



NYC Parks



**Environmental
Protection**

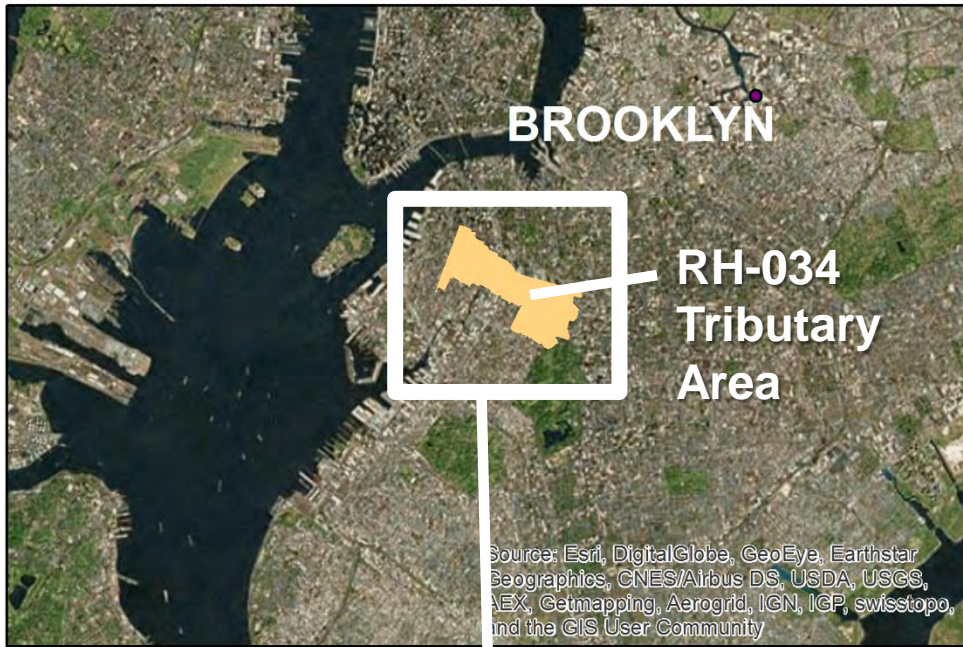
CARROLL PARK

Located between Smith Street, Court Street,
Carroll Street, and 1st Place
Borough of Brooklyn

DEP Schematic Green
Infrastructure Submission

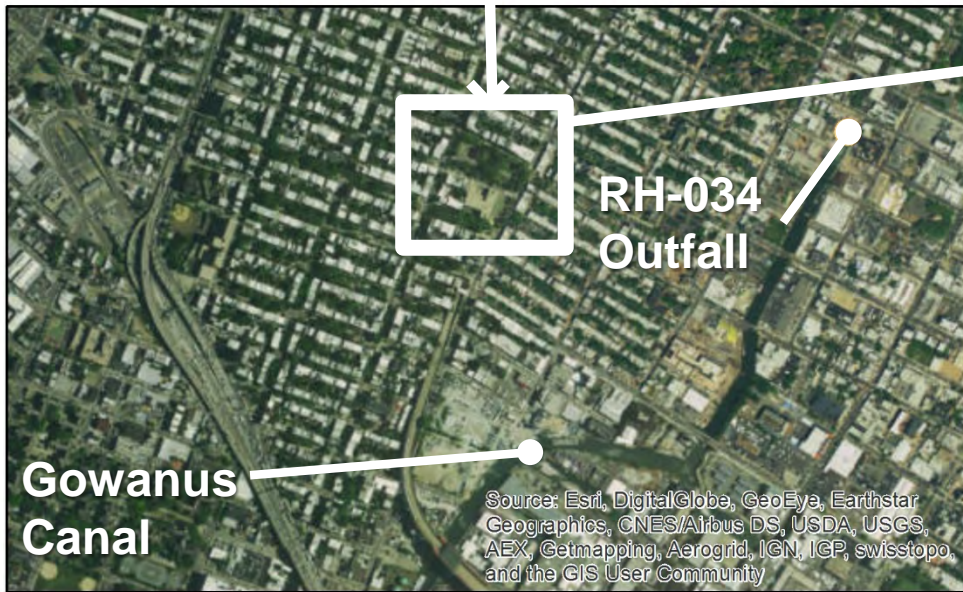
- **Project Site:** Carroll Park
- **Project Goal:** Install green infrastructure to manage impervious areas within Carroll Park to improve water quality in the Gowanus Canal by reducing combined sewer overflows.
- **Project Scope:**
 - Subsurface retention under the ball field
 - Bioretention practice within existing shrub adventure park area
 - Restored color seal coat on athletic courts
- **Project Cost:** \$250,000
- **Construction Duration:** 4 months, second short phase to install color seal
- **Annual Volume Managed:** 910,600 gals
- **Impervious Area Managed:** 28,180 sf
- **Lot Size:** 82,155 sf
- **BBL:** 3004420001





CITY

0 2 Miles



NEIGHBORHOOD

0 1,000 Feet



SITE

0 60 Feet



CARROLL PARK | Project Location



FLOOD HAZARD ZONES

- ZONE A** – 1% annual-chance flood event. No Base Flood Elevation (BFE) exists.
- ZONE AE** – 1% annual-chance flood event. BFE exists.
- ZONE AO** – 1% annual-chance shallow flooding.
- VE** – Areas along coasts subject to inundation by the 1% annual-chance flood event with additional hazards associated with storm-induced velocity wave action. BFE exists.
- FLOODWAY** – watercourse reserved to discharge base flood.
- ZONE X** – Moderate risk areas within the 0.2% annual-chance floodplain.
- LIMIT OF MODERATE WAVE ACTION**



CARROLL PARK | Flood Risk





LAND USE CATEGORIES

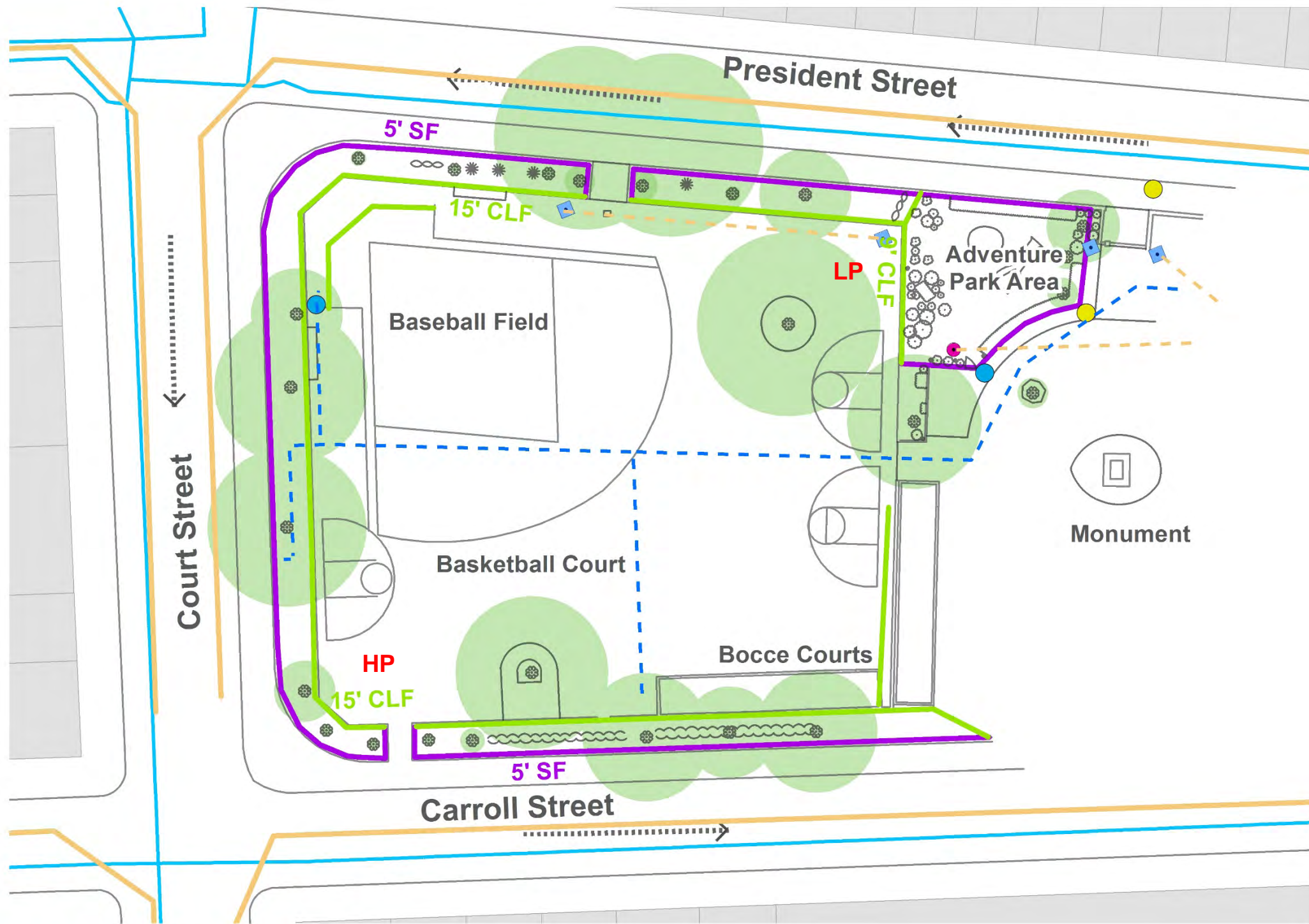
- 1 AND 2 FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- MIXED USE
- COMMERCIAL
- INDUSTRIAL
- TRANSPORTATION/ UTILITIES
- INSTITUTIONAL
- OPEN SPACE AND OUTDOOR RECREATION
- PARKING
- VACANT LOTS

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



CARROLL PARK | Surrounding Land Use





LEGEND

- Sewer Main
- - - Storm Sewer
- Manhole
- Catchbasin
- Water Main
- - - Water Service
- Drinking Fountain
- Light Pole
- ⤵ Vehicle Traffic
- Chain Link Fence
- Steel Fence
- Tree Canopy
- HP High Point
- LP Low Point



CARROLL PARK | Existing Conditions



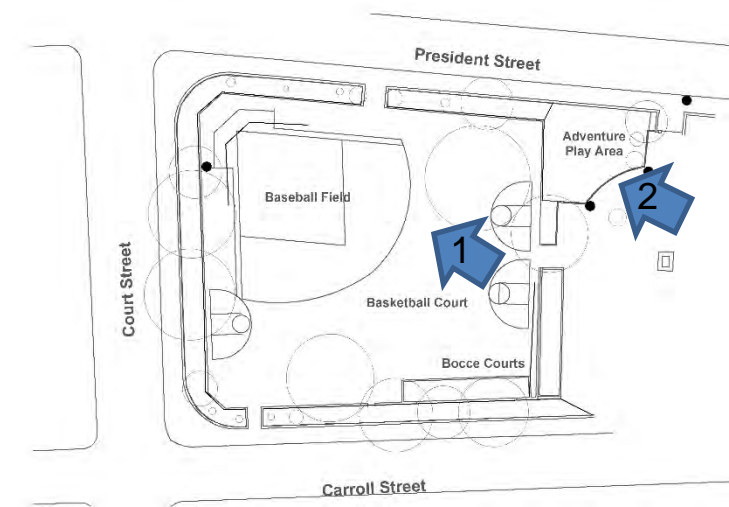
Photo 1: Vicinity of Proposed Underground Storage Practice

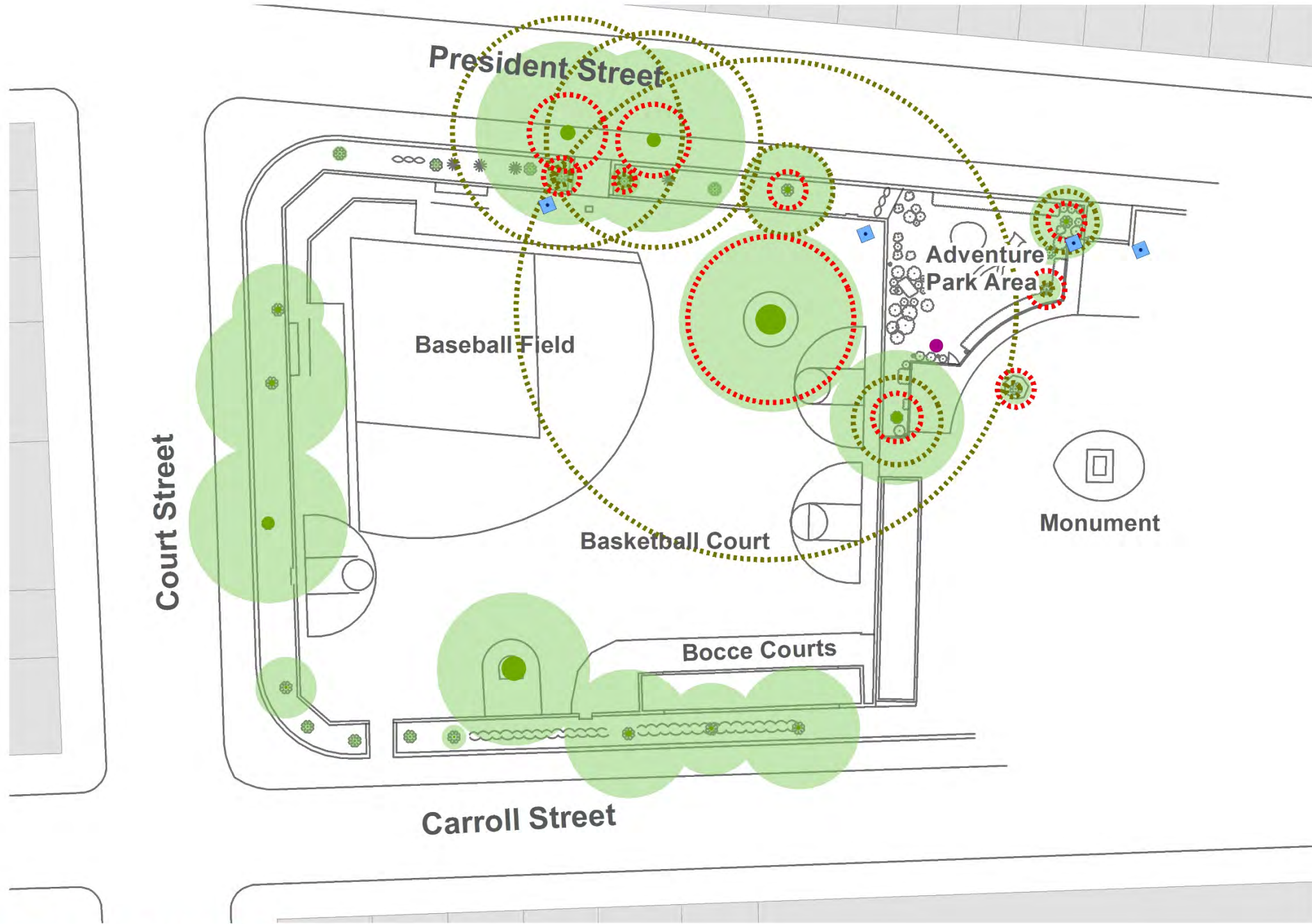


Photo 2: Vicinity of Proposed Bioretention Practice



CARROLL PARK | Existing Site Photographs



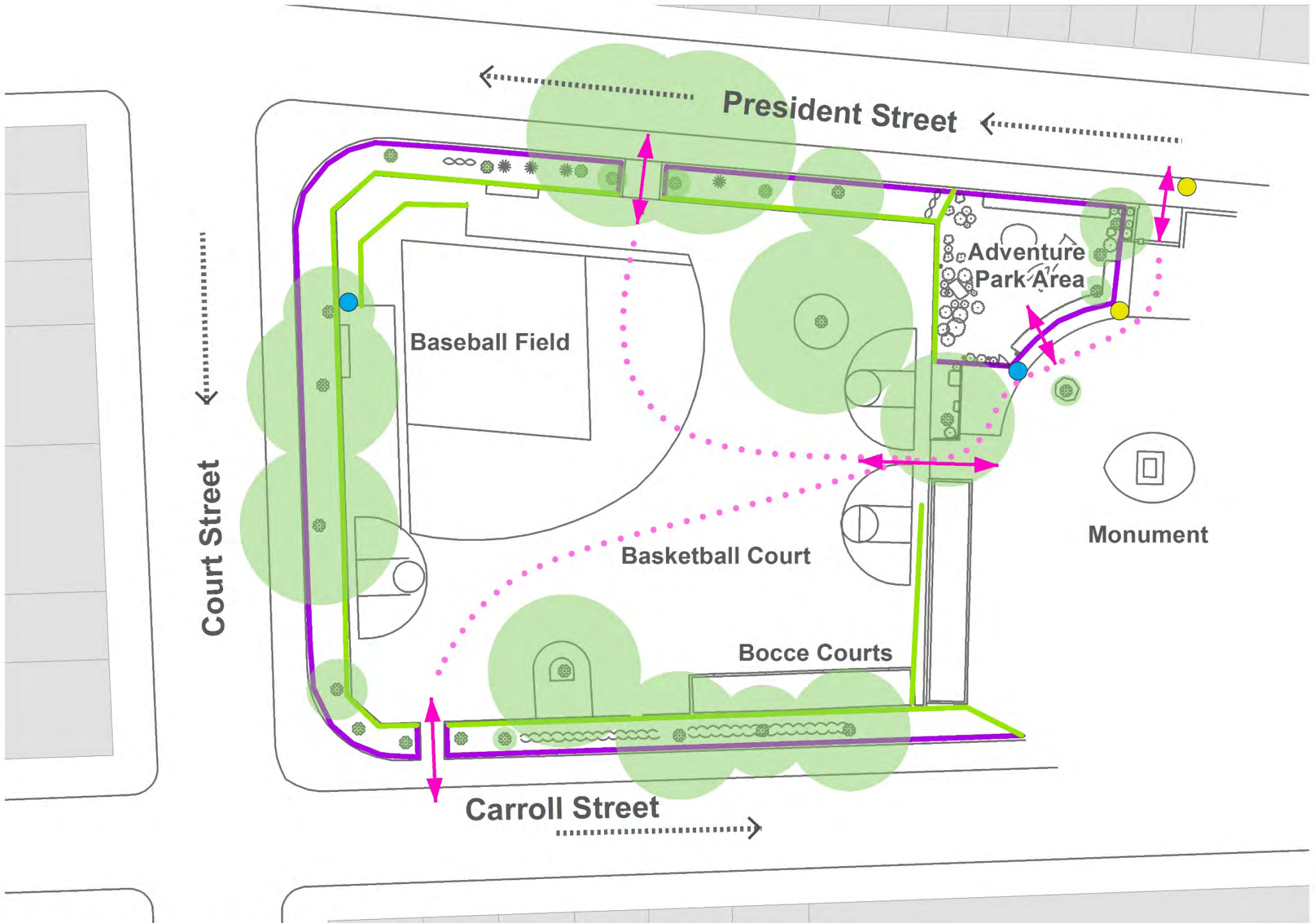


LEGEND

- Free Canopy
 - Trunk DBH
 - Absolute Critical Root Zone
 - ISA Critical Root Zone
- Existing Drainage Structure*
- Catchbasin
 - Manhole

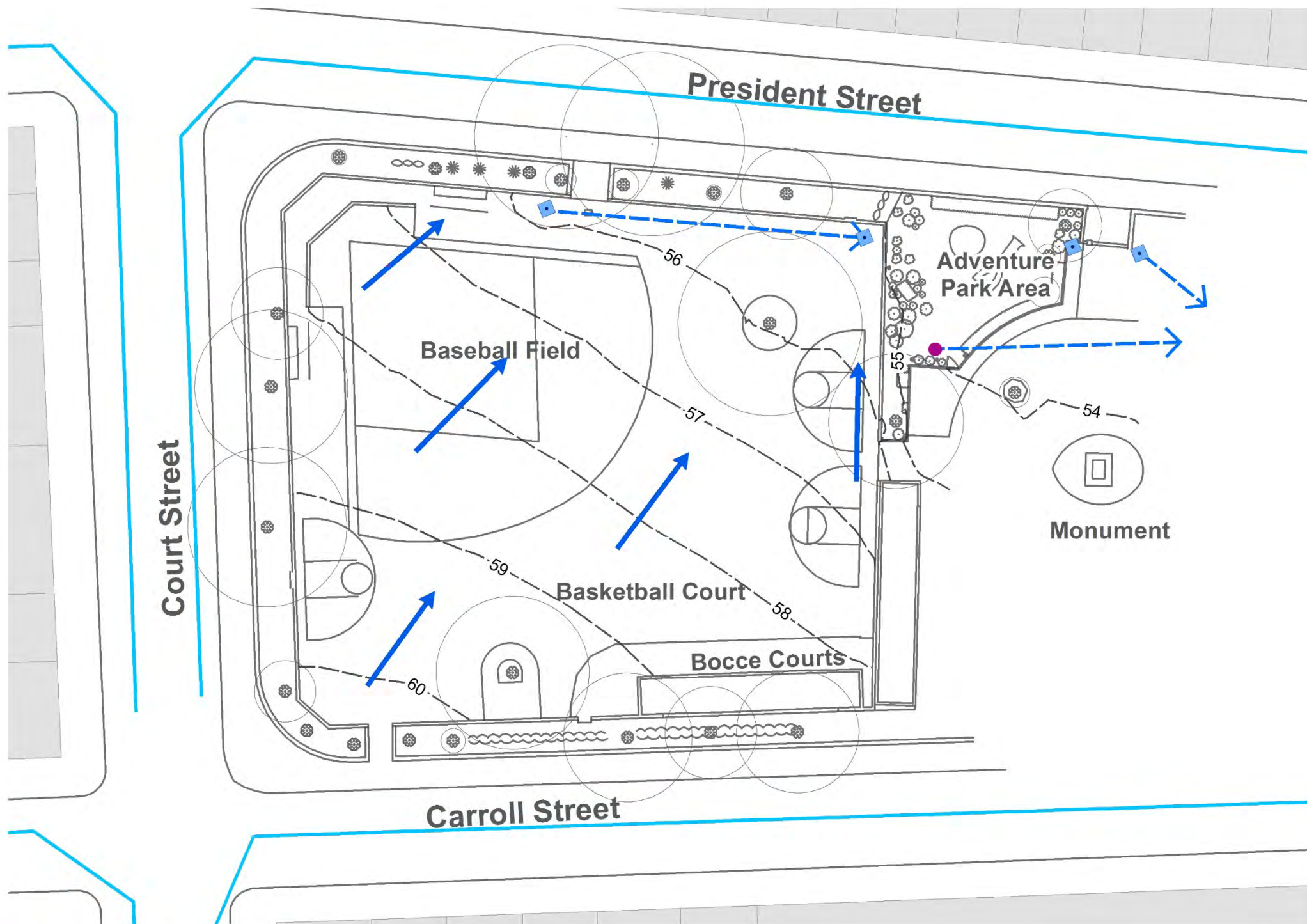


CARROLL PARK | Tree Inventory Plan








- LEGEND**
- Park Circulation
 - Pedestrian Traffic
 - Vehicle Traffic
 - Drinking Fountain
 - Tree Canopy
 - Light Pole
 - Chain Link Fence
 - Steel Fence



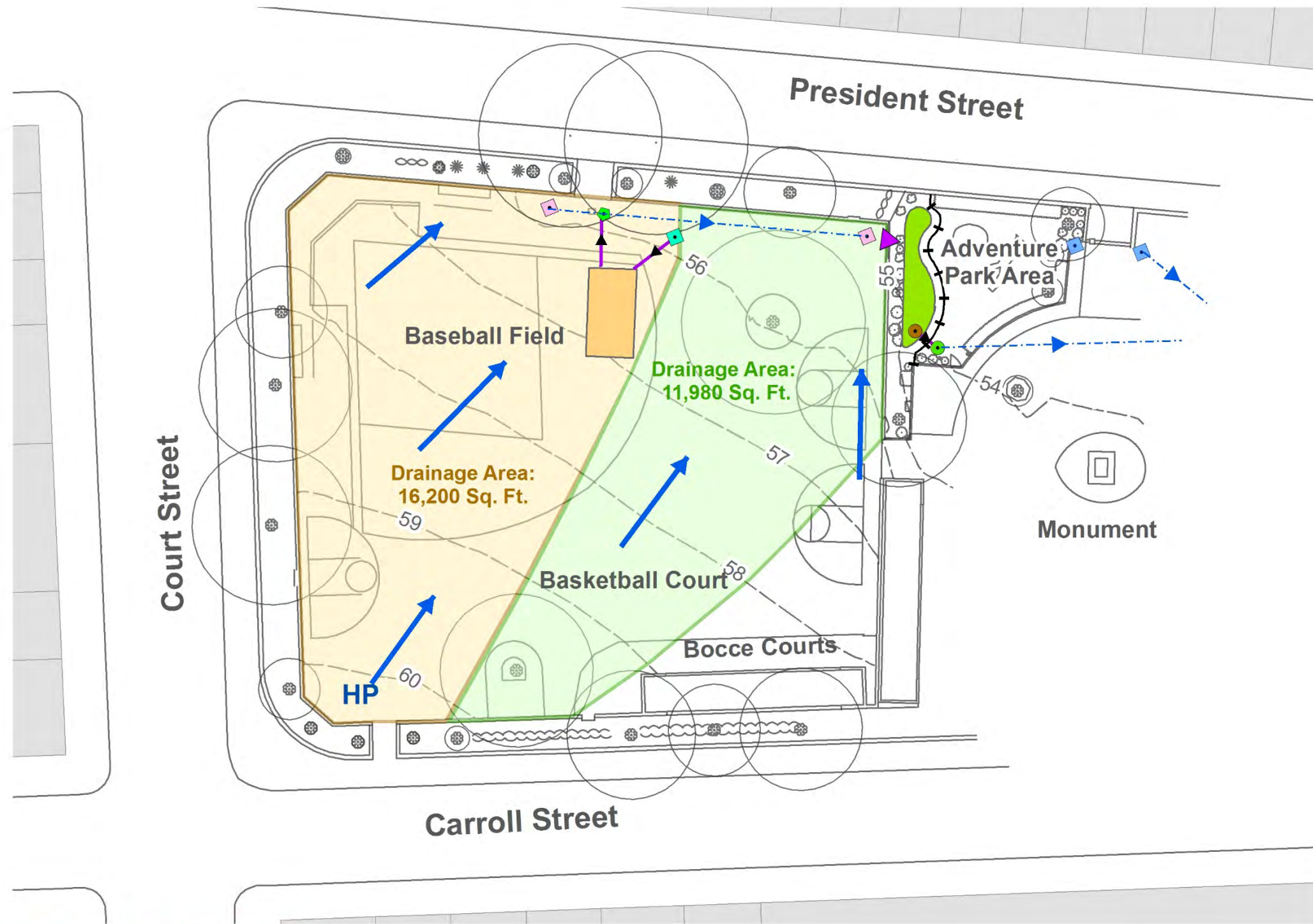


LEGEND

-  Direction of Surface Flow
-  Existing Sewer Main
-  Storm Sewer
- Existing Drainage Structure*
-  Catchbasin
-  Manhole



CARROLL PARK | Existing Drainage Plan



LEGEND

- Bioretention
- Subsurface Detention
- Drainage Area to Bioretention
- Drainage Area to Underground Storage

Proposed Drainage Structure Modifications

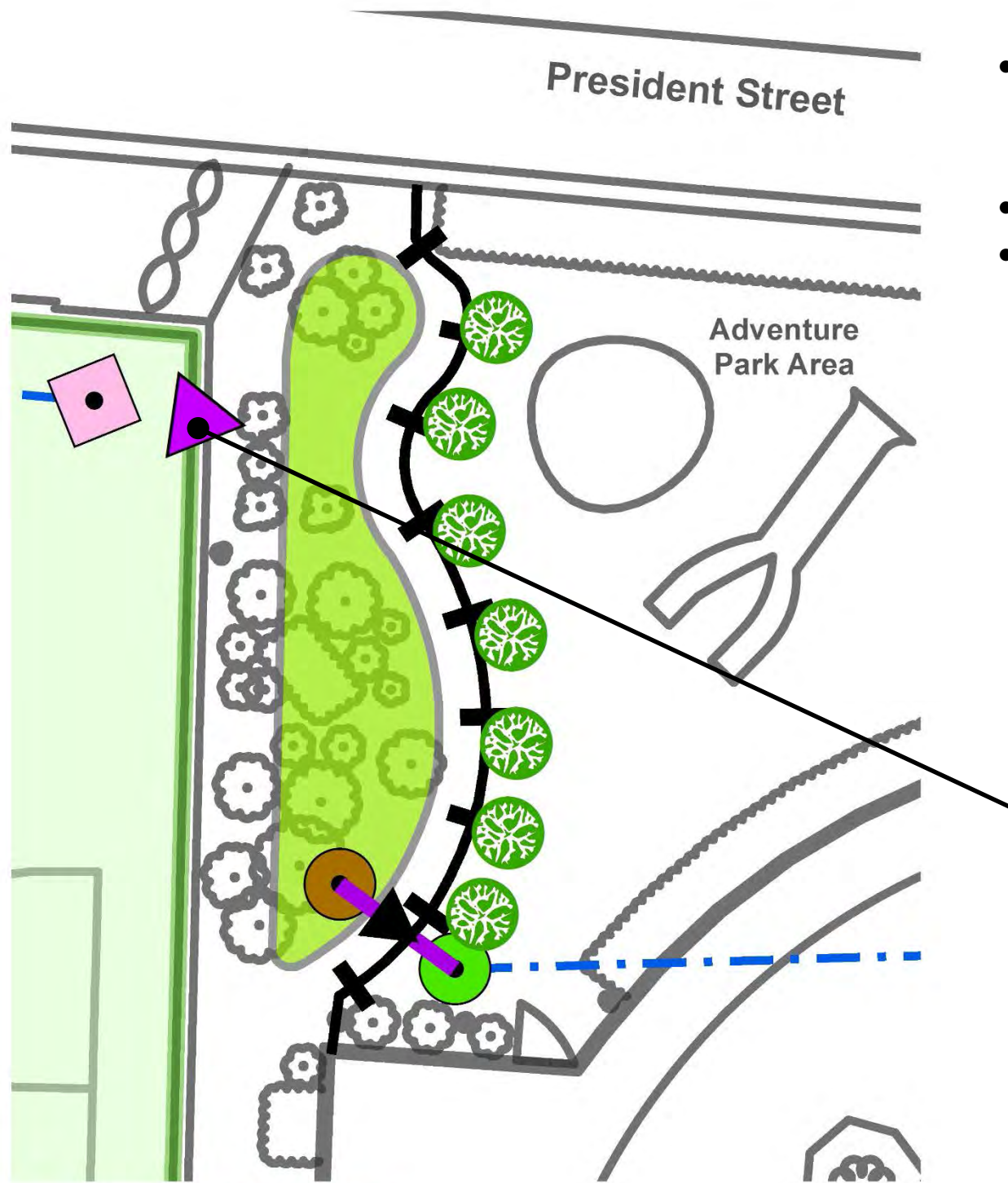
- New Manhole
- New Catchbasin
- Capped Catchbasin
- Overflow Structure
- Manhole Modification
- Proposed Curb Cut
- Proposed Storm Drain
- Proposed Fence

Existing Drainage Structure

- Catchbasin
- Storm Drain
- Direction of Surface Flow
- Tree Canopy

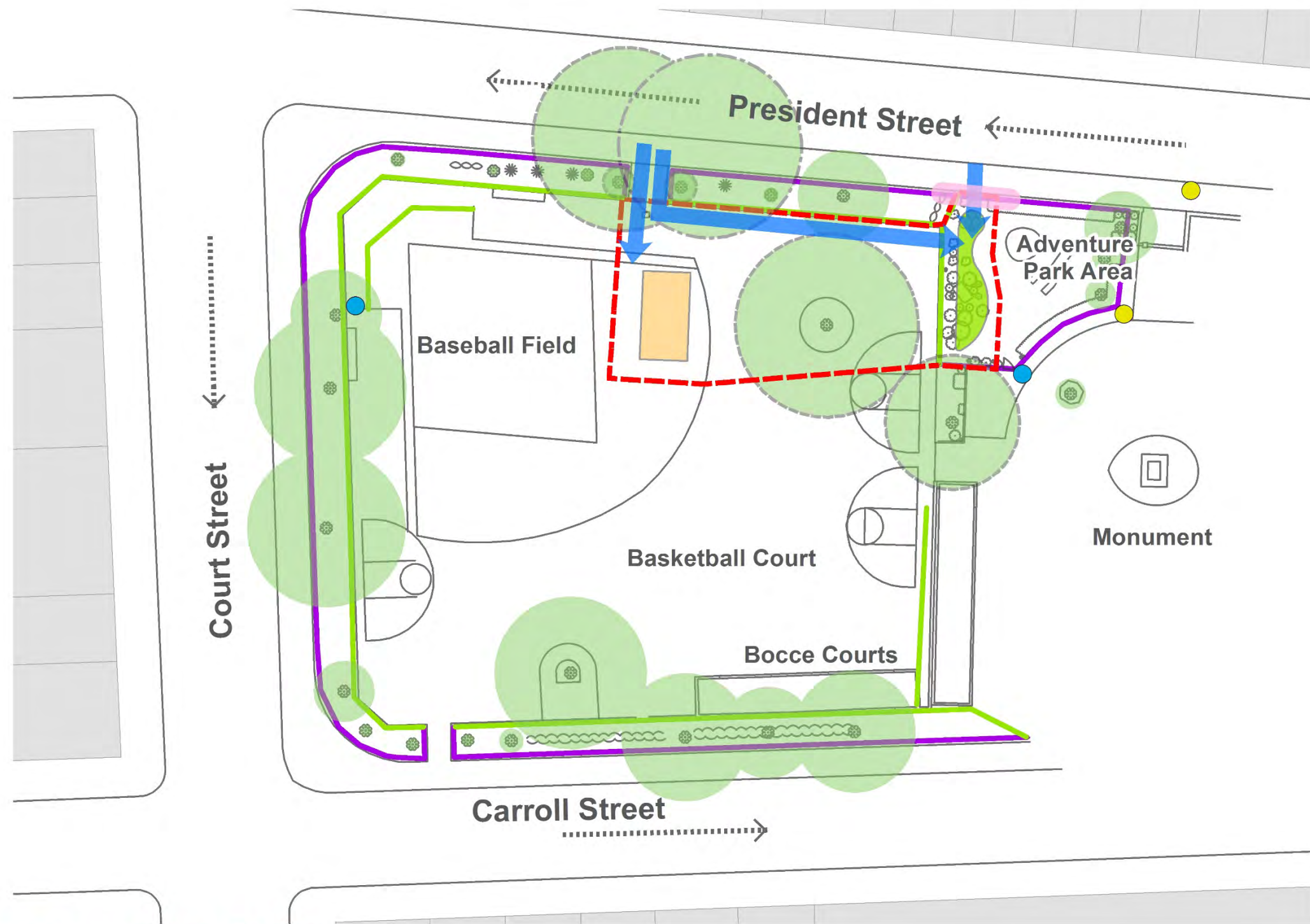


CARROLL PARK | Schematic Green Infrastructure Plan





- Bioretention footprint selected to stay within existing shrubbery footprint
 - 24" high perimeter fence around rain garden
- Touchable shrubs outside of fence
- Inlet would be gap in the curb, under the existing fence (see photo for example)



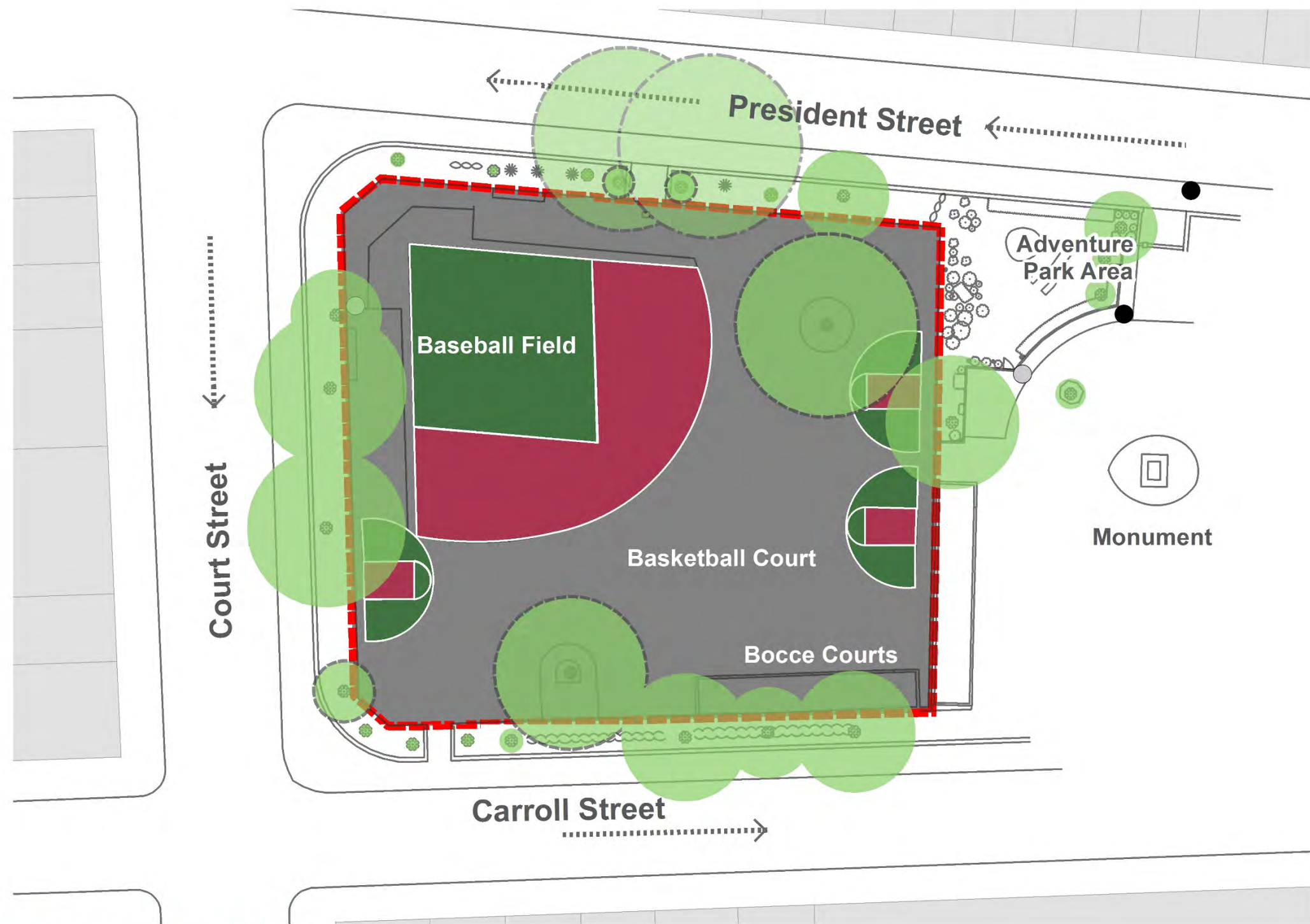


LEGEND

-  Construction Entrance
-  Limit of Work
-  Vehicle Traffic
-  Drinking Fountain
-  Tree Canopy
-  Protection
-  Protection and Pruning
-  Light Pole
-  Chain Link Fence
-  Steel Fence
-  Temporary Fence Removal
-  Bioretention
-  Subsurface Detention



CARROLL PARK | Construction Access and Tree Protection Plan - Construction



LEGEND

-> Vehicle Traffic
 - Drinking Fountain
 - Light Pole
 - Tree Canopy
 - Protection
 - Protection and Pruning
 - ▭ Limit of Color Seal Work
- Color Seal Coat*
- Green
 - Terracotta



CARROLL PARK | Construction Access and Tree Protection Plan - Restoration

Large Screening Shrubs



SHRUB / *Juniperus virginiana*



SHRUB / *Hydrangea Quercifolia*



SHRUB / *Hamamelis*

Medium Shrubs/ Grasses



SHRUB / *Ilex verticillata*



GRASS / *Panicum virgatum*

Ground Cover



GROUND COVER / *Carex pensylvatica*



GROUND COVER / *Tiarella cordifolia*

Accents



HERBACEOUS / *Echinacea pupurea*



HERBACEOUS / *Rudbeckia flugida*



Materials



24" Steel Picket Fence



Catch Basin



Full Depth Asphalt



Subsurface Chambers



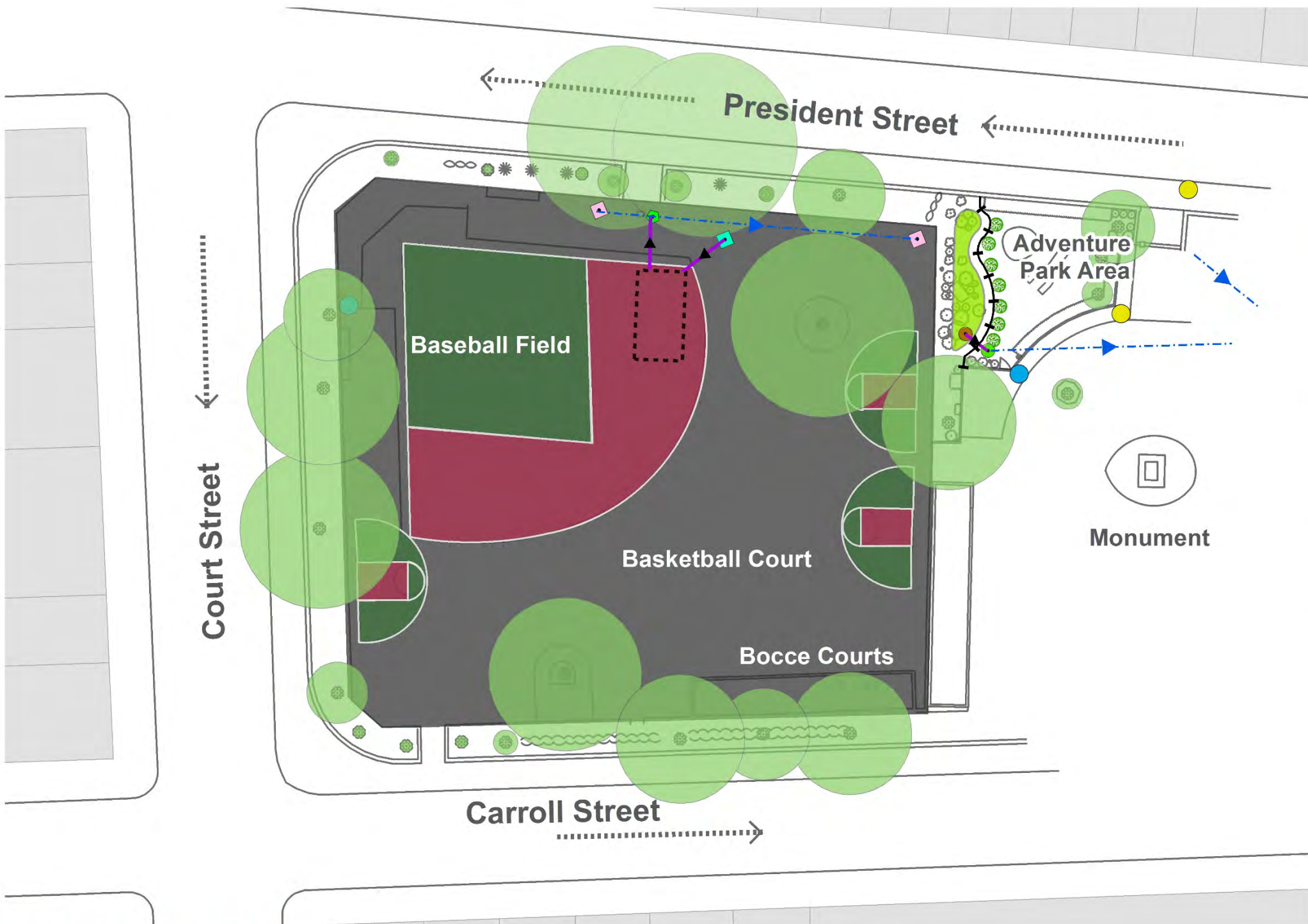
Color Seal Coat



CARROLL PARK | Planting and Materials

- **Project Goal**
 - Install a rain garden and subsurface storm chambers to manage impervious areas within Carroll Park to reduce combined sewer overflows.
- **Limited Construction Impacts**
 - Active play areas maintained, minimal impacts to open portion of adventure park area
- **Project Benefits**
 - **Aesthetics:** Rain garden planting design will incorporate native plants, will complement the traditional design of the park while providing children with the adventure play experience.
 - Updated color seal athletic courts.
 - **Educational Opportunity:** Bioretention area will be adjacent to the adventure park area and visible to the public. DEP and Brooklyn Parks will provide educational signage to explain function of the rain garden.
 - **Community Engagement:** Chance to engage children and the community with green infrastructure and sustainable design. Friends of Carroll Park are supportive of the project.





LEGEND

-> Vehicle Traffic
- - -> Storm Sewer
- Drinking Fountain
- Light Pole
- Bioretention
- - - Subsurface Detention
- Tree Canopy
- Color Seal Coat*
- Green
- Terracotta
- - - Proposed Fence
- - -> Proposed Storm Drain
- Touchable Shrubs
- Proposed Drainage Structure Modifications*
- ◆ New Manhole
- New Catchbasin
- Capped Catchbasin
- Overflow Structure
- Manhole Modification

