

Memorandum

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4F – Plymouth City Flats - Plymouth
BCWMC October 16, 2014 Meeting Agenda
Date: October 8, 2014
Project: 23270051 2014 2024

4F Plymouth City Flats: Plymouth

Summary:

Proposed Work: Construction of an apartment complex

Basis for Commission Review: Work in the floodplain

Impervious Surface Area: 1.9 acres

Recommendation: Conditional Approval

General Background & Comments

The proposed apartment complex is located at the southwest corner of Highway 55 and Highway 169 in Plymouth. The proposed project includes constructing an apartment building with underground and surface parking and associated utility work and landscaping. Some development work was already done on the site as part of a project that was never completed. Approximately 4.1 acres will be graded on the 4.3 acre parcel as part of this project. The project will result in a 1.9-acre increase in impervious surface from the native site. This amount includes an approximately 1-acre increase in impervious surface from the partially completed project. The site is in the Bassett Creek Main Stem Subwatershed.

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 meet the BCWMC's Level 1 Standards.

Floodplain

The project is located within the Bassett Creek floodplain (elev. 888.5). The project will result in 1,900 cubic feet (0.044 acre-feet) of fill within the floodplain. The project will provide 1,900 cubic feet (0.044 acre-feet) of compensatory storage on the site, immediately adjacent to the floodplain.

Wetlands

As part of this project, a wetland restoration will be completed in accordance with City of Plymouth Resolution #2004-241. Plymouth is the LGU for the Wetland Conservation Act.

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4F – Plymouth City Flats - Plymouth
Date: October 8, 2014
Page: 2
Project: 23270051 2014 2024

Stormwater Management

Under existing conditions, the developable area drains to an existing small water quality pond along the south side of the property. The water quality pond discharges to a lowland area and ultimately to Bassett Creek. The remainder of the site is an undeveloped lowland area that drains directly to Bassett Creek. Under proposed conditions, roof runoff from the building will be routed to storage tanks to be used as irrigation for the site landscaping. A portion of the parking area will be routed to an infiltration basin. The remaining parking lot areas and overflow from the storage tanks and infiltration basin will be routed to a water quality pond at the south side of the property. The existing water quality pond will be re-graded to meet water quality requirements based on the new development plans and to allow for reconfiguration of the site. The lowland area will be re-graded and restored as a wetland mitigation area as part of the project.

Water Quality Management

There is currently a water quality pond on the site that was constructed as part of the previous development. Proposed permanent best management practices include a water quality pond, an infiltration basin, and water reuse for irrigation. The re-graded water quality pond is adequately sized to meet BCWMC requirements. The project will provide additional water quality benefits through the infiltration basin and the approximately 11,000-cubic-foot storage tank for stormwater to be reused in site irrigation.

Erosion and Sediment Control

Proposed temporary erosion control features include silt fence and a rock construction entrance. The water quality pond will be used as a temporary sedimentation basin during construction and any deposited material will be removed after site stabilization and before the completion of construction.

Recommendation

Conditional approval based on the following comments:

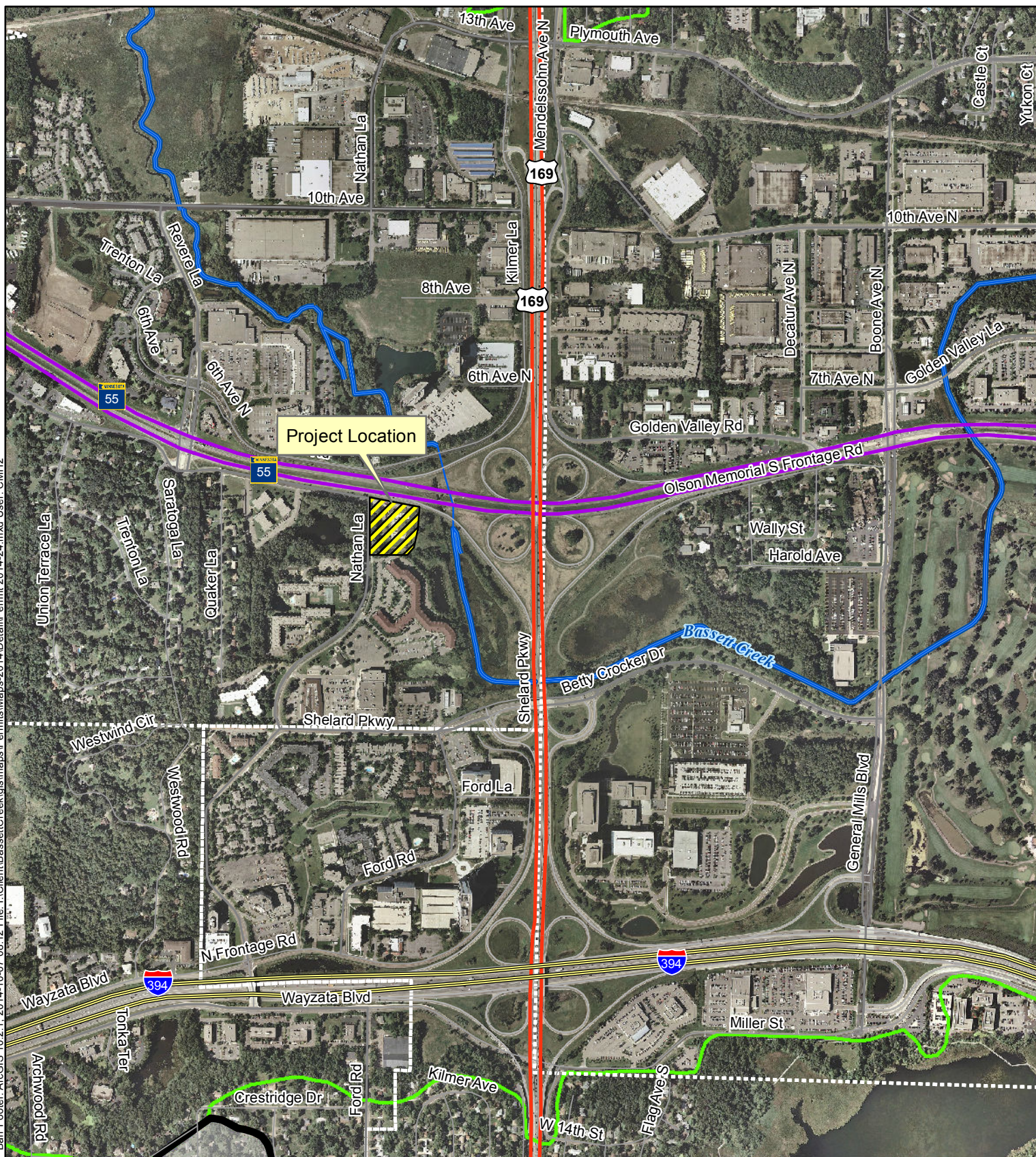
1. The following erosion control comments must be added to the plans:
 - Silt fences shall be supported by sturdy metal or wooden posts at intervals of 4 feet or less.
 - Silt fence should be installed to prevent construction sediment from entering the wetland without obstructing outlet flow from the water quality pond.
 - Either a silt fence or construction entrance should be shown at the southern driveway to the site so that no sediment leaves the site through the driveway.

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4F – Plymouth City Flats - Plymouth
Date: October 8, 2014
Page: 3
Project: 23270051 2014 2024

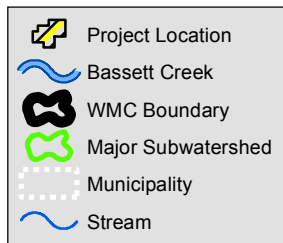
- At the north entrance to the site, the silt fence should connect to the construction entrance such that sediment cannot leave the site around the construction entrance.
 - The impervious areas listed on the SWPPP do not match the impervious areas listed in the Stormwater Management Plan narrative. Applicant should review and revise as necessary.
 - Soils tracked from the site by motor vehicles must be cleaned daily (or more frequently, as necessary) from paved roadway surfaces throughout the duration of construction.
 - Temporary vegetative cover must be spread at 1.5 times the usual rate per acre. If temporary cover is to remain in place beyond the present growing season, two-thirds of the seed mix shall be composed of perennial grasses.
 - Temporary or permanent mulch must be uniformly applied by mechanical or hydraulic means and stabilized by disc-anchoring or use of hydraulic soil stabilizers.
2. The project narrative indicates type C soils, based on previous site development investigations. The HydroCAD modeling uses an infiltration rate of 0.25 inches/hour. To be in conformance with BCWMC standards, an infiltration rate of 0.20 inches/hour must be used for type C soils unless documentation is provided that indicates the soils are capable of a higher infiltration rate.
 3. Applicant should review soils reports to confirm that groundwater is at least 3 feet below the bottom of the infiltration basin to allow the basin to function hydraulically and to allow trapping and treatment of pollutants by the soil.
 4. Applicant should consider the infiltration basin bottom elevation relative to the finished elevation of the garage to avoid potential seepage problems.
 5. If the design infiltration rate is modified to a lower infiltration rate, the basin sizing should be adjusted to maintain a 48-hour drawdown time for the infiltration basin.
 6. The applicant should evaluate options to minimize short-circuiting in the water quality pond. The northern inlet is very close to the outlet. An option to enhance the treatment potential of the water quality pond, especially due to the potential short-circuiting, is to install an extended detention outlet structure that would provide a longer detention time for runoff from more frequent storm events.
 7. Pretreatment for the inlets to the water quality pond should be considered to extend the life of the water quality pond.
 8. The pipe discharging from the water quality pond to the wetland should be extended such that the pipe discharges at or below the normal water level of the wetland. As an alternative, the applicant must ensure adequate erosion protection is provided to prevent channelization in the wetland.

To: Bassett Creek Watershed Management Commission
From: Barr Engineering Co.
Subject: Item 4F – Plymouth City Flats - Plymouth
Date: October 8, 2014
Page: 4
Project: 23270051 2014 2024

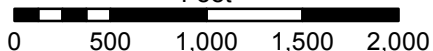
9. A maintenance agreement for the irrigation water storage system, infiltration basin, and water quality pond should be established between the applicant and the City of Plymouth.
10. Revised plans must be submitted to the BCWMC Engineer for administrative review and approval.



Imagery Source: Aerial Express (2009)



Feet



**LOCATION MAP
APPLICATION 2014-24
Plymouth City Flats
Plymouth, MN**