



**Metropolitan
St. Louis Sewer
District**

2350 Market Street
St. Louis, MO 63103-2555
(314) 768-6200

NOV 21 2013

November 21, 2013

Mark Meyer, P.E.
Intuition & Logic
16253 Swingley Ridge Rd, Suite 100
Chesterfield, MO. 63017

Re: Olde Cabin & Craig (Creve Coeur Dam & Channel – 11400 Olde Cabin Rd)
Basic Conceptual Review
MSD Ref. No. D-00243-00

Dear Mr. Meyer:

We have completed the **basic conceptual review** of the referenced Preliminary Plans. Based upon same, the following comments are provided:

Stormwater – Water Quality

Disturbed area being approximately 0.60 acres, stormwater management practice of water quality will not be required for these 0.60 acres. If the disturbed area ends up being over 1 acre during the final design, stormwater management practice of water quality would be required.

Since the existing site is less than 20% impervious, the work downstream of the dam would be designated as new development. The new outfall structure, dam, and desiltation of the lake will be considered maintenance.

Stormwater – 100-Year Hydraulic Study, Channel Protection, and Flood Protection

Per section 5.010.01 of the MSD Rules and Regulations, a 100-year hydraulic study will be required to determine the high water elevation in the channel at the existing 96" RCP culvert.

The site's 15 year, 20 minute differential will be based on the existing condition composite PI versus the post-developed composite PI value.

MSD recommends that this project meet the channel protection storage volume requirements as outlined in section 4.080.02.3 of the MSD Rules and Regulations. You can contact MSD if you have any questions.

This site is in the River des Peres watershed (Deer Creek sub-shed) which has a “Zero Increase” for flood protection (detention). Pre-developed detention routing models of the existing pond and spillway for the 2-year and 100-year, 24 hour rain events will be required for the project in order to determine the release rates for post-developed conditions. Use the existing condition, as defined above, to determine the site’s composite CN value. The post-developed release rates shall not exceed the pre-developed conditions.

A Stormwater Management Facilities Report will be required for this project. This report shall include pre-developed and post-developed detention routing models for the following 24-hour, Type 2 scenarios:

- 1 year – with free outfall
- 2 year - with free outfall
- 100 year - with free outfall
- 100 year – with blocked low flow and free outfall
- 1 year - with a tailwater elevation per the 100-year hydraulic study
- 2 year - with a tailwater elevation per the 100-year hydraulic study
- 100 year - with a tailwater elevation per the 100-year hydraulic study

Since the basin discharges to an open channel, the low elevation of the basin is desirable to be above the 100-year flood elevation in the open channel as established by the 100-year hydraulic study. If the low elevation of the basin is below the channel flood elevation, then the basin shall be sized to store the entire design storm volume, unless directed otherwise by the District.

The maximum depth of water in a pond shall not exceed eight (8) feet. Projects which need a deeper basin to attain the required detention volume due to physical constraints may be evaluated on a case by case basis. The design and construction of dams greater than eight (8) feet or as directed by the District must be sealed and certified by a Professional Engineer registered in the State of Missouri with demonstrated expertise in geotechnical engineering.

The maximum fluctuation above permanent pool is six (6) feet.

Watershed ridgelines shall remain unchanged for existing and proposed conditions.

A maintenance agreement will be required for the area of the basin up to the normal pool elevation and it shall include the new outfall structure.

Stormwater – Other

For some channel and wetlands work, a 404 and/or 401 permit may be required from the Corps and MoDNR, respectively.

The realigned channel should be vegetated material to replicate existing conditions as much as possible. The final plans should indicate and detail the channel section and

the materials used.

Provide the downstream flowline elevation of the existing 96" RCP culvert.

If the "Culvert and Spillway" option is selected, then the final plans should provide details of these items and the materials used for the proposed open channel connection to the existing 96" RCP culvert.

If the "Riser and 48" Pipe" option is selected, then the final plans should provide details of these items and the materials used for the proposed open channel connection to the existing 96" RCP culvert.

It appears that a proposed headwall will be constructed at the existing 96" RCP culvert. The final plans should provide details of this item.

My investigation found no flooding or erosion problems immediately downstream of the project area.

Sanitary

Existing easements shall be shown and labeled with deed book and page.

Existing sanitary sewer manhole 17N4-057S shall be located on the plans and the information (top/flowline/pipe sizes/materials) shall be provided.

The existing 8" VCP sanitary sewer between structures 17N4-063S and 17N4-057S shall have a minimum cover of three (3) feet at the proposed grading areas and at the realigned channel crossing. The channel crossing must be protected with rock blanket or other approved stream stabilization/channel protection methods. Concrete encasement of the existing sanitary sewer is not an option. Provide a profile of this existing sewer reach depicting the proposed grading over it.

Provide the existing sanitary sewer information on all necessary profiles and cross sections.

Provide information on the sanitary sewer overflow (SSO) that was indicated in "Construction & Grading Note" #32 located on plan sheet 2. MSD does not have any record of an existing SSO upstream of the project area.

Other Issues

If the project has offsite construction, a general liability certificate of insurance will be required prior to pulling the MSD permits.

Provide a description of the MSD/USGS benchmark used for the plans.

Provide Property Owner information (name, book/page, address, locator number, etc.) on each plan sheet.

Provide Property Owner information (name, book/page, address, locator number, etc.) for one adjacent parcel on each plan sheet.

Unless otherwise indicated, any requirements mentioned in the conceptual review should be addressed during the formal P-job plan review process. Conceptual review is normally done only once. Any new questions or other additional changes to the originally submitted plans should normally be resolved during the plan review.

These comments are based on the submitted preliminary plans and data and are provided as an initial guide.

Conceptual review is subject to requirements of detailed review of final design plans and is subordinate to the review and approval of said final design plans. This project is not currently under review of final project plans.

Sincerely,



Chris Betts, P.E.

Civil Engineer

MSD Engineering / Planning – Development Review

Cc: John Alexander, P.E. – MSD