The Myopic Visionary Stormwater Professional

MĀLAMA I KA WAI
DOT - AIRPORTS

Barry Fagan
FAGAN

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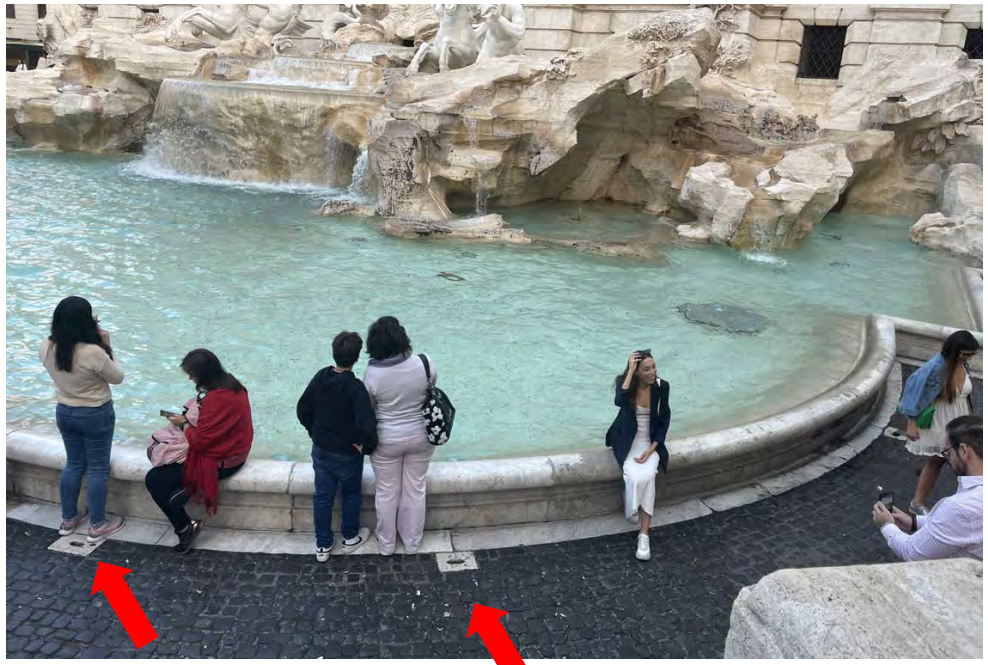
NC STATE UNIVERSITY

Roman Engineering Study Tour

Drinking Water

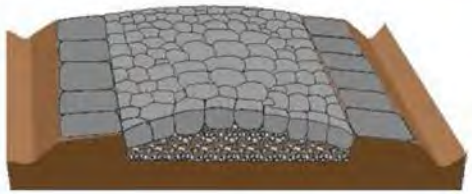
Stormwater



Stormwater Pantheon Floor Drains

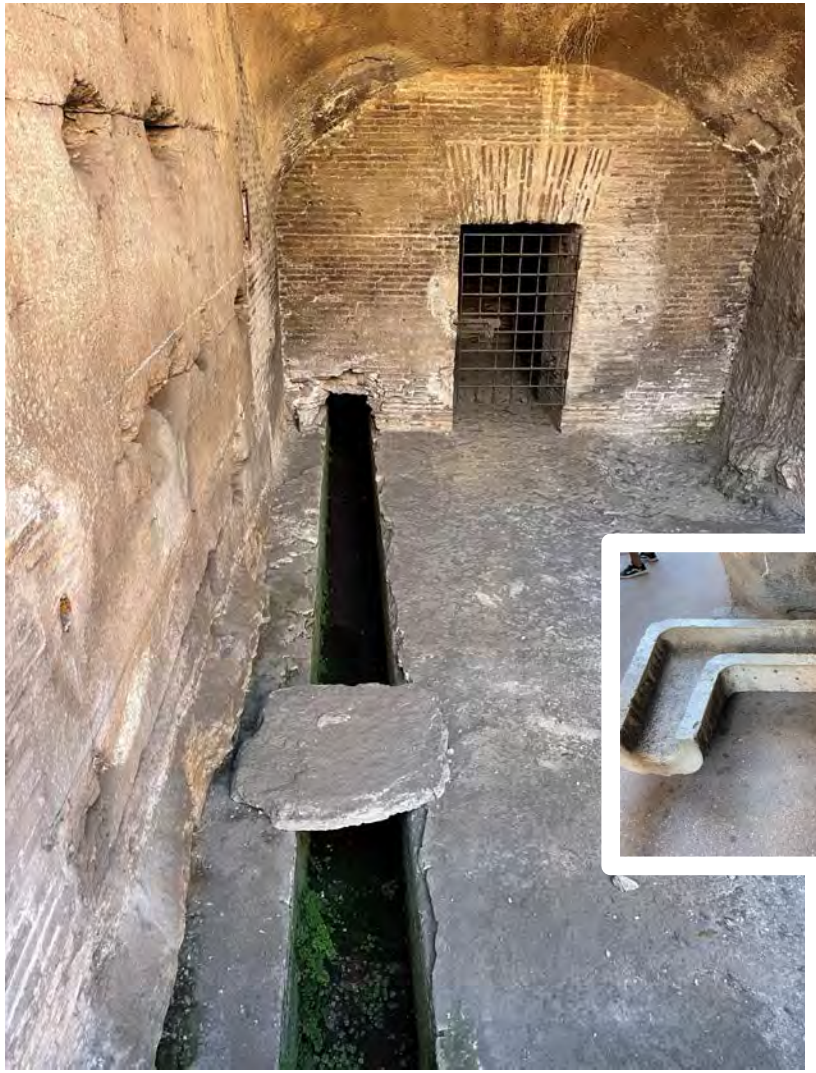
Stormwater Rainwater Harvesting

Stormwater Road Drainage



Stormwater Integrated Planning

Wastewater



Wastewater

Cloaca Maxima

(greatest sewer)


POSITIS SIGNIS ET ANA

My Favorite Part?

“Where you're born has more to do with your future than just about anything else, and that's because of infrastructure.” - Seth Godin

in·fra·struc·ture -

the basic physical and organizational structures and facilities needed for the operation of a society or enterprise

in·fra·struc·ture -

the basic physical and organizational structures and facilities needed for the operation of a society or enterprise

storm·wat·er in·fra·struc·ture -

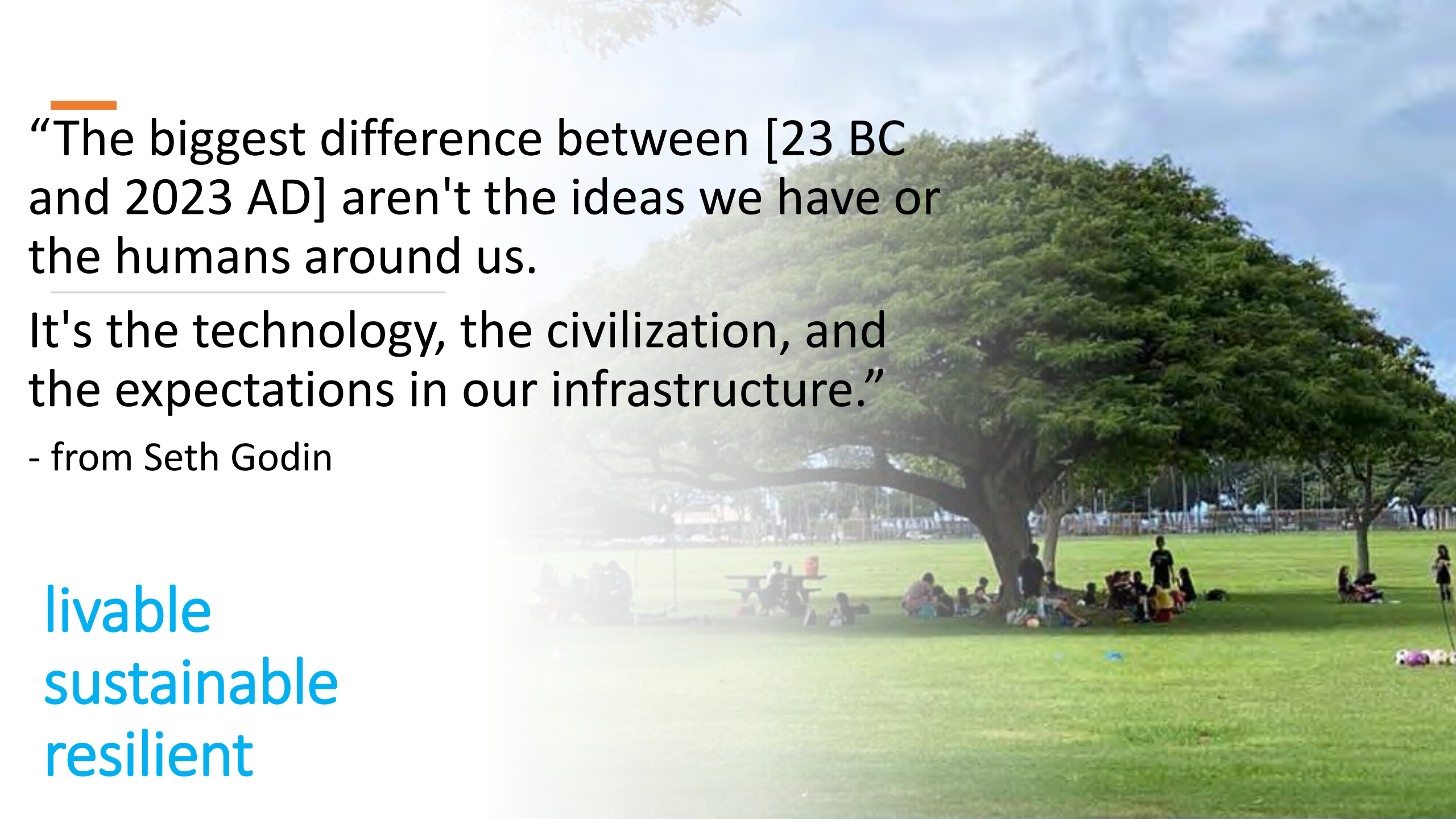
the basic physical and organizational structures and facilities needed for the operation of a society or enterprise

green in·fra·struc·ture -

basic physical and organizational structures and facilities needed for the operation of a society or enterprise that utilize natural materials and/or processes

“Because at the end of the day, all these cities are competing for talent. And talent is saying, ‘We want to live in a city that is a responsible steward of resources.’”

– Feniosky Pena Mora, ASCE International Conference on Sustainability



“The biggest difference between [23 BC and 2023 AD] aren't the ideas we have or the humans around us.

It's the technology, the civilization, and the expectations in our infrastructure.”

- from Seth Godin

livable
sustainable
resilient

THE MISSION OF A DOT

To provide a transportation system…

MAKING THE CONNECTION

mission

potential

environmental

responsibilities

HNL

Honolulu International Airport

DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII

OBAYASHI

UNIVERSITY OF HAWAI'I

Walmart

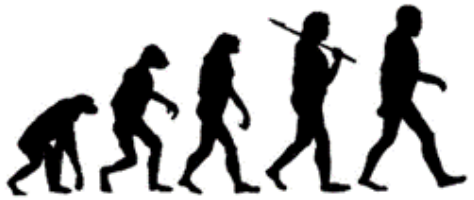
HAWAIIAN AIRLINES

ALOHA Petroleum, Ltd.

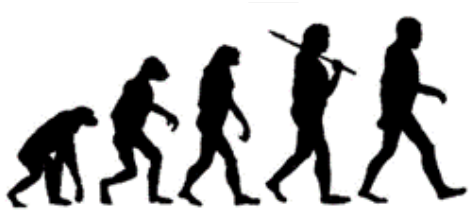
Hawaii Hotels & Resorts

HAWAIʻI PACIFIC HEALTH

Clearway

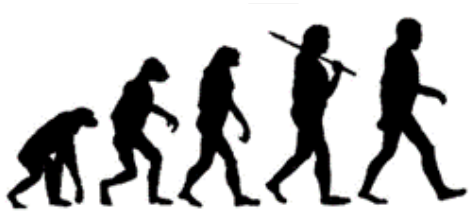


The **Five Pillars** of Construction Stormwater Management



The **Five Pillars** of Construction Stormwater Management

1. **Manage Communication**
2. **Manage Work**
3. **Manage Water**
4. **Manage Erosion**
5. **Manage Sediment**



The **Five Pillars** of ~~Construction~~ Stormwater Management

Construction Stormwater	Post-Construction Stormwater
1.Manage Communication	1.Manage Communication
2.Manage Work	2.Manage Behavior
3.Manage Water	3.Manage Water
4.Manage Erosion	4.Manage Pollutant Source
5.Manage Sediment	5.Manage Pollutant

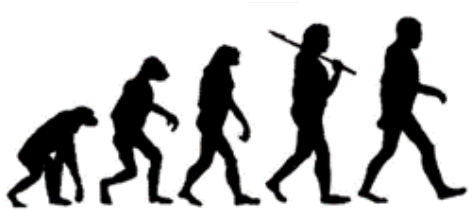
The **Five Pillars** of Construction Stormwater Management

Decreasing effectiveness

Increasing cost of implementation

…think, and do things in order of importance…

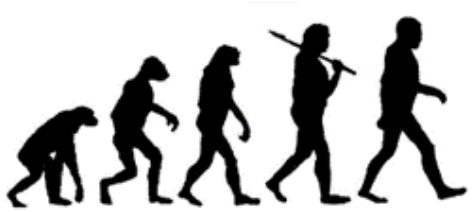
- John Maxwell



The **Five Pillars** of Construction Stormwater Management

"There's only two kinds of music
- the blues and zip-a-dee-doo-dah."

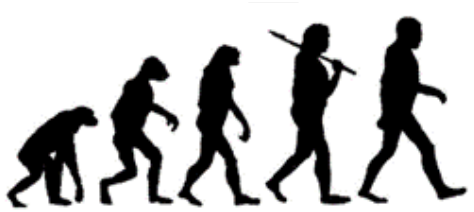
- Townes Van Zandt



The **Five Pillars** of ~~Construction~~ Stormwater Management

1. Managing Communication

includes all efforts to convey information among ~~project~~ stakeholders to increase effectiveness in ~~project~~ planning, design, and implementation.



The **Five Pillars** of Construction Stormwater Management

2. Managing Work

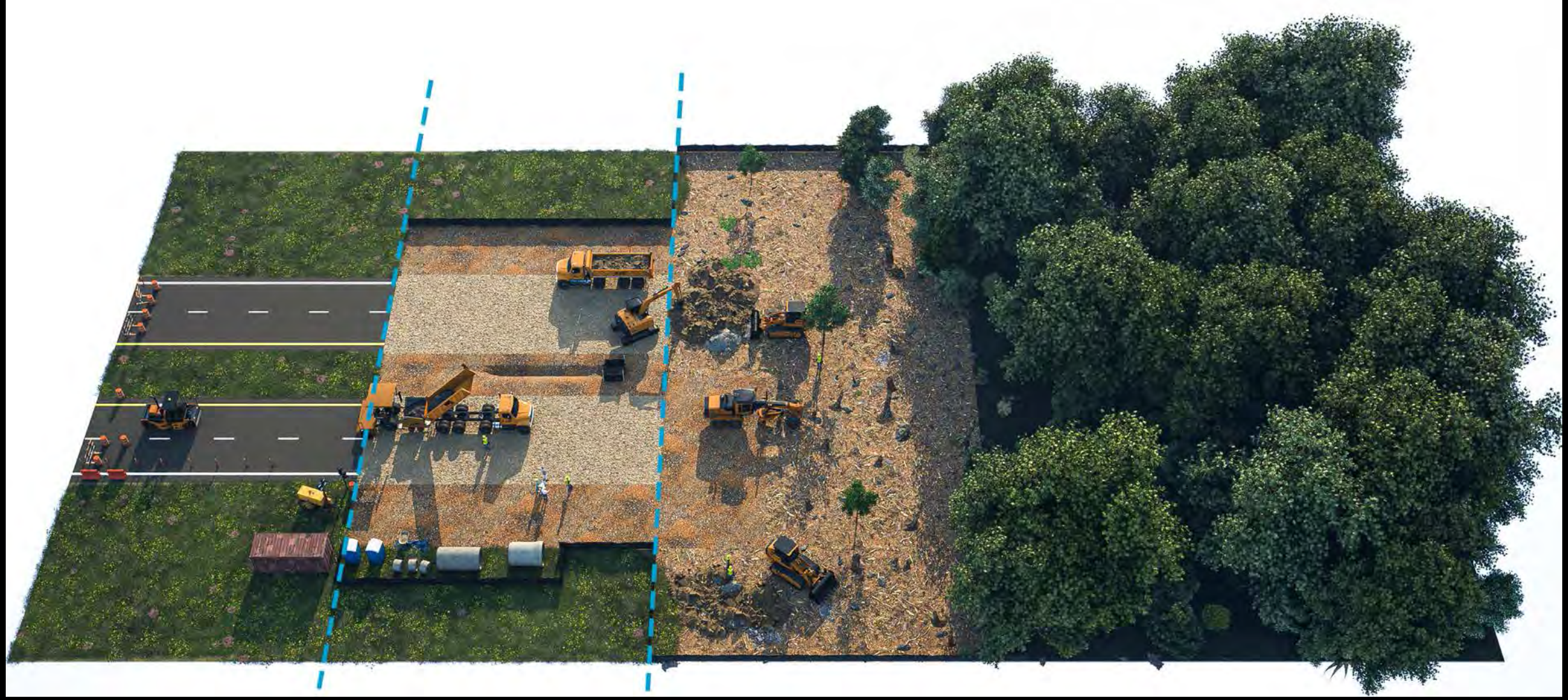
includes all operational efforts to ensure that work proceeds in a manner that is protective of the owner's interests and their environmental responsibilities.

Managing Work.

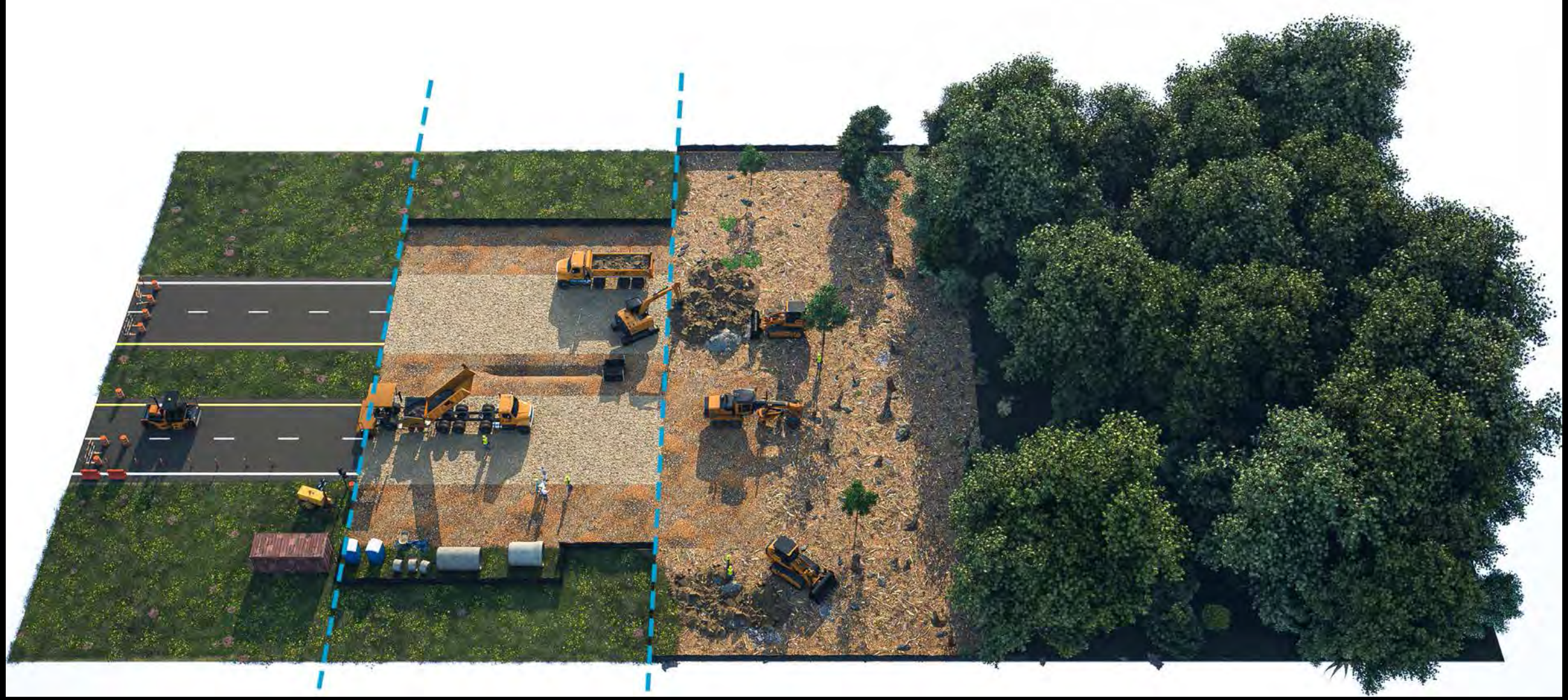
- Contract Administration
  - …
- Construction Operation Sequencing
  - …
- Vegetated Buffer Preservation & Establishment
  - …
- Topsoil Conservation
  - …
- Water Resource and Buffer Encroachment Limitation
  - …
- Good Housekeeping
  - …

Managing Work.

- Contract Administration
  - …
- Construction Operation Sequencing
  - **Delay and Limitation of Soil Disturbance**
  - …
- Vegetated Buffer Preservation & Establishment
  - …
- Topsoil Conservation
  - …
- Water Resource and Buffer Encroachment Limitation
  - …
- Good Housekeeping
  - …

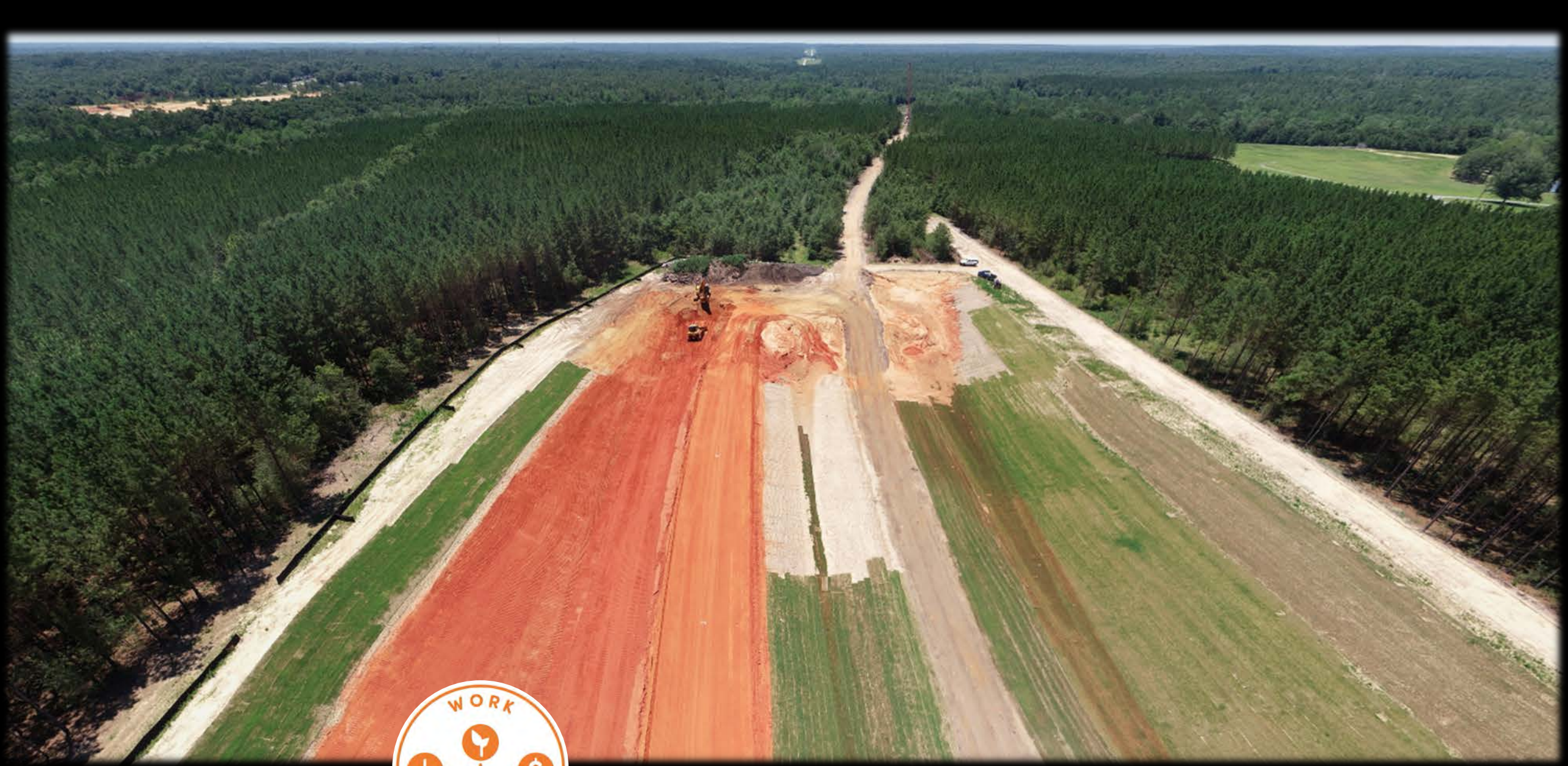


Delay and Limitation of Soil Disturbance



$$A = R K LS C P$$

A = average annual soil loss
(tons/acre/year)



Delay and Limitation of Soil Disturbance

Managing Work.

Delay and Limitation of Soil Disturbance

Managing Work.

Delay and Limitation of Soil Disturbance

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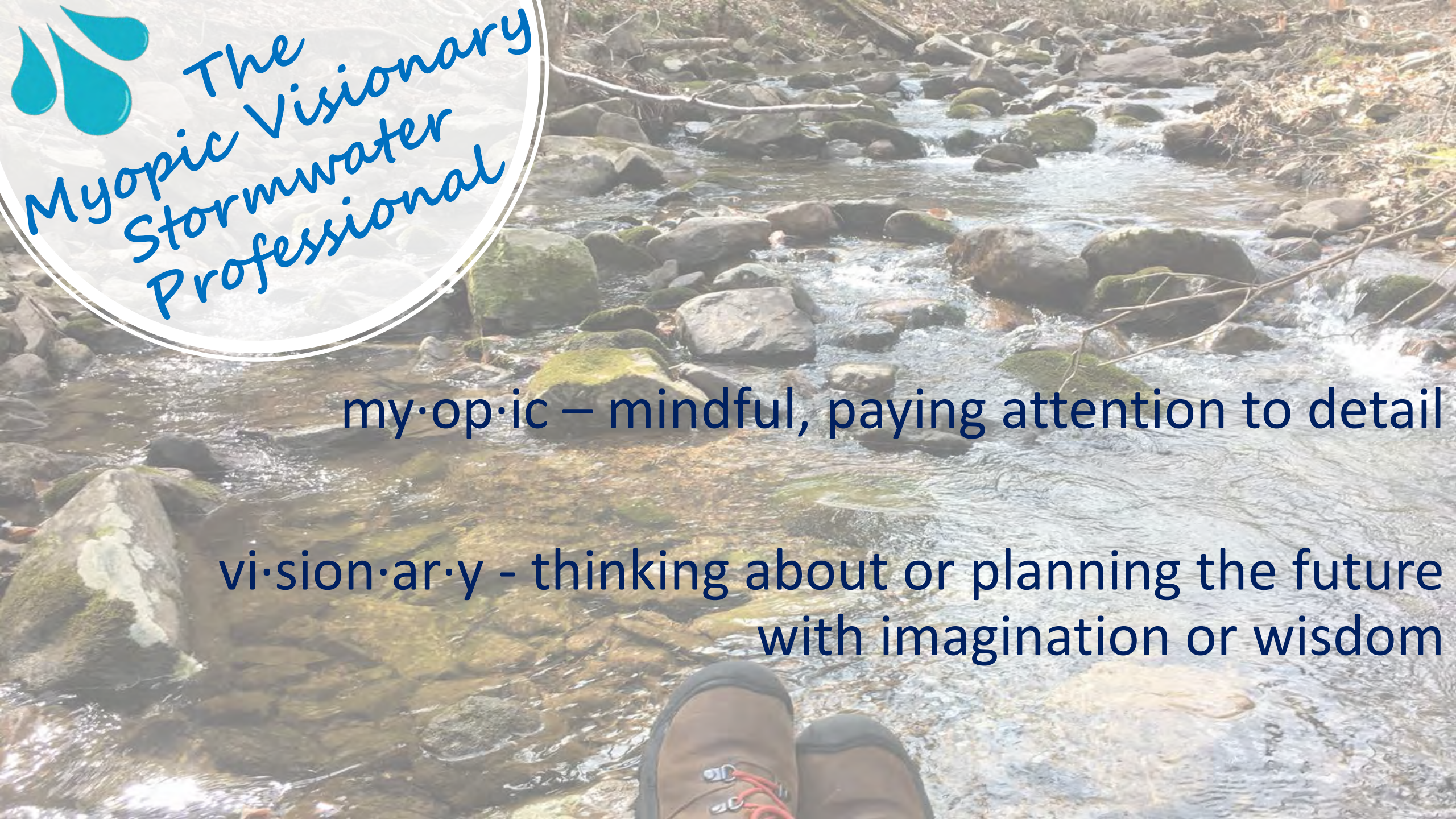
my·op·ic – nearsighted

vi·sion·ar·y – farsighted


The Myopic Visionary Stormwater Professional
my·op·ic – mindful, paying attention to detail
vi·sion·ar·y - thinking about or planning the future with imagination or wisdom

The Myopic Visionary Stormwater Professional

Looking Long and Short

Looking Near and Far


Taking Care of the
Hear and Now
while looking to the
There and Then

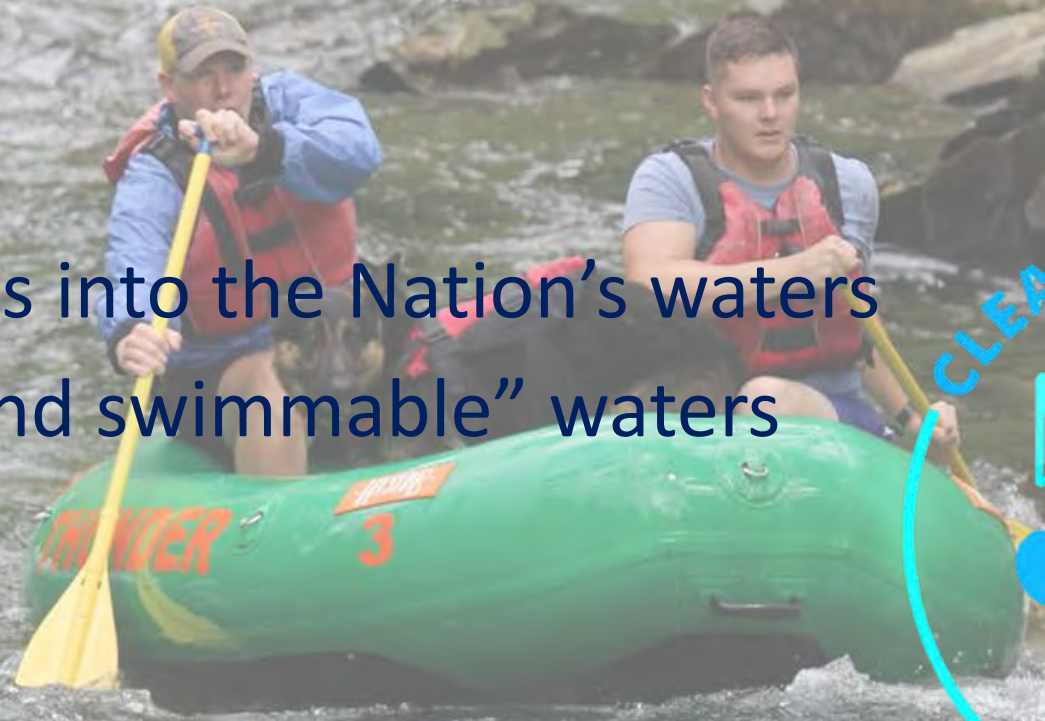

Columbia


THUNDER
5

Objective - to restore and maintain the chemical, physical and biological integrity of the Nation's waters

1985 – eliminate all pollutants into the Nation’s waters

1983 – to achieve “fishable and swimmable” waters



CLEAN WATER ACT
50
YEARS
1972-2022

1985 – eliminate all pollutants into the Nation's waters

1983 – to achieve "fishable and swimmable" waters

- About half of US waters have been assessed.
- 50% of assessed streams are impaired.
- 55% of lakes and reservoirs are impaired.

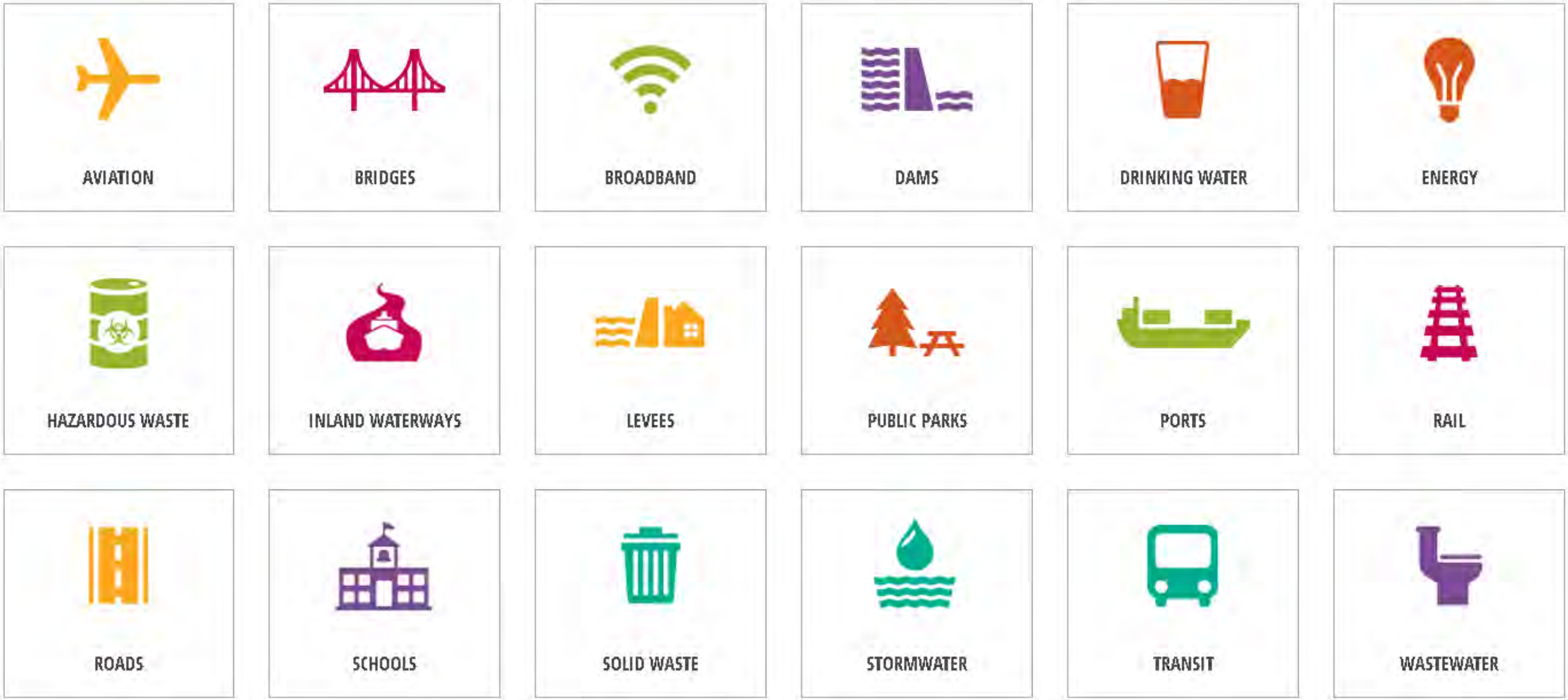
- Stormwater runoff is a leading source of impairment for US waters.

America's Infrastructure Scores a

C-

Infrastructure - the basic physical and organizational structures and facilities needed for the operation of a society

National Infrastructure Categories



Infrastructure - the basic physical and organizational structures and facilities needed for the operation of a society or enterprise

TRUTTA
ENVIRONMENTAL SOLUTIONS, LLC

Infrastructure - the basic physical and organizational structures and facilities needed for the operation of a society

2021 Infrastructure Grades

AVIATION	D+
BRIDGES	C
DAMS	D
DRINKING WATER	C-
ENERGY	C-
HAZARDOUS WASTE	D+
INLAND WATERWAYS	D+
LEVEES	D
PARKS AND RECREATION	D+
PORTS	B-
RAIL	B
ROADS	D
SCHOOLS	D+
SOLID WASTE	C+
STORM WATER	D
TRANSIT	D-
WASTEWATER	D+

America's Cumulative Infrastructure Grade

A	EXCEPTIONAL
B	GOOD
C	MEDIOCRE
D	POOR
F	FAILING

A Exceptional: fit for the future

B Good: adequate for now

C Mediocre: requires attention

D Poor: at risk

F Failing/Critical: unfit for purpose

2019 HAWAII INFRASTRUCTURE REPORT CARD

ASCE American Society of Civil Engineers

STORMWATER

D-

2022 REPORT CARD

THE GRADE

ASCE ALABAMA SECTION

C Mediocre: requires attention

The infrastructure in the system or network is in fair to good condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies in conditions and functionality, with increasing vulnerability to risk.

D Poor: at risk

The infrastructure is in poor to fair condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Condition and capacity are of significant concern with strong risk of failure.

2022 REPORT CARD

THE GRADE

C Mediocre: requires attention

The infrastructure in the system or network is in fair to good condition; it shows general signs of deterioration and requires attention. Some elements exhibit significant deficiencies in conditions and functionality, with increasing vulnerability to risk.

D Poor: at risk

The infrastructure is in poor to fair condition and mostly below standard, with many elements approaching the end of their service life. A large portion of the system exhibits significant deterioration. Condition and capacity are of significant concern with strong risk of failure.

nmsa National Municipal Stormwater Alliance

STORMWATER DAY

National Stormwater Day Webinar

Thu **Nov 16** 2023

1:00 PM - 2:15 PM ET

nmsa National Municipal Stormwater Alliance

STORMWATER DAY

Speakers

This event is led by the **National Municipal Stormwater Alliance (NMSA)** with participation from USEPA. 1.0 PDHs will be awarded for attending this webinar.

Scott Taylor,
Atkins, Chair,
NMSA (Moderator)

Anna Denecke,
Director, Infrastructure Initiatives,
American Society of Civil Engineers

Rachel Urban,
EPA, Office of Water
Stormwater Permits Team

Steve Dye,
Legislative Director,
Water Environment Federation

Seth Brown,
Ph.D., Executive Director,
NMSA

The good ole’ days weren’t always good, and tomorrow ain’t as bad as it seems.

- Billy Joel

So, what are we going to do?

PROTECT OUR WATER

MĀLAMA I KA WAI
DOT - AIRPORTS