Funded by the European Union

Mitigation Enabling Energy Transition in the MEDiterranean region

EXISTING INFRASTRUCTURE– GS2

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Training on GRASS*Med* – meetMED II

WP3_A3.1.6

February 27, 2023

OUTLINE

- ✓What does a Site with Existing Infrastructure Mean?
- ✓What are the Types of Infrastructure?
- ✓Why it is Important to have Infrastructure in a Pre-Developed Site?
- ✓GRASS*Med R*ecommendations
- ✓How to Comply with GRASS*Med*?

What does a Site with Existing Infrastructure Mean?

Infrastructure supports the development of civilization worldwide and is essential for the survival of human societies !

The Roman Empire believed infrastructure engineering to be a strategic investment.

Arkadiko Mycenaean Bridge by Flausa123. CC BY-SA 3.0

The Steam Engine revolutionized infrastructure due to carrying capacity and speed.

Telecommunications infrastructure is the new road-network in an information age.

Modern Societies depend on both physical and digital infrastructure.

What does a Site with Existing Infrastructure Mean?

A Site with Existing Infrastructure is a **Location-Efficient site** that is often in **"previously developed areas"** already served by infrastructure.

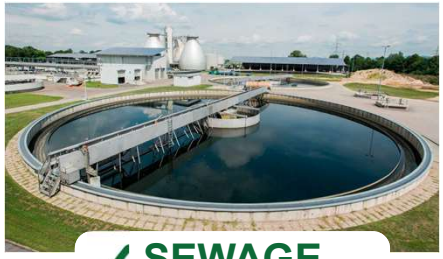
Building in previously developed areas reduces the need for new streets, utility lines, water pipes, and other infrastructure. It can also spur neighborhood revitalization by reusing and renovating existing structures.

What are the Types of Infrastructure?

✓TELECOMMUNICATION

✓WATER SUPPLY SYSTEMS

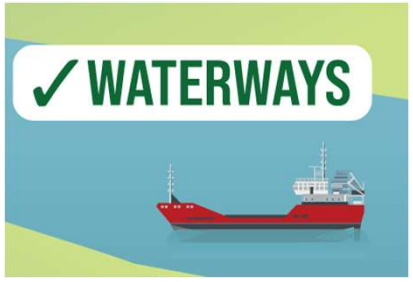
✓PORTS



✓SEWAGE SYSTEMS

✓ ELECTRIC GRID SYSTEMS

✓RAIL ROADS



Importance of Existing Infrastructure

Electricity, Water, Sanitation

Electricity, including its generation, transmission, and distribution, must exist in a developed land.

Water infrastructure is fundamental to life, as it provides potable water to meet the needs of a building.

Sanitation network is essential to take away waste water generated by a building.

Communication

Communication network is important as well to the operation and occupancy of a building.

Transport and accessibility

Choosing a location that offers transportation options and a variety of nearby destinations:

- protects air and water quality by reducing the distance people have to drive and making it easier to walk, bike, or take public transit
- saves money and resources by using existing infrastructure

Utilities including gas, electricity, water and communications are often carried under roads and over bridges to form a network across the country

GRASS*Med* Recommendations

Recommended that the chosen site must be a Previous Developed site with Existing Infrastructure!

- **Find** a site near existing infrastructure.
  This will reduce the negative impacts of infrastructure development on the environment.

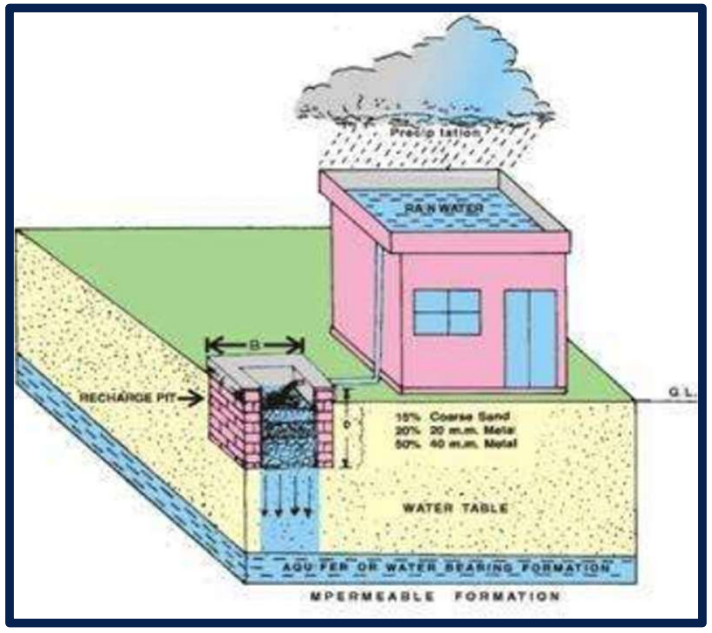
- **Avoid** building on a site without infrastructure.

  This will require building:

  - new roads,
  - managing watershed,
  - excavating water wells, collecting rain water,
  - installing an on-site wastewater treatment system,
  - produce green energy for auto-satisfaction in energy, etc.

Water issues from scarcity to water quality and proper drainage can be addressed through design to treat rainwater and to capture and store rainwater for reuse.

Collect Rain Water

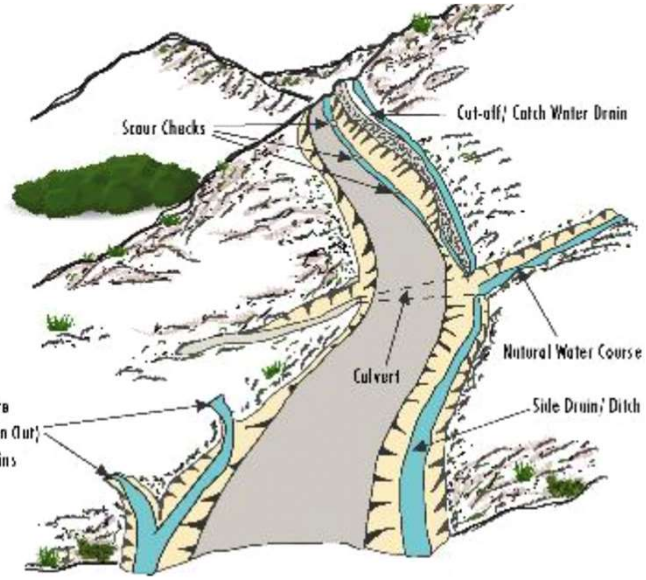


Manage Watershed:

Design of the road drainage system:
when in place, the road-drainage system can consist of:

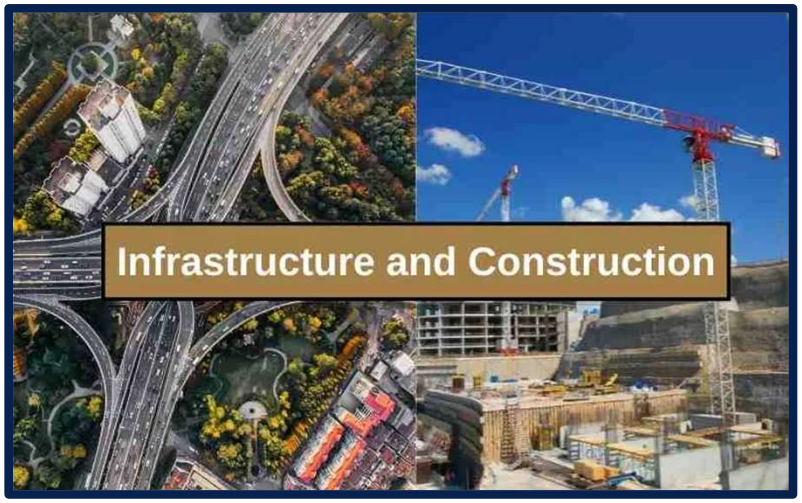
(a) cut-off drains (that shield the road from uphill runoff);
(b) side drains that channel the water along the road;
(c) culverts, pipes, and bridges that take the water across the road body;
(d) mitered (turn-out) drains that divert water to the land adjacent to the road.

The road template itself is also part of the road drainage.



Road drainage system:
asset for road protection, watershed management, and water harvesting.

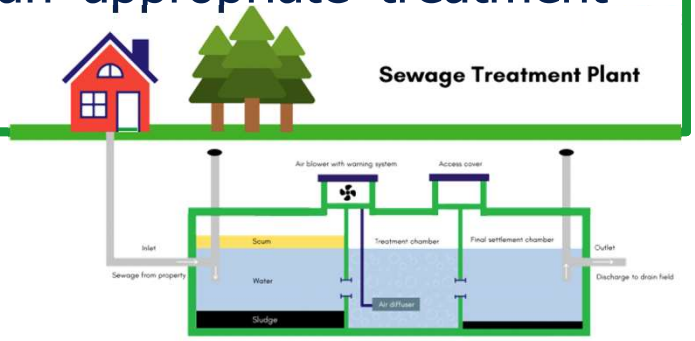
How To Comply With GRASS*Med*?



Two options are considered:

Option 1: The building is located near existing infrastructure

Option 2: The building is located in a region with no infrastructure. A sewage pit with an appropriate treatment plant is required.



How To Comply With GRASS*Med* ?

Maximum Scoring for Residential Buildings	**10**
Maximum Scoring for Commercial Buildings	**4**
COMMERCIAL BUILDING	Scoring Points
Option 1: The building is near to existing infrastructure	4
Option 2: Sewage pit with an appropriate treatment plant	4
RESIDENTIAL BUILDING Percent of Pre-developed land	Scoring Points
Option 1: The building is near to existing infrastructure	10
Option 2: Sewage pit with an appropriate treatment plant	10

Contact us!

meetMED
Mitigation Enabling Energy Transition in the MEDiterranean region
Together We Switch to Clean Energy

For any inquires or comments,
please don't hesitate to contact us

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This project is funded by the European Union