RVSS Erosion and Sediment Control Certification Course

Ben Poaster
Stormwater Program Coordinator

ROGUE VALLEY
SEWER SERVICES
CLEAN WATER · HEALTHY COMMUNITIES

Types of Erosion and Sediment Control (ESC) Certifications

For **Oregon** 1200C General Permit: **Visual monitoring must be conducted by a Certified Erosion and Sediment Control or Storm Water Quality Inspector.**

DEQ Approved Certifications (Section 6.1.1-5):

a. Certified Professional in Erosion and Sediment Control (CPESC)

b. Certified Professional in Storm Water Quality (CPSWQ)

c. Certified Inspector of Sediment and Erosion Control (CISEC)

d. Washington Department of Ecology's Certified Erosion and Sediment Control Lead (CESCL) Certification

e. Rogue Valley Sewer Services Erosion and Sediment Control Inspector Certification (ESCI)

Objectives and ESC Inspector Responsibilities

Understand and/or be able to:

- Principles of erosion and sedimentation: impacts, process, and factors.
- Conditions and circumstances that may lead to stormwater compliance problems.
- Navigate the DEQ and RVSS permitting process.
- Select and implement BMPs to prevent erosion, maintain stormwater quality, and remain in compliance with 1200C permit regulations.
- Provide technical oversight of installation and maintenance of construction stormwater BMPs.
- Perform inspection of a construction site or a large-scale project.
- Understand and maintain permit-required documentation.

1972 Clean Water Act (CWA)

- Established the basic structure for regulating pollutant discharges into the waters of the United States.
- Gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry.
- Funded the construction of sewage treatment plants under the construction grants program.
- Recognized the need for planning to address the critical problems posed by nonpoint source pollution.
- **Made it unlawful for any person to discharge any pollutant from a point source into waters of the United States, unless a permit was obtained under its provisions.**

Waters of the United States - Section 303d List / TMDL - NPDES Permits

Waters of the United States

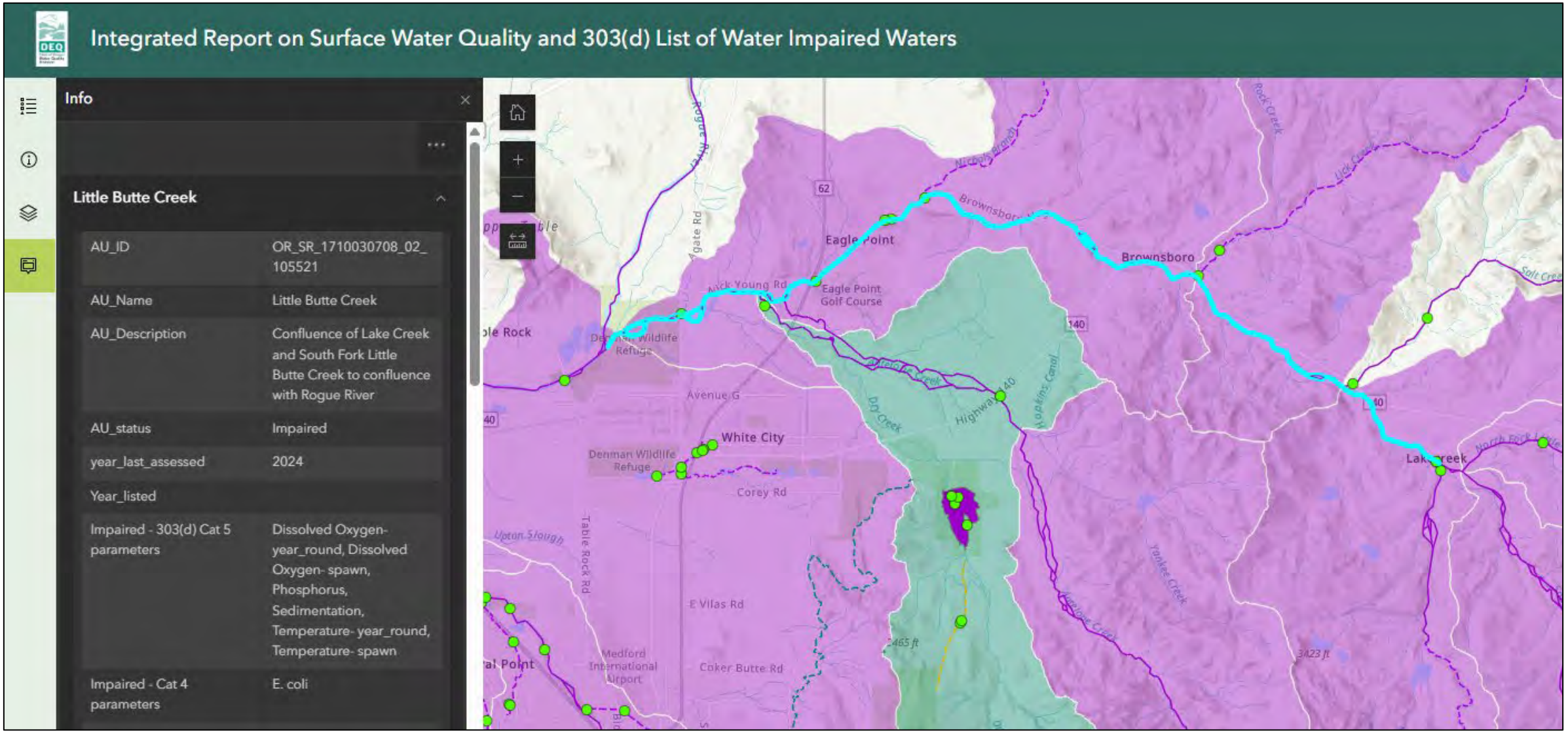
- **Territorial Seas**
- **Traditional Navigable Waters**
  Including all interstate waters.
- **Tributaries to those Waters**
  Perennial and intermittent.
- **Wetlands**
  Adjacent to jurisdictional waters.
- **Additional Waters**
  Lakes, ponds, impoundments that are relatively permanent.

Section 303(d) and TMDLs

Section 303(d) of the CWA lists a state's impaired waters.
These Waters of the United States don't meet national water quality standards.

The Total Maximum Daily Load (TMDL) is the State's plan to fix the problem.
The calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will progress to meet water quality standards for that pollutant.

Section 303(d) and TMDLs

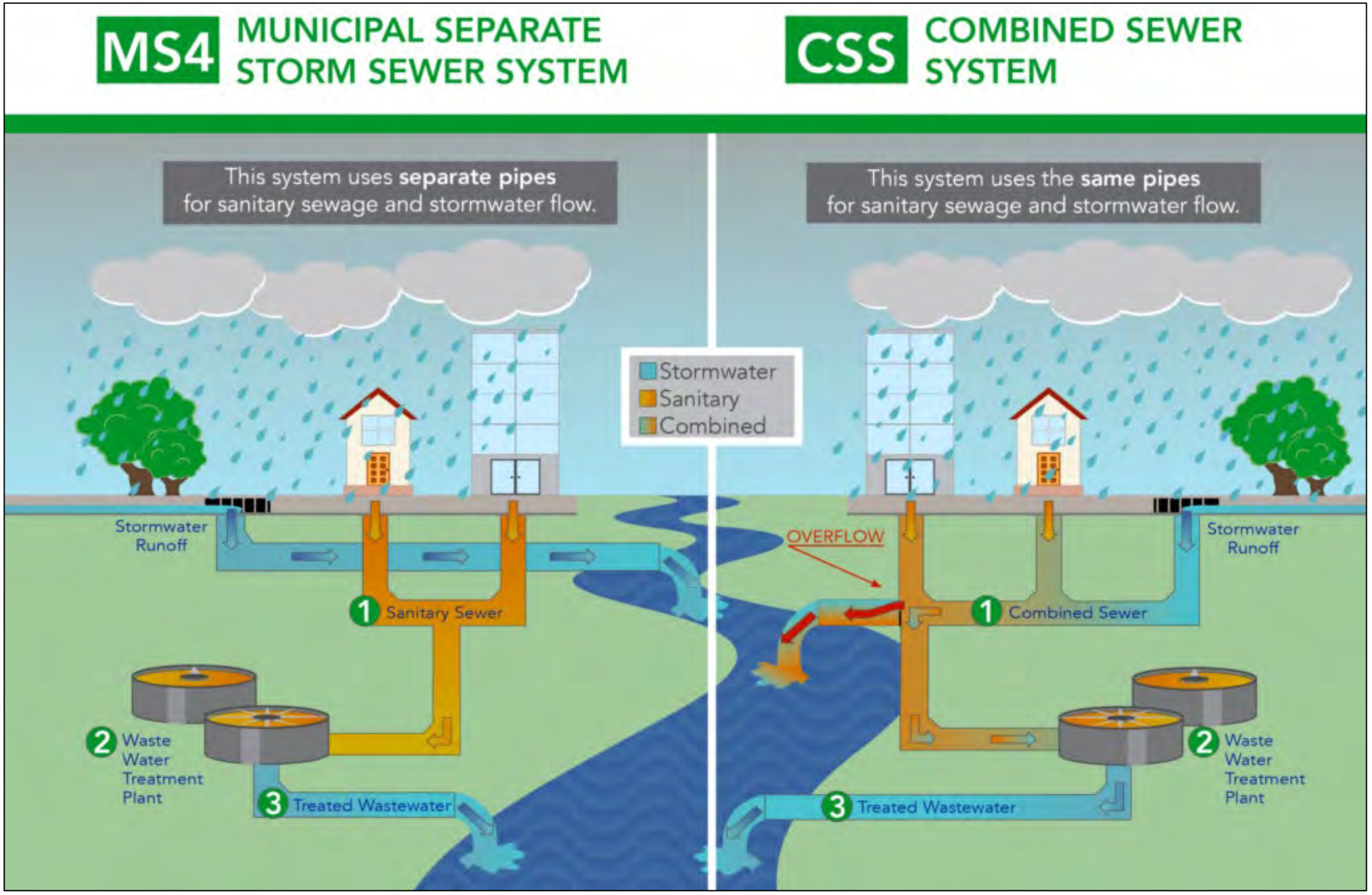


National Pollutant Discharge Elimination System (NPDES)

- The Clean Water Act prohibits anybody from discharging pollutants through a point source into a water of the United States unless they have an NPDES permit.
- Permits contain limits on what you can discharge, and monitoring & reporting requirements. Two permits apply to a construction site in an urban area.

MS4 Permit → Stormwater Systems

1200-C Series General Permit → Construction Sites


MS4
MUNICIPAL SEPARATE STORM SEWER SYSTEM
CSS
COMBINED SEWER SYSTEM
This system uses separate pipes for sanitary sewage and stormwater flow.
This system uses the same pipes for sanitary sewage and stormwater flow.
Stormwater
Sanitary
Combined
Stormwater Runoff
1 Sanitary Sewer
2 Waste Water Treatment Plant
3 Treated Wastewater
OVERFLOW
1 Combined Sewer
Stormwater Runoff
2 Waste Water Treatment Plant
3 Treated Wastewater

Municipal Separate Storm Sewer System (MS4)

- Urban area, high potential for pollution.
- Collects and conveys stormwater.
- Discharges to Waters of the State.
- Owned or operated by a public body.
- **Outfalls are considered a point source.**

Subject to regulation and permitting.

→ Your site is subject to that permit.

NPDES MS4 Permit

1990: Phase I - Medium and Large MS4s (>100,000)

1999: Phase II - Small MS4s (within Urban Area >50,000)

National Pollutant Discharge Elimination System (NPDES)

MS4 Permit – EPA Permit Issued Through Oregon DEQ

A stormwater discharge permit. RVSS holds the MS4 permit for the cities of Phoenix, Talent, and Eagle Point, as well as the urbanized, unincorporated portions of Jackson County.

- 5-Year Permit Term - ***Expired Nov 2024***
- 6 Parts of the MS4 Permit:

1. Public Education and Outreach
2. Public Involvement and Participation
3. **Illicit Discharge Detection and Elimination**
4. **Construction Site Runoff Control**
5. Post-Construction Site Runoff for New Development and Redevelopment
6. Pollution Prevention and Good Housekeeping for Municipal Operations

National Pollutant Discharge Elimination System (NPDES)

1200-C Series General Permit

Oregon DEQ Issued Permit

Required for <u>any</u> construction activity that disturbs one or more acres of land.

Including materials or equipment staging and stockpiling.

5-Year Permit Term ***- Expires Dec 2025***

The Permit DOES NOT cover in-water work!

(Work below ordinary high-water)

National Pollutant Discharge Elimination System (NPDES)

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RVSS is a 1200-C Agent

A 1200-C Agent is authorized by DEQ to administer 1200-C Series permits within our **MS4 boundary**.

National Pollutant Discharge Elimination System (NPDES)

1200-C Series General Permit

Oregon DEQ (Or Agent) Issued Permit

Issued to the Construction Site

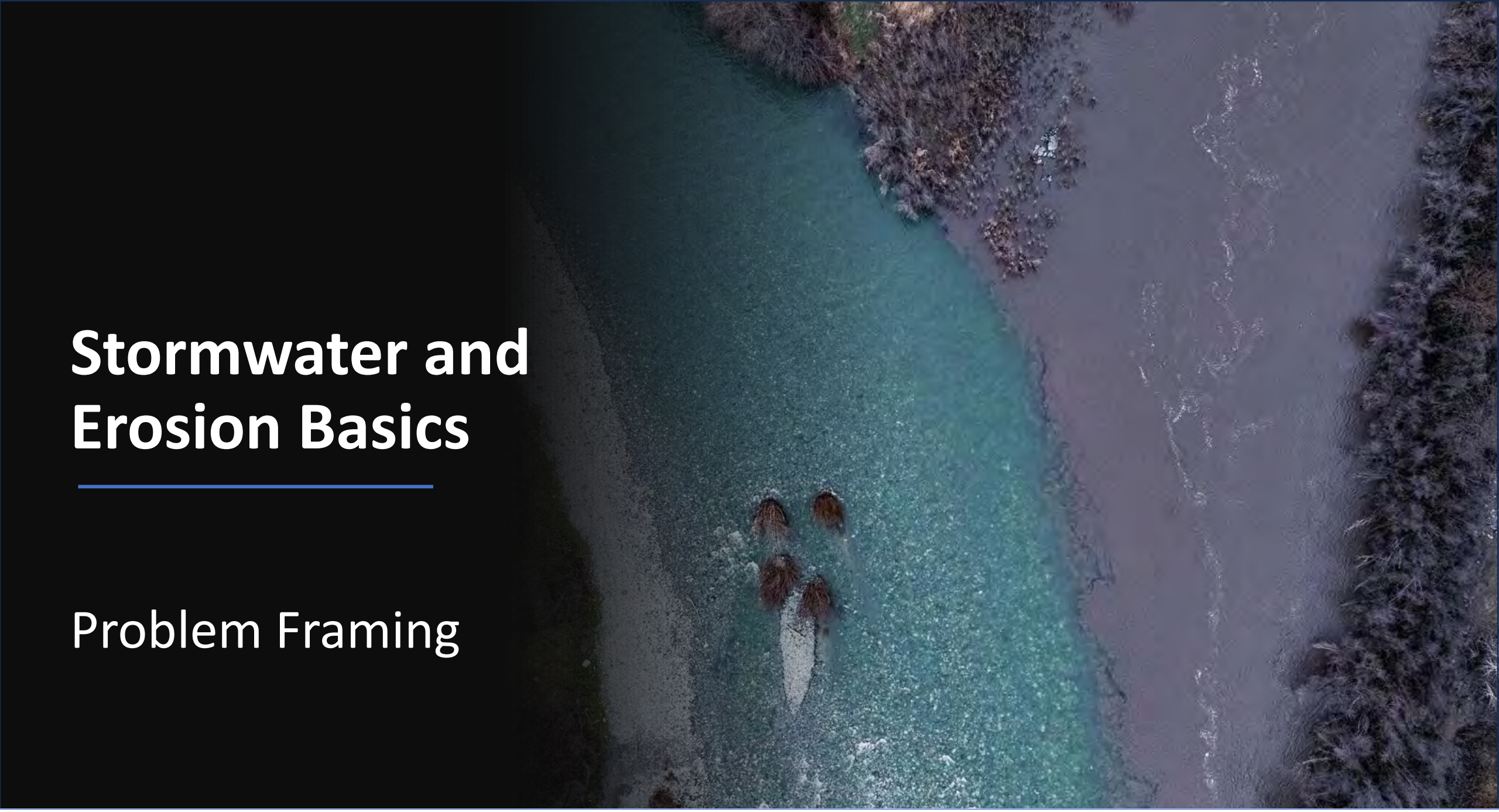
MS4 Permit

EPA Permit Issued Through Oregon DEQ

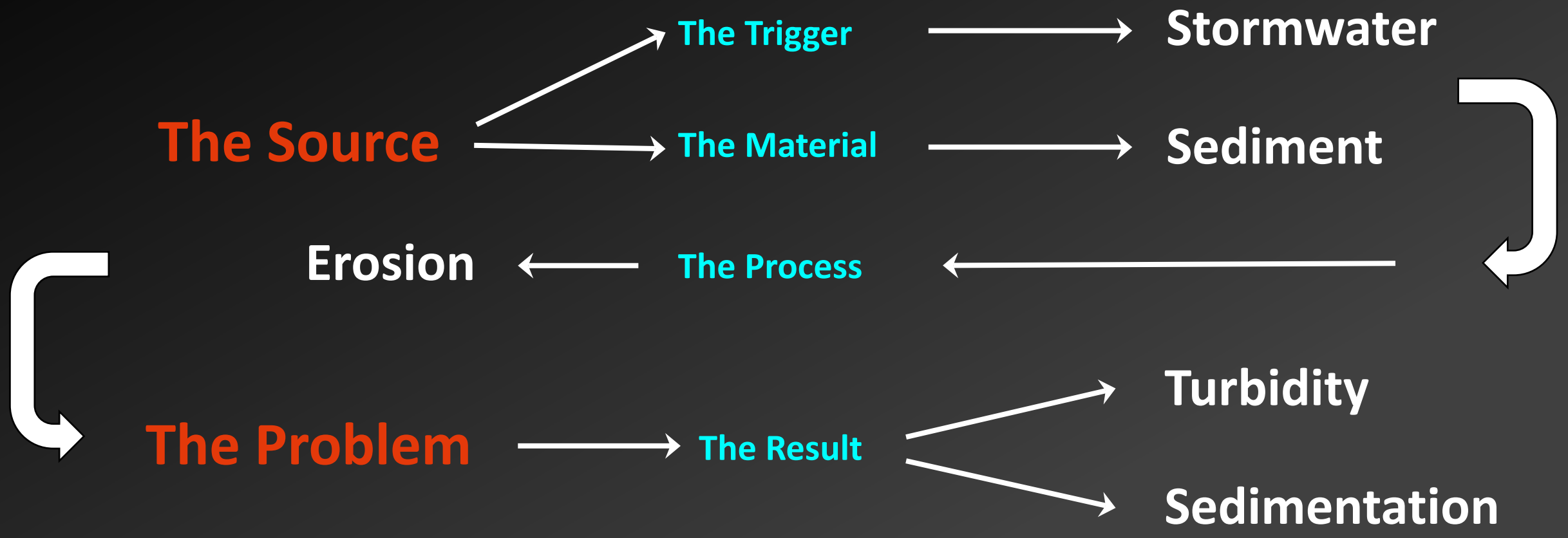
Issued to Local Jurisdiction

Stormwater and Erosion Basics

Problem Framing



What Are We Talking About?



The Source

Stormwater
Sediment
Erosion




What is Stormwater?

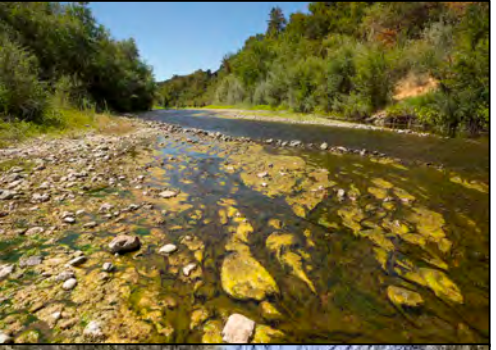
- In undeveloped areas, precipitation typically soaks into the ground.
- When buildings, parking lots, roads and other hard surfaces are added to the landscape, the ground cannot absorb the water.
- That water runoff, known as stormwater, instead flows over streets, parking lots and roofs and into a water body or storm drain.
- Stormwater runoff is worsened by human activities and can contain large amounts of pollutants from our yards, streets, pets, trash, and daily activities.

Why is Stormwater a Problem?

Stormwater Creates

Water Quality Problems
and
Water Quantity Problems

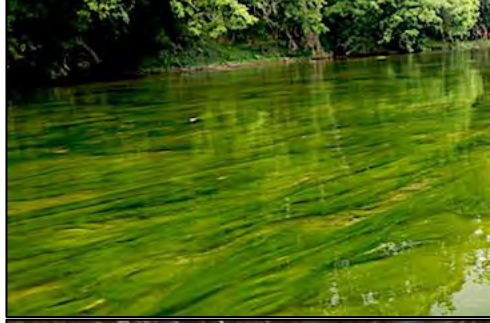
Water Quality Problems: Common Pollutants in Stormwater




Excess Nutrients:
Nitrogen
Phosphorus
Pet Waste
Motor Oil
Fertilizers
Pesticides
Gasoline
Insecticides
Chlorine
Soaps & Detergent
Sewage

SEDIMENT
Arsenic
Caffeine
Polycyclic aromatic hydrocarbons (PAHs):
Napthalene (NPH)
Phenanthrene (PHN)
Pyrene (PYR)
Benzapyrene (BaP)
Fecal Coliform
Fecal Streptococci
6PPD-quinone (6PPD-q)
Per(poly)fluoroalkyl (PFAS)

E. coli
Paint
Nicotine
Trash & Litter
Heavy Metals:
Lead
Cadmium
Chromium
Copper
Mercury
Nickel
Zinc

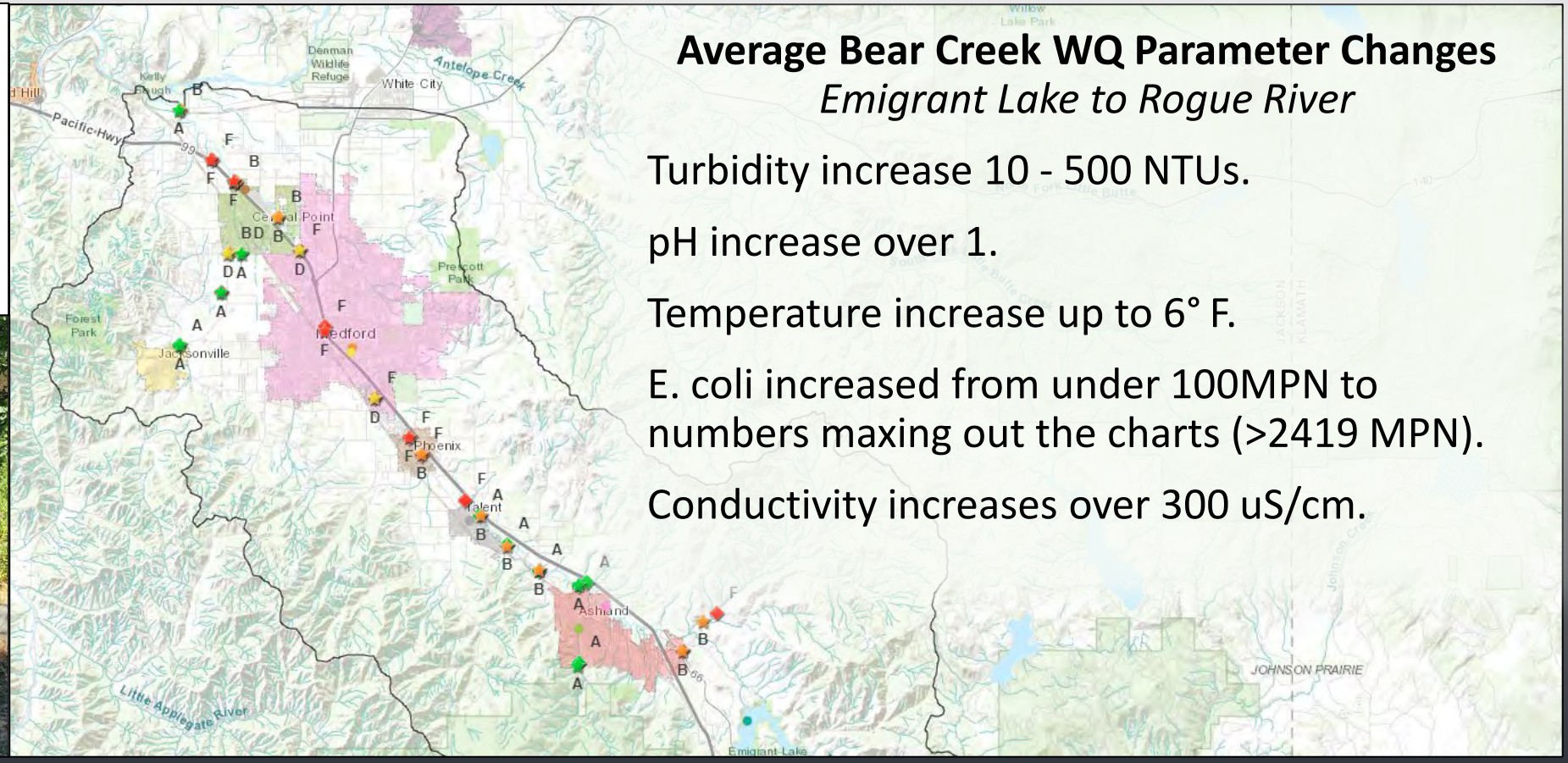



Turbidity **pH Changes** **Temp Increase O2 Decrease** **Bacteria** **Toxins**

Bear Creek Observations

Turbidity **pH Changes** **Temp Increase O2 Decrease** **Bacteria** **Toxins**

RVSS Parameter Action Levels:
Turbidity: 15 NTU
pH: 6.5-8.5
Temp & DO: N/A
E. coli: 406 MPN
Conductivity: >450 uS/cm



Average Bear Creek WQ Parameter Changes
Emigrant Lake to Rogue River

Turbidity increase 10 - 500 NTUs.

pH increase over 1.

Temperature increase up to 6° F.

E. coli increased from under 100MPN to numbers maxing out the charts (>2419 MPN).

Conductivity increases over 300 uS/cm.

What is the most common pollutant in rivers, streams, lakes and reservoirs?

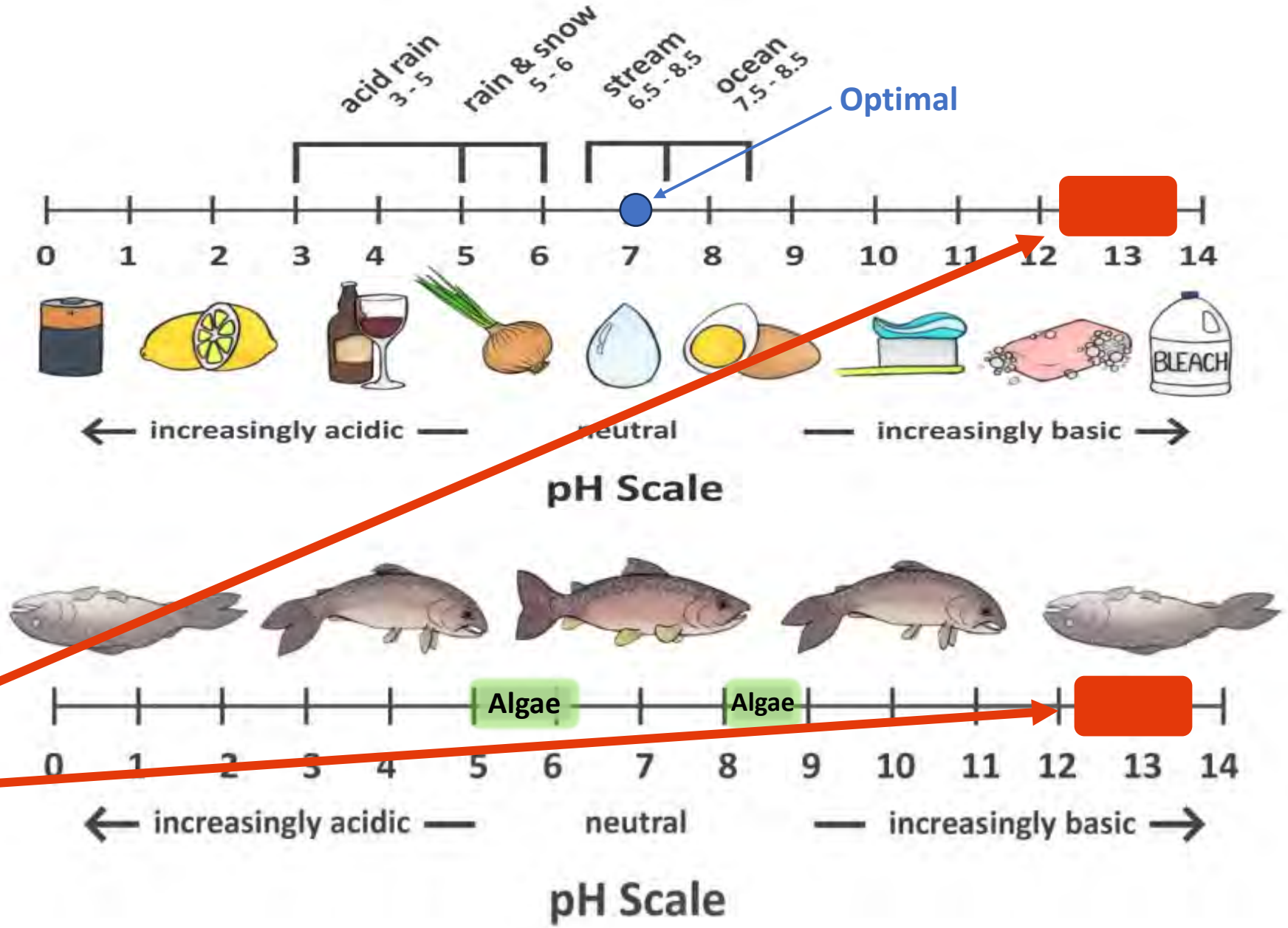
SEDIMENT

Turbidity & Sedimentation

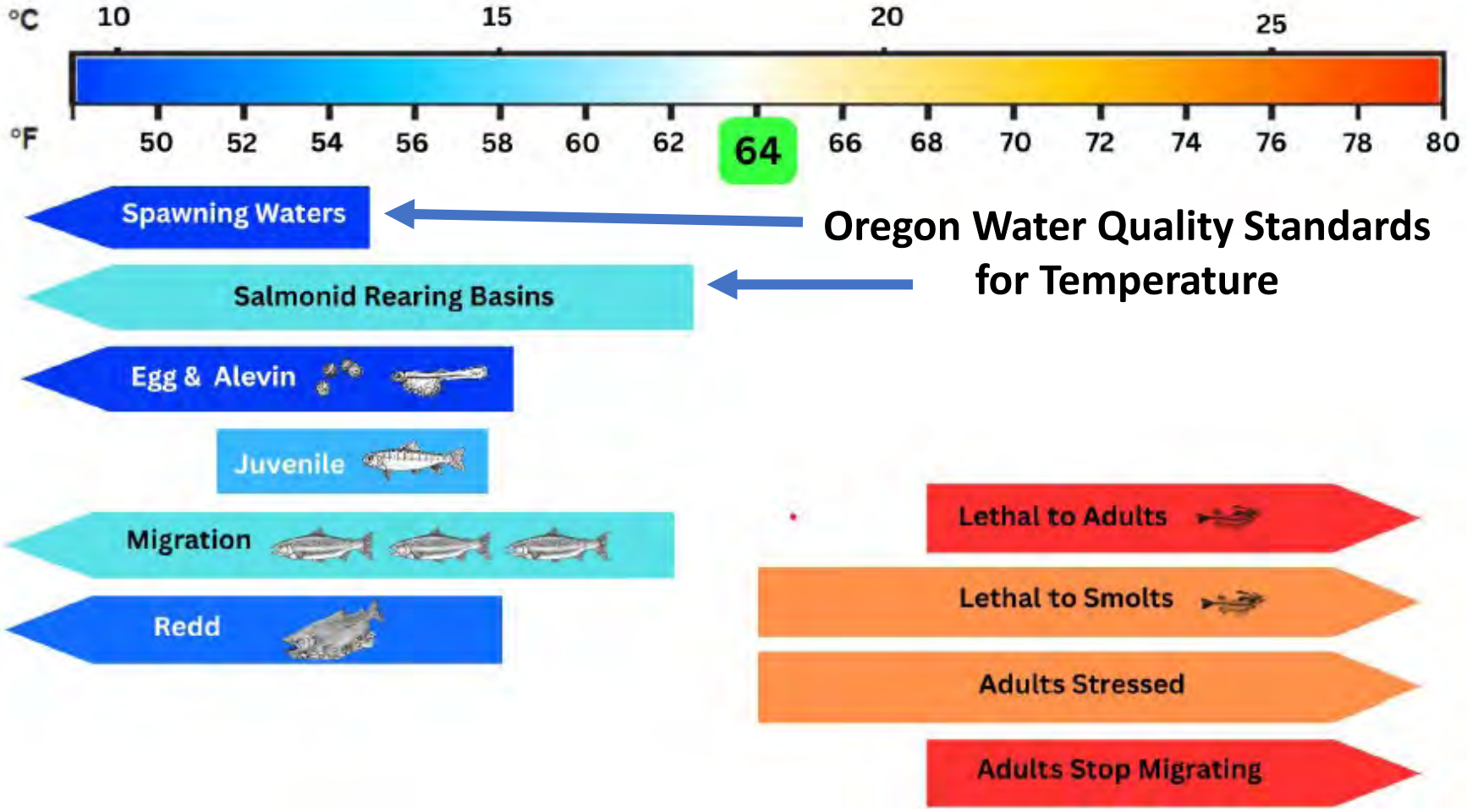
pH

- The pH scale measures how acidic or alkaline a substance is.
- Ranges from 0 to 14.

What is the pH of concrete?



Optimum Temperature Limits for Salmon

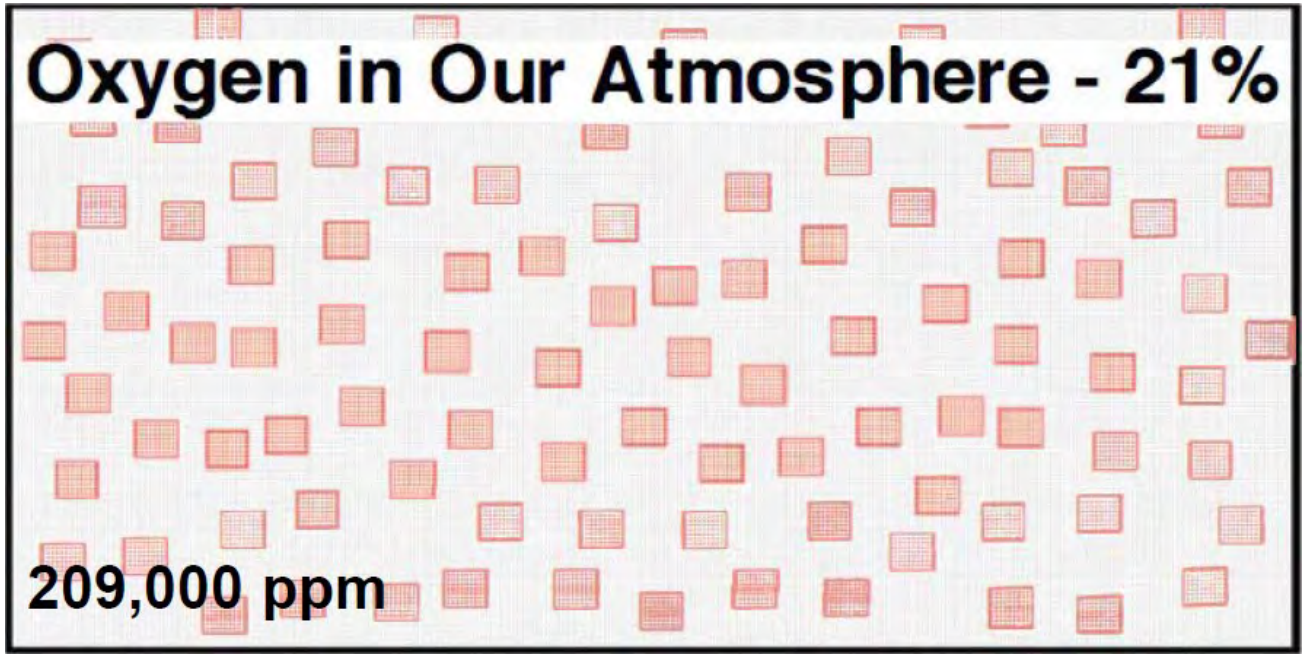


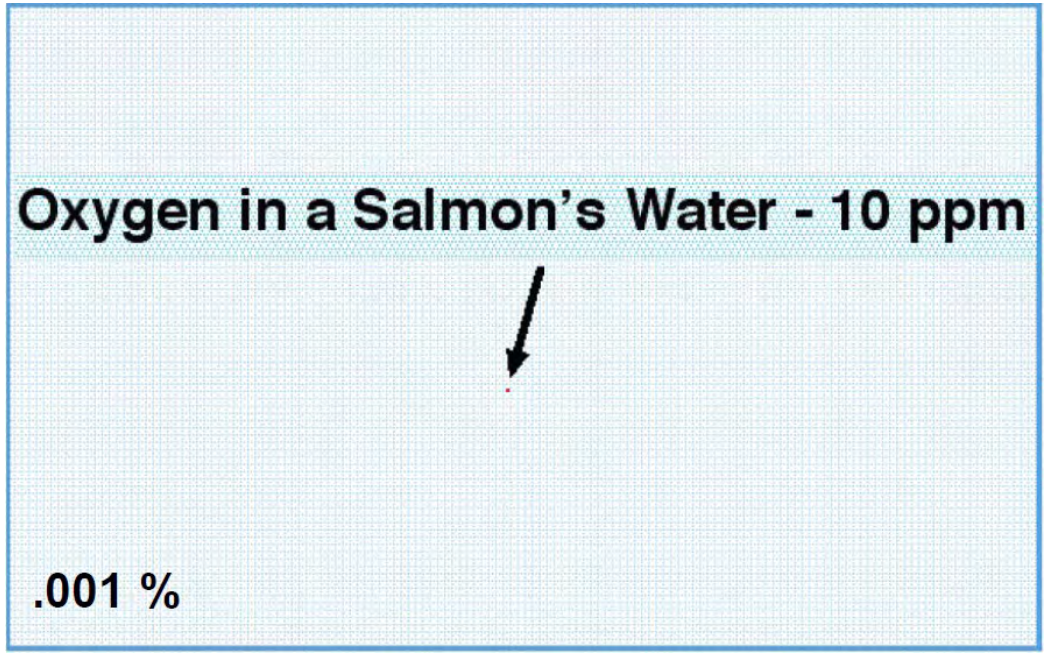
Oregon Water Quality Standards for Temperature

Dissolved Oxygen

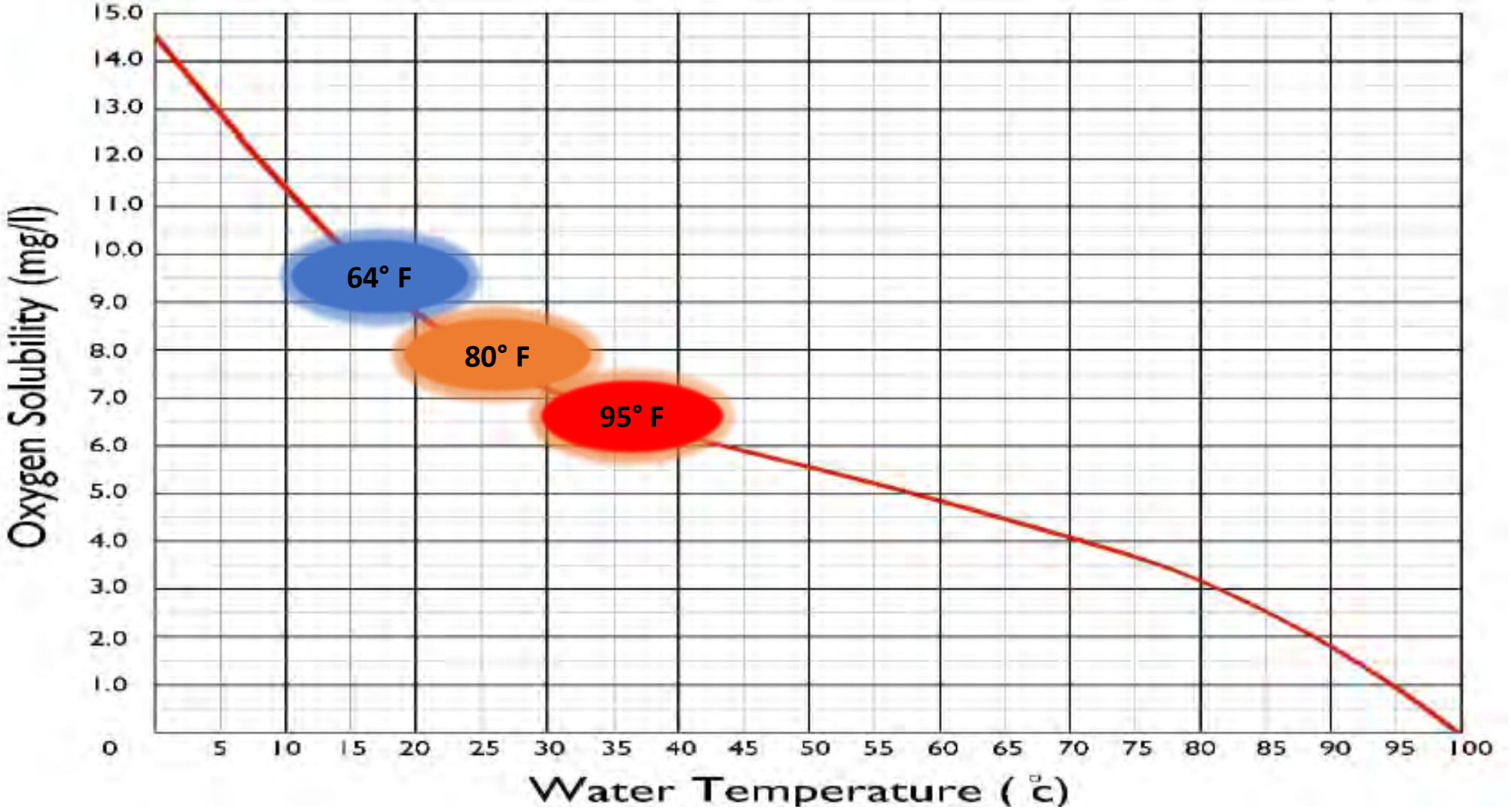
Dissolved oxygen is the amount of oxygen present in the water.
DO is often cited as the most important water quality metric.

How much oxygen is in the air you breathe?

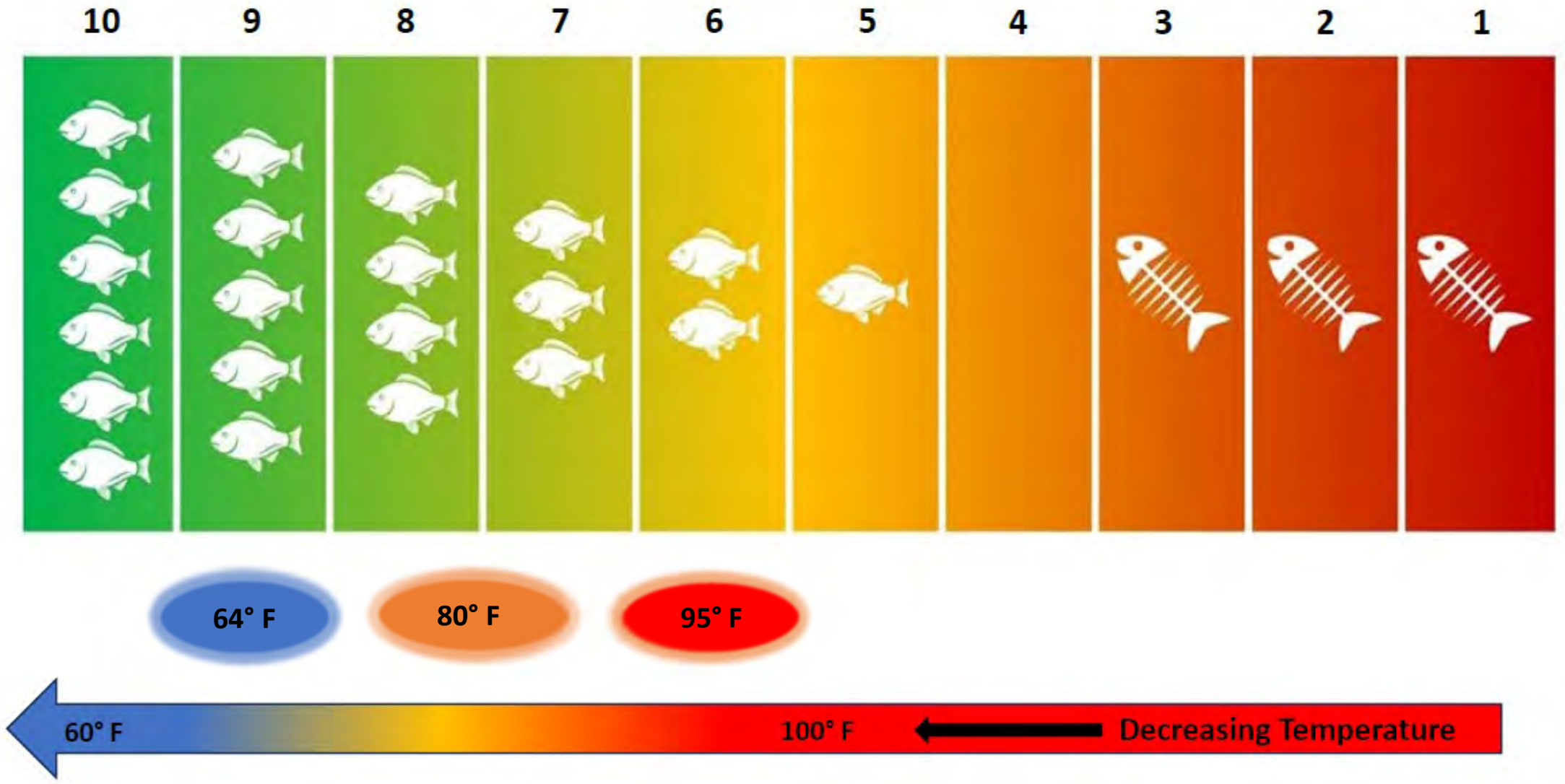




What is the relationship between dissolved oxygen levels and temperature?

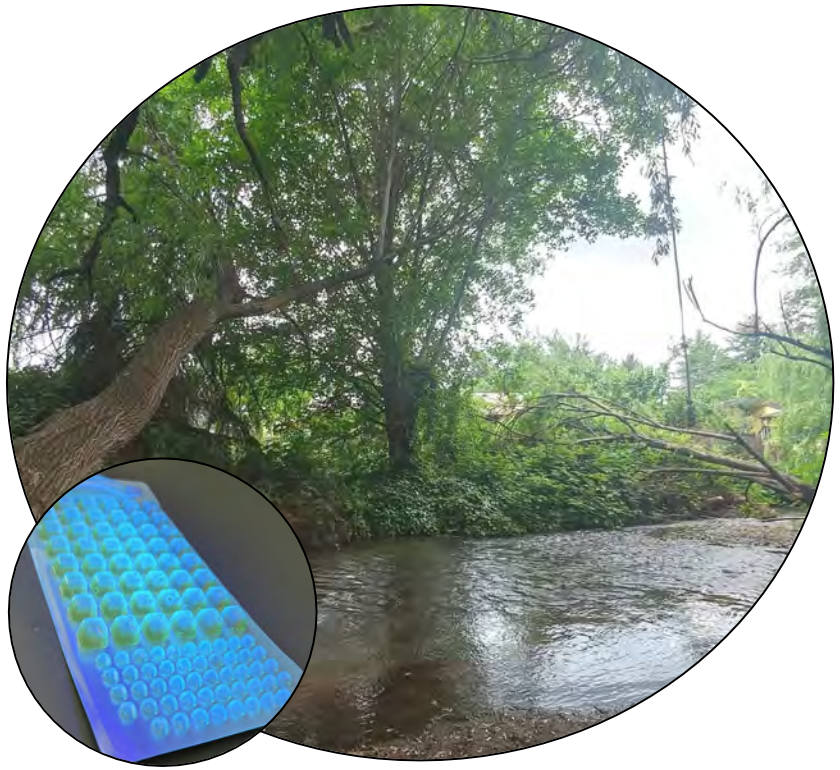


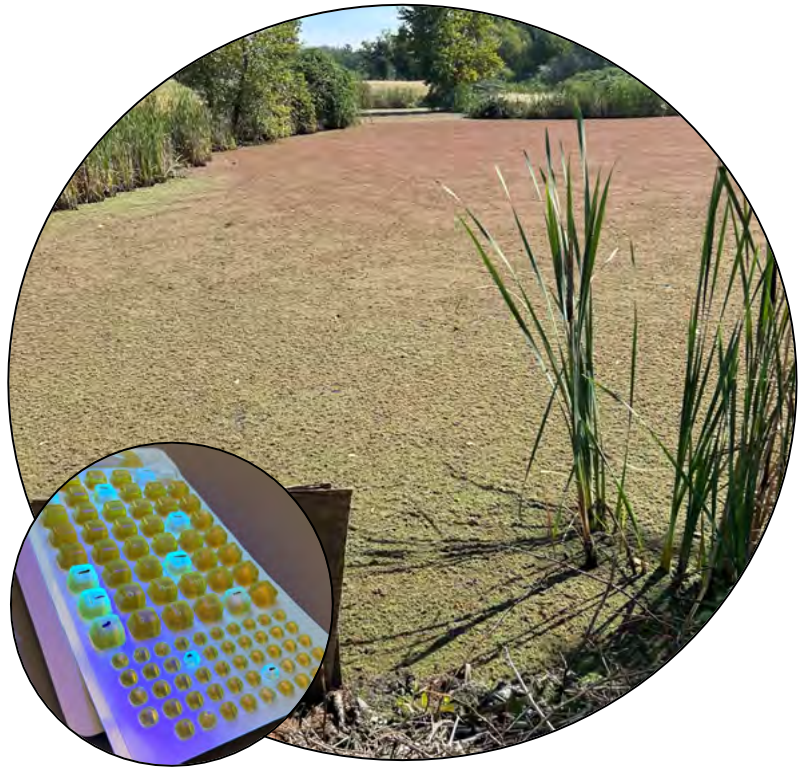
Dissolved Oxygen (ppm)



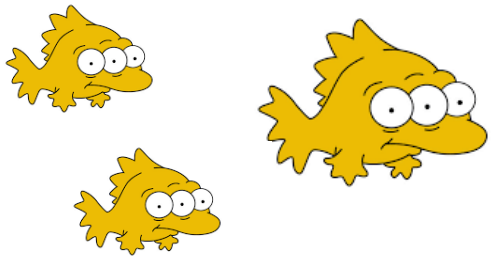
Bacteria

Do you know where it's safe to swim?



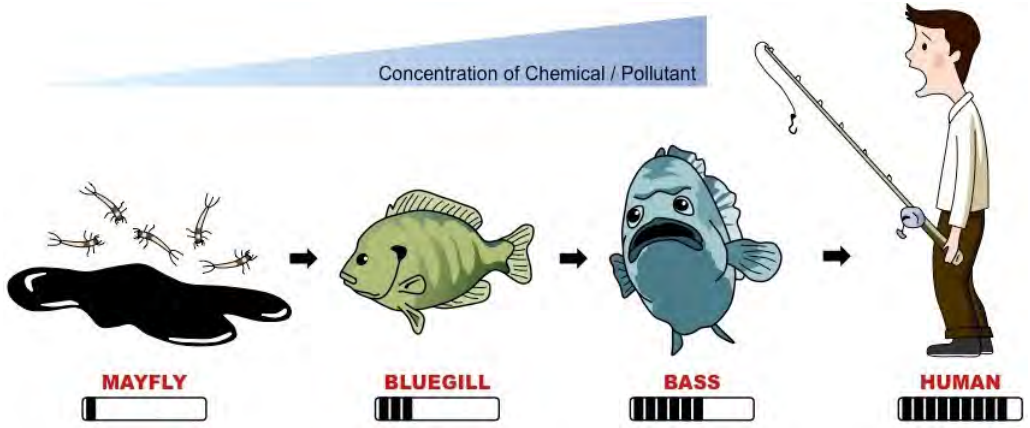


Toxins



- Broadly speaking, toxins are substances that negatively affect health. Prolonged exposure has increasingly negative effects, including death.

- Lethal dose is the least amount of a substance that can cause death.
  - Acute exposure
  - Bioaccumulation (Accumulation over time)
  - Biomagnification (Predatory accumulation)



FEATURED

Fish kills in Medford, Grants Pass prompt warning about pollutants

Public urged to keep contaminants such as oil, fuel, even pool and hot tub water out of streams and storm drains

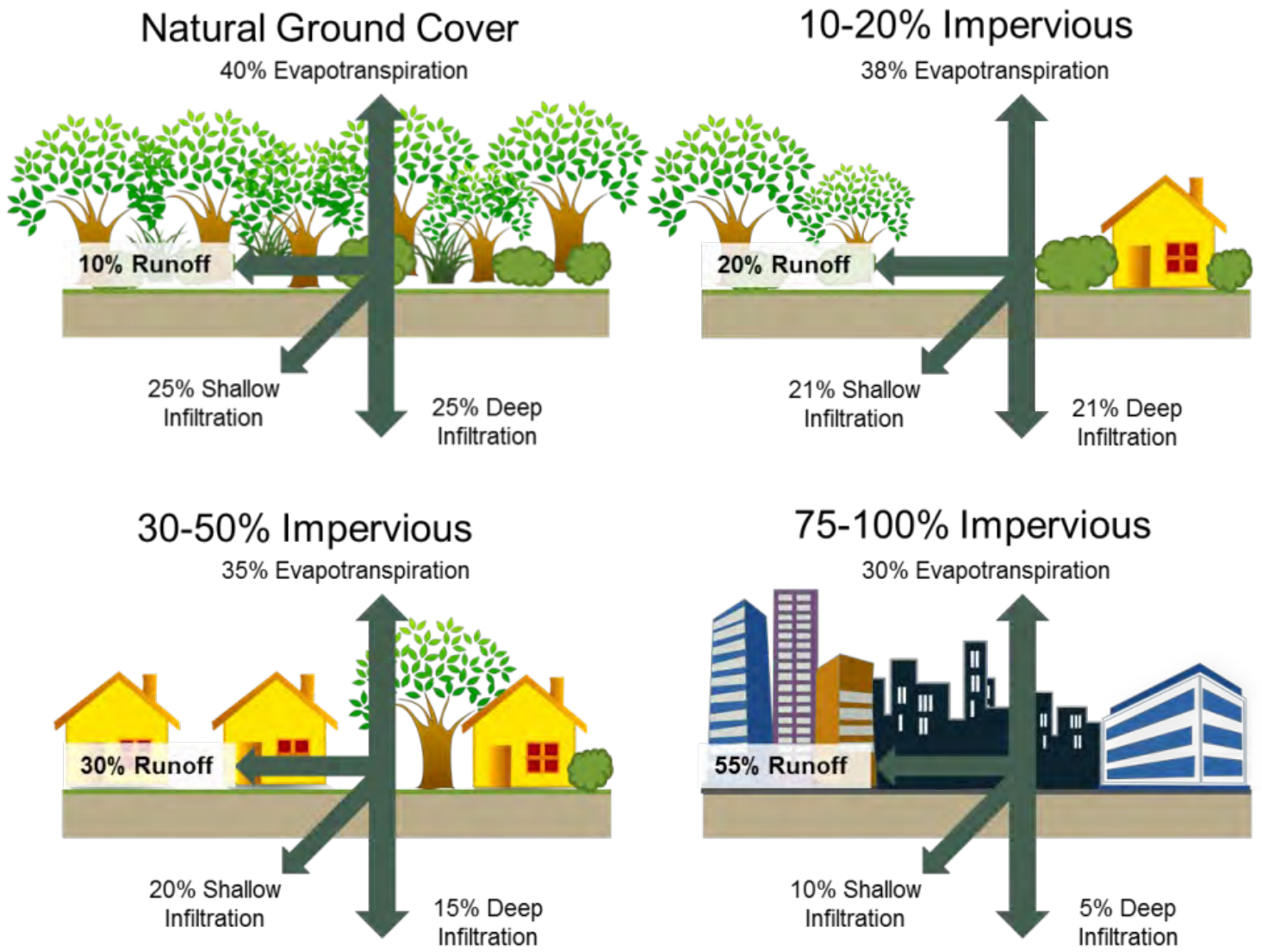
By SHAUN HALL Rogue Valley Times Apr 29, 2024 Updated 41 mins ago 0

Lazy Creek in Medford on April 19, 2024, the day after dozens of dead juvenile steelhead found in the waterway. In Grants Pass a few days later, about 200 juvenile steelhead were found dead in the Skunk Creek area. The incidents prompted warnings that people should use care to avoid allowing pollutants to flow into streams and storm drains.

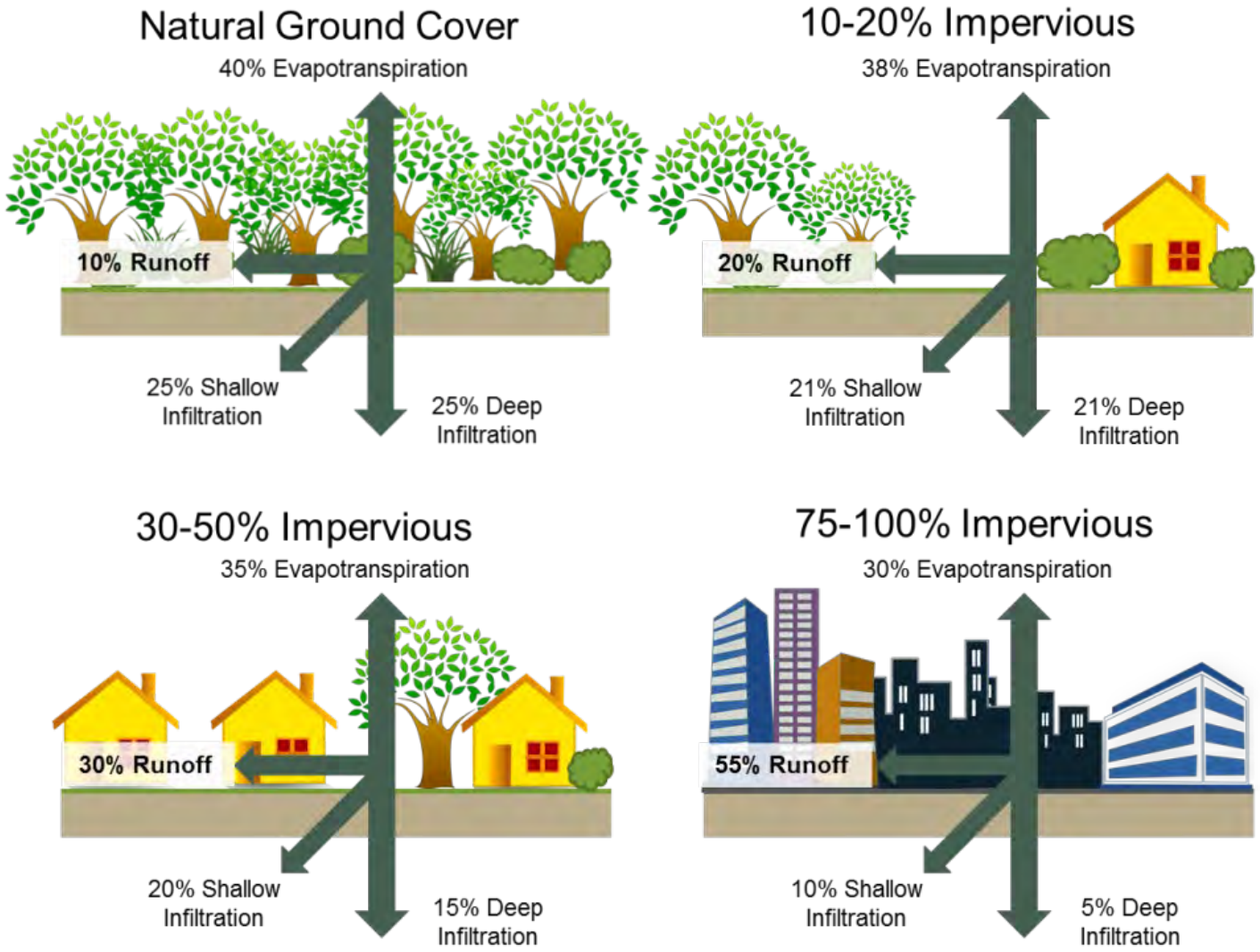
Stormwater Creates

Water Quality Problems
and
Water Quantity Problems

Water Quantity Problems: Too Much, Too Fast



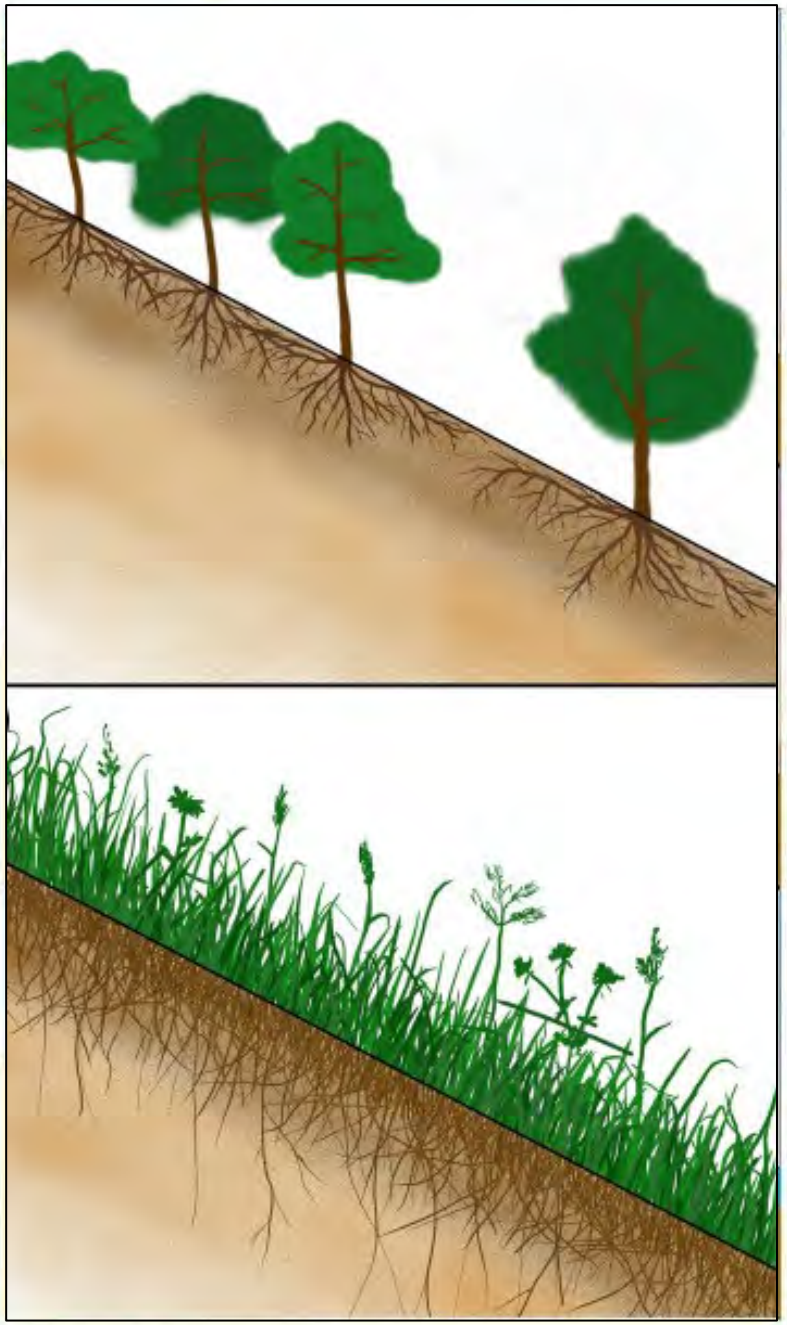
Water Quantity Problems: So What?



Groundwater Depletion

Flooding

Erosion



What causes erosion?

Vegetation Removal + Rain + Grade

What prevents erosion? And is also our easiest, best, and first option for erosion and sediment control?

Vegetation

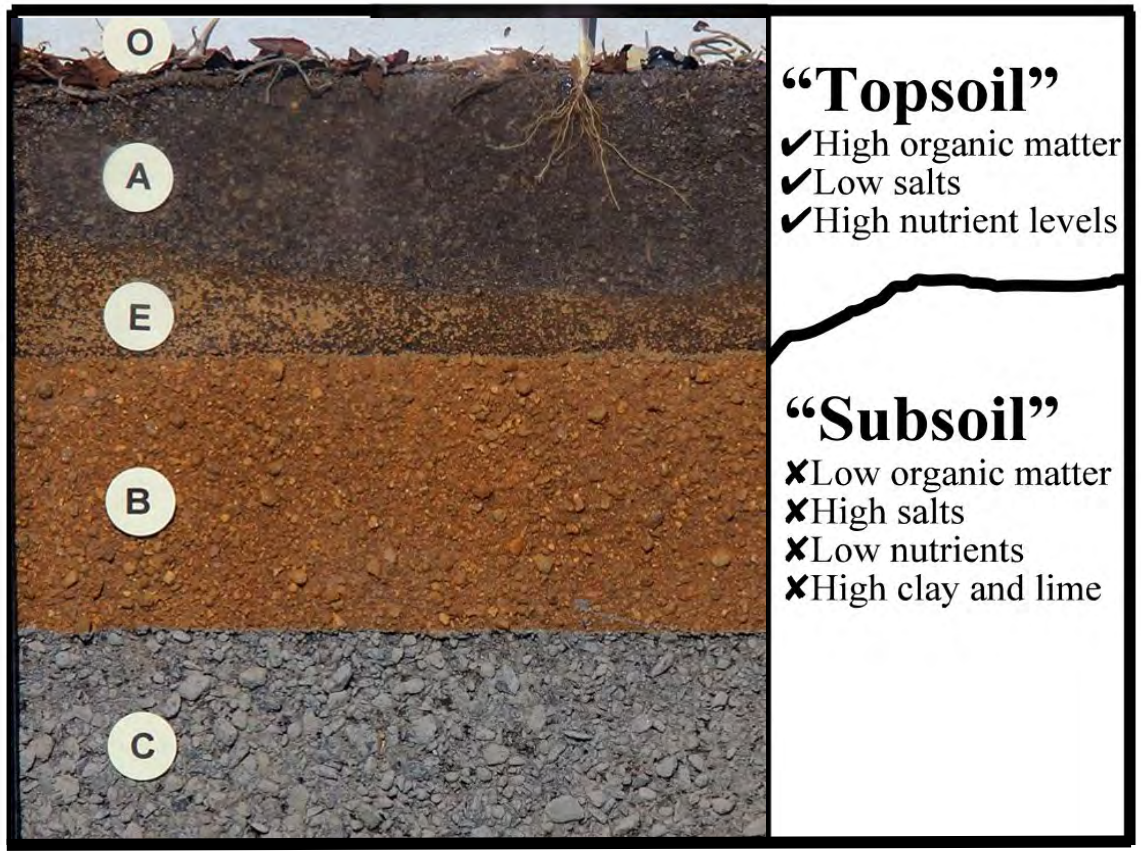
What is eroding away?

Topsoil

How long does it take to naturally produce 1 inch of topsoil?

500-1000 years!

Soil erosion has always occurred naturally, but during the 19th century, the rate of topsoil loss from erosion due to human activity surpassed the rate of soil formation.



Factors Influencing Erosion Potential

- Soil
- Climate
- Topography
- Vegetation

Soil Types

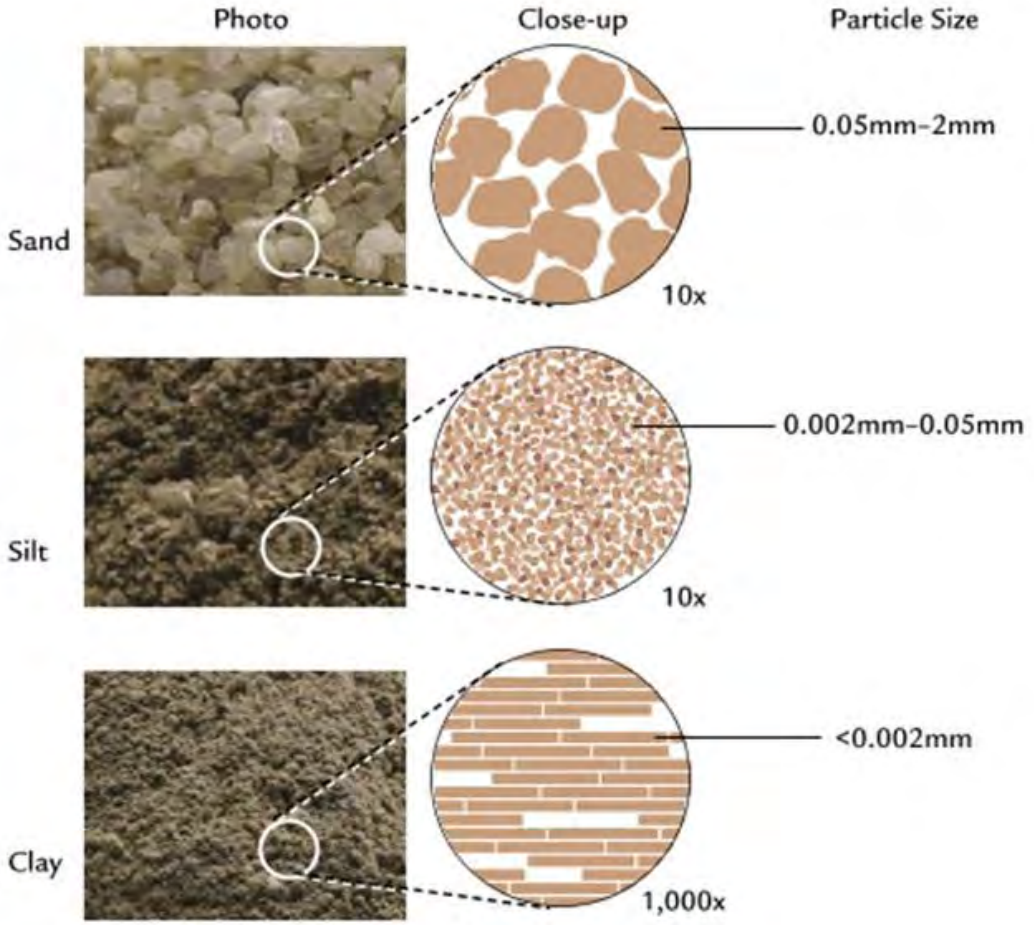
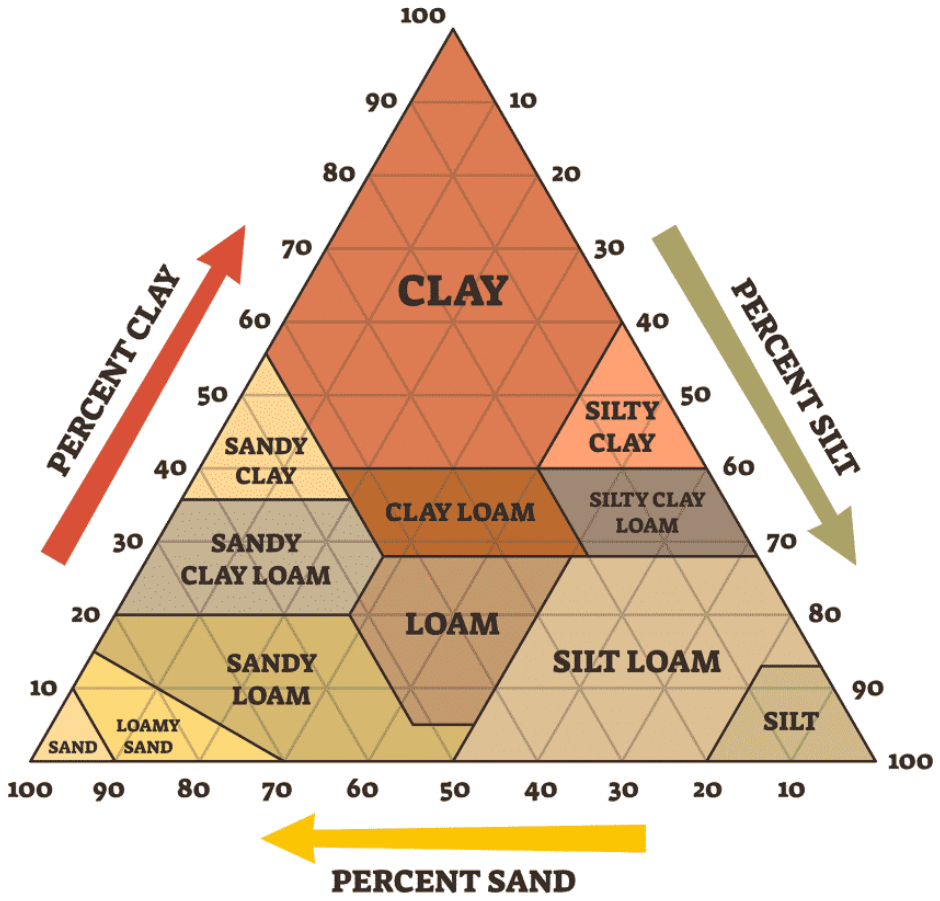
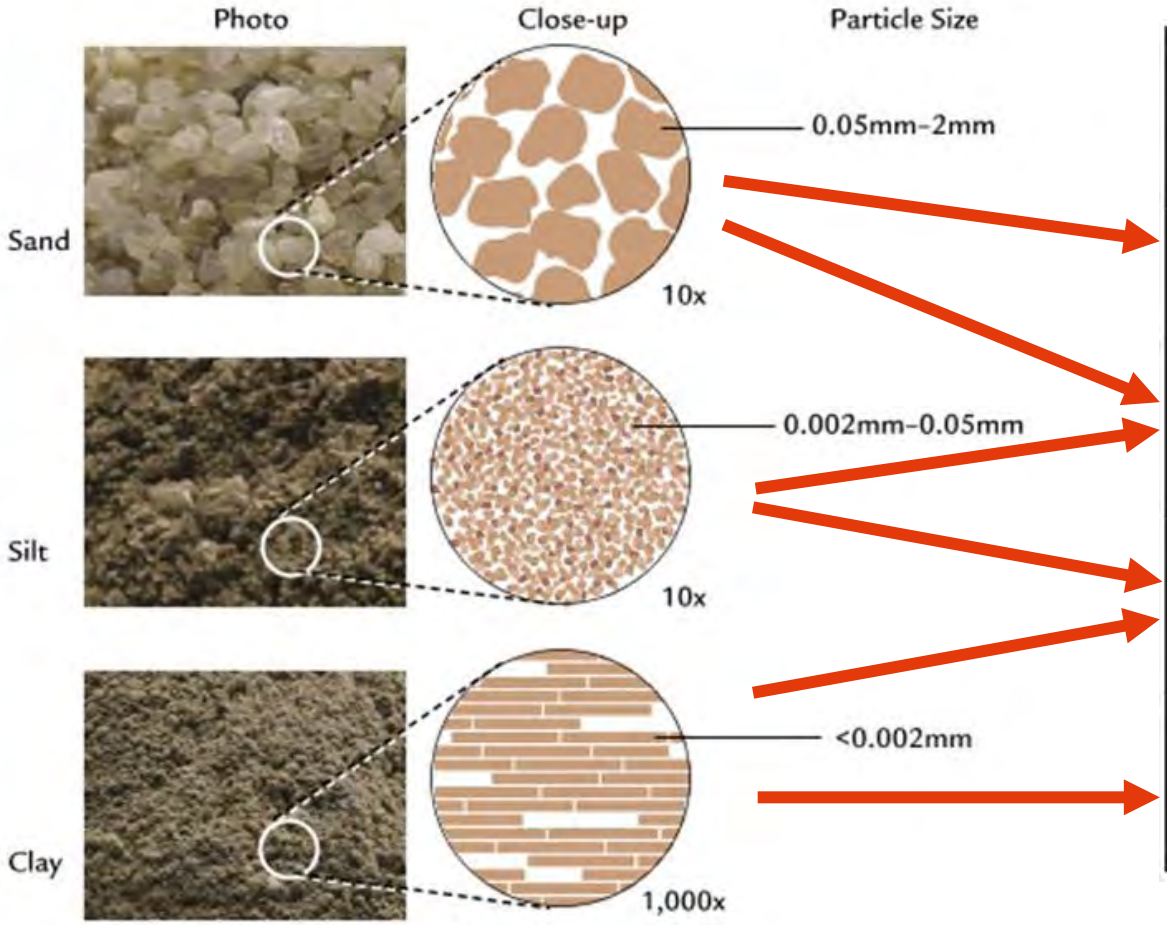


Photo
Close-up
Particle Size
Sand
0.05mm–2mm
10x
Silt
0.002mm–0.05mm
10x
Clay
<0.002mm
1,000x


CLAY
SILTY CLAY
SANDY CLAY
CLAY LOAM
SILTY CLAY LOAM
SANDY CLAY LOAM
LOAM
SILT LOAM
SANDY LOAM
SILT
LOAMY SAND
SAND
PERCENT CLAY
PERCENT SILT
PERCENT SAND
100
90
80
70
60
50
40
30
20
10

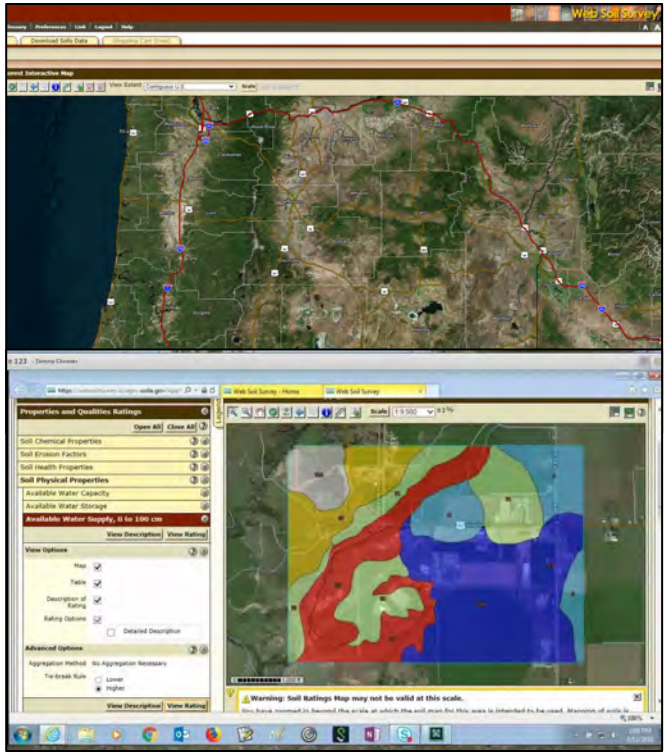
Soil Types



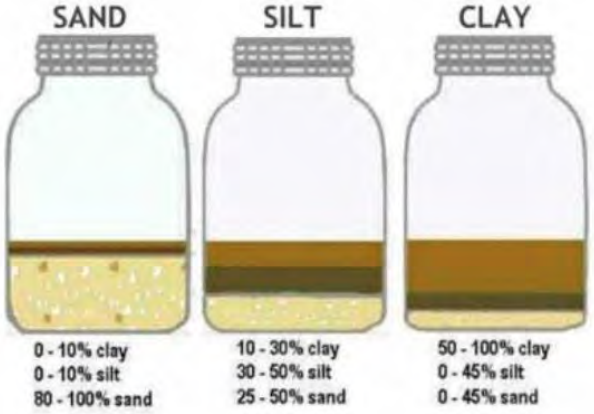
Soil Group	Description	Final Infiltration Rate (mm/h)
A	**Lowest Runoff Potential.** Includes deep sands with very little silt and clay, also deep, rapidly permeable loess.	8 - 12
B	**Moderately Low Runoff Potential.** Mostly sandy soils less deep than A, loess less deep or less aggregated than A, but the group as a whole has above-average infiltration after thorough wetting.	4 - 8
C	**Moderately High Runoff Potential.** Comprises shallow soils and soils containing considerable clay and colloids, though less than those of group D. The group has below-average infiltration after pre-saturation.	1 - 4
D	**Highest Runoff Potential.** Includes mostly clays of high swelling percent, but the group also includes some shallow soils with nearly impermeable sub-horizons near the surface.	0 - 1

What Type of Soil Is On Your Site?

USDA Web Soil Survey



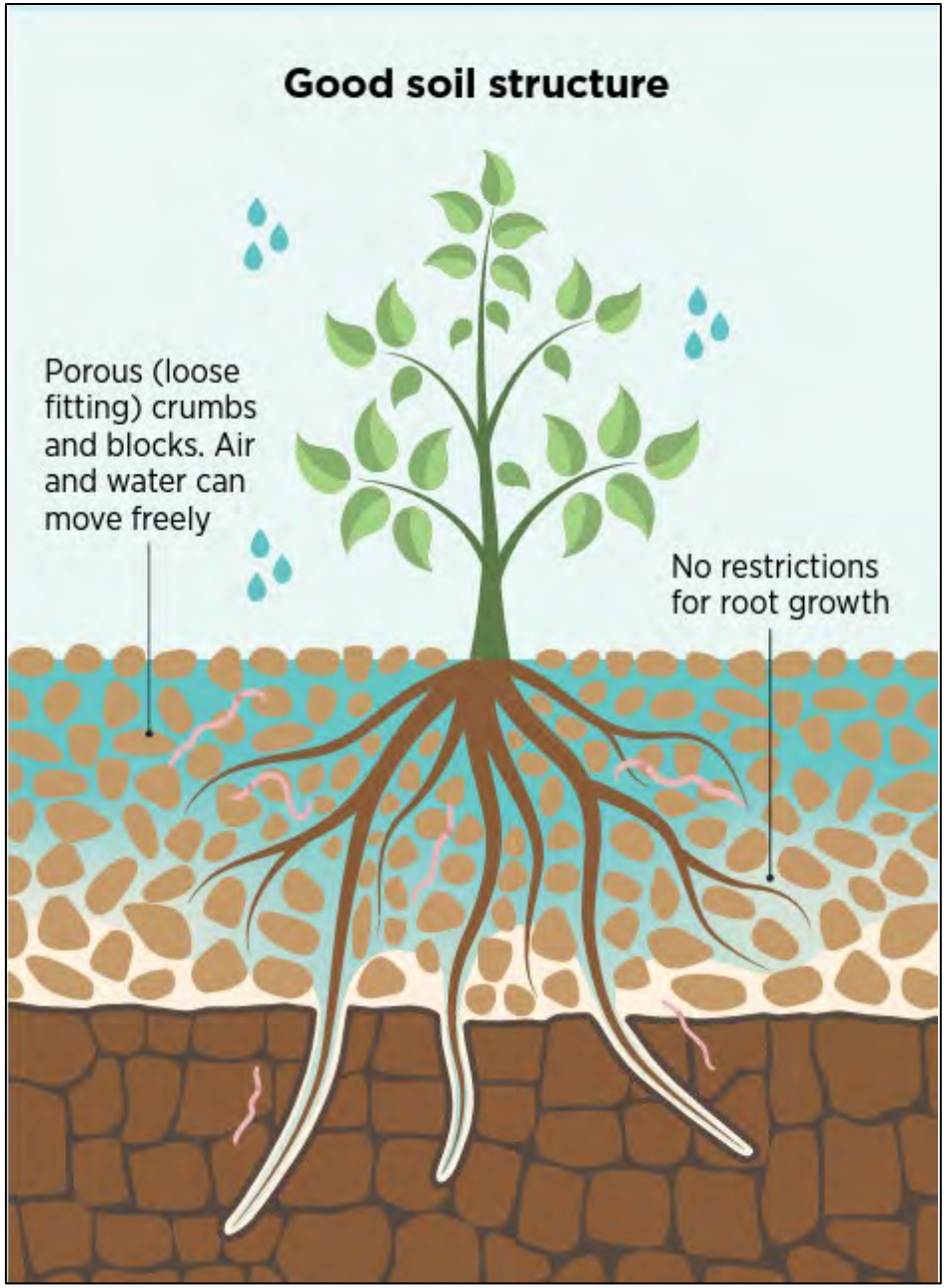
Jar Testing

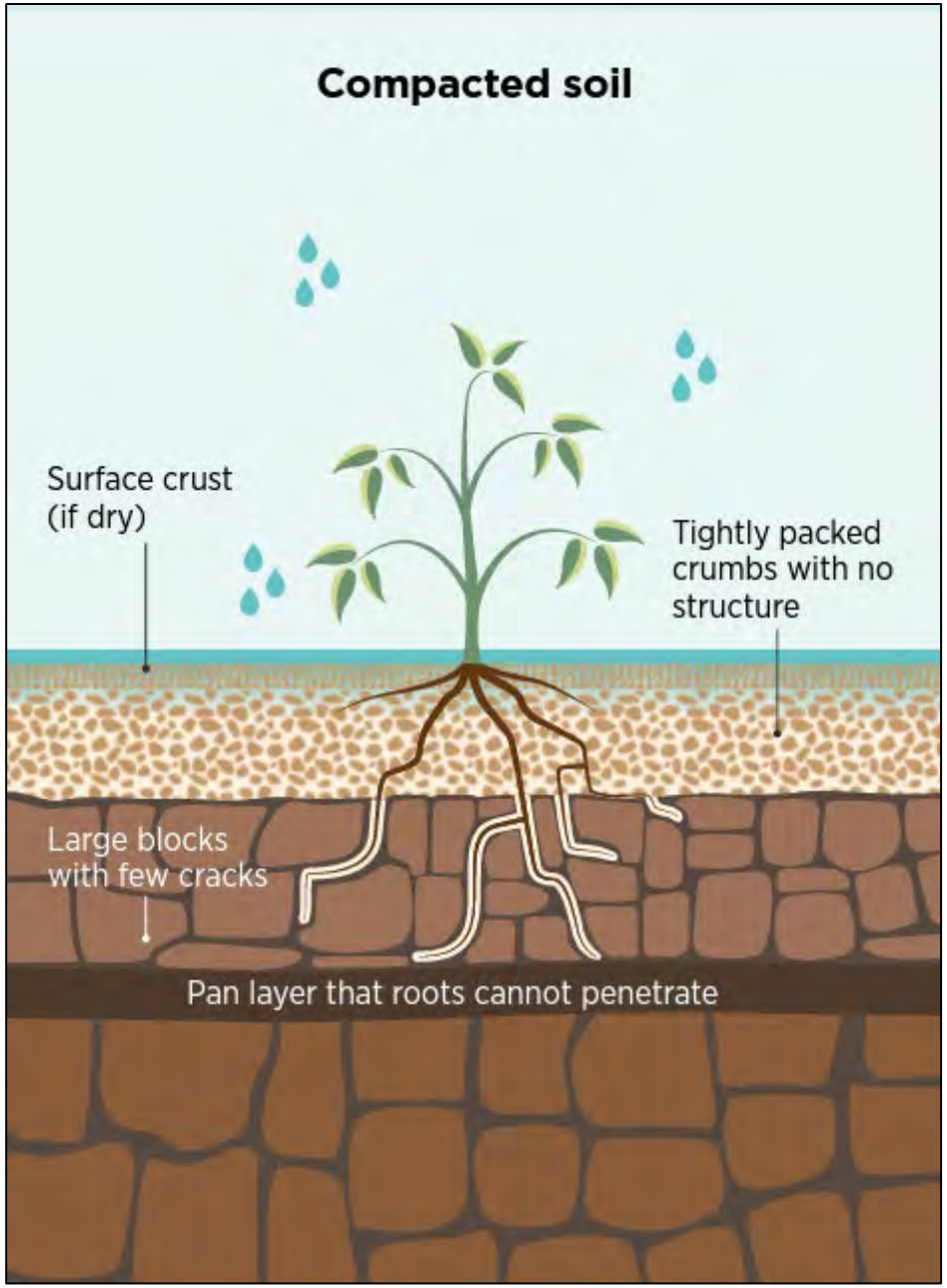


Ribbon Testing

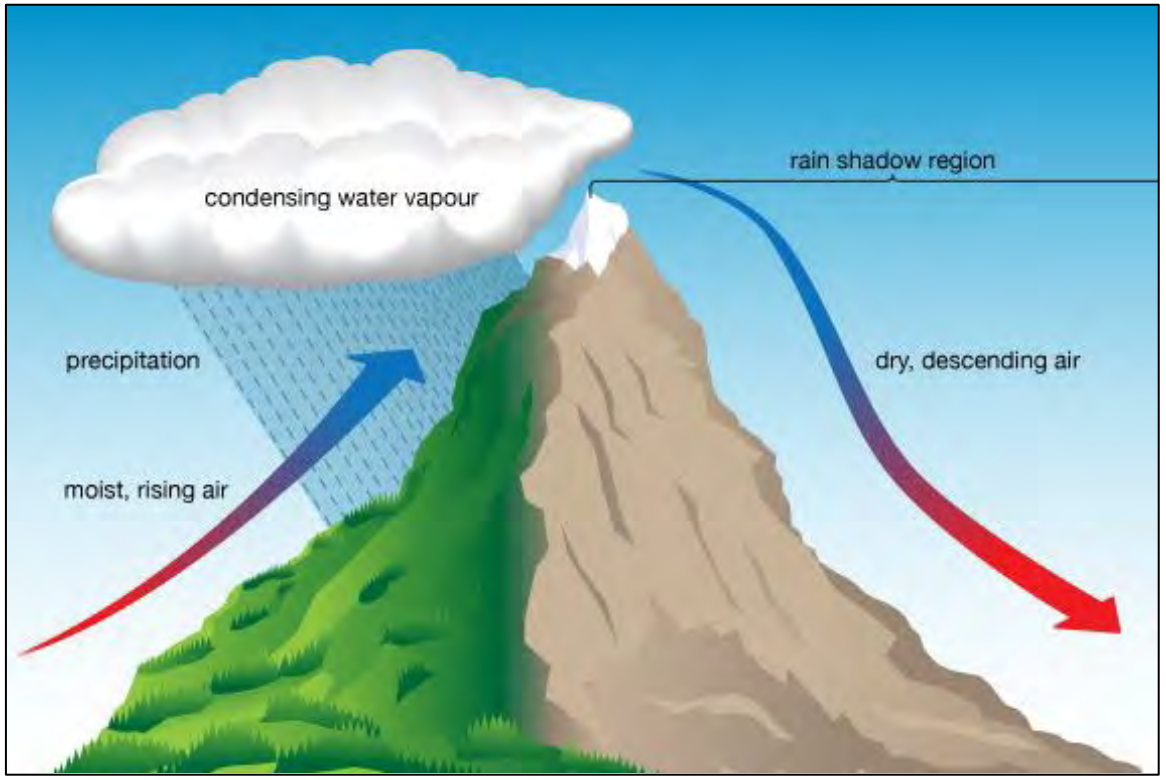
Geotechnical Testing

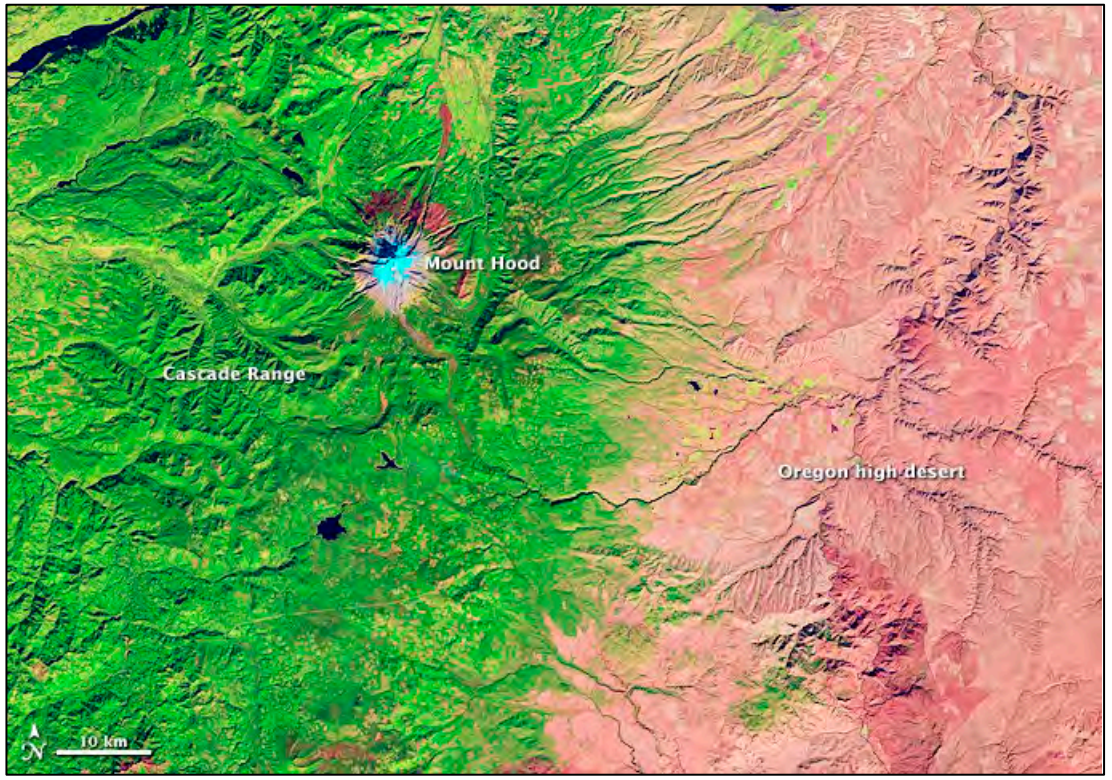
Soil Compaction





Oregon Climate

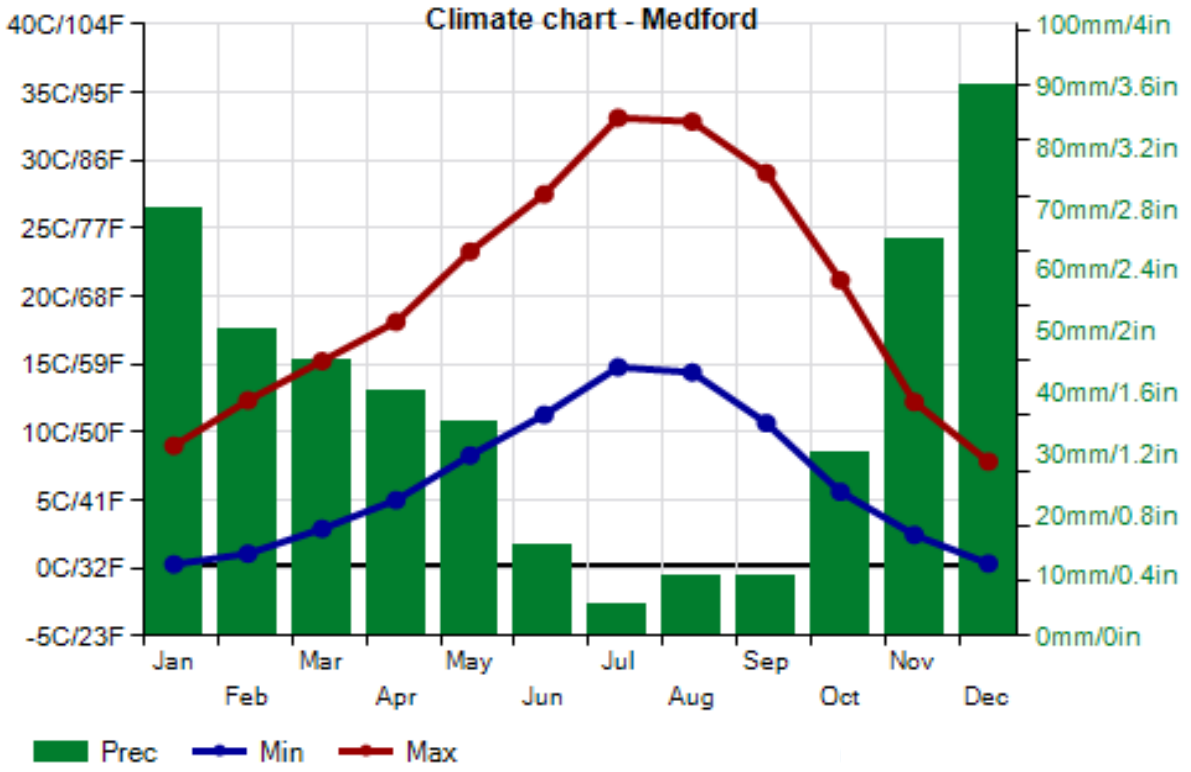




Precipitation, temperature, wind, and humidity vary greatly across the state.

Know and prepare for the weather in your area!

Project Timing



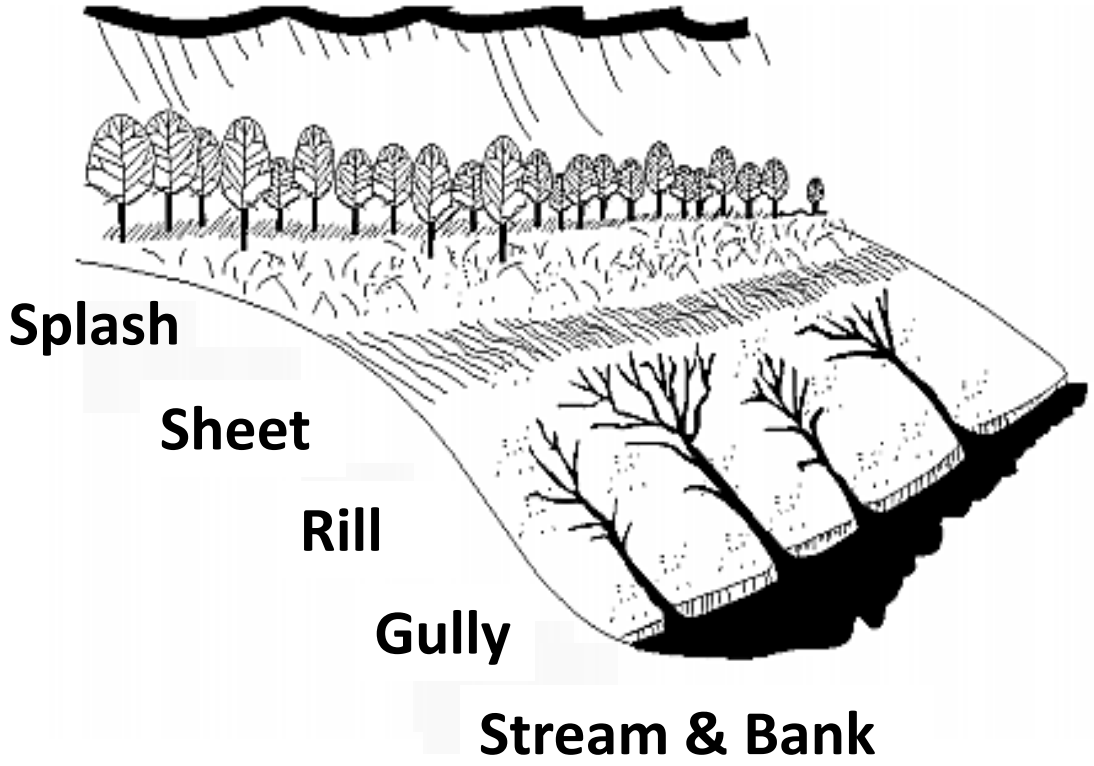
October – May: Wet Season in the Rogue Valley

Topography (Slope)

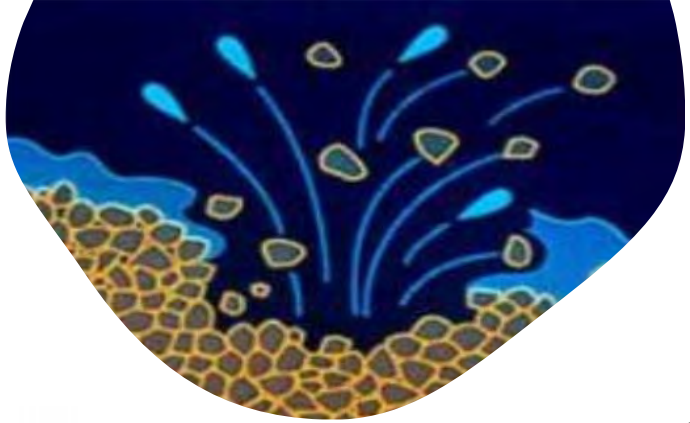
Vegetation - #1 Best Management Practice (BMP)

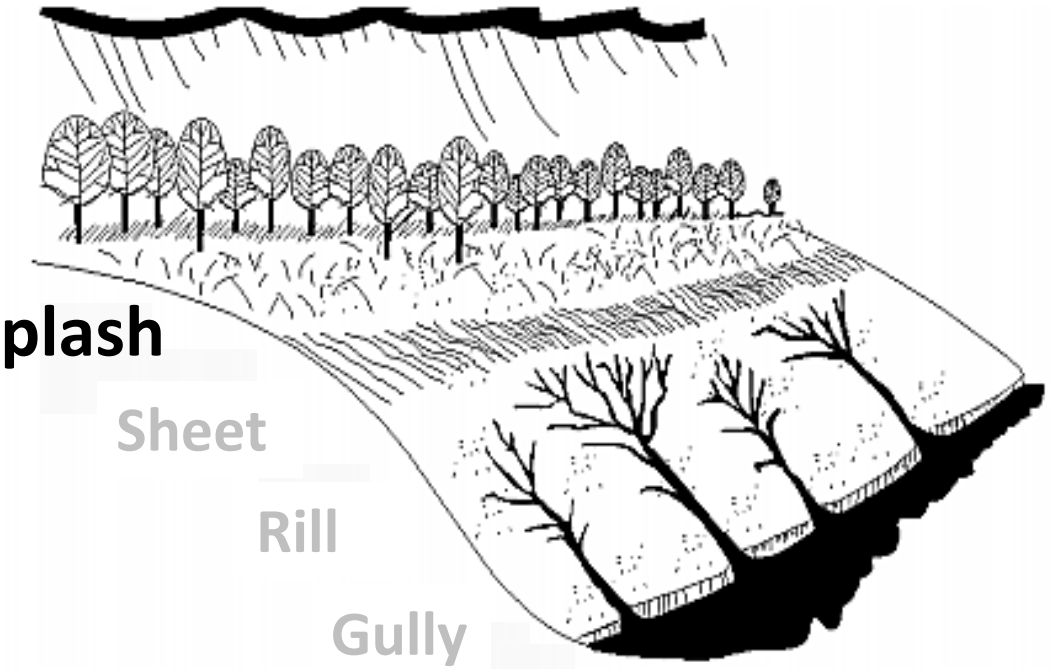
- Prevents Erosion
- Maintains Healthy Soil
- Absorbs Raindrop Energy
- Reduces Surface Sealing
- Reduces Runoff
- Increases Soil Porosity
- Filters and Traps Sediment

Types of Erosion



Types of Erosion





Splash

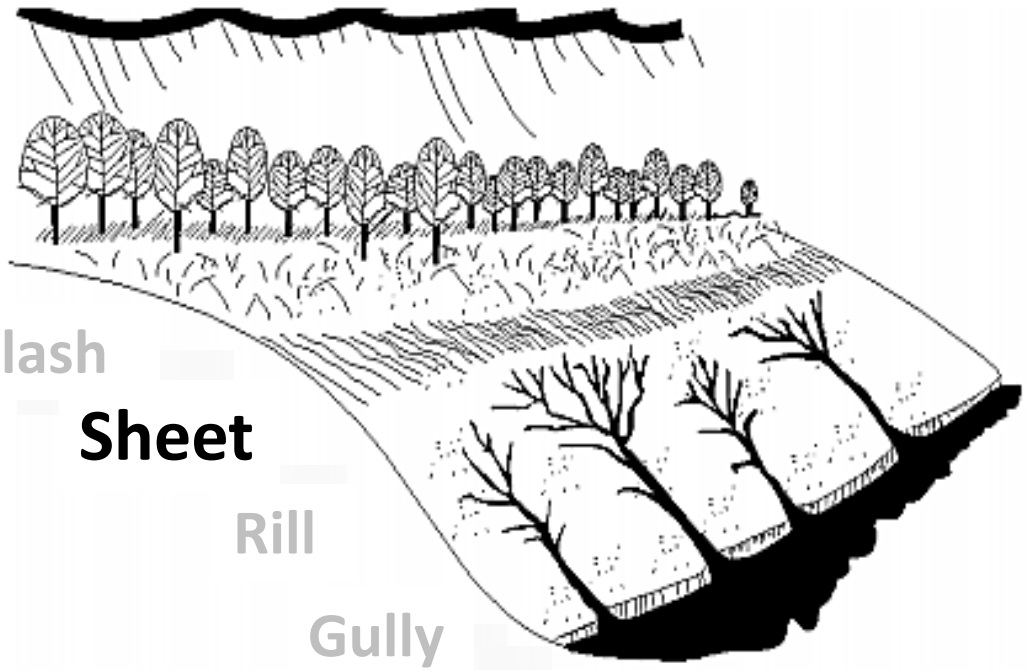
Sheet

Rill

Gully

Stream & Bank

Types of Erosion



Splash

Sheet

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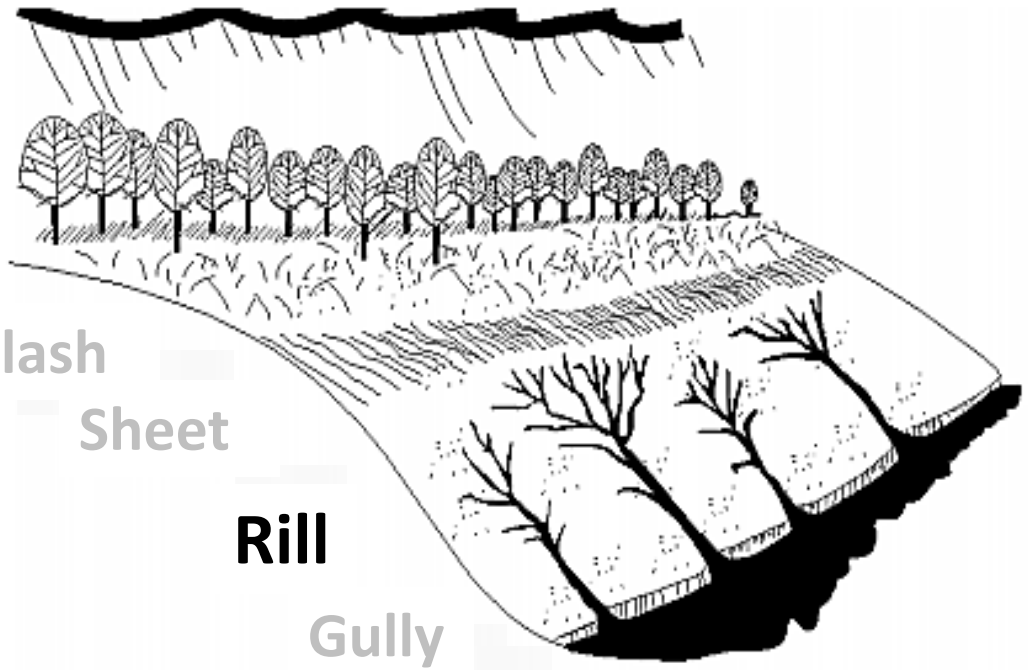
Stream & Bank

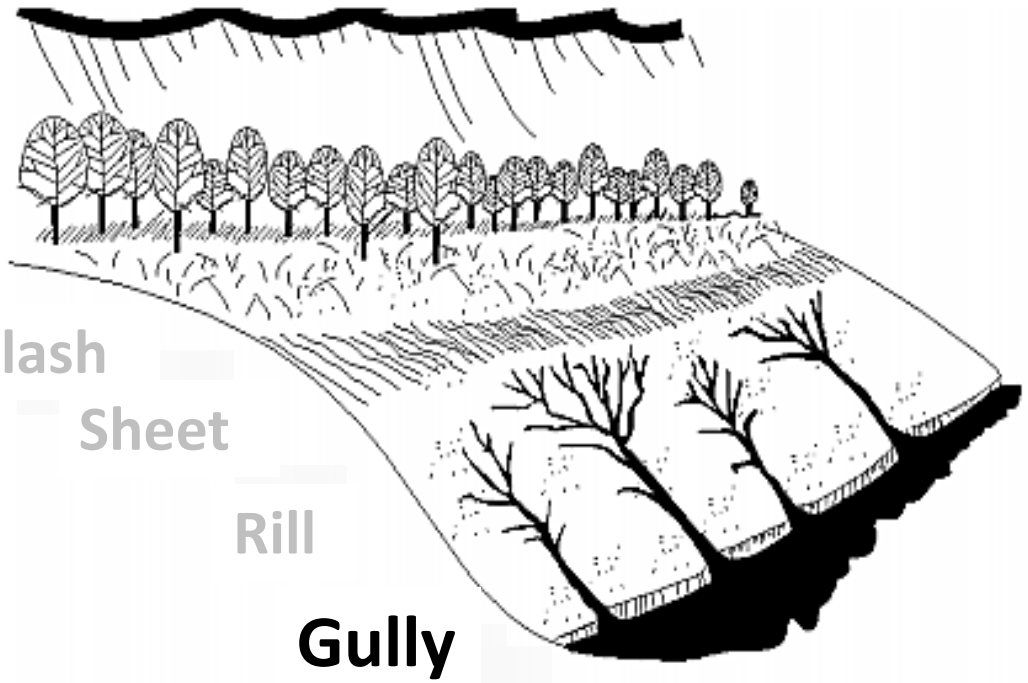
Types of Erosion



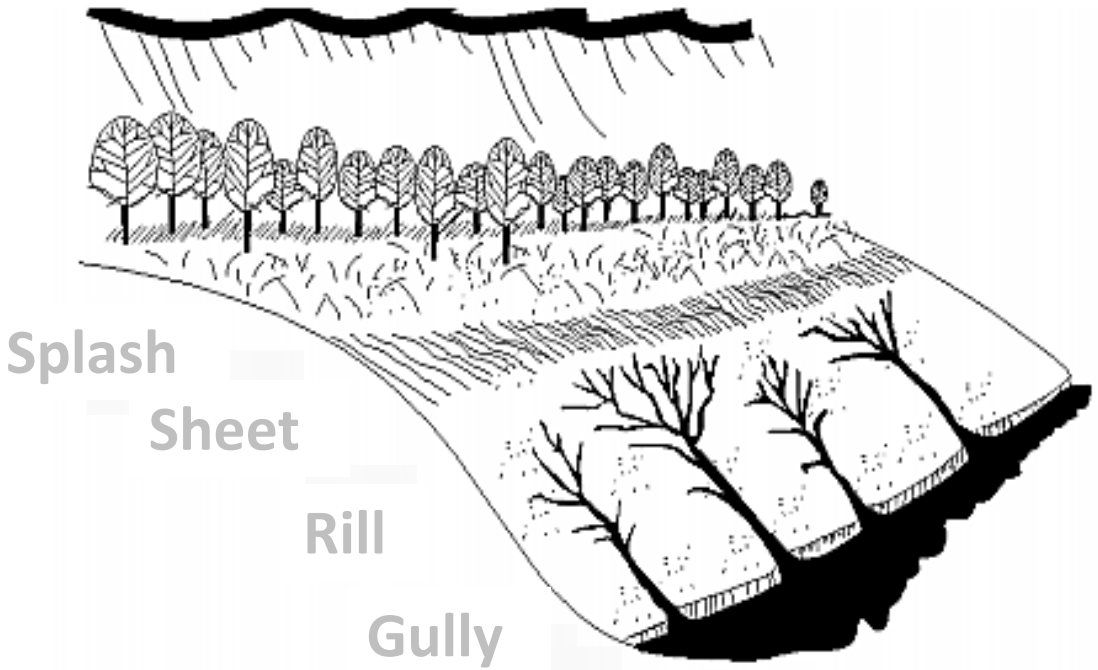
- The removal of soil by concentrated water flow.
- Occurs when the water forms small channels in the soil as it flows off site.
- On a shallow slope, rill erosion occurs after about 100ft of sheet flow, less as the steepness increases.

Rills are a call to action!

Types of Erosion



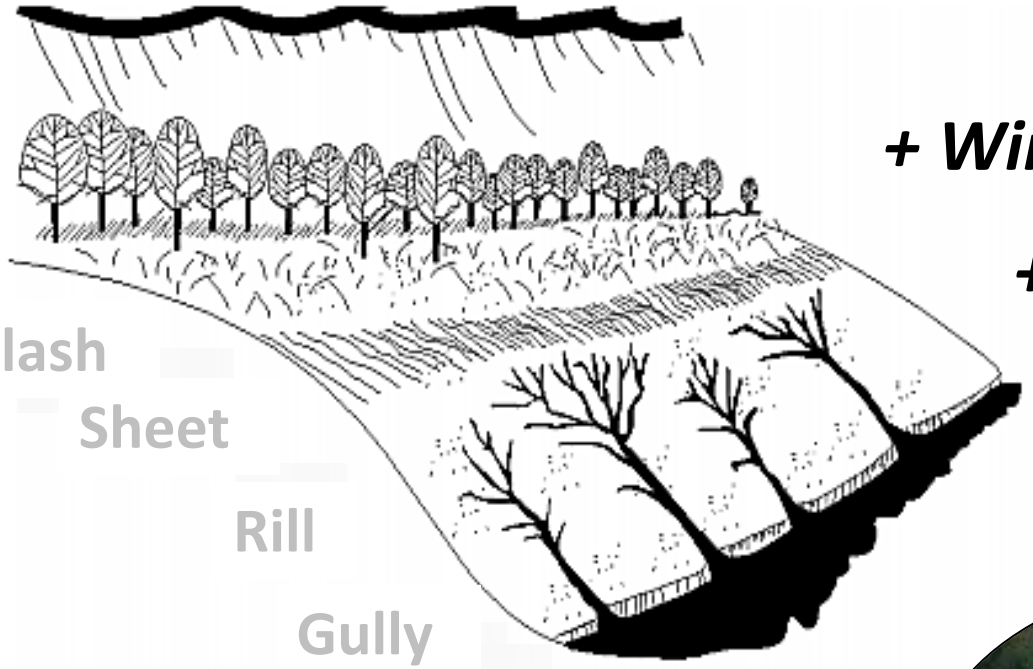
Types of Erosion



Stream & Bank

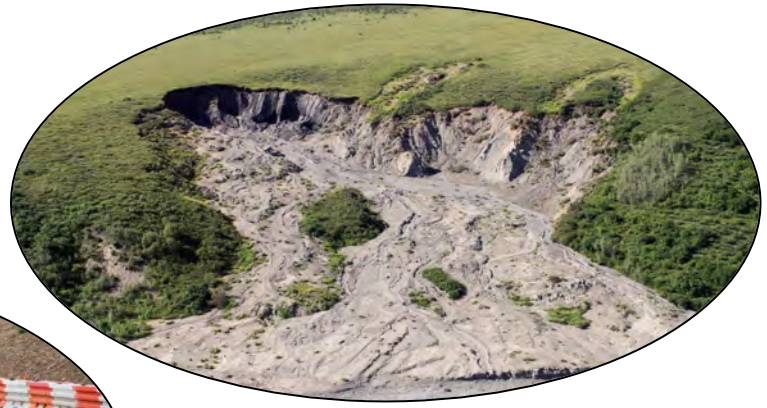
Increased runoff causes increased volume and velocity in the stream, which results in riverbed scouring and bank erosion, not to mention increased flooding.

Types of Erosion



+ Wind

+ Mass Wasting



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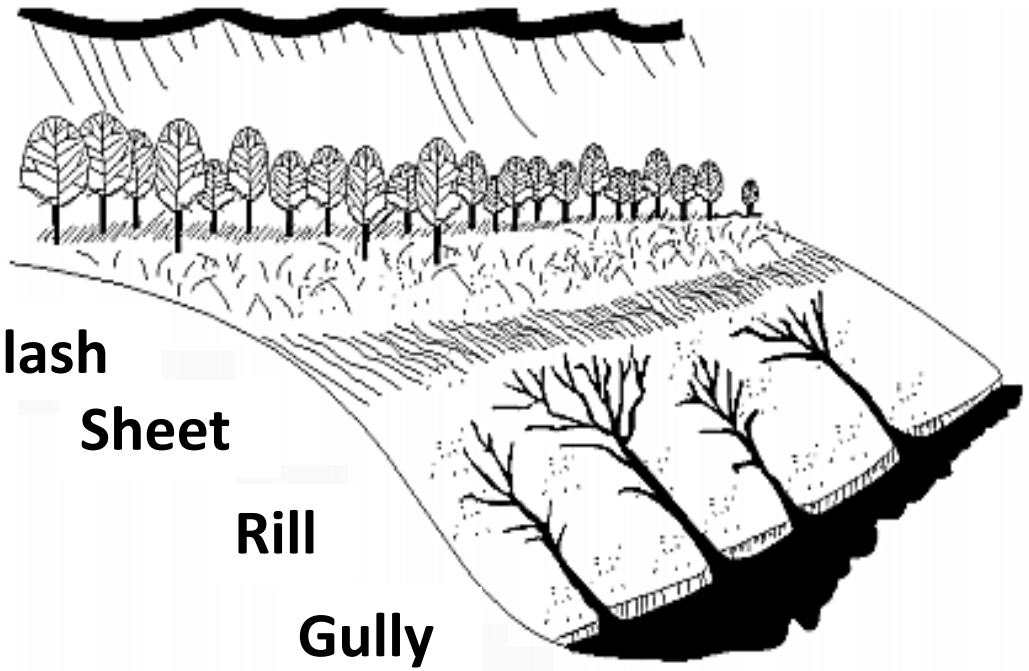


+ Wind

+ Mass Wasting

Erosion Happens Naturally

It is accelerated when we remove vegetation and move earth.

The Source

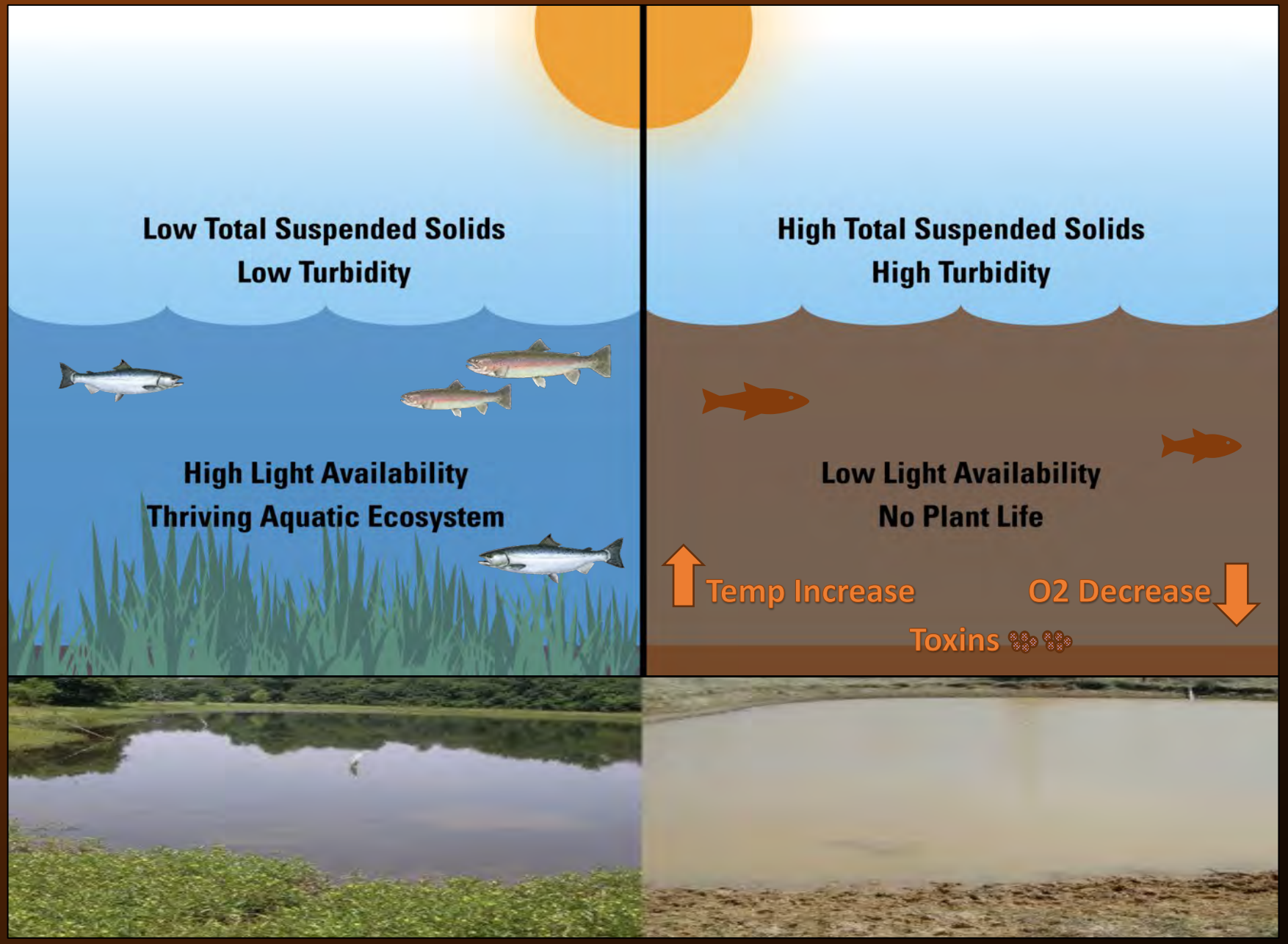
Stormwater
Sediment
Erosion




The Problem

Turbidity
Sedimentation

Turbidity and Sedimentation: So What?

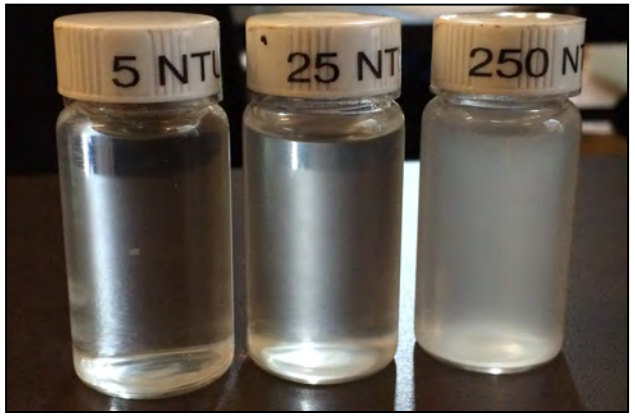

Low Total Suspended Solids
Low Turbidity
High Light Availability
Thriving Aquatic Ecosystem
High Total Suspended Solids
High Turbidity
Low Light Availability
No Plant Life
Temp Increase
O2 Decrease
Toxins

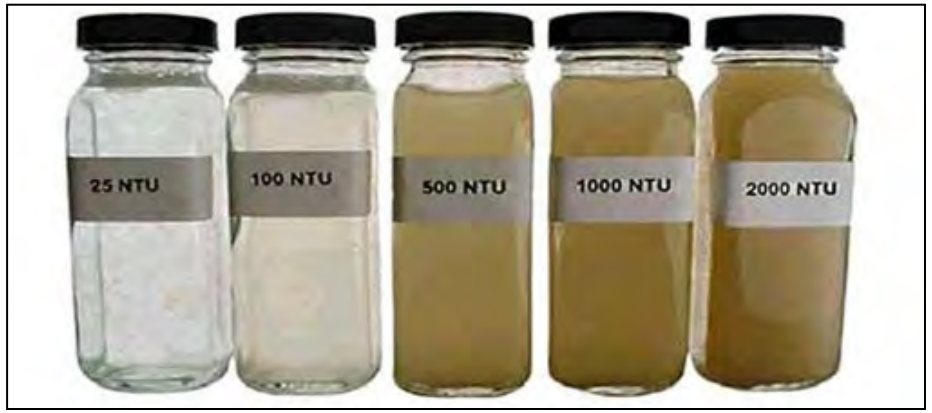
Turbidity

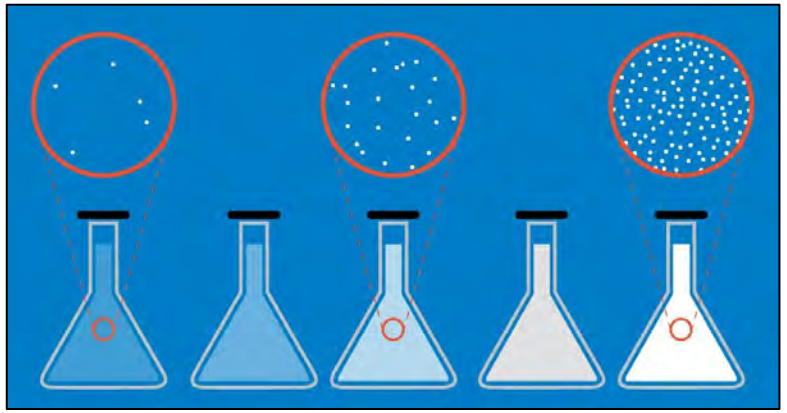
Turbidity is a metric for water quality that indicates how clear the water is.

Total Suspended Solids (TSS) affects water clarity.
The more sediment there is suspended in the water, the less clear that water will be.

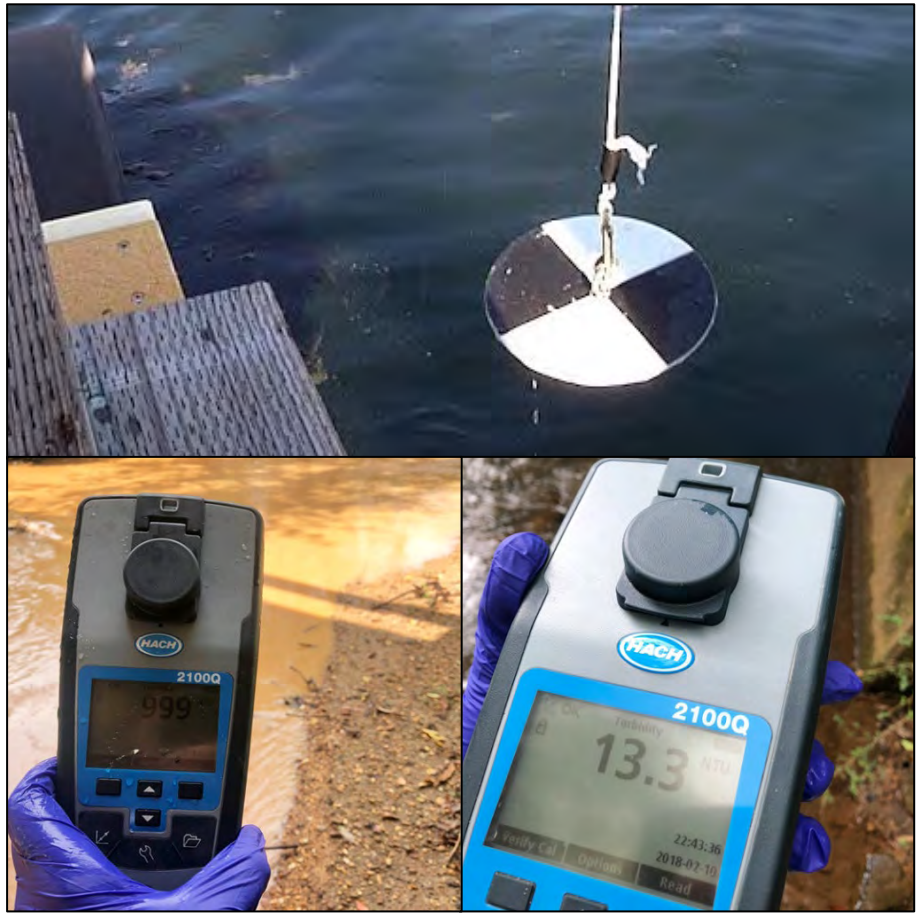
Increase in TSS = Increase in Turbidity = Bad







Turbidity



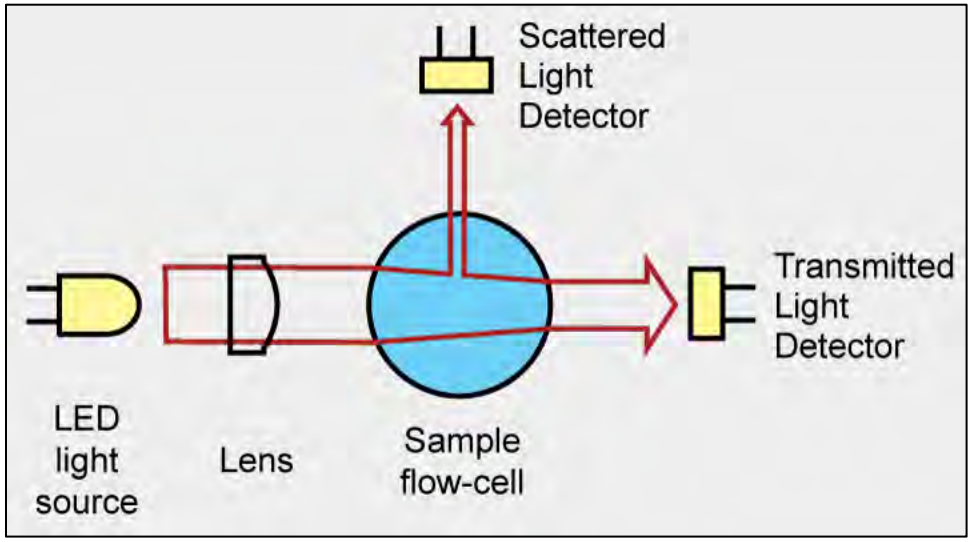
NTU = Nephelometric Turbidity Units (NTU)

FNU = Formazin Nephelometric Units

FTU = Formazin Turbidity Units

FAU = Formazin Attenuation Units

NTU = FNU = FTU = FAU



TSS → mg/l 1 mg/l = 1 ppm = 3 NTU

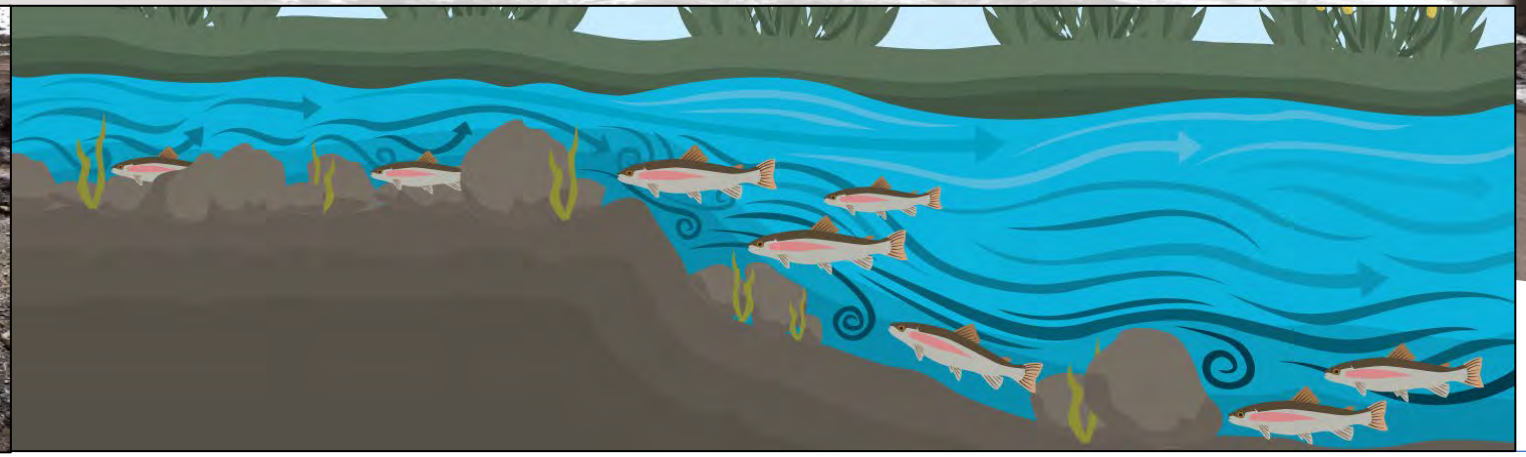
Effects of Turbidity

- Decreasing light penetration
- Decreased photosynthesis
- Reduced dissolved oxygen
- Clogging fish gills or the filter-feeding systems
- Higher temperature
- Less visibility

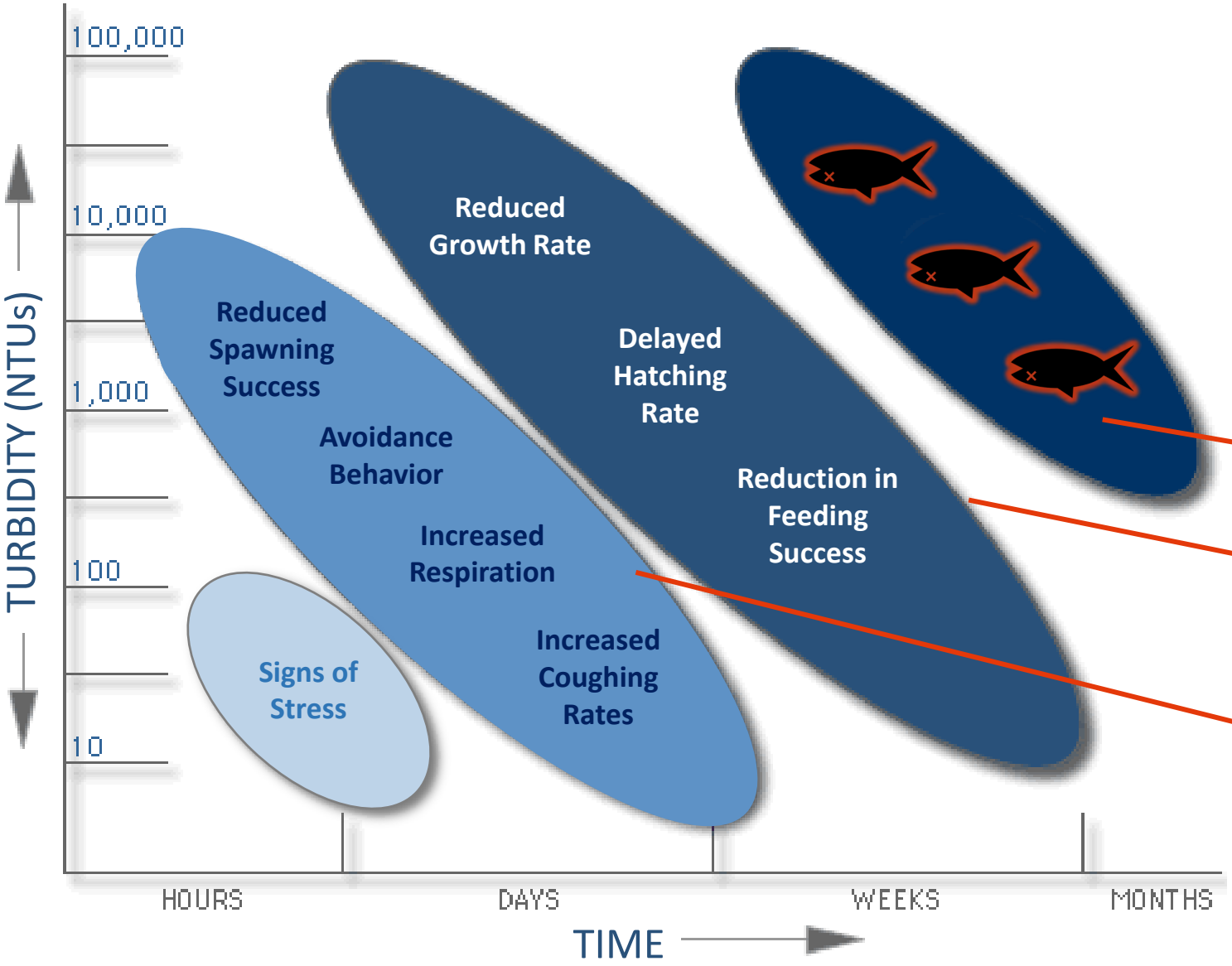
Soil stores toxins as it filters water infiltrates. As the soil erodes and becomes suspended, it carries those toxins with it and contaminates the water.

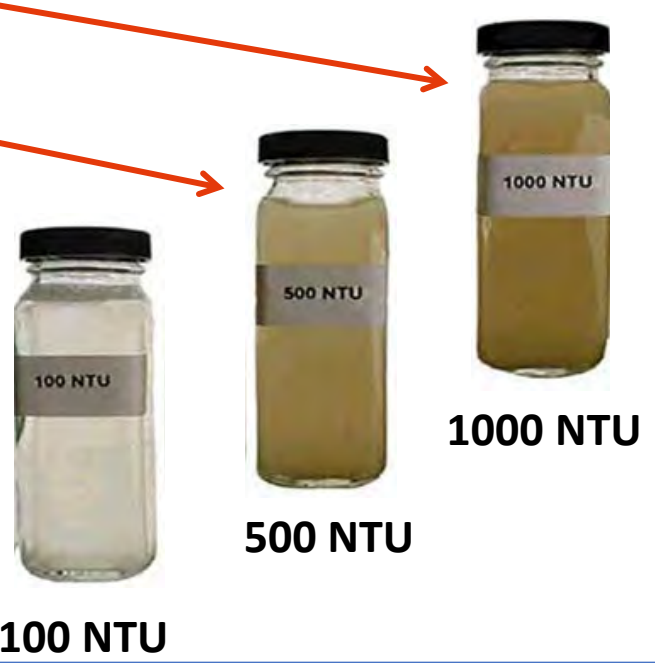
Effects of Sedimentation

- **Loss of Topsoil**
  That resource is washing out to the oceans, leaving upriver areas depleted.
- **Reduced Water Depth.**
  Fills deep pools behind logs and rocks where fish can remain cool and rest.
- **Decreases Stream Structure**
  Smothers plant life and causes the stream to become barren**.**
- **Algal Blooms**
  From increased nutrient load.
- **Increases Temperature**
  Decreased O2.



Example - Effects on Salmon





100 NTU

500 NTU

1000 NTU

Which is Better?
Where is the Balance?

Regulation and Permitting

Federal – Environmental Protection Agency (EPA)

State - Department of Environmental Quality (DEQ)

Local Regulatory Jurisdiction RVSS / County / City

NPDES 1200 Series Construction Permit General Use Requirement *Highlights*

- **Can NOT discharge visually turbid water or sediment.**
  - *No more than a 10% cumulative increase in natural stream turbidities.*

- **Can NOT Cause or contribute to an exceedance of any applicable water quality standard.**
  - **No contaminated water or substance can leave site.**
  - Hazardous materials must be separately stored and contained.

- **Install and maintain BMPs to control stormwater volume, velocity, and peak flow rates**

NPDES 1200 Series Construction Permit
General Use Requirement *Highlights*

- Protect buffer areas and existing vegetation where able.
- **Protect riparian areas** and/or provide equivalent sediment controls.
- Control dust, track-out, and protect stormwater conveyance systems.
- **Must visual monitor / inspect the site AND record the inspections.**
- Implement and maintain stabilization measures on all exposed portions of the site.
  - ➢ **Temporary stabilization is required after 14 days of inactivity.**

- Final Stabilization: All exposed soils are stabilized.
  - ✓**Uniform, perennial vegetation that provides 70% or more cover.**

What is a riparian area?

The land that borders a river, lake, or stream is know as a riparian area, it plays a vital role in the health of streams and rivers. When we make changes to the riparian area it has a negative impact on the stream and wildlife.

Why is it important?

<u>In a Nutshell</u>

- **Filtration –** Intercepts and removes pollutants, sediment, and excess nutrients.
- **Streambank Stabilization –** Reduces erosion and improves water clarity.
- **Temperature Regulation –** Trees and other vegetation provide shade.
- **Habitat –** Both on land and in the water.
- **Value –** Recreation opportunity, scenic beauty, economic benefit.

Streams Need Their Riparian Areas!

maintain a buffer zone between the stream and development or agriculture

What does a healthy riparian area look like?

Restoring and protecting riparian areas is the most crucial thing we can do for water quality today.

Urban development is as inevitable as it is necessary. While beneficial for the community, it also comes with an environmental cost.

How do we mitigate the function loss of our natural areas and green spaces?

Grey Stormwater Infrastructure

From Grey to Green Infrastructure

Green Infrastructure is a specific type of stormwater control using vegetation, soils, and/or natural processes to manage stormwater.

Green infrastructure refers to stormwater management systems designed to mimic nature by **reducing and/or storing stormwater through infiltration, evaporation, and transpiration.**

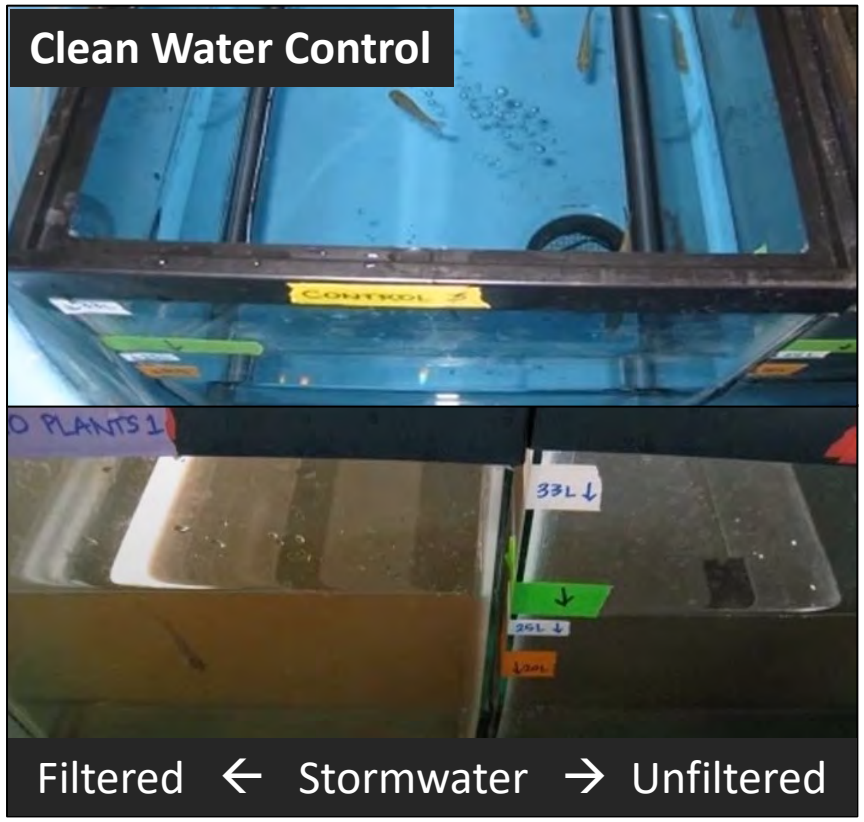
- At the scale of a city, an example is the planned patchwork and connectiveness of natural areas.
- At the site scale, this is a rain garden or bioswale.

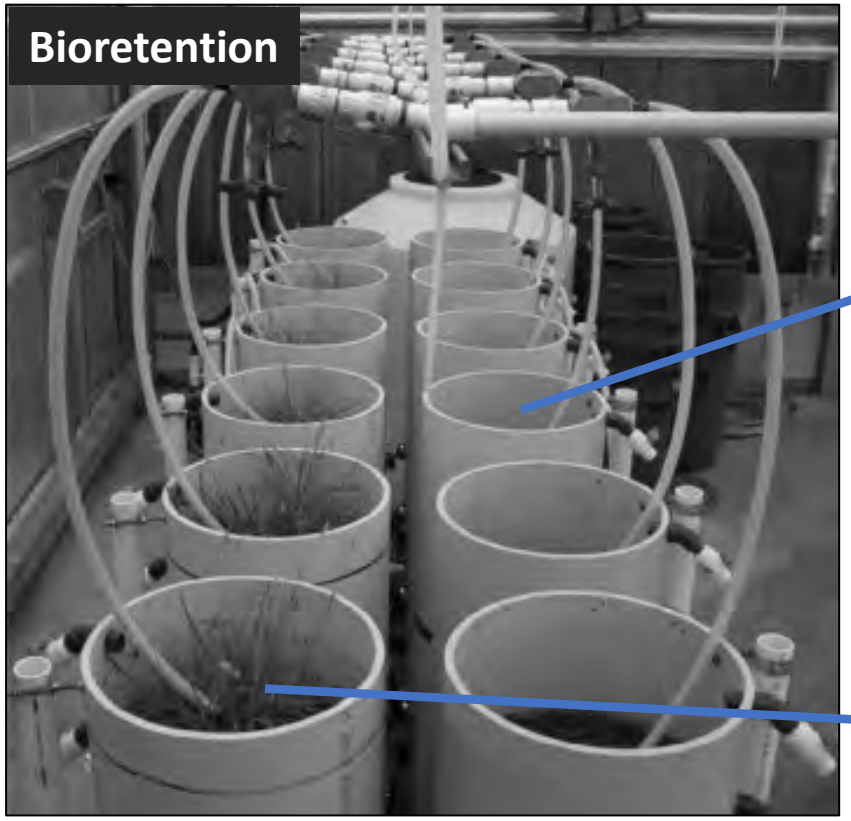
Bioretention

Effectiveness of Bioretention

WSU study by Jenifer McIntyre in 2011 on the protection soil bioretention provides for juvenile salmon and their prey from the toxic impacts of urban stormwater runoff.

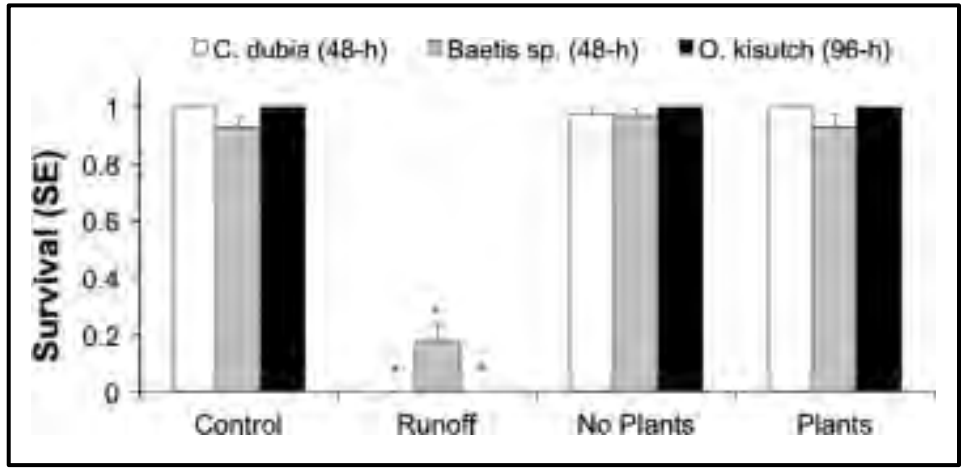
Effectiveness of Bioretention





Effectiveness of Bioretention

Effectiveness of Bioretention



Daphniid

Mayfly Nymph

Juvenile Coho Salmon

Bioretention Filtration Analysis:

Filtration through the soil columns (with and without plants):

- **Reduced metals by 30–99%**
  - *Zinc, Copper, Cadmium, Nickel, Lead*
- Reduced polycyclic aromatic hydrocarbons (PAHs) to levels at or below detection **(>92%)**
- **Reduced organic matter by > 40%**
  - *Carbon, Nitrogen, Phosphorus*

Highlights the effectiveness of soil in water quality efforts and reinforces requirements to treat runoff prior to it entering the storm drain system.

Why Plants Are The Preference

#1 BMP!

Water Quality Benefits

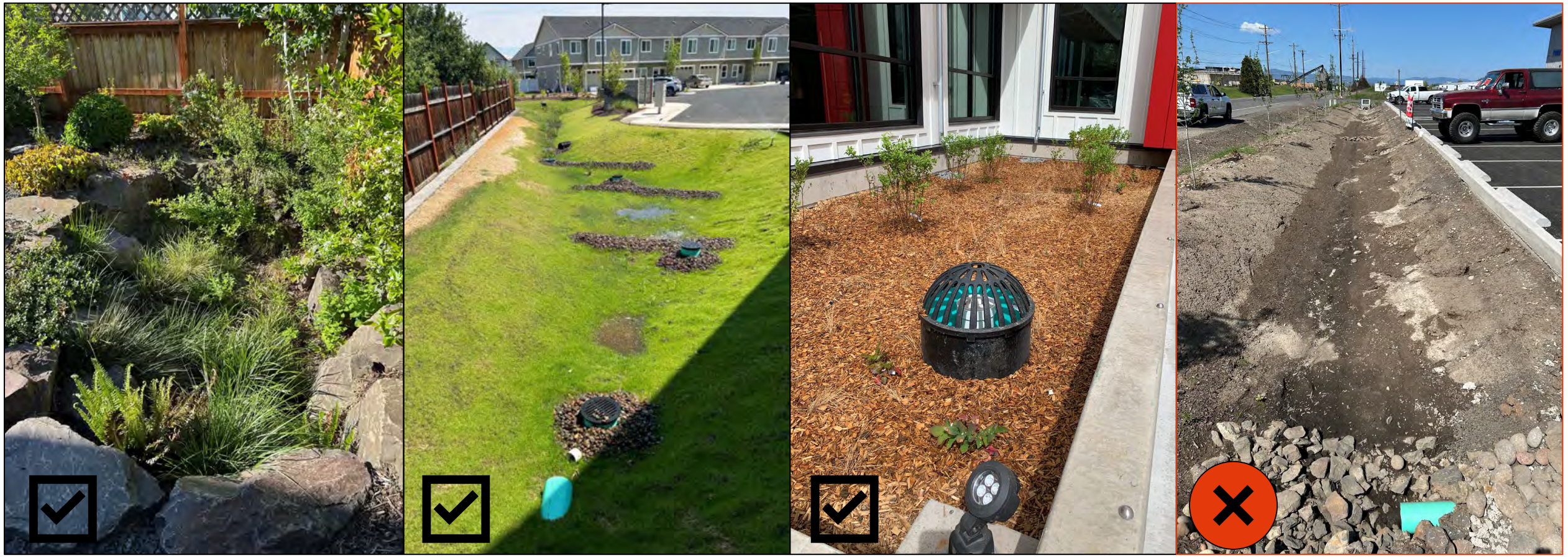
- ✓ **Erosion Control: Stabilizes soil.**
- ✓ **Soil: Maintains soil health, structure, and porosity.**
- ✓ **Flow Control**: Slows and spreads runoff. Evapotranspiration.
- ✓ **Water Quality**: Pollutant uptake, use, and storage.
- ✓ **Resilience**: Reduces maintenance needs.

Other Benefits to People and the Environment

- ✓ **Cooling & Shade**: Differences in temp up to 10 degrees!
- ✓ **Biodiversity**: Provides habitat for wildlife.
- ✓ **Air & Water Quality**: Store and/or convert contaminants.
- ✓ **Mental Health**: Reduces stress, increases feelings of well-being.
- ✓ **Physical Health**: Increases desire for physical activity.
- ✓ **Social**: Increases social interaction pride in community.
- ✓ **Financial**: Increases property value.

Plant Hierarchy: **Natives** → Non-natives → Invasives

Bioretention, Stormwater Facilities: So What?



If a project requires Stormwater Management Plan. The Stormwater Facility in that plan must be constructed per the plans, pass an acceptance inspection PRIOR to terminating the ESC Permit, AND be maintained forever. The maintenance and function requirement is legally tied to the property.

Permitting Process & Documents

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

Boundaries

Sewer

Stormwater Management

Erosion & Sediment Control

Project Requirements

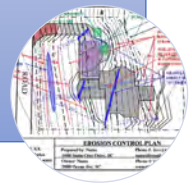
Application & Appendices

Land Use Compatibility Statement

Erosion and Sediment Control Plan (ESCP)

Document Review

Submit Required Documents



Project Invoice

Plan Approval

RVSS Permit

DEQ Permit

Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting

Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

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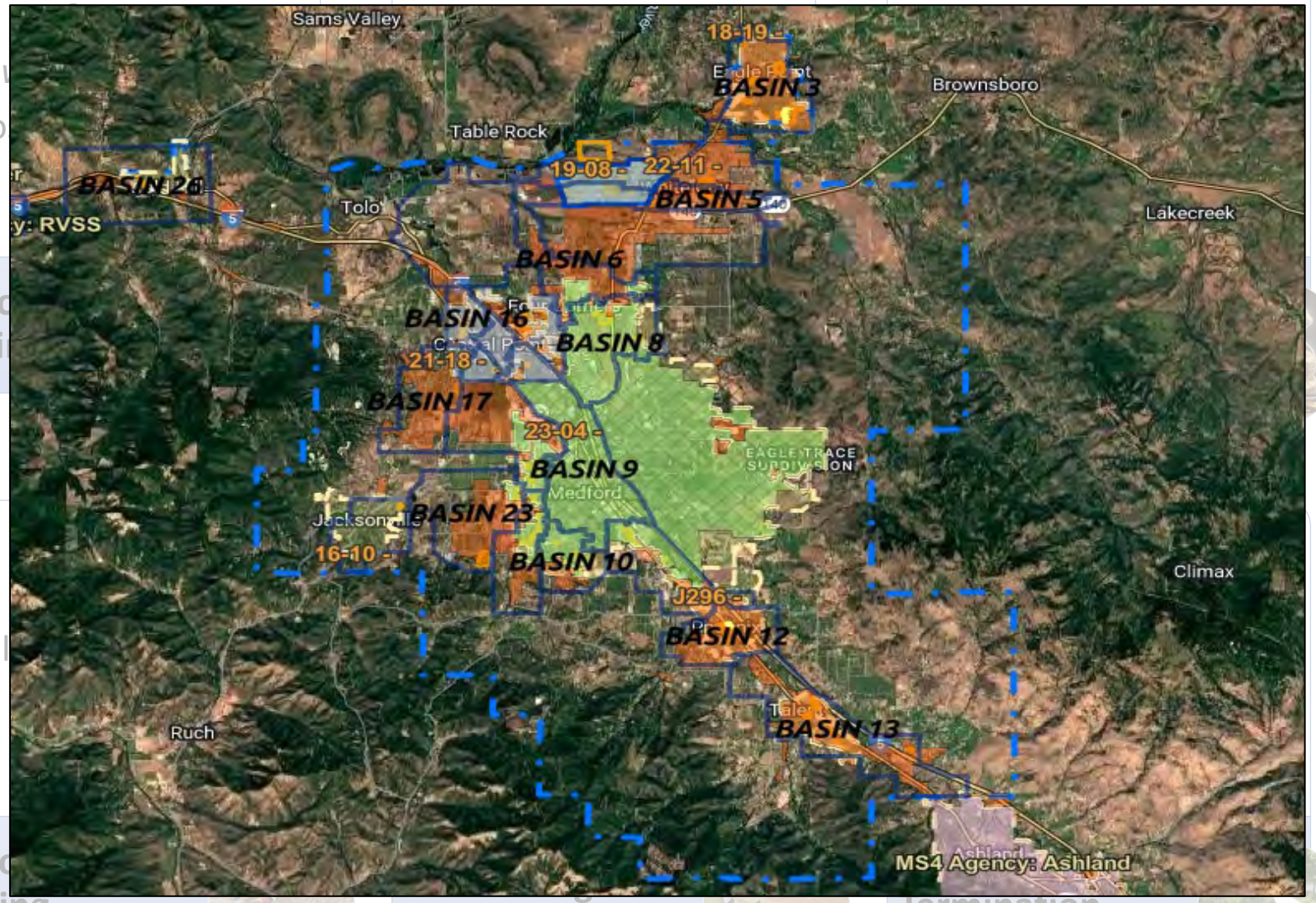

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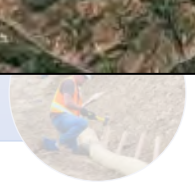
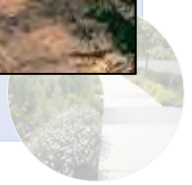


Inspections

Termination



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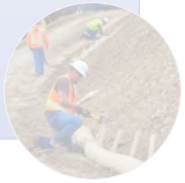

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Do You Need an ESC Permit?

Question 1

Does your construction project disturb one or more acres of land through construction activities, such as clearing, grading, excavating, grubbing, stumping, and demolition, or does it disturb less than one acre but is part of a larger common plan of development or sale that ultimately disturbs one acre or more?

AND

Is there any possibility that stormwater could run off your site during construction activities and into surface waters or conveyance systems leading to surface waters of the state?

Question 2

Is any portion of the project located within a MS4 jurisdiction?

Do You Need an ESC Permit?

Yes to Question 1

Does your construction project disturb one acre or more?

Yes, you need a permit

Outside of RVSS MS4 → DEQ Issued Permit

Inside of RVSS MS4 → RVSS Issued DEQ Permit

Do You Need an ESC Permit?

Yes or No to Question 1

Does your construction project disturb one acre or more?

and

Yes to Question 2

Are you in an MS4?

You will likely need a permit. Check with your local MS4 jurisdiction for additional requirements.

RVSS Requirements

If over 7000sf, you will need a permit.

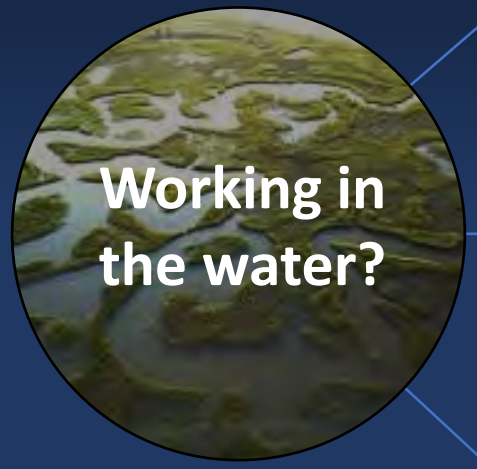
What Permit Do You Need?

*Total Disturbed Area/Ground	ESC Permit Required	Initial Fee	Annual Fee
7,000sf to 0.99 acres	Medium Storm Drain Protection Permit (SDPP-M)	$250	$250
1.0 to 4.99 acres	RVSS ESC Permit for 1-5 Acres (DEQ 1200-CN)	$1,500	$750
5.0+ acres	RVSS ESC Permit for 5+ Acres (DEQ 1200-C)	$2,815	***$1,388

* Land disturbance through construction activities, such as clearing, grading, excavating, grubbing, stumping, and demolition. Remember to count the size of the entire project whether in a single or in a multiphase project. This applies even if you are responsible for only a small portion of the larger project planned over time.

** DEQ will issue Renewal Notice and collect annual renewal fees for 1200-C permits.

Other Permit Requirements & Considerations



USACE

- Section 404 National Dredge-Fill Permit

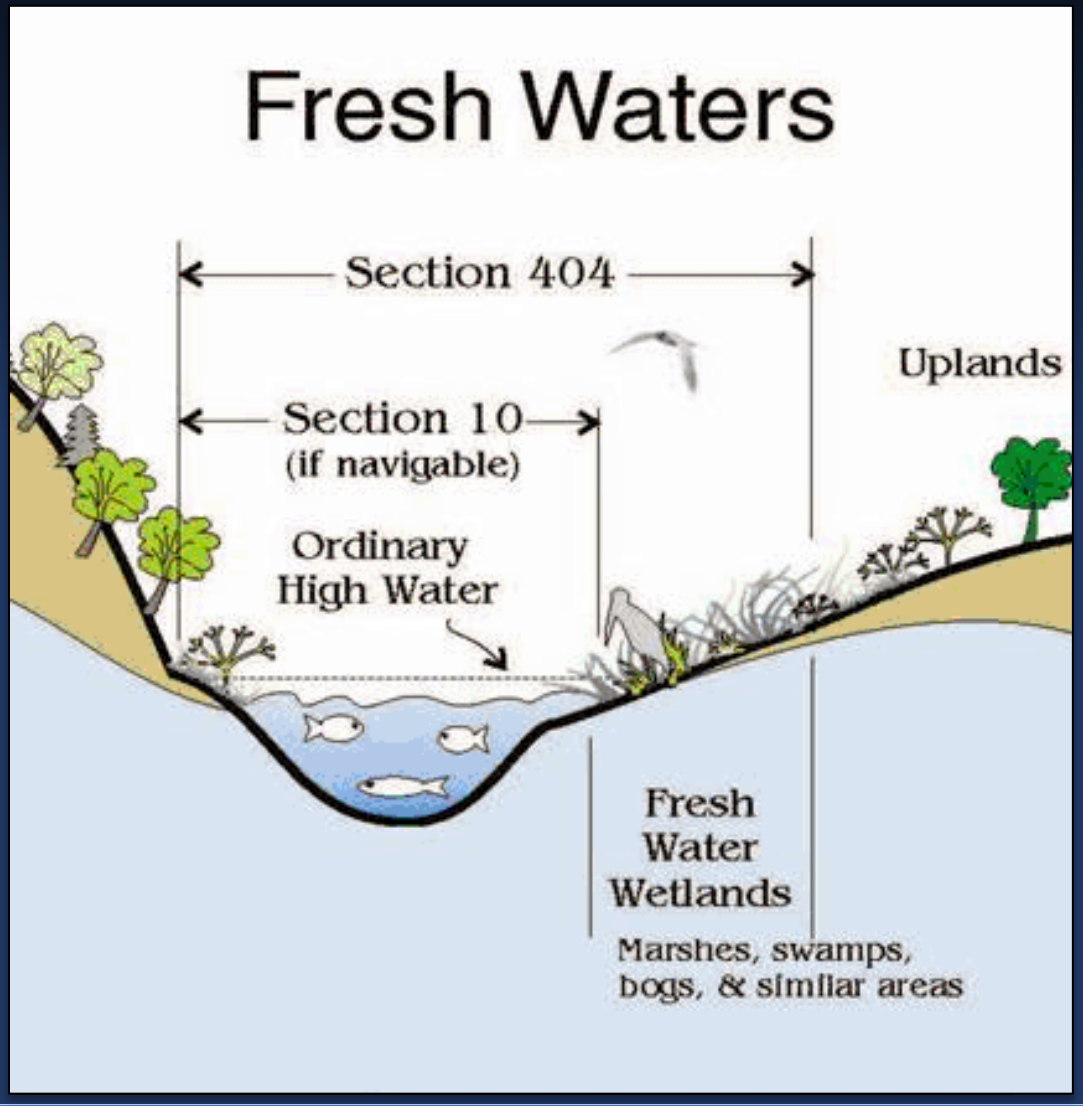
DEQ

- Section 401 Water Quality Certification
- 303(d) Impaired Water or TMDL

DSL

- Wetland Delineation
- Wetland Land Use Notification
- Remove-Fill Permit

These must be obtained before ESC Permit issuance



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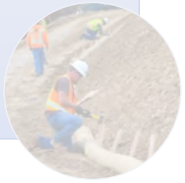

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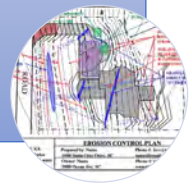

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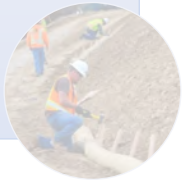

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Site Stabilization

Permit Termination

Application & Required Documents

A complete and accurate application must be submitted to DEQ or Agent at least thirty **(30) days prior** to the planned land disturbing construction activities. Construction activities are not authorized until DEQ or Agent issues discharge authorization.

Document Requirements:

SDPP-M

- Application
- ESCP

1200-CN

- Application
- ESCP
- LUCS

1200-C

- Application
- ESCP
- LUCS
- 14-Day Comment Period

For DEQ, everything over 1 acre requires a 1200-C General Permit, the "CN" permits are issued by DEQ Agents within their jurisdictions. The 14-day comment period only applies to sites over 5 acres. All other requirements remain the same.

Application

RVSS

Erosion Control Application Process Tab

- SDPP-M or 1200-CN/C Application Form

DEQ

DEQ Stormwater Construction Section

- YourDEQ Online

ESC PERMIT SUBMITTAL AND TERMINATION PROCESS

STEP 1. PERMIT APPLICATION AND SUBMITTAL

Construction activities are not authorized until the ESC permit has been issued. Required application documents
ESC permit applications must be complete and submitted to RVSS in electronic format to the Stormwater Progra
or.gov. More information on 1200C permitting and Erosion and Sediment Control Plan (ESCP) preparation can b

- **Medium Site Storm Drain Protection Permit (SDPP-M):** Projects that disturb 7000sf or more require the re
  - SDPP-M Application Form


DEQ USE ONLY
File #:
Application #:
LLID/RM:
River Mile:
Legal Name Confirmed: ☐
Notes:

Oregon DEQ Department of Environmental Quality

APPLICATION FOR NEW NPDES GENERAL PERMIT 1200-C

For stormwater discharges to surface waters from construction activities disturbing one acre or more that do not meet automatic coverage requirements.*

DEQ USE ONLY
Date Received:
Amount: $
Check #:
Check Name:
Deposit #:
Receipt #:
Notes:

*A project *may* be eligible for "automatic coverage" under NPDES general permit 1200-CN if stormwater *does not* discharge to a waterbody with a TMDL or 303(d) listing for sediment or turbidity *and* it meets one of the following criteria (see 1200-CN at http://www.oregon.gov/deq/FilterPermitsDocs/1200cnPermit.pdf:
1. Disturbs less than one acre and is located in Gresham, Troutdale, or Wood Village.
2. Disturbs less than five acres and is located in Albany, Corvallis, Eugene, Milwaukie, Multnomah Co. (unincorporated areas).

- ESC Permits for Sites Disturbing 1 Acre or Mo
  authorized by DEQ to administer these permit
  Compatibility Statement (LUCS). More infor
  - 1200-C/CN Application Form
  - RVSS 1200C/CN ESCP Checklist
  - Land Use Compatibility Statement (LUCS)
  - Erosion and Sediment Control Plan Example

1200 Series Construction Stormwater Permits - General Use

Water Quality Permitting Program Review
Water Quality Trading Rules
Pesticide Applications into Surface Waters
Water Quality Permitting Resources
NPDES AND WPCF PERMITS
SECTION 401 DREDGE AND FILL
SECTION 401 HYDROPOWER
STORMWATER
UNDERGROUND INJECTION CONTROL
Frequently Asked Questions About Water Quality Permits
100-J General NPDES Permit

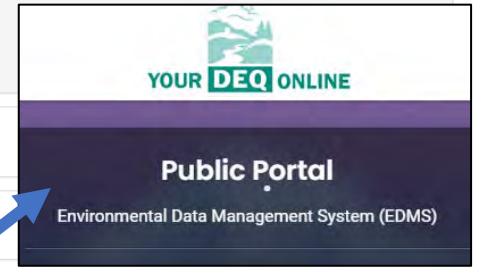
Stormwater runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events often contain pollutants that could adversely affect water quality. National Pollutant Discharge Elimination System permits are required for stormwater discharges to surface waters from construction and industrial activities and municipalities if stormwater from rain or snow melt leaves your site through a "point source" and reaches surface waters either directly or through storm drainage. A point source is a natural or human-made conveyance of water through such things as pipes, culverts, ditches, catch basins, or any other type of channel.

1200-C Permit documents

1200-C Construction Stormwater General Permit
Effective Dec. 15, 2020 through Dec. 14, 2025

Resources and forms

RUSLE2 resources

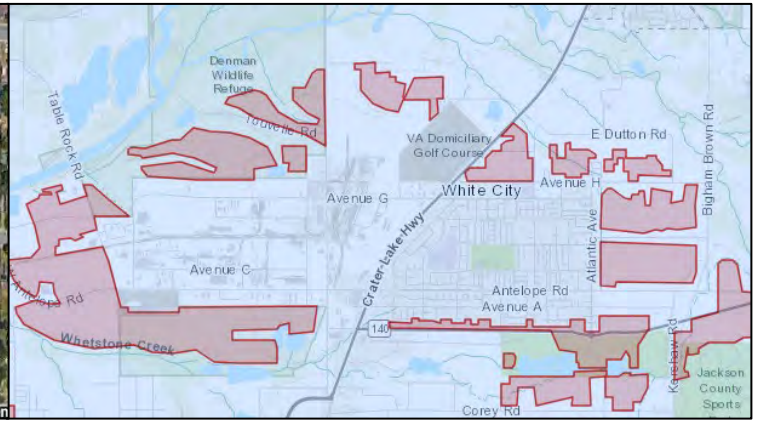


Your DEQ Online for stormwater permits

Your DEQ Online

Land Use Compatibility Statement (LUCS)

- A LUCS is a form developed by DEQ to determine whether a DEQ permit or approval will be consistent with local government comprehensive plans and land use regulations.
- Required by Oregon law for nearly all DEQ permits.
- Submit to the appropriate city or county planning office.
- The planning office *should* identify wetland and possible presence of ESA species. Within the RVSS MS4, permits will not be approved without these items addressed.



Erosion and Sediment Control Plan (ESCP)

A set of plans, usually prepared by or under the direction of a licensed professional engineer (requirement for 20 or more acres), indicating the specific measures and sequencing to be used to control sediment and erosion on a development site during and after construction. Also called a Stormwater Pollution Prevention Plan (SWPPP).

Within an MS4 jurisdiction, projects that disturb 7000sf or more require a site-specific ESCP.

ESCP Elements:

ESCP Cover Sheet

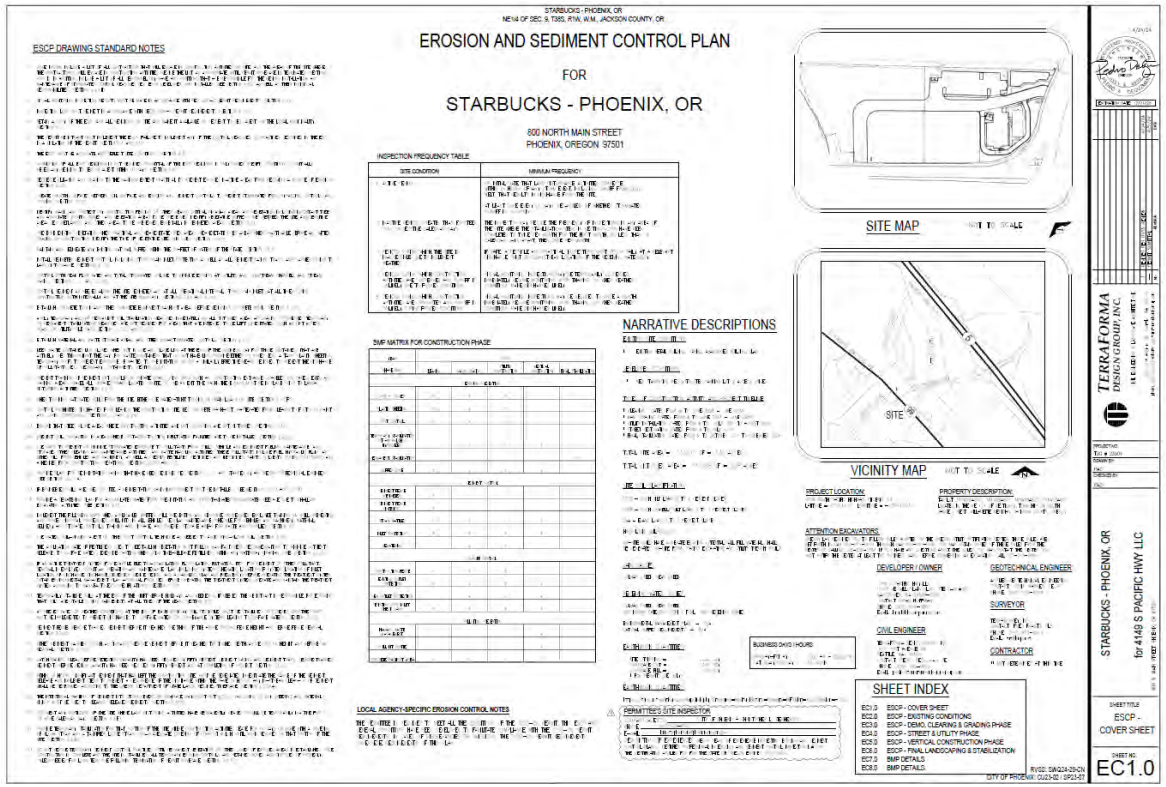
- Part I and Part II Narrative Forms (now **MUST** be included on the ESCP Drawings)

- ESCP Drawings & Details
  - Part III Required Elements Checklist

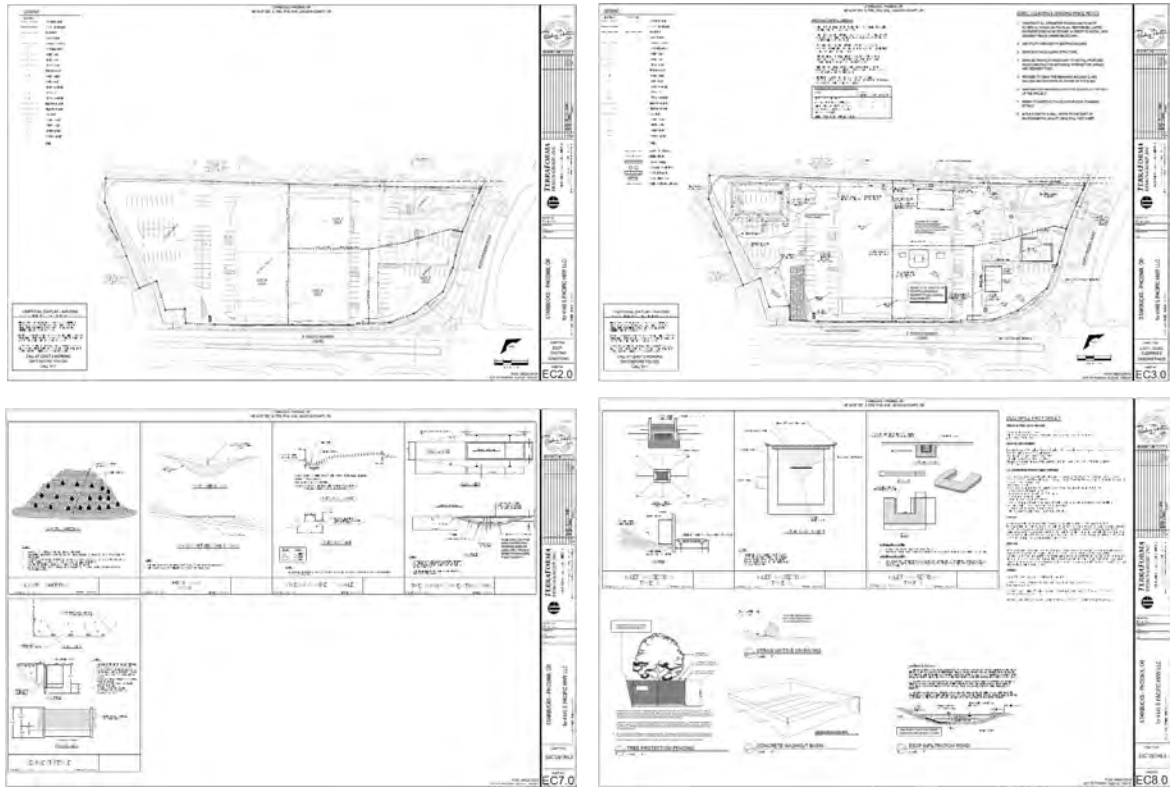
1200-C/CN Templates, forms, and checklists can be found on the DEQ website.

Specific RVSS SDPP-M ESCP requirements and templates can be found on the RVSS website.

Erosion and Sediment Control Plan (ESCP)



Cover Sheet



Drawings & Details

ESCP Appendix A

Environmental Management Plan (EMP)

Separate DEQ Submission & Review!

Required When:

- Contaminated soils, contaminated groundwater, or hazardous materials will or have the potential to be encountered during construction activities.
  - Contaminated Media Management Plan (CMMP) required
- An active treatment system for sediment, pH neutralization, or other pollutant removal is planned or implemented at the project site.
  - Active Chemical Treatment System (ACTS) required.

ESCP Appendix B

Natural Buffer Zone Requirements

Provide and maintain natural buffer zones and/or equivalent erosion and sediment controls within 50 feet of Waters of the State.

This is measured from the ordinary high-water mark or edge of bank – whichever is further from the water's edge.

Compliance Options:

1) Provide and maintain a **50-foot undisturbed natural buffer zone.**

2) Provide and maintain an undisturbed natural buffer zone that is less than 50 feet:

- Must supplement with erosion and sediment controls.
- Must achieve the sediment load reduction equivalent to a 50-foot natural buffer zone.
- Burden of proof is on the applicant via methods approved by DEQ.

Upcoming: This used to be done through RUSLE2 Software, DEQ is revising this requirement.

ESCP Appendix B

Natural Buffer Zone Requirements

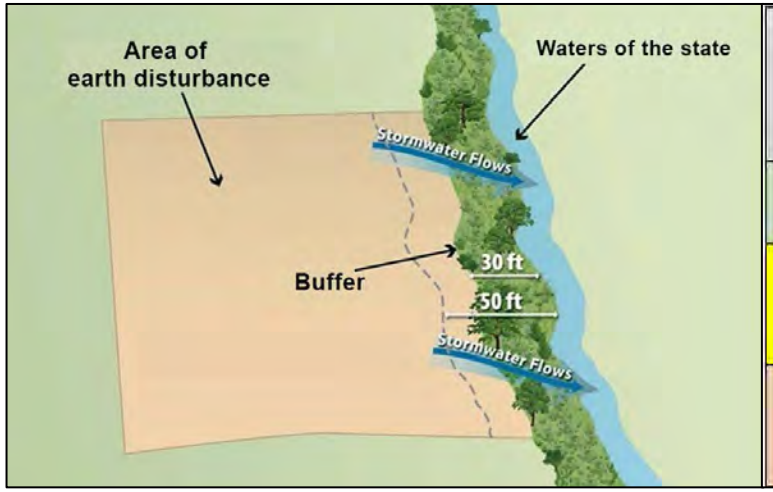
Option 2 Compliance Steps:

Step 1 - Determine the sediment reduction from the 50-foot buffer.

Step 2 - Design controls that match the sediment removal efficiency of the 50-foot buffer.

- **All discharge must be treated (and velocity reduced) prior to entering buffer area**.

Step 3 - Document how site-specific controls will achieve the sediment removal efficiency of the 50-foot buffer.



Risk Level Based on Estimated Soil Erosion	Retain ≥ 50' Buffer	Retain <50' and >30' Buffer	Retain ≤30' and >10' Buffer	Retain ≤ 10' Buffer
Low Risk	No Additional Requirements	No Additional Requirements	Double Perimeter Control	Double Perimeter Control
Moderate Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization
High Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization	Double Perimeter Control and 7-Day Site Stabilization

In all cases, post-construction riparian conditions must meet or exceed pre-construction riparian conditions!

ESCP Appendix B - Compliance Examples

Natural Buffer Zone Requirements

Double Perimeter Control

Settling Basin / Velocity Reduction

The Appendix B Narrative must be on the ESCP Cover Sheet!

Spill Prevention and Response Plan

General Steps

Safety First: Move away or upwind from the spill if you detect an odor and are unsure if it is safe.

Report the spill immediately. Contact local emergency services.

Control and contain the spill: **Prevent the spill from reaching the water!**

Clean up what you can immediately. **Immediate response and cleanup is a requirement!**

Failure to report:

Up to $250,000 and 5 years in prison.

You need to have a plan!

It needs to be known, complete, and accessible.

Fact Sheet

What to Do When You've Had a Spill

DEQ

State of Oregon Department of Environmental Quality

Contact local emergency services
Call 911 for medical emergency and public safety assistance from the local fire, police and medical services.

Report the spill immediately
Immediately report the spill or threatened spill to the Oregon Emergency Response System, 1-800- 452-0311, when the spill or threat of a spill includes:

- Any amount of oil to waters of the state;
- Oil spills on land in excess of 42 gallons;
- Hazardous materials and reportable quantities that are equal to the Code of Federal Regulations, 40 CFR Part 302

Provide information
When you report the spill to OERS, you will need to provide basic spill information:

- Contact names and phone numbers
- Type of oil or hazardous material
- Estimated quantity
- Location descriptions (land or water)

U.S. Environmental Protection Agency notification
Some oil or hazardous material spills will require a separate notification to the National Response Center, 1-800-424-8802. Visit EPA's Emergency Response website for information necessary to determine if you need to report to the federal system.

Other actions to take

- Move away or upwind from the spill if you detect an odor and are unsure if it is safe.
- Avoid contact with liquids or fumes.
- Keep non-emergency people out of the area.
- Control and contain the spill.
- Clean up what you can immediately.
- Remove cleanup materials to an approved facility (such as a solid or hazardous waste landfill or recycling facility.) Save your receipts for documentation.
- Continue with long-term cleanup measures.
- File a completed Spill Release Report Form with DEQ.

Your role
You are responsible for the immediate cleanup of your spill, regardless of the quantity involved.
The responsibility lies with the person who spills the product, as well as the person owning or having authority over the oil or hazardous material. You may need to hire a qualified contractor or properly trained and equipped personnel to respond immediately to the spill. If you fail to clean up your spill, DEQ may clean it up for you and, as allowed by law, fine you up to three times the cost of the cleanup, in addition to the actual cost of the cleanup (Oregon Administrative Rules 340-142).

Contractors can work to control, contain and mitigate difficult spills like this truck crash on the North Umpqua Highway that caused diesel to leak into the river.

DEQ's role
DEQ is responsible for ensuring that the cleanup is completed in a way that protects human health and the environment. Oregon law also requires DEQ to recover its costs in carrying out this responsibility.

Depending on the type and quantity of material spilled, and the potential threat to people or the environment, DEQ may choose to oversee the cleanup. This oversight may take the form of DEQ staff at the scene, phone contact, document review or a combination of these actions. You are responsible for these oversight costs and will normally be billed within 45 days.

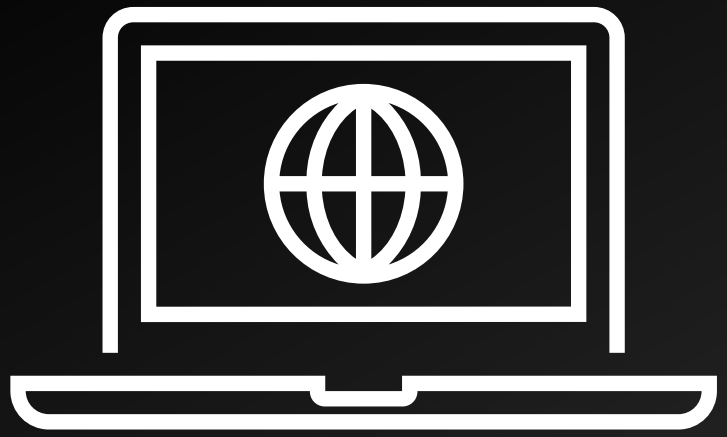
For more information
Regional Emergency Response coordinators are listed in the margin. You may also visit the DEQ Emergency Response webpage.

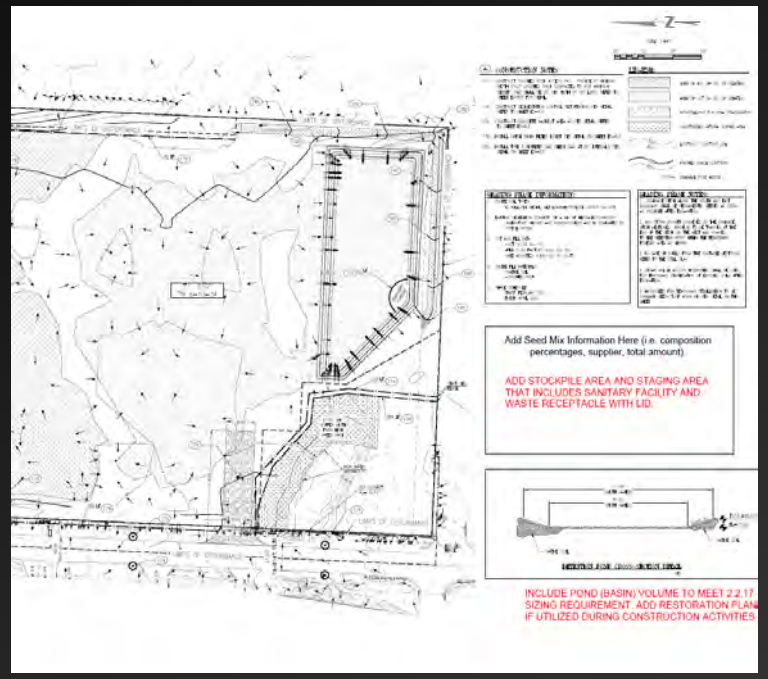
Contact
Contact the State On-Scene Coordinator in your area.

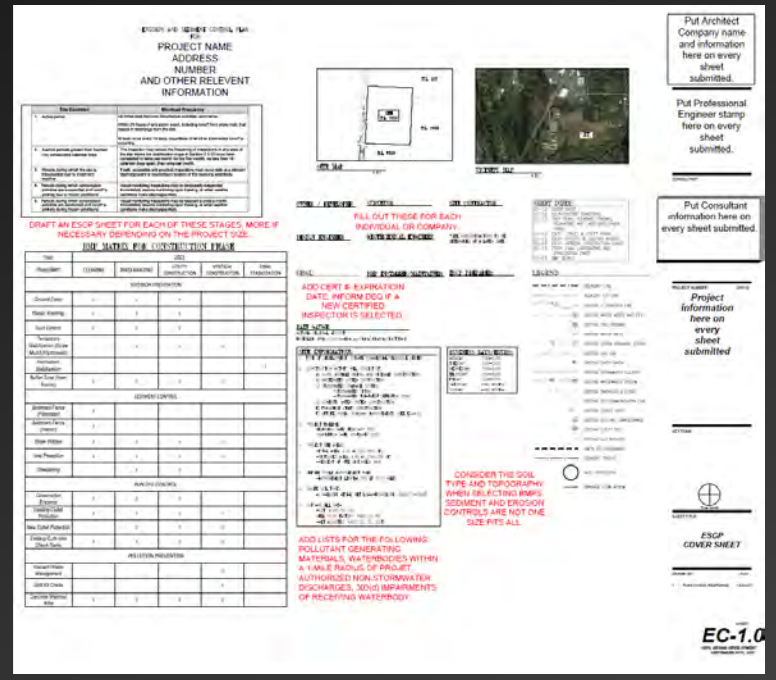
Emergency Response
700 NE Multnomah St., Suite 600
Portland, OR 97232
Phone: 503-229-5696
800-452-4011
Fax: 503-229-6124
Contact: Wesley C. Risher
Wes.risher@deq.state.or.us

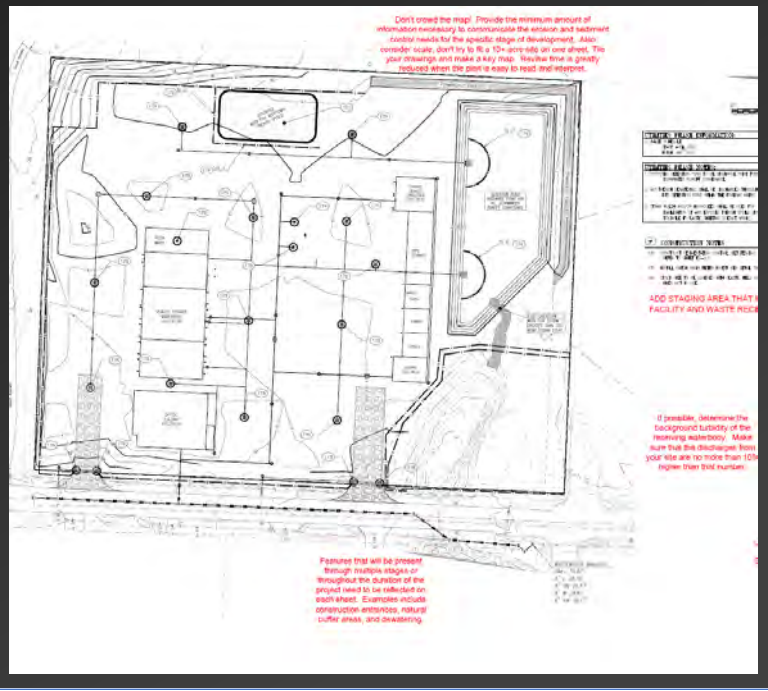
www.oregon.gov/DEQ

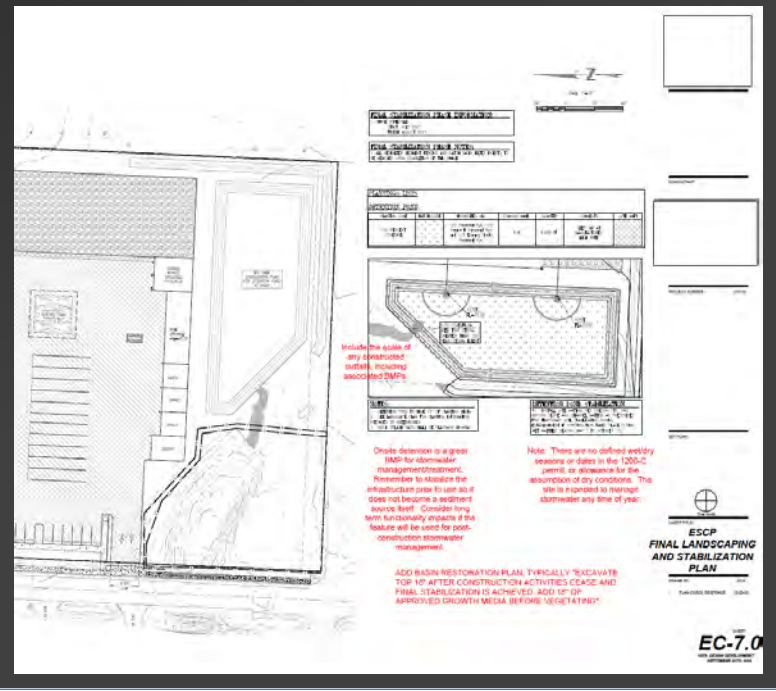
DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.




Add Seed Mix Information Here (i.e. composition percentages, supplier, total amount).
ADD STOCKPILE AREA AND STAGING AREA THAT INCLUDES SANITARY FACILITY AND WASTE RECEPTACLE WITH LID.
INCLUDE POND (BASIN) VOLUME TO MEET 2.2.17 SIZING REQUIREMENT. ADD RESTORATION PLAN IF UTILIZED DURING CONSTRUCTION ACTIVITIES.


PROJECT NAME
ADDRESS
NUMBER
AND OTHER RELEVENT INFORMATION
Put Architect Company name and information here on every sheet submitted.
Put Professional Engineer stamp here on every sheet submitted.
Put Consultant information here on every sheet submitted.
Project information here on every sheet submitted
DRAFT AN ESCP SHEET FOR EACH OF THESE STAGES, MORE IF NECESSARY DEPENDING ON THE PROJECT SIZE.
FILL OUT THESE FOR EACH INDIVIDUAL OR COMPANY.
ADD CERT # EXPIRATION DATE. INFORM DEQ IF A NEW CERTIFIED INSPECTOR IS SELECTED.
CONSIDER THE SOIL TYPE AND TOPOGRAPHY WHEN SELECTING BMPS. SEDIMENT AND EROSION CONTROLS ARE NOT ONE SIZE FITS ALL.
ADD LISTS FOR THE FOLLOWING: POLLUTANT GENERATING MATERIALS, WATERBODIES WITHIN A 1-MILE RADIUS OF PROJECT, AUTHORIZED NON-STORMWATER DISCHARGES, 303(d) IMPAIRMENTS OF RECEIVING WATERBODY.
ESCP COVER SHEET
EC-1.0


Don't crowd the map! Provide the minimum amount of information necessary to communicate the erosion and sediment control needs for the specific stage of development. Also consider scale, don't try to fit a 10+ acre site on one sheet. The size of your drawings and make a key map. Reviewer time is greatly reduced when the plan is easy to read and interpret.
Features that will be present through multiple stages or throughout the duration of the project need to be reflected on each sheet. Examples include construction entrances, natural buffer areas, and dewatering.
If possible, determine the background turbidity of the receiving waterbody. Make sure that the discharges from your site are no more than 10% higher than that number.


Include the scale of any constructed outfalls, including associated BMPs.
Onsite detension is a great BMP for stormwater management/treatment. Remember to replace the infrastructure prior to use as it does not become a sediment source itself. Consider long term functionality impacts if the feature will be used for post-construction stormwater management.
Note: There are no defined wet/dry seasons or dates in the 1200-Z permit, or allowance for the assumption of dry conditions. This site is expected to manage stormwater any time of year.
ADD BASIN RESTORATION PLAN, TYPICALLY "EXCAVATE TOP 18" AFTER CONSTRUCTION ACTIVITIES CEASE AND FINAL STABILIZATION IS ACHIEVED. ADD 18" OF APPROVED GROWTH MEDIA (BEFORE VEGETATING)".
ESCP FINAL LANDSCAPING AND STABILIZATION PLAN
EC-7.0

Document Submission & Review

RVSS

→ Submit via Email (Permit@rvss-or.gov)

- Submit at least 30-days prior to earth-disturbing activity.
- Review will happen once all document are received:
  - ESC Application, LUCS, ESCP
  - *Stormwater Management Plan (Calculations, Plans, O&M with DoC)*
  - *Sewer (Complete Civil Plans)*
- Pay after review.

DEQ

→ Submit via YourDEQ Online

- Submit at least 30-days prior to earth-disturbing activity.
- Pay before review.
- DEQ will send back submittal package via YourDEQ with note for items not in compliance with the requirements and/or more information needed.

Update: New DEQ requirement coming for ALL 1200-C/CN submissions to be on YourDEQ Online. More to follow.

Best Management Practices (BMPs)

Best Management Practices (BMPs)

Stormwater controls or measures that reduce pollutants at the source to prevent the pollution of stormwater runoff discharged from the site.

Goals & Priorities

Prevent Erosion

Contain Runoff On Site

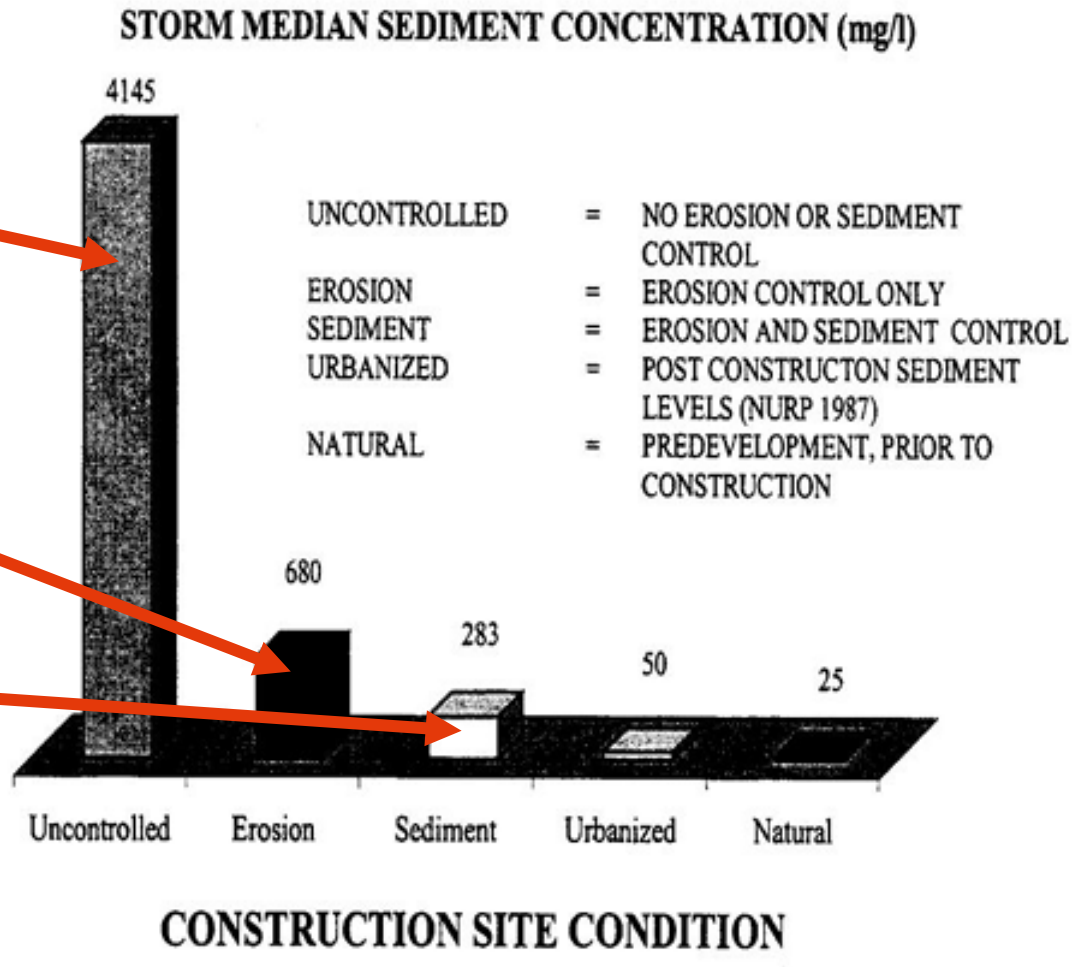
Treat Runoff Leaving Site

Effectiveness of Erosion and Sediment Control BMPs

No Erosion or Sediment Controls

Erosion Controls Only

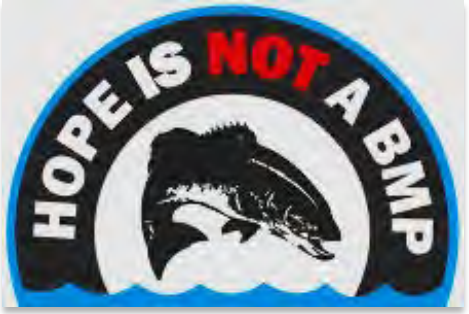
Erosion and Sediment Controls



ESCP Development Thoughts

A good Erosion and Sediment Control Plan first minimizes the extent of disturbance by focusing on <u>erosion prevention</u> (minimizing disturbed areas, seeding, mulching, matting) by controlling the amount of soil that can run off and by stabilizing exposed soil. Sediment control measures (i.e. stabilized construction entrances) then focus on any sediment that has escaped your erosion control measures.

Erosion prevention measures are far more effective than sediment control measures (such as silt fence) and should be the primary focus of any ESCP.



ESCP Development Thoughts

Erosion permits don't delineate specific practices that all sites must adhere to, they set criteria that allow the permittee to select technologies to meet those standards based on conditions at the site, resources, and costs.

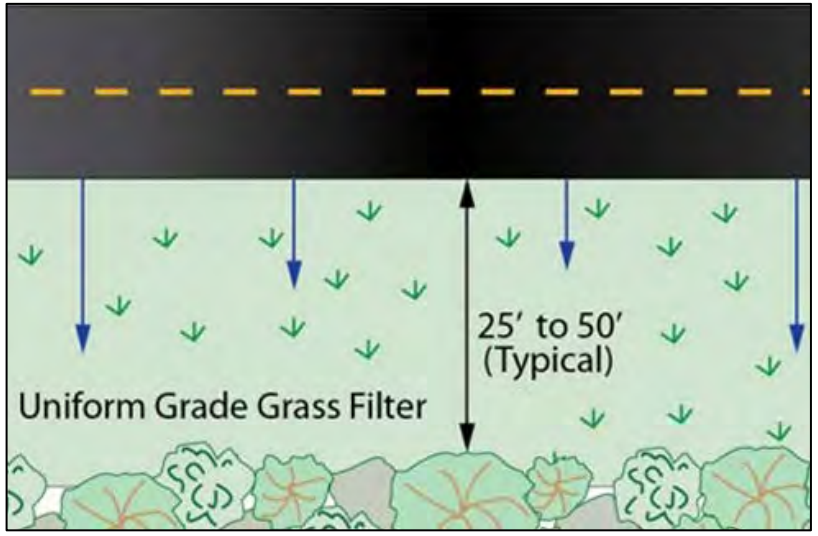
<u>Required for Nearly EVERY Site</u>
Perimeter Control
Inlet Protection
Construction Entrance

ESC Guides:
ACWA Construction Site Stormwater Guide
DEQ Best Management Practices Manual
EPAs SWPPP Guide

Common BMPs

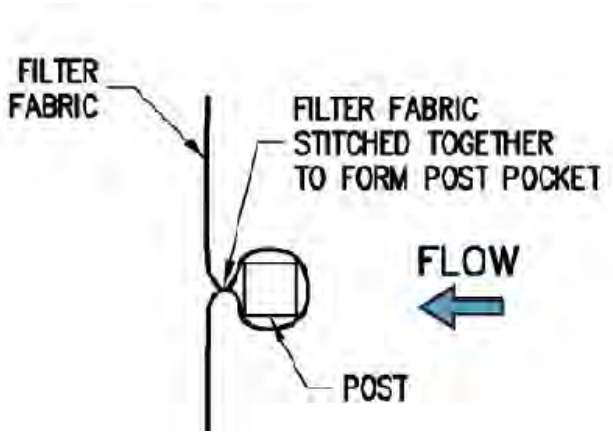
BMP: Buffer Area

- Vegetated buffers are areas of natural, existing or established vegetation that protect the water quality of neighboring areas and waterbodies during construction.
- Cheap, easy, and effective! For sheet flow only. Must be located on property (sediment is not allowed to leave to project site.
- It is important to not overwhelm vegetated buffers with fast, erosive, and/or concentrated flows. This BMP is effective for sheet flow on shallow slopes. General sizing should be ½ the distance of the sheet flow, up to 50ft.

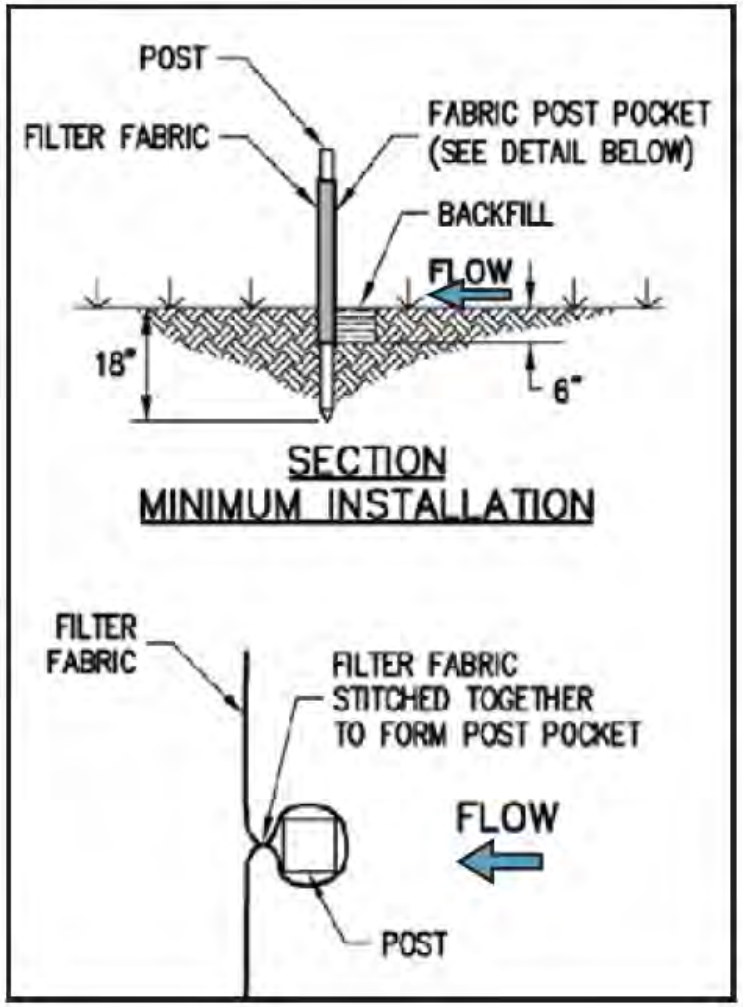


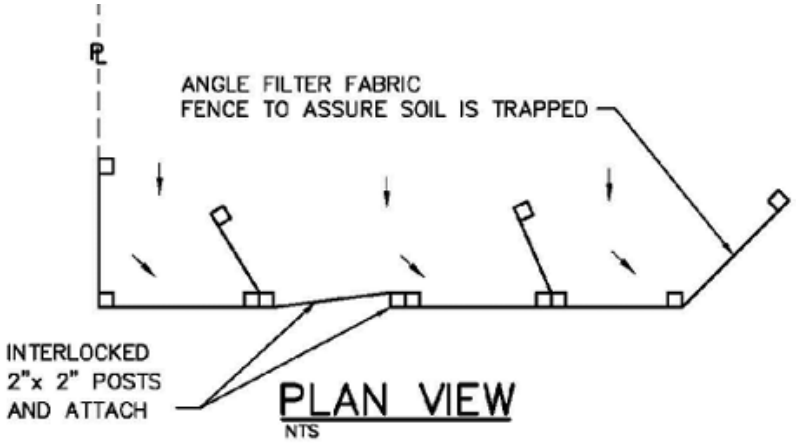
BMP: Sediment Fence

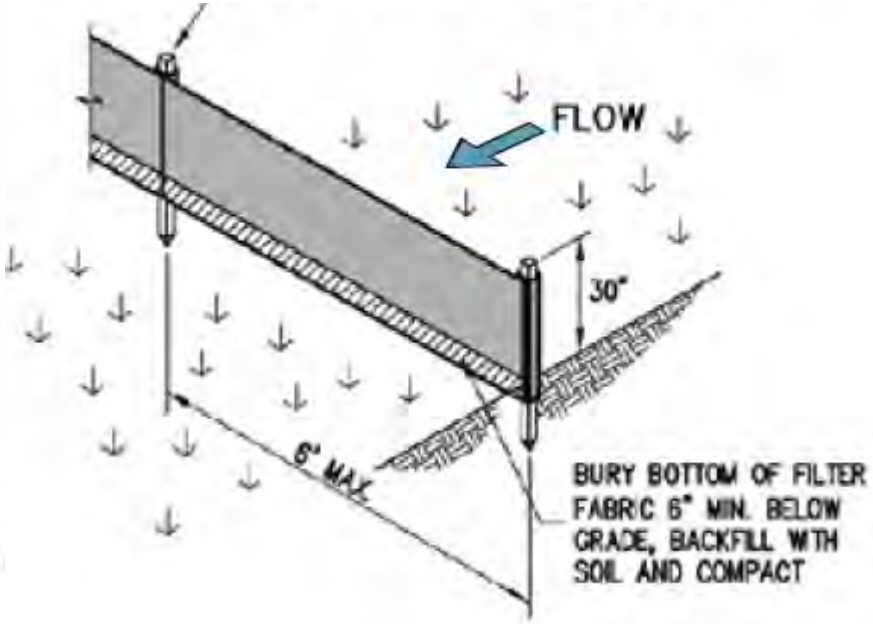
- A sediment fence is a temporary sediment trap made of filtering geotextile fabric stretched between and attached to support posts; it is installed to treat overland/sheet flow. Not for concentrated flow and never across waterways.
- Drive posts securely into the ground and bury the hem into a trench. When sediment fence approaches its end point, turn fence uphill and extend one full panel. If the fencing has a post pocket, it should be installed on the uphill side.

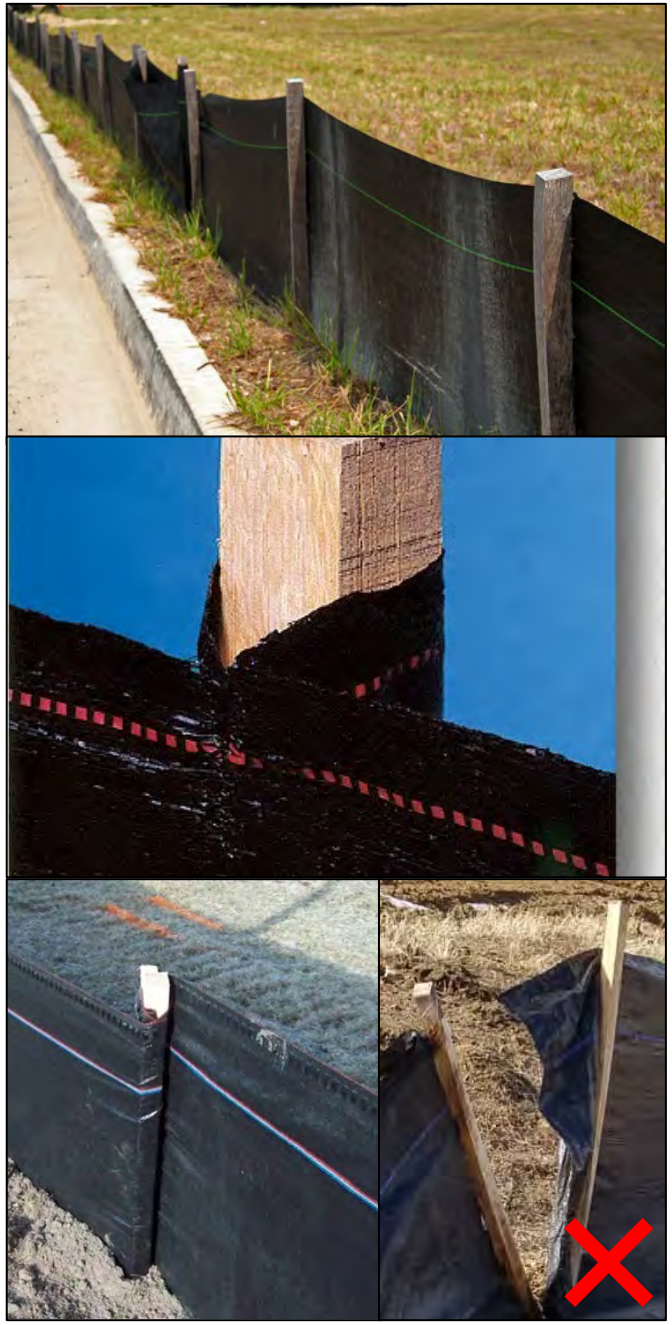


Sediment Fence



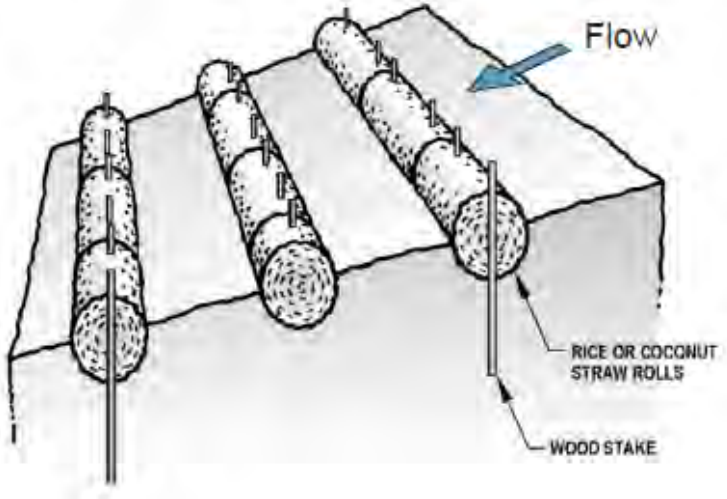


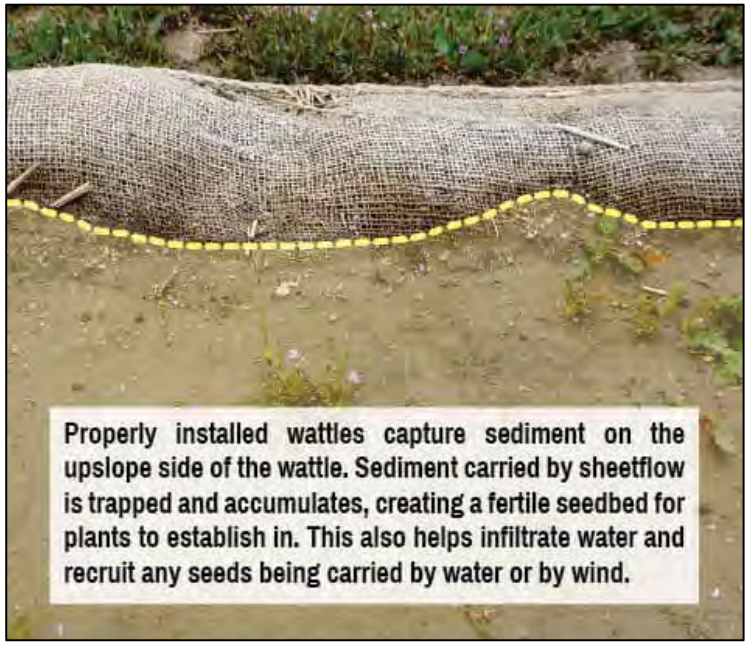




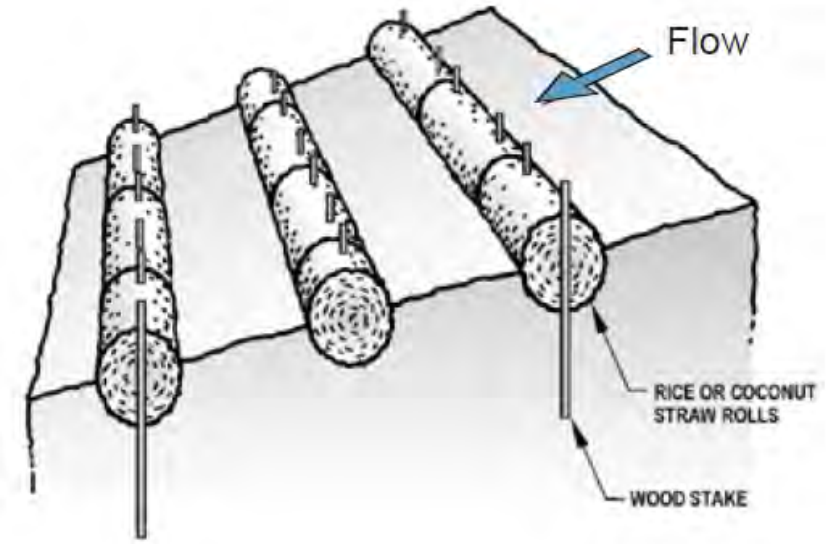
BMP: Fiber Rolls or Wattles

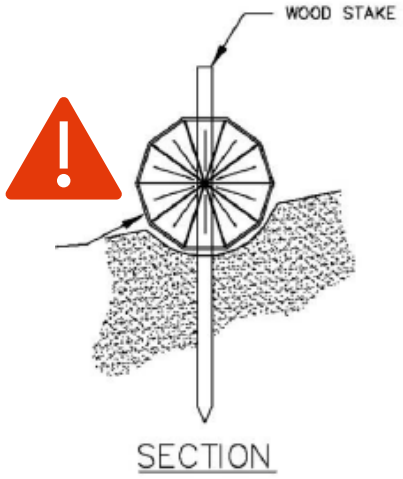
- Fiber rolls or wattles (wattles) intercept and capture sediment entrained in sheet flow. Use these light-weight and easy-to-install rolls in place of sediment fences on steep slopes or as an alternative to biobags for inlet protection.

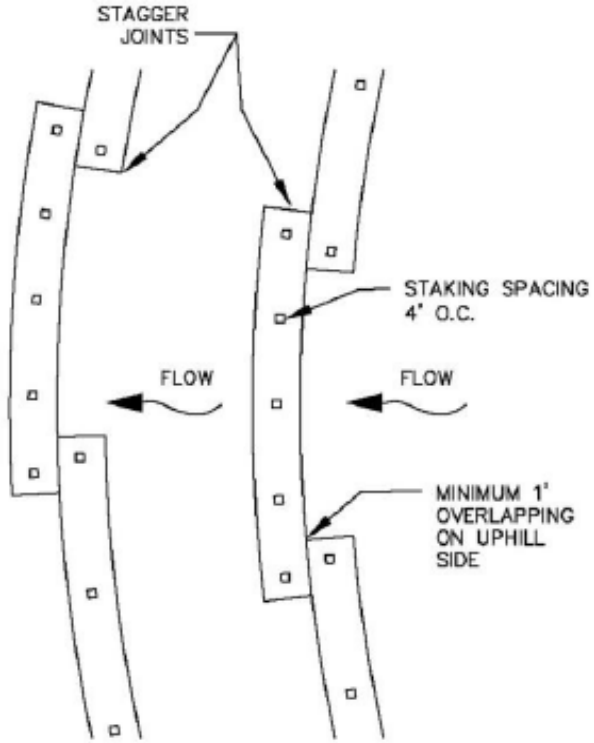


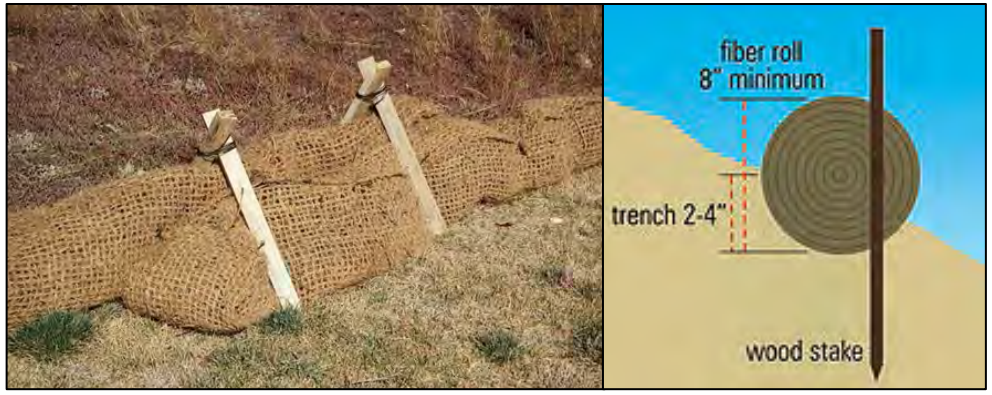


Fiber Rolls / Wattles









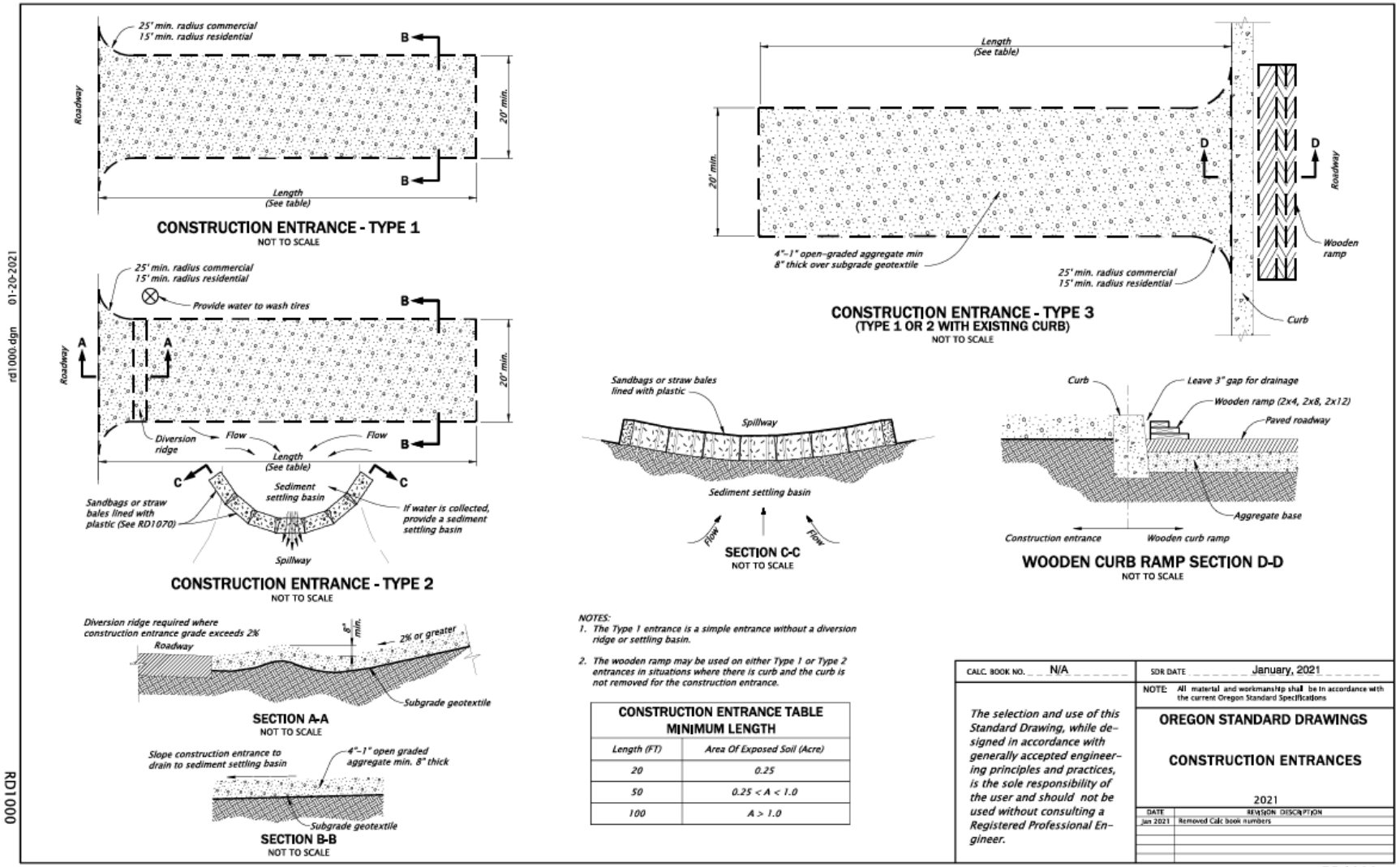
BMP: Construction Entrance

- Properly implemented construction entrances/exits help prevent the tracking of soil onto public or private roadways that could flow into stormwater conveyance systems or surface waters.
- They are usually stabilized rock pads placed at each construction site entry and exit point. Other plates, panels or structural systems may also be used.

Do not use 3/4” minus for construction entrance!

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	*Area Of Exposed Soil (Acre)*
20	*0.25*
50	*0.25 < A < 1.0*
100	*A > 1.0*

BMP: Construction Entrance



BMP: Wheel Wash, Shaker or Rumble Track

- **Wheel Wash**: When the gravel construction entrance is not sufficient to mitigate track out, a wheel wash may be installed. Wheel washes are simple pressure washers placed at ingress/egress points and used to release large sediment clinging to the vehicles exiting the site. Wheel wash water is wastewater.
- **Shaker or Rumble Track**: Steel structures that use rows of angle iron or steel bars to shake vehicle tires and dislodge debris. Various types of shaker racks can be installed with an optional sediment pit below the system to catch loose mud. These systems are often installed over paved areas and can be reused.

BMP: Inlet Protection

- Inlet protection involves using a temporary barrier to prevent the flow of sediment and debris into a storm drain or other form of conduit. Inlet protection is used to prevent sediment from entering and clogging the storm drainage system prior to permanent stabilization of a construction area.
- There are several types of material and techniques used for inlet protection. Some of the methods filter out larger particulates, while others establish a drop area.

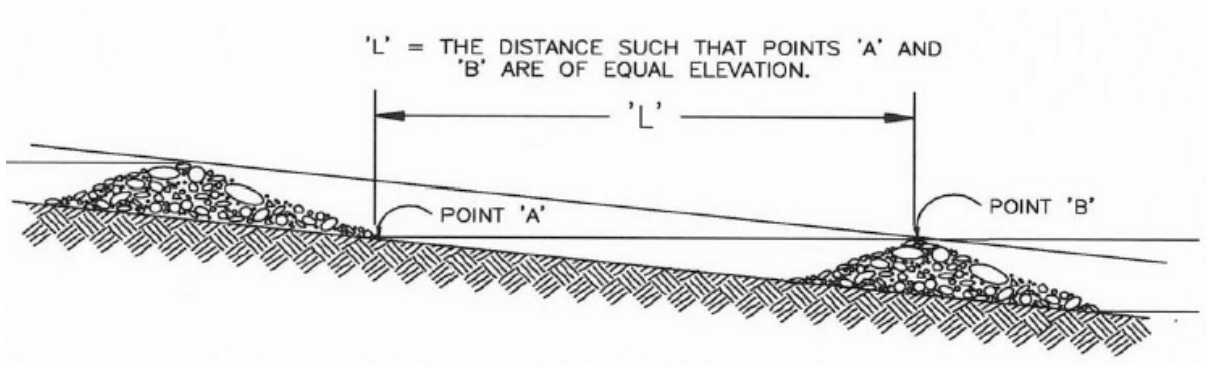
Inlet Protection

BMP: Outlet Protection

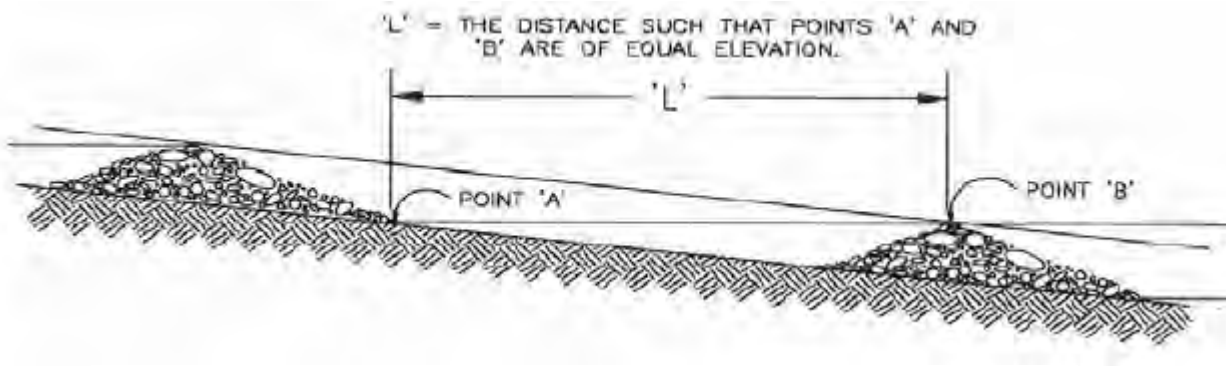
- Outlet protection involves the use of an **energy-dissipating** device at the outlet of a pipe or conduit to prevent excessive erosion from the discharge of runoff.
- Outlet protection structures can be manufactured from a number of different materials.

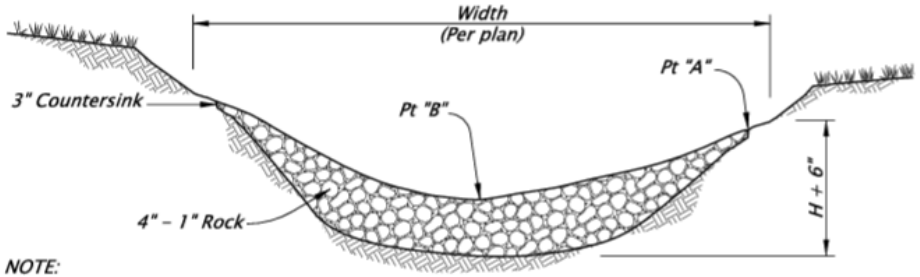
BMP: Check Dams

- A check dam is a small dam constructed in a drainage way to reduce channel erosion by restricting the flow velocity and are appropriate for use in small drainage areas.
- They are velocity dissipaters. Flow should pass through as well as over them. These structures also tend to act as sediment control structures, so it is important that they be inspected and maintained regularly.



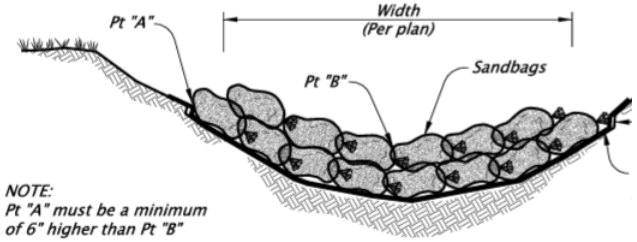
Check Dams





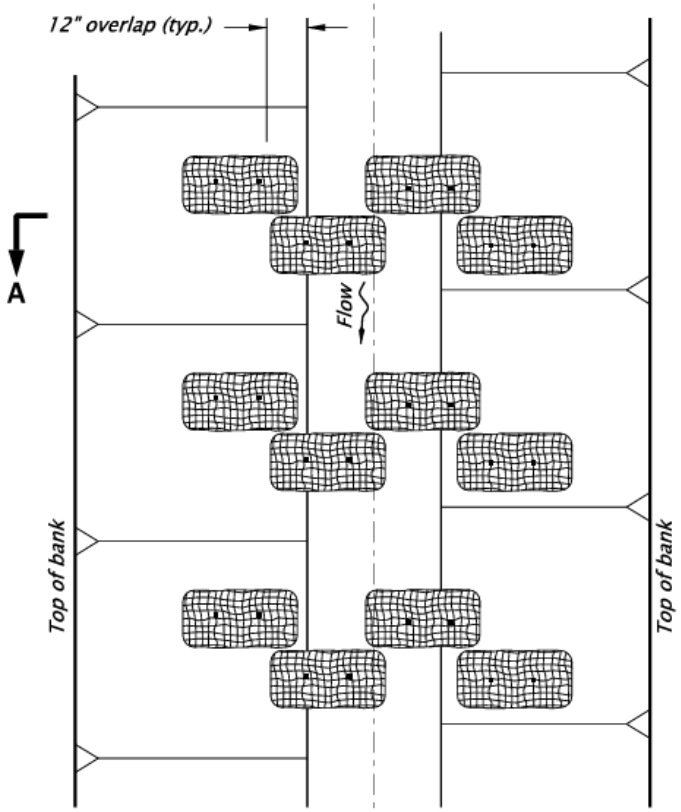
NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

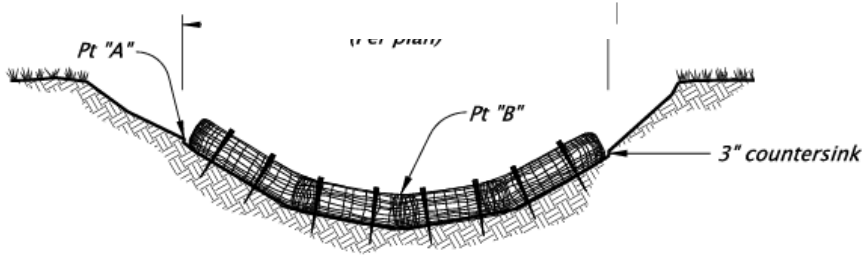
AGGREGATE CHECK DAM - TYPE 1
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

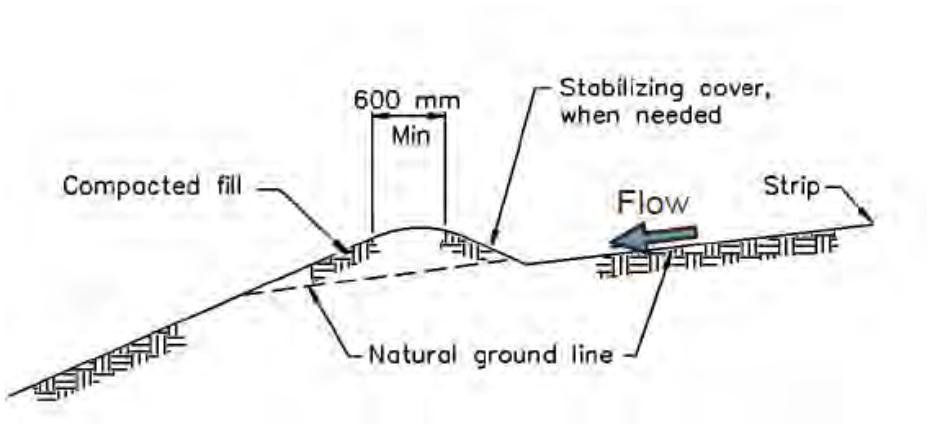
SANDBAG CHECK DAM - TYPE 4
NOT TO SCALE





BMP: Diversion Controls

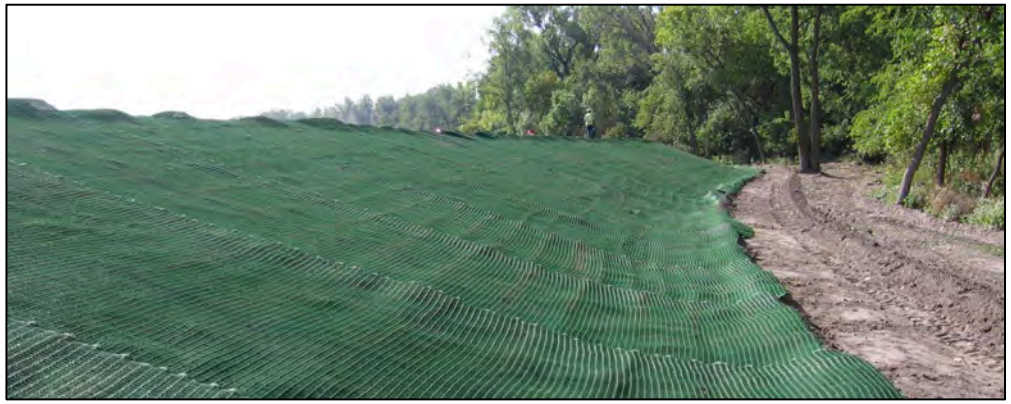
- A diversion can be a berm (dike or ridge), a swale, an excavated channel, a ditch, or a pipe used to prevent sediment-laden waters from leaving a site or to prevent off-site or upstream waters from entering a site.
- Diversion structures guide water around unstable areas to prevent both erosion and saturation with water.



BMP: Rolled Erosion Control Products (RECPs)

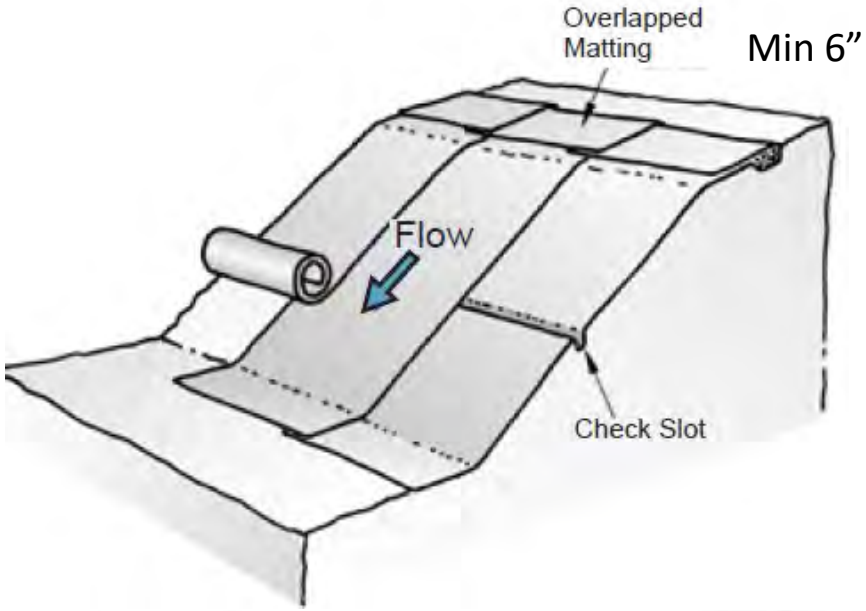
- Rolled erosion control products (such as netting, meshes, erosion control blankets, and turf reinforcement mats) come in a variety of materials, including jute, coconut fiber, straw, synthetic materials, plastics or combinations thereof.
- Designed to provide immediate protection until a more permanent stabilization measure can be implemented. With proper installation and maintenance this practice can stabilize the slope and greatly reduce if not eliminate the potential erosion and associated soil in the runoff.

Be aware of the Type! ODOT Type A-D (Various Slope & Soil), Type E-H (Channel Liners)

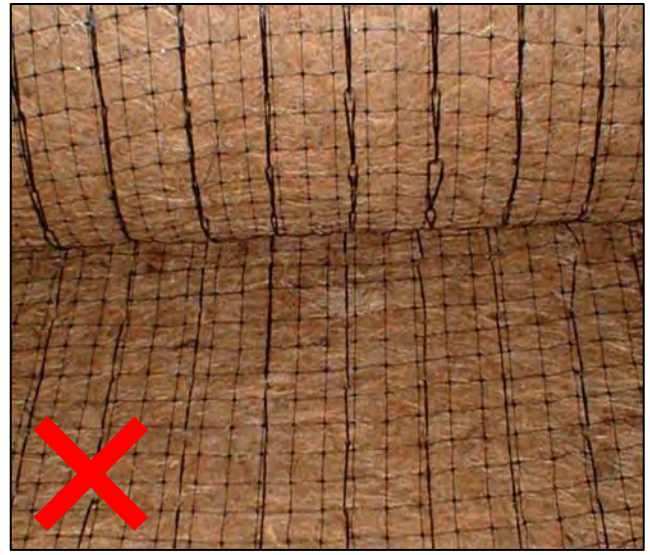


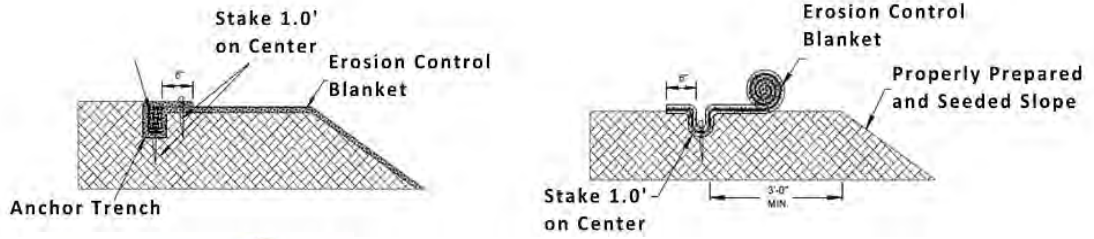
RECPs

Jute



Min 6”





Coir

BMP: Hydroseeding, Mulching & Tackifiers

- **Hydroseed**: mixture of a mulch, seed and fertilizer slurry to establish vegetation and prevent erosion. This is a very economical option that can stabilize slopes until grasses and plants are able to sprout.
- **Mulching**: Application of plant material such as compost or straw to the soil surface. It provides immediate temporary protection from erosion. Mulching also improves seed growth by conserving moisture; stabilizing soil, and moderating temperature. Minimum of 2 inches for erosion prevention.
- **Tackifiers**: A tackifier is a biodegradable adhesive that can be applied directly to the soil, or over a layer of mulch. It acts as a glue to hold the soil in place or increase the holding power of the mulch.

BMP: Surface Roughening

- Roughening a bare soil surface with horizontal grooves running across the slope, stair stepping, or tracking with construction equipment; or by leaving slopes in a roughened condition by not fine grading them.
- Surface roughening provides some instant erosion protection on bare soil while vegetative cover is being established. It is an inexpensive and simple erosion control measure.

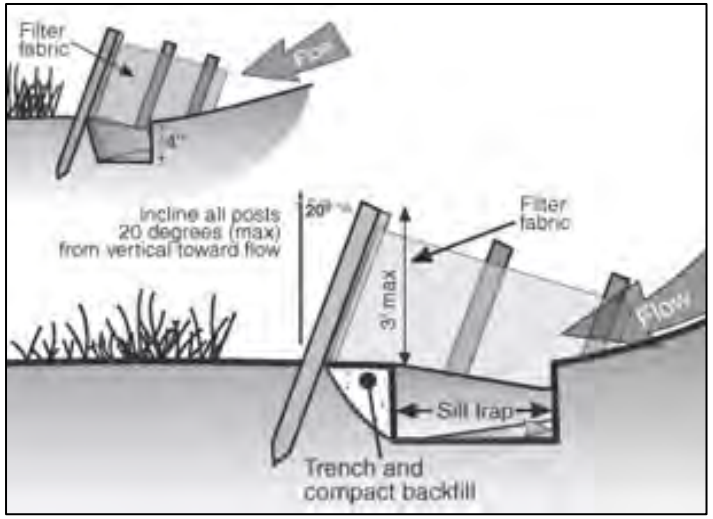
BMP: Pipe Slope Drain

- A temporary structure used to convey clean water down the face of a cut or fill without causing erosion.
- Temporary slope drains are used in conjunction with berms along the edges of newly constructed slopes to prevent erosion. They can also be used to conduct water across a site without contamination.

BMP: Sediment Trap

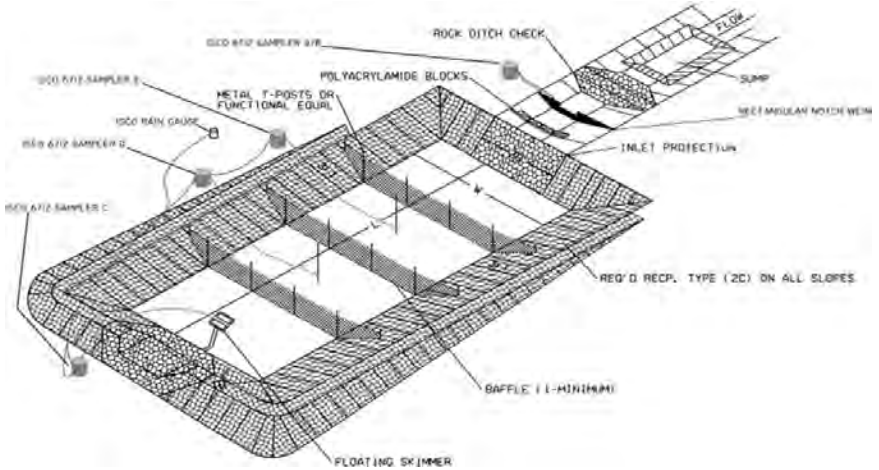
- A sediment trap is a temporary settling pond formed by construction of an embankment and/or excavated basin that usually has a simple outlet structure. Sediment traps are constructed to detain sediment-laden runoff from small, disturbed areas for a sufficient period of time to allow the majority of the sediment to settle out or to allow the water to infiltrate or evaporate.
- For 5 or less acres, establish early in the construction process using natural drainage patterns and favorable topography where possible to minimize grading. Creative use of this is downcutting to lower soil levels next to surface to create a protective barrier.

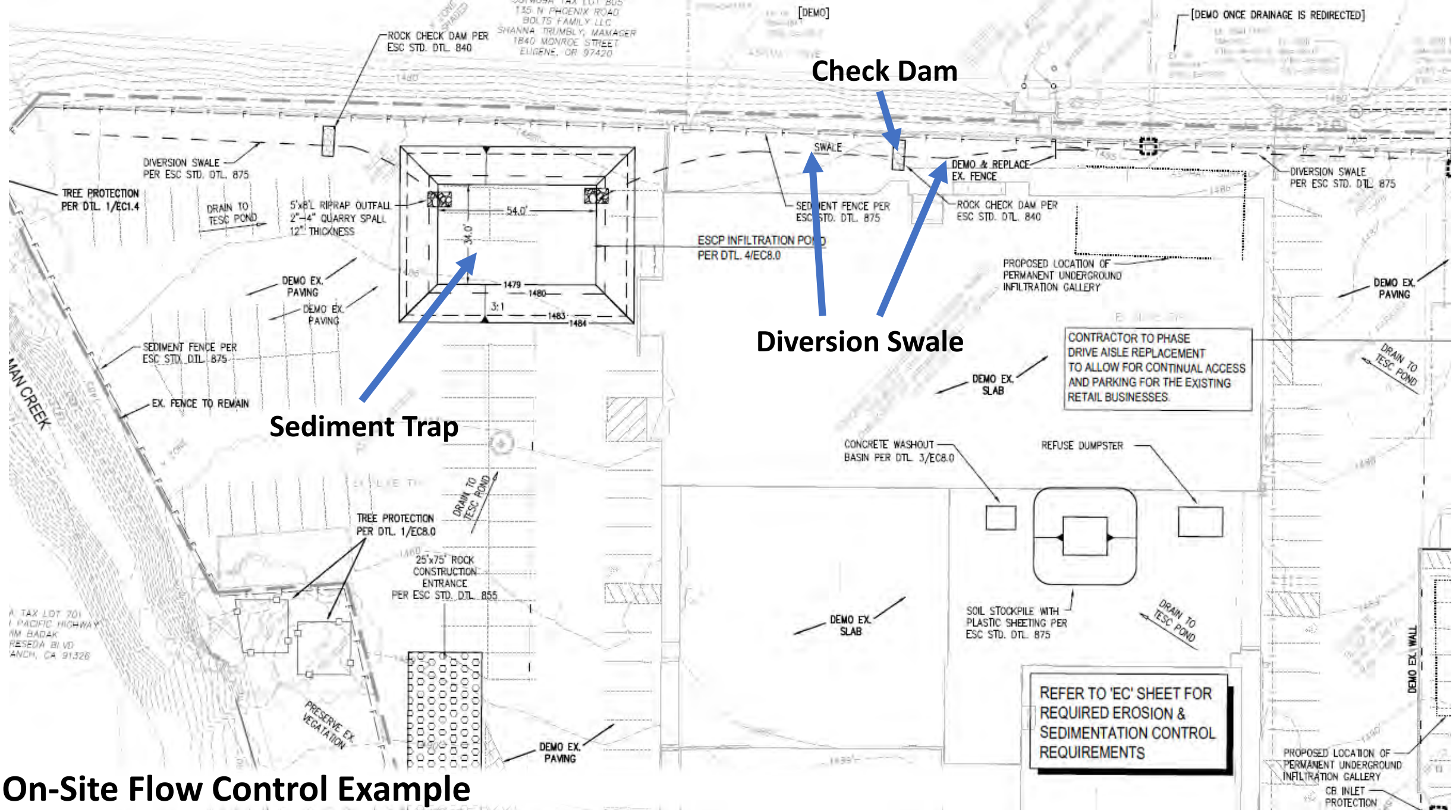
BMP: Sediment Trap



BMP: Sediment Basin

- For site over 5 acres, a sediment basin is a temporary settling pond that releases runoff at a controlled rate. The basin is designed to slowly release runoff, detaining it long enough to allow most of the sediment to settle.
- Sediment basins typically consist of a dam or embankment, the pool area for water and sediment storage, principal and emergency spillways, a controlled dewatering device or skimmer, and can include multiple bays for improved settling.
- The entire structure may be removed when construction is complete and the drainage area is stabilized or may be converted to a detention basin for post-construction storm water management.





On-Site Flow Control Example

BMP: Dewatering Management

- Dewatering practices are used to remove ground water or accumulated rain water from excavated areas. **Pump muddy water from these areas to a temporary or permanent sedimentation basin or to an area completely enclosed by silt fence in a flat vegetated area where discharges can infiltrate into the ground.**
- **Never discharge muddy water into storm drains, streams, lakes, or wetlands unless the sediment has been removed before discharge**. Keep in mind that some jurisdictions require a separate permit for dewatering activities at a site. Some dewatering operations require additional treatment or wastewater disposal.

BMP: Stockpile Management

- Stockpile management reduces or eliminates the discharge of pollutants to stormwater from stockpiles of soil, sand, rock sub-base material, concrete, mulch, compost, building materials, etc.

Soils exposed for 14 days must be stabilized!

BMP: Dust Control

- In dry weather, soil is particularly prone to displacement by wind erosion on unpaved roads and construction sites. Use administrative controls and prevention.
- Dust may be controlled by reducing vehicular speeds, using street sweepers fitted with filters and vacuums, planting vegetation cover, or a light application of water to moisten the soil surface.

Four Key Pollution Prevention Practices for Good Housekeeping

Establish a Spill Prevention and Response Plan

- As the site-inspector: Note the locations of chemical storage areas, storm drains, drainage areas, surface waterbodies on or near the site, and measures to stop spills from leaving the site.

Designate Washout Areas

- Concrete contractors should be encouraged, where possible, to use the washout facilities at their own plants or dispatch facilities. If it is necessary to provide for concrete washout areas on-site, designate specific washout areas and design facilities to handle anticipated washout water.

Locate at least 50ft from storm drains and waterways to prevent accidental spills and contamination of stormwater!

Establish Proper Material Handling and Staging Areas

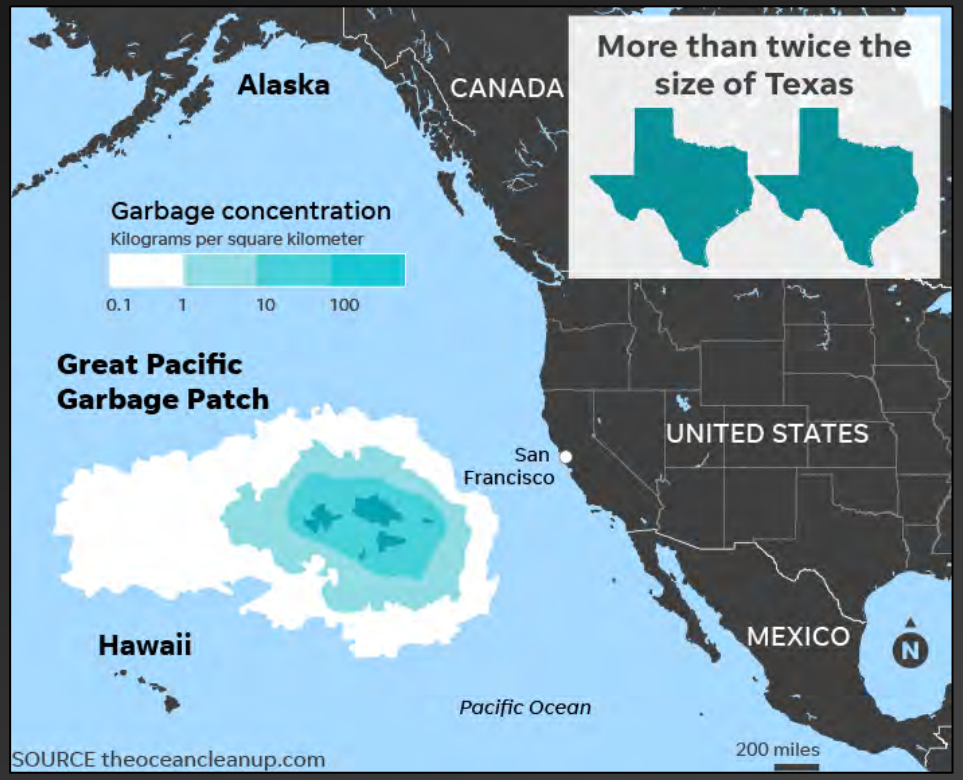
- Paints, solvents, pesticides, fuels and oils, other hazardous materials or any building materials that have the potential to contaminate stormwater should be stored indoors or under cover whenever possible or in areas with secondary containment.

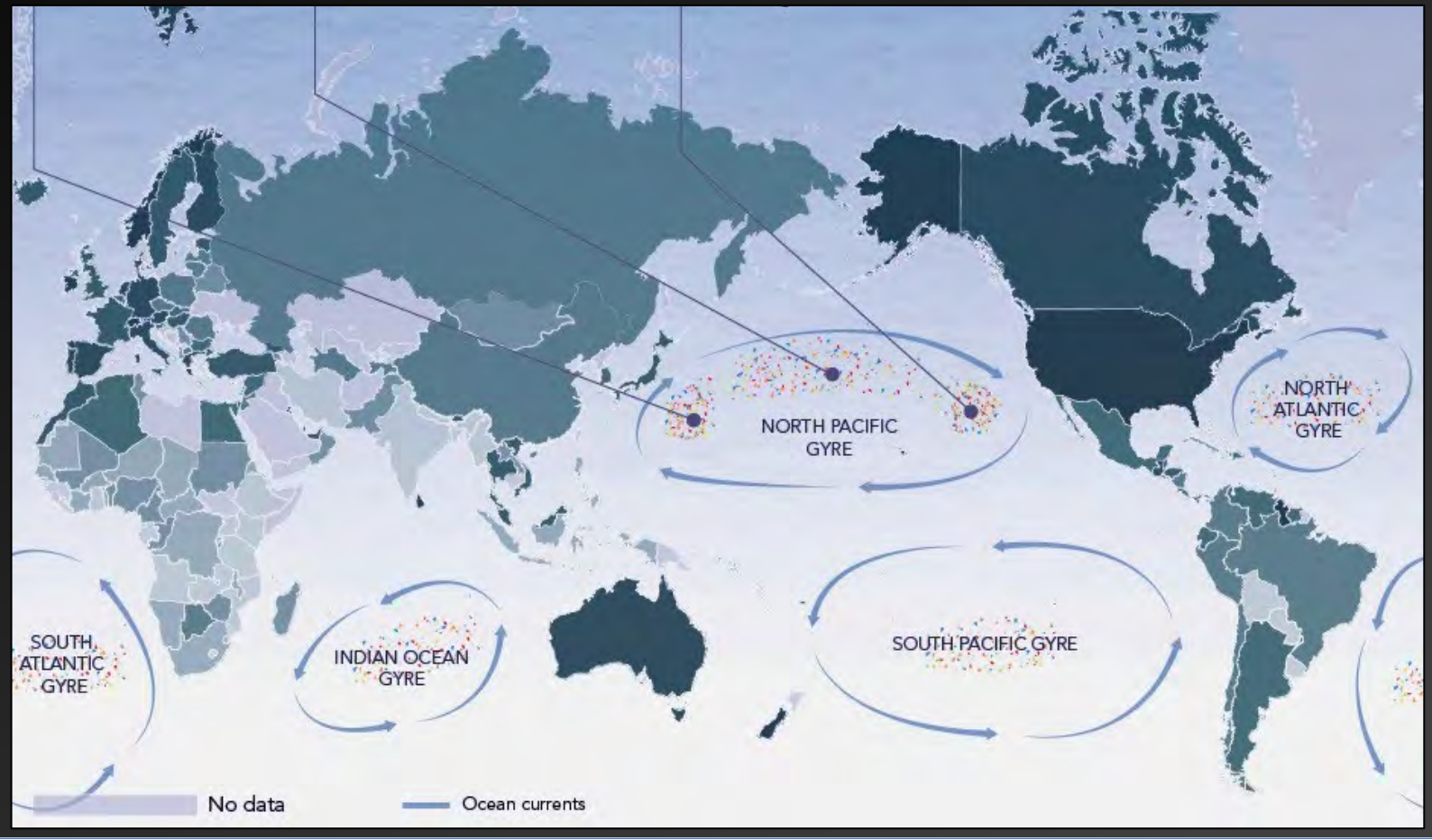
  Should be located at least **50ft** from storm drains and waterways.

Provide for Waste Management

- Locate toilet facilities at least **50ft** away from storm drain inlets and waterways.
- **Have a way to dispose of trash and recycling on site.** Locate at least **50ft** from storm drains and waterways.

Trash Pollution





Think Beyond the Silt Fence

It is cheaper and easier to PREVENT erosion than to fix sedimentation problems!

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

Boundaries

Sewer

Stormwater Management

Erosion & Sediment Control

Project Requirements

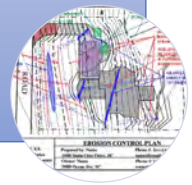
Application & Appendices

Land Use Compatibility Statement

Erosion and Sediment Control Plan (ESCP)

Document Review

Submit Required Documents



Project Invoice

Plan Approval

RVSS Permit

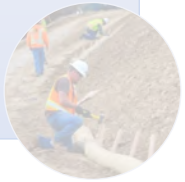
DEQ Permit

Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting



Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

Which Jurisdiction(s) Are You In?

Sewer

Stormwater Management

Erosion & Sediment Control

Application & Appendices

Land Use Compatibility Statement

Erosion and Sediment Control Plan (ESCP)

Document Review

Project Invoice

Plan Approval

Stormwater Management Plan Review and Inspection			
Stormwater Management Plan Review and Inspection Total			**1,000.00**
1200CNAp			
		1,500.00	
1200CNAp Total			**1,500.00**
	TOTAL PAID	**$**	**2,500.00**

ound-Disturbing
A ity Complete
All BMPs Removed
ization

Enforcement

Annual Renewal

A **Plan Approval Letter** will be issued along with a **Project Invoice.** The Plan approval letter states that the ESCP and associated documents are in general conformance with RVSS standards. This will satisfy city planning requirements. The 14-day comment period can start after Plan Approval.

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

Boundaries

Sewer

Stormwater Management

Erosion & Sediment Control

Project Requirements

Application & Appendices

Land Use Compatibility Statement

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Submit Required Documents

Project Invoice

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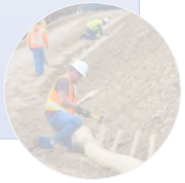
DEQ Permit

Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting



Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

ESC Permit Issue

Permit Required	Documents Issued
SDPP-M (*within MS4*)	▪ SDPP-M Permit
1200-CN (*Annual*)	▪ *RVSS ESC Permit (1-5 Acres)
1200-C (*Annual*)	▪ *DEQ 1200-C Permit Assignment Letter ▪ *RVSS ESC Permit (5+ Acres)

The DEQ 1200-C, and DEQ 1200-CN (RVSS) Permits are located on the RVSS Website.

Make sure you read them at least once!

**DEQ Permits issued by RVSS within the RVSS MS4*

Construction Authorization

- If you have Sewer or Stormwater Management requirements, you will receive **Construction Authorization Letter**.
- Construction Authorization signifies that all administrative items have been completed.
- If the project only requires Erosion and Sediment Control, you will only receive the ESC Permit.
- Always check with local jurisdiction for additional requirements.
- Your ESC Permit (for EC only) and/or Construction Authorization is your ticket to install BMPs and schedule the Pre-Construction Meeting with a RVSS Inspector.

Within the RVSS MS4, you will require a Pre-Construction Meeting for SDPP-M, 1200-CN, and 1200-C sites!

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

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Sewer

Stormwater Management

Erosion & Sediment Control

Project Requirements

Application & Appendices

Land Use Compatibility Statement

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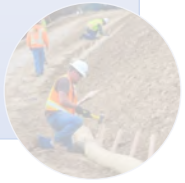
Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting



Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

SDPP-M, 1200-CN/C, Sewer, and Stormwater all require a Pre-Construction Meeting.

All BMPs must be installed prior to the Pre-Construction Meeting.

Construction may not begin until after the Pre-Construction Meeting!

Call to Schedule

RVSS Permit
DEQ Permit
Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting

Record Keeping
Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete
All BMPs Removed
Site Stabilization

Permit Termination

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

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Stormwater Management

Erosion & Sediment Control

Project Requirements

Application & Appendices

Land Use Compatibility Statement

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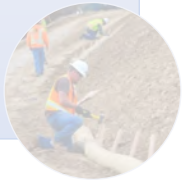
DEQ Permit

Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting



Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

Visual Monitoring & Inspections

Inspection Schedule

Site Condition	Minimum Frequency
Active Period	• **Initial day of land disturbance.** • **Within 24 hours of any storm event that results in discharge from the site. *(usually 0.1 inches)*** • **At least once every 14 days.**
Inactive Period Over 14 days	• Every 14 days for the first month, then monthly
Site Inaccessible Due to Weather	• When safe, accessible, and practical. • Daily monitoring must be conducted downstream.
Construction Suspended & Ground is Frozen	• Suspended until thawing or weather makes discharges likely.
Construction Active & Ground is Frozen	• Visual inspections reduced to once a month until thawing or weather makes discharges likely

The Inspector is not required to visually monitor areas that, at the time of the inspection, are considered unsafe; however nearby downstream locations of any receiving waterbodies must be inspected to the extent that such inspections are safe, accessible and practical.

Visual Monitoring & Inspections

Site Requirements, All Construction Phases, All Personnel

Erosion and Sediment Control Plan

MUST be kept ON SITE!

Living Document!

- All stormwater controls are properly installed, maintained, and functioning.
- Spill response and prevention. Hazardous materials must be separately stored and contained.
- **Visually turbid discharge or sediment CAN NOT leave the site.** Discharge leaving the site controlled for **stormwater volume, velocity, and peak flow rates** not to exceed pre-development levels.

Visual Monitoring & Inspections

The ESC Inspection

- Check all stormwater controls are properly installed and functioning properly.
- Check all points of discharge from site.
  - Walk the perimeter of the site.
- Look for conditions that could lead to spills, leaks, or discharge
  - Check for presence of visible erosion and sedimentation (e.g. rills).
  - Check washout, hazardous material storage, and waste collection areas
- Identify locations where new or modified stormwater controls are necessary.
- Identify where land disturbing activities have ceased, permanently and temporarily.
- *If construction activity involves the use of engineered soils, (soil amendments including, but not limited to Portland cement-treated base, cement kiln dust, or fly ash), conduct and document pH monitoring of stormwater captured in the sediment impoundment.*

Visual Monitoring & Inspections

<u>The Inspection Report</u>: No Report, No Inspection (Must be completed within 48 hours)

- ❑ Identification information: Date, inspector name (listed and certified), and contact information.
- ❑ Site information: DEQ (and RVSS) permit ID number.
- ❑ Trigger for the inspection: 14-day, post-rain event, complaint, etc.
  - ❑ Weather station and rain gauge measurement.
- ❑ Any unauthorized discharges from the site or evidence of (this includes spills and response).
- ❑ *All pH sampling results (for engineered soils).*
- ❑ A summary of the inspection, including the observations made, specifically:
  - ❑ The location of BMPs in need of maintenance or corrective actions, and any BMPs that failed to operate as designed or proved inadequate for a particular application.
  - ❑ The location of where additional BMPs are needed.
  - ❑ Observations of the stormwater discharges from the site (Visual, smell, source, etc.)
  - ❑ Reasons for changes or modifications to the ESCP.
- ❑ *Photos – A photo says 1000 words.*

Visual Monitoring & Inspections

Record Keeping

- Each inspection report must be signed by the Inspector with the following statement: “I certify that this report is true, accurate, and complete to the best of my knowledge, abilities, and belief.”
- All inspection reports must be kept in chronological order at the site, or at an easily accessible location (electronically is acceptable).
- All visual monitoring notes, sampling records and inspection reports must be kept for three years from the date that the permit coverage expires or is terminated.

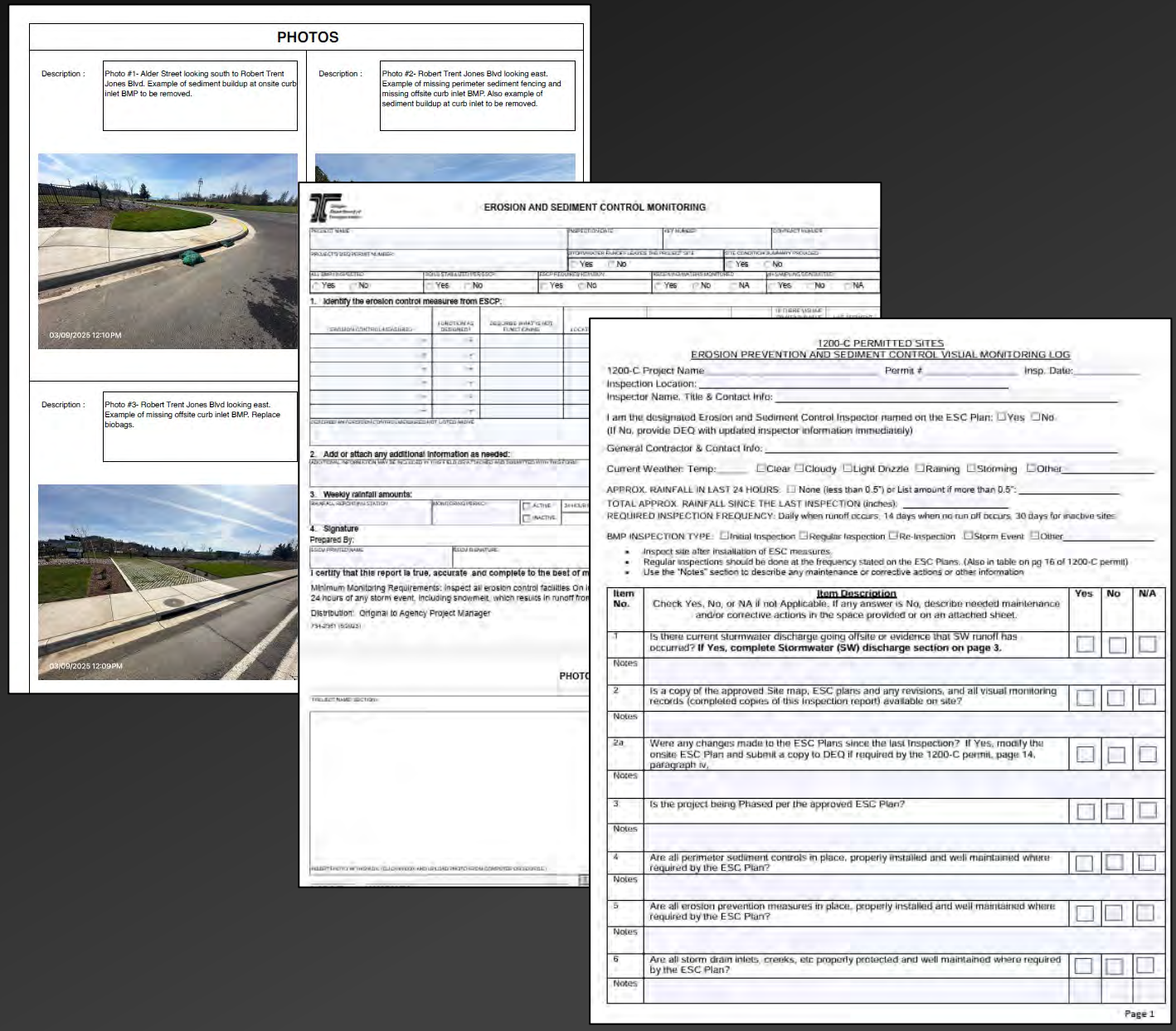
There is no specified report template. You can make and use your own form or use or adjust a template. It is your responsibility to ensure all required elements are on the report. There are some general ODOT and DEQ templates on the RVSS website.

All required items can be found in the 1200-C Permit.

Corrective Action

What happens when you find a problem?

- ❑ Immediately take all reasonable steps to address the condition.
  - **Immediately clean up any contaminated surfaces.**
  - This includes sediment!
- ❑ Determine appropriate corrective action.
- ❑ Update ESCP changes on the ESCP on site and the inspection report. Major changes from the ESCP may need to be approved by the issuing authority.
- ❑ **Complete corrective action within 24 hours.**
  - If unable to complete in 24 hours, must document why.
  - **Convenience is *NOT* an acceptable reason!**



PHOTOS

Description : Photo #1- Alder Street looking south to Robert Trent Jones Blvd. Example of sediment buildup at onsite curb inlet BMP to be removed.

Description : Photo #2- Robert Trent Jones Blvd looking east. Example of missing perimeter sediment fencing and missing offsite curb inlet BMP. Also example of sediment buildup at curb inlet to be removed.

Description : Photo #3- Robert Trent Jones Blvd looking east. Example of missing offsite curb inlet BMP. Replace biobags.

EROSION AND SEDIMENT CONTROL MONITORING

1. Identify the erosion control measures from ESCP:

2. Add or attach any additional information as needed:

3. Weekly rainfall amounts:

4. Signature

Prepared By:

I certify that this report is true, accurate and complete to the best of m

Minimum Monitoring Requirements: Inspect all erosion control facilities On

24 hours of any storm event, including snowmelt, which results in runoff fro

Distribution: Original to Agency Project Manager

PHOTO

1200-C PERMITTED SITES
EROSION PREVENTION AND SEDIMENT CONTROL VISUAL MONITORING LOG

1200-C Project Name _____ Permit # _____ Insp. Date: _____

Inspection Location: _____

Inspector Name, Title & Contact Info: _____

I am the designated Erosion and Sediment Control Inspector named on the ESC Plan: ☐Yes ☐No
(If No, provide DEQ with updated inspector information immediately)

General Contractor & Contact Info: _____

Current Weather: Temp:_____ ☐Clear ☐Cloudy ☐Light Drizzle ☐Raining ☐Storming ☐Other_____

APPROX. RAINFALL IN LAST 24 HOURS: ☐ None (less than 0.5") or List amount if more than 0.5": _____

TOTAL APPROX. RAINFALL SINCE THE LAST INSPECTION (inches): _____

REQUIRED INSPECTION FREQUENCY: Daily when runoff occurs; 14 days when no run off occurs; 30 days for inactive sites

BMP INSPECTION TYPE: ☐Initial Inspection ☐Regular Inspection ☐Re-Inspection ☐Storm Event ☐Other_____

- Inspect site after installation of ESC measures.
- Regular inspections should be done at the frequency stated on the ESC Plans. (Also in table on pg 16 of 1200-C permit)
- Use the "Notes" section to describe any maintenance or corrective actions or other information

Item No.	Item Description Check Yes, No, or NA if not Applicable. If any answer is No, describe needed maintenance and/or corrective actions in the space provided or on an attached sheet.	Yes	No	N/A
1	Is there current stormwater discharge going offsite or evidence that SW runoff has occurred? **If Yes, complete Stormwater (SW) discharge section on page 3.**	☐	☐	☐
Notes				
2	Is a copy of the approved Site map, ESC plans and any revisions, and all visual monitoring records (completed copies of this inspection report) available on site?	☐	☐	☐
Notes				
2a	Were any changes made to the ESC Plans since the last inspection? If Yes, modify the onsite ESC Plan and submit a copy to DEQ if required by the 1200-C permit, page 14, paragraph iv.	☐	☐	☐
Notes				
3	Is the project being Phased per the approved ESC Plan?	☐	☐	☐
Notes				
4	Are all perimeter sediment controls in place, properly installed and well maintained where required by the ESC Plan?	☐	☐	☐
Notes				
5	Are all erosion prevention measures in place, properly installed and well maintained where required by the ESC Plan?	☐	☐	☐
Notes				
6	Are all storm drain inlets, creeks, etc properly protected and well maintained where required by the ESC Plan?	☐	☐	☐
Notes				

Page 1

EPA, DEQ, Agent, or MS4 Oversight Inspection

An RVSS, DEQ, or MS4 Inspector can show up at your site at any time.

Visits are normally unannounced.

Reports must be made available at the time of inspection or upon request by Inspector.

Things will happen…

Self-reporting actually builds trust. Perfection is suspicious.

We are here to help!

Non-Compliance & Enforcement

RVSS, DEQ, City and County Officials, and the EPA can enforce regulations. Compliance is **REQUIRED by law!** Non-compliance is a violation of the Clean Water Act and of both State and Local Ordinances. **As the ESC Inspector, you can be held legally responsible for violations!**

Non-compliance violations can result in:

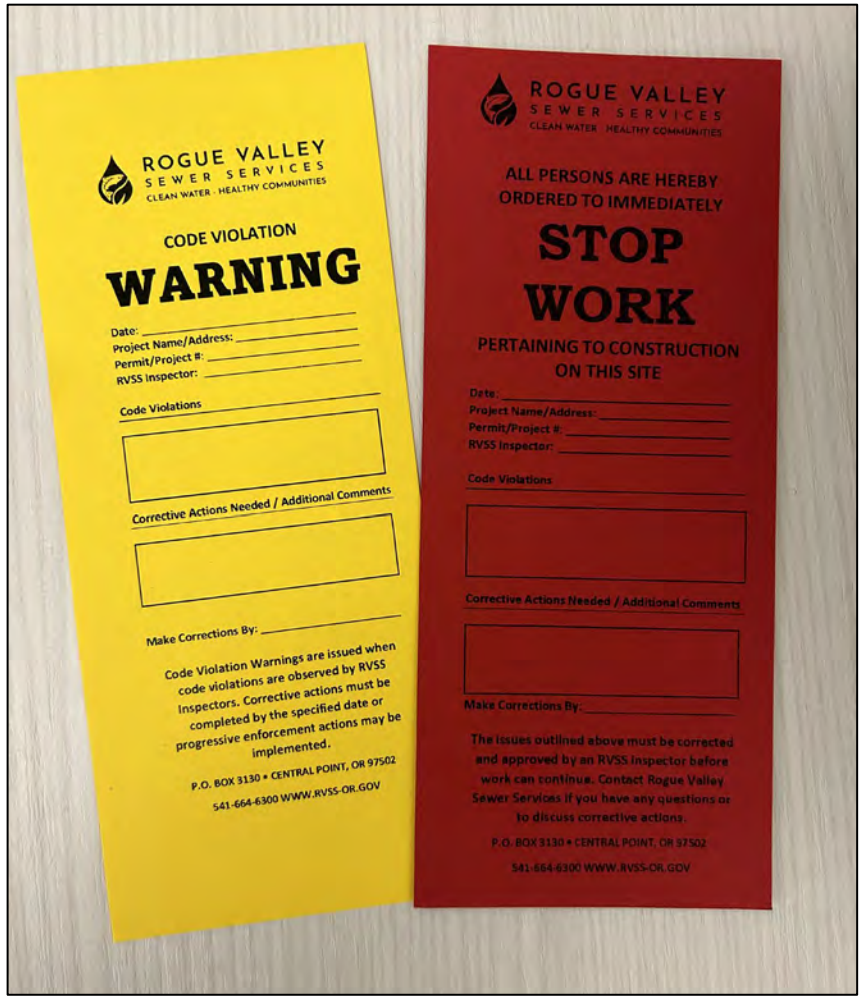
- Code Violation Warnings
- Stop Work Orders
- Citations
- Escalating Fees
- Civil Action
- Criminal Penalties

Not knowing is NOT an excuse!

Non-Compliance & Enforcement

RVSS Escalating Enforcement

- **Informal**
  - Verbal Correction On-Site
- **Formal**
  - Code Violation Warning
  - Stop Work Order
  - Civil Penalty / Fine
  - Transfer Violation to Code Compliance
  - Transfer Violation to DEQ
  - Transfer Violation to EPA



How Enforcement is Determined

- **The nature of the violation:**
  - Impact on health and/or the environment.
  - Quantity and type of pollution.
  - Violation intentional/malicious or accident.
  - Precautions taken to prevent the violation.

- **History of the violator:**
  - First violation or is there a history of violations.
  - Was the non-compliance repaired, or were multiple notices required.
  - **Demeanor**

- **Actions taken by the violator to correct the problem:**
  - Cooperation
  - Jumped into action and did it fix the problem.

RVSS Common Compliance Issues

1) BMPs not installed prior to construction or **No Preconstruction Meeting**
2) Improper inlet protection and maintenance.
3) Silt fence installed incorrectly or not maintained.
4) No ESCP On Site or Inspection Records
5) Track-out and construction entrance maintenance.
6) Improper dewatering procedures.
7) Poorly managed or non-existent concrete washouts.

RVSS Permit Process Overview

Which Jurisdiction(s) Are You In?

Boundaries

Sewer

Stormwater Management

Erosion & Sediment Control

Project Requirements

Application & Appendices

Land Use Compatibility Statement

Erosion and Sediment Control Plan (ESCP)

Document Review

Submit Required Documents

Project Invoice

Plan Approval

RVSS Permit

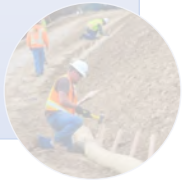
DEQ Permit

Annual Renewal

Construction Authorization & Permit Issue

All BMPs Installed

Pre-Construction Meeting



Record Keeping

Enforcement

Visual Monitoring & Inspections

Ground-Disturbing Activity Complete

All BMPs Removed

Site Stabilization

Permit Termination

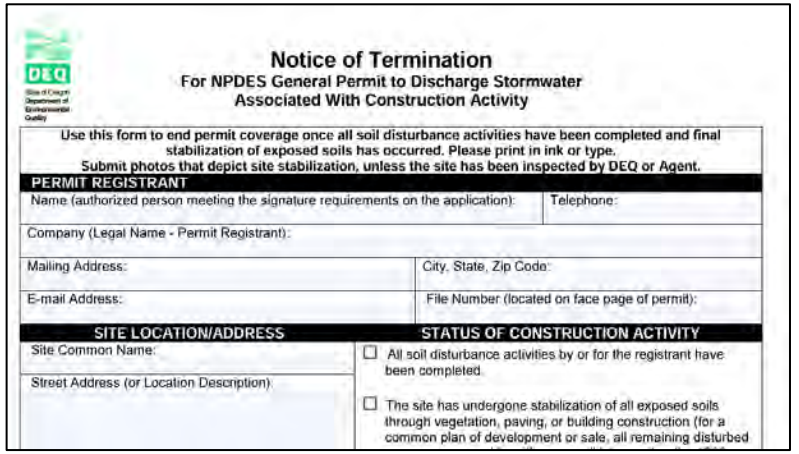
Permit Termination

Submit Notice of Termination (NOT) to the Issuing Agency

- ✓ All earth-disturbing activity is complete.
- ✓ **Site must be stabilized.**
- ✓ Remove and properly dispose of all construction materials, waste and waste handling devices, and temporary stormwater controls.
- ✓ Remove all potential pollutants and stop pollutant-generating activities associated with construction.
- ➢ A DEQ or Agent (RVSS) Inspector will conduct final termination inspection and issue termination letter.

Final Stabilization Criteria

- ✓ Establish uniform perennial vegetation that provides 70% or more cover on all exposed areas.
- ✓ All exposed soils are stabilized → No reasonable potential for discharge from the site of construction-related sediment or turbidity to surface waters.
- ✓ **RVSS: The Stormwater Facility must be completed and inspected.**



Notice of Termination
For NPDES General Permit to Discharge Stormwater Associated With Construction Activity

Use this form to end permit coverage once all soil disturbance activities have been completed and final stabilization of exposed soils has occurred. Please print in ink or type.
Submit photos that depict site stabilization, unless the site has been inspected by DEQ or Agent.

PERMIT REGISTRANT

Name (authorized person meeting the signature requirements on the application): | Telephone:
Company (Legal Name - Permit Registrant):
Mailing Address: | City, State, Zip Code:
E-mail Address: | File Number (located on face page of permit):

SITE LOCATION/ADDRESS | STATUS OF CONSTRUCTION ACTIVITY

Site Common Name: | ☐ All soil disturbance activities by or for the registrant have been completed.
Street Address (or Location Description): | ☐ The site has undergone stabilization of all exposed soils through vegetation, paving, or building construction (for a common plan of development or sale, all remaining disturbed

Permit Transfer

- ➢ Permits can be transferred when the original applicant is no longer responsible for the project.


Keep It Clean!