

1309 - 1329 5TH STREET NE WASHINGTON, DC

PUD SUBMISSION 2014 JULY 3  
(REVISED 2015 JANUARY 30)

LANDSCAPE - GREEN INITIATIVES LD 2



**NOTE 1**


LONG TERM BICYCLE PARKING FOR SOUTH BUILDING OFFICE OR RESIDENTIAL USES WILL BE PROVIDED ON MEZZANINE LEVEL ABOVE FIRST FLOOR. (I.E. ABOVE OFFICE OR RESIDENTIAL LOBBY). NUMBER OF BICYCLE SPACES WILL BE ONE/THREE DU FOR RESIDENTIAL OR 5% OF OFFICE AUTOMOBILE PARKING REQUIREMENT.

  
LONG TERM BICYCLE PARKING SPACES PROVIDED IN GARAGE AS REQUIRED BY DCMR FOR BOTH NORTH AND SOUTH BUILDINGS

PLAZA

SEE NOTE 1

PARK

  
30 BIKES

  
24 BIKES

5th STREET NE

6th STREET NE

NEAL PLACE





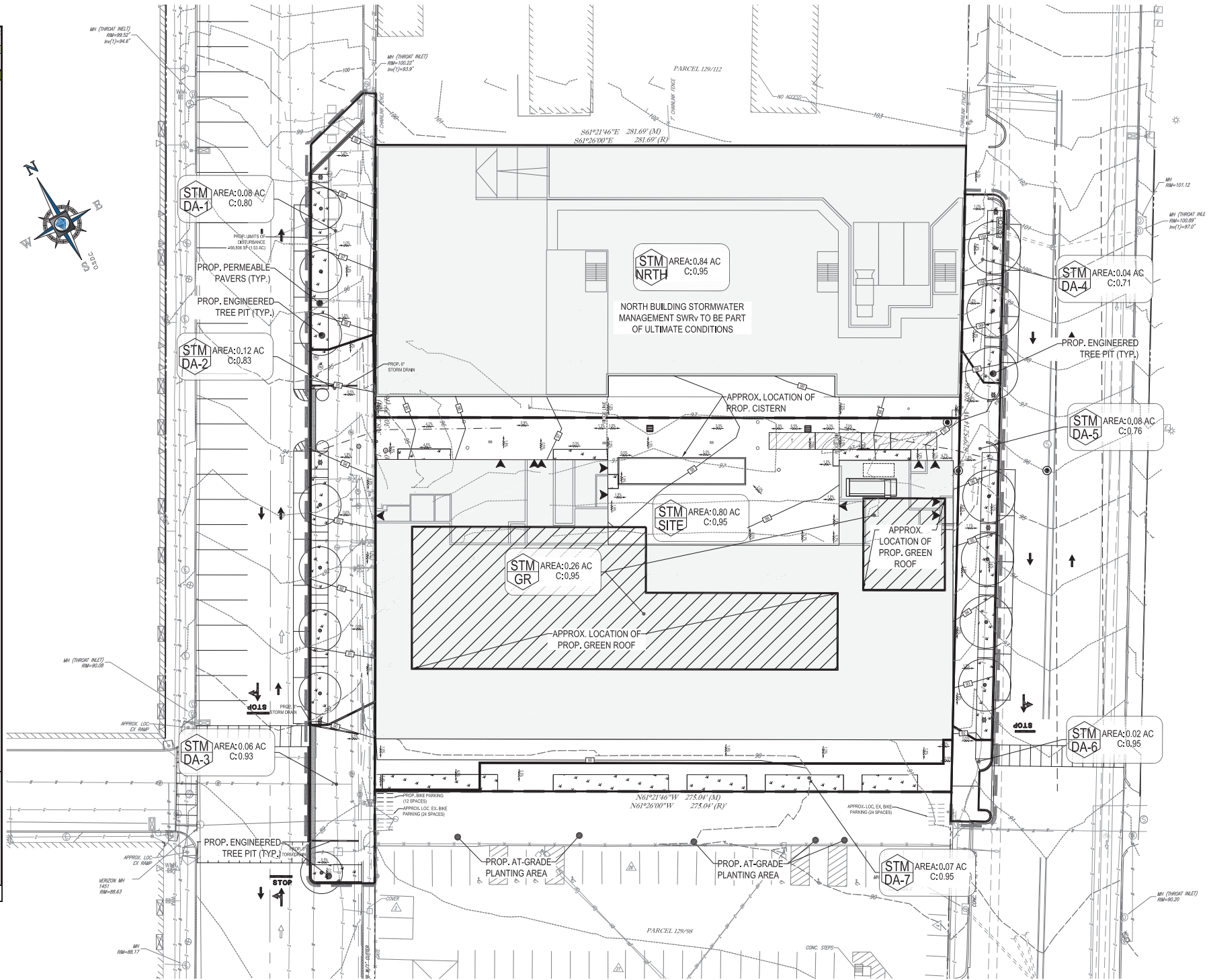
GREEN AREA RATIO SUMMARY:

Green Area Ratio Scoresheet			
Address	Word	Lot	Score
1309 5th Street NE			0.21

Landscaping Elements	Score	Weight	Total
<b>A Landscaped areas (select one of the following for each area)</b>			
1 Landscaped areas with a soil depth of less than 24"	0.3		
2 Landscaped areas with a soil depth of 24" or greater	2,100	0.6	1,260.0
3 Bioretention facilities	0	0.4	
<b>B Plantings (credit for plants in landscaped areas from Section A)</b>			
1 Groundcovers, or other plants less than 2" tall at maturity	2,300	0.2	420.0
2 Plants, not including grasses, 2" or taller at maturity - calculated at 9 sq ft per plant (typically planted no closer than 18" on center)	0	0.3	
3 Tree canopy for all new trees 2.5" to 6" diameter or equivalent - calculated at 50 sq ft per tree	0	0.5	
4 Tree canopy for new trees 6" diameter or larger or equivalent - calculated at 250 sq ft per tree	0	0.6	
5 Tree canopy for preservation of existing tree 6" to 12" diameter or larger or equivalent - calculated at 250 sq ft per tree	0	0.7	
6 Tree canopy for preservation of existing tree 12" to 18" diameter or larger or equivalent - calculated at 600 sq ft per tree	0	0.7	
7 Tree canopy for preservation of all existing trees 18" to 24" dia. or equivalent - calculated at 1300 sq ft per tree	0	0.7	
8 Tree canopy for preservation of all existing trees 24" diameter or larger or equivalent - calculated at 2000 sq ft per tree	0	0.8	
9 Vegetated wall, plantings on a vertical surface	0	0.6	
<b>C Vegetated or "green" roofs</b>			
1 Over at least 2" and less than 8" of growth medium	0	0.6	
2 Over at least 8" of growth medium	11,200	0.8	8,960.0
<b>D Permeable Paving***</b>			
1 Permeable paving over at least 6" and less than 24" of soil or gravel	0	0.4	
2 Permeable paving over at least 24" of soil or gravel	0	0.5	
<b>E Other</b>			
1 Enhanced tree growth systems***	0	0.4	
2 Renewable energy generation	0	0.5	
3 Approved water features	0	0.2	
<b>H Bonuses</b>			
1 Native plant species	0	0.1	
2 Landscaping in food cultivation	2,000	0.1	200.0
3 Harvested stormwater irrigation	0	0.1	

\*\*\* Permeable paving and structural soil together may not qualify for more than one third of the Green Area Ratio score.  
Total square footage of all permeable paving and enhanced tree growth = 10,840



SWM NARRATIVE:

**I. SITE DESCRIPTION:**  
THE SUBJECT SITE IS LOCATED BETWEEN 5TH STREET, N.E. AND 6TH STREET, N.E. TO THE NORTH OF REAL PLACE, N.E. THE SITE CONSISTS OF TWO PARCELS APPROXIMATELY 66,819 S.F. (1.52 AC) TOTAL. US MAINTENANCE CONDITIONS FOR BOTH THE NORTH AND SOUTH BUILDING WILL CONTRIBUTE APPROXIMATELY 103,243 SQUARE FEET (2.37 AC) FOR THE PURPOSES OF THE PLAN. THE STORMWATER MANAGEMENT FOR THE SOUTH BUILDING HAS BEEN DESIGNED AND DETAIL FOR THE PURPOSES OF THIS PLAN. THE STORMWATER MANAGEMENT FOR THE NORTH BUILDING WILL CONTRIBUTE APPROXIMATELY 103,243 SQUARE FEET (2.37 AC) FOR THE PURPOSES OF THIS PLAN.

**II. METHODOLOGY:**  
THE CURRENT CODE STORMWATER REGULATIONS WERE UTILIZED TO CALCULATE THE REQUIRED STORMWATER RETENTION VOLUMES FOR PRIVATE AND PUBLIC RIGHT-OF-WAY DRAINAGE AREAS. THE PRIVATE AND PUBLIC STORMWATER RETENTION CALCULATIONS ARE SHOWN BELOW.

**III. STORMWATER RETENTION VOLUME (ON-SITE):**  
ON-SITE STORMWATER RETENTION WILL BE PROVIDED THROUGH THE IMPLEMENTATION OF BOTH A GREEN ROOF AND CISTERN FOR WATER REUSE INTERNAL TO THE BUILDING. THE PROPOSED GREEN ROOF AREAS HAVE BEEN SIZED AS FOLLOWS:

PRIVATE ON-SITE SWRW REQUIREMENT (FOR PUD PURPOSES):  

$$SWRW_{PR} = (S_1 \times A_1 + S_2 \times A_2 + S_3 \times A_3) \times C \times 1.1$$

$$= (12 \times 10,840 + 0.25 \times 0.0 + 0.25 \times 0.0) \times 0.95 \times 1.1 = 1,540 \text{ CF}$$
 PUBLIC ROW SWRW REQUIREMENT:  

$$SWRW_{PR} = (S_1 \times A_1 + S_2 \times A_2 + S_3 \times A_3) \times C \times 1.1$$

$$= (12 \times 10,840 + 0.25 \times 0.0 + 0.25 \times 0.0) \times 0.95 \times 1.1 = 1,540 \text{ CF}$$
 ON-SITE STORMWATER RETENTION VOLUME (ON-SITE):  

$$SWRW_{ON} = (S_1 \times A_1 + S_2 \times A_2 + S_3 \times A_3) \times C \times 1.1$$

$$= (12 \times 10,840 + 0.25 \times 0.0 + 0.25 \times 0.0) \times 0.95 \times 1.1 = 1,540 \text{ CF}$$
 ULTIMATE CONDITIONS ON-SITE SWRW REQUIREMENT:  

$$SWRW_{UC} = (S_1 \times A_1 + S_2 \times A_2 + S_3 \times A_3) \times C \times 1.1$$

$$= (12 \times 10,840 + 0.25 \times 0.0 + 0.25 \times 0.0) \times 0.95 \times 1.1 = 1,540 \text{ CF}$$
 AREAS WITH A DEPTH:  

$$S_1 = 11,200 \times 0.8 \times 0.15 = 1,344 \text{ CF}$$

$$S_2 = 1,540 \text{ CF}$$
 THE REMAINING VOLUME WILL BE CAPTURED AND REUSED ON-SITE BY THE MECHANICAL SYSTEM. THE PROPOSED PROJECT WILL INCLUDE THE CONSTRUCTION OF A 50,000 GALLON CISTERN, WHICH ALLOWS FOR WATER RETENTION VOLUME CREDIT, PROVIDING A STORAGE VOLUME OF 2,330 CF. THE TOTAL COVERED STORAGE VOLUME FOR THE GREEN ROOF AREAS ABOVE AND CISTERN RETENTION IS 4,870 CF.

**IV. STORMWATER RETENTION VOLUME (OFF-SITE):**  
PUBLIC RIGHT-OF-WAY STORMWATER RETENTION WILL BE PROVIDED THROUGH ENGINEERED TREE PITS (BIoretention BMP) WITH CONTINUOUS SOIL FILTERS BELOW THE TREE PLANTING AREAS, PERMEABLE PAVERS BETWEEN THE PLANTER AREAS AND ADJACENT CONVENTIONAL PAVEMENT. THE PROPOSED BIoretention DESIGN WILL HAVE A UNDERDRAIN, BUT NO INFILTRATION SUMP. SC-17 HAS BEEN CALCULATED AS STANDARD BIoretention. THE PROPOSED STORAGE VOLUME IS CALCULATED AS FOLLOWS:  

$$R_v = 0.6 \times S_v$$

$$S_v = SA \times (100 \times \text{mm}) \times (0.9 \times \text{mg}) \times (SA \times 0.9)$$

$$S_v = 3,187 \times (8 \times 0.15) \times (0.17 \times 0.15) \times (3,187 \times 0.9) = 2,949 \text{ CF}$$

$$R_v = 0.6 \times 2,949 = 1,769 \text{ CF}$$
 THE PROPOSED BIoretention DESIGN WILL HAVE A UNDERDRAIN, BUT NO INFILTRATION SUMP. SC-17 HAS BEEN CALCULATED AS STANDARD BIoretention. THE PROPOSED STORAGE VOLUME IS CALCULATED AS FOLLOWS:  

$$R_v = 0.6 \times S_v$$

$$S_v = SA \times (100 \times \text{mm}) \times (0.9 \times \text{mg}) \times (SA \times 0.9)$$

$$S_v = 3,187 \times (8 \times 0.15) \times (0.17 \times 0.15) \times (3,187 \times 0.9) = 2,949 \text{ CF}$$

$$R_v = 0.6 \times 2,949 = 1,769 \text{ CF}$$
 ON-SITE RUNOFF FROM THE PROPOSED DEVELOPMENT IS STORED IN THE PROPOSED GREEN ROOFS AND CISTERN FOR BUILDING REUSE. STORM EVENTS IN EXCESS OF 1.2" WILL BE CONVERTED TO A PROPOSED STORM SEWER LATERAL, WHICH CONNECTS INTO THE EXISTING PUBLIC STORM SEWER UNDER 5TH STREET, N.E. THE TOTAL STORAGE VOLUME CAPACITY PROVIDED IN THE GREEN ROOFS AND CISTERN MEETS STORAGE VOLUME REQUIREMENTS (3,949 CF) PLUS PROVIDING AN ADDITIONAL 1/4 OF STORAGE.

**V. OFF-SITE STORM SEWER NETWORK:**  
THE EXISTING SITE IS TRIBUTARY TO THE EXISTING PUBLIC 24" DIAMETER STORM SEWER IN 5TH STREET, N.E. AND THE EXISTING 24" STORM SEWER IN 6TH STREET, N.E.

**VI. SUMMARY:**  
ON-SITE RUNOFF FROM THE PROPOSED DEVELOPMENT IS STORED IN THE PROPOSED GREEN ROOFS AND CISTERN FOR BUILDING REUSE. STORM EVENTS IN EXCESS OF 1.2" WILL BE CONVERTED TO A PROPOSED STORM SEWER LATERAL, WHICH CONNECTS INTO THE EXISTING PUBLIC STORM SEWER UNDER 5TH STREET, N.E. THE TOTAL STORAGE VOLUME CAPACITY PROVIDED IN THE GREEN ROOFS AND CISTERN MEETS STORAGE VOLUME REQUIREMENTS (3,949 CF) PLUS PROVIDING AN ADDITIONAL 1/4 OF STORAGE.

**NOTE:**  
AREAS AND/OR VOLUMES USED FOR GREEN AREA RATIO SCORING AND FOR STORMWATER MANAGEMENT RETENTION ARE APPROXIMATE AND ARE SUBJECT TO CHANGE DUE TO SITE LAYOUT AND DESIGN CHANGES. ALL GAB SCORE AND STORMWATER MANAGEMENT STORAGE AREAS AND/OR VOLUMES ARE TO MEET CODE REQUIREMENTS IF THE DESIGN GEOMETRIES OR LAYOUT ARE MODIFIED.

**HATCH LEGEND**  
PROP. GREEN ROOF (6" MIN. SOIL DEPTH)

**BOHLER DC**  
SITE CIVIL AND CONSULTING ENGINEERING  
LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

REV	DATE	COMMENT	BY

**NOT APPROVED FOR CONSTRUCTION**

PROJECT NO.: DC12124  
 DRAWN BY: KAM  
 CHECKED BY: KAM  
 DATE: 10/18/14  
 SCALE: 1" = 20'  
 CAD/L: DAD

**STREETSCAPE IMPROVEMENTS PLAN FOR EDENS UNION MARKET**

LOCATION OF SITE  
1309 5TH STREET, NE  
WASHINGTON, DC

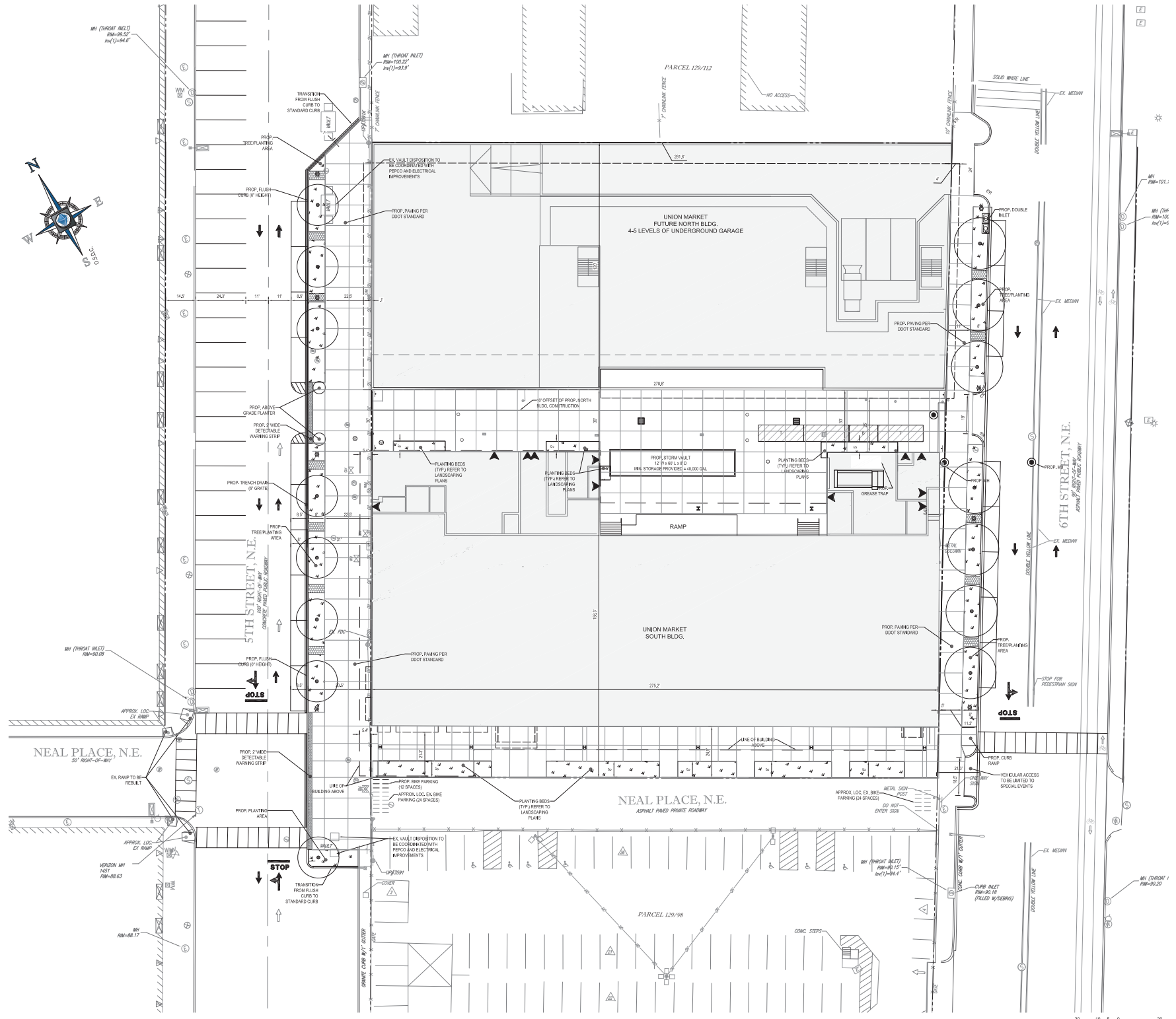
**BOHLER DC**  
1301 PENNSYLVANIA AVE., NW, STE. 625  
WASHINGTON, DC 20004  
Phone: (202) 524-6700  
Fax: (202) 524-5701  
DC@BohlerEng.com

**STORMWATER MANAGEMENT AND GREEN AREA RATIO PLAN**

SHEET NUMBER:  
**C-500**

OF 5

PRELIMINARY CIVIL DRAWINGS FOR ILLUSTRATIVE PURPOSE ONLY AND SUBJECT TO CHANGE IN FINAL DESIGN



NOTE: THIS PLAN IS CONCEPTUAL AND PRELIMINARY- WORK IN PROGRESS.

- NOTES:**
1. PROPOSED TREES ALONG 6TH STREET, N.E. ARE PLACED AT A 30' SPACING BECAUSE THERE ARE NO OVERHEAD WIRES IN EXISTING CONDITIONS PER DOT DESIGN AND ENGINEERING MANUAL, SECTION 47.4.2.1.
  2. PROPOSED TREES ALONG 5TH STREET, N.E. ARE PLACED AT A 20' SPACING BECAUSE THERE ARE OVERHEAD WIRES IN EXISTING CONDITIONS PER DOT DESIGN AND ENGINEERING MANUAL, SECTION 47.4.2.1.
  3. STREET LIGHTS SHALL BE A MINIMUM SPACING OF 60' AND A MAXIMUM OF 150' PER DOT DESIGN AND ENGINEERING MANUAL, SECTION 47.4.2.
  4. STREETSCAPE IMPROVEMENTS IN THE PUBLIC RIGHT-OF-WAY WILL BE PHASED TO OCCUR SIMULTANEOUSLY WITH THE ADJACENT BUILDING IMPROVEMENTS.

**BOHLER DC**  
 SITE CIVIL AND CONSULTING ENGINEERING  
 LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE  
 SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

**REVISIONS**

REV	DATE	COMMENT	BY



**NOT APPROVED FOR CONSTRUCTION**

PROJECT NO.: DC12124  
 DRAWN BY: MAR  
 CHECKED BY: MAR  
 DATE: 10/20/14  
 SCALE: 1"=20'  
 CAD/LD: BSS

**STREETSCAPE IMPROVEMENTS PLAN FOR EDENS UNION MARKET**

LOCATION OF SITE  
 1309 5TH STREET, NE  
 WASHINGTON, DC

**BOHLER DC**  
 1301 PENNSYLVANIA AVE., NW, STE. 625  
 WASHINGTON, DC 20004  
 Phone: (202) 524-6700  
 Fax: (202) 524-5701  
 DC@BohlerEng.com

SHEET TITLE:  
**STREETSCAPE IMPROVEMENTS**

SHEET NUMBER:  
**C-300**

OF 8

PRELIMINARY CIVIL DRAWINGS FOR ILLUSTRATIVE PURPOSE ONLY AND SUBJECT TO CHANGE IN FINAL DESIGN