset by five to 15 minutes each to spread out the traffic through the peak hour. For example, one school previously examined by Spack Consulting uses three groups (K thru 2, 3 to 4, 5 to 6) separated by five or ten minutes each. Although seemingly a small distinction, this separation has the desired effect of spreading traffic out over a greater amount of time and reducing congestion.

Another element in the Time category is providing for before and/or after school activities. There is a great variety in activities offered by schools to accommodate students that are dropped off early or picked up after the end of classes. Providing for these activities reduces the number of vehicles in the peak periods.

Finally, the Behavior category refers to strategies intended to reduce the number of cars that travel to and from the school. These items can include infrastructure or incentives to encourage other modes of travel, or methods to improve the orderly movement during peak times.

Infrastructure items should include convenient bicycle parking, ideally located in close proximity to the front doors. Internal facilities, like showers for staff that may bike or walk/run to work, would also encourage these modes.

Incentives could be developed and offered to staff and/or parents/students at the proposed school. For staff, incentives could include health care discounts for biking or walking to work a certain number of times per month, preferential parking for carpooling, or discounts on transit passes.

For parents, the best incentives are usually through the students, such as special recognition for carpooling or biking/walking. Other items could include publicizing 'walk-to-school' or 'bike-to-school' days.

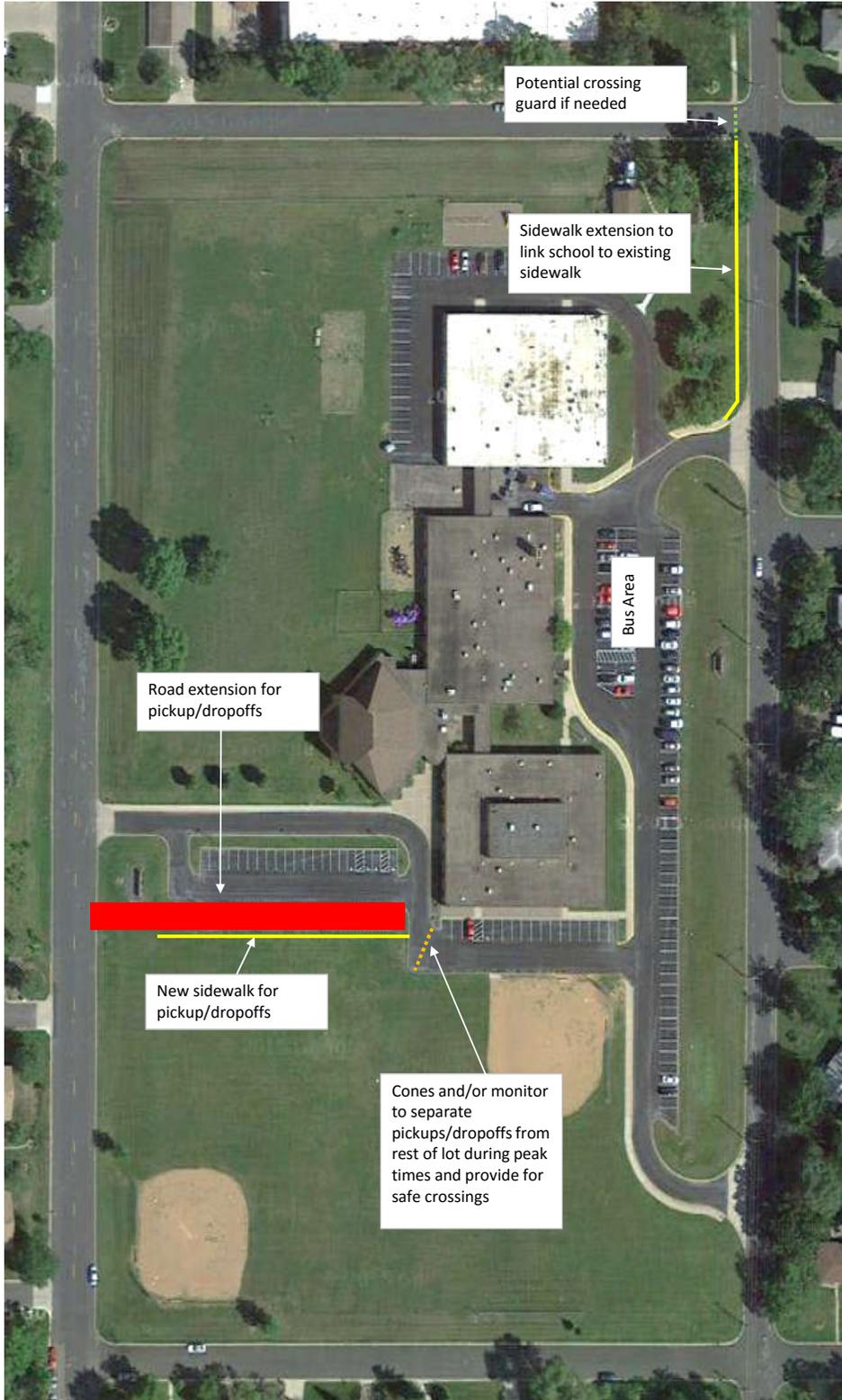
The best school operations, in terms of drop-offs and pick-ups, will generally involve staff or volunteers to provide for an orderly movement of vehicles and ensure the safety of children to and from their vehicles. In some cases, moving vehicles in groups also works well, having five or ten vehicles released from their drop-off/pick-up spot at one time and having the next group of vehicles move into those spots at once. This can reduce congestion and ensure that all students are safely in or out of their vehicles before the cars move out.

For any incentives and methods of movements around the proposed school, a primary key is to let everyone know they exist. Ideally, this would be in the form of a transportation packet for families at the beginning of the school year, a refresher during the school year as needed, and information plainly provided on the website.

Proposed Beacon Academy in Crystal, Minnesota

Internal Traffic Circulation Recommendations

Physical Infrastructure Modifications to Improve Site Circulation



Other Options to Improve Traffic Flow

Spread Traffic Over More Time:

- Offset school start and end times
- Before and after school activities

Reduce the Number of Cars on Site:

- Convenient bicycle parking
- Walk-to-School or Bike-to-School days
- Encourage Options for Staff, such as
 - Health care discounts for biking or walking
 - Showers/facilities for staff who bike or walk
 - Preferential carpooling parking
 - Transit pass discounts
 - And/or other incentives

Use older students, staff, and/or volunteers to help facilitate orderly traffic flow and movement of students into/out of cars

Group drop-offs/pick-ups in five or ten cars at a time to reduce jockeying among drivers for parking spots

Publicize incentives and desired operations around the school, such as:

- A transportation information packet.
- Information clearly provided on the school website.