

NOMA STREETSCAPE GUIDELINES

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GUIDELINES

INTRODUCTION

The NoMa Streetscape Guidelines provide a set of parameters for the design and use of the right-of-way in the core of the NoMa neighborhood. For several years, NoMa has had two governing documents that provide guidance on how the streetscape should be planned: the NoMa Vision Plan and Development Strategy of 2006 and the NoMa Public Realm Design Plan of 2012. The NoMa Streetscape Guidelines takes the best of these guidelines and adds new elements that will enhance the health, use, and vitality of public space in NoMa.

The NoMa Streetscape Guidelines will fulfill a goal of the 2012 NoMa Public Realm Design Plan to transform each street into a linear park space. Urban centers are frequently inhospitable to trees and vegetation. But, by providing adequate, aerated soil for street trees, these Guidelines will enable the development of lush, healthy street trees and maximize stormwater retention, while the recommended palette of materials will create durable, comfortable places that are urban, civic, and bustling.

The study area that these Guidelines cover includes six primary streets in Northeast DC, running north-south from K Street NE to N Street NE and east-west from North Capitol Street to 2nd Street NE. Patterson Street NE is the only minor street to be included. The Guidelines are applicable not only for these specific streets but other streets in NoMa with similar right-of-way (ROW) dimensions and characteristics.

The specific streets studied establish functional hierarchy, as follows:

First Street NE is NoMa's Main Street and serves as the backbone for the area. Due to its central location, north-south orientation, wide ROW, and broad sidewalks, First Street will be the best example of a great street in NoMa.

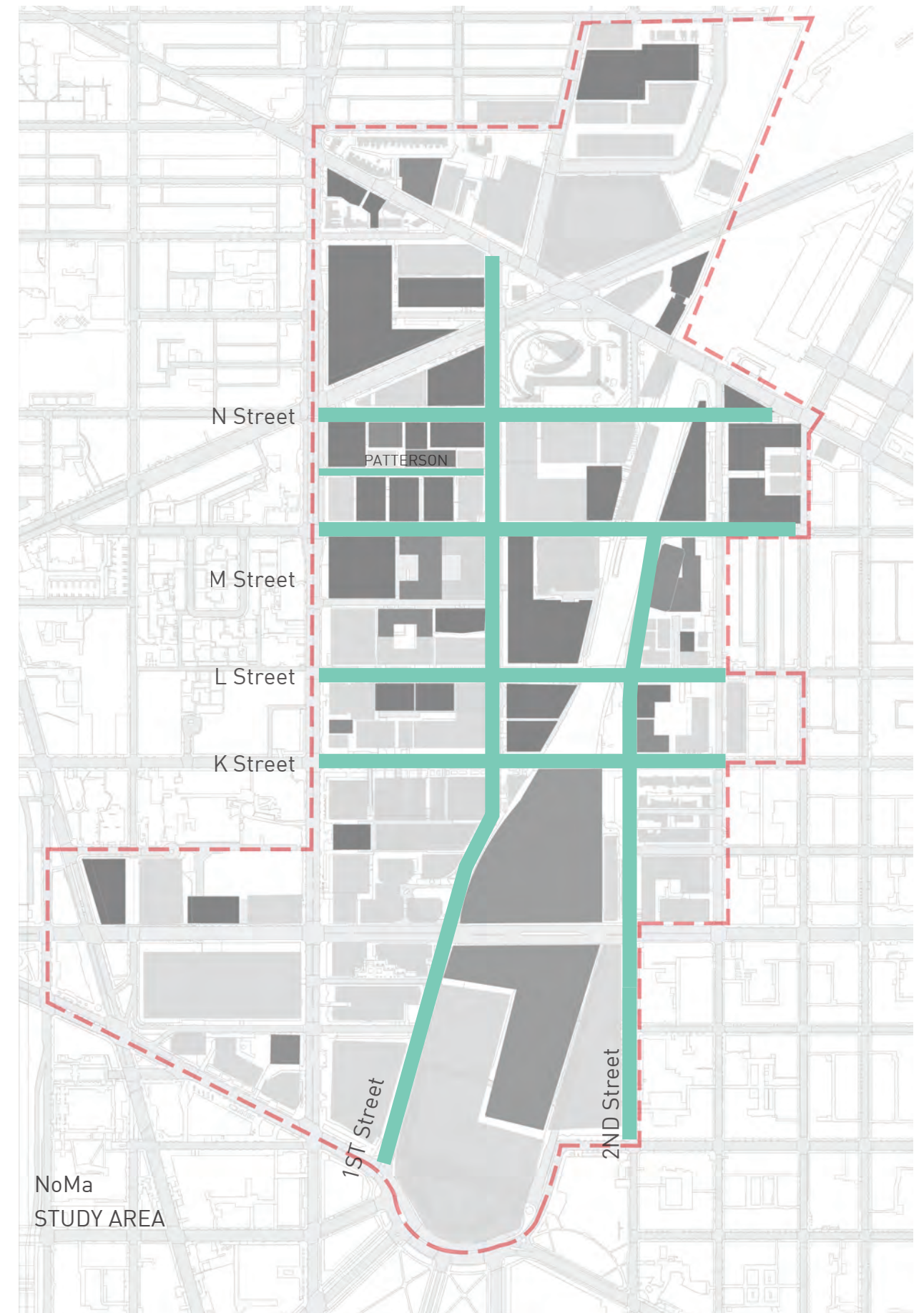
K Street NE is NoMa's widest ROW, which will allow it to incorporate the Guidelines to the maximum extent possible. Thus, it has the potential to become a lush, linear park that can tie both First and 2nd Streets together. K Street is a critical cross street, connecting secondary streets and adjacent neighborhoods to the east and west of NoMa.

L, M, and N Streets NE are NoMa's most intensely mixed-use streets. They also serve as secondary collector streets that tie NoMa to the east and west portions of the city.

2nd Street NE serves primarily as the north-south link the along the rail yard. It is narrow, and often without setbacks, so it is the most challenging of the streets for implementing the goals of the Guidelines.

Patterson Street NE is a very narrow minor street within NoMa. It serves the same basic function as M and N Streets NE, but with reduced capacity and with parking on both sides of the street.

In the following pages, you will find a set of guidelines for creating great streets in NoMa. Supplemental materials include documentation of the work that was completed to arrive at these guidelines; an inventory of the existing conditions on these streets; and an evaluation of current conditions.



GUIDELINES



STREET TREES AS A LINEAR PARK

GUIDELINES

GOALS

Great Streets

Streets are our interface with the city. The experience of the street shapes our understanding and relationship with a place. According to Allan Jacobs, a great street is a “desirable place to be, to spend time, to play, to work, at the same time that it markedly contributes to what a city [or neighborhood] should be.”

Like a park, a great street is physically comfortable, with respites of shade and seating. It feels safe and secure, with adequate lighting and activity at night. It is accessible to all, inviting anyone to occupy it and interact with it. It promotes responsible and sustainable use of resources, including stormwater and waste management. A great street is, in essence, a linear urban park.

Guideline Goals:

The primary design goals for NoMa streets support the creation of great streets in NoMa. They are:

Encourage growth of a large, healthy canopy

Wherever possible, provide the maximum soil volumes so that trees planted in each block can grow to full maturity. Large trees require 1500 cubic feet (CF) of soil, medium trees 1000CF, and small trees 800CF. This single objective will contribute most significantly to the enhancement of the street environment by providing dappled light and shade for maximum comfort.

Enliven street activity

Provide social spaces for outdoor gathering and dining. The incorporation of café seating and other informal movable seating areas are also highly recommended to enhance the quality of the street life.

Provide accessible and easily walkable pedestrian paths

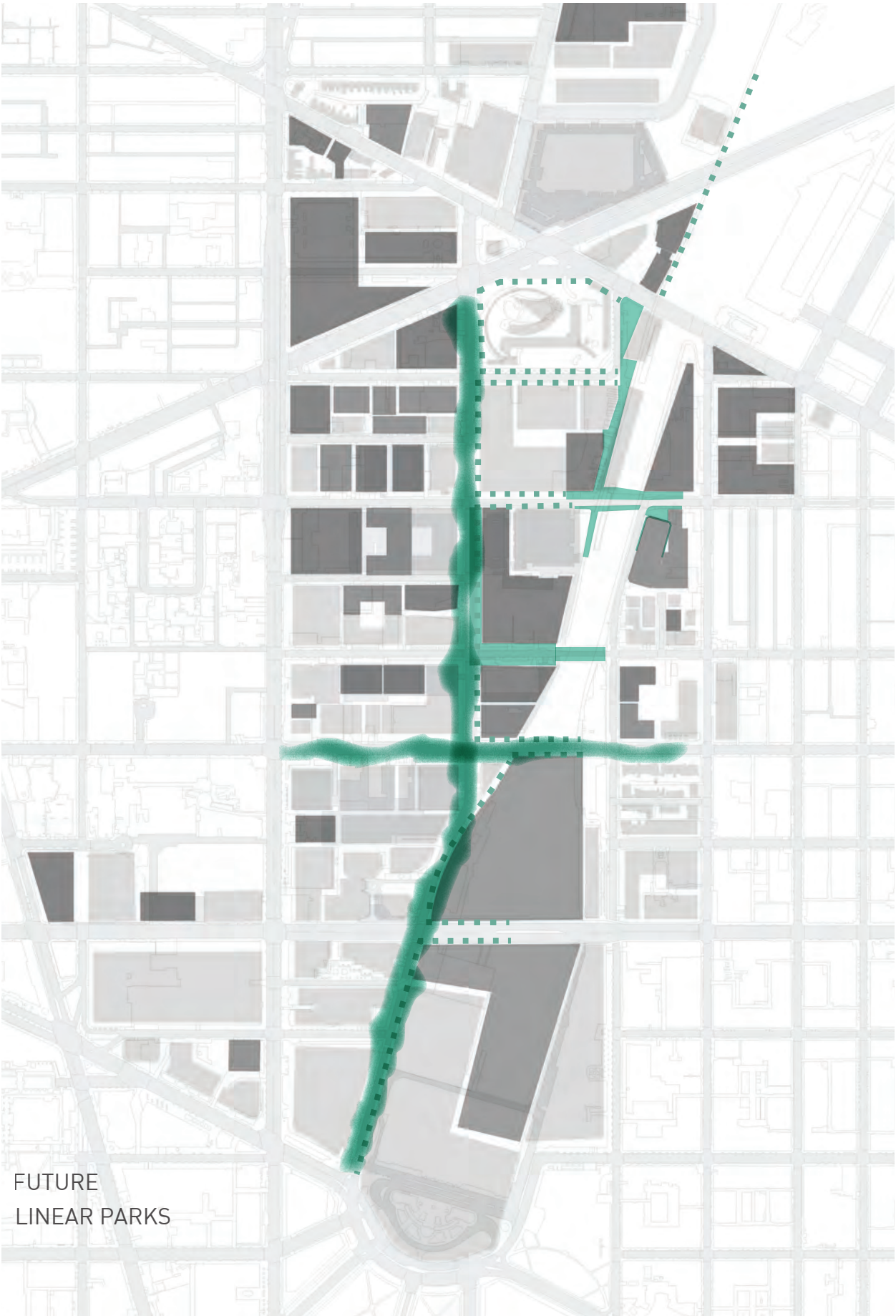
Maintain the minimum required DDOT sidewalk widths. These Guidelines promote a streetscape concept that is no longer bifurcated, but a single generous walkway zone, to provide flexibility and to establish social spaces.

Promote sustainability of urban resources

Permeable pavements allow efficient infiltration of stormwater on site. When combined with systems such as Silva cells (or other suspended pavement systems) that maximize soil volumes underneath pavement for root development, a symbiotic relationship between tree growth and stormwater management is enabled.

Fulfill the Districts Infrastructure Standards

Maximizing soil volumes will better enable each street and block to meet its stormwater management responsibilities.



FUTURE
LINEAR PARKS

GUIDELINES

GENERAL SUMMARY

Materials & Furnishings		Street Trees	
Building Edges	All streetscape designs shall take into account the adjacent ground floor elevations and uses. Retail uses and residential bay windows may project up to 4’ within public space, so it is important that the minimum DDOT walkway widths for each designated street take these projections into account. Building entrances shall be flush, and sidewalk cross slopes shall be in conformance with ADA guidelines. Residential windows and spaces should be separated or buffered with landscaping or planting beds so that they are not directly accessible from the streetscape sidewalks.	Existing Trees	All existing trees within NoMa project area should be evaluated for health and vigor. Those in good to excellent condition should be preserved and incorporated into the palette specified for the street. During construction, every effort should be made to protect and preserve existing healthy trees from damage.
Utilities	It is critical to the successful layout of the streetscape block, as well as street tree spacing and rhythms, that subsurface utilities and easements, particularly those owned by DC Water, are identified, located, and properly surveyed. Trees and furnishings shall maintain the minimum required setbacks from easements, fire hydrants, and streetlights.	Soils	Soil volumes for large canopy trees require 1500CF (cubic feet) at a 3’ depth. In order to accommodate large trees with this level of soil volume, continuous soil panels or tree trenches are often required. These Guidelines recommend a compromise that maximizes soil volumes with the use of permeable pavers over a suspended pavement system, such as “Silva cells” to create areas that can support both street life and street trees.
Typical Block	Laybys are prohibited by DDOT with exceptions for hotels where no on-street parking exists. Step-out zones along tree boxes are only required where there is on-street parking. Maximum and minimum design configurations are defined for the four street types within the Guidelines. This will allow for a range of design possibilities.	Spacing	Street trees shown on the following typical plan diagrams range from 30’ to 40’ on center (OC). DDOT Urban Forestry Administration (UFA) recommendation is 30’ OC for both large and medium sized canopy trees, in order to best work with the typical street lighting module. The important attribute is to plant them so the tree canopies will eventually grow together to provide a continuously shaded street, creating the quality of a linear park. DDOT UFA recommends 20’ for the spacing of all small and understory plantings.
Max & Min	Maximum and minimum configurations are provided for the four street types within the Guidelines. Two options are presented within each maximum configuration: one that maximizes paving surface area for pedestrian movement and gathering, and one that favors planting surface area for stormwater and low impact development (LID) requirements.	Size	Street trees should be installed at 2.5”-3” caliper unless otherwise requested by DDOT.
	Both configurations delineate the areas and amount of soil volumes. Each typical block also provides five diagrams that show the relationships between tree canopy and lighting layout, soil volumes, materiality, planting, and accents. In addition, detailed plans and typical sections are presented for each street type.	Staking	Staking of the smaller sized trees is recommended. Generally, larger trees do not require staking unless they are in a very windy area or have persistent leaves that can act as sails during the winter months.
	These Guidelines are applicable not only for these specific streets, but other streets within NoMa with similar ROW dimensions and characteristics.	Tree Boxes	Each planter bed should be edged on three sides with the DDOT typical edge restraint detail. The rail should be approximately 18” high and contemporary in style. (Examples are shown in Materials Matrix, p. 7.)
		Understory Trees & Groundcovers	Planting beds should be planted to create a lush, full effect. Plants need to be tolerant of a wide range of soil and moisture conditions and should be selected for foliage and textural contrasts. Plants should also be native, non-invasive, and low-maintenance varieties and species. Suggested types include the following shrubs: Virginia Sweetspire (Itea virginica), and native groundcovers, such as lily turf (Liriope muscari) and sedges (Carex sp.).

Street Trees (cont’d)

Raised Planters

In some instances and locations within the streetscape design, the desire to use raised planting beds should be considered. Raised planters are encouraged in the second row of trees and may be used along with seat walls to help separate seating areas from busy intersections, pedestrian movements, or building entries to create a park-like setting. Raised planters allow the branches of small multi-stemmed trees to be raised above pedestrian walkways. It is recommended that benches be segmented or placed in a manner that will allow sheet flow run-off from the sidewalks to enter into permeable pavings or soil areas of planting or tree beds.

Raised planters are considered non-standard DDOT treatments and will be reviewed on a case-by-case basis. If approved, they will require a maintenance agreement.

GUIDELINES

TYPICAL BLOCK

It should be noted that the use of any non-standard material will require approval by DDOT on a case-by-case basis. Approvals will also require the applicant to record a maintenance agreement with the District inclusive of any work required due to any unresolved issues as a result of utility improvements.

DDOT Material Standards

DDOT has set basic material standards for their street design and development, which do not require special review or approvals. The standard or minimum plans shown for each street type within NoMa may use DDOT standard materials and techniques. The maximum plans recommend other materials and techniques that are outside DDOT standards.

Minimum Plans: Standard DDOT Materials

Pavings

The Guidelines recommend the continued use of DDOT standard exposed aggregate paving, established in the 2012 Guidelines, as the dominant non-permeable paving type for use within the NoMa BID. In addition, the standard 3’x3’ scored concrete paving may also be used to contrast and accent the exposed aggregate paving where appropriate. Curbs, gutters, and crosswalks will also utilize standard DDOT materials.

Furnishings

Standard DDOT furnishings may be used for the minimally acceptable streetscape plans within NoMa, as shown on p. 7.

Maximum Plans: Standard & Non-Standard DDOT Materials

Pavings

In addition to the Standard DDOT materials recommended in the minimum plans, the maximum plans introduce other materials for enriching the palette and functionality of the streetscape design.

Furnishings

The Guidelines build on the current materiality found in NoMa. (Examples are shown in the Materials Matrix, p. 7.) The development and use of the stone Burnham benches, to extend the character and motif of the rail yard throughout NoMa, are also encouraged.

Soil & Plantings

These Guidelines encourage the use of suspended pavement systems (see p. 9) for the long-term benefits of trees and SWM goals. However, there are potential conflicts with DC Water utility easements. DOEE and UFA would like to see their use expanded for the benefit and improvement of trees and soils, however, there are potential challenges that arise from the presence of DC water utility easements.

Lighting & Special Features

The use of special lighting such as catenary lights, tree up-lights, or other decorative lights is encouraged. Automatic irrigation systems to help with tree and plant material establishment and maintenance should also be considered.

GUIDELINES

PROPOSED STREET COMPOSITION & MATERIALS

Street	Dimensions								Materials								Trees & Furnishings									
					Maximum Scenario				Minimum Scenario				Maximum Scenario		Minimum Scenario		Maximum Scenario				Minimum Scenario					
	Total ROW	Building to face of curb	Cart Path	Step Out	Permeable Pavers & Suspended Pavement System		Walk	Max. Soil Volum per Canopy Tree	Plant area	Walk	Min. Soil Volume per Canopy Tree	Tenant Zone	Street Light	Walk		Walk	Curb	Gutter	Spaced on center	Distribution	Size	Others	Spaced on center	Distribution	Size	Others
1st Street	110'	35'	40'	2'6"	21'8"		31'8"	2141 CF	10'	21'8"	1457 CF	5'	DDOT standard	Exposed Aggregate & Permeable Pavers		Exposed Aggregate	Granite	Brick	35'	curb-side row	large	understory trees	35'	curb-side row	medium	-
2nd Street Delaware Av. & Patterson St.	60'	12'10"	30'	-	12'		12'	1008 CF	4'	8'	747 CF	-	DDOT standard	Permeable Pavers		Exposed Aggregate	Granite	Brick	25'	curb-side row	medium	-	50'	curb-side row	medium	-
L, M & N Street	90'	30'	30'	2'6"	16'8"		26'8"	1881 CF	10'	16'8"	759 CF	-	DDOT standard	Exposed Aggregate & Permeable Pavers		Exposed Aggregate	Granite	Brick	35'	curb-side row	large	-	35'	curb-side row	medium	-
K Street	150'	50'	50'	2'6"	36'8"		46'8"	1923 CF	15'4"	31'4"	1612 CF	5'	DDOT standard	Exposed Aggregate & Permeable Pavers		Exposed Aggregate	Granite	Brick	35'	double row	large	understory trees	35'	curb-side row	large	-

MATERIAL MATRIX

Recommended materials for use in maximum and minimum scenarios.

PAVING



Exposed Aggregate

DDOT STANDARD



Permeable Pavers

DDOT NON STANDARD



Suspended Pavement



PLANTING



UFA MUST APPROVE SPECIES



LIGHTING



Washington Family

DDOT STANDARD



Teardrop Fixture

PLANTER
EDGING



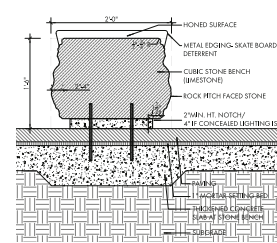
DDOT STANDARD

SEATING

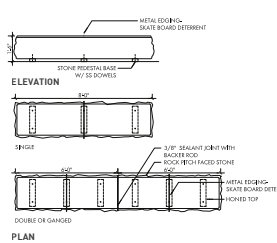


Burnham Wall

DDOT NON STANDARD



Burnham Bench



SEATING



DDOT NON STANDARD



BIKE RACKS
TRASH &
RECYCLING



DDOT STANDARD



DDOT NON STANDARD

BOLLARDS



DDOT NON STANDARD

DDOT STANDARD
DDOT NON
STANDARD

* Minimum space provided for the tenant zone is 5 feet. Additional space (a minimum of 5 feet) will be added to the tenat zone where buildings are setback on the groundfloor.

GUIDELINES

RECOMMENDED STREET TREES

All tree selections will be reviewed on a case-by-case basis by DDOT to ensure that tree selections meet current UFA arboricultural maintenance and survivability standards

Proposed Street Matrix	Recommendations for the streetscapes are divided into four groups, based on the width of the street right-of-way (ROW): 60’ ROW: 2nd Street NE 90’ ROW: L, M & N Streets NE 110’ ROW: First Street NE 150’ ROW: K Street NE	Medium Tree	Deciduous Size: 30-40’+/- Long lived, 60 years + Moderate rate of growth Naturally open form, spreading canopy tree, with good Fall color
Street Trees	Trees are recommended based on their potential size at maturity, corresponding to the available soil volumes. Based on the District’s UFA requirements, large trees require 1200-1500 CF of soil, medium trees 800-1000 CF, and small trees 600-800 CF.	Small Tree	Deciduous Size: 20-30’+/- Moderate rate of growth Two seasons of interest, with good Fall color
Selection Criteria	The preferred horticultural characteristics for street trees within NoMa shall be based on the following general selection criteria, and for each specific tree type:	Species	Based on these criteria, it is recommended to select a primary dominant species to provide a uniform canopy and character to the street, but also to make sure that each street is composed of a diverse mix of trees. In these instances, a variety of oaks (Quercus sp.) can be intermixed without adversely impacting the character of the canopy. For example, Overcup Oaks (Quercus lyrata) can be interspersed with Swamp White Oaks (Quercus bicolor) on the same block. In addition, the overall dominant tree color shall be within the light to dark green ranges when the leaves are fully mature during the growing season. No hybrid varieties with yellow, red, or marooned colored leaves are recommended. Trees with good fall color are also a desirable trait for tree selection.
General	4 to 8 USDA Plant Hardiness Zones Adaptable to a variety of soil conditions, pH 6.6 Native or indigenous, if possible Relatively disease free or resistant cultivar Strong, withstands winds and ice Easy to transplant		On 2nd Street, Delaware Ave and Patterson Street NE, a mixed tree planting from the palette will give each block its own identity and yield a more diverse tree canopy in these sections of NoMa.
Canopy Tree	Deciduous Size: 50-60’+ Park or Campus type tree Long lived, 100 years + Moderate rate of growth		

CANOPY TREES

											
London Plane Tree <i>Platanus acerfolia</i>	Swamp White Oak <i>Quercus bicolor</i>	Overcup Oak <i>Quercus lyrata</i>	Shumard Oak <i>Quercus shumardii</i>	River Birch <i>Betula nigra</i>	Male Ginkgo <i>Ginkgo biloba</i>	Sweetbay Magnolia <i>Magnolia virginiana</i>	Black Gum <i>Nyssa silvatica</i>	Serviceberry <i>Amelanchier arborea</i>	Oriental Dogwood <i>Cornus kousa</i>	Witchhazel <i>Hamamelis virginiana</i>	Crapemyrtle <i>Lagerstroemia indica</i>

MEDIUM TREES

SMALL TREES

GUIDELINES

TECHNICAL APPROACH/ STORMWATER

Streetscapes that incorporate suspended pavements for improved soil and soil volumes are recommended by these Guidelines. To be eligible for additional Stormwater Management (SWM) credits, the following criteria must be met:

- 1) Tree pits must have water draining to them by either surface sheet flows or infiltration (through permeable paving or other approved means) to capture a contributing drainage area,
- 2) Soils associated with the trees must have ponding or water collection area, and
- 3) Soils below the planting areas must have good hydraulic infiltration rates and/or be underdrained.

If all three criteria are met, then the tree planting area will have similar SWM characteristics to permeable pavements and/or bioretention areas and be eligible for SWM credits as such.

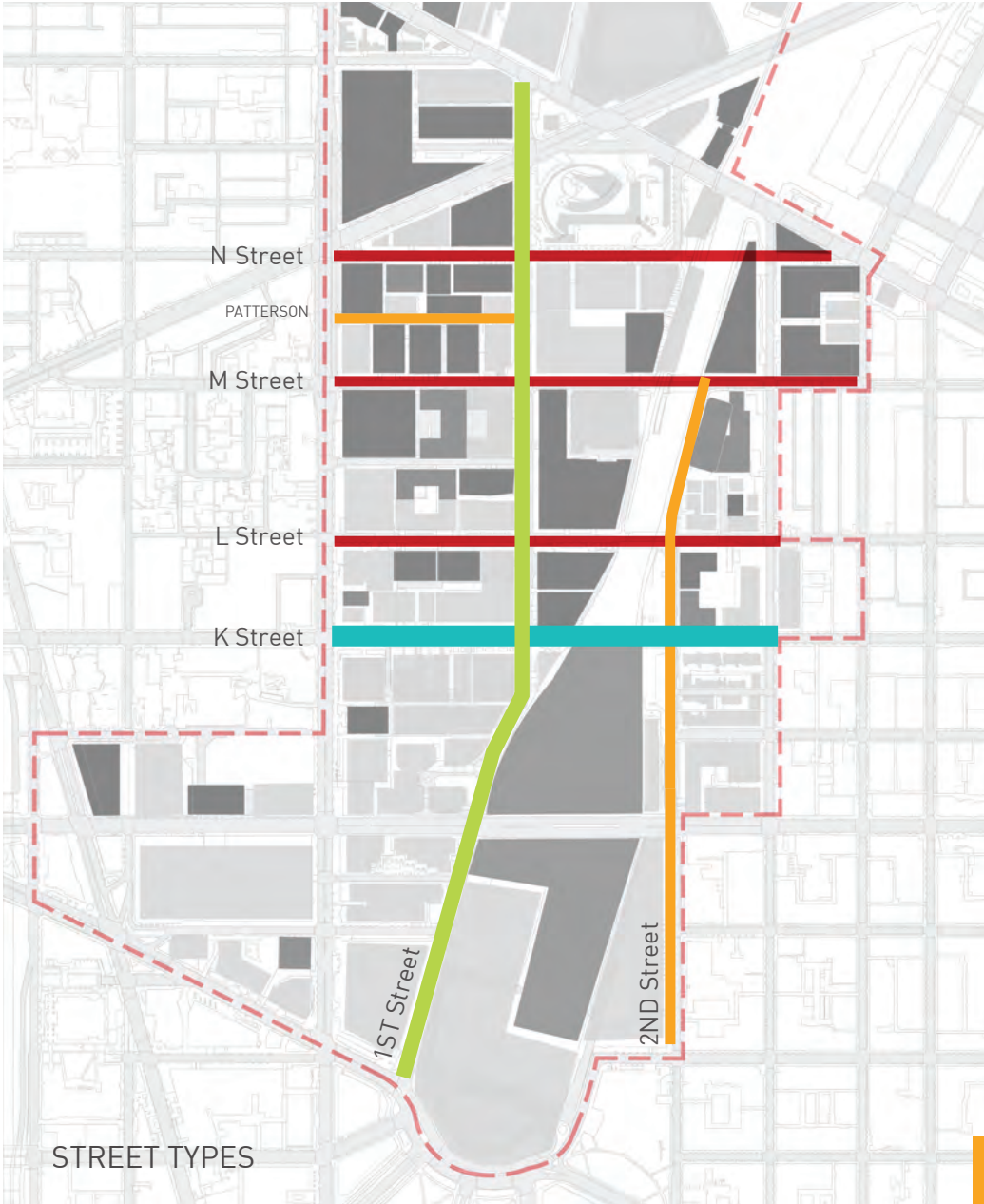
DOEE will review all plans on a case-by-case basis to allocate credits appropriately.

SUSPENDED PAVEMENT SYSTEM →
HORTICULTURAL PLANTING SOIL →

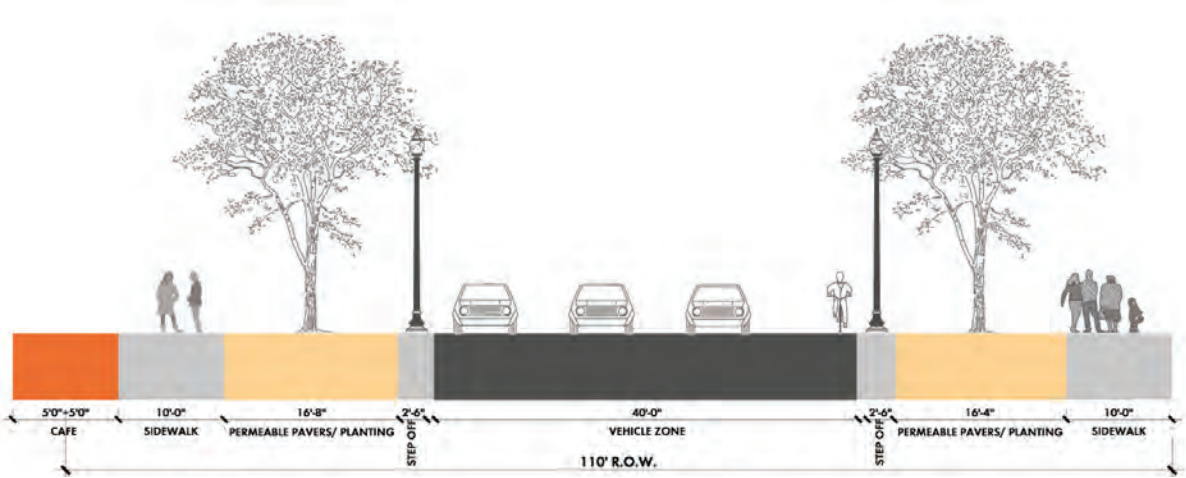


GUIDELINES

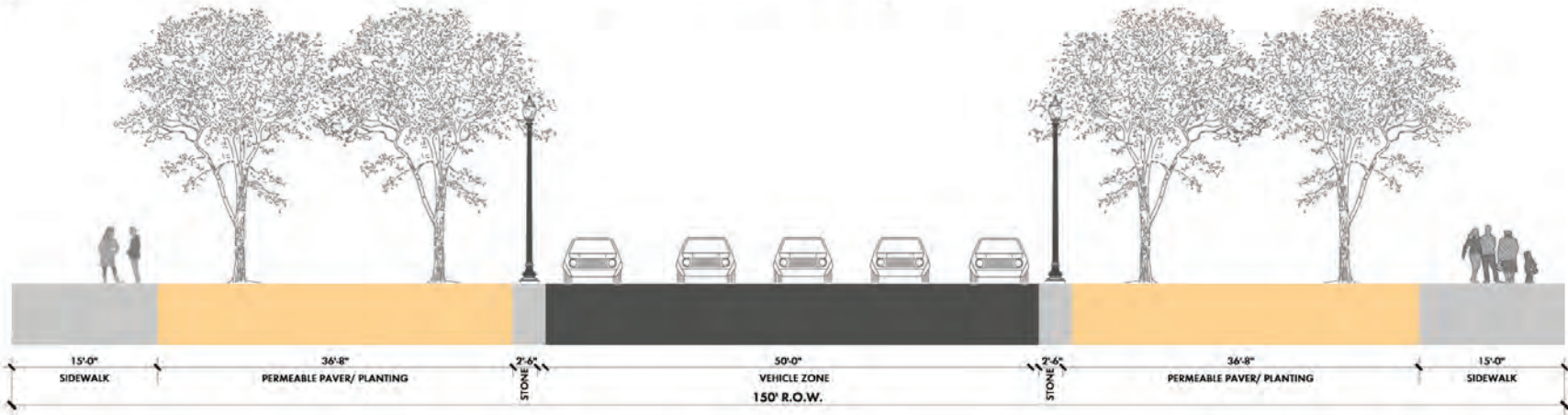
TYPICAL BLOCK



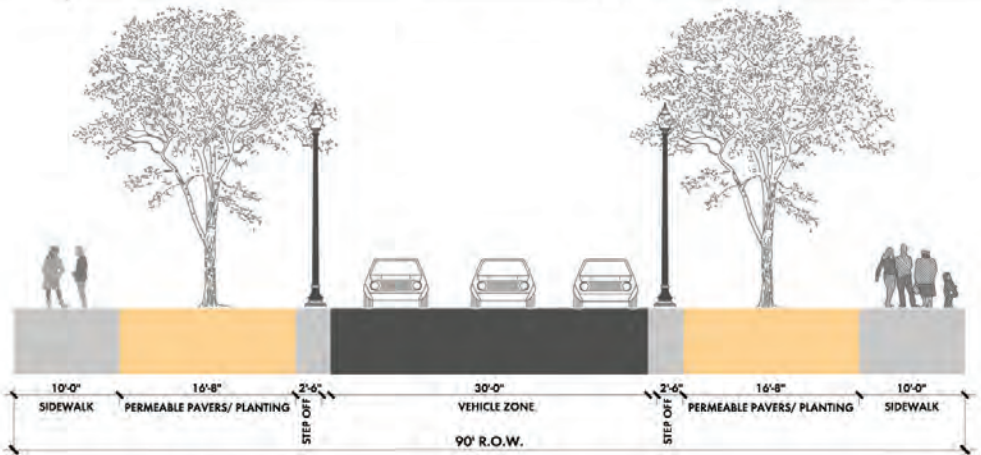
FIRST STREET



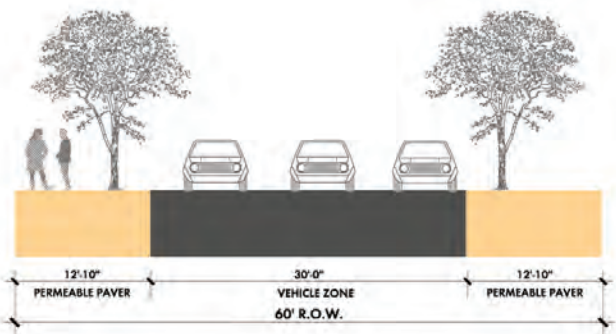
K STREET



L, M & N STREET



2ND ST, DELAWARE AVE & PATTERSON STREET



GUIDELINES

FIRST STREET TYPICAL BLOCK



NoMa’s Main Street

As NoMa’s central spine and connector, First Street NE can be the catalyst for the development of NoMa’s linear park system. Given its total width and the minimum DDOT pedestrian zone of 10’, this street has the potential to incorporate all of the design goals.

Minimum Plan

This plan delineates the minimum soil volume required for the establishment of medium sized trees. In order to obtain acceptable minimal canopy coverage, at least seven trees will need to be planted on a typical block face. Standard DDOT exposed aggregate concrete is the primary paving material proposed for a block meeting the minimum plan.

Maximum Plans

Two options for maximum growth are delineated for First Street NE. For both options, soil volumes are proposed that will allow the establishment of seven to eight large canopy trees as well as understory trees within full beds of lush plantings. The establishment of a single row of large species street trees spaced 35’ on center along with understory trees will not only promote the street as a linear park but also provide numerous opportunities for the creation of intimate spaces.

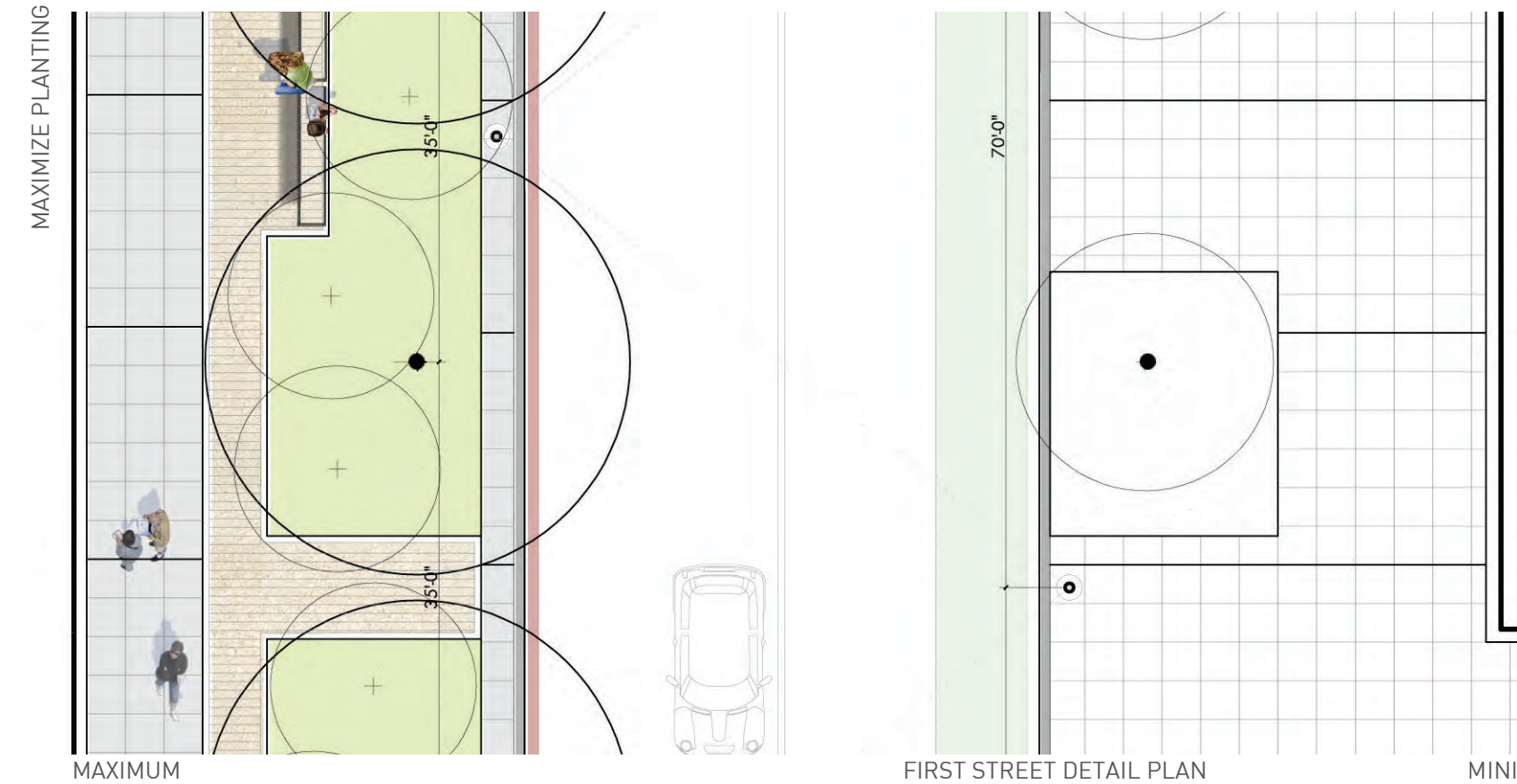
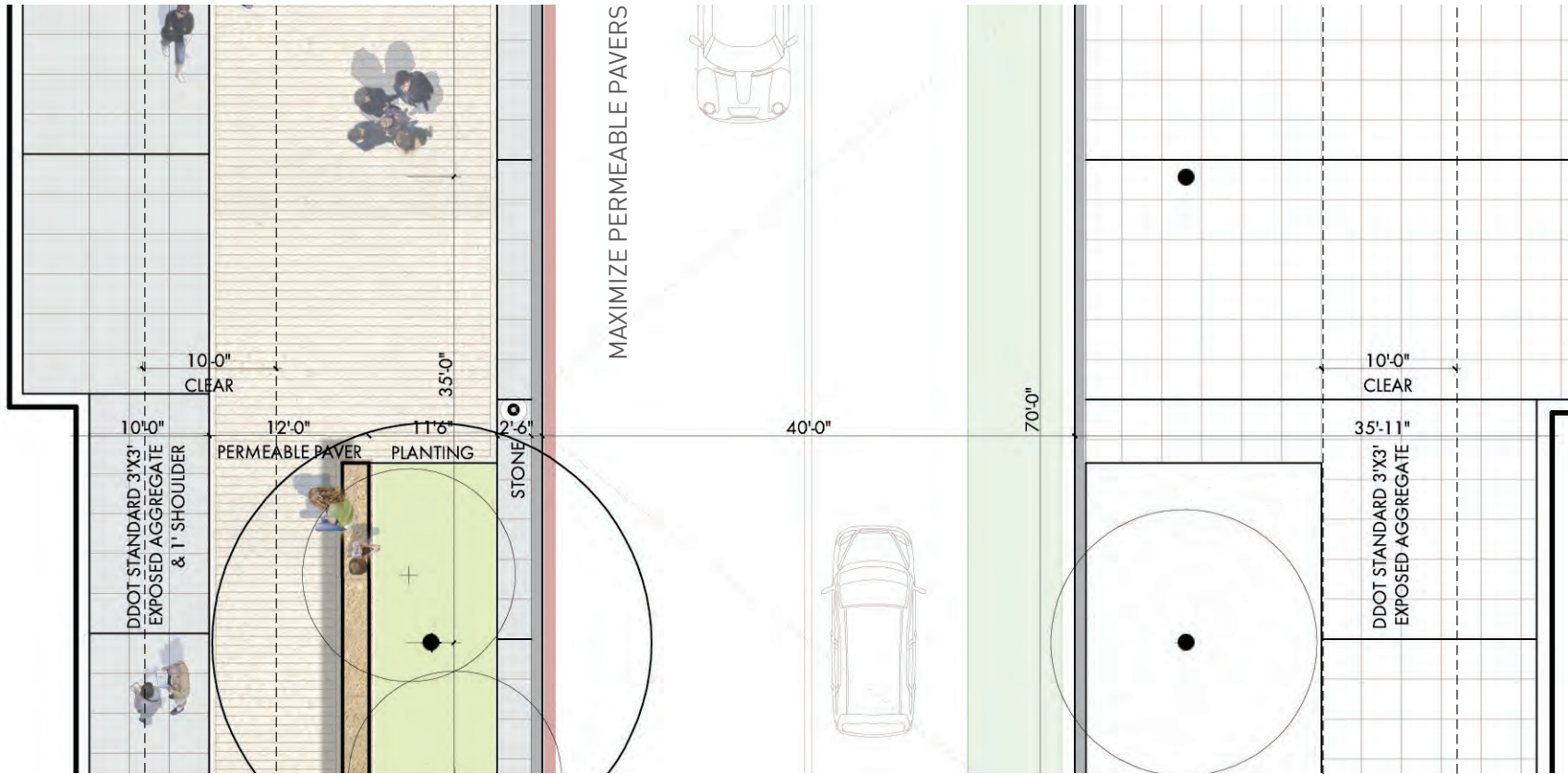
Max. Scenario 1

This option prioritizes more paved surface area for pedestrian movement or social gathering over planting areas. In order to accomplish this and maintain the soil volumes to accommodate large street trees, we recommend the use of permeable pavers placed on Silva cells (or other suspended pavement systems). This system provides growing conditions that support larger and healthier trees. Pairing suspended pavement systems with maximum soils will also serve to fulfill DOEE SWM requirements, resulting in a win-win combination.

Max. Scenario 2

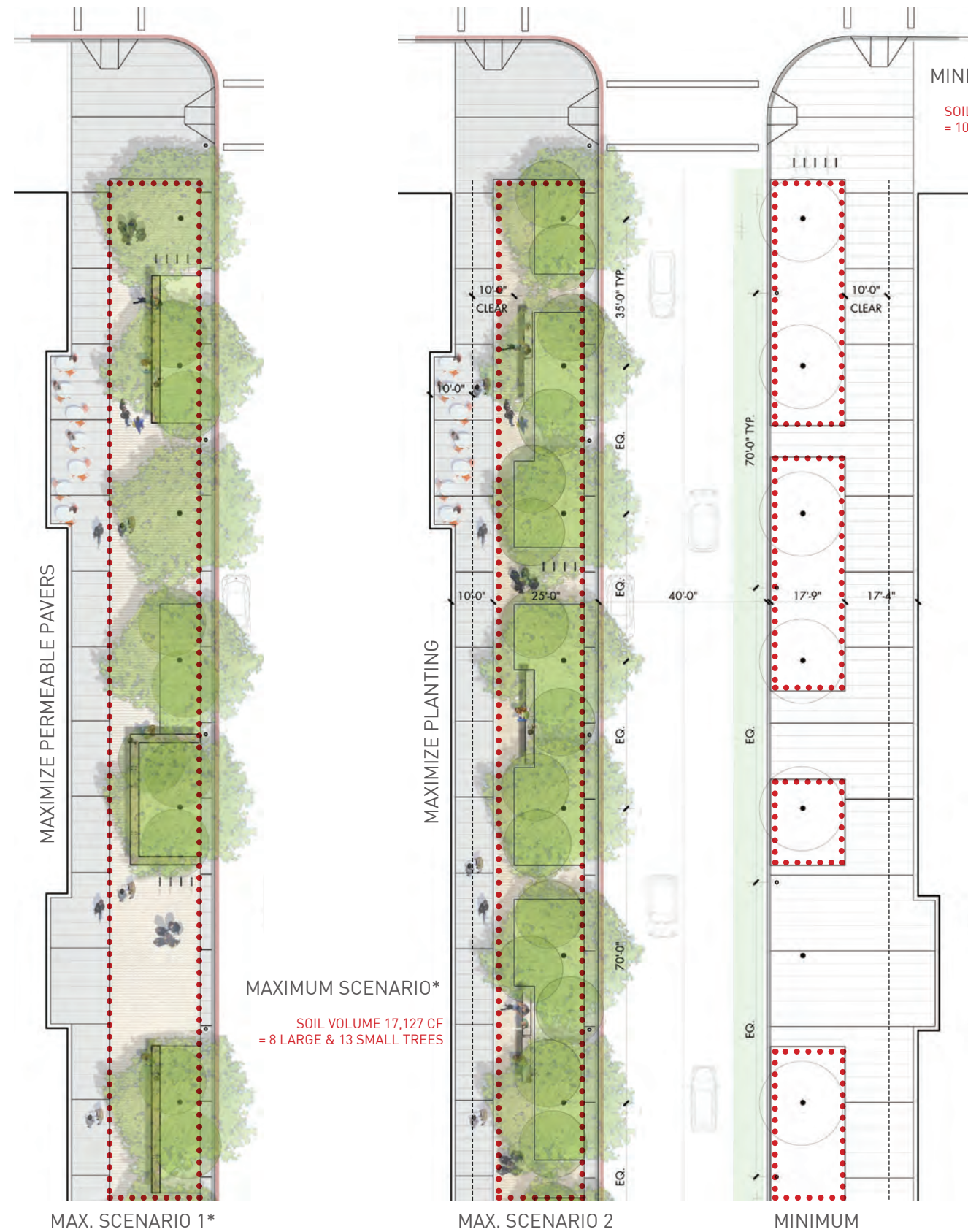
Scenario 2 maximizes the amount of planting area within a typical block for a lush landscape effect. Planted beds can serve as rain gardens and low impact development (LID) planters as site conditions and DOEE requirements warrant.

Both maximum options show a typical 2.5’ stone step-off zone and raised planters (at the second row of trees) at seat height to provide informal seating and social gathering spaces and accentuate and enliven entry areas. We recommend standard Washington Globe light fixtures, spaced at 70’ on center, the typical street tree module. Sections and detail plans show the typical condition of each option.



FIRST STREET DETAIL PLAN MINIMUM

FIRST STREET TYPICAL BLOCK



* raised planters should only be raised at the second row of trees



GUIDELINES

K STREET TYPICAL BLOCK



NoMa’s Linear Park

K Street NE is NoMa’s widest street. At 150 linear feet, with a 15’ pedestrian zone, it is wide enough to incorporate the Guidelines to the maximum extent. Thus, it has the potential to become a lush, linear park.

K Street NE is a critical cross street, connecting secondary streets and adjacent neighborhoods to the east and west of NoMa. The only drawback to short-term implementation is that a few block faces have been developed in recent years, in accordance with past design guidelines.

Minimum Plan

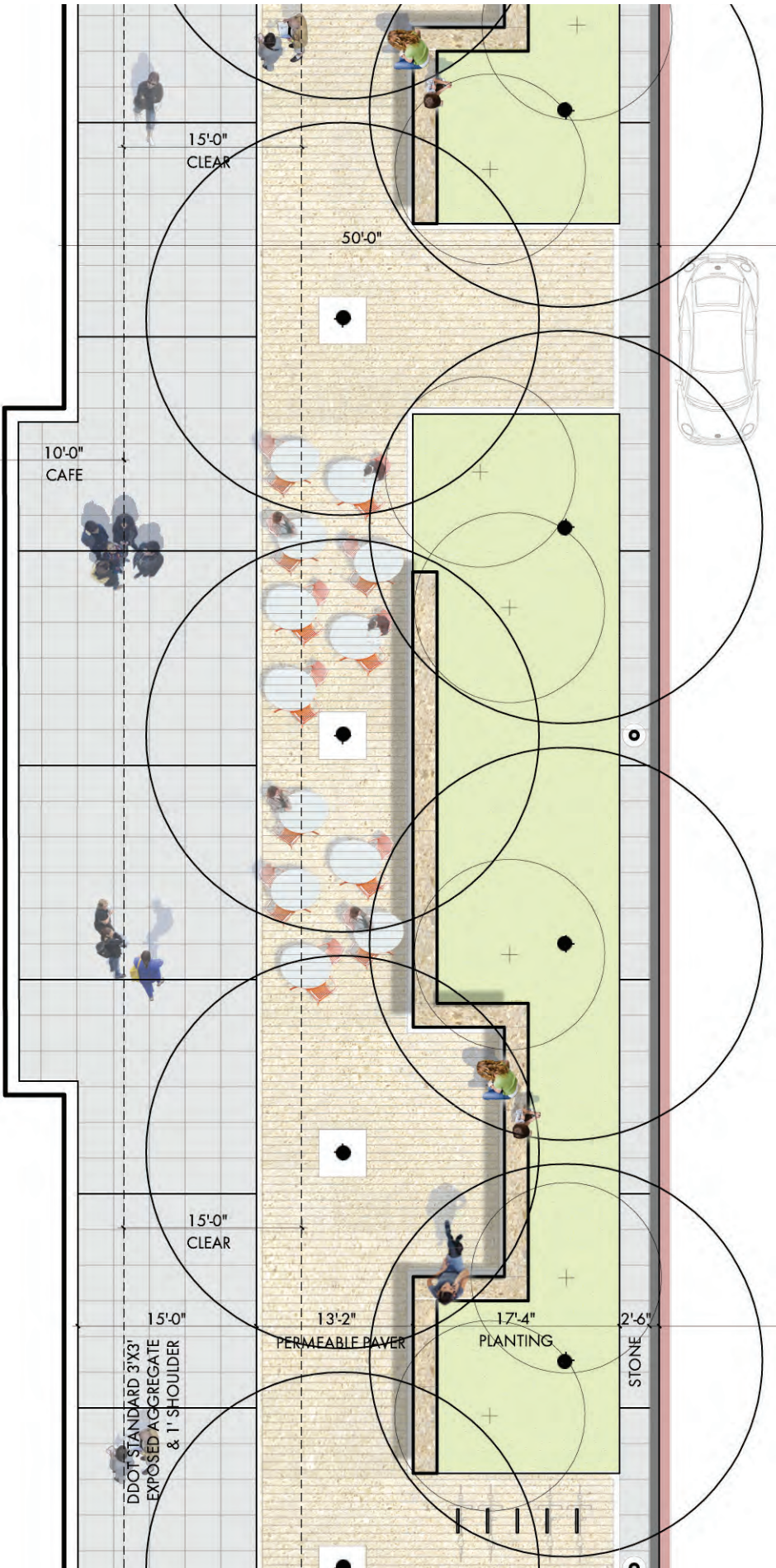
This plan delineates the minimum soil volume acceptable that will allow the establishment of medium sized trees. Planting trees with 35’ spacing will allow acceptable minimum canopy coverage. DDOT exposed aggregate concrete is the primary paving material proposed for a minimum scenario.

Maximum Plan

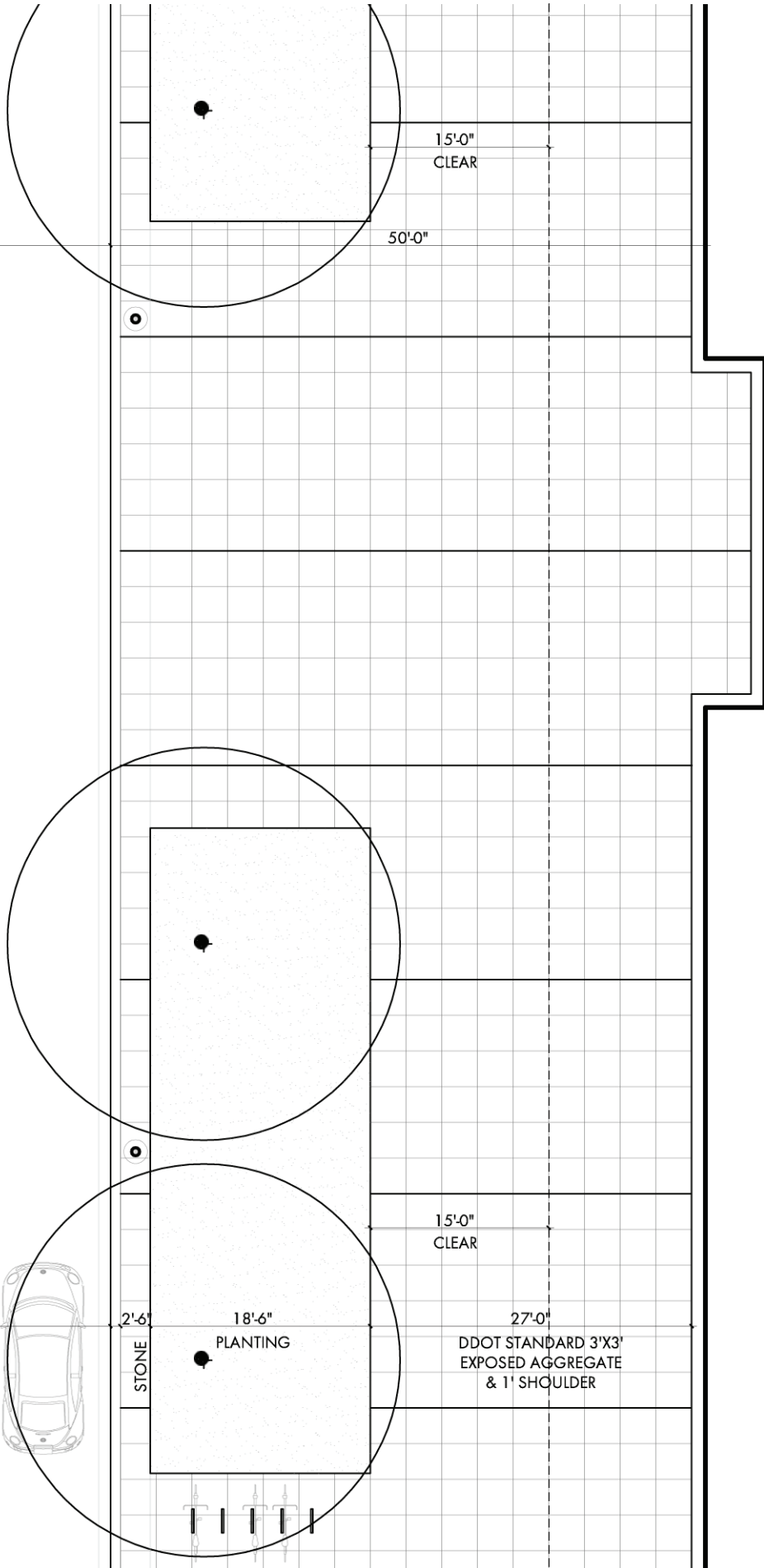
The maximum option proposes a double row of street trees, spaced 35’ on center, that will generate a lush, full canopy. This option is only viable with maximum soil volume.

The plan balances paved and planted surfaces. A system incorporating permeable pavings and Silva cells (or other suspended pavement system) enable recommended soil volumes and the benefits of maximum canopy coverage.

The plan shows a typical 2.5’ stone step-off zone. Raised planters (at the second row of trees) at seat height provide informal seating and social gathering spaces to accentuate and enliven entry areas. Standard Washington Globe light fixtures are recommended, spaced at 70’ on center, the typical module.



MAXIMUM

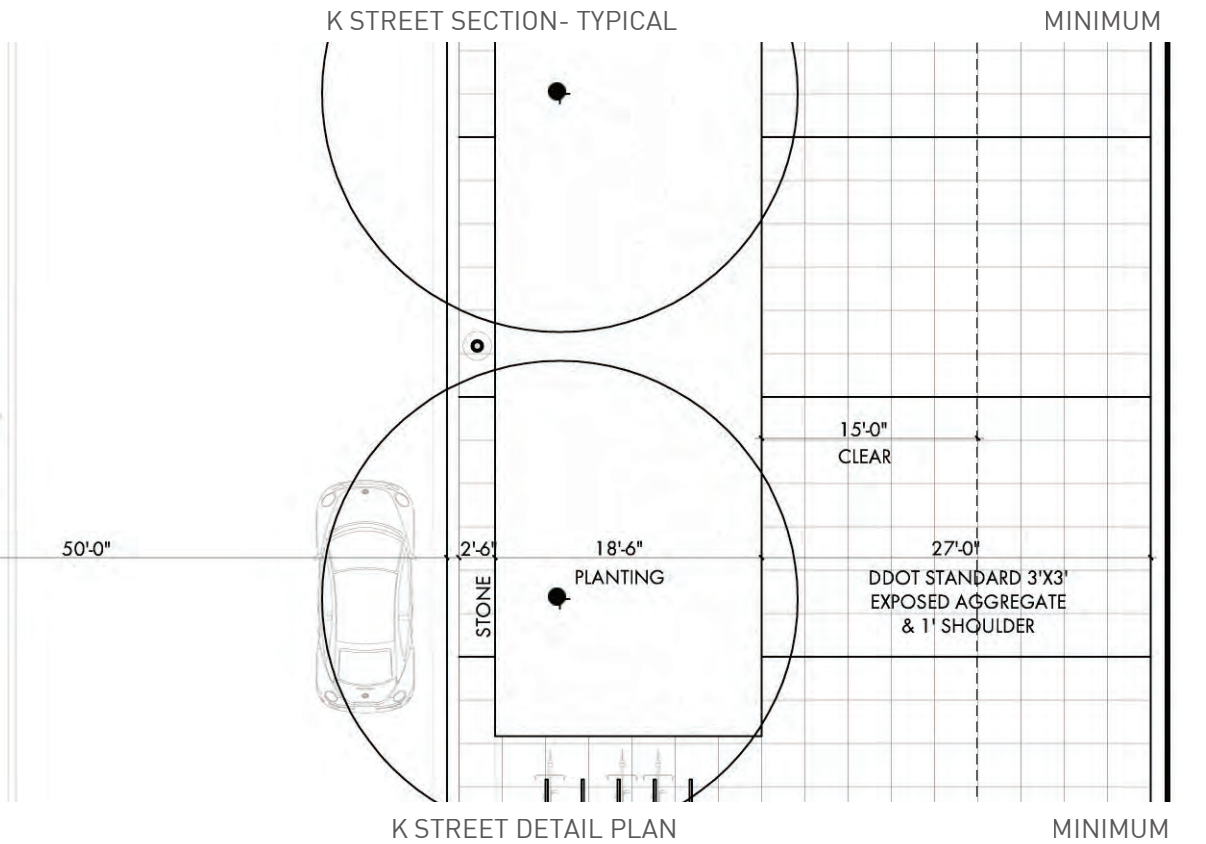
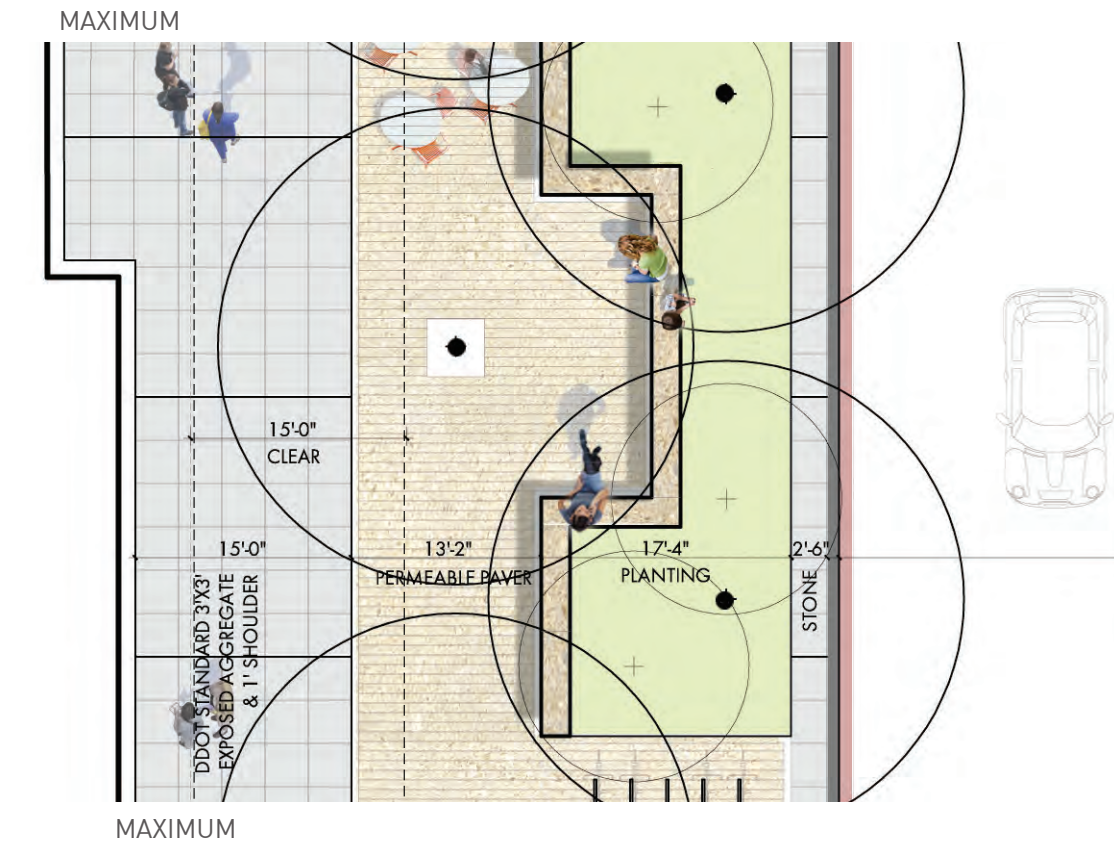
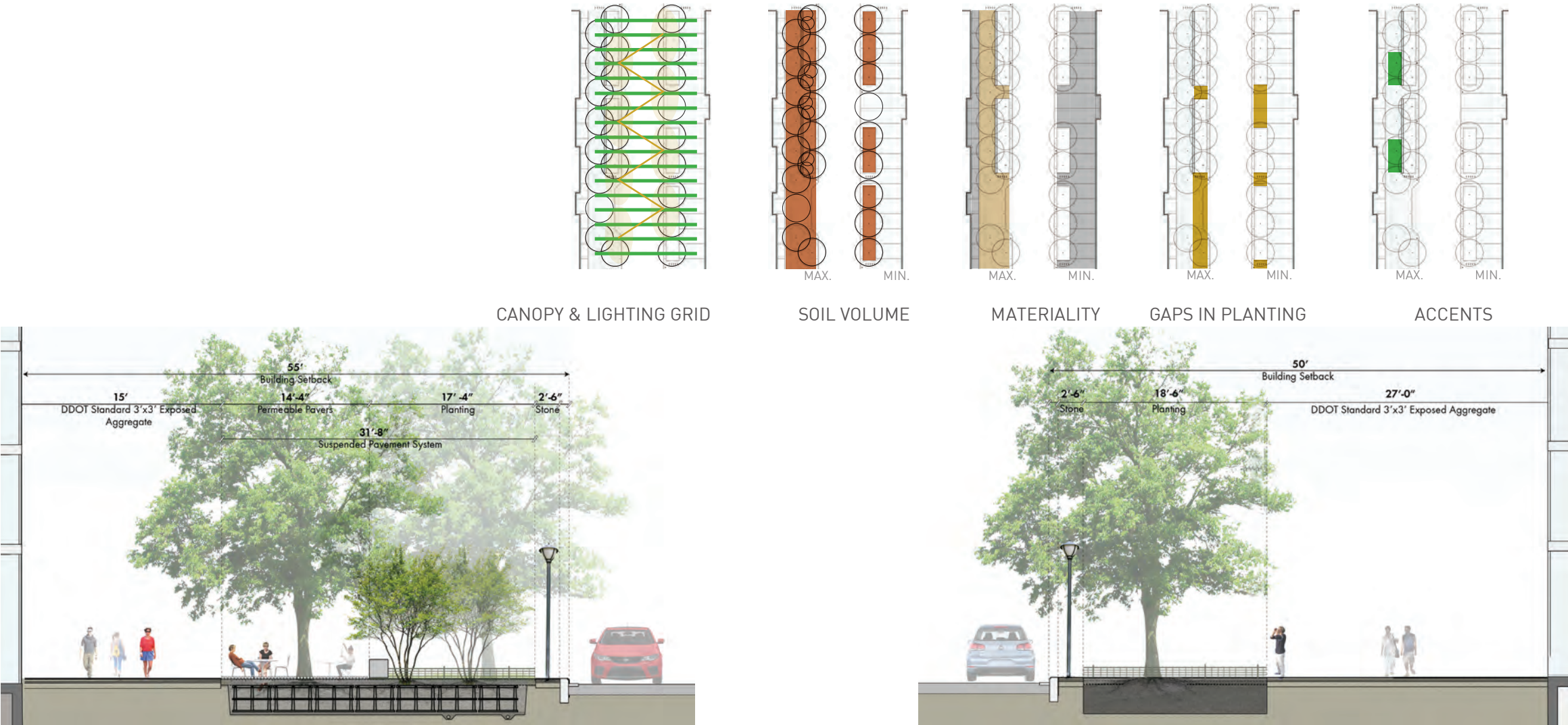
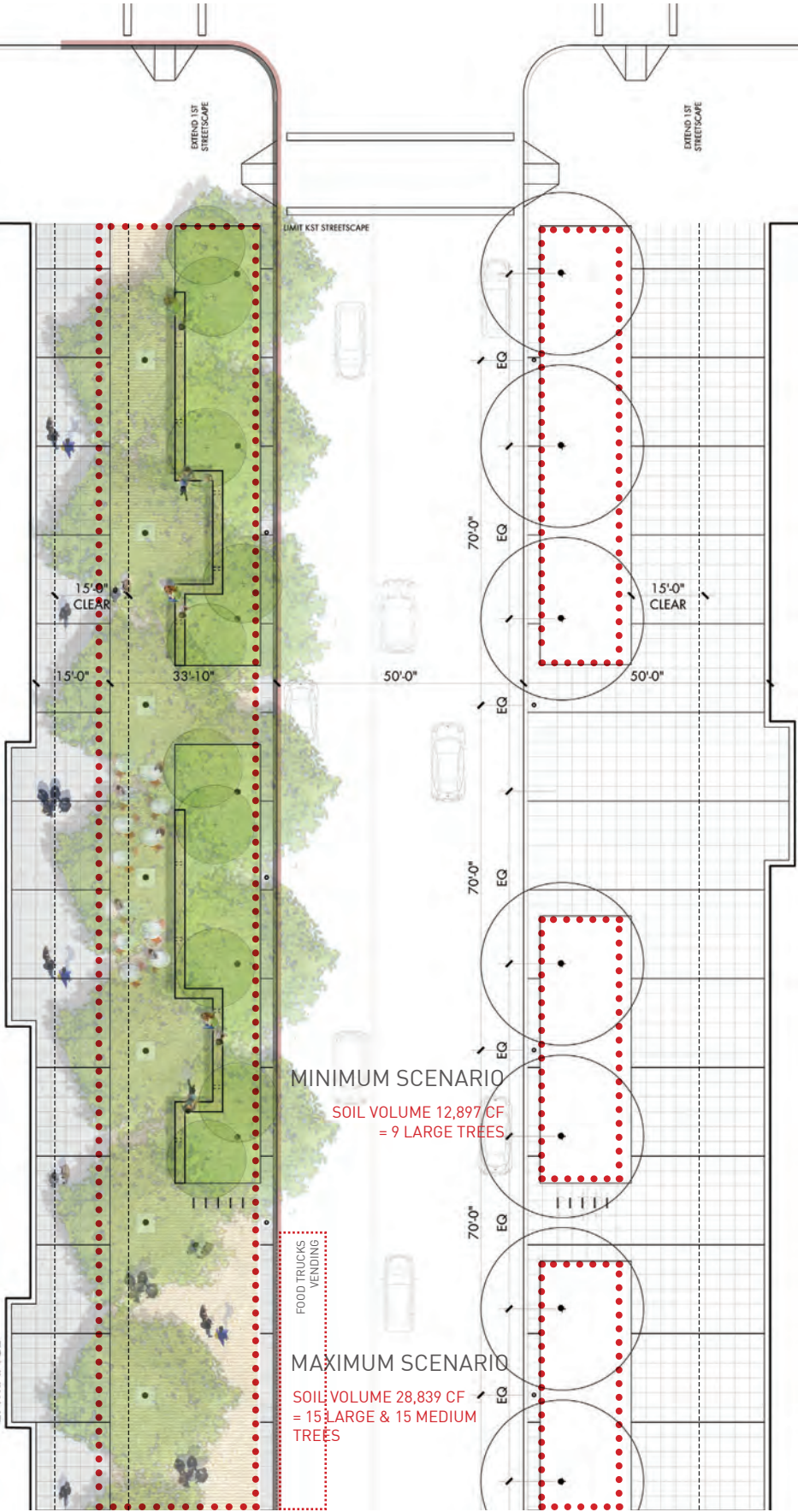


K STREET DETAIL PLAN

MINIMUM

GUIDELINES

K STREET TYPICAL BLOCK



GUIDELINES

L, M & N STREETS TYPICAL BLOCK



NoMa’s Mixed Use Streets

L, M, and N Streets NE are secondary collector streets within NoMa. Ideally, these streets would extend the lush, inviting linear park-like character established on First and K Streets NE into the rest of the neighborhood. The minimum DDOT pedestrian zone width recommended for this street is 10’.

Minimum Plan

This plan delineates the minimum soil volume that will allow the establishment of medium sized trees. In order to obtain acceptable minimal canopy coverage, at least seven trees will need to be planted within a typical block face. Standard DDOT exposed aggregate concrete is the primary paving material proposed for a block meeting the minimum plan.

Maximum Plan

In both options, soil volumes are proposed that will allow the establishment of seven to eight mature canopy trees as well as understory trees within full beds of lush plantings. The plan includes establishment of a single row of large street trees spaced 35’ on center, accented with understory plantings.

Max Scenario 1

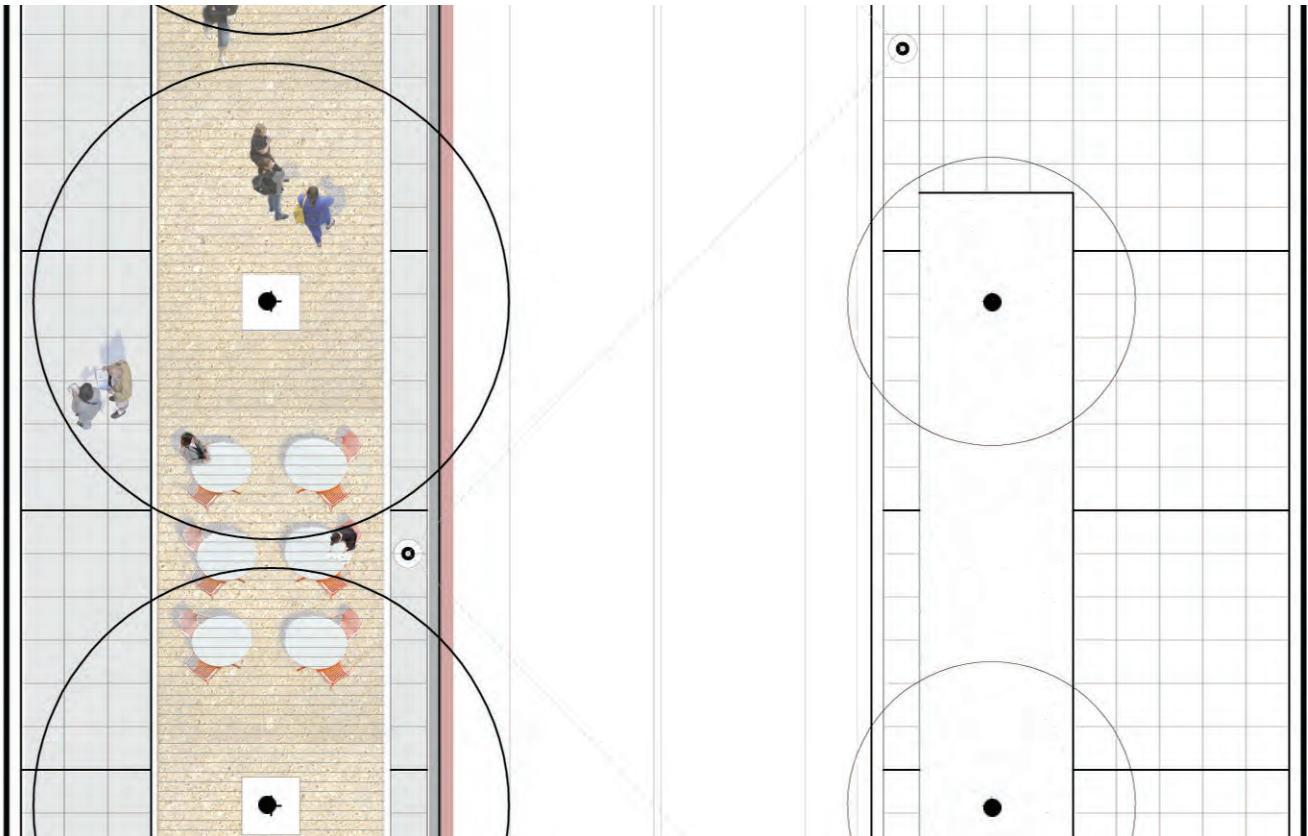
This option favors paved surface area for pedestrian movement and gathering over planting area, while preserving a continuous canopy and large trees. In order to accomplish this, we recommend the use of permeable pavers suspended on Silva cells (or other suspended pavement system). This system has shown to provide growing conditions that promote larger and healthier trees. Pairing Silva cells (or other suspended pavement system) with maximum soils will also serve to fulfill DOEE SWM requirements, resulting in a win-win combination.

Max Scenario 2

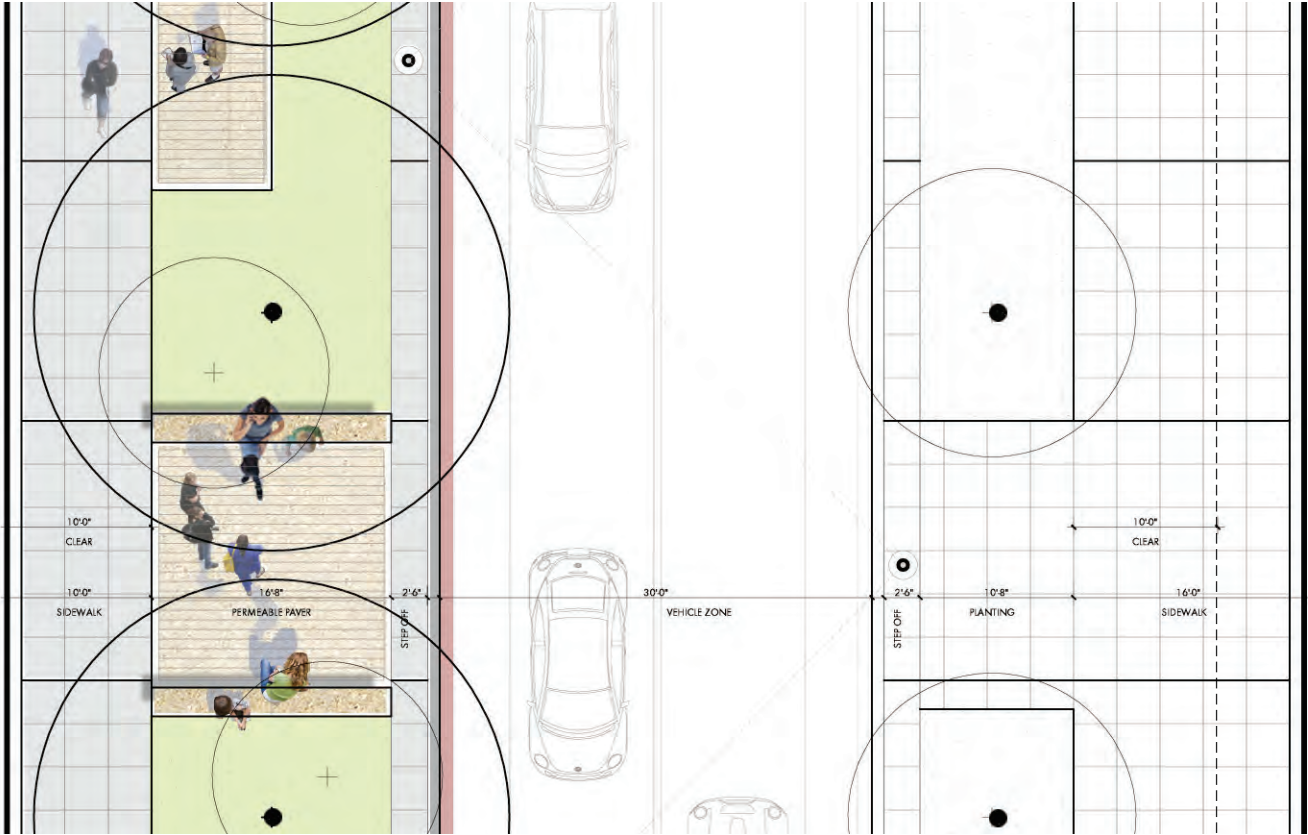
Scenario 2 maximizes the planting area within a typical block for a lush landscape effect. Beds can serve as rain gardens and low impact development (LID) planters as site conditions and DOEE requirements warrant.

Both maximum options include a typical 2.5’ stone step-off zone and raised planters at seat height to provide informal seating and social gathering spaces and accentuate and enliven entry areas. We recommend standard Washington Globe light fixtures, spaced at 70’ on center, the typical street tree module. Sections and plans show the typical condition of each option.

MAXIMIZE PERMEABLE PAVERS



MAXIMIZE PLANTING



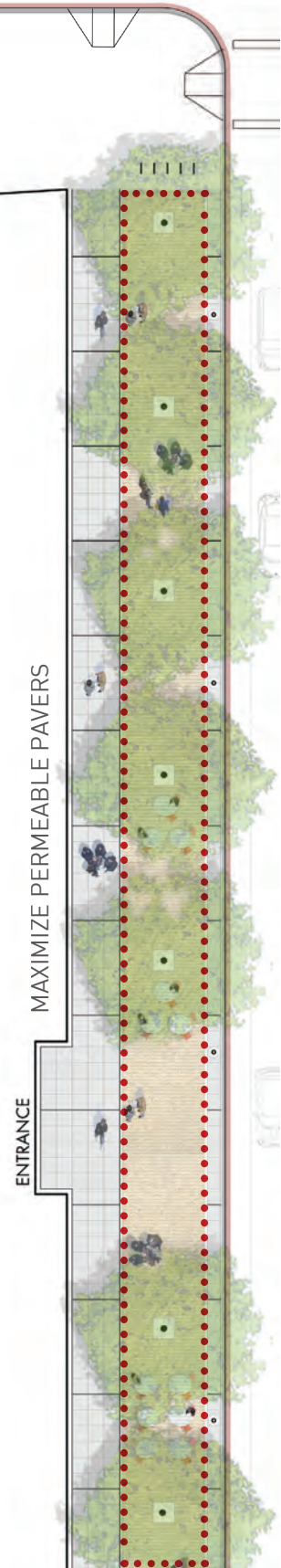
MAXIMUM

L, M & N STREET DETAIL PLAN

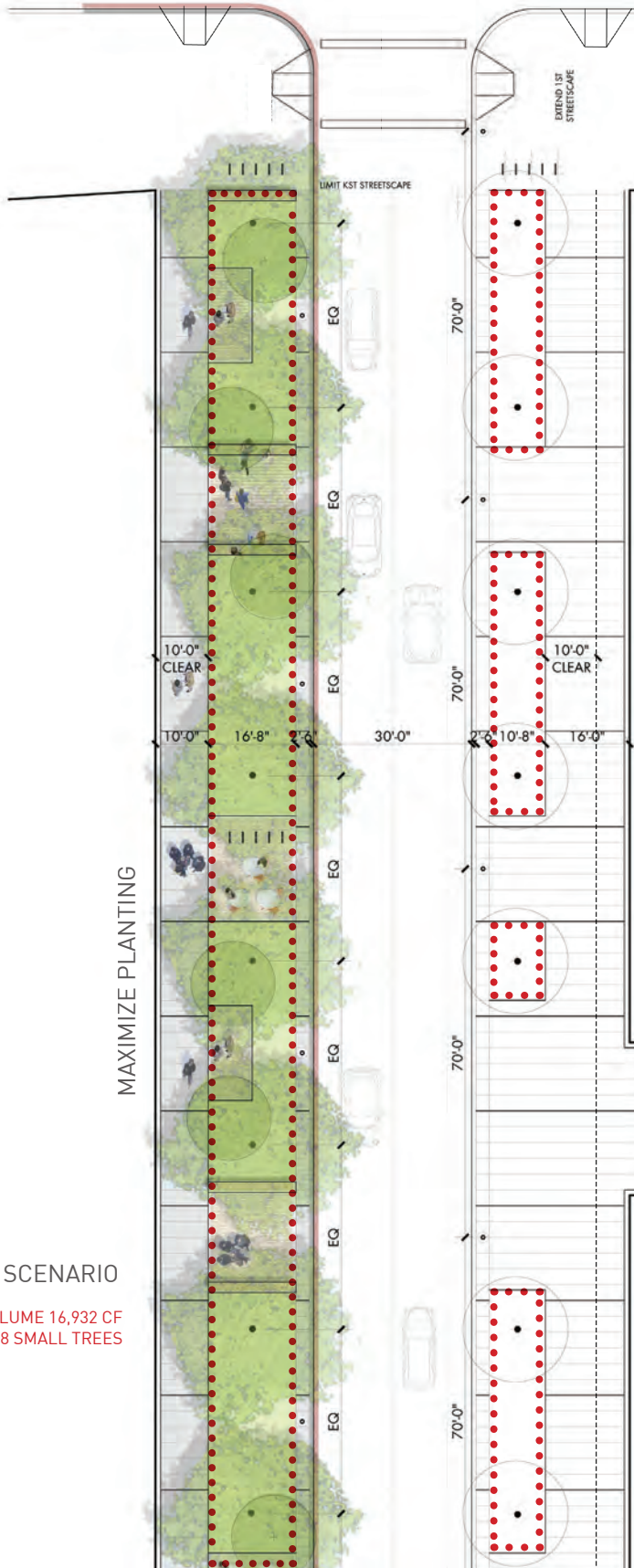
MINIMUM

GUIDELINES

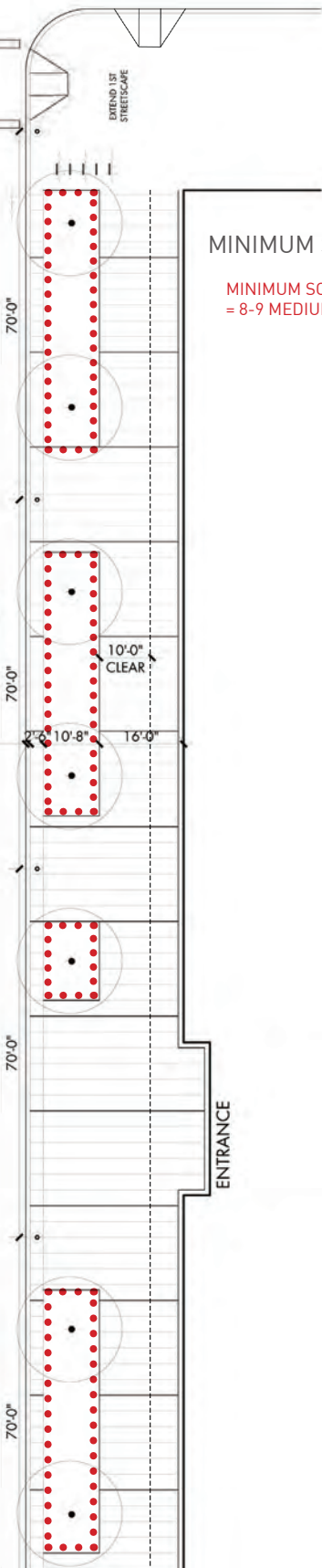
L, M & N STREETS TYPICAL BLOCK



MAX. SCENARIO 1



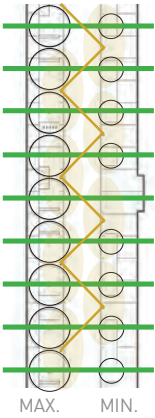
MAX. SCENARIO 2



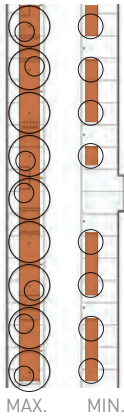
MINIMUM

MAXIMUM SCENARIO
SOIL VOLUME 16,932 CF
= 10 LARGE & 8 SMALL TREES

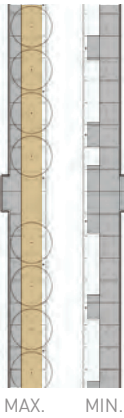
MINIMUM SCENARIO
MINIMUM SOIL VOLUME 6,834 CF
= 8-9 MEDIUM TREES



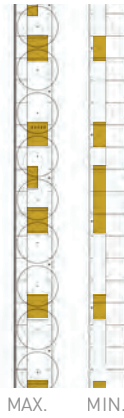
CANOPY & LIGHTING GRID



SOIL VOLUME



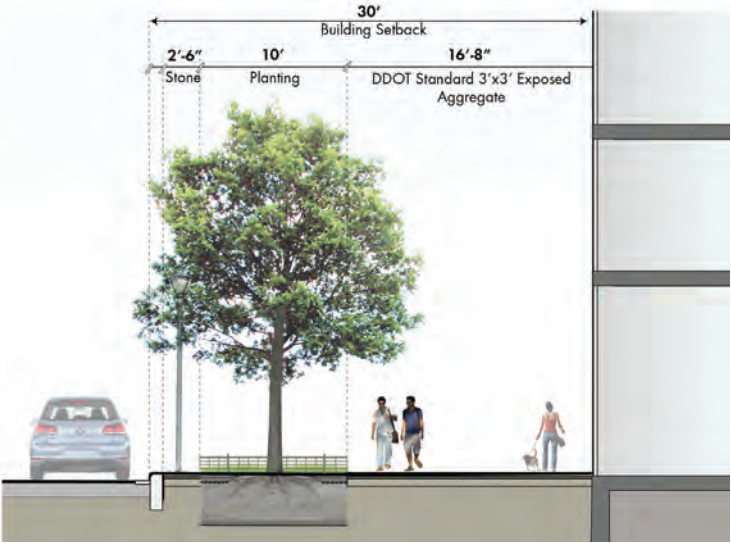
MATERIALITY



GAPS IN PLANTING

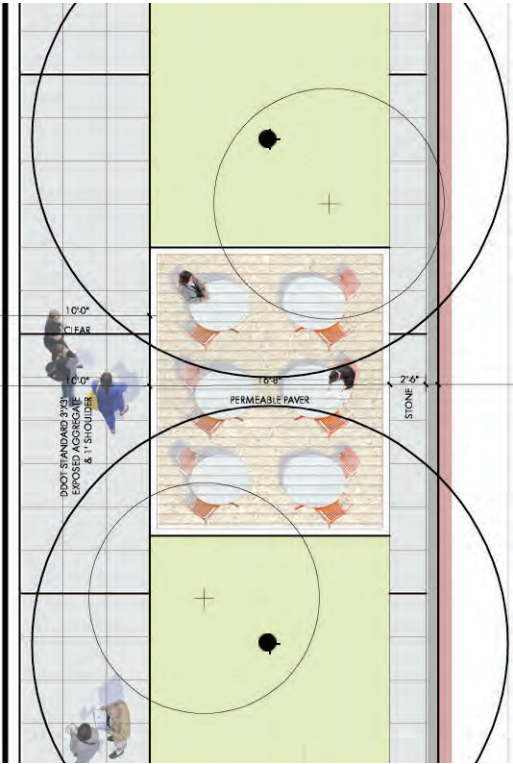


MAXIMUM

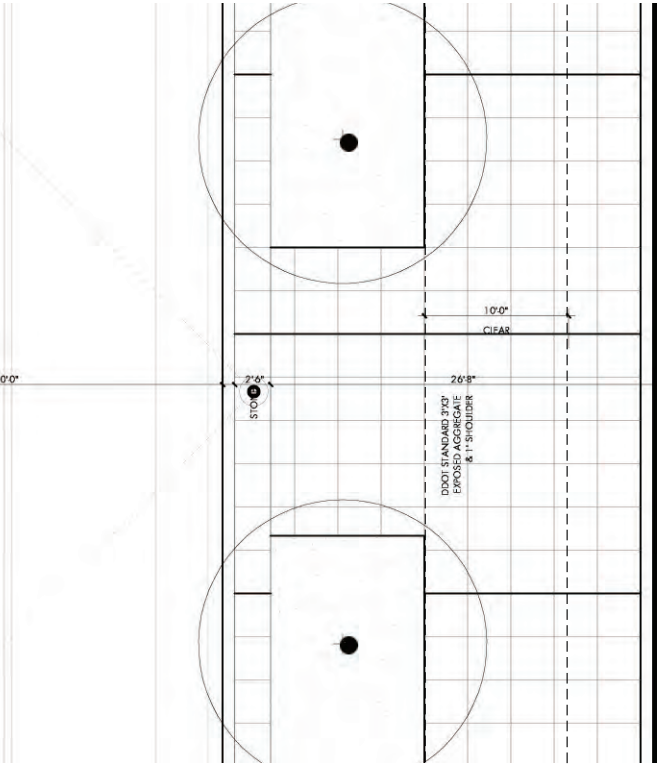


MINIMUM

L,M&N STREET SECTION- TYPICAL CONDITION



MAXIMUM



MINIMUM

L,M&N STREET DETAIL PLAN

GUIDELINES

2ND STREET, DELAWARE AVENUE, AND PATTERSON STREET TYPICAL BLOCK



NoMa’s Residential Street

2nd Street is the narrowest street within NoMa and serves primarily as the link for the eastern portion of NoMa along the rail yard. As such, it is the most challenging of the streets to implement the goals of the Guidelines. The minimum DDOT pedestrian zone width recommended for this street is 6’.

Minimum Plan

This plan delineates the minimum soil volume that will allow the establishment of medium sized trees. Due to the narrow street width, only three to four medium sized trees may be established along a typical block face without providing additional soil volumes.

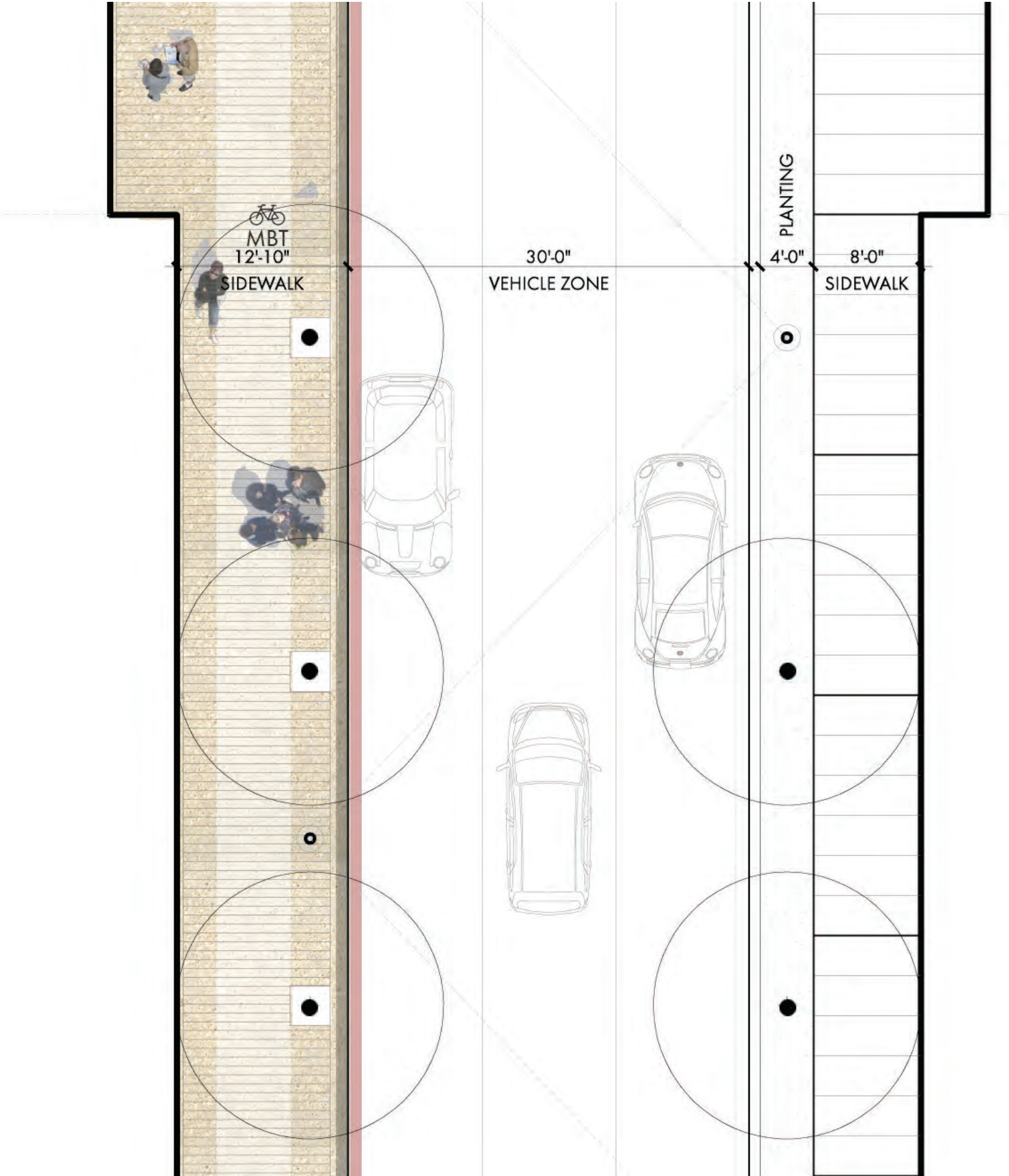
Maximum Plans

In both maximum plan options, the soil volumes proposed will allow the establishment of either nine to ten medium trees or six large mature canopy trees, were conditions permit. Only minimal ground plane plantings are possible in this scenario.

This may be accomplished through the use of permeable pavers placed on Silva cells (or other suspended pavement system) to provide growing conditions that promote larger and healthier trees.

This system has shown to provide growing conditions that promote larger and healthier trees. Pairing Silva cells (or other suspended pavement system) with maximum soils will also serve to fulfill DOEE SWM requirements, resulting in a win-win combination.

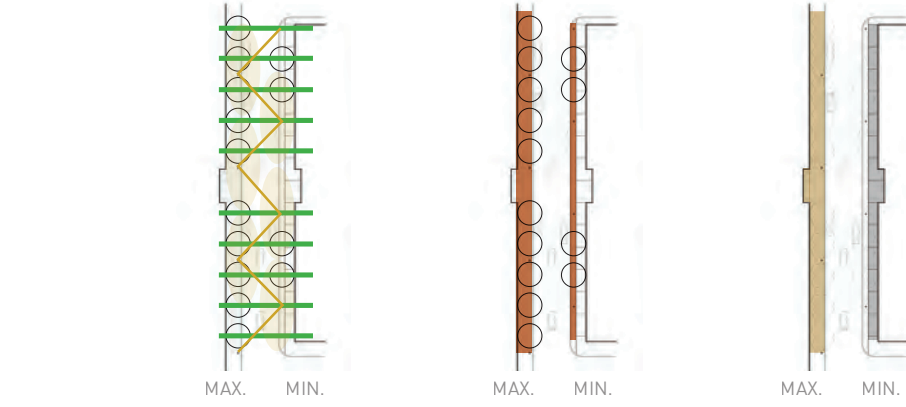
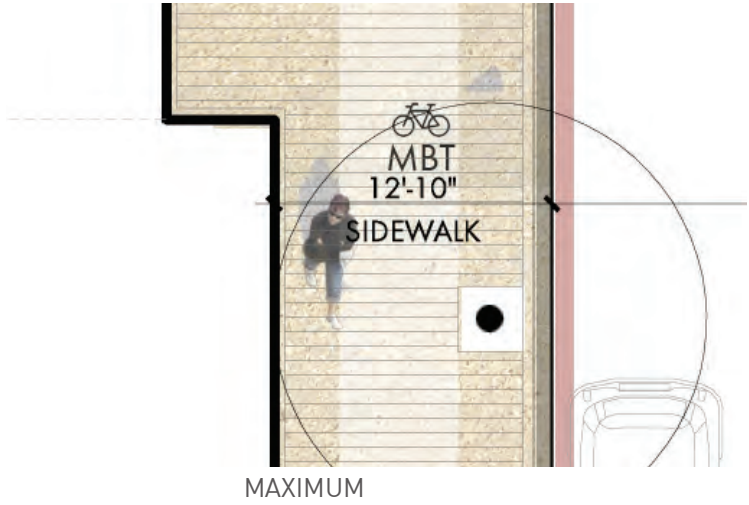
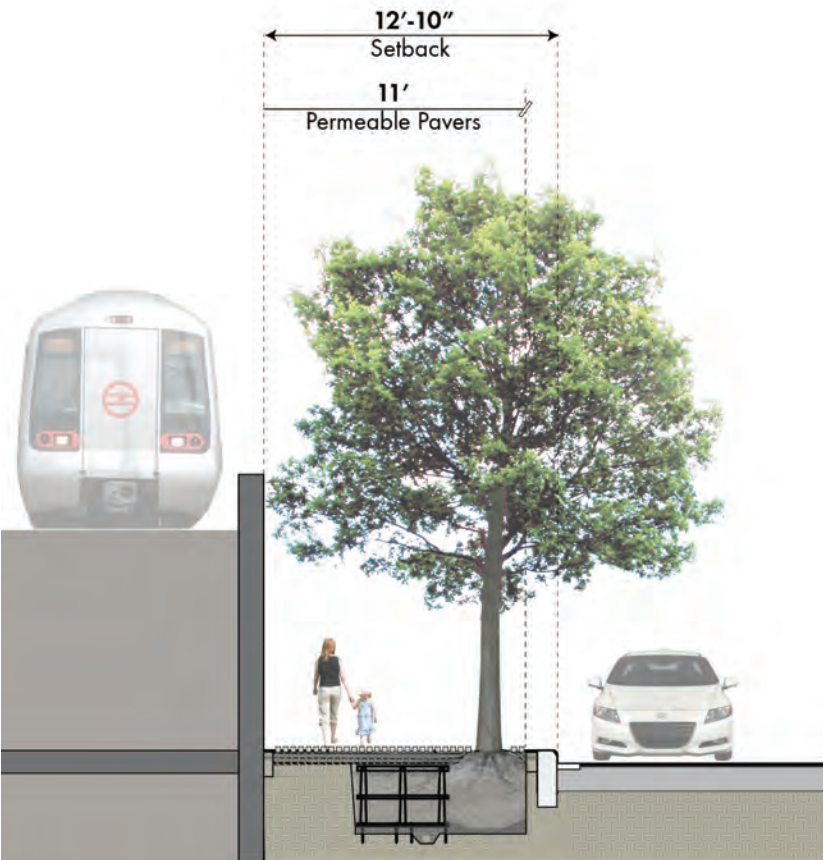
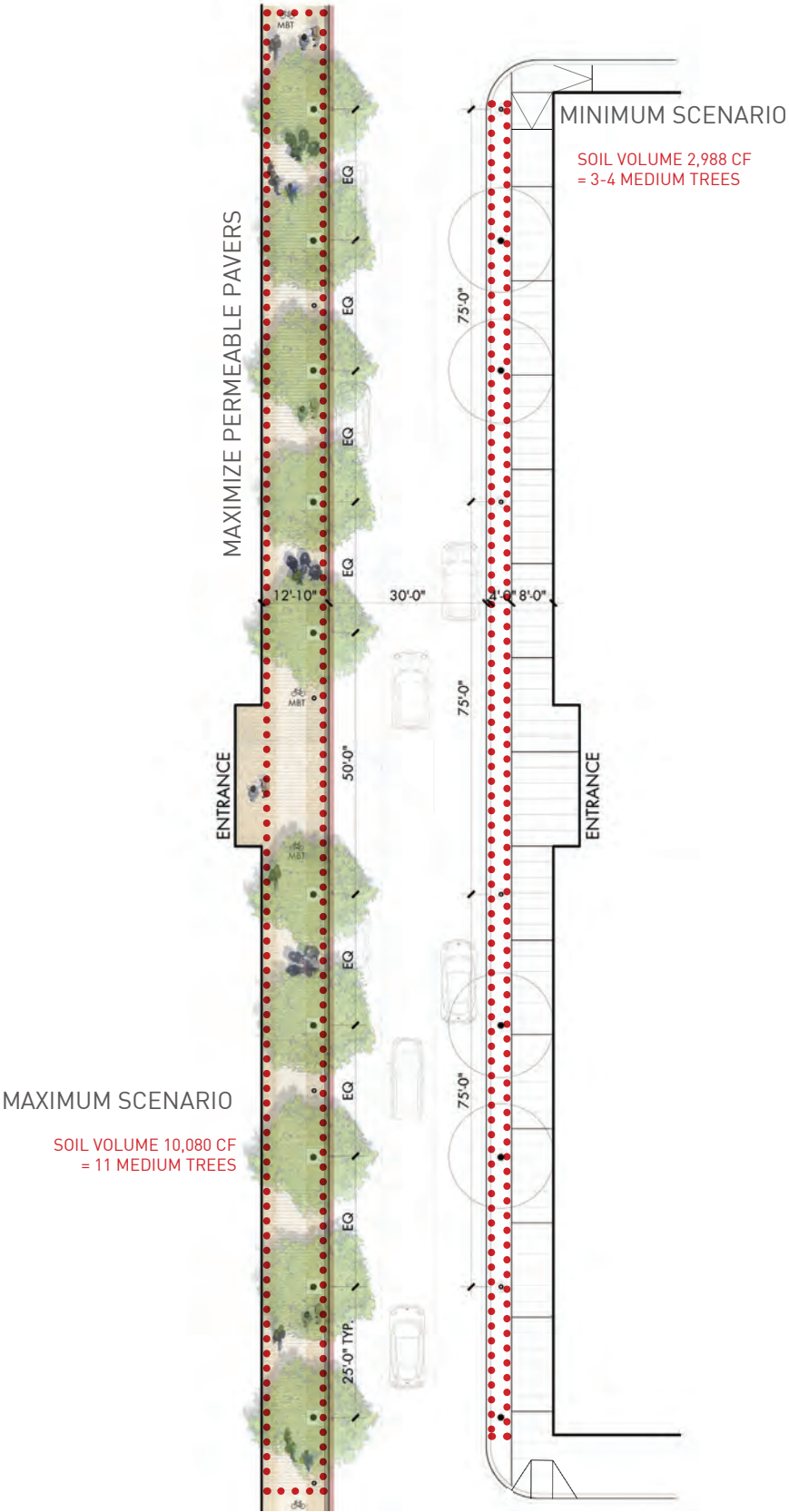
Standard Washington Globe light fixtures should be spaced with the typical street tree module in mind, so that the tree canopy will not interfere with light disbursement.



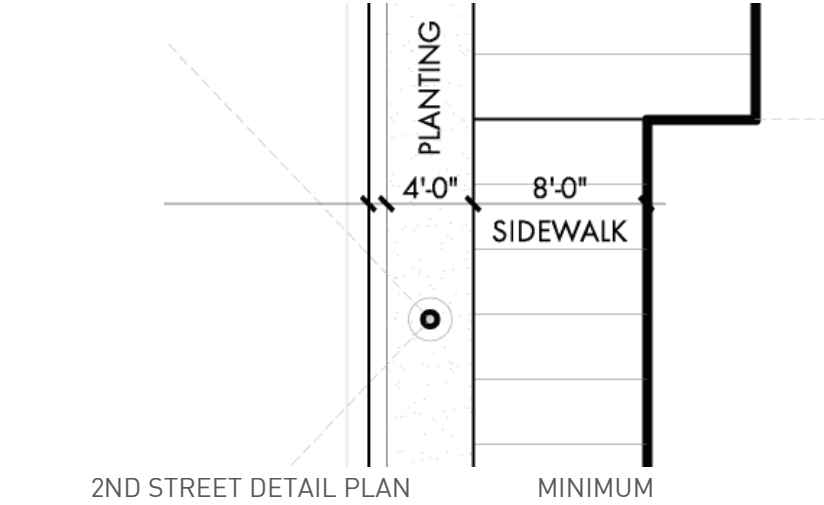
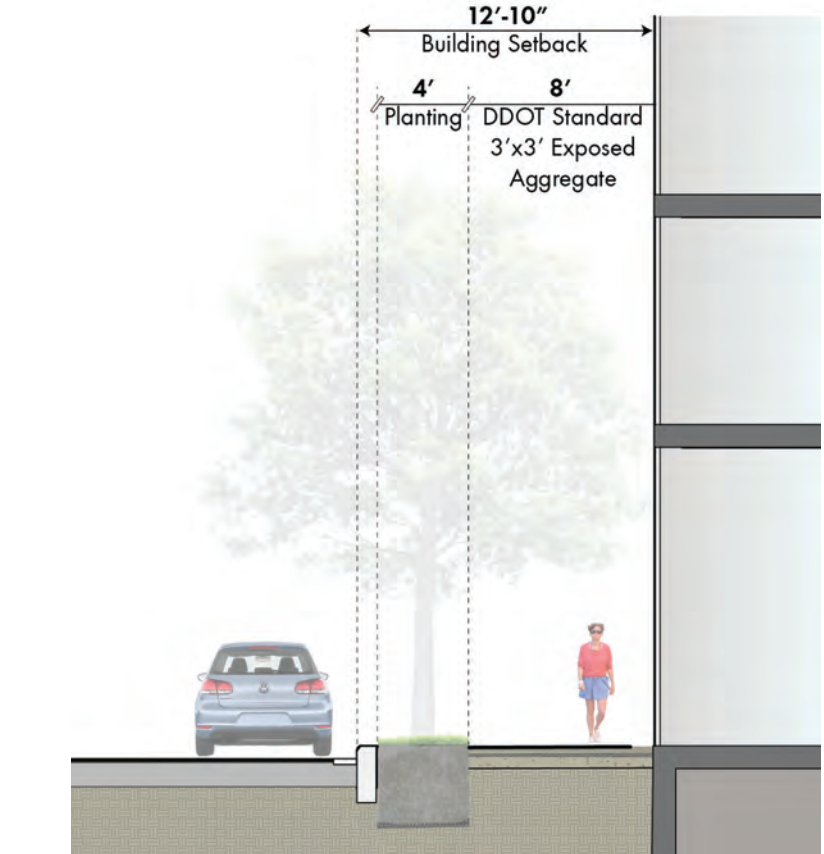
2ND STREET DETAIL PLAN

GUIDELINES

2ND STREET, DELAWARE AVENUE, AND
PATTERSON STREET
TYPICAL BLOCK



CANOPY & LIGHTING GRID SOIL VOLUME MATERIALITY



GUIDELINES

MINIMUM SCENARIO: RENDERING TYPICAL BLOCK



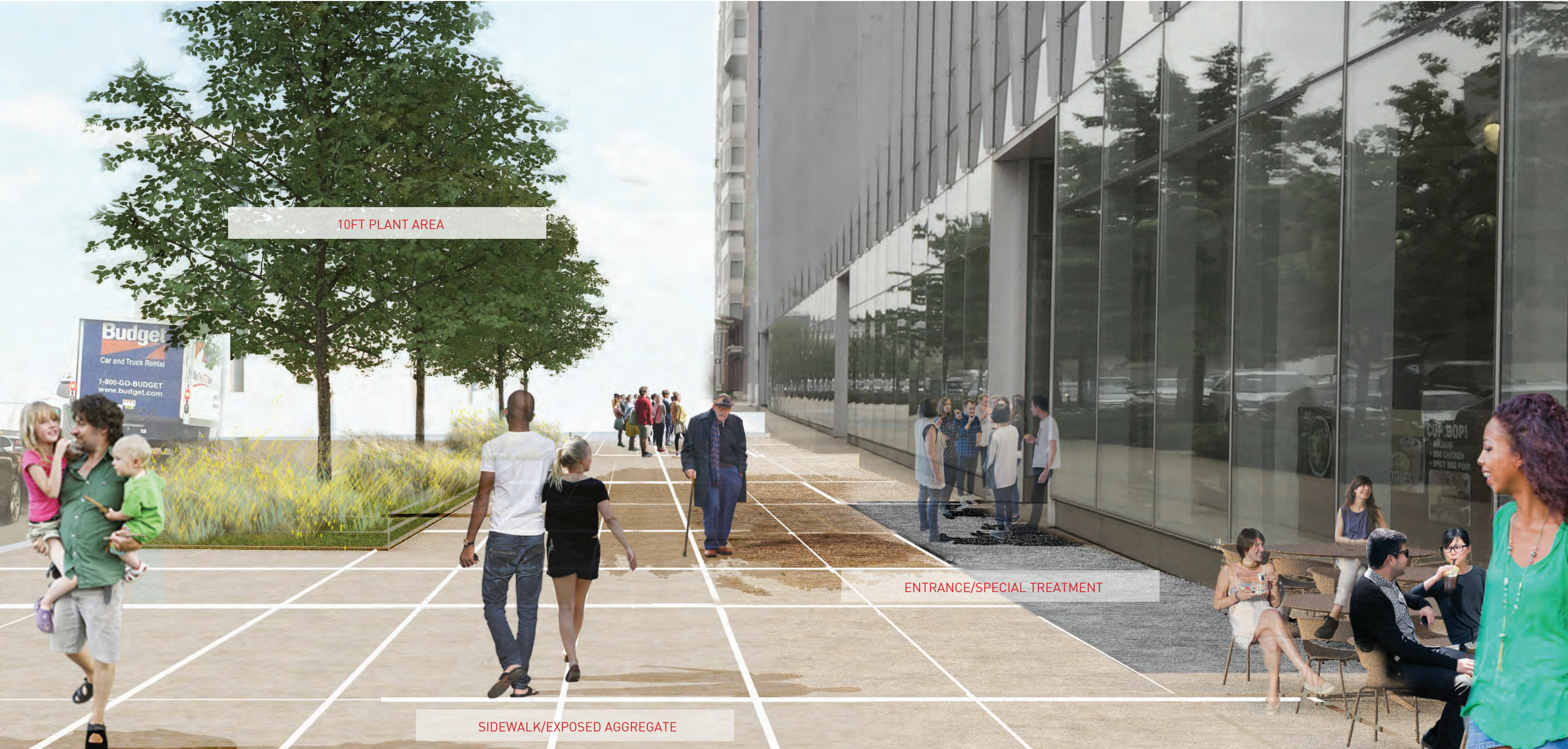
GUIDELINES

MAXIMUM SCENARIO: RENDERING TYPICAL BLOCK



GUIDELINES

MINIMUM SCENARIO: RENDERING TYPICAL BLOCK (ANNOTATED)



GUIDELINES

MAXIMUM SCENARIO: RENDERING TYPICAL BLOCK (ANNOTATED)

