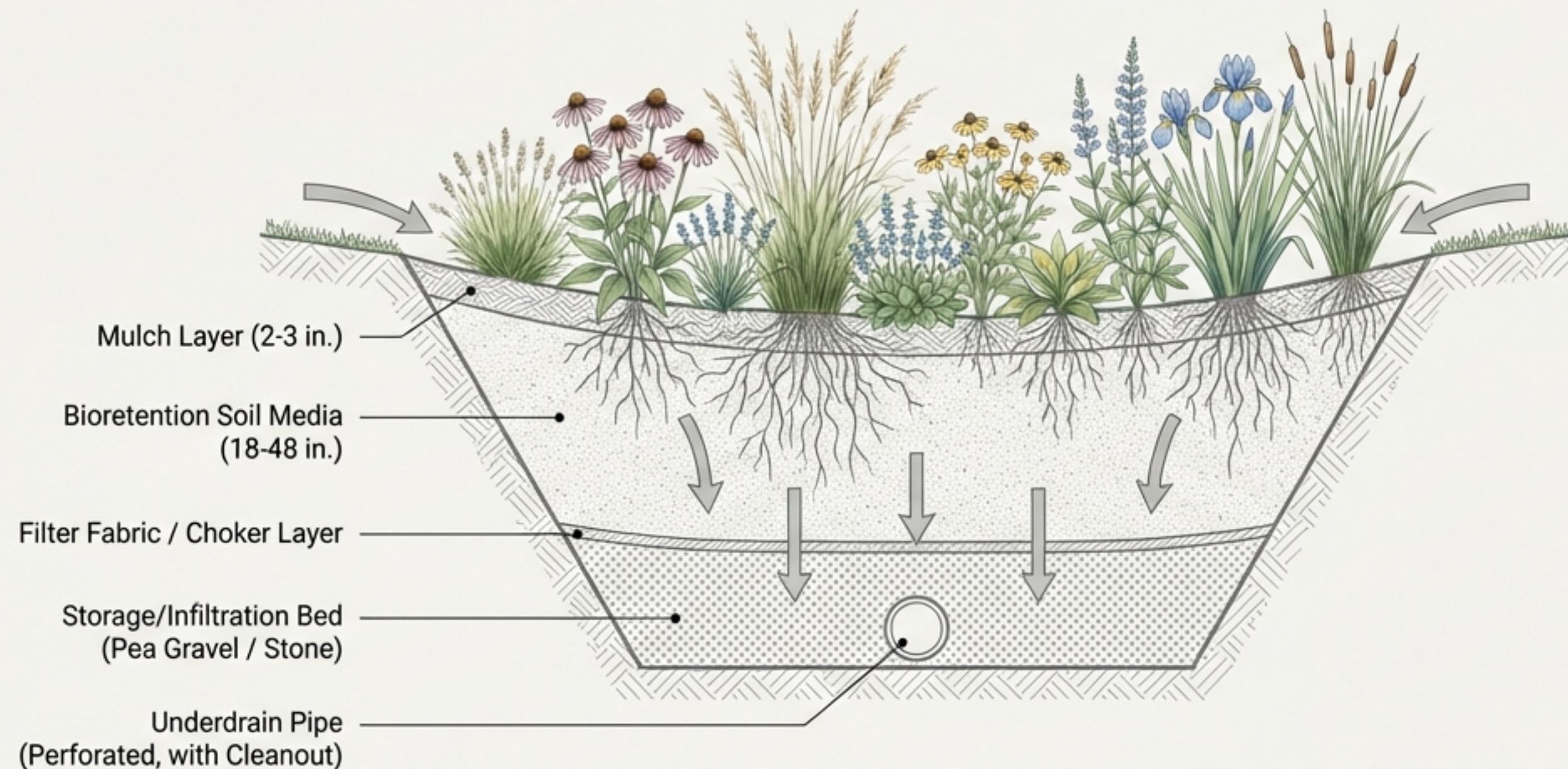


# N.J.A.C. 7:8 Stormwater Management Rules

Integrating Ecological Design with Regulatory Compliance



**Authority:** N.J.S.A. 12:5-3, 13:1D-1 et seq.

**Department:** New Jersey Department of Environmental Protection (NJDEP)

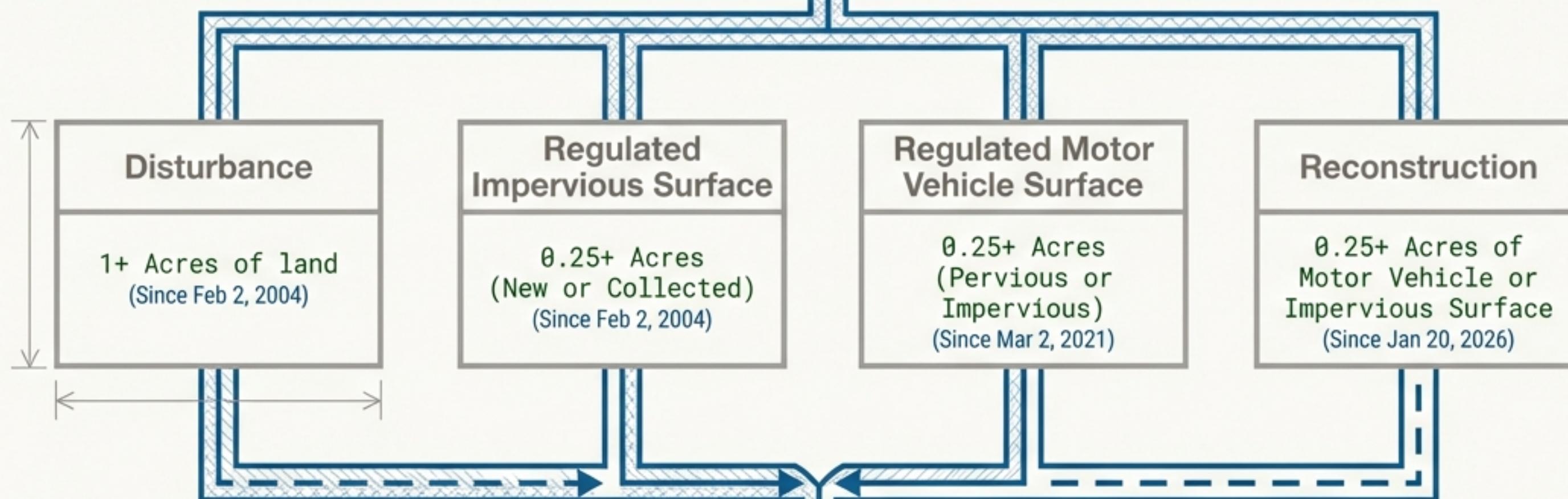
**Date Last Amended:** January 20, 2026

## Ecological Precision DEFINITIONS

**Regulated Motor Vehicle Surface:** Any surface intended for use by motor vehicles or aircraft directly exposed to precipitation.

**Regulated Impervious Surface:** Net increase in impervious surface OR total area collected by a new conveyance system.

# Is this a Major Development?



N.J.A.C. 7:8 Rules Apply

# The Nine Goals of Stormwater Management Planning

## Subchapter 2.2



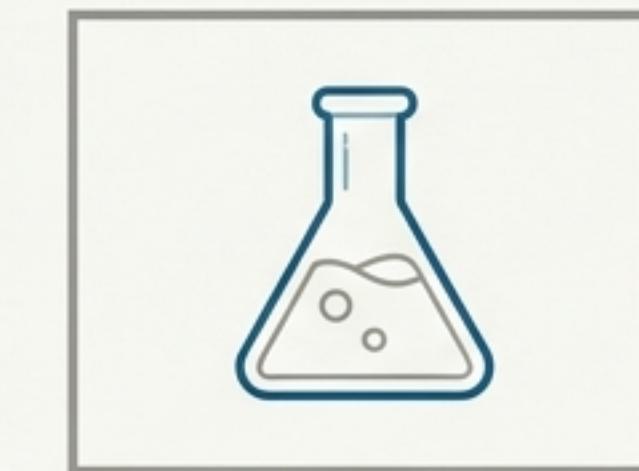
Flood Reduction:  
Protect life & property.



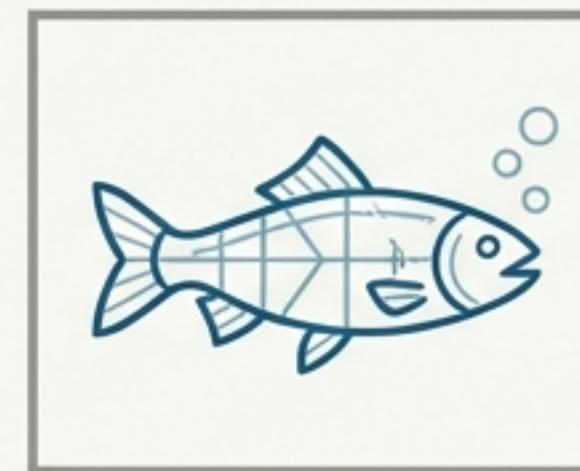
Impact Minimization:  
Limit runoff increase.



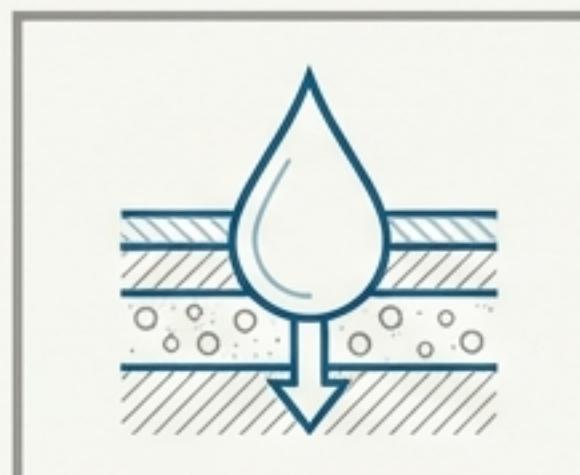
Erosion Control:  
Reduce soil loss.



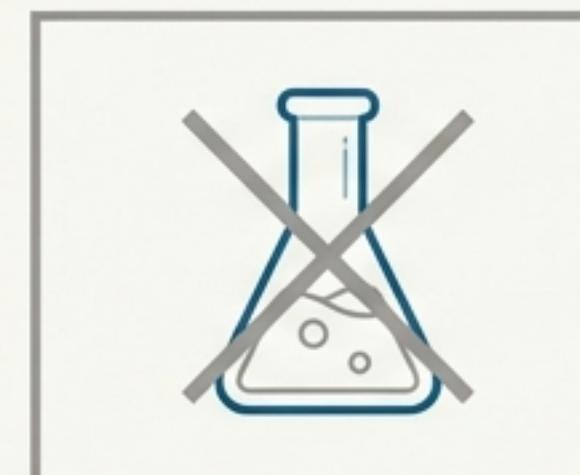
Pollution Prevention:  
Stop nonpoint sources.



Biological Integrity:  
Maintain stream function.



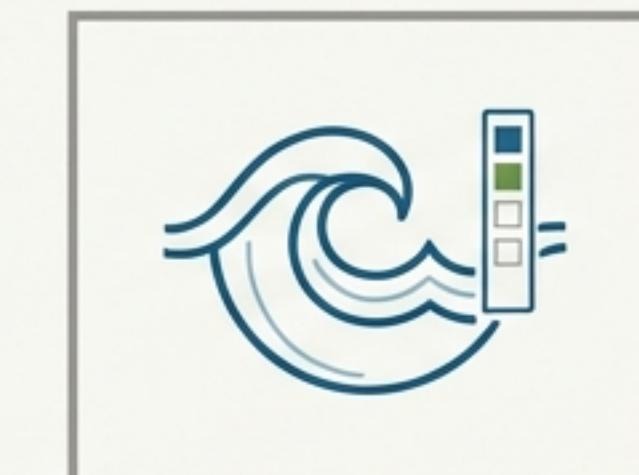
Groundwater:  
Maintain recharge.



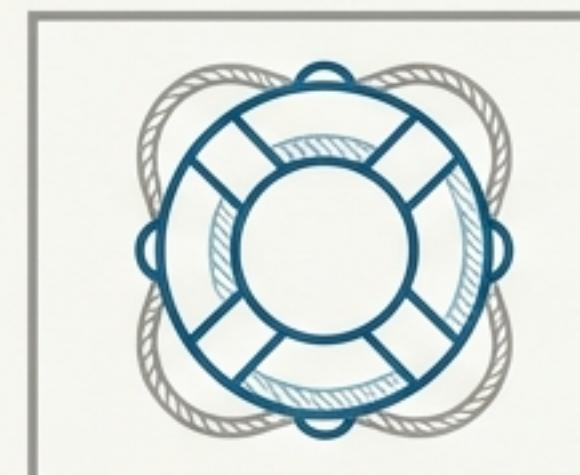
Pollution Prevention:  
Stop nonpoint sources.



Infrastructure Assurance:  
Ensure adequacy.

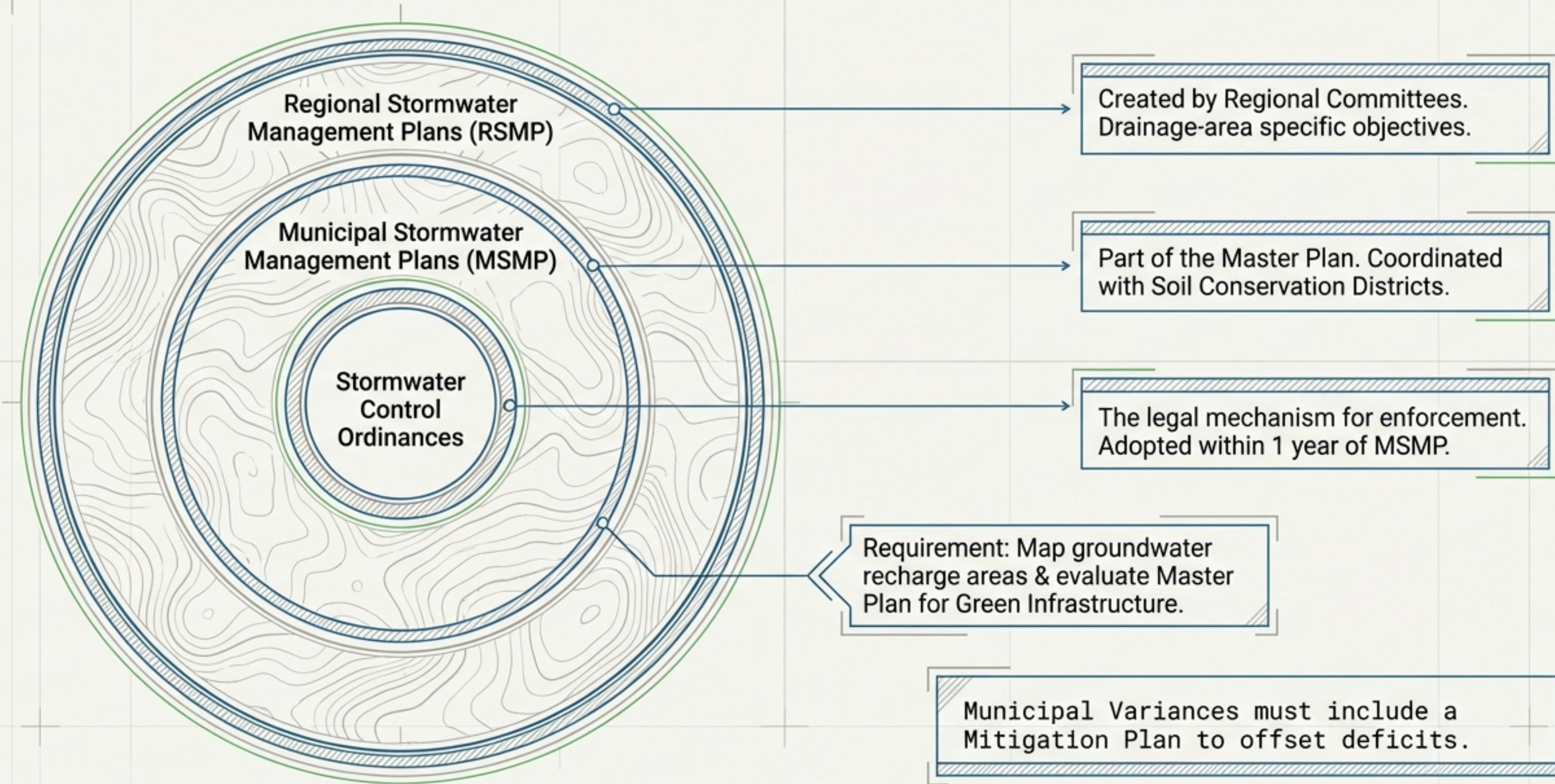


Water Quality:  
Restore chemical/biological integrity.



Public Safety:  
Safe basin design.

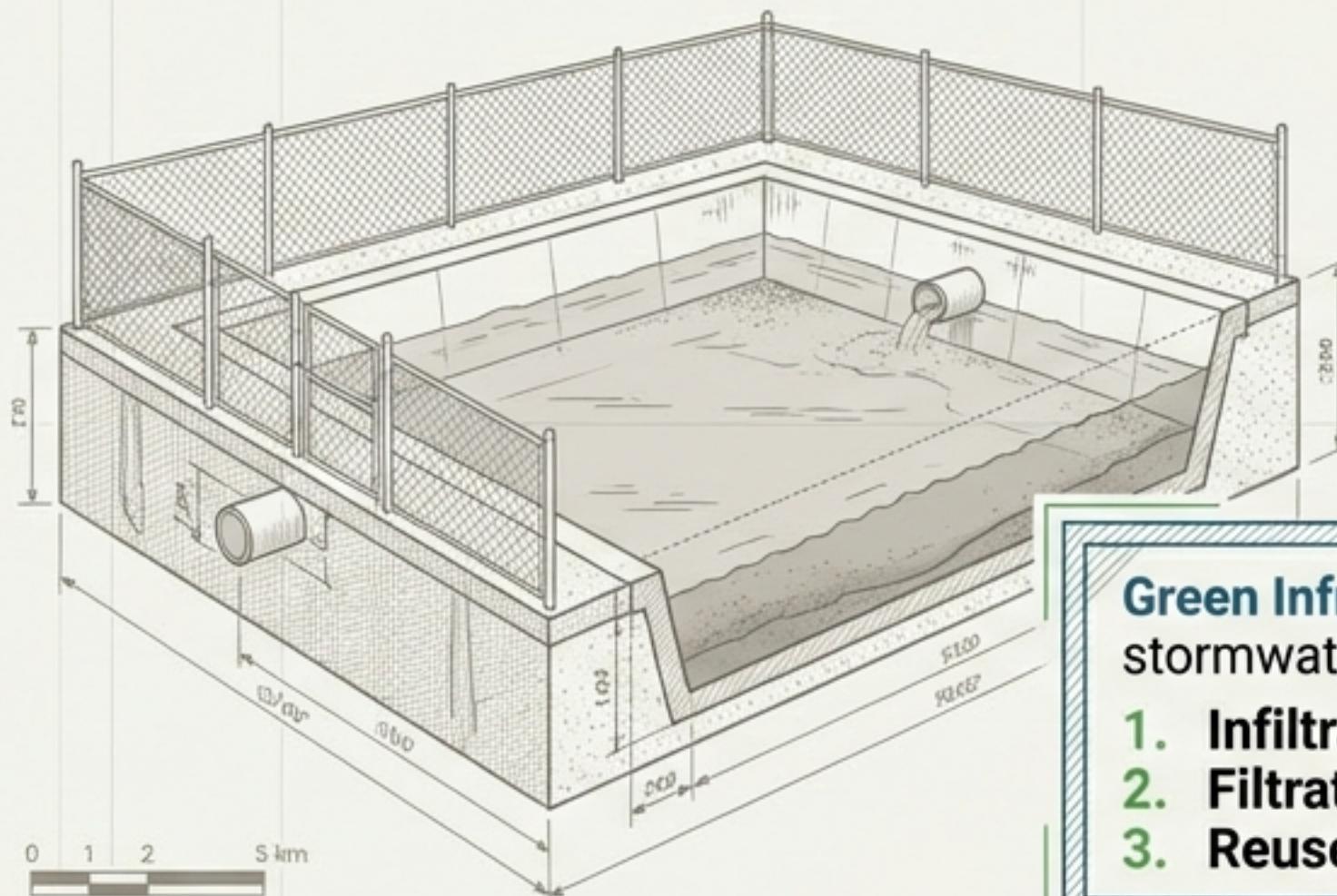
# The Planning Ecosystem



# The Core Design Shift: Green Infrastructure (GI)

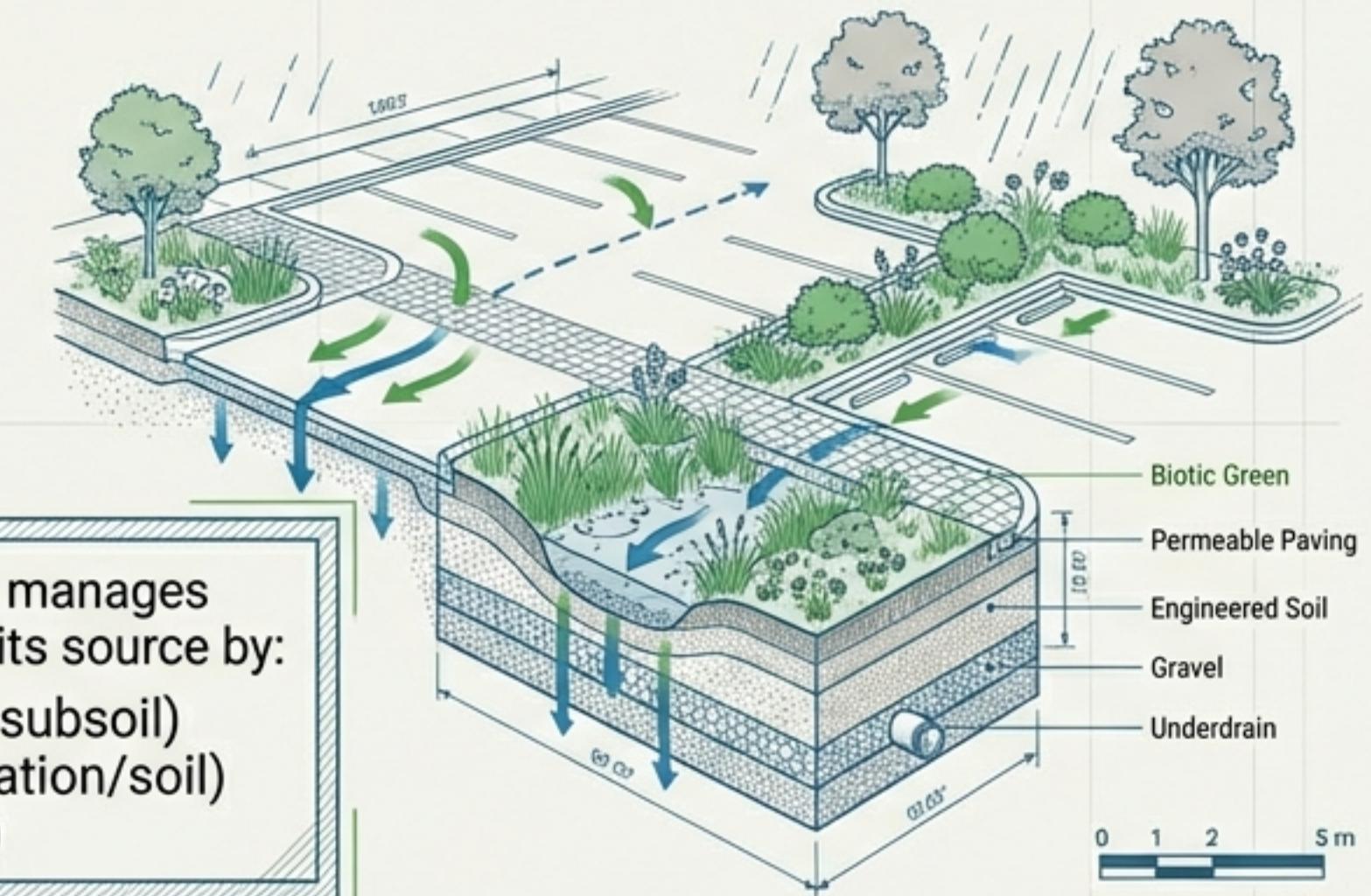
## From Detention to Retention

### The Old Standard



End-of-Pipe Management

### The Current Standard



Manage at Source

**Green Infrastructure** manages stormwater close to its source by:

1. **Infiltration** (into subsoil)
2. **Filtration** (vegetation/soil)
3. **Reuse** (cisterns)

**The Contributory Rule:** Use small-scale BMPs. E.g., Dry Wells capped at 1 acre drainage; Small-scale Bioretention capped at 2.5 acres.

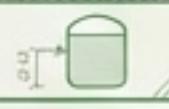
# Selecting the Right BMP: The Regulatory Tables

## Organized by Green Infrastructure and Waiver Requirements

### Biotic Green

**Table 5-1: Green Infrastructure**  
Recharge, Quality, & Quantity

#### Cisterns



#### Dry Wells (1 ac max)



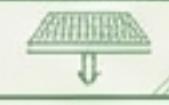
#### Grass Swales



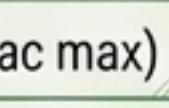
#### Green Roofs



#### Pervious Paving



#### Small-Scale Bioretention (2.5 ac max)



#### Small-Scale Infiltration Basins



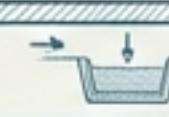
### Reservoir Blue

**Table 5-2: GI for Quantity Only**  
Quantity Control (Recharge/Quality requires waiver)

#### Bioretention Systems



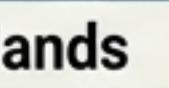
#### Infiltration Basins



#### Sand Filters



#### Standard Constructed Wetlands



#### Wet Ponds



### Sediment Grey

**Table 5-3: The Waiver List**  
Only permitted with Variance/Waiver

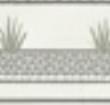
#### Blue Roofs



#### Extended Detention Basins



#### Subsurface Gravel Wetlands

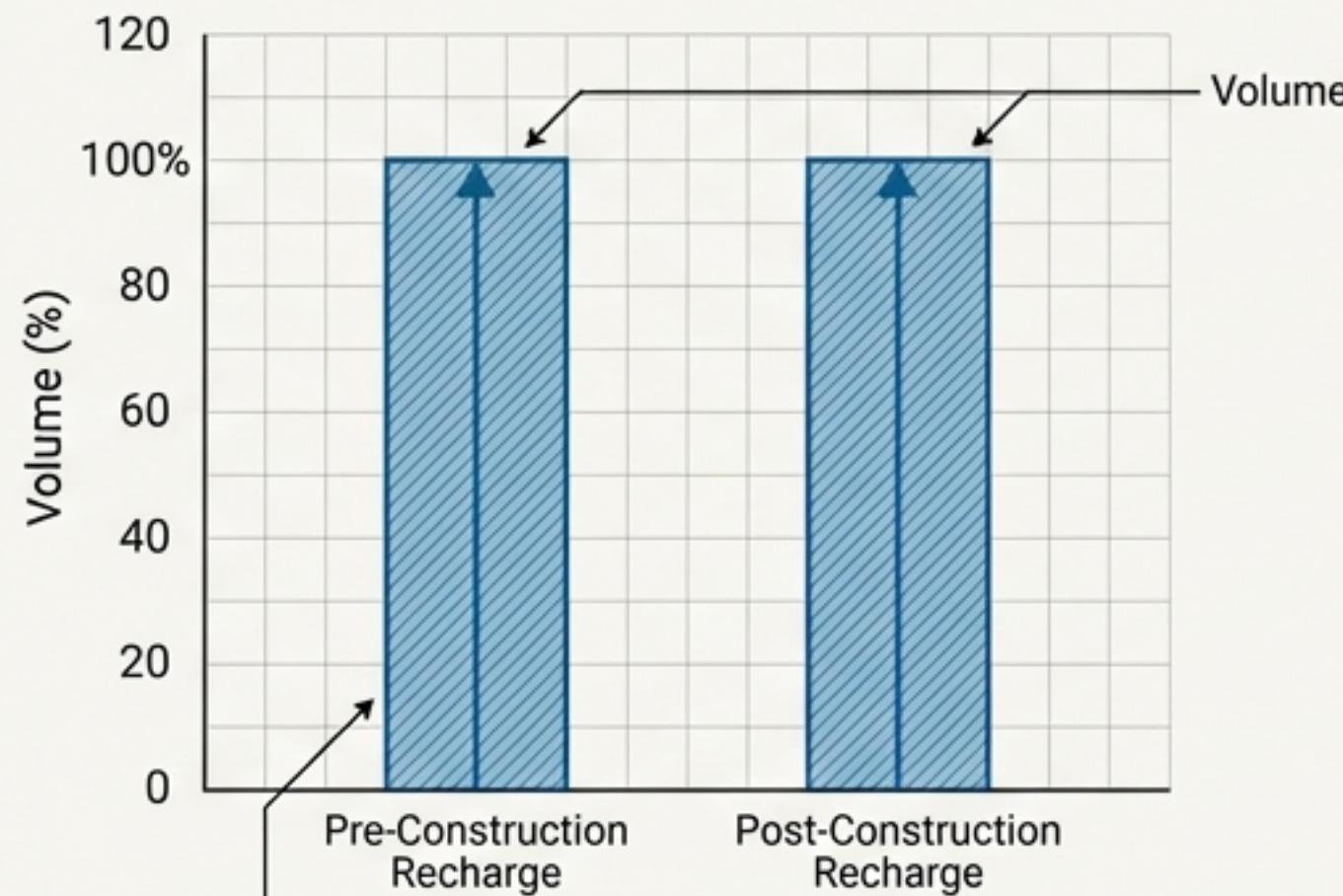


Manufactured Treatment Devices (MTDs) must be verified by NJ CAT and certified by the Department.

# Performance Standard 1: Groundwater Recharge

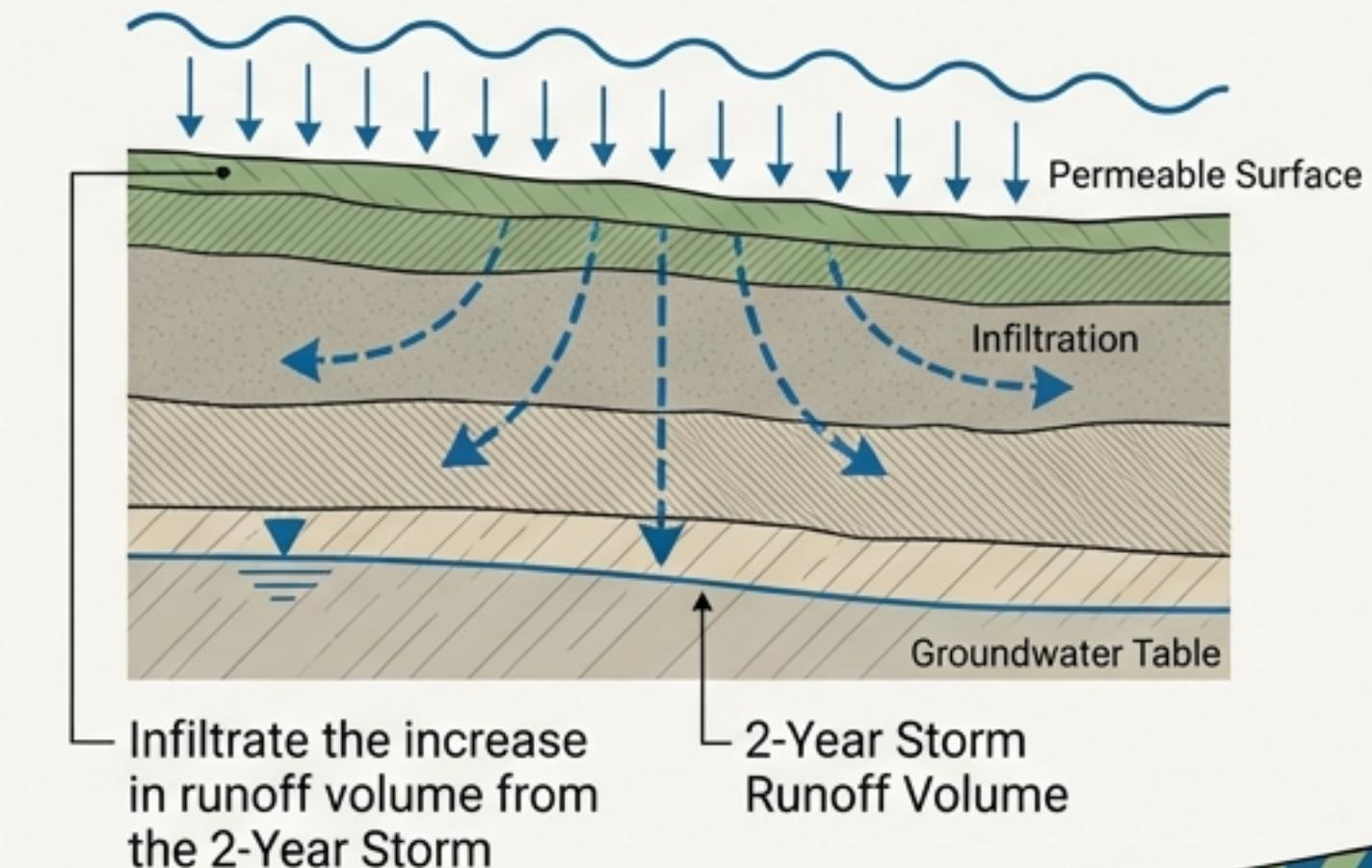
**Mandate:** Maintain 100% of average annual pre-construction recharge volume.

**Method A**



Hydrologic analysis demonstrating 100% maintenance of average annual volume.

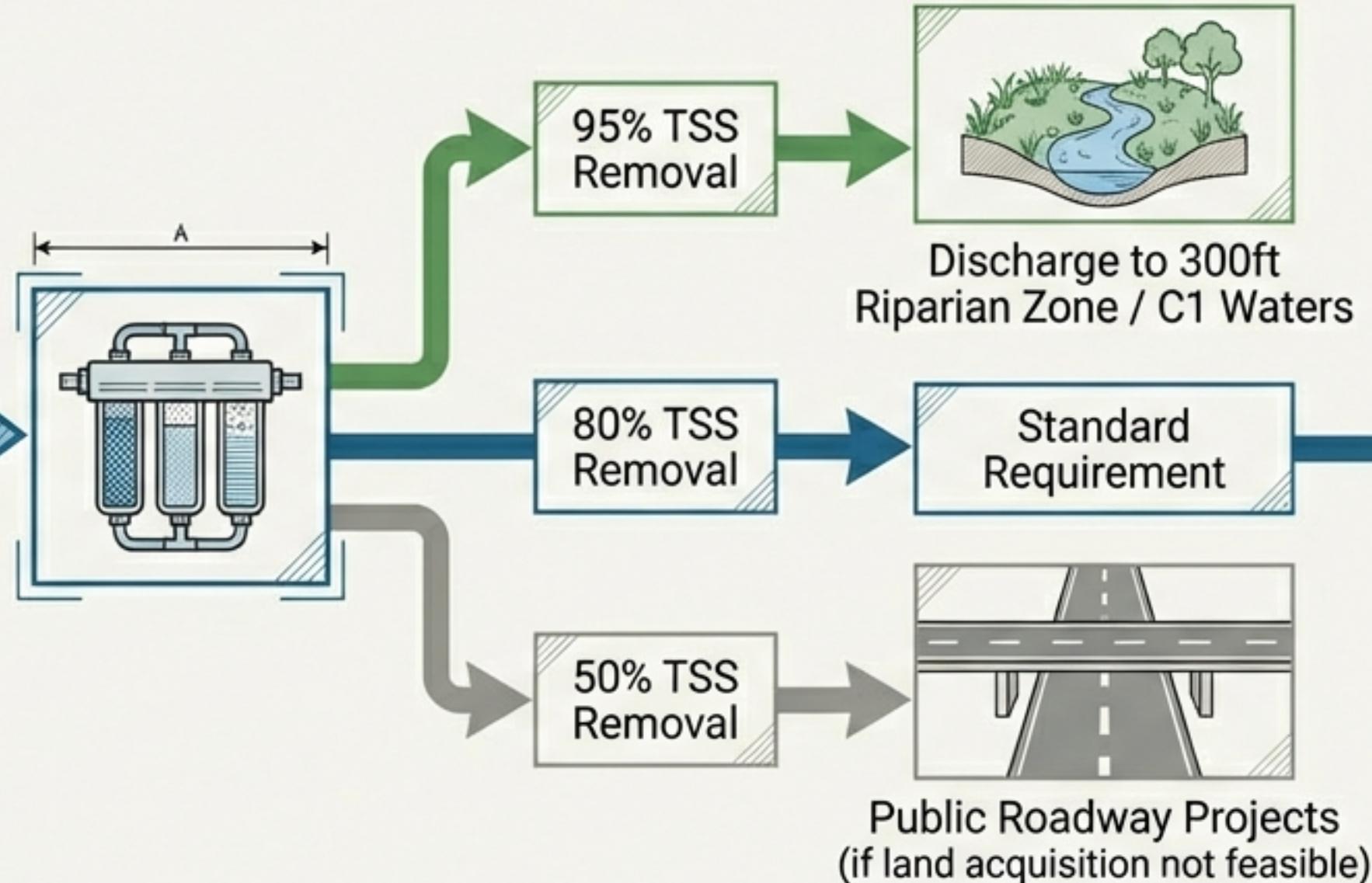
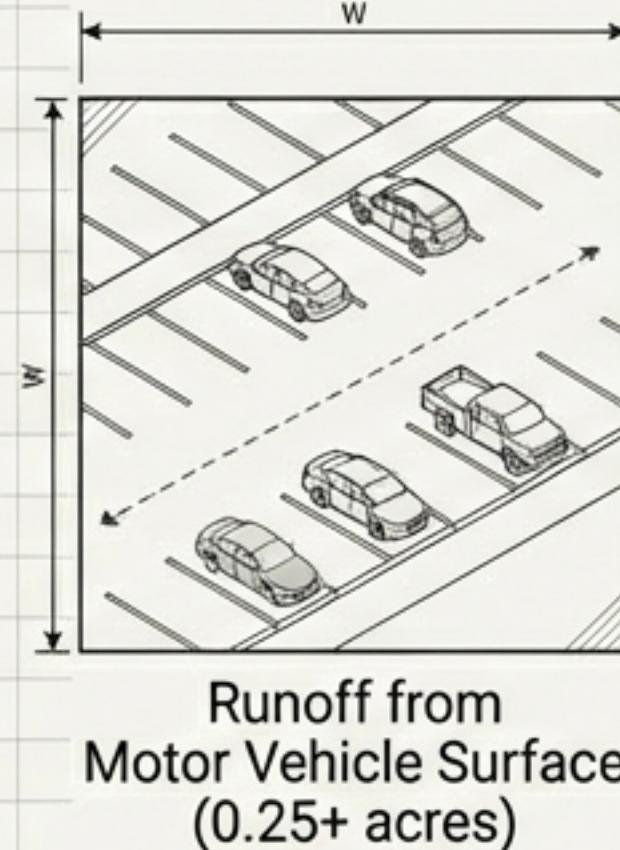
**Method B**



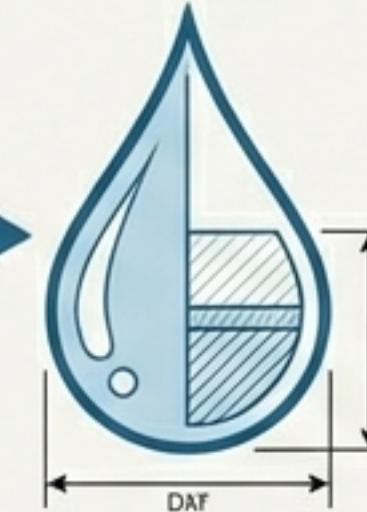
**DO NOT RECHARGE:** High pollutant loading areas (Gas Stations, Industrial Storage) or Urban Redevelopment Areas

# Performance Standard 2: Stormwater Runoff Quality

**Target:** Total Suspended Solids (TSS) Removal.



**Water Quality Design Storm:**  
1.25 inches of rain in 2 hours.



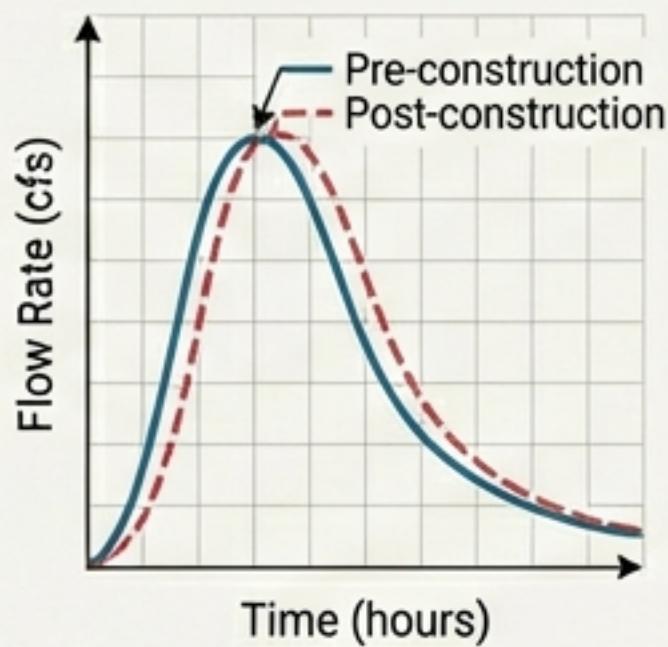
**Calculation for BMPs in Series:**  $R = A + B - (A \times B) / 100$

# Performance Standard 3: Stormwater Runoff Quantity

## Controlling Peak Flow & Flood Damage

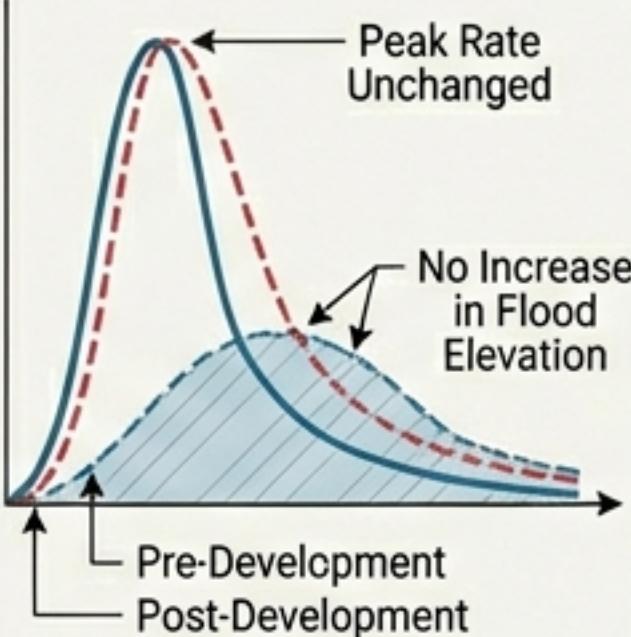
### Hydrograph Match

Post-construction never exceeds Pre-construction.



### No Peak Increase

No increase in peak rates + No increase in flood damage.



### Peak Reduction (Standard)

Reduce Post-Construction Peak Rates to:

**50%**  
for 2-Year Storm

**75%**  
for 10-Year Storm

**80%**  
for 100-Year Storm

### Tidal Exception:

No analysis required if discharging directly to ocean/bay/inlet downstream of first control structure.



# Calculation Methodologies & Climate Adjustment



## Methodology

USDA NRCS (TR-55).  
Pre-construction land use  
presumed "Wooded /  
Good Condition".



## Precipitation Source

NOAA Atlas 14 Point  
Precipitation Frequency  
Estimates.

## Climate Change Factors (Table 5-6)

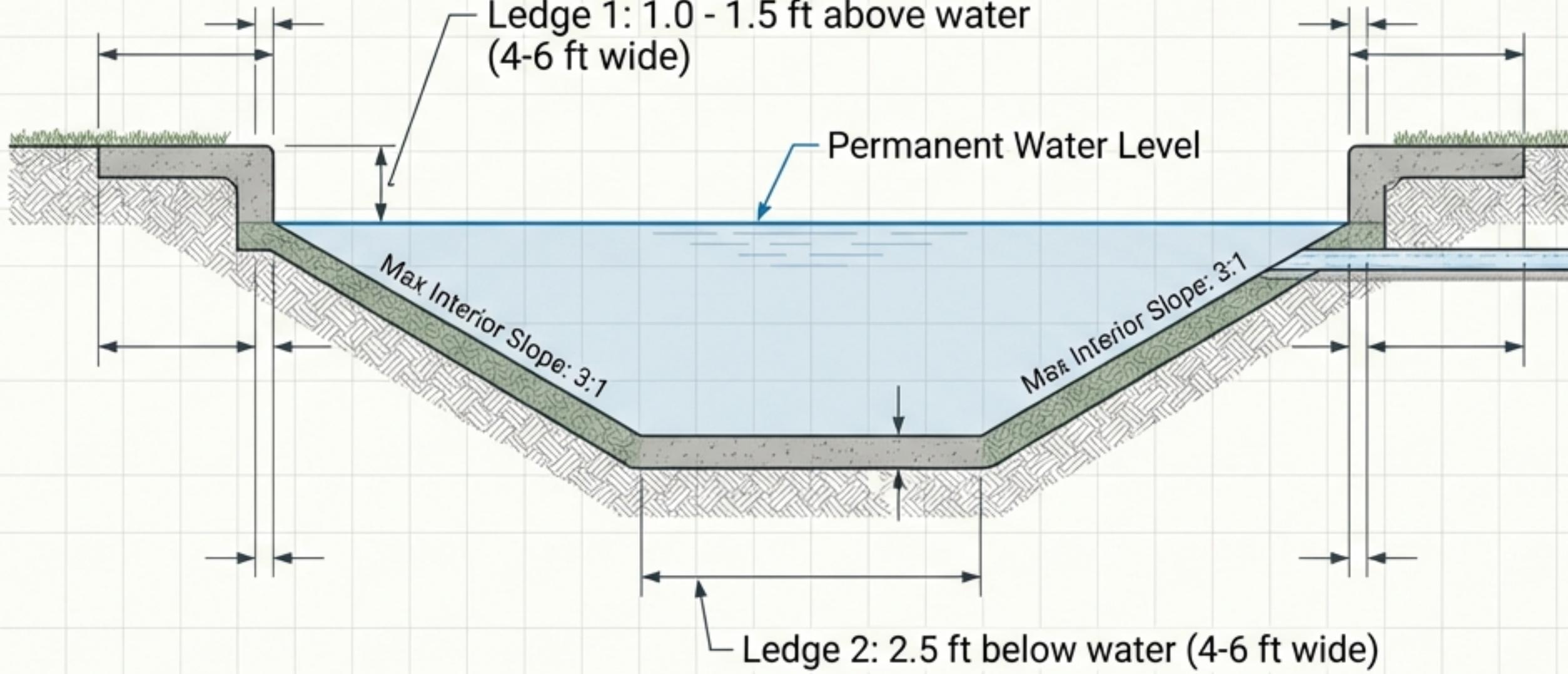


Current data must be multiplied  
by future adjustment factors.

### 100-Year Storm Adjustment Factors

County	Factor
Passaic County	1.50x
Atlantic County	1.39x
Mercer County	1.36x
Hudson County	1.23x

# Safety Standards for Stormwater Basins



Reservoir Blue

## Outlet Protection:

- **Trash Racks:**

Max 6-inch spacing.  
Max velocity 2.5 ft/sec.



- **Overflow Grates:**

Max 2-inch spacing.



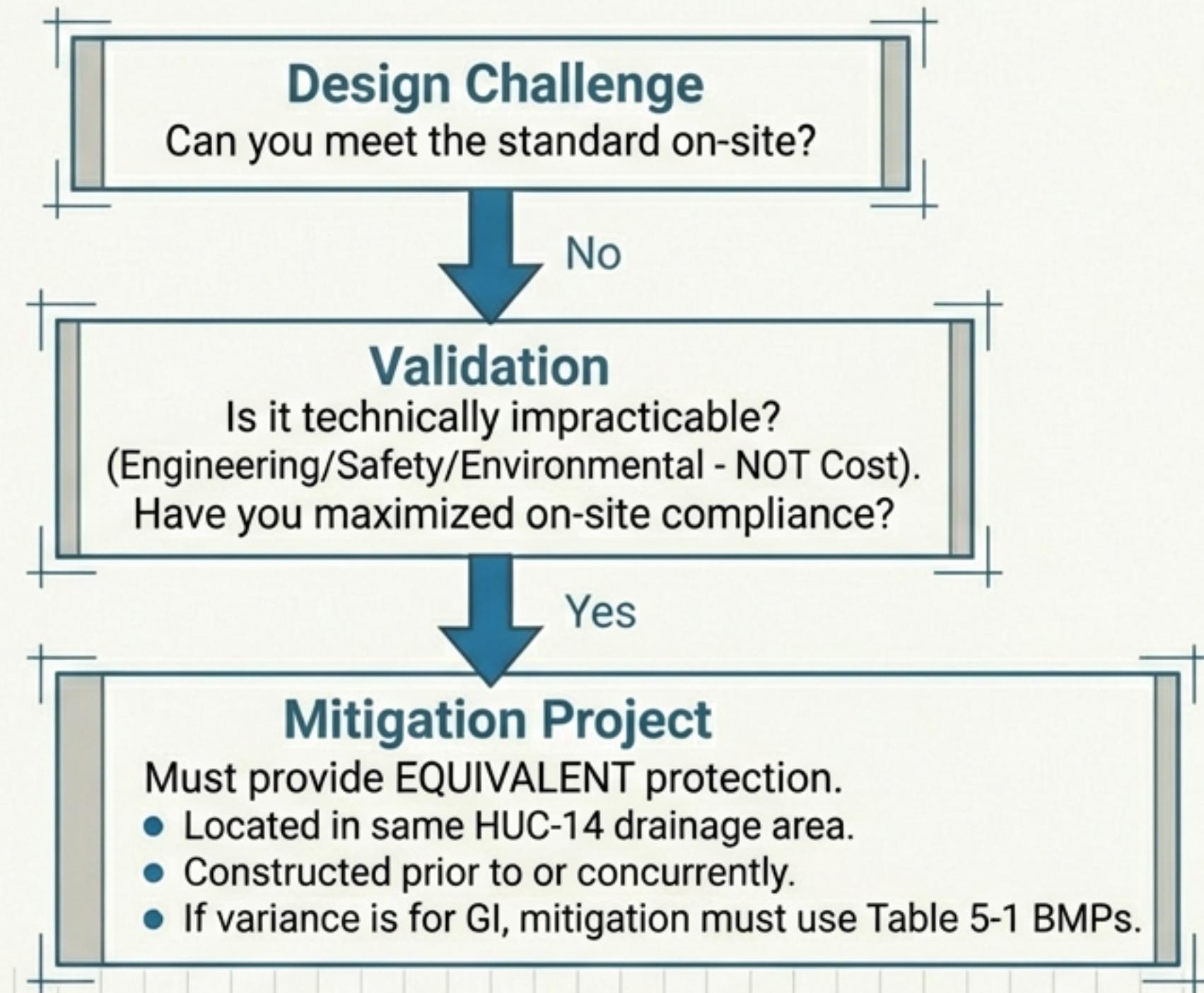
- **Escape Provisions:**

Ladders/steps required at outlet.



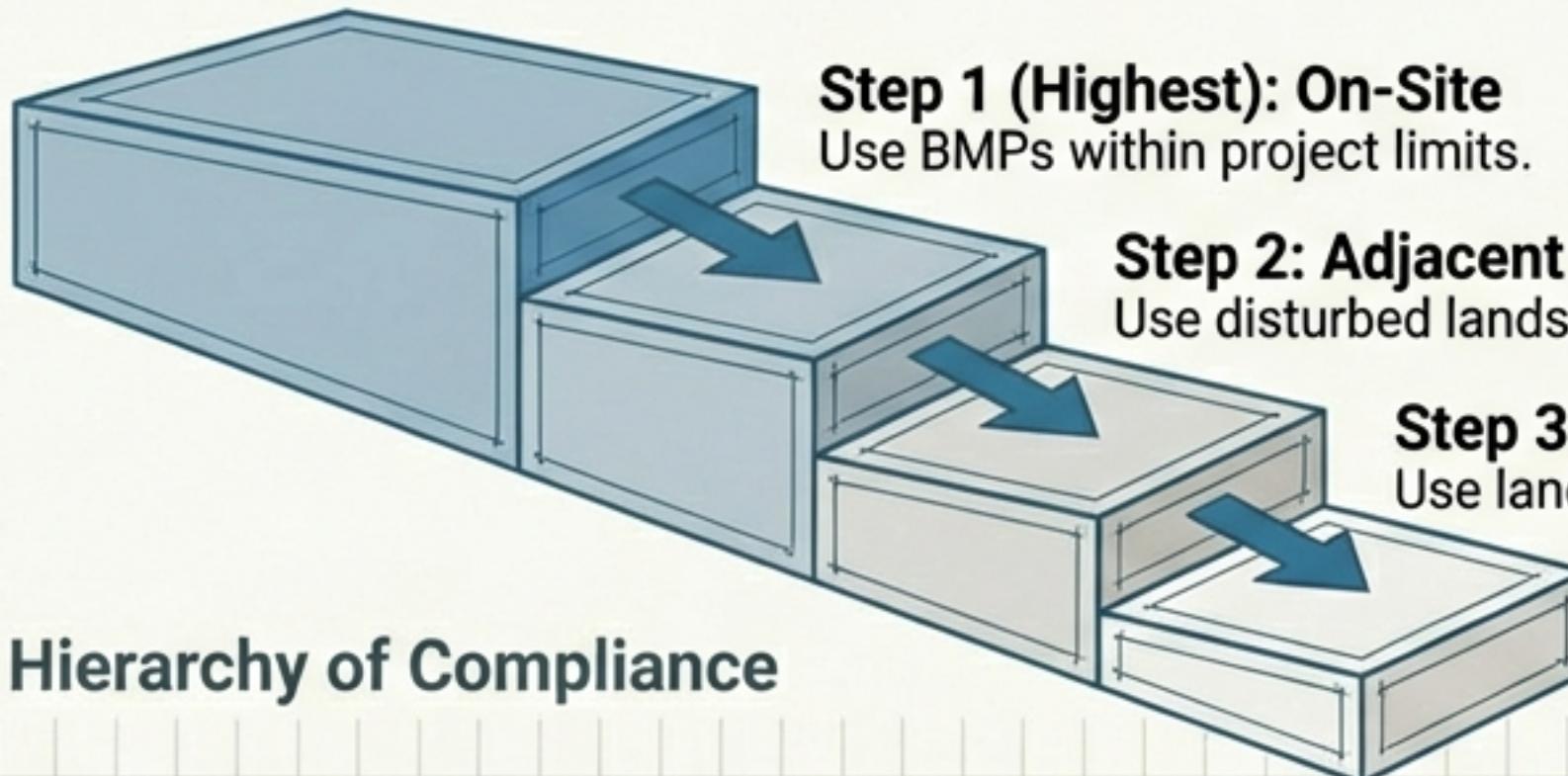
# Variances and Mitigation Plans

The path when on-site compliance is impossible.



# Special Considerations: Public Roads & Railroads

For Public Transportation Entities Only



Reservoir Blue

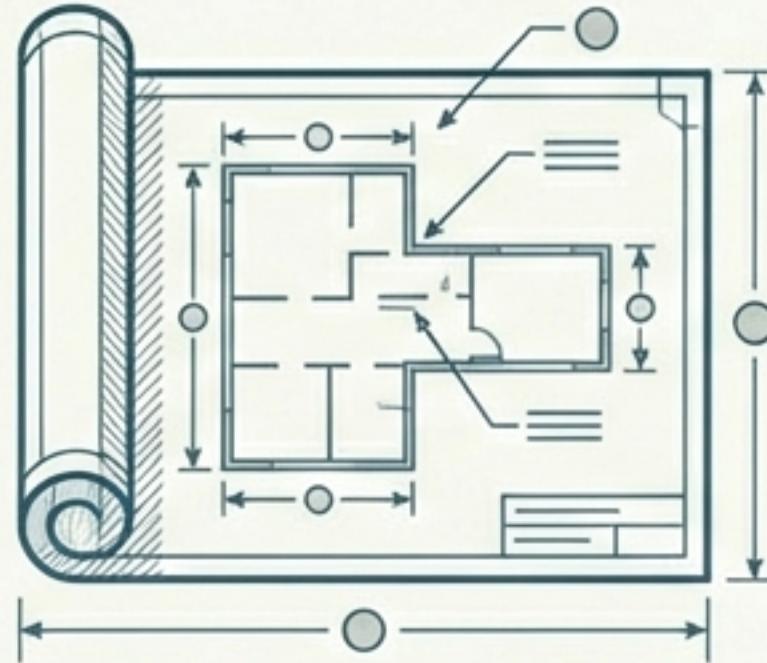
## Restriction

New public roadways/railroads are NOT eligible for waivers.

Waivers apply only to enlargements or improvements.

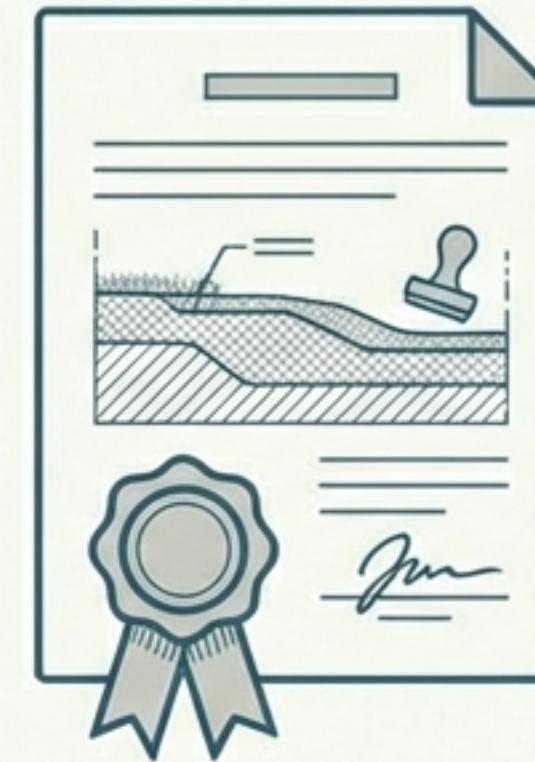
# Long-Term Responsibility

Design. Construct. Record. Maintain.



## Maintenance Plan

Specific tasks, schedules, cost estimates, and contact info for responsible party.



## Deed Notice

Recorded with County Clerk. Describes BMPs and references the maintenance plan. Required for private developments.



## Maintenance Logs

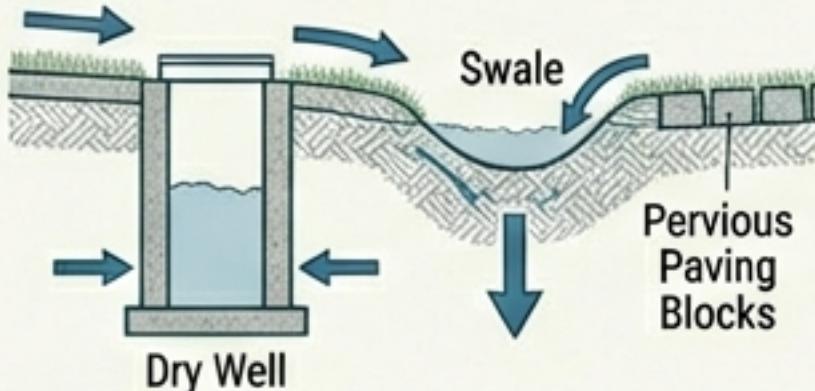
Detailed records of inspections and work. Must be available for public review.

Responsibility cannot be assigned to individual homeowners unless they own the entire project.

# Summary Checklist: The 4 Pillars of Compliance

Biotic Green

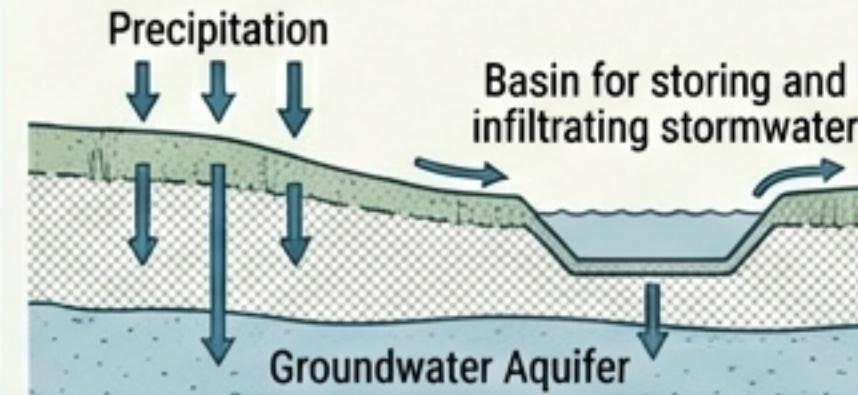
## 1. Green Infrastructure



Use Table 5-1 BMPs (Dry Wells, Swales, Pervious Paving) for Recharge, Quality, & Quantity. Adhere to drainage area caps.

Reservoir Blue

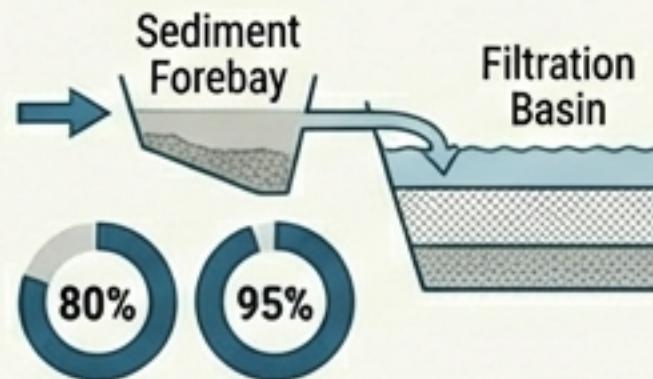
## 2. Groundwater Recharge



Maintain 100% pre-construction average annual volume OR infiltrate 2-year storm increase.

Reservoir Blue

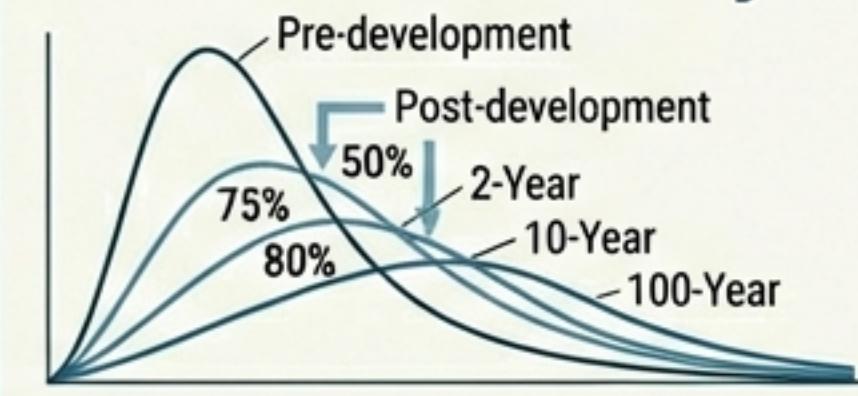
## 3. Runoff Quality



80% TSS Removal (Standard).  
95% TSS Removal (Riparian Zones).  
Manage 1.25 inch Water Quality Storm.

Reservoir Blue

## 4. Runoff Quantity



Reduce peak flows:  
2-Year (50%),  
10-Year (75%),  
100-Year (80%).

Compliance requires integrating these pillars into the earliest phases of site design.