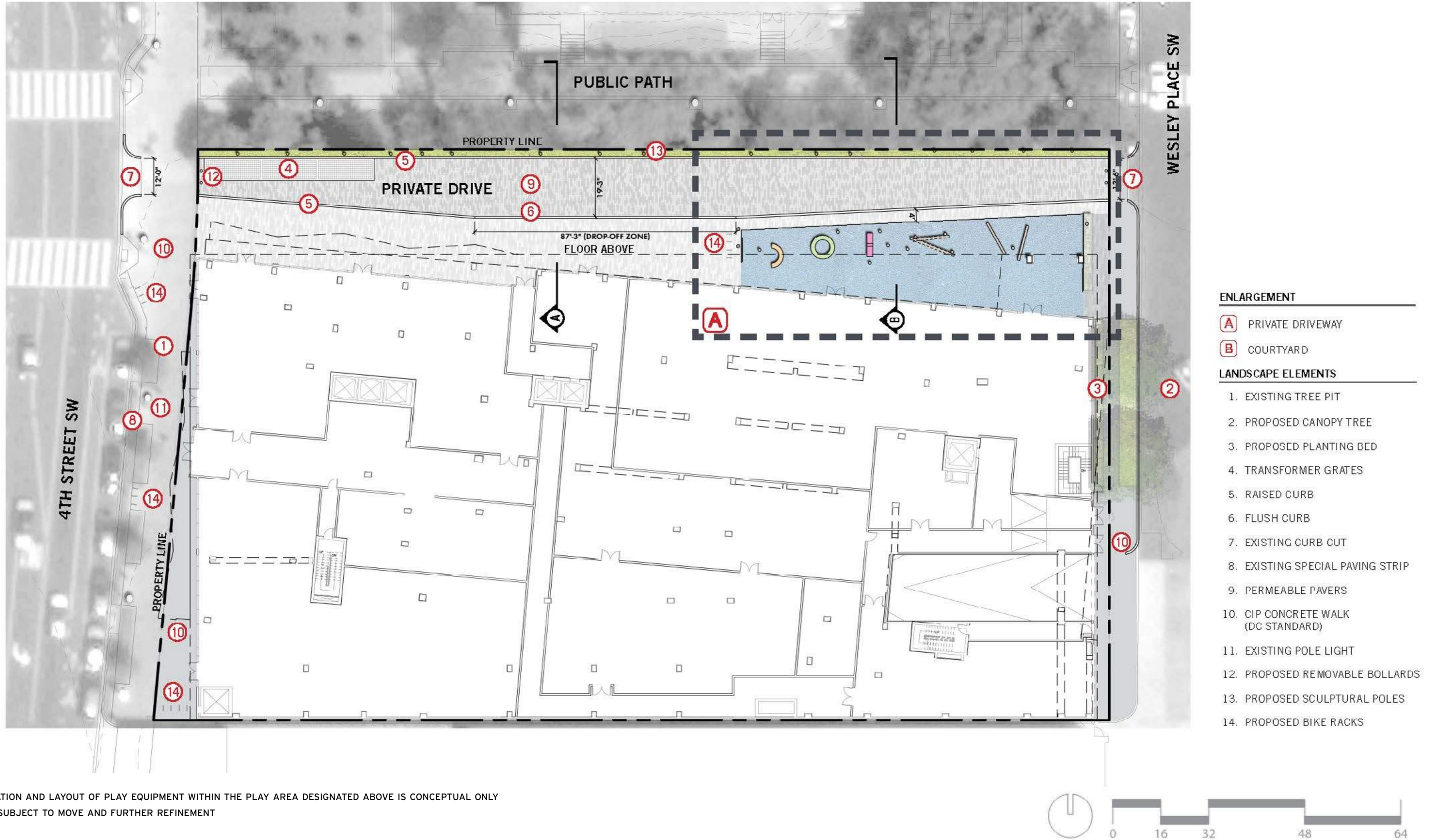


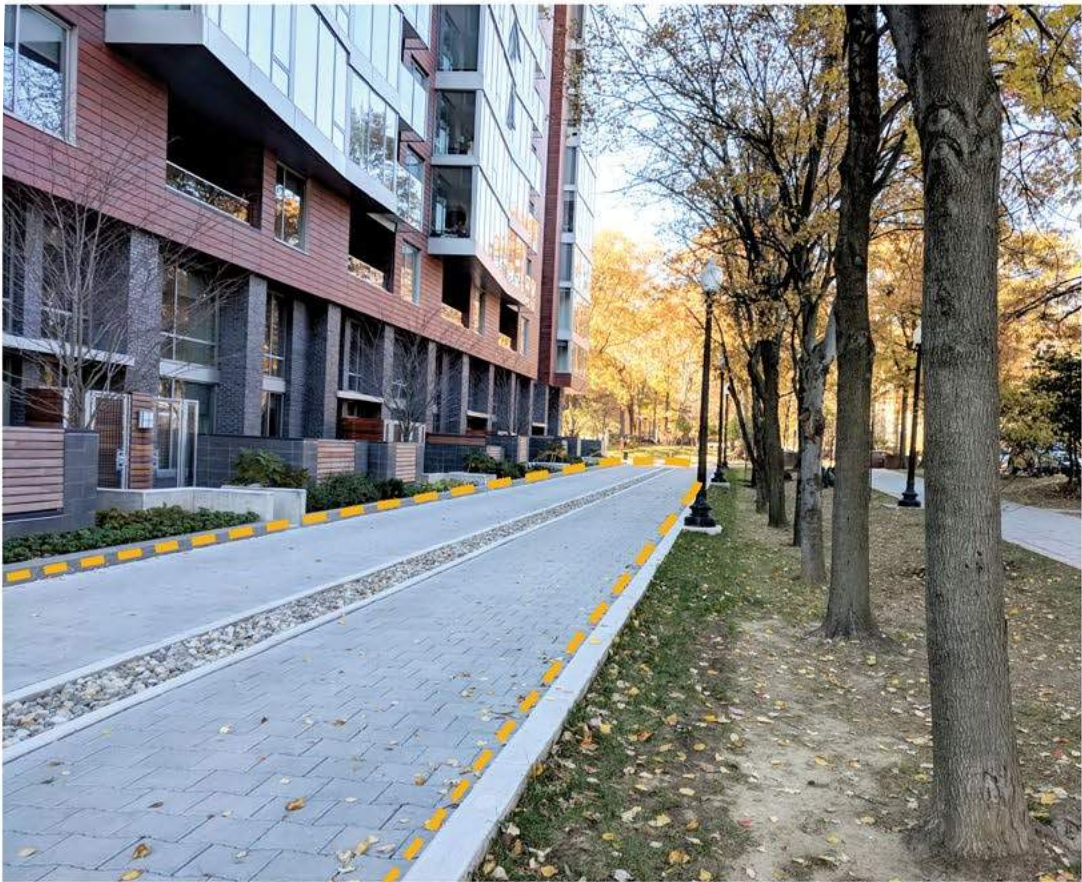
andscape

Exhibits

# Landscape Ground Floor Key Plan







THE ELIOT



NE PARCEL

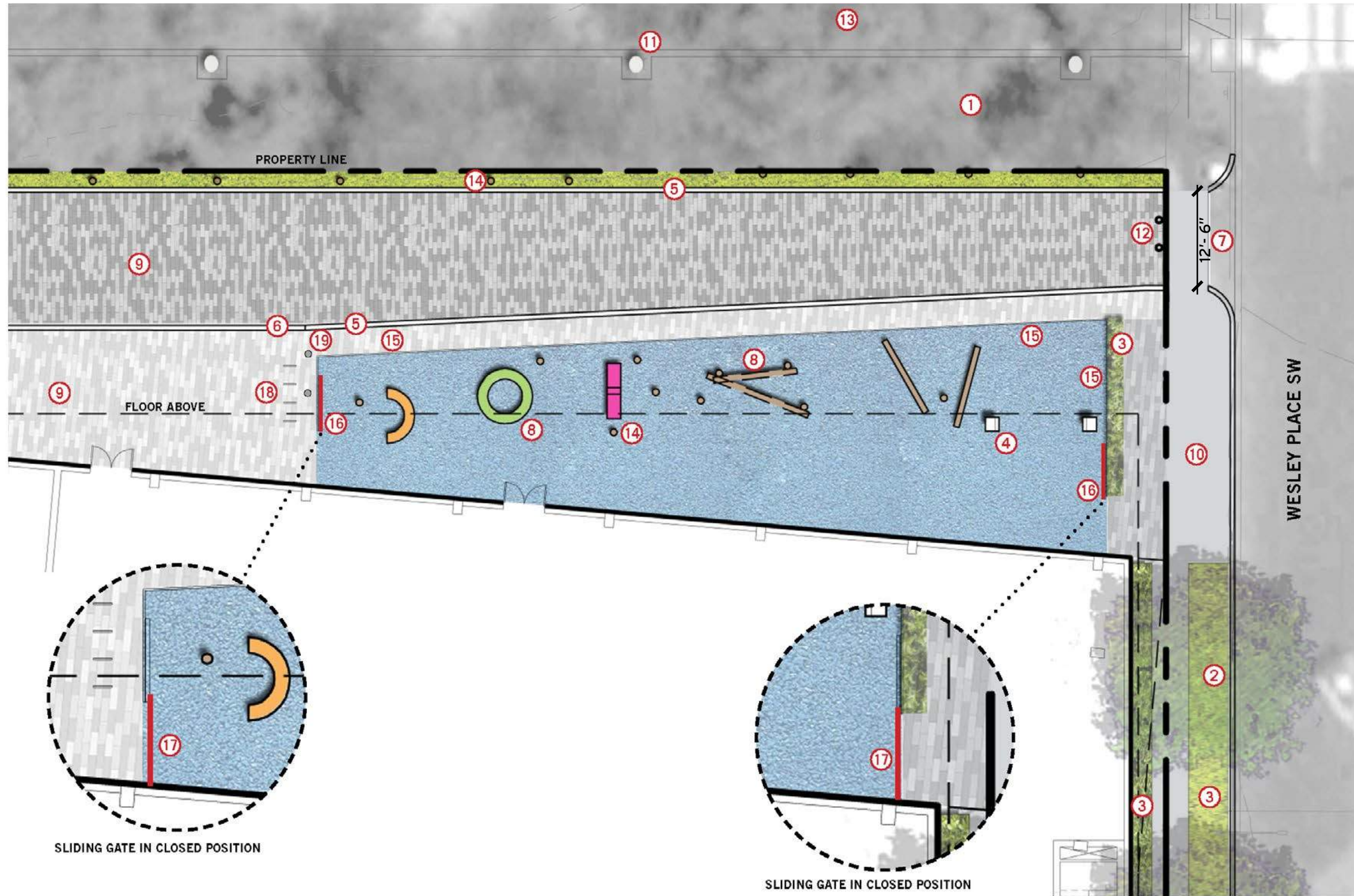
Permeable concrete unit paver laid out in linear rows

Permeable concrete unit paver laid out in linear rows





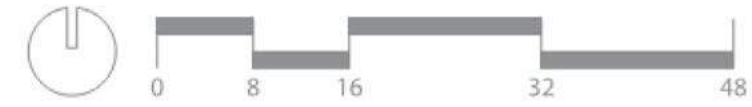
# Private Driveway Enlargement



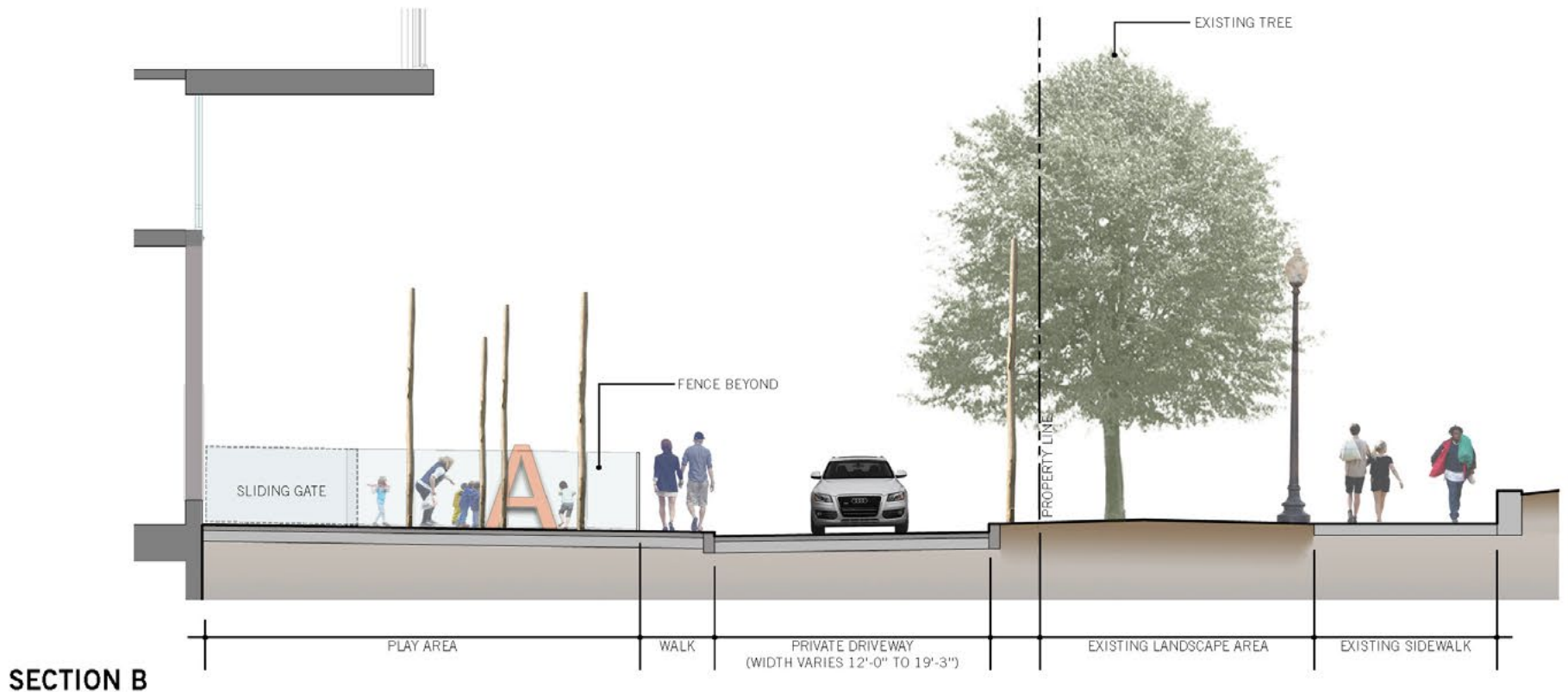
- LANDSCAPE ELEMENTS**
1. EXISTING TREES (OUTSIDE PROPERTY LINE)
  2. PROPOSED CANOPY TREE
  3. PROPOSED PLANTING BED
  4. BUILDING COLUMN
  5. RAISED CURB
  6. FLUSH CURB
  7. EXISTING CURB CUT
  8. CUSTOM PLAY ELEMENTS
  9. PERMEABLE PAVERS
  10. CIP CONCRETE WALK (DC STANDARD)
  11. EXISTING POLE LIGHT
  12. PROPOSED REMOVABLE BOLLARDS
  13. EXISTING PATH
  14. PROPOSED SCULPTURAL POLES
  15. DECORATIVE, REINFORCED 60" HT. FENCE
  16. DECORATIVE 60" SLIDING GATE (SHOWN IN OPEN POSITION)
  17. DECORATIVE 60" SLIDING GATE (SHOWN IN CLOSED POSITION)
  18. PROPOSED BIKE RACKS
  19. PROPOSED PERMANENT BOLLARDS

**NOTES**

- LOCATION AND LAYOUT OF PLAY EQUIPMENT WITHIN THE PLAY AREA DESIGNATED ABOVE IS CONCEPTUAL ONLY AND SUBJECT TO MOVE AND FURTHER REFINEMENT









## Private Driveway: Reference Images and Materials



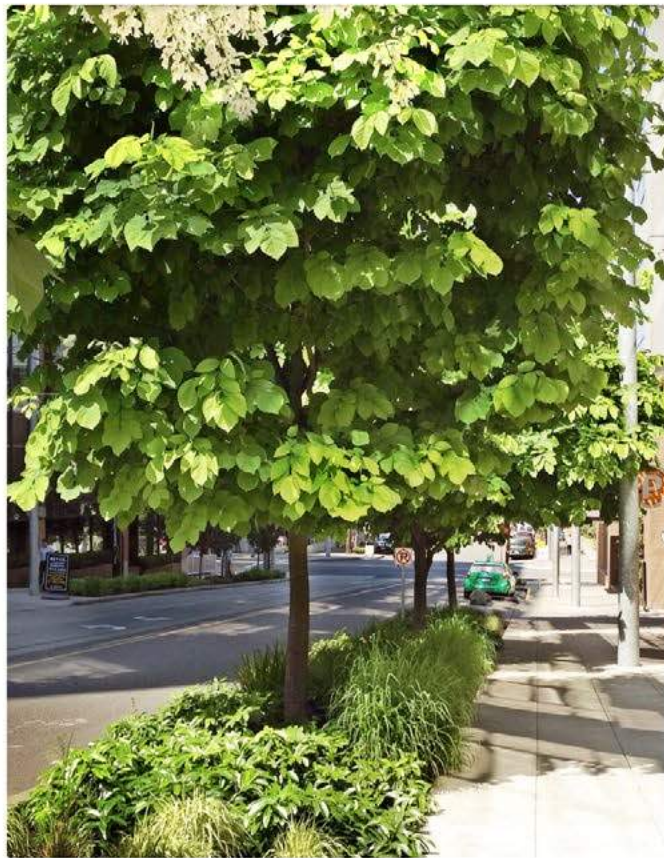
SCULPTURAL POLES



CUSTOM PLAY ELEMENTS



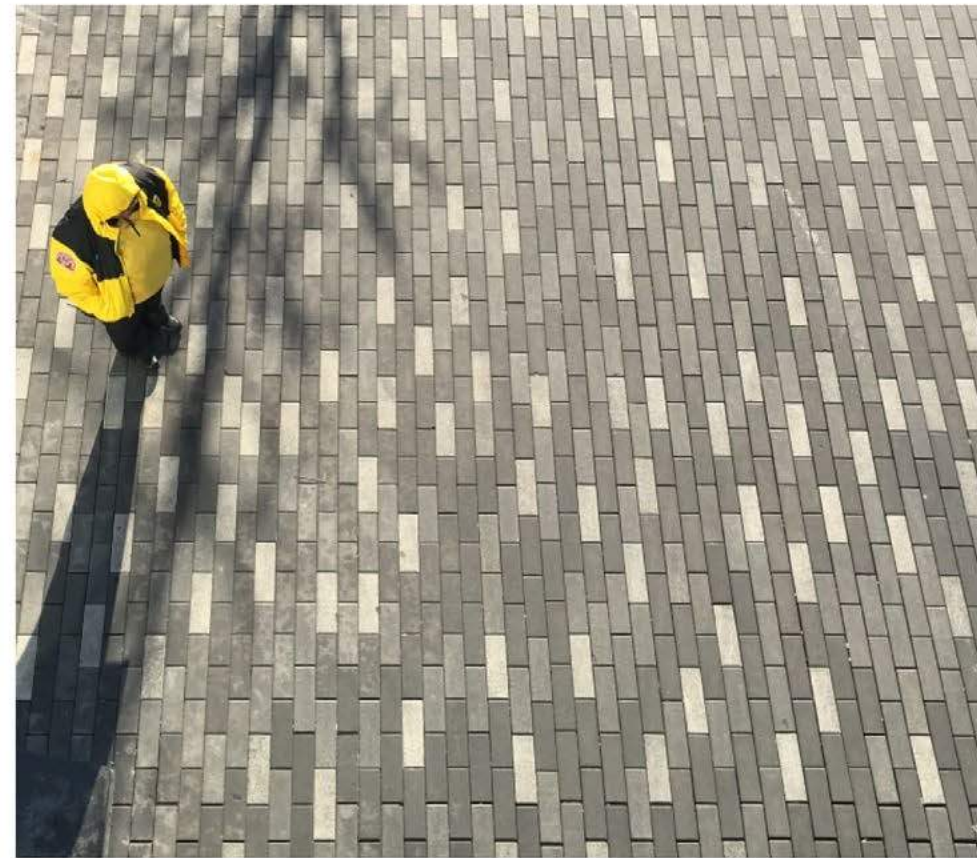
BOLLARDS



PLANTING BED WITH CANOPY TREES



WILLOW OAK CANOPY TREE



PERMEABLE PAVERS



DECORATIVE FENCE AND SLIDING GATES



STONE CURB





NOTES

- LOCATION AND LAYOUT OF PLAY EQUIPMENT WITHIN THE PLAY AREA DESIGNATED ABOVE IS CONCEPTUAL ONLY AND SUBJECT TO MOVE AND FURTHER REFINEMENT



# Courtyard Enlargement



- LANDSCAPE ELEMENTS**
1. PERGOLA
  2. ORNAMENTAL TREE  
*Sweetbay Magnolia* or similar
  3. RAISED PLANTER W/ SHRUBS
  4. ARTIFICIAL TURF
  5. LOW PLANTING
  6. FIRE FEATURE TABLE
  7. CAFE TABLES & CHAIRS
  8. CUSTOM WOOD BENCH
  9. WATER FEATURE & SEAT WALL
  10. PRIVACY FENCE
  11. PRECAST CONCRETE PAVERS
  12. STONE PAVERS
  13. OUTDOOR KITCHEN & GRILLS
  14. 18-24" STEEL RETAINING WALL
  15. LOOSE FURNISHINGS
  16. WOOD DECKING

**NOTES**

- LOCATION AND LAYOUT OF PLAY EQUIPMENT WITHIN THE PLAY AREA DESIGNATED ABOVE IS CONCEPTUAL ONLY AND SUBJECT TO MOVE AND FURTHER REFINEMENT



**Courtyard: Materials and Plantings**



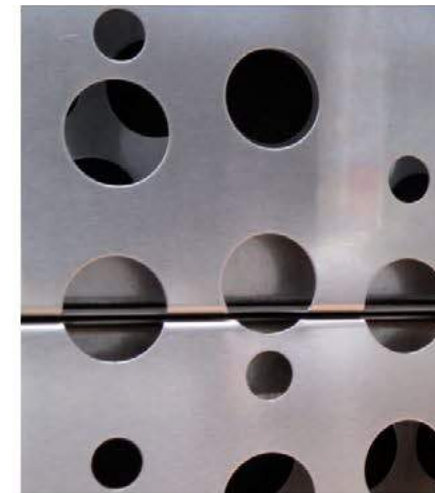
PRECAST PAVERS



STONE PAVERS



SCULPTURAL SCREEN



SCULPTURAL SCREEN DETAIL



PRIVACY SCREEN



CAFE TABLES AND CHAIRS



STEEL RETAINING WALLS



YELLOWWOOD TREE (top), CAREX GROUNDCOVER MIXED WITH ALLIUM



SWEETBAY MAGNOLIA



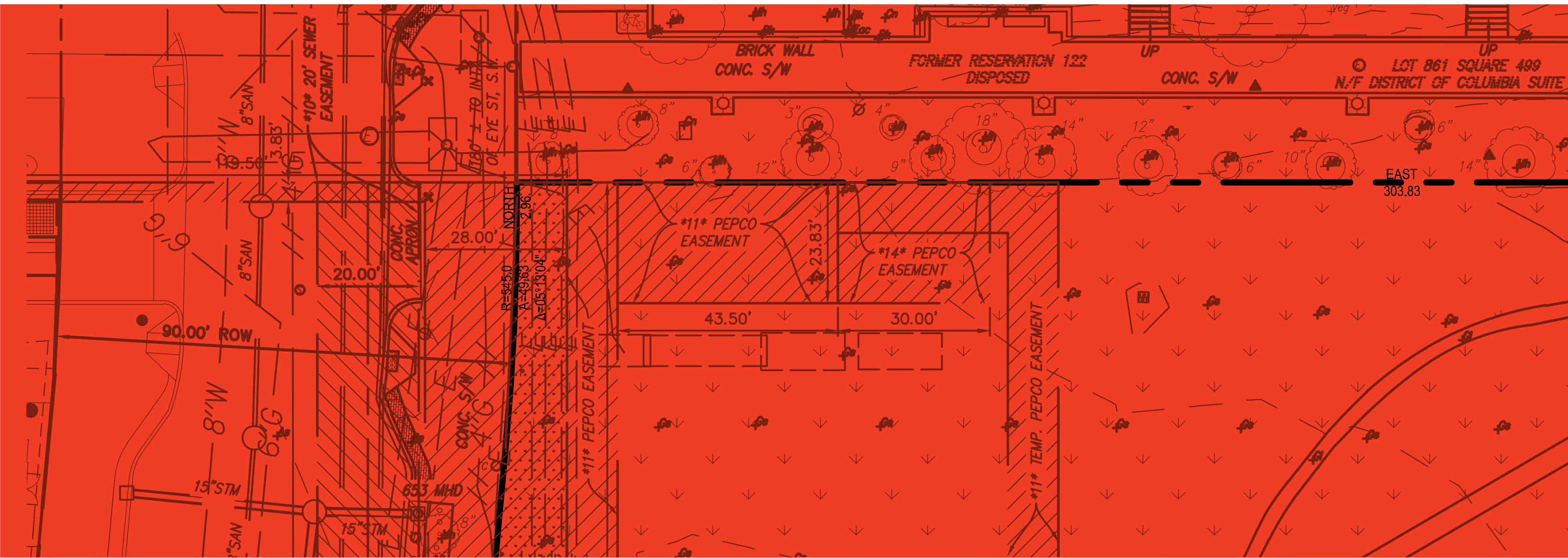
CLIMBING HYDRANGEA, SWEETBOX, and FOAM FLOWER (top to bottom)



WATER FEATURE AND SCUPPER DETAIL











C

# ivil Exhibits

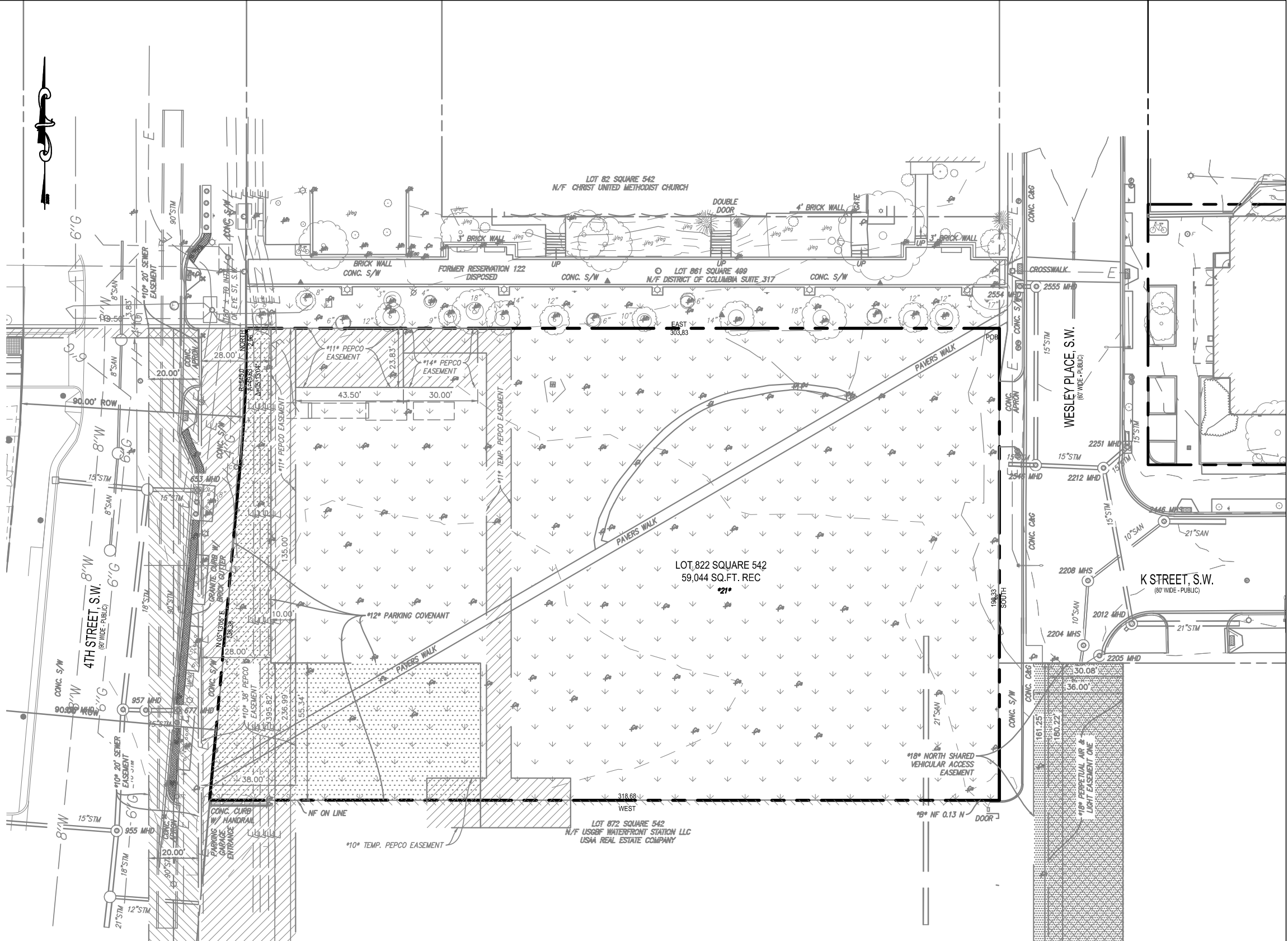


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LEGEND	
ASPHALT	
BRICK	
CONCRETE	
EXPOSED AGGREGATE CONCRETE	
GROUND	
GRANITE	
GRAVEL	
GRASS	
MULCH	
PAVERS	
VEGETATION	
SHRUB	
CONIFEROUS TREE	
DECIDUOUS TREE	
BIKE RACK	
TRASH CAN	
MULTI-PARKING METER	
HAND HOLE	
WALL LIGHT	
DRAINAGE MANHOLE	
ELECTRIC MANHOLE	
SEWER MANHOLE	
UTILITY POLE	
COBRA LIGHT POLE	
GLOBE LIGHT POLE	
DOUBLE DOOR	
DOOR	
MONUMENT FOUND CHISELED X	
MONUMENT FOUND IRON PIPE	
UNDERGROUND ELECTRIC	
UNDERGROUND GAS	
UNDERGROUND WATER	
UNDERGROUND STORM/SEWER	
FENCE LINE	
HAND RAIL	
PROPERTY LINE	
TC TOP OF CURB	
FL FLOMLINE	
TW TOP OF WALL	
BW BOTTOM OF WALL	
S/W SIDEWALK	
N/F NOW AND/OR FORMERLY	
FF FINISHED FLOOR	
C&G CURB AND GUTTER	
CONC. CONCRETE	
TYP. TYPICAL	
SAN. SANITARY SEWER	
STM. STORM SEWER	
CLF CHAIN LINK FENCE	
WIF WROUGHT IRON FENCE	
rec RECORD	
mst MEASUREMENT	

Structure Table	
Structure Name	Structure Details
2012 MHD	RIM = 13.28 15" INV IN = 4.76 N 12" INV IN = 8.04 SW 21" INV OUT = 2.67 E
2205 MHD	RIM = 13.02
2212 MHD	RIM = 13.43 15" INV IN = 5.87 W 15" INV IN = 8.88 NE 15" INV OUT = 5.55 S
2251 MHD	RIM = 13.91 15" INV IN = 10.54 N 15" INV OUT = 9.30 SW
2546 MHD	RIM = 13.79 15" INV IN = 6.64 N 15" INV IN = 7.75 W 15" INV OUT = 6.47 E
2554 MHD	RIM = 14.78
2555 MHD	RIM = 14.39




UNDERGROUND UTILITY RECORDS SHOWN:

UTILITY	SOURCE	DATE
SEWER: WASA PANEL:	OS B-5-S.W.	7-6-70
WATER: WASA PANEL:	OW B-5-S.W.	6-10-92
ELECTRIC: PEPCO	NO LABEL	7-10-2017
GAS: WASHINGTON GAS	WG-875	7-5-2016
OCTO DCNET FIBER:	NO LABEL	7-6-2017
COMMUNICATION: VERIZON	MAP #16, GRID B-4	7-26-2017
COMMUNICATION: MCI	CONDUIT SW 42	7-6-2017
COMMUNICATION: COMCAST	REPORTED NONE	7-7-2017
	NO LABEL	7-7-2017

**WATERFRONT STATION**  
Washington, D.C.

**1000 4TH STREET, S.W.**  
**WASHINGTON, DC**

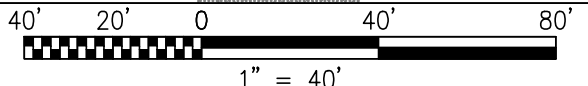
2018 JANUARY 18



**WMC DC**  
WILES MENSCH CORPORATION-DC

EXISTING CONDITIONS  
PUD SUBMISSION

**PN HOFFMAN**  
ARCHITECTS  
SCALE: 1"=40'  
CIV0101



40' 20' 0 40' 80'

1" = 40'



**DUST CONTROL NOTES:**

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND MAINTAIN THE PROJECT SITE AS TO MINIMIZE THE CREATION AND DISPERSION OF DUST. DUST CONTROL SHALL BE USED THROUGHOUT THE WORK AT THE SITE.
2. THE CONTRACTOR MUST PROVIDE CLEAN WATER, FREE FROM SALT, OIL AND OTHER DELETERIOUS MATERIAL TO BE USED FOR ON-SITE DUST CONTROL.
3. THE CONTRACTOR SHALL SUPPLY WATER SPRAYING EQUIPMENT CAPABLE OF ACCESSING ALL WORK AREAS.
4. THE CONTRACTOR SHALL IMPLEMENT STRICT DUST CONTROL MEASURES DURING ACTIVE CONSTRUCTION PERIODS ON-SITE. THESE CONTROL MEASURES WILL GENERALLY CONSIST OF WATER APPLICATIONS THAT SHALL BE APPLIED A MINIMUM OF ONCE PER DAY DURING DRY WEATHER OR MORE OFTEN AS REQUIRED TO PREVENT DUST EMISSIONS.
5. FOR WATER APPLICATION TO UNDISTURBED SOIL SURFACES, THE CONTRACTOR SHALL:
  - A. APPLY WATER WITH EQUIPMENT CONSISTING OF TANK, SPRAY BAR, PUMP WITH DISCHARGE PRESSURE GAUGE;
  - B. ARRANGE SPRAY BAR HEIGHT, NOZZLE SPACING AND SPRAY PATTERN TO PROVIDE COMPLETE COVERAGE OF GROUND WITH WATER;
  - C. DISPERSE WATER THROUGH NOZZLES ON SPRAY BAR AT 20 PSI (137.8 K PA) MINIMUM. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
6. FOR WATER APPLICATION TO SOIL SURFACES DURING DEMOLITION AND/OR EXCAVATION, THE CONTRACTOR SHALL:
  - A. APPLY WATER WITH EQUIPMENT CONSISTING OF A TANK, PUMP WITH DISCHARGE GAUGE, HOSES AND MIST NOZZLES.
  - B. LOCATE TANK AND SPRAYING EQUIPMENT SO THAT THE ENTIRE EXCAVATION AREA CAN BE MISTED WITHOUT INTERFERING WITH DEMOLITION AND/OR EXCAVATION EQUIPMENT OR OPERATIONS. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
  - C. APPLY WATER SPRAY IN A MANNER TO PREVENT MOVEMENT OF SPRAY BEYOND SITE BOUNDARIES.
7. APPLY WATER WITH EQUIPMENT CONSISTING OF A TANK, PUMP WITH DISCHARGE GAUGE, HOSES AND MIST NOZZLES.
8. LOCATE TANK AND SPRAYING EQUIPMENT SO THAT THE ENTIRE EXCAVATION AREA CAN BE MISTED WITHOUT INTERFERING WITH DEMOLITION AND/OR EXCAVATION EQUIPMENT OR OPERATIONS. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.
9. APPLY WATER SPRAY IN A MANNER TO PREVENT MOVEMENT OF SPRAY BEYOND SITE BOUNDARIES.

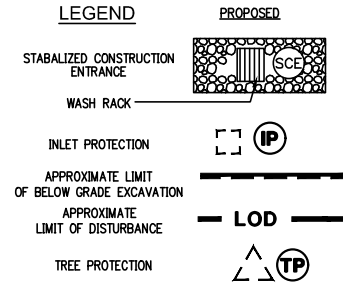
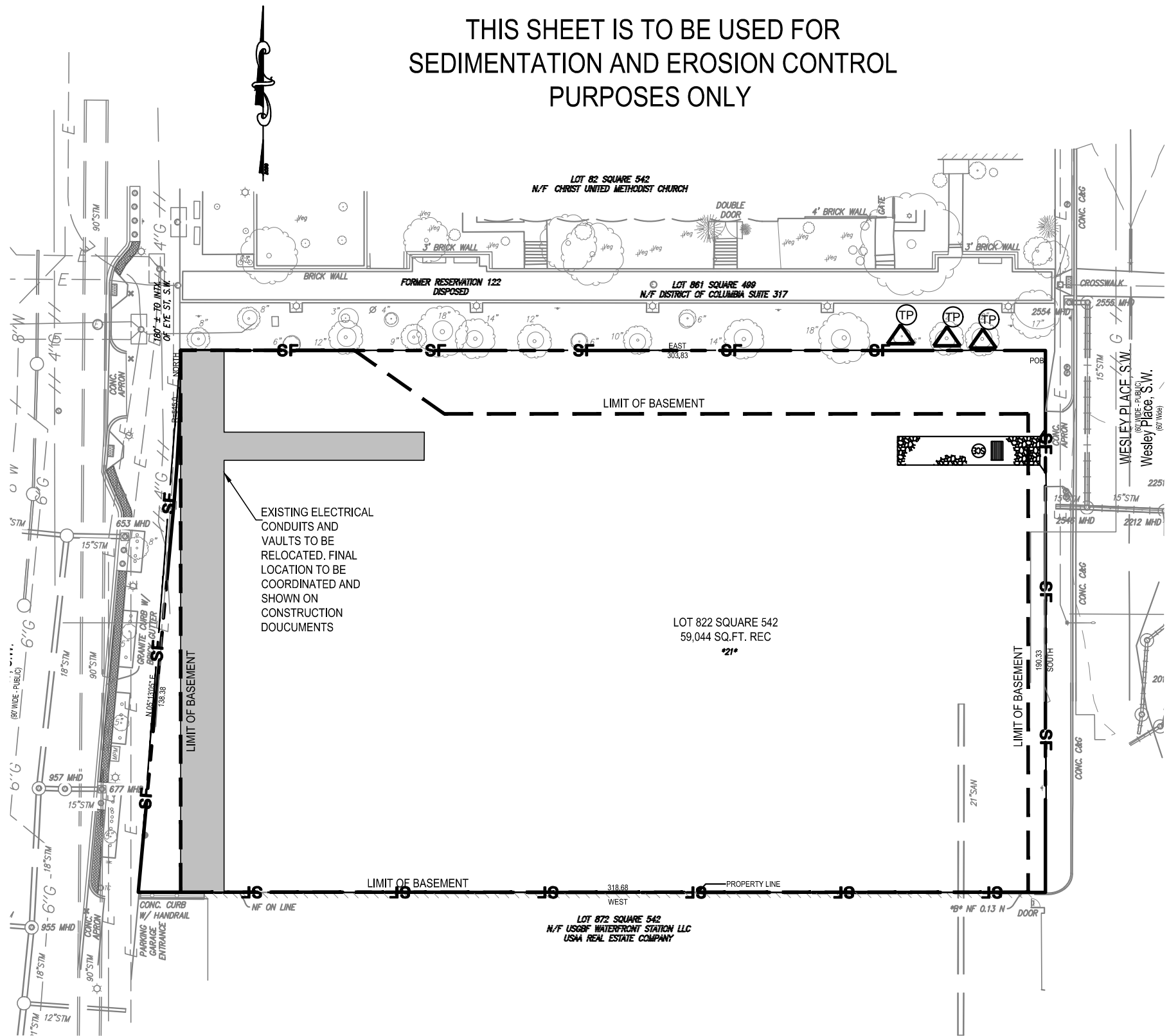
**CONSTRUCTION AND STABILIZATION SEQUENCE:**

1. INSTALL SEDIMENT AND EROSION CONTROL MEASURES INCLUDING STRAW BALE DIKES, INLET PROTECTION, SUMP PIT, PORTABLE SEDIMENT TANK, STABILIZED TREE PROTECTION, AND SILT FENCE AS INDICATED ON SHEET C-2. SEE SHEET C-5 FOR EROSION AND SEDIMENT CONTROL DETAILS.
2. SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR PRIOR TO COMMENCING ANY OTHER LAND DISTURBING ACTIVITIES.
3. REMOVE ITEMS AS INDICATED ON DEMOLITION PLAN.
4. INSTALL PROPOSED UTILITIES AS INDICATED ON SHEET C-4.
5. INSTALL SITE IMPROVEMENTS AS INDICATED ON CONSTRUCTION DOCUMENTS FOR THE PROPOSED BUILDING.
6. CONSTRUCT Bmps AS INDICATED ON SHEET C-3.
7. AT THE COMPLETION OF CONSTRUCTION AND AFTER THE INSPECTOR'S APPROVAL, ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE REMOVED.

**EROSION AND SEDIMENT CONTROL NOTE:**

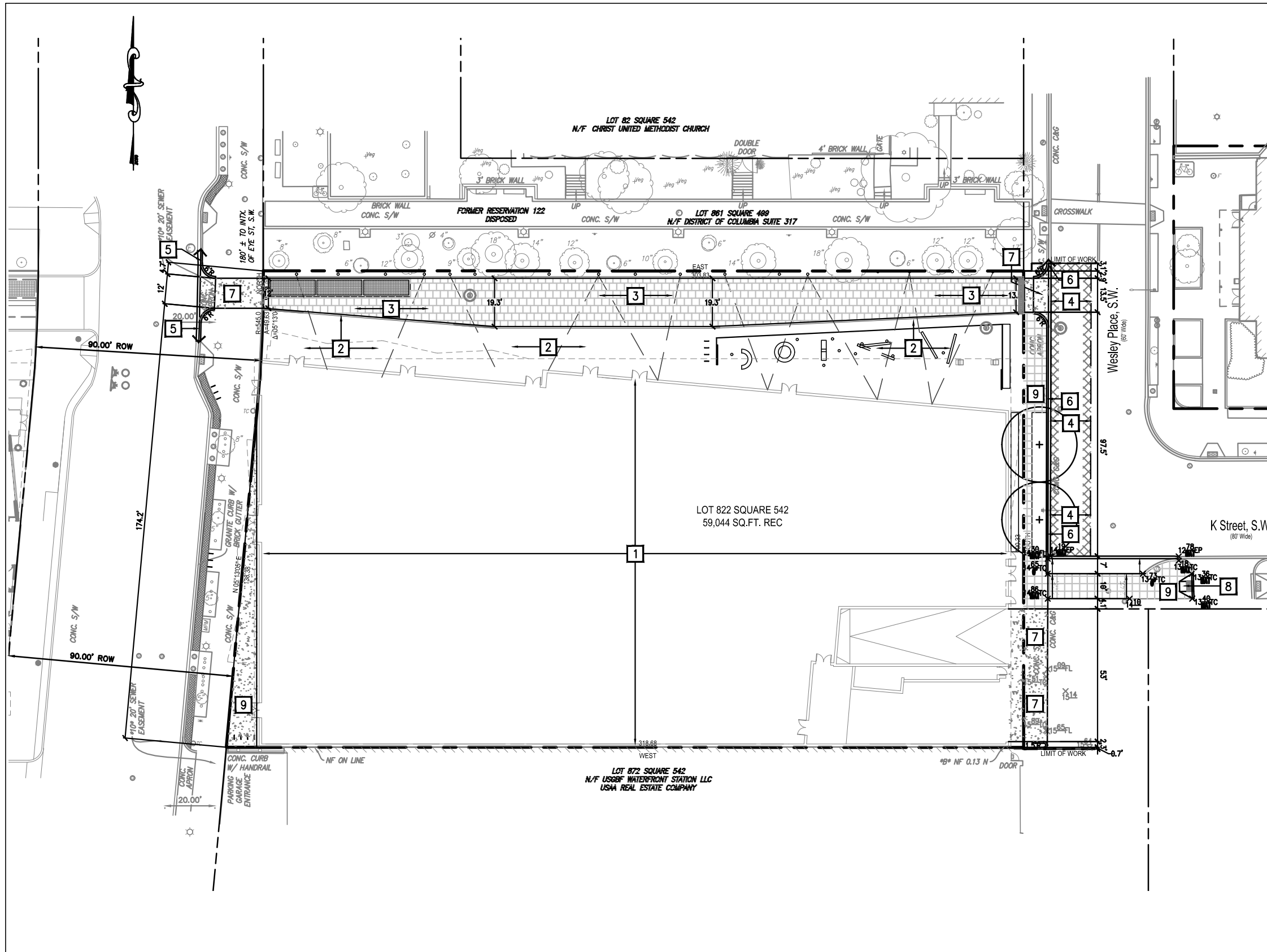
1. THE APPLICANT MUST NOTIFY THE DISTRICT DEPARTMENT OF ENVIRONMENT BY PHONE (202-535-2977) AT LEAST 72 HOURS PRIOR TO THE START OF LAND DISTURBING ACTIVITY AND WITHIN (2) WEEKS AFTER COMPLETION OF PROJECT TO REQUEST INSPECTION. IF THERE IS NEED TO MAKE CHANGES OR MODIFICATIONS IN THE APPROVED DESIGN, DISTRICT DEPARTMENT OF ENVIRONMENT MUST BE NOTIFIED IMMEDIATELY.
2. REMOVAL OF ANY EROSION AND SEDIMENT CONTROL MEASURES REQUIRES APPROVAL FROM DDCE INSPECTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN OF SHEETING AND SHORING AND SUPPORT OF EXISTING UTILITIES AND ADJACENT STRUCTURES. SHORING, BRACING, AND UNDERPINNING DESIGNED BY THE CONTRACTOR'S STRUCTURAL ENGINEER LICENSED IN THE DISTRICT OF COLUMBIA SHALL BE PROVIDED AS NECESSARY TO ENSURE THEIR SUPPORT.
4. PROVIDE SILT FENCE AT PERIMETER OF EXCAVATION AREA TO REMAIN IN PLACE UNTIL BELOW GRADE EXCAVATION HAS BEGUN UNLESS OTHERWISE APPROVED BY THE INSPECTOR.
5. CONTRACTOR TO PROVIDE ON SITE APPROVED STAMPED AND SIGNED SEDIMENTATION AND EROSION CONTROL DRAWINGS BY DEPARTMENT OF ENVIRONMENT, WATERSHED PROTECTION DIVISION.
6. PROVIDE A CHAIN LINK FENCE AT PERIMETER OF SITE
7. NO LATER THAN THE FIRSTDAY OF CONSTRUCTION, INSTALL SITE ACCESS MEASURES TO MINIMIZE OFF-SITE VEHICLE TRACKING OF SEDIMENTS. EACH CONSTRUCTION ENTRANCE MUST BE STABILIZED AND INCLUDE EACH ADDITIONAL MEASURES REQUIRED TO KEEP SEDIMENT FROM BEING CARRIED ONTO PUBLIC STREETS BY CONSTRUCTION VEHICLES AND WASHED INTO A STORM DRAIN OR WATERWAY.
8. REMOVE OFF-SITE ACCUMULATION OF SEDIMENT DAILY DURING CONSTRUCTION AND IMMEDIATELY AT THE REQUEST OF DDCE INSPECTOR.
9. PERFORM ROUTINE MAINTENANCE TO PREVENT ANY NEW DE-STABILIZATION AREAS.
10. STRAW BALE DIKES WILL BE REPLACED EVERY THREE (3) MONTHS UNTIL COMMENCEMENT OF CONSTRUCTION.

**THIS SHEET IS TO BE USED FOR  
SEDIMENTATION AND EROSION CONTROL  
PURPOSES ONLY**



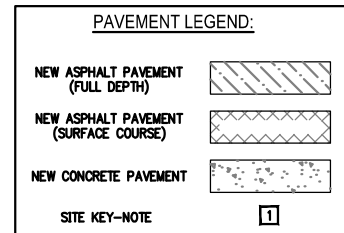
<p><b>1000 4TH STREET, S.W. WASHINGTON, DC</b></p>	<p><b>WMC DC</b> WILES MENSCH CORPORATION-DC</p>	<p>EROSION AND SEDIMENT CONTROL PLAN</p> <p>PUD SUBMISSION</p>	<p>1" = 40'</p>
<p><b>WATERFRONT STATION</b></p> <p>Washington, D.C.</p>	<p>2018 JANAUARY 18</p>	<p>ARCHITECTS</p> <p>PN HOFFMAN</p> <p>SCALE: 1"=40'</p>	<p>CIV0102</p>





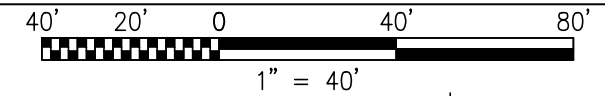
**SITE KEYNOTES:**

- 1 NEW BUILDING. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS.
- 2 NEW HARDSCAPE. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
- 3 NEW PAVERS. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
- 4 NEW SURFACE COURSE ASPHALT PAVEMENT PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.
- 5 NEW GRANITE CURB WITH BRICK GUTTER PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.
- 6 NEW CONCRETE CURB AND CONCRETE GUTTER PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.
- 7 NEW CONCRETE APRON AND DRIVEWAY PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.
- 8 NEW HANDICAP RAMP PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.
- 9 NEW CONCRETE SIDEWALK PER DDOT STANDARDS AND SPECIFICATIONS. REFER TO SHEET CIV0106 FOR DETAILS.

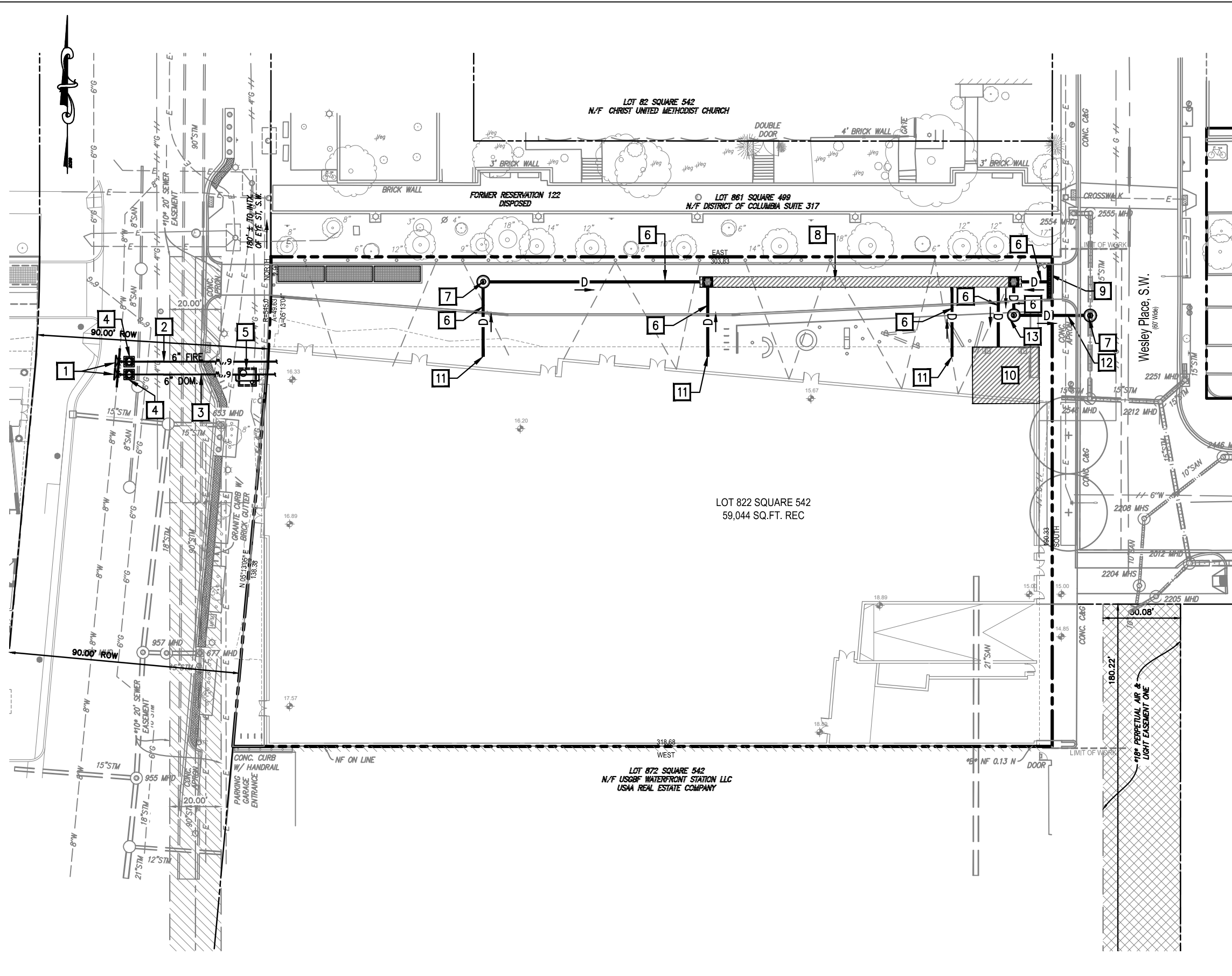


**NOTES:**

- 1. STREETSCAPE DETAILS ARE SHOWN IN CONCEPT FOR ILLUSTRATIVE PURPOSES. THE FINAL DETAILS OF THE STREETSCAPE IMPROVEMENTS WILL BE SELECTED DURING DETAILED DESIGN PHASES OF WORK AND CONFORM WITH APPLICABLE DESIGN AND PERMITTING STANDARDS.
- 2. PLANT SPECIES SELECTIONS IDENTIFIED ON THIS PLAN ARE SHOWN TO ILLUSTRATE DESIGN INTENT ONLY. THE PURPOSE IS TO GENERALLY DEFINE PLANT SIZE, CHARACTER, AND LOCATIONS. REFINEMENTS TO THE PLANTING DESIGN AND FINAL SELECTION OF ALL PLANT MATERIALS CONSISTENT WITH THE SPECIES SHOWN SHALL BE DEVELOPED DURING DETAILED DESIGN PHASES OF WORK.
- 3. INTERIOR LAYOUTS ARE ILLUSTRATIVE ONLY AND SUBJECT TO CHANGE ON FINAL PLAN.
- 4. DC/DDOT MAY REQUIRE NEW ASPHALT SURFACE COURSE TO CENTERLINE OF THE STREET PER DC/DDOT INSPECTOR RECOMMENDATIONS. CONTRACTOR TO COORDINATE LIMITS OF NEW ASPHALT SURFACE COURSE WITH INSPECTOR.
- 5. ALL NEW DEVELOPMENT AND CONSTRUCTION ON ADJACENT PROPERTIES TO BE COMPLETED BY OTHERS AND IS NOT CONSIDERED PART OF THE PROJECT.







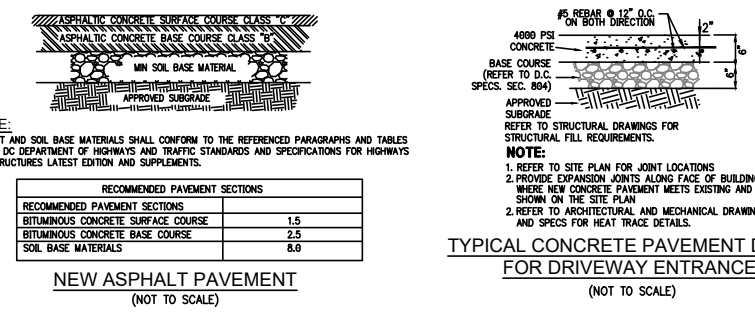
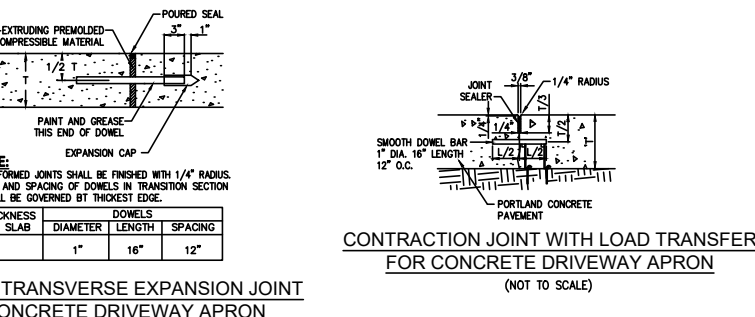
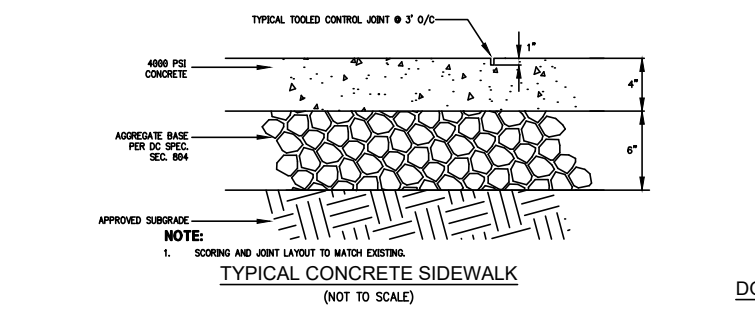
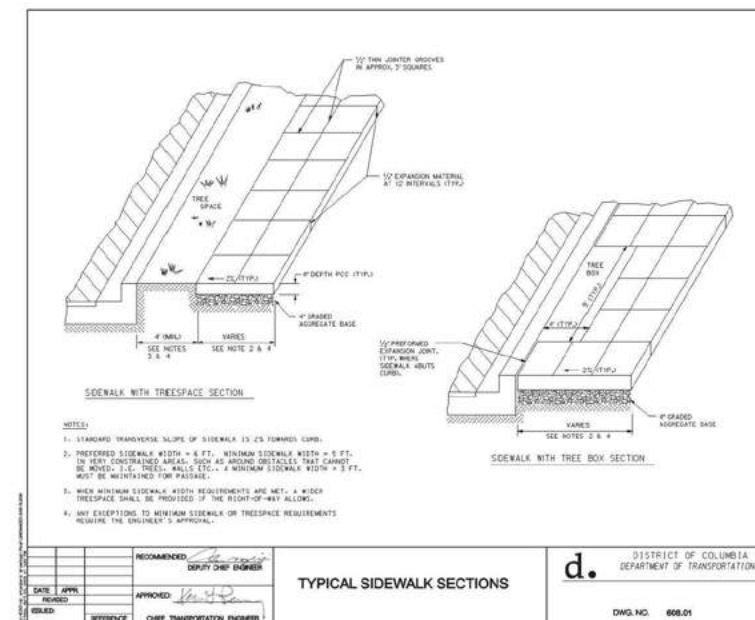
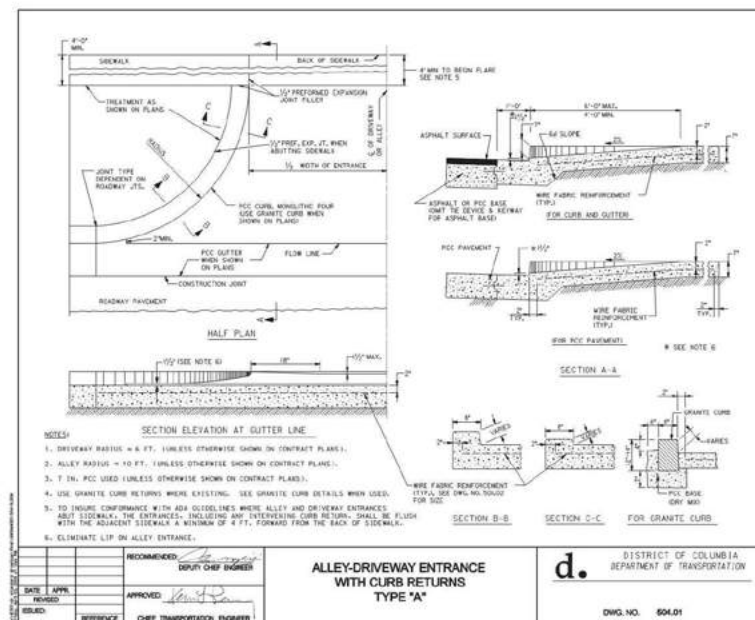
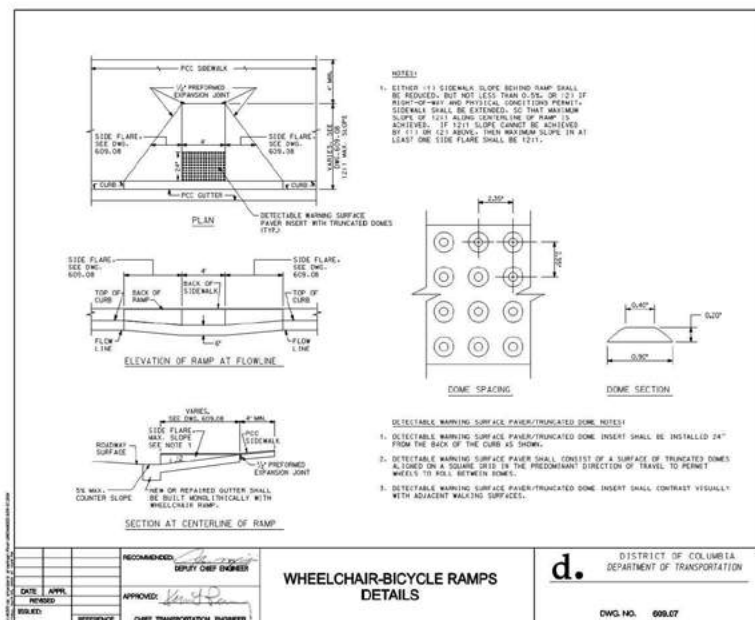
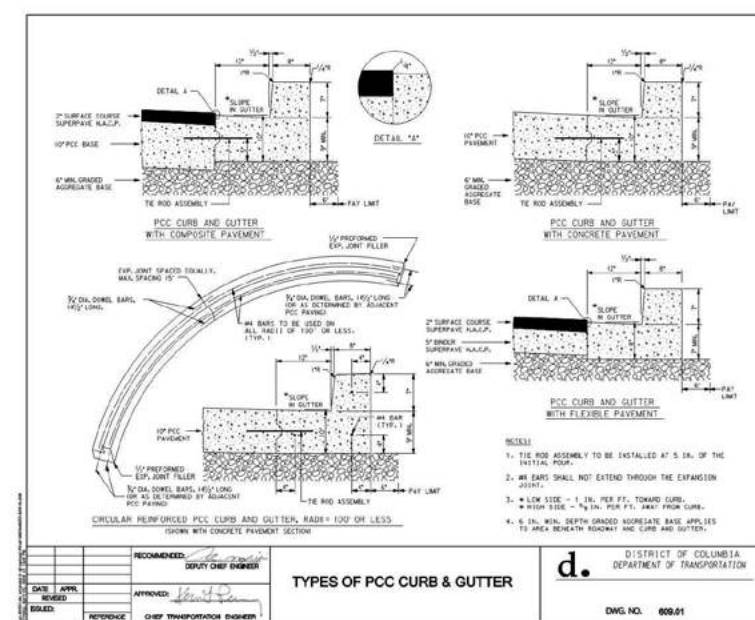
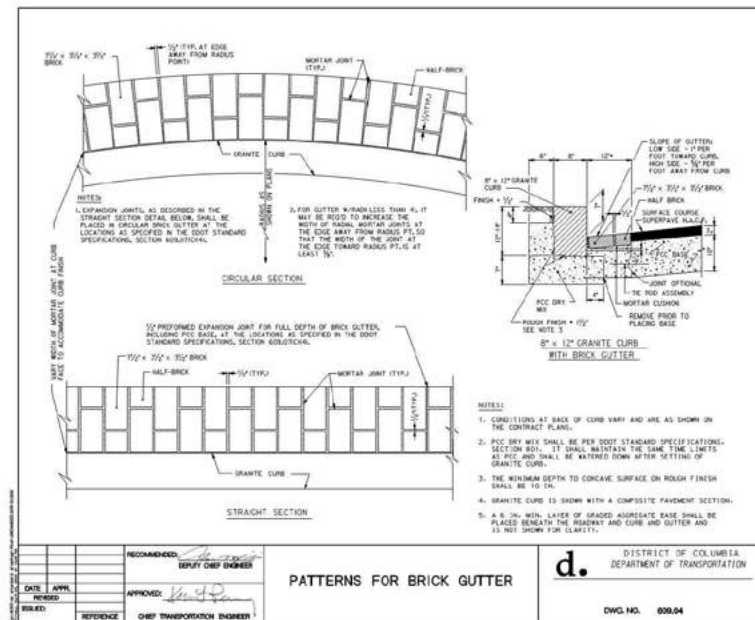
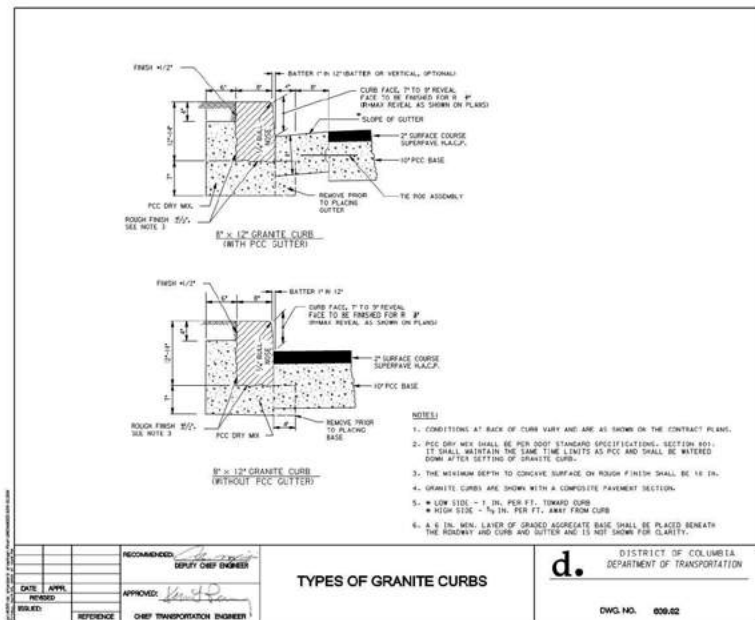
**GENERAL NOTES:**  
 ALL INFRASTRUCTURE AND DETAILS ARE SHOWN IN CONCEPT FOR ILLUSTRATIVE PURPOSES. THE FINAL DESIGN, LAYOUT, LOCATION AND DETAILS OF THE UTILITY IMPROVEMENTS WILL BE SELECTED DURING DETAILED DESIGN PHASES OF WORK AND CONFORM WITH APPLICABLE DESIGN AND PERMITTING STANDARDS.

- UTILITY KEYNOTES:**
- 1 NEW 8" x 6" TEE WITH THRUST BLOCK PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL W-40.01 ON SHEET CIV0107 FOR DETAILS.
  - 2 NEW 6" DIP FIRE SERVICE PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL W-10.01 ON SHEET CIV0107 FOR TRENCHING DETAILS.
  - 3 NEW 6" DIP DOMESTIC WATERLINE PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL W-10.01 ON SHEET CIV0107.
  - 4 NEW 6" WATER VALVE PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL W-20.01 ON SHEET CIV0107.
  - 5 NEW 6" WATER METER PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL DG-23.01 ON SHEET CIV0107.
  - 6 NEW PVC SCH 40 STORM SEWER PIPE, PER DC WATER STANDARDS AND SPECIFICATIONS. REFER TO DC WATER DETAIL S-12.01 ON SHEET CIV0107.
  - 7 NEW 4.0' DIAMETER PCC MANHOLE, PER DC/WATER STANDARDS AND SPECIFICATIONS. REFER TO DETAILS S-20.11 AND S-20.03 ON SHEET CIV0107.
  - 8 NEW HDPE STORAGE PIPE "CISTERN" FOR RAINWATER HARVESTING.
  - 9 NEW TRENCH DRAIN.
  - 10 NEW RAIN HARVESTING PUMP & FILTRATION ROOM.
  - 11 NEW STORM RISER CONNECTION.
  - 12 NEW EMERGENCY OVERFLOW CONNECTION TO PUBLIC STORM SEWER MAIN.
  - 13 NEW STORMFILTER MANHOLE FOR WATER QUALITY TREATMENT.











DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY W-16.01 2 OF 2

STANDARD DETAIL  
DUCTILE IRON WATER MAIN  
PIPE LAYING CONDITION TYPE 2A  
(TRENCH INSTALLATION)

PIPE DIAMETER D	TRENCH PAV WIDTH (W <sub>T</sub> OR W <sub>2</sub> )	
	SHEETED EXCAVATION W <sub>1</sub>	UNSHIELDED EXCAVATION W <sub>2</sub>
8"	2' - 10"	2' - 4"
12"	3' - 2"	2' - 8"
18"	3' - 8"	3' - 0"
24"	3' - 10"	3' - 4"
30"	4' - 2"	3' - 8"
36"	4' - 8"	4' - 2"
42"	5' - 0"	4' - 6"
48"	5' - 6"	5' - 0"

NOTES:  
1. PIPE LAYING CONDITION TYPE 2A (TRENCH INSTALLATION) SHALL BE USED FOR ALL WATER MAIN CONSTRUCTION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS.  
2. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH PAV WIDTH (W<sub>T</sub> OR W<sub>2</sub>) ABOVE A LINE 1' - 0" FROM TOP OF PIPE, AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE AUTHORITY.  
3. IF EXCAVATION BELOW NORMAL DEPTH OF WATER MAIN INSTALLATION (DEPTH'S GREATER THAN 4.5 FEET) IS REQUIRED, EXCAVATION SUPPORT SHEETING MAY BE ORDERED OR TRENCH SHEETS ORDERED AT CONTRACTOR'S OPTION. COSTS UNDER THIS OPTION SHALL BE PART OF THE UNIT PRICE BID FOR EXCAVATION.  
4. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED ON DRAWINGS. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1' - 0" ABOVE THE TOP OF PIPE OR AS DIRECTED BY THE ENGINEER.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL FOR HORIZONTAL PIPE BEND & TEE  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL 12" DIAMETER & SMALLER WATER MAINS

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY W-40.01 2 OF 2

STANDARD DETAIL  
CONCRETE THRUST BLOCK  
FOR HORIZONTAL PIPE BEND & TEE  
12" DIAMETER & SMALLER WATER MAINS

RADIUS OF BEND OR PIPE DIA	BEND TYPE	W	H <sub>1</sub>	H <sub>2</sub>	G	CONC. (C.W.)
6"	11.82	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	12.57	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	13.22	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
8"	11.82	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	12.57	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	13.22	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
10"	11.82	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	12.57	1'-0"	1'-0"	0'-0"	1'-0"	FA 812
	13.22	1'-0"	1'-0"	0'-0"	1'-0"	FA 812

NOTES:  
1. ALL CONCRETE TO BE CLASS 4000, AIR ENHANCED, TYPE 1 CEMENT.  
2. REINFORCING STEEL SHALL CONFORM TO ASTM A638, GRADE 60.  
3. NOMINAL DEPTH OF COVER ON WATER MAIN IS FOUR FEET.  
4. UNIT WEIGHT OF SOIL, 120 PCF.  
5. DESIGN BASED ON R = 30' AND TEST PRESSURE = 190 PSI.  
6. H<sub>1</sub> = HEIGHT OF BLOCK, W<sub>1</sub> WIDTH AT FITTING AND W<sub>2</sub> WIDTH AGAINST UNDISTURBED GROUND SHOULD BE CENTERED ON PIPE AND FITTING.  
7. FOR PIPE SIZE GREATER THAN 12", BLOCKS BEZES IN SOILS WEAKER THAN # -30, OR FOR MASS WITH A TEST PRESSURE GREATER THAN 190 PSI, THE THRUST BLOCK MUST BE SPECIFICALLY DESIGNED FOR EACH APPLICATION.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL FOR HORIZONTAL PIPE BEND & TEE  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL 12" DIAMETER & SMALLER WATER MAINS

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY W-23.01 2 OF 3

DESIGN GUIDELINE  
METER INSTALLATION  
COMPOUND METER / TURBINE METER

NOTES:  
1. IF NECESSARY TO EXCEED W BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 02220.  
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE OR AS DIRECTED BY THE ENGINEER.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL CONCRETE PVC SEWER  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL TRENCH LAYING CONDITION

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY S-12.01 2 OF 2

STANDARD DETAIL  
CONCRETE PIPE SEWER  
TRENCH LAYING CONDITION

PIPE DIAMETER D	PIPE W	PIPE REDUCE DIMENSION		TRENCH PAV WIDTH
		A	B	
12"	12"	5"	3"	2' - 4"
18"	18"	5"	3"	2' - 8"
24"	24"	5"	3"	3' - 0"
30"	30"	5"	3"	3' - 4"
36"	36"	5"	3"	3' - 8"
42"	42"	5"	3"	4' - 2"
48"	48"	5"	3"	4' - 6"
54"	54"	5"	3"	5' - 0"
60"	60"	5"	3"	5' - 4"
66"	66"	5"	3"	5' - 8"
72"	72"	5"	3"	6' - 2"
78"	78"	5"	3"	6' - 6"
84"	84"	5"	3"	7' - 0"
90"	90"	5"	3"	7' - 4"
96"	96"	5"	3"	7' - 8"
102"	102"	5"	3"	8' - 2"
108"	108"	5"	3"	8' - 6"

NOTES:  
1. IF NECESSARY TO EXCEED W BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 02220.  
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE OR AS DIRECTED BY THE ENGINEER.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL CONCRETE PIPE SEWER  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL TRENCH LAYING CONDITION

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY S-20.03 1 OF 1

STANDARD DETAIL  
PRECAST CONCRETE MANHOLE  
FOR NEW 33" THRU 48" DIAMETER SEWERS  
(72" DIAMETER PRECAST BASE)

NOTES:  
1. STRUCTURAL CALCULATIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE OF BASE AND TRANSITION SLABS.  
2. 1" x 3" OR 4" OR A COMBINATION THEREOF AS NEEDED FOR GRADE ADJUSTMENT.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL FOR NEW 33" THRU 48" DIAMETER SEWERS  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL (72" DIAMETER PRECAST BASE)

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY W-20.01 1 OF 1

STANDARD DETAIL  
VALVE CASING  
FOR 12" AND SMALLER GATE VALVE

NOTES:  
1. ALL CONCRETE CLASS 4000, AIR ENHANCED, TYPE 1 CEMENT.  
2. PRECAST ELEMENTS INCLUDING REINFORCING TO BE PER ASTM A638.  
3. WVF PER ASTM A185.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL VALVE CASING  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL FOR 12" AND SMALLER GATE VALVE

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY W-23.01 3 OF 3

DESIGN GUIDELINE  
METER INSTALLATION  
COMPOUND METER / TURBINE METER

SIZE	COMPOUND METER							
	A	B	C	D	E	F	G	H
3"	72"	22"	72"	17"	18"	30"	24"	8"
4"	72"	22"	72"	20"	18"	30"	24"	8"
6"	84"	22"	72"	24"	18"	30"	24"	10.5"
8"	84"	22"	72"	24"	18"	30"	24"	10.5"

NOTES:  
1. SEALED STRUCTURAL COMPUTATIONS AND REINFORCING DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.  
2. MANHOLE STEPS TO BE M.A. INDUSTRIES MODEL P53-PFC OR APPROVED EQUAL. CAST INTO IN WALL 12" ON CENTER.  
3. CONCRETE TO BE CLASS 4000, TYPE 1 CEMENT.  
4. DUCTILE IRON PIPE JOINTS WITHIN WALL SHALL BE FLANGED.  
5. COMPOUND METERS REQUIRE THE INSTALLATION OF MANHOLE STEPS. HOWEVER, LEGAL METERS DO NOT REQUIRE THE INSTALLATION OF MANHOLE STEPS. METERS SHALL BE INSTALLED BETWEEN THE METER AND SCOURT VALVE OR THE RIGHT SIDE OF THE METER AND HAVE A PIPE LENGTH (MINIMUM) BETWEEN THE METER AND MANHOLE FITTING.  
6. THIS DRAWING SUPERSEDES DRAWING D-808 DATED 2-01-1992.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL POLYVINYL CHLORIDE (PVC) PIPE SEWER  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL TRENCH LAYING CONDITION

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY S-15.01 1 OF 1

STANDARD DETAIL  
POLYVINYL CHLORIDE (PVC) PIPE SEWER  
TRENCH LAYING CONDITION

NOTES:  
1. IF NECESSARY TO EXCEED W BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 02220.  
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL POLYVINYL CHLORIDE (PVC) PIPE SEWER  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL TRENCH LAYING CONDITION

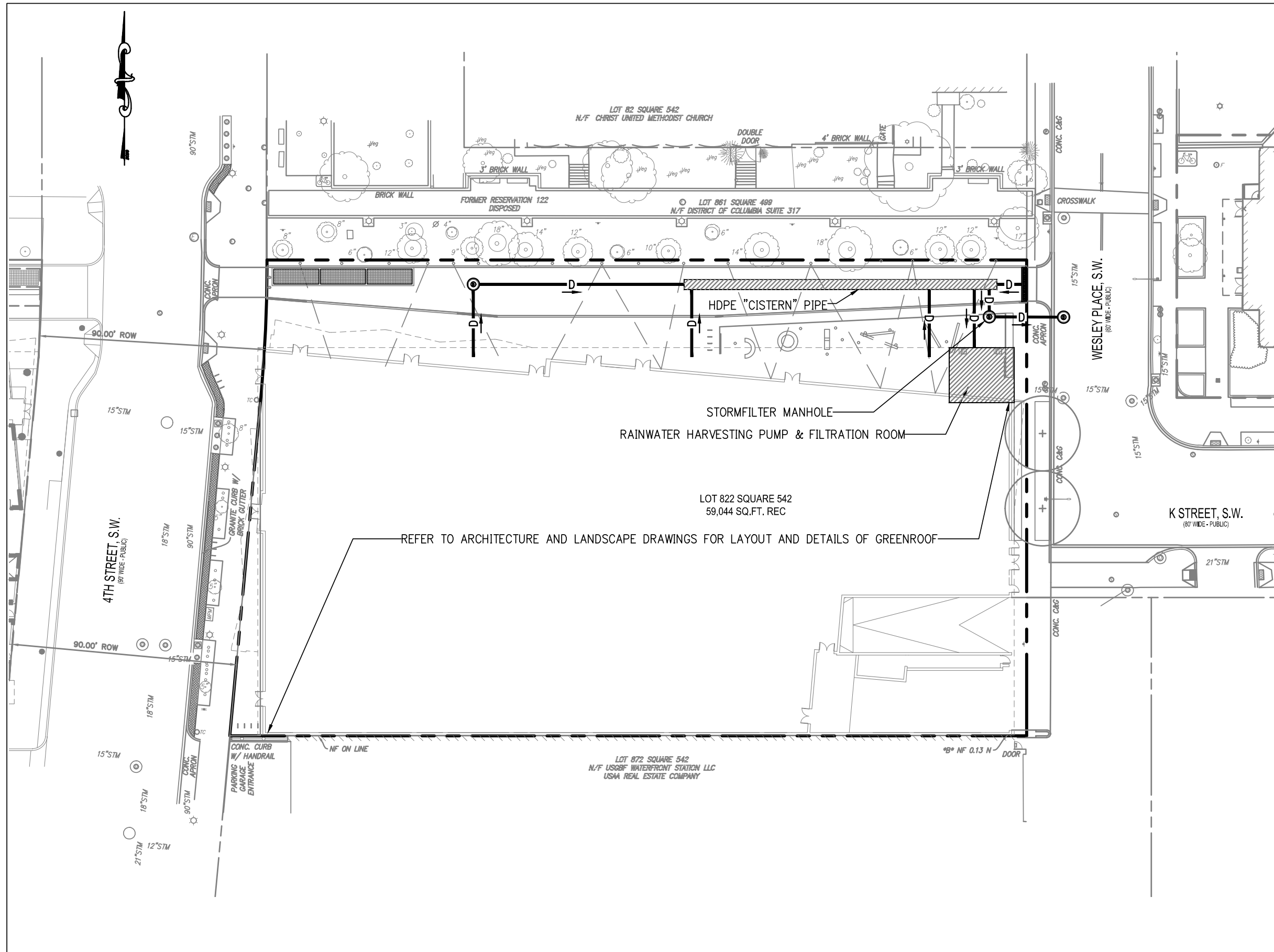
DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY S-80.02 1 OF 1

STANDARD DETAIL  
BUILDING SEWER COLLECTION CLEANOUT

NOTES:  
1. WVF - SAME MATERIAL AS BUILDING SEWER CONNECTION WITH ADAPTER AS NEEDED.

APPROVED DATE: June 20, 2002 REVISION NO.: 3 STANDARD DETAIL  
DATE: 06/20/02 PREPARED BY: AGAGSAL BUILDING SEWER COLLECTION CLEANOUT  
DESIGNED BY: AGAGSAL CHECKED BY: AGAGSAL





**PROPOSED STORMWATER MANAGEMENT NARRATIVE:**

THE PROPOSED PROJECT CONSISTS OF A MAJOR LAND-DISTURBING ACTIVITY FOR CONSTRUCTION OF THE NEW MIXED-USE BUILDING AND IS CLASSIFIED AS AN ANACOSTIA WATERFRONT DEVELOPMENT ZONE (AMDZ) SITE. THE APPROXIMATELY 59,044 SF OF LAND DISTURBANCE WILL COMPLY WITH THE AMDZ SITE 1.7" WATER QUALITY TREATMENT VOLUME (WQTV) REQUIREMENT. COMPLIANCE WILL BE MET BY RETAINING 1.2" OF THE 1.7" RAINFALL EVENT, FOR A TOTAL (APPROXIMATE) DOEE STORMWATER RETENTION VOLUME REQUIREMENT OF 5,699 CF / 41,956 GALLONS, AND PROVIDING ADDITIONAL MEANS OF WATER QUALITY TREATMENT FOR THE REMAINING 0.5" OF THE 1.7" RAINFALL EVENT.

DOEE STORMWATER MANAGEMENT COMPLIANCE WILL BE ACHIEVED THROUGH THE USE OF VARYING MEDIA DEPTH GREEN ROOF AREAS LOCATED THROUGHOUT THE VARIOUS ROOF LEVELS OF THE SITE AND VIA AN EXTERNAL HDPE PIPE "CISTERN", WHICH WILL STORE CAPTURED RAINWATER FOR HARVESTING AND REUSE WITHIN THE NEW BUILDING. THE ADDITIONAL WQTV WILL BE PROVIDED VIA A STORMFILTER MANHOLE.

COMPLIANCE WITH THE STORMWATER MANAGEMENT REQUIREMENT FOR THE PUBLIC RIGHT-OF-WAY WILL UTILIZE THE MAXIMUM EXTENT PRACTICABLE DOCUMENTATION METHODOLOGY.

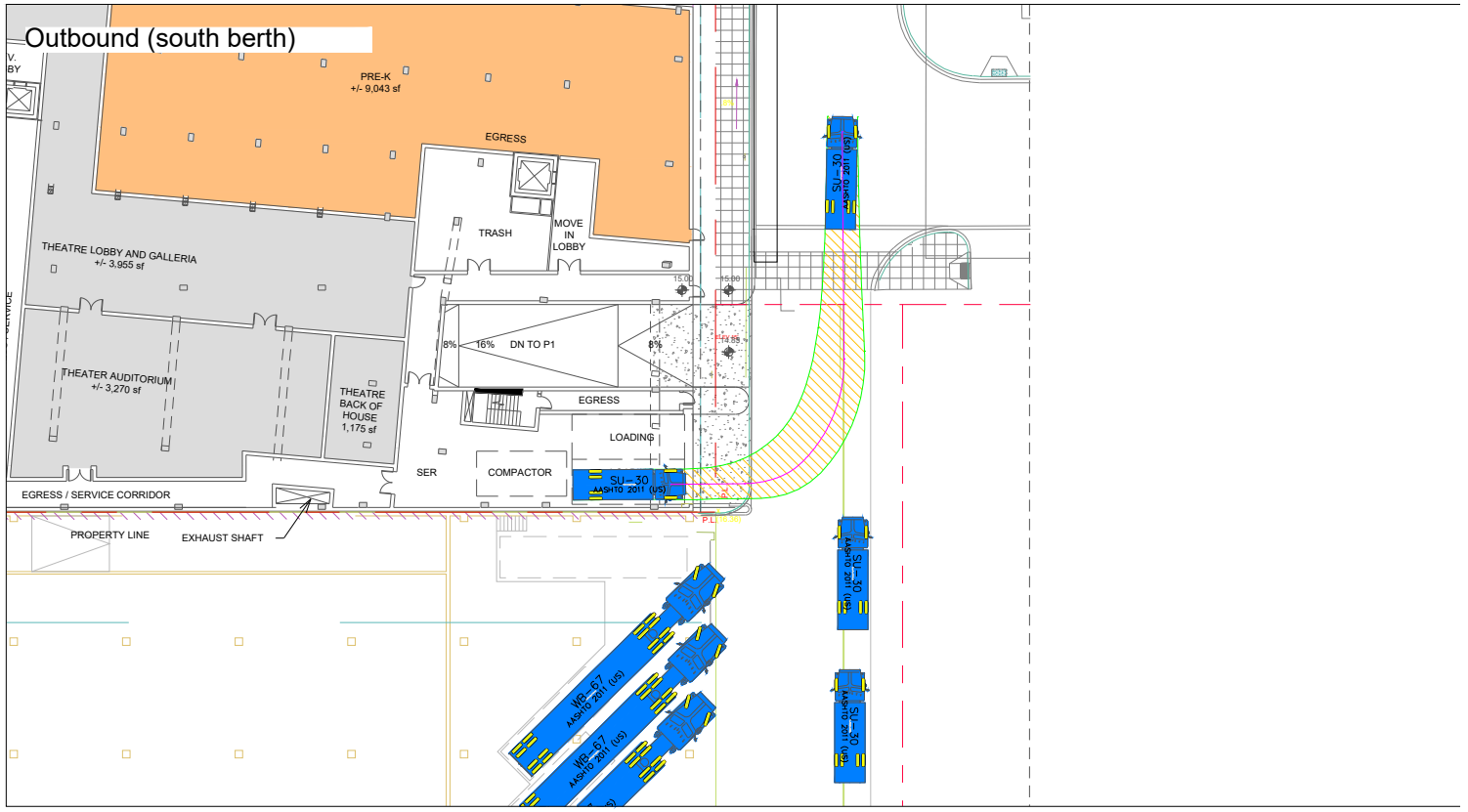
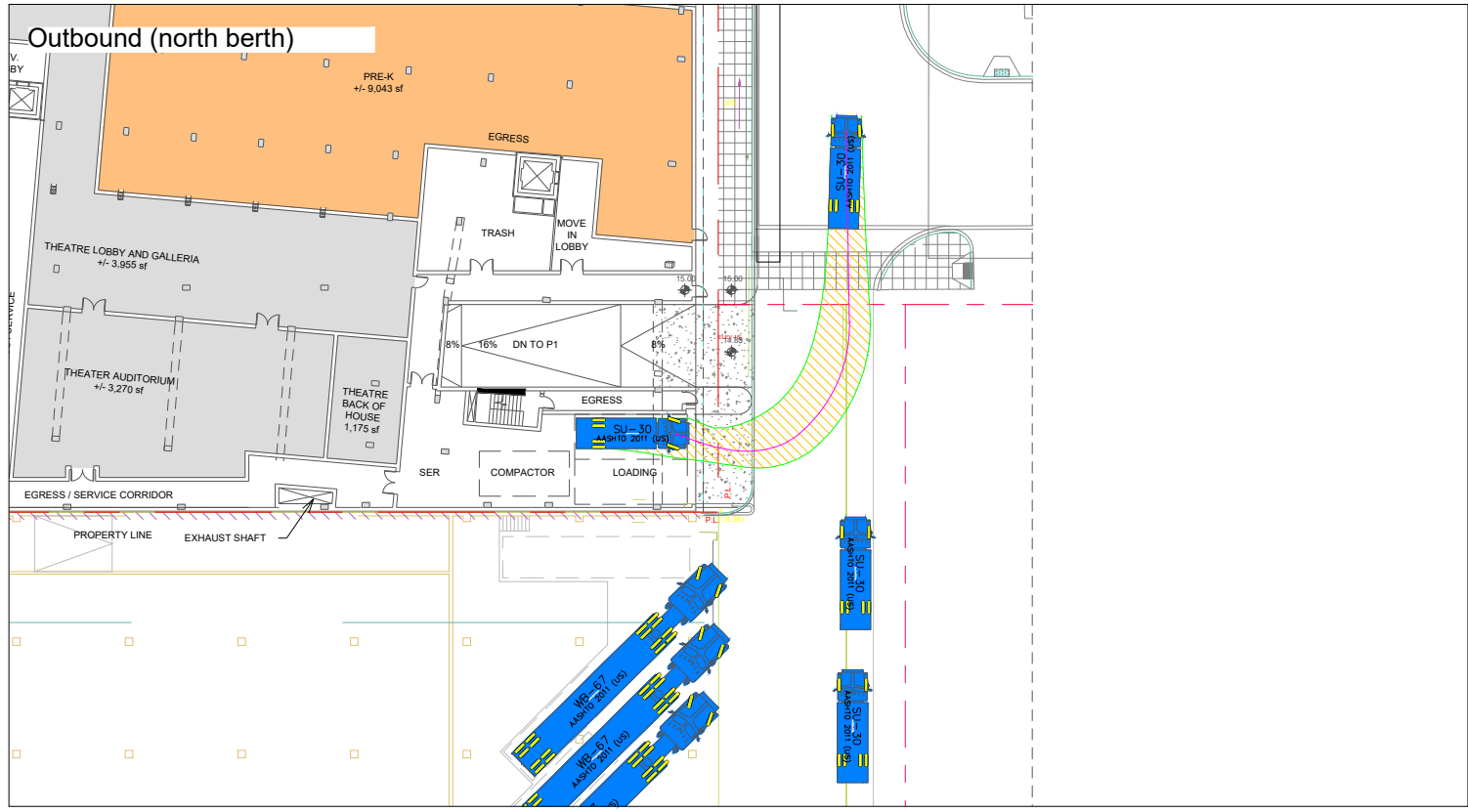
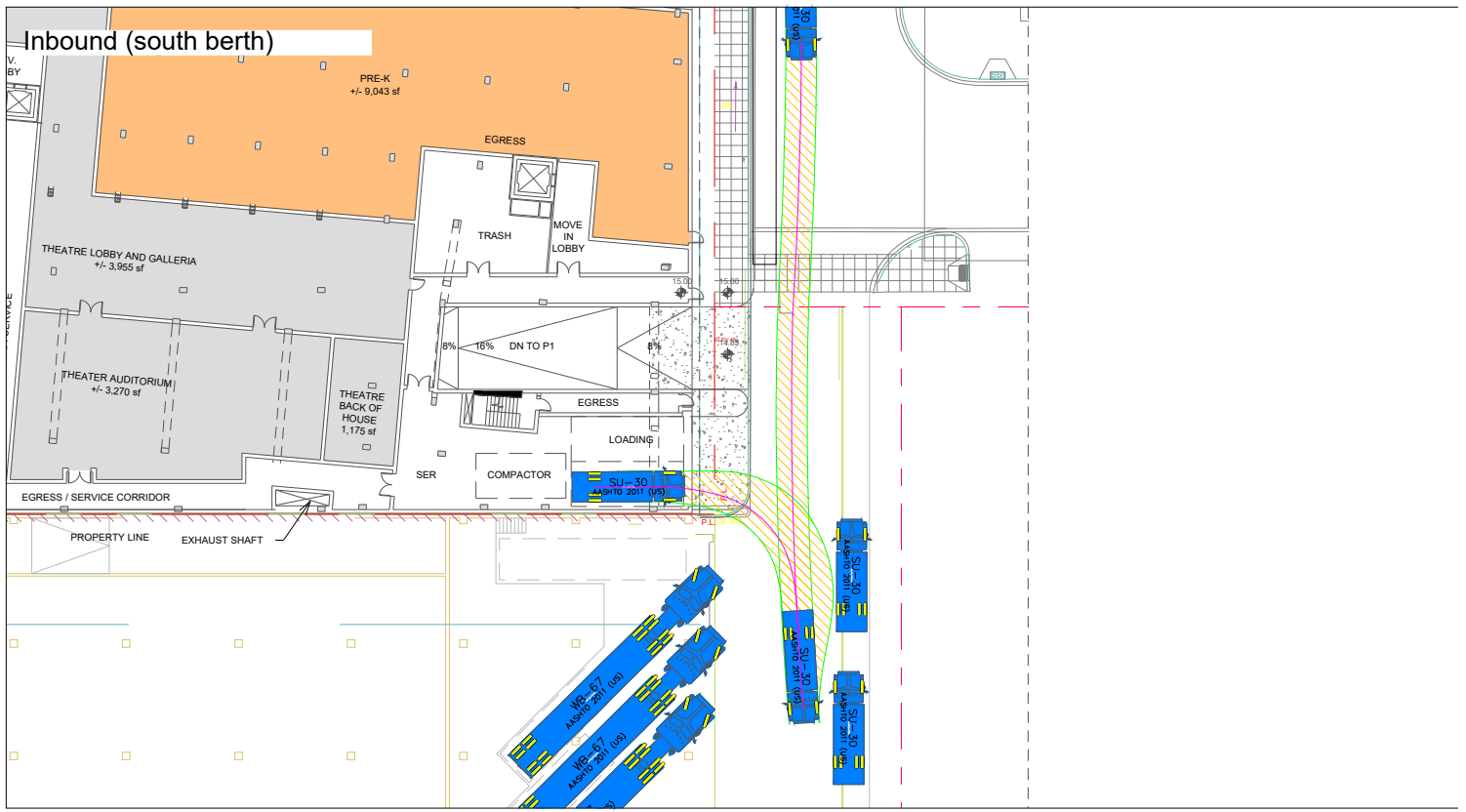
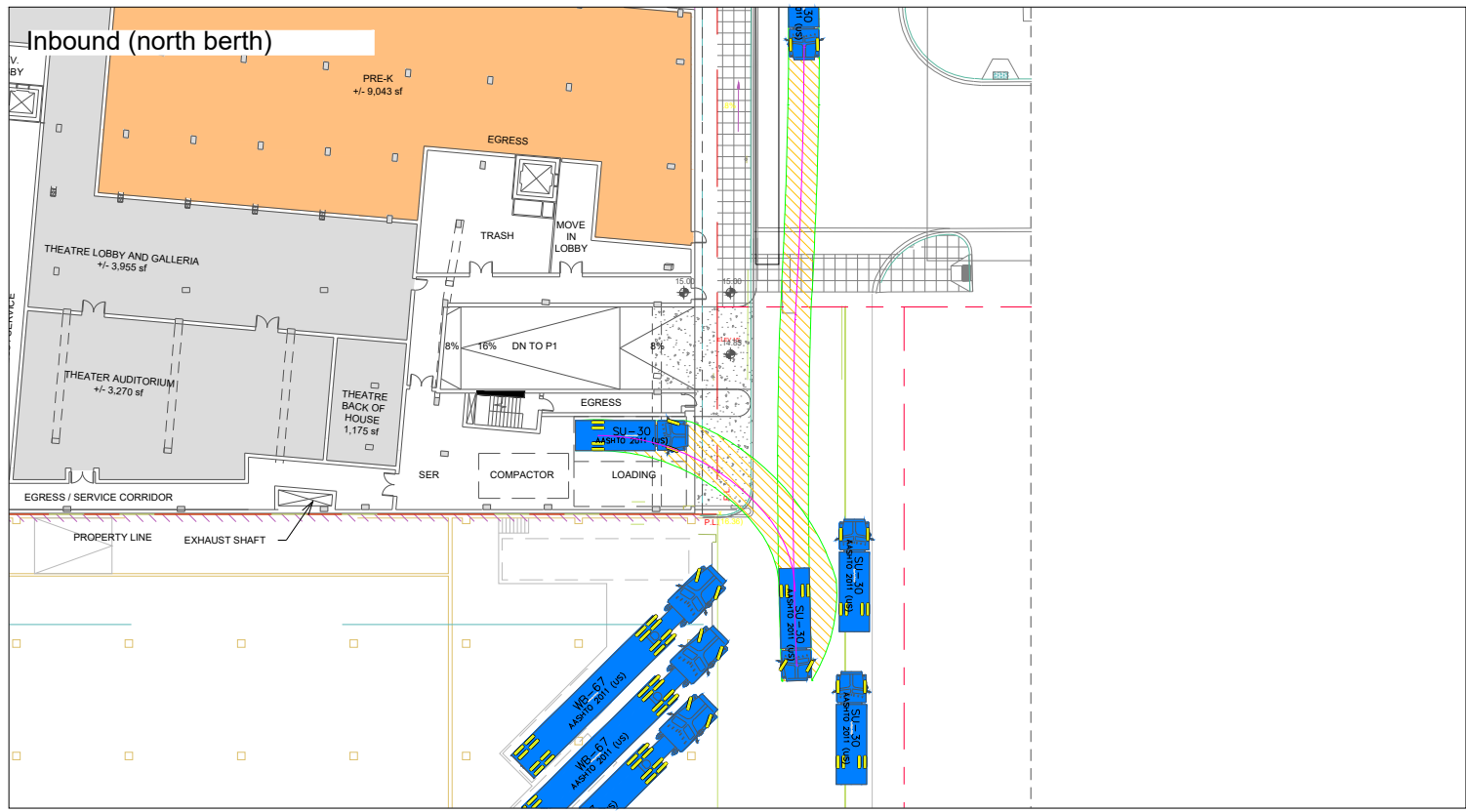
THE DESIGNER, INSTALLER AND DOEE INSPECTOR MUST HAVE A PRE-CONSTRUCTION MEETING TO ENSURE ALL PARTIES ARE AWARE OF DESIGN INTENTIONS AND WILL CONFORM TO ORIGINAL DESIGN.

- \* ALL AREA AND VOLUME QUANTITIES NOTED ABOVE ARE CONCEPTUAL AND SHOWN FOR CONCEPT FOR ILLUSTRATIVE PURPOSES ONLY. FINAL TYPE, SIZE, AND LOCATION MAY VARY DEPENDENT ON FINAL DESIGN ANALYSIS AND ABILITY TO CONFORM TO REGULATORY AGENCIES REQUIREMENTS

**NOTES:**

1. ALL STORMWATER MANAGEMENT BMPs ARE SHOWN IN CONCEPT FOR ILLUSTRATIVE PURPOSES. FINAL TYPE, SIZE, AND LOCATION MAY VARY DEPENDENT ON FINAL DESIGN ANALYSIS AND ABILITY TO CONFORM TO REGULATORY AGENCIES REQUIREMENTS.
2. GREENROOF DETAIL IS PER TYPICAL STORMWATER GUIDEBOOK MINIMUM REQUIREMENTS. ACTUAL DESIGN SHALL BE BASED ON SPECIFIC SITE CONDITIONS APPLICABLE DESIGN REQUIREMENTS.







# Green Area Ratio Scoresheet | LEED Scoresheet

Green Area Ratio Scoresheet					
Address: 1000 4th Street, SW	Square	Lot	Zone District		
	542	822	MU-9 *		
Other: <input type="text"/>	Lot area (sf)	Minimum Score	Multiplier	GAR Score	
Lot size (enter this value first) *	59,044	.2	SCORE:	0.313 **	
<b>Landscape Elements</b>					
		Square Feet	Factor	Total	
<b>A Landscaped areas (select one of the following for each area)</b>					
1	Landscaped areas with a soil depth < 24"	<input type="text"/>	0.30	-	
2	Landscaped areas with a soil depth ≥ 24"	<input type="text" value="1,118"/>	0.60	670.8	
3	Bioretention facilities	<input type="text"/>	0.40	-	
<b>B Plantings (credit for plants in landscaped areas from Section A)</b>					
1	Groundcovers, or other plants < 2' height	<input type="text" value="1,118"/>	0.20	<input type="text" value="1,118"/>	223.6
2	Plants ≥ 2' height at maturity - calculated at 9-sf per plant	<input type="text" value="45"/>	0.30	<input type="text" value="45"/>	121.5
3	New trees with less than 40-foot canopy spread - calculated at 50 sq ft per tree	<input type="text" value="7"/>	0.50	<input type="text" value="7"/>	175.0
4	New trees with 40-foot or greater canopy spread - calculated at 250 sq ft per tree	<input type="text" value="2"/>	0.60	<input type="text" value="2"/>	300.0
5	Preservation of existing tree 6" to 12" DBH - calculated at 250 sq ft per tree	<input type="text" value="0"/>	0.70	<input type="text" value="0"/>	-
6	Preservation of existing tree 12" to 18" DBH - calculated at 600 sq ft per tree	<input type="text" value="0"/>	0.70	<input type="text" value="0"/>	-
7	Preservation of existing trees 18" to 24" DBH - calculated at 1300 sq ft per tree	<input type="text" value="0"/>	0.70	<input type="text" value="0"/>	-
8	Preservation of existing trees 24" DBH or greater - calculated at 2000 sq ft per tree	<input type="text" value="0"/>	0.80	<input type="text" value="0"/>	-
9	Vegetated wall, plantings on a vertical surface	<input type="text" value="0"/>	0.60	<input type="text" value="0"/>	-
<b>C Vegetated or "green" roofs</b>					
1	Over at least 2" and less than 8" of growth medium	<input type="text" value="15,619"/>	0.60	<input type="text" value="15,619"/>	9,371.4
2	Over at least 8" of growth medium	<input type="text" value="2,180"/>	0.80	<input type="text" value="2,180"/>	1,744.0
<b>D Permeable Paving***</b>					
1	Permeable paving over 6" to 24" of soil or gravel	<input type="text" value="9,225"/>	0.40	3,689.8	
2	Permeable paving over at least 24" of soil or gravel	<input type="text" value="0"/>	0.50	-	
<b>E Other</b>					
1	Enhanced tree growth systems***	<input type="text"/>	0.40	-	
2	Renewable energy generation	<input type="text" value="3,500"/>	0.50	1,750.0	
3	Approved water features	<input type="text"/>	0.20	-	
<b>F Bonuses</b>		sub-total of sq ft = 34,015			
1	Native plant species	<input type="text" value="4,553"/>	0.10	455.3	
2	Landscaping in food cultivation	<input type="text"/>	0.10	-	
3	Harvested stormwater irrigation	<input type="text"/>	0.10	-	
Green Area Ratio numerator =				18,501	
*** 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.				3,690	

LEED 2009 for New Construction and Major Renovations				Project Name
Project Checklist ***				Date
<b>17</b>	<b>6</b>	<b>3</b>	<b>Sustainable Sites</b>	Possible Points: 26
Y	?	N	Prereq 1	Construction Activity Pollution Prevention
1			Credit 1	Site Selection
5			Credit 2	Development Density and Community Connectivity
1			Credit 3	Brownfield Redevelopment
4	2		Credit 4.1	Alternative Transportation—Public Transportation Access
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles
2			Credit 4.4	Alternative Transportation—Parking Capacity
1			Credit 5.1	Site Development—Protect or Restore Habitat
1			Credit 5.2	Site Development—Maximize Open Space
1			Credit 6.1	Stormwater Design—Quantity Control
1			Credit 6.2	Stormwater Design—Quality Control
1			Credit 7.1	Heat Island Effect—Non-roof
1			Credit 7.2	Heat Island Effect—Roof
1			Credit 8	Light Pollution Reduction
<b>6</b>	<b>4</b>		<b>Water Efficiency</b>	Possible Points: 10
Y	?	N	Prereq 1	Water Use Reduction—20% Reduction
4			Credit 1	Water Efficient Landscaping
2			Credit 2	Innovative Wastewater Technologies
2			Credit 3	Water Use Reduction
<b>14</b>	<b>21</b>		<b>Energy and Atmosphere</b>	Possible Points: 35
Y	?	N	Prereq 1	Fundamental Commissioning of Building Energy Systems
Y	?	N	Prereq 2	Minimum Energy Performance
Y	?	N	Prereq 3	Fundamental Refrigerant Management
6	13		Credit 1	Optimize Energy Performance
1	6		Credit 2	On-Site Renewable Energy
2			Credit 3	Enhanced Commissioning
2			Credit 4	Enhanced Refrigerant Management
3			Credit 5	Measurement and Verification
2			Credit 6	Green Power
<b>7</b>	<b>1</b>	<b>8</b>	<b>Materials and Resources</b>	Possible Points: 14
Y	?	N	Prereq 1	Storage and Collection of Recyclables
3			Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof
3			Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements
2			Credit 2	Construction Waste Management
2			Credit 3	Materials Reuse
<b>11</b>	<b>4</b>		<b>Indoor Environmental Quality</b>	Possible Points: 15
Y	?	N	Prereq 1	Minimum Indoor Air Quality Performance
Y	?	N	Prereq 2	Environmental Tobacco Smoke (ETS) Control
1			Credit 1	Outdoor Air Delivery Monitoring
1			Credit 2	Increased Ventilation
1			Credit 3.1	Construction IAQ Management Plan—During Construction
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings
1			Credit 4.3	Low-Emitting Materials—Flooring Systems
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products
1			Credit 5	Indoor Chemical and Pollutant Source Control
1			Credit 6.1	Controllability of Systems—Lighting
1			Credit 6.2	Controllability of Systems—Thermal Comfort
1			Credit 7.1	Thermal Comfort—Design
1			Credit 7.2	Thermal Comfort—Verification
1			Credit 8.1	Daylight and Views—Daylight
1			Credit 8.2	Daylight and Views—Views
<b>3</b>	<b>3</b>		<b>Innovation and Design Process</b>	Possible Points: 6
1			Credit 1.1	Innovation in Design: Specific Title
1			Credit 1.2	Innovation in Design: Specific Title
1			Credit 1.3	Innovation in Design: Specific Title
1			Credit 1.4	Innovation in Design: Specific Title
1			Credit 1.5	Innovation in Design: Specific Title
1			Credit 2	LEED Accredited Professional
<b>2</b>	<b>2</b>		<b>Regional Priority Credits</b>	Possible Points: 4
1			Credit 1.1	Regional Priority: Specific Credit
1			Credit 1.2	Regional Priority: Specific Credit
1			Credit 1.3	Regional Priority: Specific Credit
1			Credit 1.4	Regional Priority: Specific Credit
<b>60</b>	<b>41</b>	<b>11</b>	<b>Total</b>	Possible Points: 110
Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110				

\* PROPERTY REMAINS SUBJECT TO THE C3C ZONE REQUIREMENTS, AND, IS NOT SUBJECT TO THE GREEN AREA RATIO REQUIREMENTS, AND THIS SCORE-SHEET IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY

\*\* GAR CALCULATIONS SHOWN HERE ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN OF PROJECT'S GREEN ROOF AND LANDSCAPING, BUT IN NO EVENT WILL THE PROJECT'S GAR BE REDUCED BELOW 0.2 NOTWITHSTANDING THAT THE PROJECT IS NOT SUBJECT TO THE GAR REQUIREMENT

\*\*\* LEED SCORE-SHEET ID PROVIDED FOR INFORMATIONAL PURPOSES AND IS SUBJECT TO CHANGE







