



The Honorable Pinar Balci  
Assistant Commissioner  
NYC Department of Environmental Protection  
59-17 Junction Boulevard  
Flushing, NY 11373

May 18, 2020

**RE: NYC Department of Environmental Protection Proposed 2021 Unified Stormwater Rule**

Dear Assistant Commissioner Balci,

This is a follow-up to our April 3, 2020 meeting with you and your team regarding NYC DEP's proposed 2021 Citywide Unified Stormwater Rule, which includes amendments to Local Law 97 and a subsequent rulemaking process for *Construction Site Stormwater Runoff Control and Post Construction Site Stormwater Management*. We commend DEP's diligent work on this effort thus far and applaud the Department's commitment to improving water quality through requiring more stringent stormwater controls for new development sites. Per our discussion during this meeting, Gowanus Canal Conservancy (GCC) is concerned that the proposed rezoning for the Gowanus neighborhood will result in increased sewage and stormwater pollution in the Gowanus Canal if not mitigated, and we urge the City to take measures that ensure net zero combined sewage overflow (CSO) in the Gowanus Canal with regard for anticipated new development. The 2021 Unified Stormwater Rule is a step in the right direction and offers an opportunity to build on recommendations developed by GCC, technical consultants, and waterfront property owners to realistically achieve a Net Zero CSO rezoning in Gowanus.

It is our understanding that DEP's process for enacting the 2021 Unified Stormwater Rule will first require City Council to pass Intro Bill 1851<sup>1</sup>, which amends the administrative code of the City of New York, as added by Local Law 97 (2017) to:

- 1.) Expand existing stormwater management controls under the City's oversight of the MS4<sup>2</sup> program to *all* citywide sites that meet criteria for a "covered development site," and

<sup>1</sup> [Int. No. 1851](#); Proposed amendments to Section 24-540 of the Administrative Code of the City of New York (L.L. 2017/097, 5/30/2017, eff. 6/1/2019)

<sup>2</sup> Municipal Separate Storm Sewer System; On August 1, 2015, the City a State Pollutant Discharge Elimination System (SPDES) MS4 Permit (No. NY-0287890) from NYSDEC to implement measures to reduce pollution in stormwater runoff discharging to the MS4 through the [Stormwater Management Program \(SWMP\) Plan](#), released August 1, 2018.

- 2.) Provide DEP with enhanced legal authority for further implementation under the City's Rulemaking process, known as the City Administrative Procedure Act or CAPA<sup>3</sup>.

We do not seek to thwart this initial and critical step in DEP's process, but strongly recommend that the soil disturbance threshold, currently defined as "greater than or equal to one-acre" under existing MS4 requirements, be reduced as part of the CAPA process in order to effectively mitigate CSO in Gowanus.

### **Recommendation 1: Reduce Soil Disturbance Threshold to 10,000 Square Feet**

Under the existing one-acre soil disturbance requirement, only 12 of the 295 Projected and Potential Development Sites anticipated by the Department of City Planning's (DCP) proposed Gowanus rezoning,<sup>4</sup> would be required to implement additional stormwater controls, resulting in a net increase of CSO to the Gowanus Canals<sup>5</sup>. We understand that DEP is considering reducing the soil disturbance threshold to 20,000 square feet as part of the CAPA process, which we strongly support. This reduction will have a much greater impact in Gowanus, requiring at least 41 of the probable development sites to implement additional stormwater controls and achieving our recommended net zero CSO target.

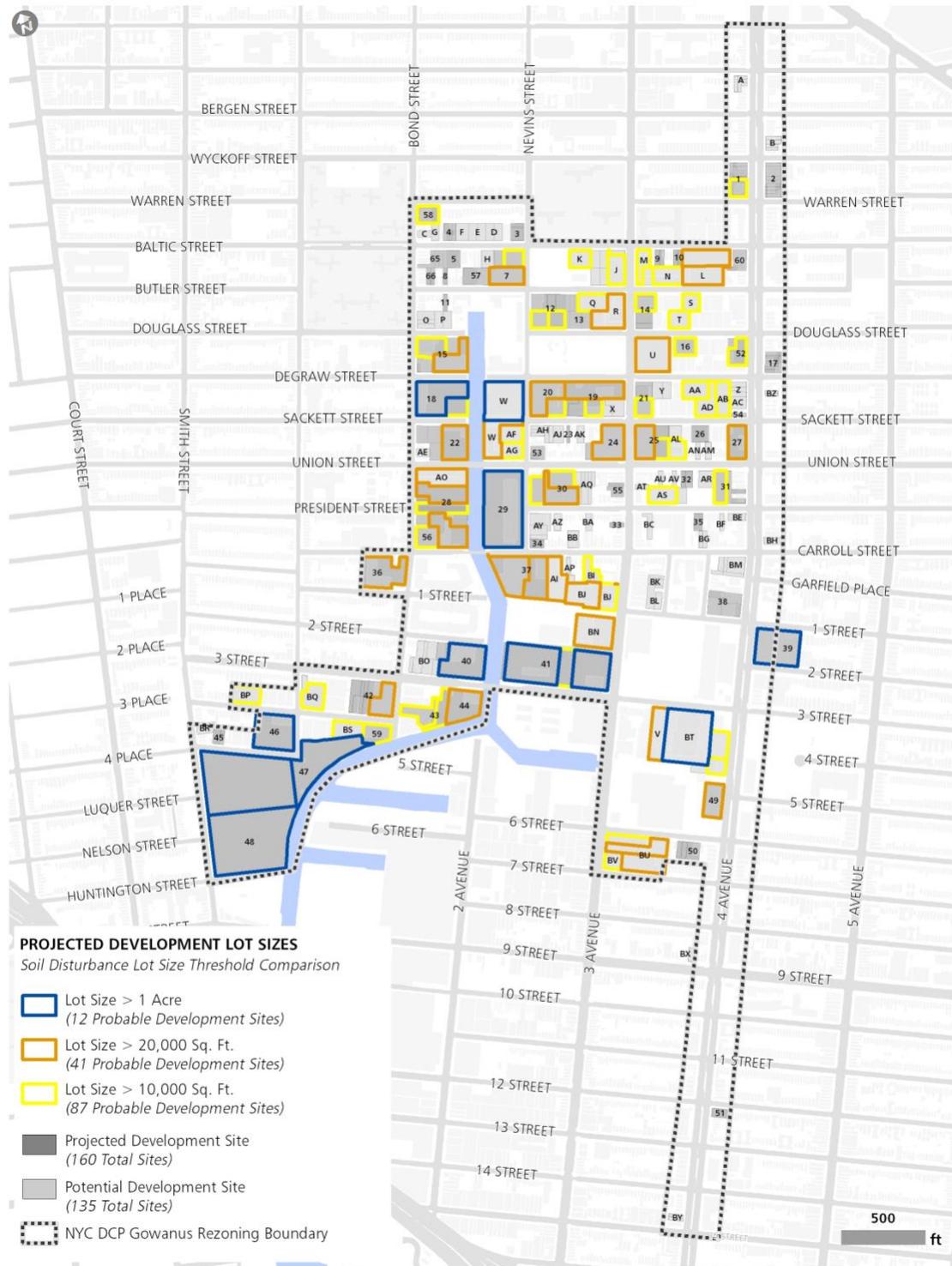
While reducing the soil disturbance threshold to 20,000 square feet will undoubtedly provide substantial water quality benefits in Gowanus, it has the potential for limited results, applying mostly to larger low-lying waterfront sites where infiltration may be infeasible without addressing denser new development on smaller lots, particularly 4<sup>th</sup> Avenue. As DEP moves forward with the CAPA process, we recommend the Department consider a further reduction to 10,000 square feet in the proposed Gowanus Rezoning area. A soil disturbance threshold of 10,000 square feet would impose additional requirements on 87 of the probable development sites and allow for the inclusion of smaller upland parcels where higher density is projected and infiltration opportunities are more likely to be feasible. A primary goal of the 2021 Unified Stormwater Rule is to increase citywide infiltration practices, which have a greater benefit on CSO reductions and sewer operations. In order to realistically achieve this goal, set forth by the Department, a reduction of the soil disturbance threshold must be prioritized, especially in areas where the presence of a high groundwater table will limit the ability to infiltrate stormwater on a majority of project sites. **Figure 1** below provides a comparison between these three soil disturbance metrics based on lot size in the Gowanus Rezoning Area.

<sup>3</sup> [City Administrative Procedure Act \(CAPA\)](#)

<sup>4</sup> [Gowanus Neighborhood Rezoning and Related Actions Draft Scope of Work \(CEQR No. 19DCP157K\)](#), March 22, 2019

<sup>5</sup> Determined by independent consultant analysis using annual precipitation records, 2018 average for Owl's Head CSO trigger volume, PLUTO lot area data, and CEQR No. 19DCP157K projections for Floor Area Ratio.

**Figure 1:**



**\*Note:** Lot Size > 1-Acre would address 10% of probable development area in Rezoning Study Area; Lot Size > 20,000 sq. ft. would address 19% of probable development area; and Lot Size >10,000 sq. ft. would address 26% of probable development area.

Following the enactment of Intro 1851, we look forward to continued robust collaboration and engagement opportunities as part of the CAPA process. We understand that this process also entails making amendments to the *Construction Site Stormwater Runoff Control and Post Construction Site Stormwater Management* permitting process, including modifications to the NYC Stormwater Design Manual<sup>6</sup>. In anticipation of this process, GCC is putting forth the following initial recommendations for adapting the permitting process and site design guidelines for effective implementation in Gowanus and other citywide sites with unique prevailing conditions, including but not limited to:

- 1.) Low-lying areas with a high groundwater table
- 2.) Superfund designated areas
- 3.) Combined Sewer Overflow LTCP waterbodies

These recommendations build on years of close collaboration with technical engineering and landscape architecture consultants, as well as landowners with future development plans in the Gowanus Rezoning area and are as follows:

**Recommendation 2: Expand Requirements beyond Waterbody State Pollution Discharge Elimination System (SPDES) Pollutant of Concern (POC) Targets**

As currently written, all requirements outlined by the NYC Stormwater Design Manual are based on the New York State Department of Environmental Conservation (NYSDEC) SPDES permitting for impaired waterbodies<sup>7</sup>. Compliance under these regulations require that covered development project sites address waterbody specific Pollutants of Concern (POCs), including floatables, pathogens, nitrogen, and phosphorus. The SPDES permit for the Gowanus Canal is limited to floatables and would not require project applicants to submit more stringent “No Net Increase (NNI)” analyses for pathogens, nitrogen, and phosphorus. The NYSDEC SPDES stormwater permitting process and NYC Stormwater Design Manual must be updated to require additional mitigation measures beyond the SPDES permitting, considering both Superfund designated and CSO impaired waterbodies.

**Recommendation 3: Develop more robust “No Net Increase (NNI)” Analyses for all Pollutants of Concern (POC) and expand to include a “No Net Increase” Analysis for Combined Sewer Overflow**

As currently written, the NNI analysis is only a required step for impaired waterbodies. If the receiving waterbody of a development site is not listed as impaired, the applicant can move directly to Stormwater Management Practice (SMP) selection and design criteria. If the waterbody is listed as impaired, this analysis is specific to the Pollutants of Concern listed for that waterbody.

Specific concerns and recommendations for the NNI analysis step in the permitting process that pertain to Gowanus are outlined below:

- Existing NNI analysis requirements are not stringent enough to demonstrate impact in Gowanus. As currently written, Gowanus site applicants would only be required to submit an NNI analysis for *Floatables*. This approach limits mitigation measures to

<sup>6</sup> [NYC DEP Stormwater Design Manual \(2018\)](#)

<sup>7</sup> [NYC DEP Stormwater Design Manual \(2018\)](#); Table 1-2. Impaired Water Segments and Pollutants of Concern in and Around NYC, p. 11

compliance with the NYSDEC Stormwater Standards<sup>8</sup>, which are already mandated under existing City rules.

- The NNI analysis for *Pathogen* impaired waterbodies should be expanded to include requirements for all CSO impacted waterways with Long Term Control Plans (LTCP), including the Gowanus Canal<sup>9</sup>. Mitigation for *Pathogen* impaired waterbodies requires applicants to install BMPs<sup>10</sup>, predominantly linked to education and behavior change (i.e. installation of signage, trash containers, etc.). Expanding the *Pathogen NNI* analysis to CSO waterways would provide major benefits to many environmental justice communities that face the disproportional impact of CSO discharges.
- The NNI analysis for *Nitrogen* impaired waterways is by far the most extensive POC requirement and the only true assessment of “net increase” in this step of the permit process. Under existing SPDES requirements, the NNI analysis for *Nitrogen* requires applicants to assess total nitrogen (TN) loading on both existing and future site conditions. In order to mitigate a determined net increase in TN loading, the applicant must select SMPs for *Nitrogen* removal using the NYC DEP MS4 No Net Increase Calculator<sup>11</sup>. As revisions to the permitting process move forwards, this type of NNI analysis should be adapted for other Pollutants of Concern and expanded to address net increase in CSO.

GCC, technical consultants, and the waterfront property owners have developed a “Net Zero CSO” tool, similar the NNI analysis for *Nitrogen*. Our tool compares existing and future site conditions to assess net increases in CSO loading and provides criteria for selecting appropriate mitigation. A future adaptation of the “Net Zero CSO” tool could be developed to more closely align with DEP’s well-established NNI analysis for *Nitrogen* with the following enhancements:

- The development of Event Mean Concentrations for CSO by land use type, similar to those developed for Nitrogen<sup>12</sup>
- Recommendations for SMPs, best suited for CSO reduction (including grey and black water reuse and other conservation measures) and the development of metrics for each recommended strategy in terms of their CSO mitigation/removal rate (as a %), similar to those developed for Nitrogen<sup>13</sup>

We urge DEP to consider working with our team on adapting this tool for future permitting and as part the next iteration of the Stormwater Design Manual. To adapt a “No Net Increase” analysis for CSO loading that builds on DEP’s well-established tool for Nitrogen,

#### **Recommendation 4: Amend Step 4 (SMP Selection and Design Criteria) in permitting process to include requirements for Special Conditions where Infiltration is deemed infeasible**

<sup>8</sup> [NYS DEC Stormwater Design Manual \(2015\)](#)

<sup>9</sup> [NYC DEP Combined Sewer Overflow Long Term Control Plan for Gowanus Canal](#)

<sup>10</sup> [NYC DEP Stormwater Design Manual \(2018\)](#); Table 3-3. BMPs for Pathogen Removal by Land Use, p. 45

<sup>11</sup> [NYC MS4 No-Net-Increase Calculator for Nitrogen](#)

<sup>12</sup> [NYC DEP Stormwater Design Manual \(2018\)](#), Table 3-1. Table 3-1. Median EMCs for TN, p. 41

<sup>13</sup> [NYC DEP Stormwater Design Manual \(2018\)](#), Table 3-2. Table 3-1. TN Removal by SMP, p. 42

Regardless of whether a site is required to complete the “No Net Increase” analysis, every covered development project should be required to select SMPs dependent on site conditions. Applicants should be required to assess whether infiltration practices are feasible based on groundwater/bedrock clearance and soil contamination. Infiltration infeasibility is especially likely in Gowanus where opportunities for stormwater control may be impacted by both groundwater table clearance and former site contamination.

Where infiltration is deemed infeasible, less stormwater will be removed from the system therefore not achieving the goals of the Unified Stormwater Proposal. We therefore recommend that the SMP Selection and Design Criteria step in the permitting process be amended to require that sites where infiltration is infeasible to provide additional stormwater capture or CSO mitigation in the watershed, through one or all of the following mechanisms:

1. Requirement that increased on-site subsurface detention be mandated, in addition to vegetated infiltration treatment practices
2. Selection of CSO mitigation SMPs as part of an extended “No Net Increase” CSO analysis
3. Establishment of a fund, similar to the DPR Tree Trust<sup>14</sup>, where the applicant pays into a fund (managed by DEP or other governing entity) for the implementation of green infrastructure practices on City owned land, elsewhere in the watershed (Parks, Street Ends, and the public right-of-way)

**Recommendation 5: Expand approved on-site Green Infrastructure (GI) Practices to include standard details adapted for Special Conditions waterbodies**

DEP requires that all SMP practices be selected and designed in accordance with the NYS Stormwater Management and Design Manual (2015). In addition to the NYS SMP options, DEP provides allowances<sup>15</sup> for additional SMPs that can be approved as onsite GI practices in the NYC Stormwater Design Manual.

As discussed during our April 3, 2020 meeting, we are pleased that DEP will be expanding this list of approved GI practices to include additional innovative SMPs as part of a future iteration of the NYC Stormwater Design Manual. GCC, technical consultants, and the waterfront property owners look forward to collaborating on this process. For the purposes of future discussion, we are providing an initial list of recommended practices to consider as standard details for stormwater control and/or CSO mitigation on sites with prevailing special conditions. The following builds on recommendations developed as part of the Gowanus Lowlands Master Plan<sup>16</sup> and we include here a subset of figures developed for Gowanus sites:

- **Wet Swale** (Attachment 1)  
*Note: NYS DEC wet swale adapted for ultra-urban conditions*
- **Swale with Permeable Sidewalk** (Attachment 2)
- **Swale with Permeable Sidewalk (Supported)** (Attachment 3)
- **Enhanced Tree Plantings**, for stormwater management (Attachment 4)  
*Note: Detail includes specifications for the inclusion of suspended paving systems*
- **Street End Stormwater Terraces** (Attachments 5 & 6)  
*Note: In order to be most effective and efficient, these systems **must** include allowances for direct stormwater discharge, stormwater collection in the right-of way, and*

<sup>14</sup> [The New York Tree Trust](#)

<sup>15</sup> [NYC DEP Stormwater Design Manual \(2018\)](#); Attachment 4

<sup>16</sup> [GCC Gowanus Lowlands Master Plan \(Draft\)](#), December 2019

*modifications for stormwater flow at street intersections, all of which would entail coordination with City and State agencies overseeing this jurisdiction. We understand that this remains one of the City's/DEP's greatest challenges for developing a comprehensive street end strategy, but hope to support/participate in future inter-agency discussions that can facilitate pathways moving forward."*

- **CSO Best Practice Recommendations** (to incorporate as part of S/BMP selection for CSO "No Net Increase Analysis"), including grey/black water reuse, smart sewage detention systems, and other conservation tactics<sup>17</sup>
- **Smart Stormwater Systems** including Polder Roof systems and OptiRTC real-time controls<sup>18</sup>

We appreciate DEP's inclusive and transparent process for future citywide stormwater control and water quality improvement and we look forward to participating in next steps in the process.

Respectfully,

Gowanus Canal Conservancy  
SCAPE Landscape Architecture  
Sherwood Engineering  
Domain Companies  
Monadnock Development  
Property Markets Group (PMG)  
Geto & de Milly, Inc.

<sup>17</sup> [GCC Gowanus Lowlands Master Plan \(Draft\)](#), December 2019, p. 110-111

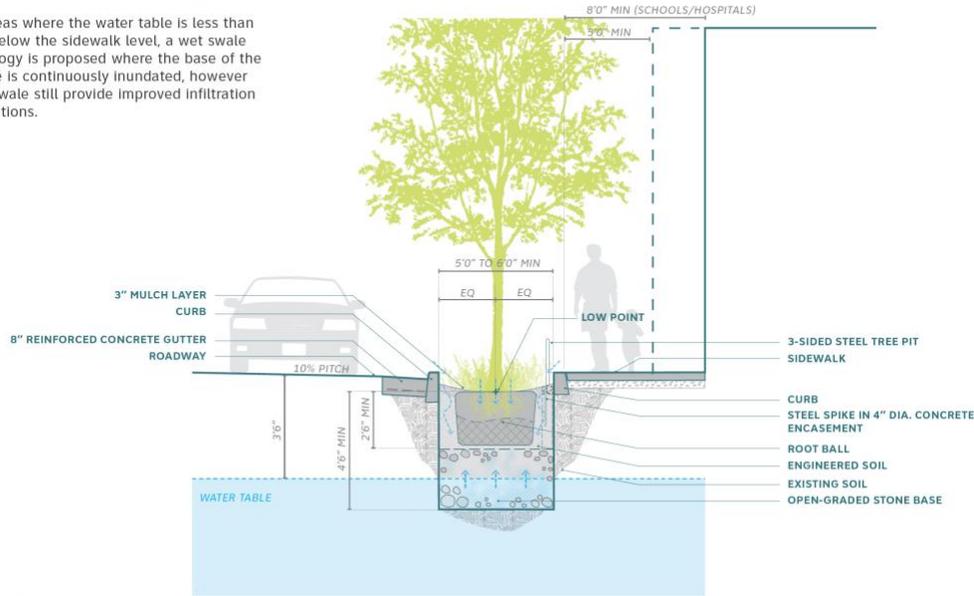
<sup>18</sup> [GCC Gowanus Lowlands Master Plan \(Draft\)](#), December 2019, p. 112-113

**NOTE:** All detail drawings are illustrative and included as a starting point for discussion; it is understood that the use and applicability of each detail would be dependent on site-specific conditions and existing drainage infrastructure.

## Attachment 1: Wet Swale

### WET SWALE (BELOW WATER TABLE RAIN GARDEN)

In areas where the water table is less than 10' below the sidewalk level, a wet swale typology is proposed where the base of the swale is continuously inundated, however the swale still provide improved infiltration conditions.

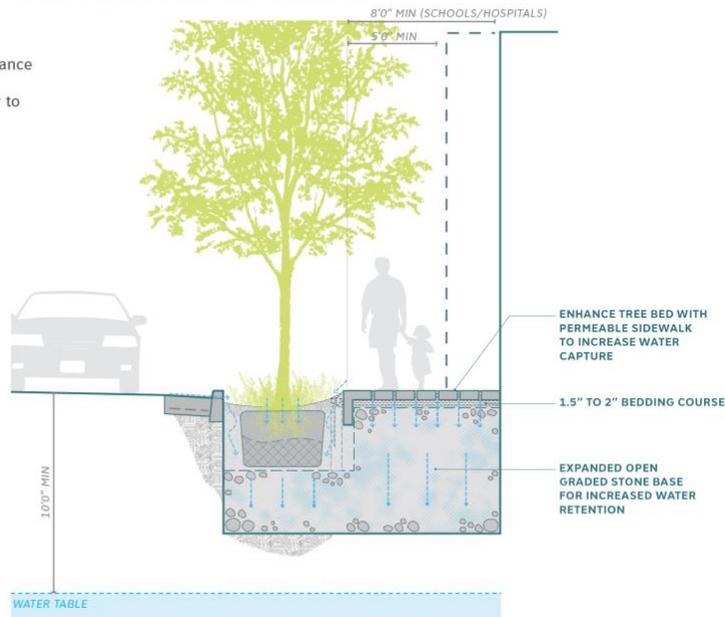


#### SCAPE

## Attachment 2: Swale with Permeable Sidewalk

### SWALE WITH PERMEABLE SIDEWALK

Trees planted along streets and in hardscape areas along the canal are provided with improved setting to enhance stormwater collection and infiltration, including edges that allow stormwater to flow unobstructed into the tree bed.

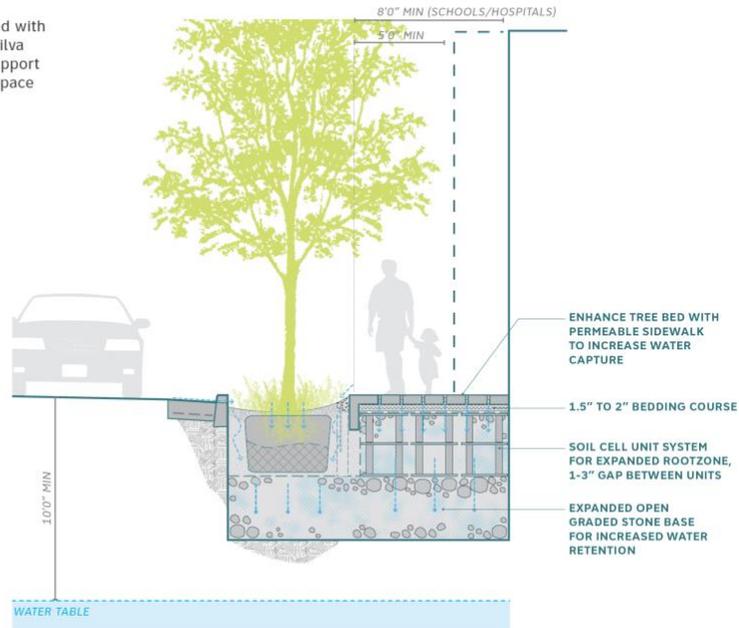


#### SCAPE

### Attachment 3: Swale with Permeable Sidewalk (Supported)

## SWALE WITH PERMEABLE SIDEWALK (SUPPORTED)

An expanded bioswale is supplemented with a structural support system (such as Silva Cell or similar), providing increased support for sidewalk loads while maintaining space for tree roots and utilities as needed.



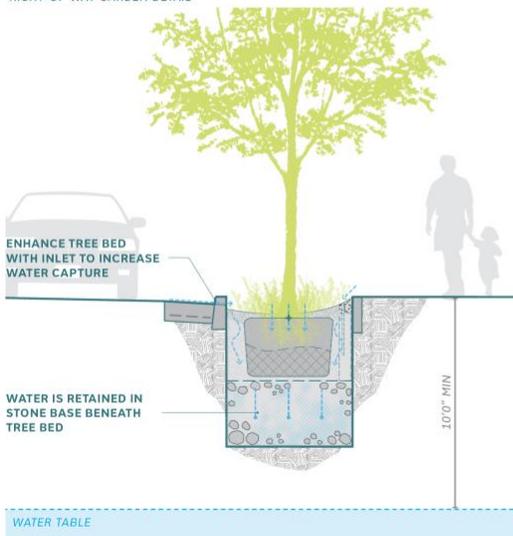
### SCAPE

### Attachment 4: Enhanced Tree Bed

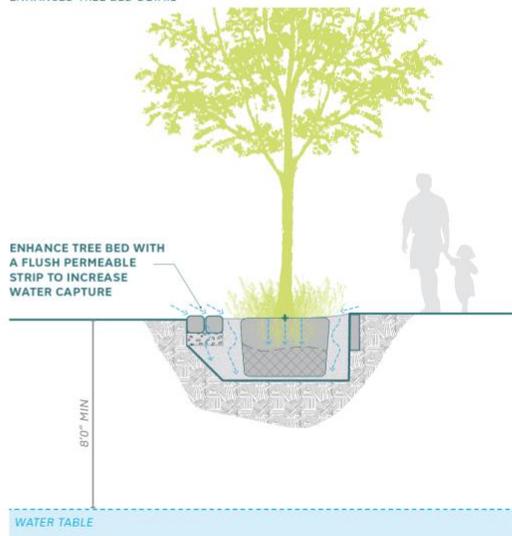
## ENHANCED TREE BED

Trees planted along streets and in hardscape areas along the canal are provided with improved setting to enhance stormwater collection and infiltration, including edges that allow stormwater to flow unobstructed into the tree bed.

RIGHT-OF-WAY GARDEN DETAIL



ENHANCED TREE BED DETAIL

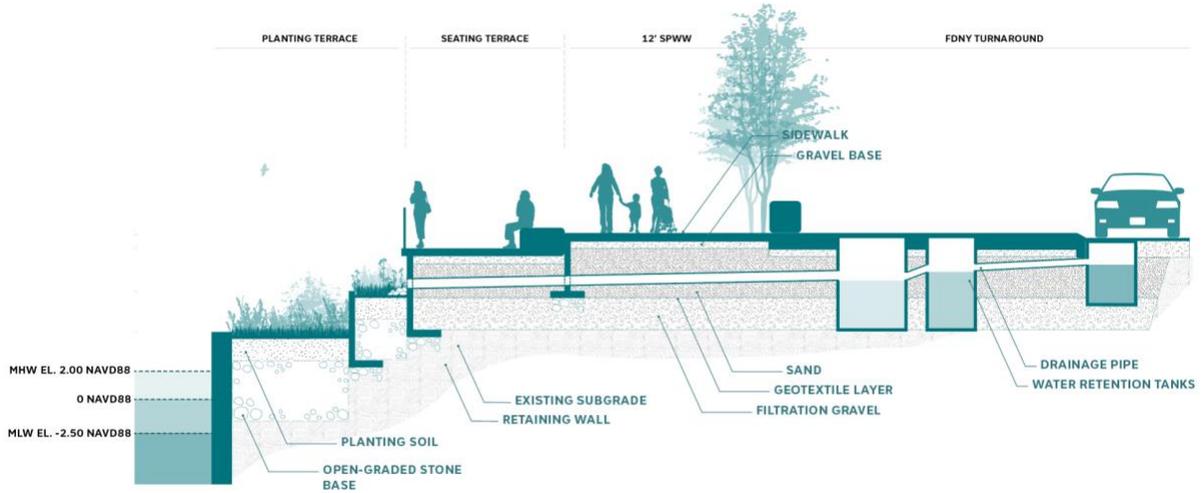


### SCAPE

**Attachment 5: Street End Stormwater Terrace (1)**

## STREET END STORMWATER TERRACES

Stormwater is collected at the street end and conveyed below the surface into planted terraces where water filtration and infiltration are expressed in the landscape before any excess water flows into the canal.



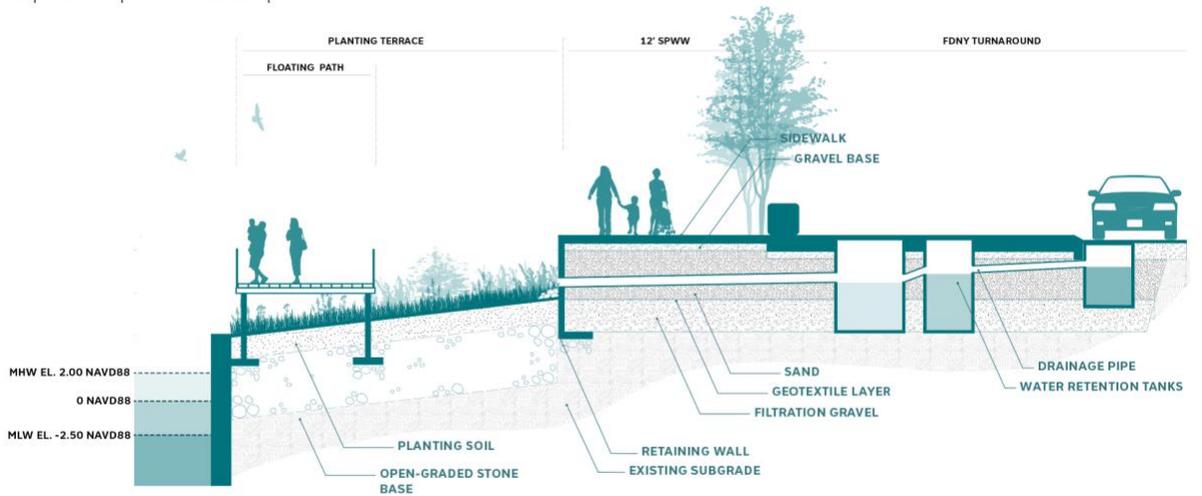
**SCAPE**

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**Attachment 6: Street End Stormwater Terrace (2)**

## STREET END STORMWATER TERRACES

Stormwater is collected at the street end and conveyed below the surface into a planted slope for filtration and infiltration before any excess water flows into the canal. A floating path over the planted slope creates an immersive experience where stormwater management processes are expressed as part of the landscape.



**SCAPE**

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