



Rice Creek Watershed District Stormwater Management Grant Program 2025 Application Form

I. APPLICANT INFORMATION

Organization (to be named as Grantee): City of New Brighton

Street Address: 803 Old Highway 8 NW

City, State, Zip: New Brighton, MN 55112

Tax Status: Local Government Tax ID#: 9675988

(e.g., local government, non-profit 501(c)(3), private business, etc.)

II. PROJECT CONTACTS

Project Officer: Dustin Lind

Financial Officer: Gina Foschi

Title: Engineering Supervisor

Title: Director of Finance

Telephone: 651-638-2055

Telephone: 651-638-2105

Fax: 651-638-2044

Fax: 651-638-2044

Email: dustin.lind@newbrightonmn.gov

Email: gina.foschi@newbrightonmn.gov

III. PROJECT INFORMATION

Project Name: CP 25-1, 2025 Street Rehabilitation

Location(s) of Project: Violet Lane, Thorndale Avenue (2 Locations)

City: New Brighton

State: MN

County: Ramsey

Project Start Date: June 2025

Project Completion Date: October 2025

Project Type (check only those that directly apply):

Water Quality Treatment Project

Stormwater Reuse Irrigation Project

Peak Runoff Rate Control Project

Runoff Volume Control / Flood Storage Project

Other: _____

Is a RCWD Rule C permit required for this project?

YES

NO

UNKNOWN

IV. GRANT REQUEST

RCWD Grant Funding Requested: \$ 28,611

Applicant Match Funding Committed: \$ 28,611

State/Other Funding Committed: \$ _____

Source(s): _____

Total Estimated Project Cost: \$ 57,222

Would you be willing to accept grant funding in an amount less than requested? YES NO

V. SIGNATURE OF APPLICANT

I certify that the information contained within this application is true and accurate.

Signature of Project Officer

12/19/24
Date

VI. Executive Summary / Abstract

Include a brief Executive Summary (100 words or less) that summarizes the main goals and activities of the project and the expected environmental outcomes that will be achieved. Identification of the total amount of funds being requested along with the required match. The summaries will be used in the grant review process and on the RCWD website, for projects that are funded.

The City of New Brighton proposes replacing three existing catch basins with sump catch basins and SAFL Baffles. The selected catch basins are the last downstream drainage structures prior to the storm sewer networks discharging into Rice Creek. This project aims to improve water quality by reducing the amount of sediment and pollutants that cling to the surface area of the sediment that ultimately flow into Rice Creek. This work will be completed in conjunction with our planned 2025 street rehabilitation project in the same neighborhood. The estimated cost for replacement of the three existing catch basins with sump catch basins and SAFL Baffles is \$57,222, with the City of New Brighton requesting a 50% match totaling \$28,611.

VII. Description (10 points)

The RCWD has established guidelines for prioritizing projects based on location. Water quality improvement projects should be located to benefit a RCWD lake classified as either "Protection" or "Restoration" (see Table 2-4 in the RCWD 2020 Watershed Management Plan), and/or a waterbody with an approved Total Maximum Daily Load (TMDL) study or other recognized diagnostic water quality study. Flood storage and runoff rate control projects should focus on reducing peak flood elevations in known regional flood hazard areas and/or documented local problem areas. Describe the specific watershed management, water quality or quantity need(s) that the project will address and its impact on the target water resource within the District.

Name the target waterbody benefiting from this project: Rice Creek

List and describe the Best Management Practices (BMPs) to be incorporated into this project

The SAFL Baffle is a stormwater pretreatment system designed to reduce sediment and associated pollutants in downstream waters. It will be integrated into the new sump catch basins and functions by preventing the scouring action that occurs during high flow events. This action typically dislodges sediment and allows it to settle in the catch basin and be removed by regular maintenance. By halting this process, the SAFL Baffle effectively traps sediment and captures pollutants like phosphorus and mercury that adhere to its surface.

If applicable, describe how the project impacts or protects RCWD groundwater resources, minimizes impervious surfaces, and/or maximizes infiltration.

Provide drawings, maps and/or schematics which graphically illustrate the location and conceptual design of the project. **(Attach separate sheets.)**

Describe how long-term operation and maintenance of the project will be accomplished and identify the individual(s) responsible for maintenance activities if different than the project officer listed in section 2.

The sump catch basins and SAFL Baffles will be inspected monthly through the first summer of operation and will be added to our annual maintenance schedule of structural stormwater bmp's as required by our MS4 permit. Annual maintenance will include measurement and removal of accumulated sediment and debris found in the sump.

VIII. Prioritization (15 points)

How does the project support existing regional planning efforts such as the RCWD Watershed Management Plan, municipal surface water management plans, TMDLs, or other recognized diagnostic studies? Is the project included on the Member Community Project List (Appendix G) within the RCWD Watershed Management Plan? Please provide citations where possible.

Drainage from the project area flows directly into Rice Creek. Capturing sediment in the proposed sump catch basins with SAFL Baffles will improve water quality within Rice Creek and will aid in meeting TSS goals. This is not included on the Member Community Project List.

IX. Targeting (15 points)

Describe the critical pollution or flooding sources and risks addressed by this project. Explain why the proposed project is the most cost-effective and feasible means to attain the expected resource benefits. Has a formal analysis been conducted to substantiate this position?

Sediment is the most common pollutant in rivers, lakes, streams. Sediment pollution causes billions of dollars in environmental damage annually. Once sediment enters our lakes and streams it prevents animals from seeing food and the murky water prevents natural vegetation from growing. Nutrients transported by sediment can activate blue-green algae that reaches our waterways and becomes unmanageable.

See analysis and research summary completed by Upstream Technologies at:
<https://upstreamtechnologies.us/products/safl.shtml>

X. Measurable Outcomes (20 points)

Provide a detailed estimate and description of the anticipated pollutant reduction, stormwater rate/volume reduction, groundwater withdrawal reduction, and/or other environmental or natural resource benefits associated with the project. Describe the methods and cite the sources (i.e. P8 model, HydroCAD, XP-SWMM, MIDS, MN Stormwater Manual, etc.) used to calculate or estimate the pollutant reductions and/or hydrologic outcomes. **(Mandatory for RCWD to consider your proposal!)**

See attached SHSAM calculations

XI. Cost-Effectiveness (20 points)

Provide a detailed budget that lists each item for which funding is being requested. You must also list the sources of required local matching contributions. Why is this the most cost-effective approach to solving the problem? Have other alternatives been explored? **(Attach separate sheets if needed.)**

See attached construction cost estimate. Matching funds will be from the City of New Brighton stormwater utility fund. This is the most cost effective bmp of this type we have installed. The City has previously installed V2B1 treatment systems, however, they require additional structures, excavation, and costs.

XII. Project Readiness (10 points)

Please describe the anticipated timeline for implementing this project. What steps have been taken to ensure that the project can be implemented according to this timeline? Are any permits needed? (If permits are required please cite from what agency and where the project is in that process)

Installation of the proposed sump catch basins with SAFL Baffles will be included with our planned 2025 street rehabilitation project. It is unknown at this time if permitting will be required for the street rehabilitation portion of the project. Staff will continue to engage with RCWD to determine if permitting is required. If a Rule C permit is required additional stormwater management will be incorporated in the project.

XIII. Engagement Opportunities (10 points)

Demonstrate any potential for public engagement, education and demonstration and describe what methods will be used to ensure that the purpose and success of the project are made known to the public. Applicants must incorporate a public engagement component into the project.

Stencils will be installed on the back of the curb at the catch basin locations to educate the public that stormwater drains to Rice Creek. An article will also be included in the city quarterly newsletter highlighting the benefits of the project and the collaboration between RCWD and the city.

Structure 33-45A:

15.6-acre drainage area, 32.7% impervious surface
 One 18-inch and one 12-inch inlet pipes
 0.95% inlet pipe slope
 1500-foot hydraulic length

<i>Structure Diameter (feet)</i>	<i>Sump Depth (feet)</i>	<i>Sediment (TSS) Removal (%)</i>
4	4	38.1
5	5	44.6
6	3	38.5
6	6	50.1
8	6	54.3
10	6	57.6

Structure 33-47A:

5.0-acre drainage area, 28.0% impervious surface
 One 12-inch inlet pipe
 2.96% inlet pipe slope
 850-foot hydraulic length

<i>Structure Diameter (feet)</i>	<i>Sump Depth (feet)</i>	<i>Sediment (TSS) Removal (%)</i>
4	4	39.5
5	5	47.5
6	3	42.1
6	6	53.3
8	6	57.6
10	6	60.7

Structure 33-48A:

2.2-acre drainage area, 22.7% impervious surface
 One 12-inch inlet pipe
 1.00% inlet pipe slope
 560-foot hydraulic length

<i>Structure Diameter (feet)</i>	<i>Sump Depth (feet)</i>	<i>Sediment (TSS) Removal (%)</i>
4	4	56.2
5	5	63.0
6	3	58.2
6	6	68.0
8	6	71.5
10	6	74.1



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PROTECTED**



600 County Road D West, Suite 14
New Brighton, Minnesota 55112
www.upstreamtechnologies.us
651-237-5123

STORMWATER SEDIMENT SOLUTION

The most cost-effective sediment capture & retention device
20-Year Guarantee

SAFL Baffle is a fraction of the cost of hydro-dynamic separators with 10 times the flow rate

Typical comparison found on over 1,000 projects

SAFL Baffle	Hydrodynamic Separators
<p>Cost: \$5,200</p> <p>TSS Removal: 84%</p> <p>By-Pass Flow Rate: 80 CFS</p> <p>Materials: All Stainless Steel</p> <p>Full Guarantee: 20 Years</p>	<p>Cost: \$24,000</p> <p>TSS Removal: 85%</p> <p>By-Pass Flow Rate: 8 CFS</p> <p>Materials: Plastic in Concrete</p> <p>Guarantee: ?</p>
<p>Operates by stopping the natural vortex</p> <p><i>The SAFL Baffle stops the natural vortex, dissipating hydro energy and causing sediment to drop to the bottom of the sump. As sediment collects, the SAFL Baffle prevents scouring and resuspension, retaining all previously captured sediment, even during high-flow storm events up to 80 cubic feet per second.</i></p>	<p>Operates by creating a vortex</p> <p><i>Hydro Dynamic Separators operate with flows between 2 to 8 cubic feet per second. At greater flows, stormwater bypasses the device and does not capture any sediment.</i></p> <p><i>Internal plastic parts often vibrate and break.</i></p>

SAFL Baffle installs in standard sump structures



All parts fit through a standard manhole for new or retrofit projects





Patent Protected

8,715,507B2
8,663,466B2
9,506,237B2
CA2742207



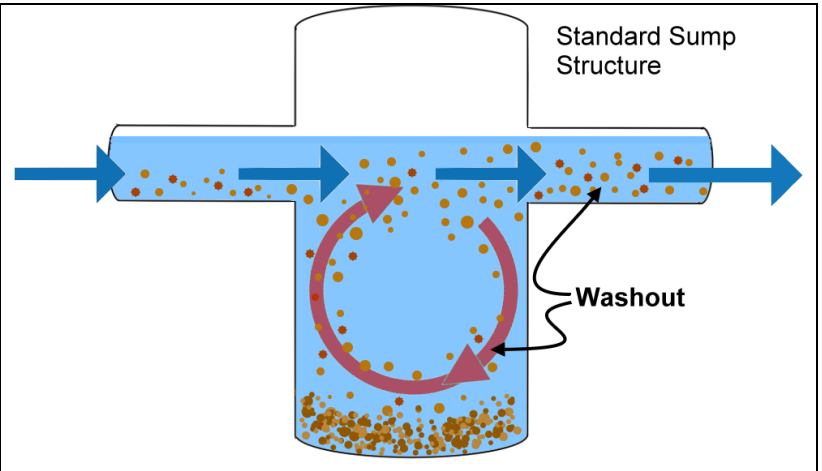
600 County Road D West, Suite 14
New Brighton, Minnesota 55112
www.upstreamtechnologies.us
651-237-5123

The Problem:

Standard sump structures alone can capture up to 30%* TSS

The problem is “Washout”. During high flow events, vortex action scours the sump clean, washing out previously captured sediment.

Sediment devices must be tested for both Capture and Retention (Washout) or the overall performance of the device is unknown.



* TSS (Total Suspended Solids) percentage is calculated based on sump size, pipe diameters, drainage area & rainfall

Capture and Retention

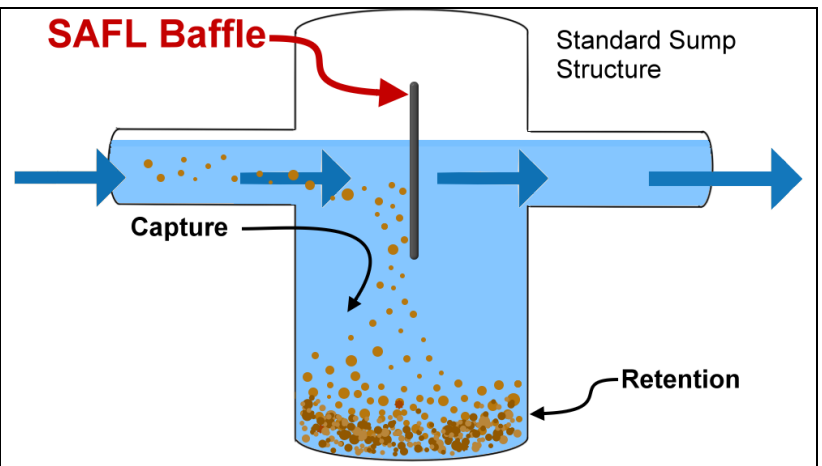
Both capture and retention, at high flow rates, are required to adequately manage sediment.

What good is a sediment capture device, if the previously captured sediment washes out during a heavy storm?

With the SAFL Baffle installed in a standard sump structure, sediment capture and ability to retain this captured sediment, exceeds 80%

Vortex action is stopped, and **washout does not occur.**

Both capture and retention are required. **The SAFL Baffle provides both.**



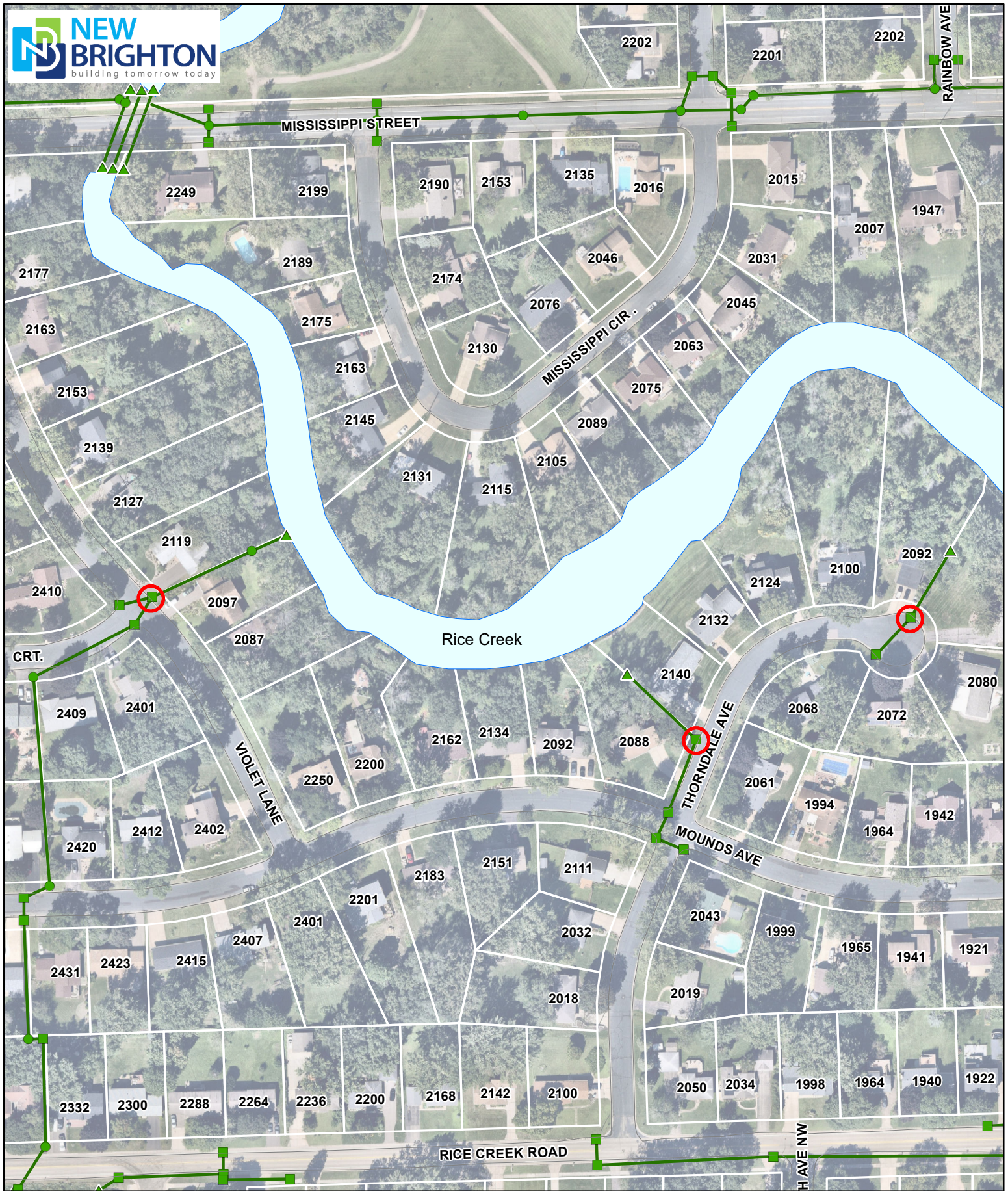
Retrofittable – Can be installed in existing sump structures with a 24-inch minimum opening.

View a video demonstration: upstreamtechnologies.us/products/safl.shtml

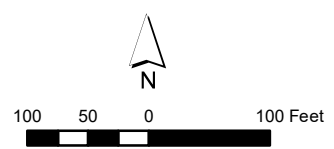
The SAFL Baffle is a patented device and may not be reproduced.

US Patents: 8,715,507B2, 8,663,466B2 and US 9,506,237B2 and Canada: # 2742207

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- Storm Manhole
- Catch Basin
- ▲ Apron
- Storm Sewer
- Proposed Sump Catch Basin w/ SAFL Baffle



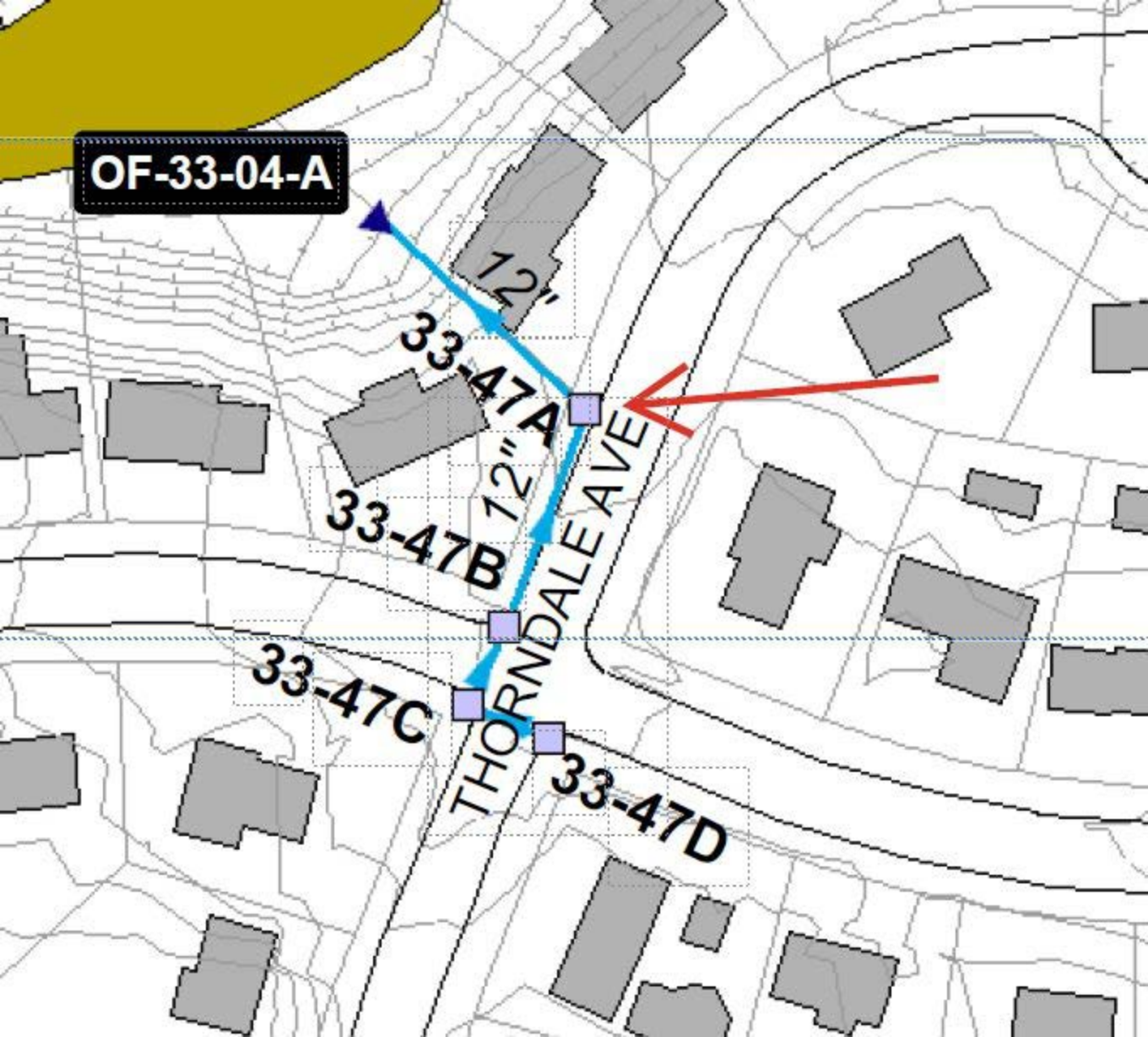
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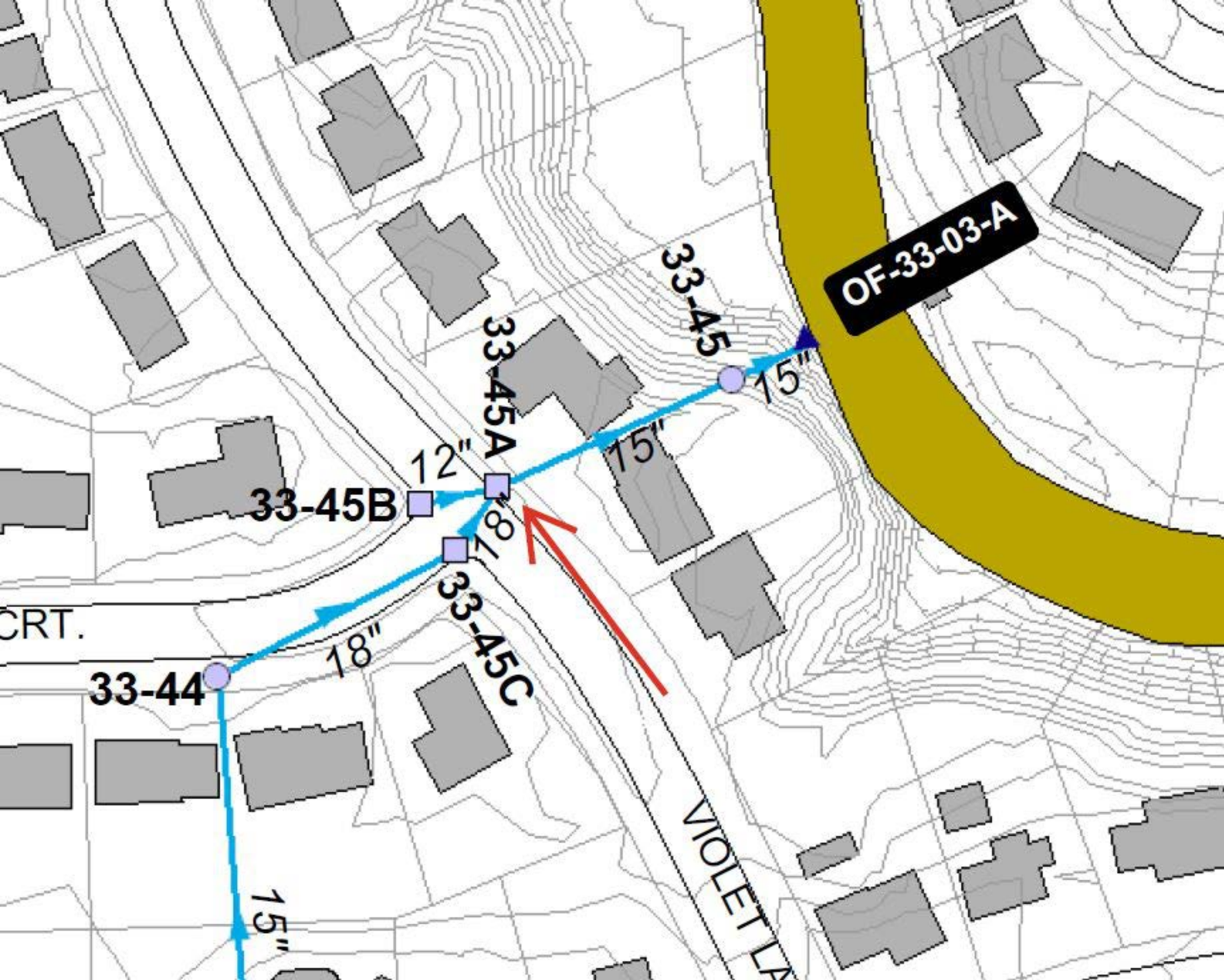
12"
33-47A
33-47B

33-47C

THORNDALE AVE

33-47D





OF-33-03-A

33-45

33-45A

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VIOLET LA

