

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4G – Golden Valley Senior Living – Golden Valley
BCWMC November 19, 2014 Meeting Agenda
Date: November 12, 2014
Project: 23270051 2014 2026

4G Golden Valley Senior Living – Golden Valley

Summary:

Proposed Work: Construction of a building expansion and site improvements

Basis for Commission Review: Underground Stormwater Storage

Impervious Surface Area: 1.10 acres

Recommendation: Conditional Approval

General Background & Comments

The senior living complex is located at the southwest quadrant of the intersection of Country Club Drive and Glenwood Avenue in Golden Valley. The proposed project includes constructing a building addition at an existing senior living facility, underground stormwater storage with a sand filter, utility work, and site grading. Approximately 0.62 acres will be graded on the 1.98 acre parcel as part of this project. The project will result in a 6,200 square foot increase in impervious surface from the current site. The site is in the Sweeney Lake Watershed.

Since the area to be graded is greater than 10,000 square feet, the proposed project must meet the BCWMC erosion control requirements. The project must also meet the BCWMC's nondegradation standards. A separate erosion control application for soil correction was approved administratively on November 7, 2014 (BCWMC application #2014-26A).

Floodplain

N/A

Wetlands

N/A

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Stormwater Management

Under existing conditions, the impervious area drains from the property untreated via a storm sewer system. Under proposed conditions, the parking lot area will drain to a Contech Chambermaxx underground storage system. Stormwater from the Chambermaxx system will discharge through an underground sand filter and ultimately to the existing storm sewer system.

Water Quality Management

There is currently no water quality treatment on the site. Proposed permanent best management practices include a Contech Chambermaxx underground stormwater storage system and an underground sand filter. The underground stormwater storage system and sand filter are adequately sized to meet BCWMC water quality treatment requirements. A sump manhole will be used as pretreatment for the treatment system.

Erosion and Sediment Control

Proposed temporary erosion control features include silt fence, catch basin inlet protection, and a rock construction entrance.

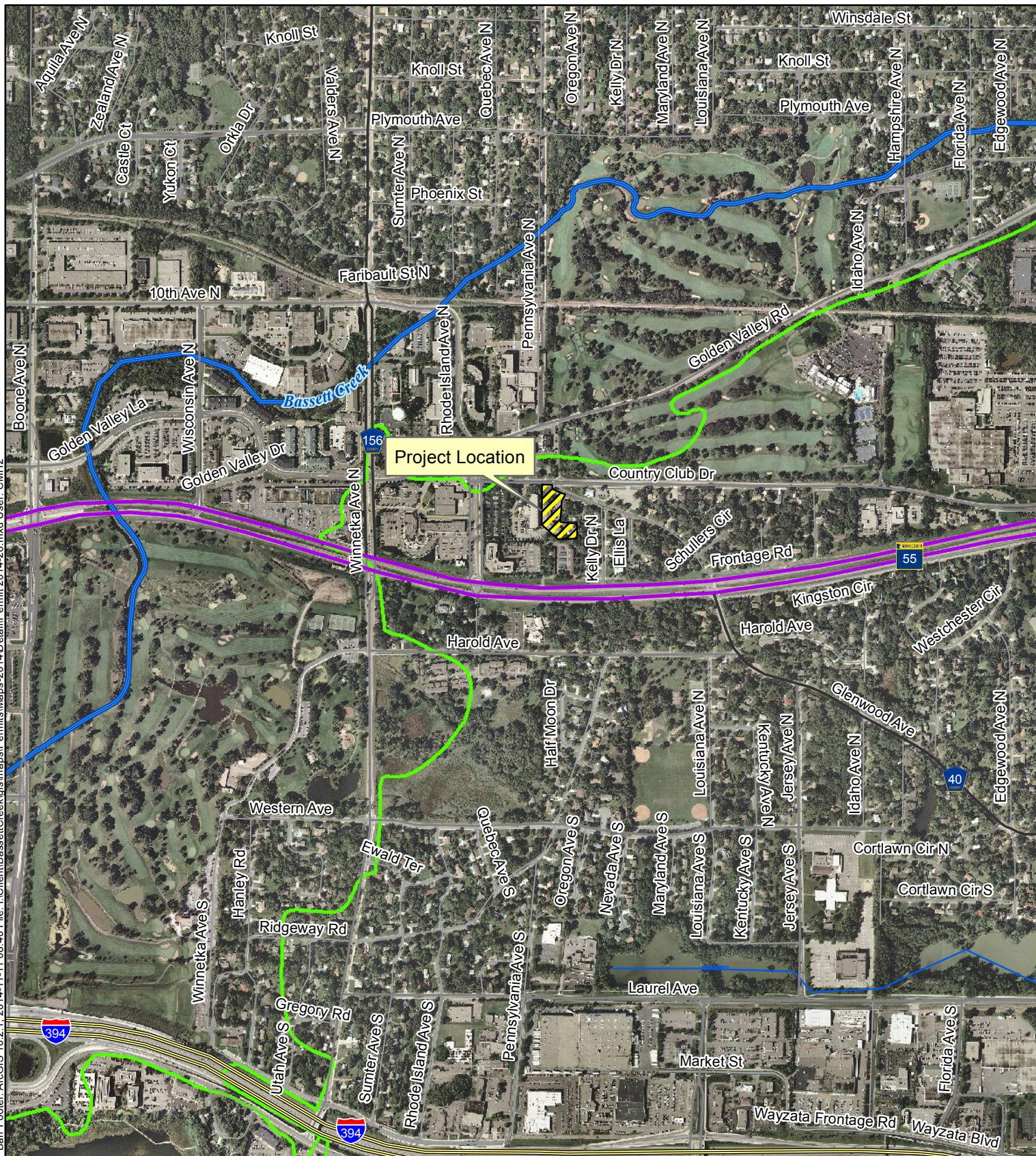
Recommendation

Conditional approval based on the following comments:

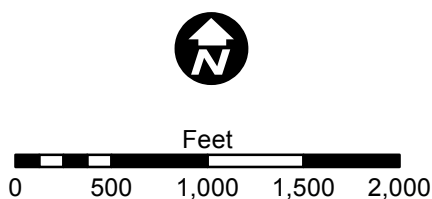
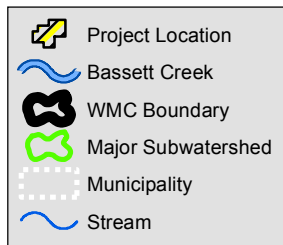
1. The sump depth should be increased to 4 feet for increased removal efficiency. In addition, the sump manhole should be relocated downstream of the catch basin and include a SAFL baffle or other similar device to improve removal efficiency.
2. The sand filter must be designed in accordance with appropriate section 6.2.1.2 of the BCWMC's *Requirements for Improvements and Development Proposals*.
 - Sand filters should drain within 24 hours or less, and must drain within 48 hours. Applicant should provide drawdown time for the sand filter. The draintile size and infiltration rate through the sand media should both be considered when calculating the drawdown time.
 - A geotextile or other filter material must be provided between the sand filter and the native soils. Applicant should provide a detail and/or cross section on the plans for the Chambermaxx and sand filter system.
 - The sand material used in the sand filter must meet the requirements of section 6.2.1.2.5 of the BCWMC's *Requirements for Improvements and Development Proposals*.

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- Applicant should confirm that the seasonally high groundwater table is below the invert of the sand filter system or provide a liner for the system to ensure that runoff, not groundwater, is being treated through the sand filter.
3. Sheets SW1.0 – SW 1.2 should be replaced with the plans approved through BCWMC application 2014-26A.
 4. A maintenance agreement for the Contech Chambermaxx system and sand filter and other permanent BMPs should be established between the applicant and the City of Golden Valley. Applicant should provide details showing how maintenance access is provided to both the Contech Chambermaxx system and the draintile.
 5. Revised drawings must be provided to the BCWMC Engineer for final review and approval.



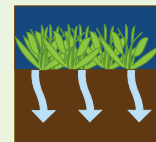
Imagery Source: Aerial Express (2009)



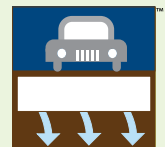
**LOCATION MAP
APPLICATION 2014-26
Golden Valley Senior Living
Golden Valley, MN**



Stormwater Solutions Overview



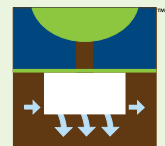
Surface Infiltration



Subsurface Infiltration



Rainwater Harvesting



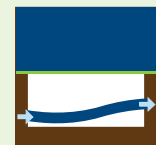
Biofiltration



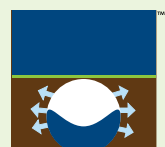
Filtration



Hydrodynamic Separation



Detention



Retention





UrbanGreen[®] Stormwater Solutions by Contech

Stormwater regulations continue to evolve — and Contech is here to provide you with the most innovative solutions every step of the way. No matter if your local regulations require Low Impact Development (LID), Total Maximum Daily Loads (TMDLs), or traditional stormwater management techniques, Contech can speed your design process, save land space, and help you get your plans approved.

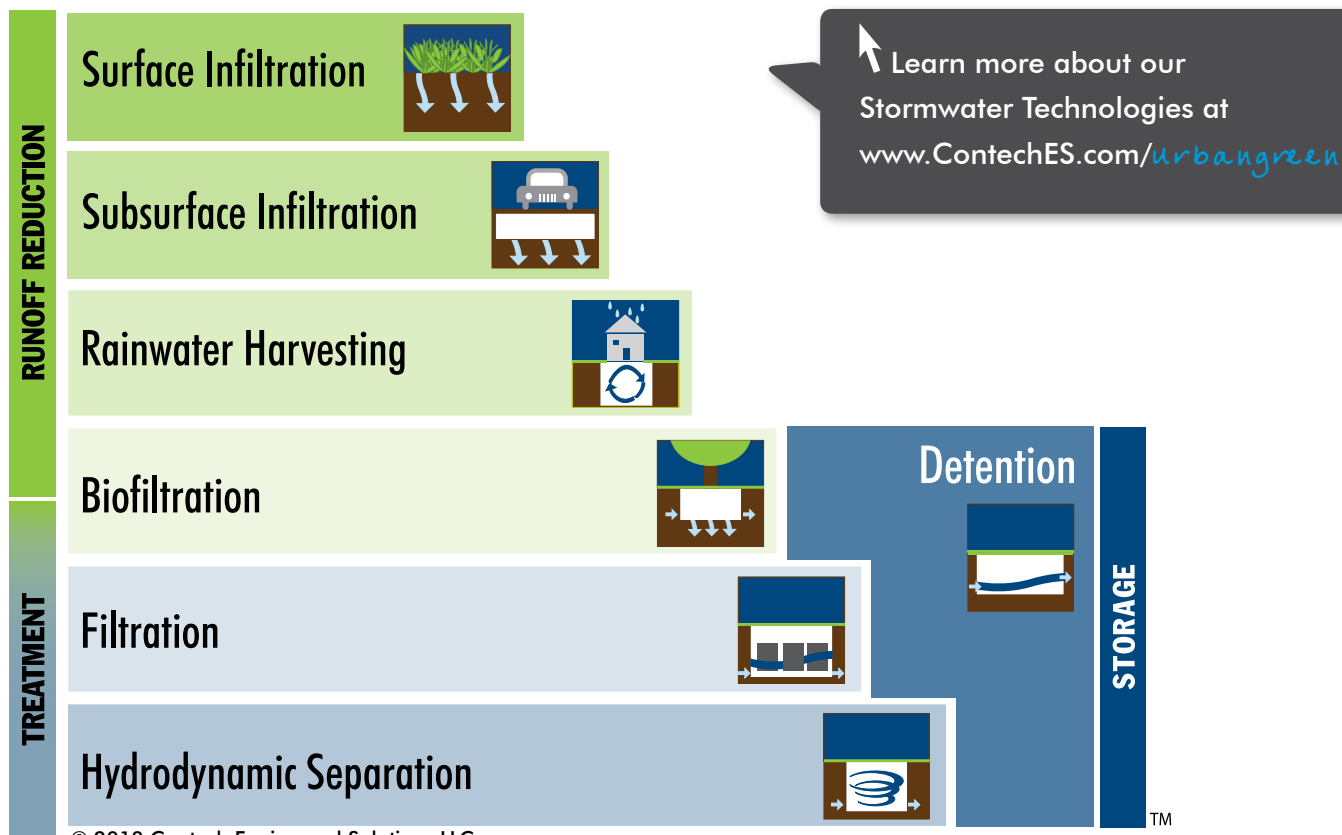
Proven Solutions You Can Rely On:

For more than two decades, Contech solutions have been successfully managing stormwater at sites across the country. At our laboratories, our engineers and scientists conduct ongoing research, and our systems are continually tested and refined to ensure maximum reliability and performance. We have more approvals than any other stormwater provider, thanks to our extensive lab and field test data. Plus, we have a team of Regulatory Managers working to gain approvals from local agencies in advance of your project submittal.

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- Design Toolbox: Access our Design Your Own (DYO) tools and browse our library of specifications and standard details.
- Connect with Contech: Find your local rep and explore local project profiles.
- Product Pages: Find documents and tools for every product, including standard details, specifications, test results, brochures and more.
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Applications

A company partner with deep specialization in your market means confidence in your site project from day one. We credit our success in serving a breadth of markets and applications to a proficiency with varied installation demands and a commitment to providing fast, economical solutions. Here is a small sample of projects we've recently completed.

Explore all our markets and applications at www.ContechES.com/markets.

Residential: Stormwater treatment and detention/flow control for residential project in City of Bellingham, Washington **Products:** StormFilter® and CMP detention system



Retrofit: Hydrodynamic separation to meet trash TMDL requirement in Oakland, California **Product:** CDS®



Commercial: Stormwater treatment and detention for new restaurant project in Ft. Worth, Texas **Products:** SRPE Rainwater Harvesting system



Transportation: Stormwater treatment for airport project in Warwick, Rhode Island **Products:** Vortechs®



Recreation: Green public park improvement project to provide rainwater harvesting in Redondo Beach, California **Products:** CDS®, SRPE Cisterns and StormFilter



Military: Filtration and infiltration for vehicle and equipment parking lot at Camp Murray, Washington **Products:** StormFilter® and ChamberMaxx®



Institutional: Stormwater treatment and detention for public school expansion project in Clayton County, Georgia **Products:** Vortechs® and CMP detention system





ChamberMaxx® Infiltration System is installed at an Indiana Hospital

ChamberMaxx®



Subsurface Infiltration



Retention

Our corrugated, open-bottom chamber system is designed to economically infiltrate stormwater runoff. The below grade system maximizes available land for development and can support traffic loading for installation under parking lots and roadways.



Supported by HydroCad

Benefits

- Structurally designed to exceed HS-20 live loads in accordance with AASHTO (Section 12) LRFD design specifications
- Offers 49 cf of storage per chamber – short height profile optimizes stormwater storage on shallow sites
- Multiple pretreatment options available to meet local requirements
- LEED® credits available for stormwater quality and quantity control
- Integral end caps eliminate the need for expensive loose end caps and add to chamber strength

Applications

- Underneath parking lots for subsurface infiltration
- Below bioretention for enhanced infiltration on sites with marginal soils

Design Your Own (DYO) and Stage-Storage Calculators available online at www.ContechES.com/chambermaxx

Learn more at www.ContechES.com/urbangreen

