LEONARD
STREET
AND
DEINARD

150 SOUTH FIFTH STREET SUITE 2300
MINNEAPOLIS, MINNESOTA 55402
612-335-1500 MAIN
612-335-1657 FAX

ERIC H. GALATZ
612-335-1509 DIRECT
ERIC.GALATZ@LEONARD.COM

June 15, 2012

**VIA MESSENGER**
Zoning Administrator
Department of Safety and Inspections (DSI)
375 Jackson Street, Suite 220
Saint Paul, MN 55101

**Re: Appeal by Bocce, LLC and Cossetta's Inc. from May 14, 2012 Board of Zoning Appeals Decision, File No. 12-046263; Variance from Storm Water Rate Control Requirements for Property Located at 211 West Seventh Street, Saint Paul**

Dear Zoning Administrator:

Enclosed please find a submission from Bocce, LLC ("Bocce"), and Cossetta's, Inc. ("Cossetta's), for their appeal from the BZA's denial of a variance from storm water rate control requirements in Zoning Ordinance § 63.319. The appeal has been set on for hearing before the City Council on Wednesday, June 20th. Please include the enclosed submission and this letter in the record of the appeal hearing.

We call your attention to the fact that the enclosed submission includes a formal offer of alternative compliance by Bocce and Cossetta's. In brief, as conditions to the grant of the variance, Bocce and Cossetta's would agree to:

- Increase the capacity of the EcoStorm/Water Quality Management installation to ensure that all storm water captured in catch basins was filtered before leaving the site;
- Install a "green roof" on the project's penthouse and on the landing area of the penthouse;
- Install a storm water retention tank, in the loading dock area, to capture rooftop runoff;
- Dedicate to the City the vacant lot at 226 Ryan Avenue, which is down-gradient from the site, for storm water management purposes (to be named "Cossetta Park").

Please also note that the West Seventh Street Federation has unanimously recommended that the City Council grant the storm water rate control variance requested by Bocce and Cossetta's subject to these conditions. *See* Federation letter dated June 13, 2012, contained in the enclosed submission.

The enclosed submission also includes a Capitol Region Watershed District ("CRWD") worksheet, filled out by Rehder & Associates (civil engineers), which demonstrates that if the Cossetta's project were being built under CRWD rules, the project would qualify for relief from the on-site storm water rate control measures because of high bedrock and small site boundaries. Given these adverse site conditions and the CRWD's commitment to best management practices, the CRWD worksheet indicates that CRWD would not require Cossetta's to install an underground detention system in fissured bedrock and would instead require that Cossetta's contribute approximately $41,000 to a fund for storm water management.

There are a few other important items that we must note:

1. At the BZA hearing, City staff incorrectly characterized the requested variance, suggesting that Cossetta's did not want to "treat" storm water. This characterization of Cossetta's variance was wrong and quite prejudicial. Cossetta's is requesting a variance only from the rate control provisions of Zoning ordinance § 63.319. Cossetta's will, in fact, be treating storm water via: (1) an enlarged EcoStorm/Water Quality Management installation; (2) the penthouse green roofs; and (3) the pervious, down-gradient capacity provided by the dedicated lot at 226 Ryan Avenue.

2. Please also clarify for the Council another important fact: that the Cossetta's expansion will not increase the volume of storm water run off from the site. Prior to the expansion project and demolition of the building in the Smith Street parking lot, the entire Cossetta's site was impervious surface. Since no new impervious surfaces are being added, **the storm water runoff is the same before and after the expansion without any rate control measures whatsoever.** In this light, the various additive storm water management aspects of Cossetta's offer of alternative compliance are truly significant.

3. Finally, we request that the entire record presented by the Cossetta's team at the BZA hearing be included in the record of the appeal hearing. In particular, we would like the City Council to be apprised of the un-rebutted expert reports and testimony from project engineers to the effect that the rate control installation required by the City (significant bedrock excavation and installation of 60,000 gallon underground storage tanks located up-gradient from the walls of Cossetta's sub-grade kitchen and bakery) pose very serious health, safety and

business interruption risks to Cossetta's, and will facilitate storm water and ground water's flowing toward the Cossetta's building, rendering the City-mandated rate control installation contrary to "best management practices."

Very truly yours,

LEONARD, STREET AND DEINARD
Professional Association

Eric H. Galatz

cc(w/enc): City Council Members
Peter Warner, Assistant City Attorney
Cecile Bedor, Director of Planning and Economic Development
Ricardo Cervantes, Director of DSI
David Cossetta

COSSETTA
dal 1911

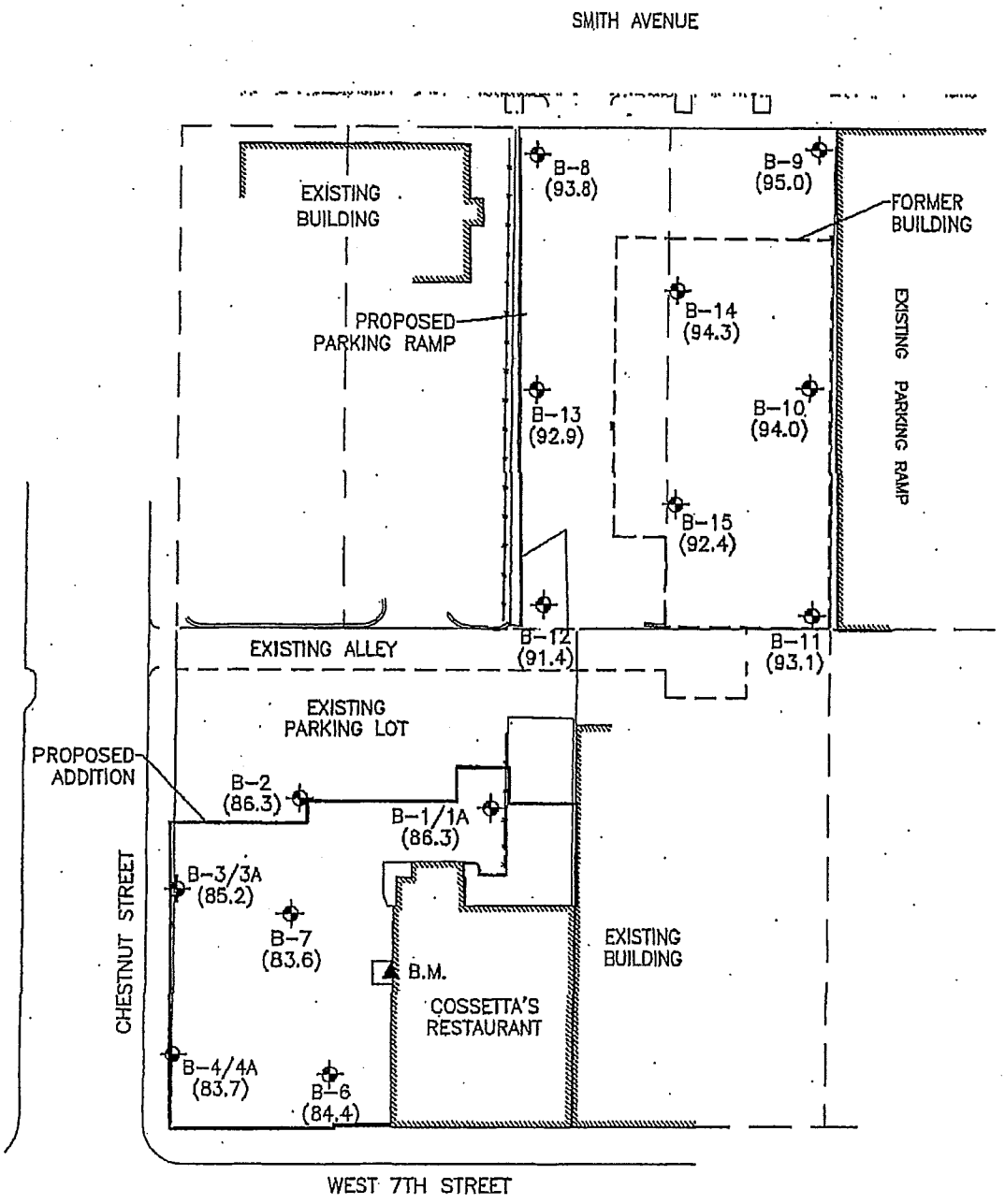
# A L I M E N T A R I

## Storm Water Rate Control Appeal

- **Due Diligence**
  - Boring Locations
- **Letters From Engineers**
  - AET – Daniel M. Vruno
  - Rehder & Associates Inc – John A. Krausert
- **Pollution Control**
  - Ecostorm
- **Letters from General Contractor**
  - McGough – Sustainability Increased Site Cost
  - McGough – Sustainability Efforts
- **Stormwater Management – Comparison**
- **Capitol Region Watershed District Volume Control Worksheet**
- **Fort Road Federation – Resolution Letter**
- **Cossetta *"Alternative Compliance Sequencing"***

# *Appendix*

Figure 1 – Boring Locations
Logs of 2007 Test Borings
Logs of 2006 Test Borings
Exploration/Classification Methods
Boring Log Notes
Unified Soil Classification System




LEGEND

⊕ = APPROXIMATE SOIL BORING LOCATION (AND GROUND SURFACE ELEVATION)

▲ = BENCHMARK: FIRST FLOOR SLAB OF EXISTING BUILDING
ELEVATION = 85.23 FEET SPCD DATUM

NOTE: BORING 5 WAS NOT DRILLED DUE TO CONFLICT WITH UNDERGROUND UTILITIES

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
• GEOTECHNICAL
• ENVIRONMENTAL
• MATERIALS

550 Cleveland Avenue North
St. Paul, Minnesota 55114

Phone: 651-659-9001
Fax: 651-659-1379
Website: www.amengtest.com

APPROXIMATE SCALE

0 FEET 60'

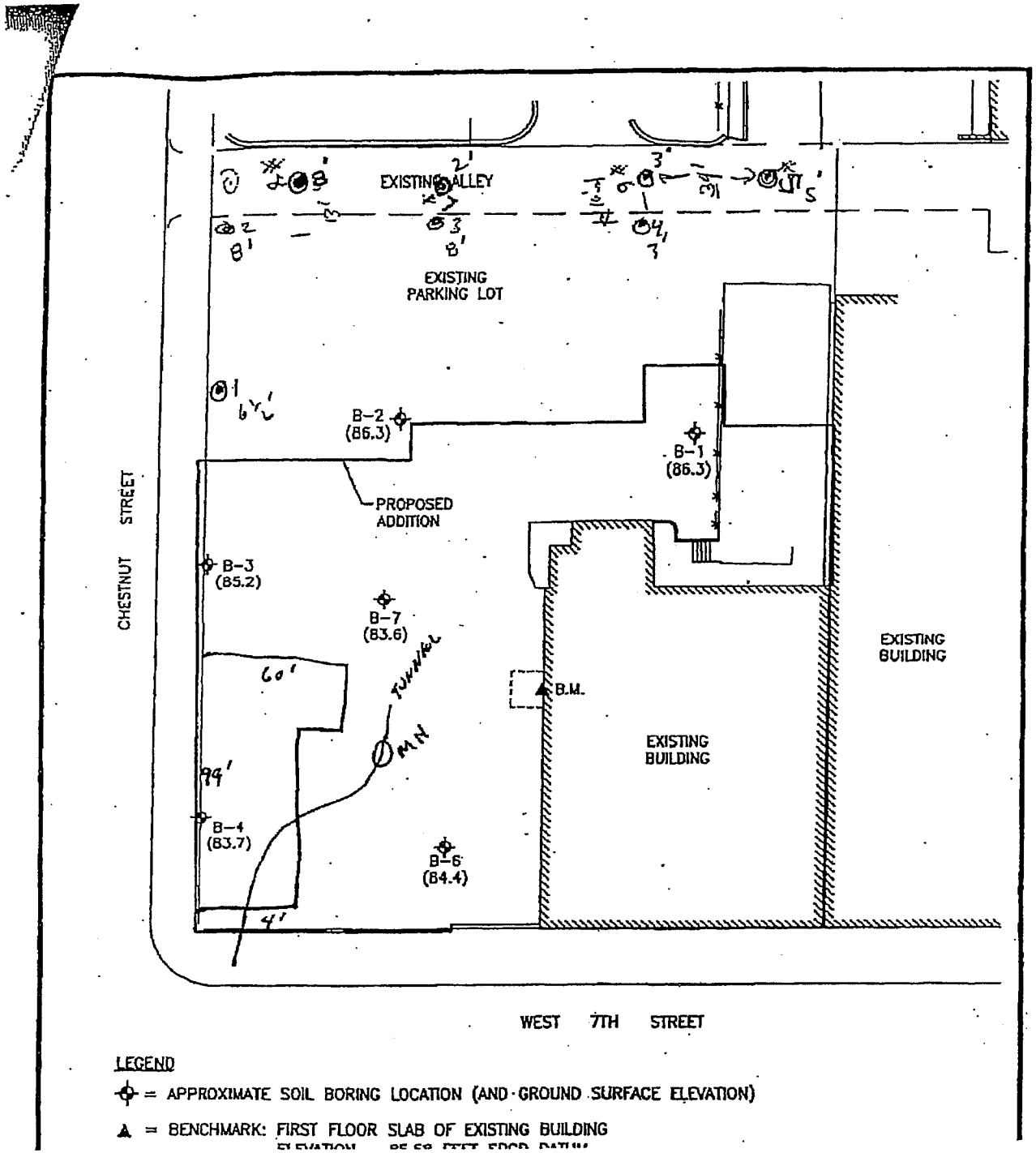
# FIGURE 1: BORING LOCATIONS

**Proposed Cossetta's Restaurant Addition & Parking Ramp**
**211 7th Street West/212 Smith Avenue**
**St. Paul, Minnesota**

| | |
|---|---|
| DRAWN BY: VJL | CHECKED BY: CAU |
| DATE: 04/18/07 | AET JOB NO. 05-03034 |

# Cossetta's Added Geoprobes
## AET Project 29-00665
## 8/8/2011

| Boring | Depth to Rock in feet |
|---|---|
| 1 | 6½ |
| 2 | 8 |
| 3 | 8 |
| 4 | 3 |
| 5 | 5 |
| 6 | 3 |
| 7 | 2 |
| 8 | 8 |




LEGEND

⊕ = APPROXIMATE SOIL BORING LOCATION (AND GROUND SURFACE ELEVATION)

▲ = BENCHMARK: FIRST FLOOR SLAB OF EXISTING BUILDING

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
· ENVIRONMENTAL
· GEOTECHNICAL
· MATERIALS
· FORENSICS

April 24, 2012

Mr. John A. Krausert, P.E., P.L.S.
Rehder & Associates, Inc.
3440 Federal Drive, Suite 110
Eagan MN 55122

Subj: Cossetta Addition
Water Retention System
AET Project No. 29-00666

Dear Mr. Krausert:

As requested by you, we are addressing your concerns with regard to the proposed water retention system at Cossetta's Addition. American Engineering Testing, Inc. (AET) is the geotechnical and testing consulting firm for the project and, therefore, is very familiar with the site.

The proposed water retention system would be 7 feet above the food preparation area in the basement of the new addition. The excavation for this system would consist of removing bedrock from this area. The first concern we have is the disruption of the bedrock, which could cause fissures in the limestone bedrock foundation of the old structure. These fissures could be a conduit for water infiltration into the food preparation area. Typically, water management systems avoid disrupting bedrock in order to avoid exacerbating water infiltration issues. As can be seen in the attached photo and sketch, the slab-on-grade elevation is at the bottom of the trench between the new concrete wall and exposed limestone bedrock. The proposed water retention system would require the removal of the bedrock shown on the right side of the photo.

The current design for the run-off system consists of a membrane over the top of the bedrock in order to deter water infiltration. To put a water retention system below this membrane would be ill advised with regard to controlling the water infiltration into the food preparation area. For the City of St. Paul to mandate penetration of this membrane may cause problems with regard to water infiltration, which could expose the city to litigation in the future.

If the water retention system's capacity is exceeded or if there is a failure of the system, the affect it would have upon the food preparation area would be devastating.

Report Prepared By:
American Engineering Testing, Inc.

Dan Vruno

Daniel M. Vruno, P.E.
Principal Engineer
Phone: 651-659-1334
dvruno@amengtest.com

**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.**

Daniel M. Vruno

**Daniel M. Vruno, P.E.**

**Date** 4-24-12 **Lic. No.** 42037

**PHOTOGRAPHS**
**AET PROJECT NO. 29-00666**

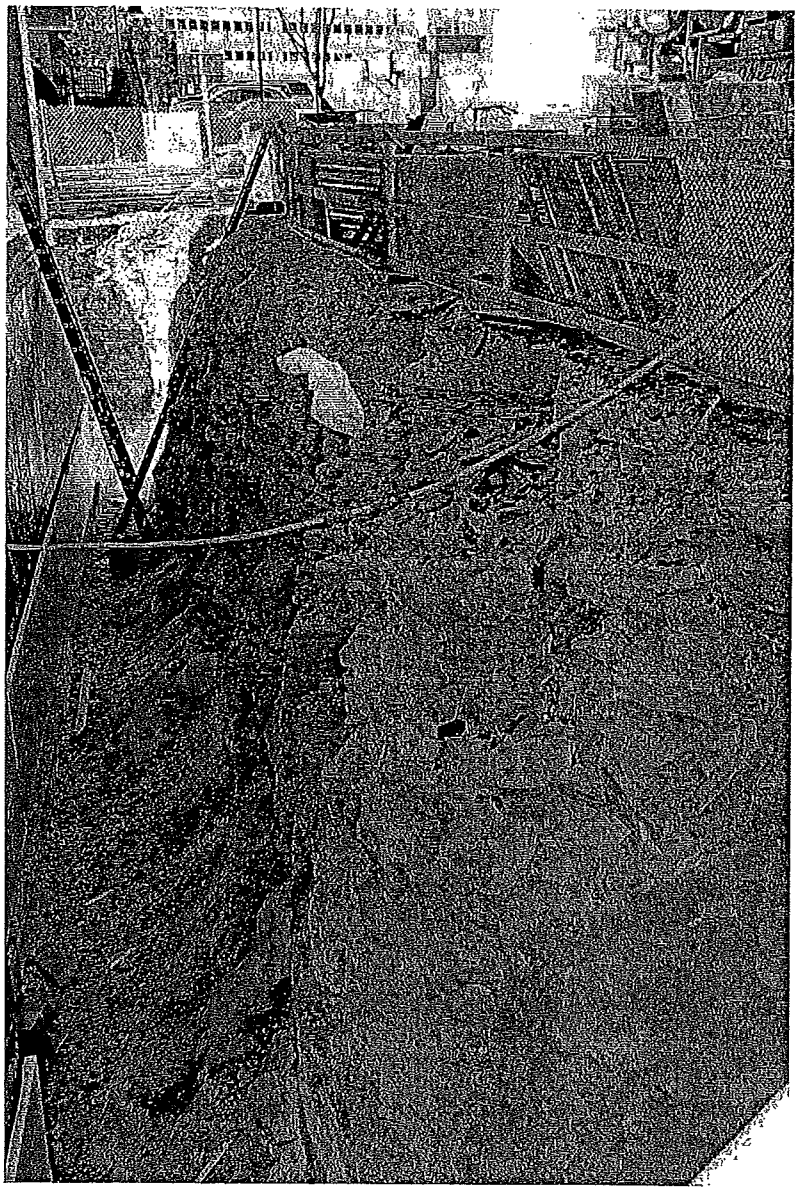
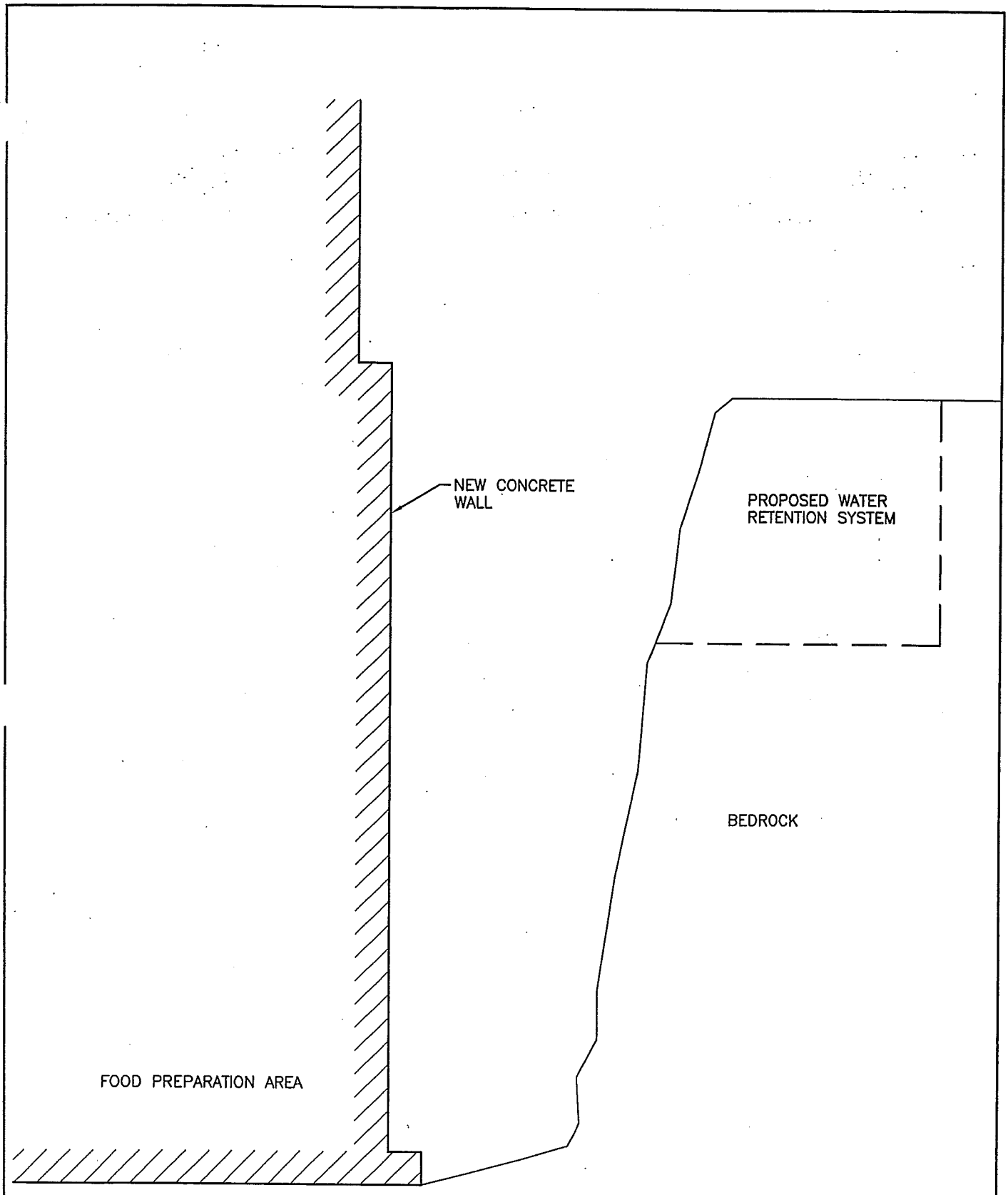


**Photo 1:** Showing outside of food preparation wall and adjacent bedrock.




VERTICLAL PROFILE OF PROXIMITY OF WATER RETENTION SYSTEM TO FOOD PREPARATION AREA

AET Project No. 29-00666

Rehder & Associates, Inc.
Civil Engineers, Planners & Land Surveyors

12-046263

May 3, 2012

Mr. Eric Galatz
Leonard, Street and Deinard, P.A.
150 South Fifth Street, Suite 2300
Minneapolis, MN 55402

Re: Drainage concerns at Cossetta's Addition

Dear Mr. Galatz,

As requested by you, I have reviewed our design of the subsurface retention system on this project. Our design is based on City of St. Paul requirements for rate control. It is my professional opinion the bedrock in the area could pose future problems, especially if there were fissures in the bedrock prior to our starting construction, or if our construction activity creates fissures in this bedrock. These fissures would allow an easier path for subsurface drainage to get into the basement kitchen in the restaurant. I think if we could construct a rate control pond within the same sub-watershed or contribute to a fund for such a pond to be constructed elsewhere, it would be beneficial for Cossetta's Restaurant and for the City of St. Paul.

Please give me a call if you would like to discuss this project further.

Sincerely,

John A. Krausert, P.E.



3440 Federal Drive, Suite 110 • Eagan, Minnesota 55122 • 651-452-5051 • Fax: 651-452-9797 • Email: info@rehder.com

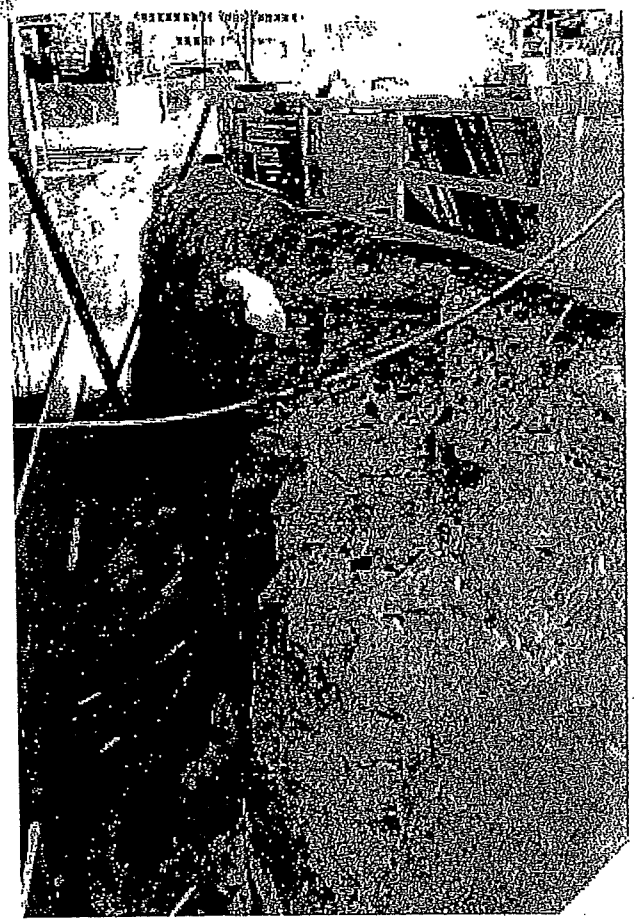
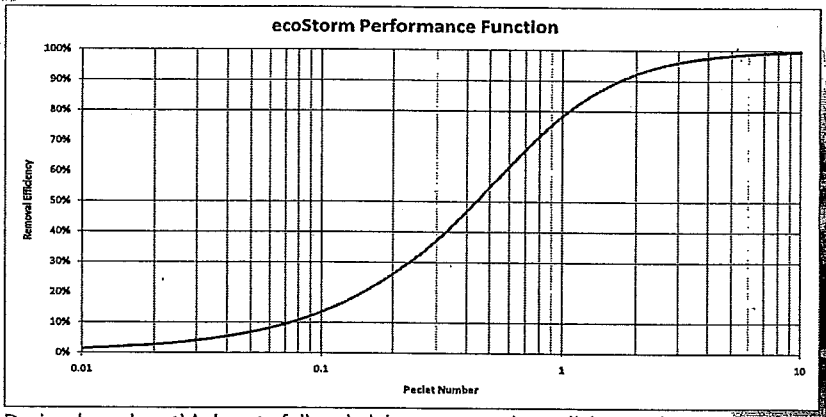


Figure 3: Excavation adjacent to new poured concrete foundation

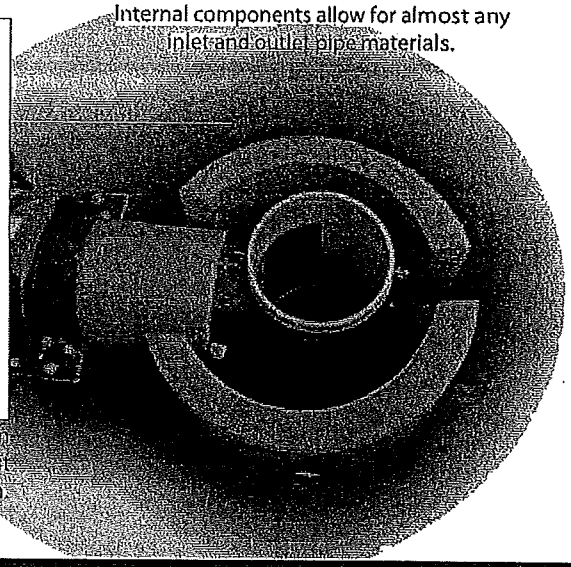
Figures 4 and 5. The foundation of the existing building is porous limestone.

# ecoStorm®

## ecoStorm® is an affordable solution for managing non-point source pollutants in stormwater.




Design based on third party full scale laboratory testing utlizing Peclet normalization theory. Through this normalization, we can scale these results to accurately predict project specific performance for all **ecoStorm®** sizes with any particle size distribution.



Internal components allow for almost any inlet and outlet pipe materials.

ecoStorm® design allows for tight angles between the inlet and outlet pipe. This is especially beneficial for minimizing the footprint in offline systems.

**ecoStorm® is ideal for new construction or retrofit applications including:**

Parking Lots • Industrial Manufacturing Facilities
Commercial Developments • Transportation/Maintenance Facilities
Municipal/Residential Drainage Improvements

### *ecoStorm®–The most cost effective BMP for meeting stormwater regulatory requirements*

- *Cost competitive–single structure design reduces footprint and excavation costs*
- *Low maintenance costs–quick and easy access for inspection and contaminant removal*
- *Easy installation–encompassed design easily assembled on construction site*
- *Standard precast units with capacity to manage typical treatment flows*
- *Engineered solution–individual units are custom designed for each specific project*
- *Design flexibility, allowing for variability of removal efficiency (typically 80%), particle size distribution, flows, and annualized or event based designs*
- *Ideal for new construction or retrofit applications*

McGOUGH

*Building for the Next Generation*

13 January 2012

Bocce, LLC.
211 West 7th St.
St. Paul, MN 55102

Attn: Mr. Dave Cossetta

Re: Increased Site Costs – Cossetta Alimentari Project

Dear Dave:

Based on our review of current costs and projections, we are able to update our assessment of the items which have driven site preparation and development costs well in excess of the values used in establishing the contract value of $7,900,000. The items and their respective impacts are as follows:

Contract Costs Beyond Original Contract Amount:

| | |
|---|---|
| City Requirements | |
| Added site plan costs, principally storm water retention and treatment | $164,615 |
| Incremental sustainability upgrades (bundle 2), incl. LED ext. lighting | $107,353 |
| Construction Indirect costs related to the above | $ 24,559 |
| Additional civil engineering for site and parking for above (Cossetta cost) | $ 35,388 |
| Total Additions for City Requirements..... | $331,915 |
| | |
| Site Conditions/Contaminated Soils (discovery) | |
| Removal of contaminated soils during excavation | $209,396 |
| Added excavation and piers to bedrock (barbershop school site) | $106,476 |
| Construction Indirect costs related to the above | $ 72,843 |
| Added engineering/consulting/testing re contaminated soils (Cossetta) | $ 30,000 |
| Total Additions for Site Conditions/Contaminated Soils | $418,715 |

Total Project Cost Additions Overall: $331,915 + $418,715 = **$750,630.**

We have worked diligently to minimize the impact of these significant changes while maintaining operations vital to the successful execution of the project.

Please advise should you have any questions pending completion of the above.

Sincerely,

Thomas W. Hannasch, P.E., LEED AP, DBIA
Senior Project Manager

McGOUGH

*Building for the Next Generation*

14 June 2012

Bocce, LLC.
211 West 7th St.
St. Paul, MN 55102

Attn: Mr. Dave Cossetta

Re: Sustainability Efforts – Alimentari Project

Dear Dave:

You asked for a report on the status of compliance with the eleven (11) Sustainability Undertakings for the Cossetta Alimentari Project, listed in attached Exhibit J. We can advise as follows:

In our capacity as general contractor, we have expended a great deal of effort and expense and believe we are well on our way towards compliance, within the terms of the exhibit, with all 11 items, except item 7b, Rate Control. We understand you are seeking a specific variance for rate control, due to existing site and subsurface conditions. This is in response to advice from Rehder Associates and American Engineering Testing, project civil and geotechnical engineers respectively, that the proposed underground stormwater storage system required to achieve the necessary rate control is not, in their opinion, a best management practice in this situation.

As you know, many of the engineering solutions have been tailored to the unique conditions of this complex project. The several components of Alimentari – restaurant, market, bakery, kitchen, and bar spread between existing and new construction areas – have presented special challenges that set Alimentari apart from other projects. We have and will continue to work with all members of the project team toward successfully resolving any remaining compliance concerns.

Please advise should you have any questions.

Sincerely,

Thomas W. Hannasch, P.E., LEED AP, DBIA
Senior Project Manager

ST. PAUL 2737 FAIRVIEW AVE. N. ST. PAUL, MN 55113 T 651.633.5050 F 651.633.5673
ROCHESTER 3555 NINTH ST. NW, SUITE 100 ROCHESTER, MN 55901 T 507.536.4870 F 507.536.4867
PHOENIX 4720 E. COTTON GIN LOOP, SUITE 100 PHOENIX, AZ 85040 T 602.522.9897 F 602.522.1842 AZ LIC. NO. ROC208540

Exhibit J

Sustainability Undertakings

For the

Cossetta's Alimentari Project

1. Comply with the State of Minnesota Sustainable Building Guidelines (B3-MSBG) rating system and be verified in accordance with the verification method specified in B3, subject to applicable variances as may be requested and approved due to physical and financial limitations.

2. Predicted energy use shall meet Minnesota Sustainable Building 2030 (SB2030) "Energy Standards" for new buildings, subject to variances requested and approved for the operation of a commercial kitchen and bakery. The conditions for meeting the "Energy Standards" are subject to the "Cost Effectiveness" Protocol of SB2030.

3. Predicted use of potable water in the building must be at least 30% below EPA Policy Act of 1990, excluding water used in the operation and sanitation of a commercial kitchen.

4. Predicted water use for landscaping must be at least 50% less than a traditionally irrigated site using typical water consumption for underground irrigation systems.

5. Actual solid waste of construction and demolition materials must be at least 75% recycled or otherwise diverted from land fills.

6. Indoor Environmental Quality (IEQ) will be maintained in accordance with B3 guidelines, subject to applicable variances requested and approved.

7. Storm Water Management Requirements:

   (a) Site Eligibility: Sites with one quarter (1/4) acre or more of total land disturbance;

   (b) Rate Control: 1.64 cubic feet per second (cfs)/ acres disturbed, or such other rate as is approved in the site plan approval process;

   (c) Water Quality Management: For a two year, 24-hour rainfall event, Building Owner will use good faith efforts to achieve a goal to provide treatment systems designed to remove 80% of the average annual post development Total Suspended Solids (TSS) and remove 60% of the average annual post development Total Phosphorus (TP), or such other percentage as is approved in the site plan approval process, by implementing Best Management Practices (BMPs) outlined in "Urban Small Sites Best Management Practices" handbook (Metropolitan

Council), "Protecting Water Quality in Urban Areas" handbook (Minnesota Pollution Control Agency), and "Minnesota Storm Water Manual" (Minnesota Pollution Control Agency). All BMP treatment systems for subject site need to include safety factors, maintenance and a back-up plan in case of failure. All manufactured devices require independent laboratory testing to confirm product claims.

(d) Volume Control/Infiltration: The Project will maintain or increase infiltration rates from pre-project site conditions;

(e) Operation and Maintenance: All practices must have a O and M plan.

8. Building owner gives permission for authorized MSBG-B3 personnel or authorized Saint Paul City staff to access the estimated greenhouse gas emissions and records as determined by the utility, Xcel Energy.

9. Building owner gives permission for authorized MSBG-B3 personnel or authorized Saint Paul City staff to access the actual energy data and records for the building's utilities as available from the utility, Xcel Energy.

10. Utilize the Energy Design Assistance program as provided by Xcel Energy and The Weidt Group.

11. Building owner will continue to utilize the services of LEED Accredited Professionals as available from the owner's engineering, design and construction partners.

# Stormwater Management - Comparison

<table>
<tr><th></th><th>City Of St. Paul</th><th>Capitol Region Watershed District</th></tr>
<tr><td>Run Off Rates - Criteria</td><td>N/A</td><td>(b) RUNOFF RATE -- Runoff rates for the proposed activity shall not exceed existing runoff rates for the 2-year, 10-year, and 100-year critical storm events, and runoff rates may be restricted to less than the existing rates when the capacity of downstream conveyance systems is limited. (CRWD Rules, p.14)</td></tr>
<tr><td>Design Infiltration Rates</td><td>N/A</td><td>
TABLE 1--Design Infiltration Rates
<table>
<tr><th>Soil Group</th><th>Soil Textures</th><th>ASTM Unified Soil Class Symbols</th><th>Rate</th></tr>
<tr><td rowspan="2">A</td><td rowspan="2">Gravel, sand, sandy gravel, silty gravel, loamy sand, sandy loam</td><td>GW, GP</td><td>1.63 in/hr</td></tr>
<tr><td>GM, SW, SP</td><td>0.80 in/hr</td></tr>
<tr><td rowspan="2">B</td><td rowspan="2">Loam, silt loam</td><td>SM</td><td>0.60 in/hr</td></tr>
<tr><td>ML, OL</td><td>0.30 in/hr</td></tr>
<tr><td>C</td><td>Sandy clay loam</td><td>GC, SC</td><td>0.20 in/hr</td></tr>
<tr><td>D</td><td>Clay, clay loam, silty clay loam, sandy clay, silty clay</td><td>CL, CH, OH, MH</td><td>0.00 in/hr</td></tr>
</table>
Source: Minnesota Stormwater Manual, November 2005.<br>
(iii) The infiltration area shall be capable of infiltrating the required volume within 48 hours for surface and subsurface BMPs. (CRWD Rules, p.15)
</td></tr>
</table>

# Stormwater Management - Comparison

<table>
<tr><th></th><th>City Of St. Paul</th><th>Capitol Region Watershed District</th></tr>
<tr><td>Alternative Compliance Site Conditions</td><td>N/A</td><td>
<table>
<tr><td colspan="3">TABLE 2--Alternative Compliance Site Conditions*</td></tr>
<tr><td>Type</td><td>Specific Site Conditions</td><td>Submittal Requirements</td></tr>
<tr><td rowspan="2">Potential Contamination</td><td>Potential Stormwater Hotspots (PSHs)</td><td>PSH locations and flow paths</td></tr>
<tr><td>Contaminated Soils</td><td>State Permitted Brownfield Documentation, Soil Borings</td></tr>
<tr><td rowspan="4">Physical Limitations</td><td>Low Permeability (Type D Soils)</td><td>Soil Borings</td></tr>
<tr><td>Bedrock within 3 vertical feet of bottom of infiltration area</td><td>Soil Borings</td></tr>
<tr><td>Seasonal High Groundwater within 3 vertical feet of bottom of infiltration area</td><td>Soil Borings</td></tr>
<tr><td>Karst Areas</td><td>Soil Borings</td></tr>
<tr><td rowspan="2">Land Use Limitations</td><td>Utility Locations</td><td>Site Map</td></tr>
<tr><td>Adjacent Wells</td><td>Well Locations</td></tr>
</table>
</td></tr>
<tr><td>Alternative Compliance Sequencing</td><td>N/A</td><td>(2) Alternative Compliance Sequencing. To the maximum extent practicable, the volume reduction standard shall be fully met onsite. If it is not possible because of site conditions listed above, the following Alternative Compliance Sequencing steps shall be taken in the order shown:<br>(i) First, the applicant shall comply or partially comply with the volume reduction standard to the maximum extent practicable on-site through alternative volume reduction methods as listed in the application guidance materials or as approved by the District.<br>(ii) Second, for the remaining volume reduction required to fully meet the standard, the applicant shall comply or partially comply with the volume reduction standard at an offsite location or through the use of qualified banking credits as determined by Rule C – 3.c.4.<br>• Volume reduction may be accomplished at another site outside of the project area or through the use of banked credits as long as it yields the same volume reduction benefit, and is approved by the District. When possible, offsite compliance and banking credits shall be achieved in the same drainage area as the project site in the same sub-watershed as the project site.<br>(iii) Third, as a last alternative, for the remaining volume reduction required, the applicant shall pay into the District's Stormwater Impact Fund to cover the cost of implementing equivalent volume reduction elsewhere in the watershed. (CRWD Rules p.16)</td></tr>
</table>

# Stormwater Management - Comparison

| | City Of St. Paul | Capitol Region Watershed District |
|---|---|---|
| **Alternative Voulme Reduction Methods** *(Examples offered)* | **N/A** | - Rain Barrel / Cistern<br>- Green Roof / Roof Garden<br>- Filtration / Rain Garden w/ underdrain<br>*(CRWD - Volume Control Worksheet)* |
| **Complicance Defferal** | **N/A** | (4) If an applicant determines during the course of planning, design or construction of a linear project that the required volume reduction cannot be achieved onsite and the applicant does not posses sufficient excess volume reduction credits to offset the volume required, the District may allow the applicant to defer the construction of volume reduction BMPs to a future identified project that the applicant will complete within two years of the date of the permit application. Failure to provide the required volume reduction by that date would obligate the applicant to pay into the stormwater impact fund at the rate applicable at the time payment is made into the fund. *(CRWD Rules p.17)* |
| **Volume Control Worksheet and Information Handbook** | **N/A** | **Volume Control Worksheet:** Worksheet is used to establish the volume required to be reduced for a site and as a tool to ensure volume reduction standards have been met. Worksheet lists "Alternative Compliance Site Conditions" (Table F) and goes on to address "Alternative Volume Reduction Methods" (Steps: 6,7 and 8).<br>**Permit Guidance and Information Handbook:** Provides a complete walk through of the permit application process. Address both "Alternative Compliance Sequencing" (p.4) and examples of "Alternative Volume Reduction Best Management Practices"(p.5) |

# Capitol Region Watershed District Volume Control Worksheet

| Permit Name | | Permit Number | |
|---|---|---|---|
| Permit Contact & Phone Number | | | |

►Complete the steps below to determine the volume required to be reduced and calculate the proposed amount of volume to be retained. A site plan/map showing impervious surfaces shall also be submitted for review along with other submittal requirements as stated in the District rules.

►Instructions: Fill in the yellow boxes with the requested information. Numbers in the black-outlined boxes will be calculated for you (if filling out electronically). Orange boxes are key totals.

## STEP 1: Determine Impervious Surface Areas

**(a)** Total Site Area: 1.11 acres

**(b)** Total Impervious Area: 1.04 acres x 43,560 sq. ft./acre = 45,302 square feet

## STEP 2: Determine Required Volume Reduction Runoff Volume from Impervious Surfaces

| 45,302 | x | 1.0 | x | 0.9 | x 0.083333 | = | 3,398 cubic feet | (c) |
|---|---|---|---|---|---|---|---|---|
| Impervious Area (sq. ft.) from (b). | | Inches | | Runoff Coefficient | Inches per Foot | | Required Volume Reduction (Cu. Ft.) | |

## STEP 3: Determine Infiltration Rate, Drawdown Time and Volume Reduction for Proposed Onsite BMPs.

►For each BMP, select the appropriate hydrological soil group classification and design infiltration rate from Table A. Select the design infiltration rate from Table A based on the least permeable soil horizon within the first five feet below the bottom elevation of the proposed BMP. Enter the infiltration rate in Table B.

►The applicant may complete double-ring infiltrometer test measurements at the proposed bottom elevation of the BMP to the requirements of ASTM D3385. The measured infiltration rate shall be divided by the appropriate correction factor selected from the Minnesota Stormwater Manual. The test must be completed by a licensed soil scientist or engineer.

**Table A. Design Infiltration Rates**

| Soil Group | Rate | Soil Textures | ASTM Unified Soil Class Symbols |
|---|---|---|---|
| A | 1.60 in/hr | Gravel, sandy gravel, or silty gravel | GW, GP, GM, SW |
| | 0.80 in/hr | Sand, loamy sand, or sandy loam | SP |
| B | 0.60 in/hr | Silt loam | SM |
| | 0.30 in/hr | Loam | MH |
| C | 0.20 in/hr | Sandy clay loam | ML |
| D | 0.00 in/hr | Clay loam, silty clay loam, sandy clay, silty clay, or clay | GC, SC, CL, OL, CH, OH |
| Source: *Minnesota Stormwater Manual, November 2005.* | | | |

► Complete Table B by entering the infiltration rate, drawdown time, and drainage area to the BMP. The spreadsheet will then calculate the maximum depth to be retained/infiltrated. That depth can then be used to calculate the appropriate area of the BMPs in Tables D and/or the rock depth below outlet in Table E.

**Table B. Volume Reduction BMPs**

| Volume Reduction BMP ID | Infiltration Rate (in/hr) | Drawdown Time (hr) | Max Water Depth to be Retained/ Infiltrated* (ft) | Drainage Area (acres) |
|---|---|---|---|---|
| Example: Rain Garden | 0.6 | 48 | 2.4 | 0.3 |
| 1 | | 48 | | |
| 2 | | 48 | | |
| 3 | | 48 | | |
| Example: Subsurface Trench** | 0.8 | 48 | 8 | 1.5 |
| 4 | | 48 | | |
| 5 | | 48 | | |

* Maximum Depth = ((Infiltration rate/12) x Drawdown time)

**Subsurface trench max depth = ((Infiltration rate/12) x Drawdown time)/0.4 rock void space

**Table C. Storage Volume Calculation Formulas for Various Volume Reduction Practices**

| Category | Method | Accepted Storage Volume Credit Formulas (cu. Ft.) (Below outlet of practice) | Nomenclature |
|---|---|---|---|
| Rain Barrel/Cistern | Storage & Slow Release, Evaporation | V = 0.785 x D2 x H<br>or<br>V = Gallons per Barrel x 0.1337 | D = barrel diameter (ft) H = barrel height (ft) |
| Green Roof/Roof Gardens | Storage & Slow Release, ET | V = L x W x [(Ds x Pe) + Dt] | L = length of soil area (ft)<br>W = width of soil area (ft)<br>Ds = depth of soil (ft) Dt = depth of storage between soil surface & overflow of practice (ft) Pe = effective porosity of the soil (typically 0.3-0.5) |
| Subsurface Infiltration | Storage & Infiltration | V = (pipe volume + rock void volume)<br>Pipe Vol. = Pipe [A x L]<br>Rock Void Vol. = ([W x H x L] - Pipe[A x L]) x n | n = porosity (ft3/ft3) of rock media<br>W = width of trench (ft)<br>H = height of trench (ft)<br>L = length of trench and pipe (ft)<br>A = area of pipe (ft2) |
| Rain Gardens/Surface Infiltration | Storage & Infiltration | V = BMP Area x I x 4 | BMP area using max depth from Table B (ft2)<br>I = infiltration rate (in/hr)<br>4 = conversion for 48 hr drawdown |
| Filtration/Rain Garden w/ Underdrain | Storage, Moisture Retention & ET | V = (BMP Area x I x 4) x 70% | BMP area using max depth from Table B (ft2)<br>I = infiltration rate (in/hr)<br>4 = conversion for 48 hr drawdown |
| Sand Filter | Moisture Retention & Slow Release, Evaporation | V = (W x H x L) x n | n = porosity (ft3/ft3) of media<br>W = width of BMP (ft) H = height of BMP (ft) L = length of BMP (ft) |
| Pervious Pavement | Storage & Infiltration | V = (W x H x L) x n | n = porosity (ft3/ft3) of media<br>W = width of BMP (ft) H = height of BMP (ft) L = length of BMP (ft) |

► Table C on the previous page can be used to determine the calculation of volume reduction provided with various

volume reduction BMPs. All computations, calculations, and modeling used to determine BMP design shall be submitted for review including plans showing detailed dimensions and size of the BMPs. Table D and E shall be completed for surface infiltration basins/rain gardens (Table D) and subsurface storage and infiltration BMPs (Table E). For all other BMPs, calculations, computations, or modeling must be submitted justifying the volume reduction proposed.

**Table D. Surface Infiltration and Rain Garden Volume Calculation Table**

| Volume Reduction BMP ID | Area (sq. ft.) | Infiltration Rate (in/hr) | Multiplier | Volume Reduction* (cu. ft.) |
|---|---|---|---|---|
| Example: Rain Garden | 200 | 0.6 | 4 | 480 |
| 1 | | | 4 | |
| 2 | | | 4 | |
| 3 | | | 4 | |
| 4 | | | 4 | |
| 5 | | | 4 | |
| *Volume reduction = Area x Infiltration Rate x 4 | | | Total = | |

**Table E. Subsurface Storage and Infiltration Volume Calculation Table**

| Volume Reduction BMP | Pipe Diameter (Ft.) | Pipe X-section area (Sq. Ft.) | Pipe Length (Ft.)* | Pipe Storage (Cu. Ft.) | Rock depth, below outlet (Ft.)** | Trench width (Ft.) | Trench X-section area (Sq. Ft.) |
|---|---|---|---|---|---|---|---|
| Example | 3.0 | 7.1 | 125.0 | 883.1 | 4.5 | 4.5 | 20.3 |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |

| Table E Continued... | Volume Reduction BMP | Trench area - Pipe area (Sq.Ft.) | Trench Length (Ft.)* | Trench Rock Porosity, n (%) | Trench Rock Storage (Cu. Ft.) | Total BMP Volume Reduction (Cu. Ft.) |
|---|---|---|---|---|---|---|
| | Example | 13.2 | 125.0 | 0.4 | 659.3 | 1542.4 |
| | 1 | | | | | |
| | 2 | | | | | |
| | 3 | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |
| | | | | | TOTAL = | |

* Pipe length and trench length must be equal.
**Rock depth below outlet shall not be greater than the maximum water depth found in Table B.

**Summary of Total Onsite Volume Reduction = Subtotal from Table D + Subtotal from Table E**

| | | | | |
|---|---|---|---|---|
| | + | | = | cubic feet box (d) |
| Table D | | Table E | Other BMPs* | Total Volume Reduction |

* Calculations and/or modeling must be submitted justifying the volume reduction proposed for other BMPs.

**STEP 4: Do on-site BMPs achieve required volume reduction?**

Is **Step 3 box (d)** equal to or greater than **Step 2 box (c)**? No

If yes, you have provided storage to achieve the volume standard.
If no, go to **Step 5.**

## STEP 5: Determination of Alternative Compliance Eligibility

Does a condition listed in Table F exist at the site (Yes or No)? YES

If yes, fill out next line and attach documentation justifying the site conditions and go to **STEP 6.**

*List the specific site condition that applies to this project. Bedrock within 3 vertical feet

If no, revise site plan to achieve greater volume reduction, return to **STEP 3.**

**Table F. Alternative Compliance Site Conditions**

| Type | Specific Site Conditions | Submittal Requirements |
|---|---|---|
| Potential Contamination | Potential Stormwater Hotspots (PSHs) | PSH Locations & Flow Paths |
| | Contaminated Soils | Permitted Brownfield, Soil Borings |
| Physical Limitations | Low Permeability (Type D Soils) | Soil Borings |
| | Bedrock within 3 vertical feet of bottom or infiltration area | Soil Borings |
| | Seasonal High Groundwater within 3 vertical feet of bottom of infiltration area | Soil Borings |
| | Karst Areas | Soil Borings |
| Land Use Limitations | Utility Locations | Site Map |
| | Nearby Wells | Well Locations |

## STEP 6: Analyze Alternative Volume Reduction Methods

►After determining that a site condition from Table F exists and infiltration practices are not advised, the applicant shall evaluate alternative volume reduction methods that may be achieved onsite such as filtration, cisterns, or green roofs. Enter BMPs in tables above and calculate total volume reduction achieved.

After analyzing alternative volume reduction and entering the volume reduction in, does **Step 3 box (d)** equal or exceed **Step 2 box (c)**? No

## STEP 7: Utilizing Offsite BMPs or Banking Credits

►For the remaining volume reduction needed, the applicant shall determine if there are offsite locations available to achieve the volume reduction required or if there are volume reduction banking credits available. Enter offsite BMPs and/or banking credits in **Step 3** above, noting them as offsite and recalculate total volume reduction achieved.

After analyzing the off-site/banking volume reduction and entering the volume reduction in, does **Step 3 box (d)** equal or exceed **Step 2 box (c)**? No

If yes, you have provided storage to achieve the volume standard.
If no, go to **Step 8.**

## STEP 8: Contribution to Stormwater Impact Fund

►For the remaining volume reduction needed, the applicant shall pay into a stormwater impact fund that will be used by the District to complete volume reduction projects. The contribution amount is $40,000 per acre of impervious surfaces on a project site. At this contribution amount, the rate per cubic foot is $12.25. Use the formula below to

calculate the amount needed to contribute.

**box (e)** 3,398 x $12.25 = $41,609.01

Remaining Volume Required ($ft^3$) Amount to Contribute to Stormwater Impact Fund

**STEP 9: Summary/Verification Step**

► Complete **Step 9** by filling in the blanks below as applicable. Verify that the volume reduction provided is equal to or greater than the required volume reduction amount.

Verify **Step 3 box (d)** + **Step 8 box (e)** are equal to or greater than **Step 2 box (c)**.

| **box (d)** | + **box (e)** | = | |
|---|---|---|---|
| | 3,398 | 3,398 | Provided Volume Reduction (cu.ft.) **(box (d) + box (e))** |
| | | 3,398 | Required Volume Reduction (cu. ft.) **(box (c))** |

| **Have you met the volume reduction standard?** | Yes |
|---|---|

**West 7th/Fort Road Federation**
974 West 7th Street
Saint Paul, Minnesota 55102

651-298-5599
FortRoadFederation.org

June 13, 2012

City Council President Kathy Lantry
City of Saint Paul
320C City Hall
15 Kellogg Boulevard
Saint Paul, MN 55102

RE: Cossetta Storm Water Management Appeal

Dear Council President Lantry,

At its June 11th Board meeting, the Federation passed the following resolution.

The Federation recommends that the City Council approve the Cosetta's storm water rate control variance provided that they: provide a "green roof" on the penthouse and landing area, install the largest cistern practical in the loading dock, and deed 226 Ryan Avenue to the City of St Paul for alternative uses.

We further recommend that the City of St. Paul consider alternative compliance sequencing and alternative storm water management practices in guidance and reference to standards approved by regional watershed districts.

Sincerely,

Tonya Nicholie-Johnson

Tonya Nicholie-Johnson, President

C: David Cossetta
Councilman David Thune

COSSETTA
dal 1911

*Qualitá di Vita. Cibo Buono.*

Cossettas will provide the following ***"Alternative Compliance Sequencing"*** to the City of St. Paul for water management rate control.

1. A green roof on part our new structure
   a. Penthouse Roof Area
   b. Penthouse (Entrance) Landing Area

2. A cistern rainwater storage tank in the loading dock area of the new expansion.

3. An offsite location (226 Ryan Ave / Old Cossettas) to be used for volume reduction will be donated to the City of St. Paul by Cossettas and named:

**"Levee Park"**

**"St. Paul's Little Italy"**

***Donated by the Cossetta Family.***

221 So. Exchange Street, Saint Paul, MN 55102 • (651) 224-8419 • Fax: (651) 222-2341