

# EROSION & SEDIMENTATION MITIGATION



**Catch Basin Cleaning  
Energy Dissipater Outfalls**  
All Drainage Areas

**Priority: High**

Status of each catch basin structure was not verified during 9/25/2023 visit. Some observed grated inlets need to be cleared of leaves/sticks/debris. Riprap energy dissipaters were not verified during 9/25/2023 visit.



**Biofiltration Swale**  
Drainage Area 1

**Priority: Med/High**

Biofiltration swale was not installed at this location. The walk at this location has been repaved since 2011



**Rain Garden /  
Retention Basin**  
Drainage Area 1

**Priority: Low/Med**

CArea remains lawn with no rain garden installed. Grades and catch basin invert do not appear different from 2011 condition. Catch basin grate has not been converted to dome top yard drain.



**Biofiltration Swale**  
Drainage Area 1

**Priority: Med/High**

Biofiltration swale has not been installed at this location.



**Biofiltration Swale**  
Drainage Area 1

**Priority: Med**

Biofiltration swale has not been installed at this location. Previously eroded area appeared more vegetated than 2011 condition.



**Formalize Walk  
Revegetate Slope**  
Drainage Area 1

**Priority: Med**

New walk has been installed at this location since 2011 condition. Eroded areas here have been revegetated with grass, not the ornamental shrubs as indicated in 2011 recommendation.



**Revegetate Slope**  
Drainage Area 1

**Priority: High**

Portions of slopes remain unvegetated at this location. Shrubs have not been installed. Stormwater runoff was observed streaming down the slope during the 9/25/2023 visit.



**Rain Garden**  
Drainage Area 1

**Priority: Med/High**

Portions of slopes remain unvegetated at this location. Shrubs have not been installed. Stormwater runoff was observed streaming down the slope during the 9/25/2023 visit.



**Rain Garden**  
Drainage Area 1

**Priority: High**

Rain garden / biofiltration swale have not been installed. Grades appear unmodified from 2011 condition. Ponding was observed at this location per 9/25/2023 visit.



**Formalize Walk  
Revegetate Slope  
Biofiltration Swales**  
Drainage Area 1

**Priority: Med/High**

A formalized walk to the playground has been installed at this location. Ornamental shrubs and bioswale have not been installed per 2011 recommendation. Bare spots remain at this location



**Establish Gravel Edge  
Biofiltration Swale**  
Drainage Area 1

**Priority: High**

AOC ES 11 was not verified during 9/25/2023 visit.



**Energy Dissipater  
Revegetate Slopes**  
Drainage Area 1

**Priority: High**

AOC ES 12 was not verified during 9/25/2023 visit.



**Remove Pavement  
Biofiltration Swale**  
Drainage Area 1

**Priority: Med/Low**

Pavement swale at this location has not been removed. Biofiltration swale has not been installed.



**Establish Gravel  
Gathering Area  
Revegetate Slopes**  
Drainage Area 1

**Priority: High**

A formalized gathering / volleyball area has not been established. Evergreen groundcover and native shrubs have not been installed. Portions of this area remain bare and erodible.



**Remove Pavement  
New Pervious Pavement**  
Drainage Area 1

**Priority: Med/Low**

Bituminous concrete pavement was present at this location. The permeable property of the pavement was not verified. A yard drain was present at this location. Minimal ponding observed during 9/25/2023 visit.



**Rain Garden**  
Drainage Area 1

**Priority: High**

Rain garden has not been installed at this location. Catch basin invert appears unchanged with no dome top frame. Major sedimentation and ponding was observed at this location during 9/25/2023 visit.



**Biofiltration Swale**  
Drainage Area 1

**Priority: Low**

AOC ES 17 was not verified during 9/25/2023 visit.



**Rain Garden**  
Drainage Area 1 & 2

**Priority: High**

Lawn area has been converted to rain garden. Ponding was observed at this location during 9/25/2023 visit. Catch basin invert appears unchanged with no dome top frame. Some selective clear cutting has occurred since 2011.



**Remove Pavement  
New Pervious Pavement**  
Drainage Area 2

**Priority: Low**

Pavement appeared relatively new. The permeable property of the pavement was not verified. Minor ponding was observed along gutterline during 9/25/2023 visit. Conveyance to leakoffs could be improved.



**Revegetate Slope**  
Drainage Area 4

**Priority: Low**

Evergreen groundcover and native shrubs have not been installed at this location.



**Biofiltration Swales**  
Drainage Area 4

**Priority: Med**

Biofiltration swales have not been installed along the existing drive at this location.



**Pervious Pavement**  
Drainage Area 4

**Priority: Med/Low**

Pervious parking spaces did not appear to be installed at this location. Some ponding observed here during 9/25/2023 visit.



**Rain Garden**  
Drainage Area 5

**Priority: Med**

Grades appear similar to 2011 condition at this location. No rain garden has been installed here.



**Revegetate Slopes  
Rain Garden**  
Drainage Area 5

**Priority: Med**

Evergreen groundcover, native shrubs, and rain garden have not been installed at this location.



**Biofiltration Swale  
Revegetate Slope**  
Drainage Area 5

**Priority: Low/Med**

Biofiltration swale and ornamental shrubs have not been installed along walk. Ramp railings are no longer plumb with ground.



**Biofiltration Swales**  
Drainage Area 5

**Priority: Med/High**

New concrete walk has been installed at this location since 2011. Biofiltration swales have not been installed along new walkway.



**Revegetate Slope**  
Drainage Area 6

**Priority: Med/Low**

AOC ES 27 was not verified during 9/25/2023 visit. Google maps aerials depict no further vegetation than lawn at this location.



**Revegetate Slope /  
New Walk & Stairs**  
Drainage Area 6

**Priority: High**

AOC ES 27 was not verified during 9/25/2023 visit. Google maps aerials depict no further vegetation than lawn at this location.



**Revegetate Slope**  
Drainage Area 6

**Priority: High**

AOC ES 29 was not verified during 9/25/2023 visit. Google maps aerials depict no further vegetation than lawn at this location.



**Pervious Pavement**  
Drainage Area 6

**Priority: Low**

AOC ES 30 was not verified during 9/25/2023 visit.



# VEGETATION IMPROVEMENTS



**1**  
Define Edge with Low Understory Natives  
Drainage Area 1

**Priority: Med**  
AOC HV 1 was not verified during 9/25/2023 visit.



**7**  
Woodland Buffer Remove Invasives  
Drainage Area 1

**Priority: Low**  
AOC was not verified during 9/25/23 site visit.



**13**  
Selective Clear Cut Remove Invasives Woodland Buffer  
Drainage Area 4

**Priority: Low**  
AOC HV 13 was not verified during 9/25/2023 visit.



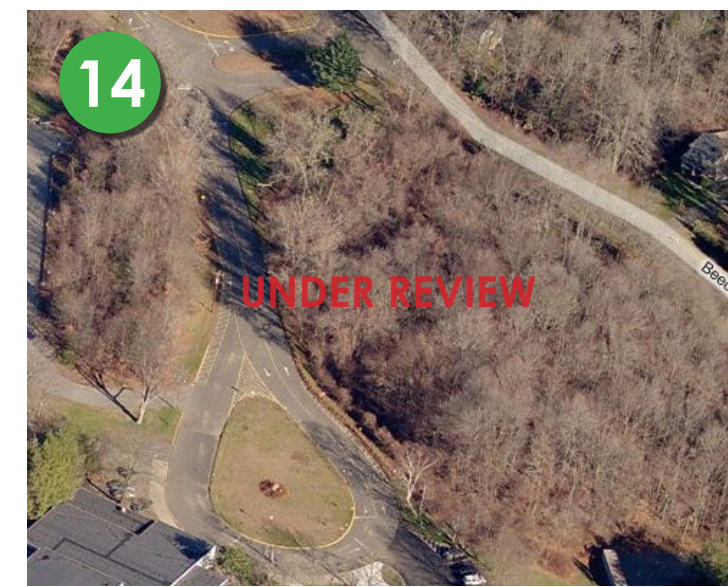
**2**  
Establish Gravel Viewing Area Define with Low Understory Natives  
Drainage Area 1

**Priority: Med**  
AOC HV 2 was not verified during 9/25/2023 visit.



**8**  
Woodland Buffer Remove Invasives  
Drainage Area 2

**Priority: Low**  
Conditions appear similar to 2011. Ponding was observed along pathway during 9/25/23 visit. Invasive removal was not verified.



**14**  
Remove Invasives Woodland Buffer  
Drainage Area 4

**Priority: Low**  
AOC HV 14 was not verified during 9/25/2023 visit.



**3**  
Define Edge with Low Understory Natives Bird/Bat Boxes  
Drainage Area 1

**Priority: Med**  
AOC HV 3 was not verified during 9/25/2023 visit.



**9**  
Butterfly/Rain Gardens  
Drainage Area 2

**Priority: Med**  
Butterfly / rain gardens have not been installed at this location.



**15**  
Woodland Buffer Remove Invasives  
Drainage Area 5

**Priority: Med**  
At this location during 9/25/2023 visit, it was unclear if invasives had been replaced with native understory since 2011.



**4**  
Woodland Buffer Remove Invasives  
Drainage Area 1

**Priority: Med**  
AOC HV 4 was not verified during 9/25/2023 visit.



**10**  
Green Roof / Blue Roof  
All Drainage Areas

**Priority: Low**  
AOC HV 10 (Roof) was not verified during 9/25/2023 visit. Google maps aerials show that portions of the roof are lighter in color than the 2011 condition.



**16**  
Woodland Buffer Remove Invasives  
Drainage Area 6

**Priority: Low**  
At this location during 9/25/2023 visit, it was unclear if invasives had been replaced with native understory since 2011.



**5**  
Woodland Buffer Remove Invasives  
Drainage Area 1

**Priority: Low/Med**  
Woodland buffer appears unchanged from 2011 condition. Invasive removal was not verified during 9/25/23 visit.



**11**  
Selective Clear Cut Remove Invasives Native Display Garden Bird/Bat Boxes  
Drainage Area 2

**Priority: Low**  
AOC HV 11 was not verified during 9/25/2023 visit.



**6**  
Remove Invasives Revegetate Slope  
Drainage Area 1

**Priority: Med**  
Invasives appear to have been removed. Slope is sparsely vegetated now. Evergreen groundcover and native shrubs have not been planted here.



**12**  
Ornamental Sustainability Garden  
Drainage Area 3

**Priority: Low/Med**  
AOC HV 12 (Interior courtyard) was not verified during 9/25/2023 visit.



# 2023 ADDITIONAL IMPROVEMENTS



## Pavement Modifications Drainage Improvements

Priority: Med/High

Repave/regrade pavement to achieve positive drainage. Install additional drains. Pervious pavement is recommended.



## Pavement Modifications Drainage Improvements

Priority: High

Grade and protect corner of playground experiencing runoff. Install additional drains. Regrade to ensure positive drainage.



## Pavement Modifications Drainage Improvements

Priority: High

Repave walk to slope away from building. Remove low spots from pavement settling.



## Pavement Repair Drainage Improvements

Priority: High

Walk was observed to be heaving and ponding was present. Repave and ensure positive drainage. Install additional drain.



## Pavement Repair Drainage Improvements

Priority: High

Drainage is impeded by surrounding lawn at several walks along the building. Grade lawn or excavate and provide stone shoulder at edge of walk. Repave as required.



## Pavement Repair Drainage Improvements Erosion Protection

Priority: High

Portion of walk requires repair and runoff was observed eroding adjacent lawn. Repave walk and provide swale to guide water to nearby drain. Provide stone shoulder.



## Pavement Repair Drainage Improvements Erosion Protection

Priority: Med/High

Ponding and sedimentation were observed at this portion of walk. Repave walk and provide swale to nearby drain.



## Pavement Repair Drainage Improvements

Priority: Med

Ponding was observed at this portion of walk. Provide swale to nearby drain. Reset and lower basin. Repave as required.



## Pavement Repair Drainage Improvements

Priority: High

Ponding was observed at this portion of walk. Regrade lawn to ensure positive drainage. Install additional drains. Repave as required.



# 2023 ADDITIONAL IMPROVEMENTS



## Pavement Repair Drainage Improvements

Priority: High

Significant ponding was observed near doorway. Regrade lawn to ensure positive drainage. Install additional drains. Repave as required.



## Curb Installation Drainage Improvements Erosion Protection

Priority: Med/High

Install curbing or swale along edge of drive to channel runoff to drain.



## Pavement Repair Drainage Improvements Erosion Protection

Priority: High

Walk was observed to be heaving and ponding was present. Erosion and sedimentation observed at downspout. Repave walk, install outlet protection and install additional drains.



## Pavement Modification Drainage Improvements

Priority: Low/Med

Ponding was present in observed parking area. Additional drains should be installed. Pervious pavement is recommended.



## Pavement Repair Drainage Improvements

Priority: Med

Pavement was observed to be heaving and ponding was present at loading dock. Repave to ensure positive drainage.



## Pavement Repair Drainage Improvements Erosion Protection

Priority: High

Pavement was observed to be broken. Ponding and sediments were present. Repave to ensure positive drainage to nearby drain structure.



## Ramp Repair

Priority: High

Heaving of concrete ramp was observed creating a tripping hazard / accessibility issue. Repair ramp.

