



A permeable Grass Concrete Pavement: New opportunities with biodegradable Formworks



EUPAVE's 6th workshop on Best Practices in Concrete Paving
« Pervious concrete pavement: an overview of European experiences »

SUMMARY

- I. The Company & Speakers
- II. The Product: VIA VERDE®
 - Concept
 - Characteristics
 - Fields of Application
 - Technical Advantages
 - An eco-friendly concept
 - Partnerships, expert networks & Press Releases
 - Realizations in France
 - Examples of amenities/facilities
 - Overview of a jobsite (Movie)



Product Lines



COMPANY

Creation: 2011

Location : Livron-sur-Drôme – South of France

Employees : 10

Activities : Promotion, Supply of specialty products
for exterior decorative concrete

Turnover: 3 M€

Through is belonging to Group SOLS, french
leader of decorative exterior concretes, VIASOLS is
involved in SPECBEA activities, the French Trade
Association of the roads and outdoors facilities in
cast-in-place concrete

Speakers

Fabrice BONNIN, Technical Manager

Lucien MATHEUS, Sales rep.

« paving » monolithic system obtained with biodegradable formworks surrounded by cast-in-place concrete to form pervious alveolar slabs filled with grass or gravels

MONOLITHIC

To avoid any detrimental movement once loaded

ALVEOLAR

To allow a grass cover & the passage or the parking of vehicles

PERVIOUS

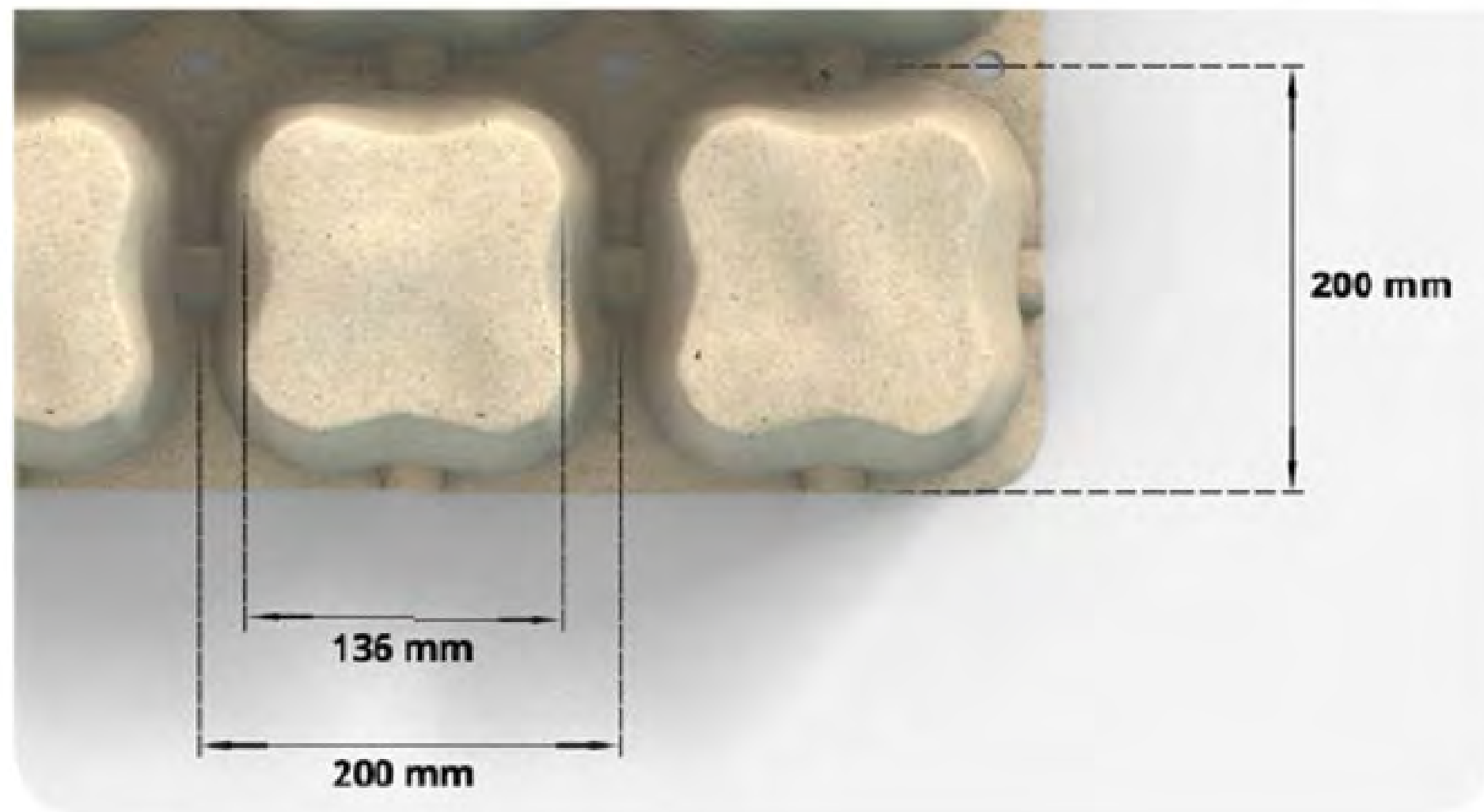
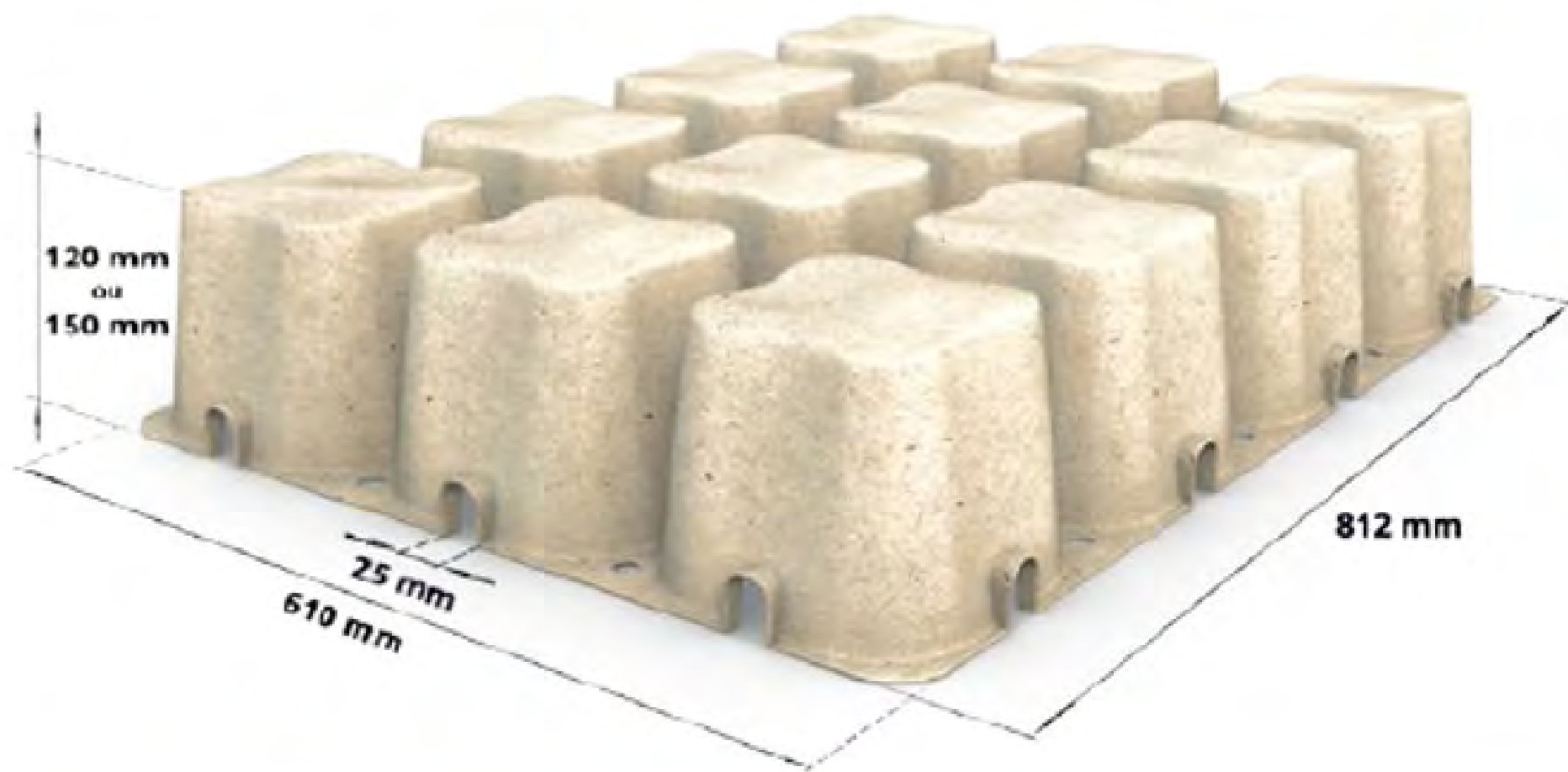
To insure direct infiltration of rainfalls in the soil and limit the runoff

ECO-FRIENDLY

By the use of recycled papers & biodegradation of the molds

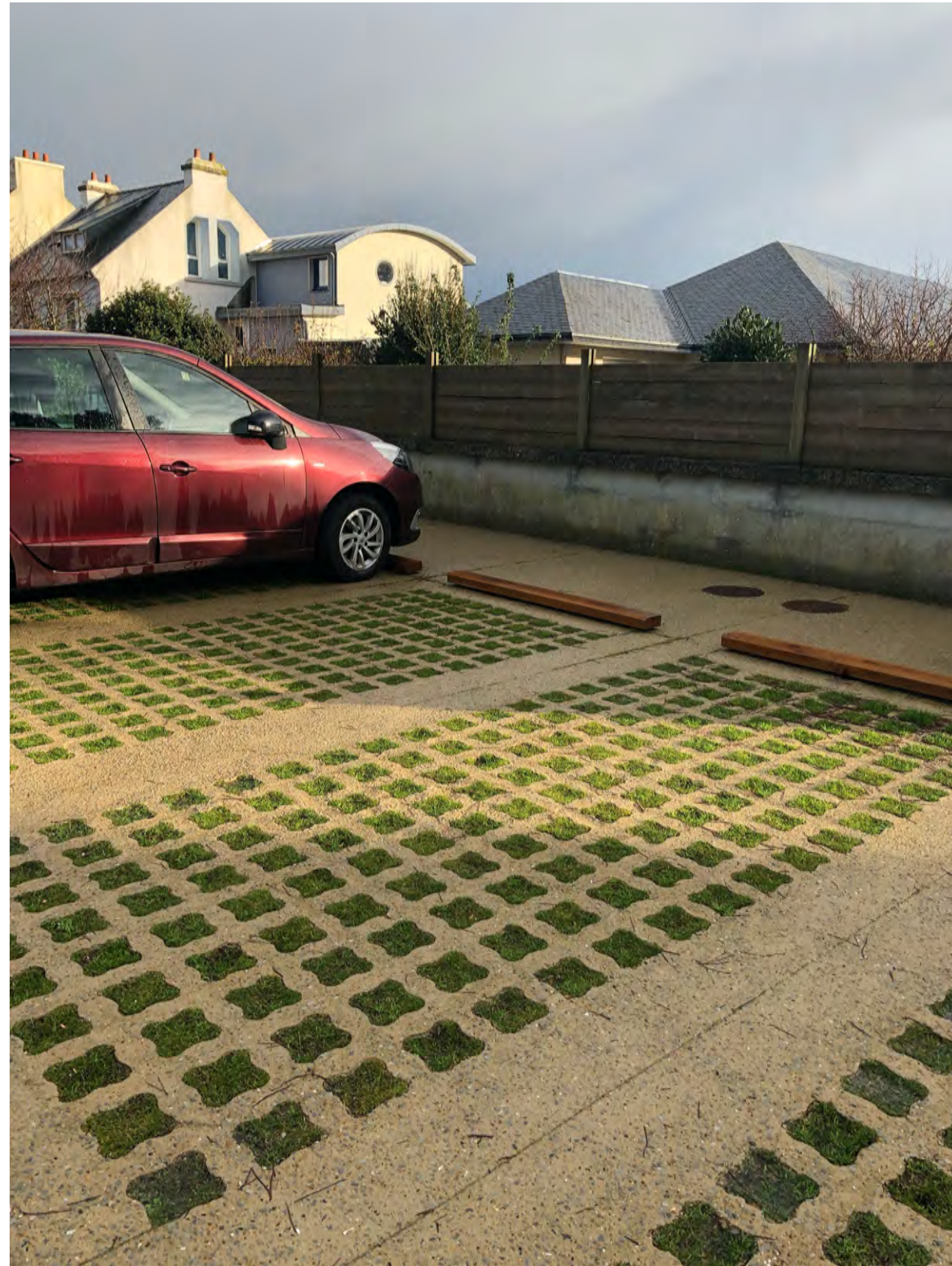


CHARACTERISTICS



- 60 cm by 80 cm rectangular formers available in 2 height: 12 cm and 15 cm (final slab thickness)
- Formers can be assembled, lined up and easily cut
- Molded pulp formworks from recycled papers and cardboards collected in the local area: < 150 km from the processing plant (France)
- Production waste=0
- Fully biodegradable: cellulose decays within months thanks to the microbial activity of soils
- Lid opened with a high pressure washer or with a punching tool

FIELDS OF APPLICATION



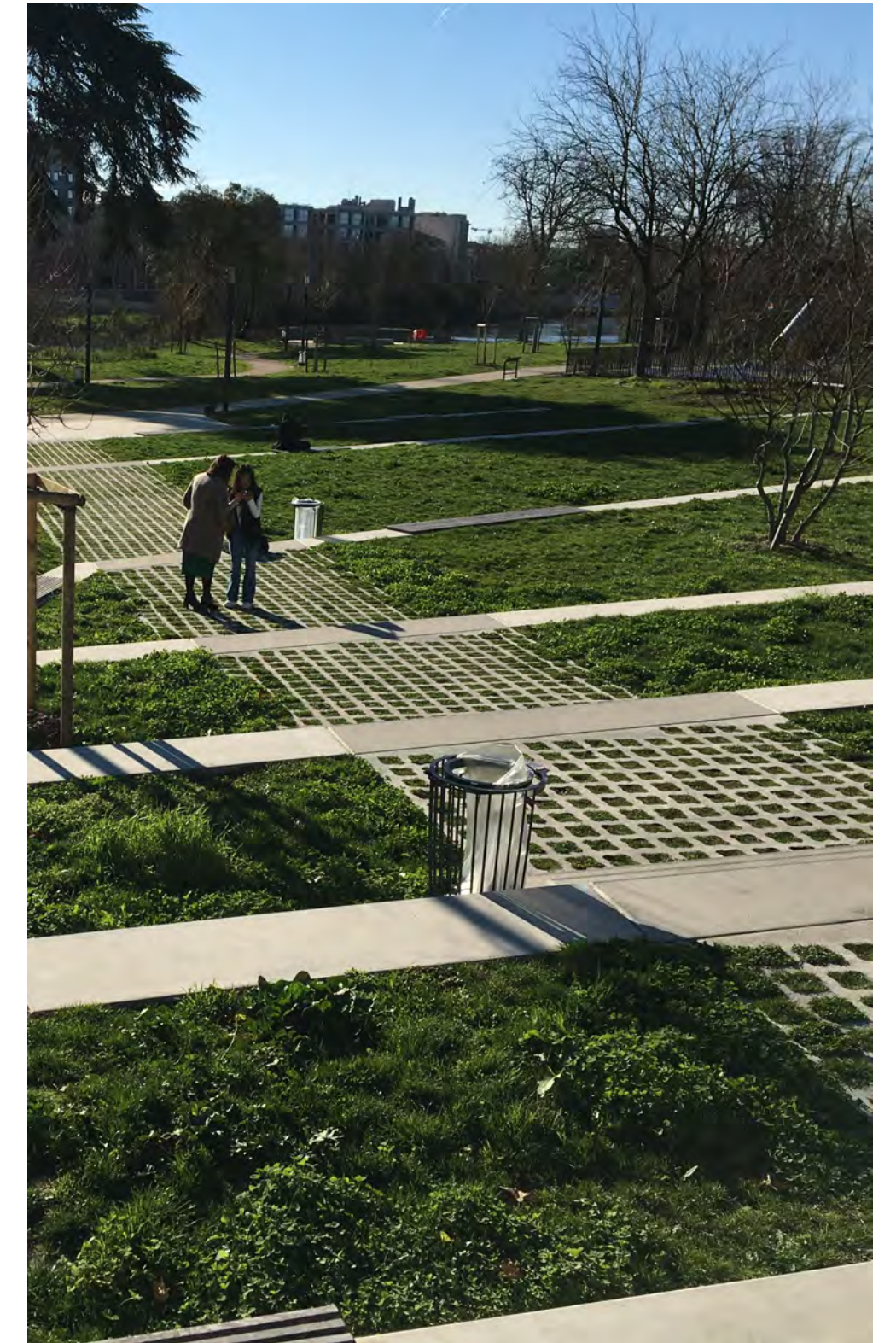
Parking lots (Cars & Motorhomes)



Tramway Platforms



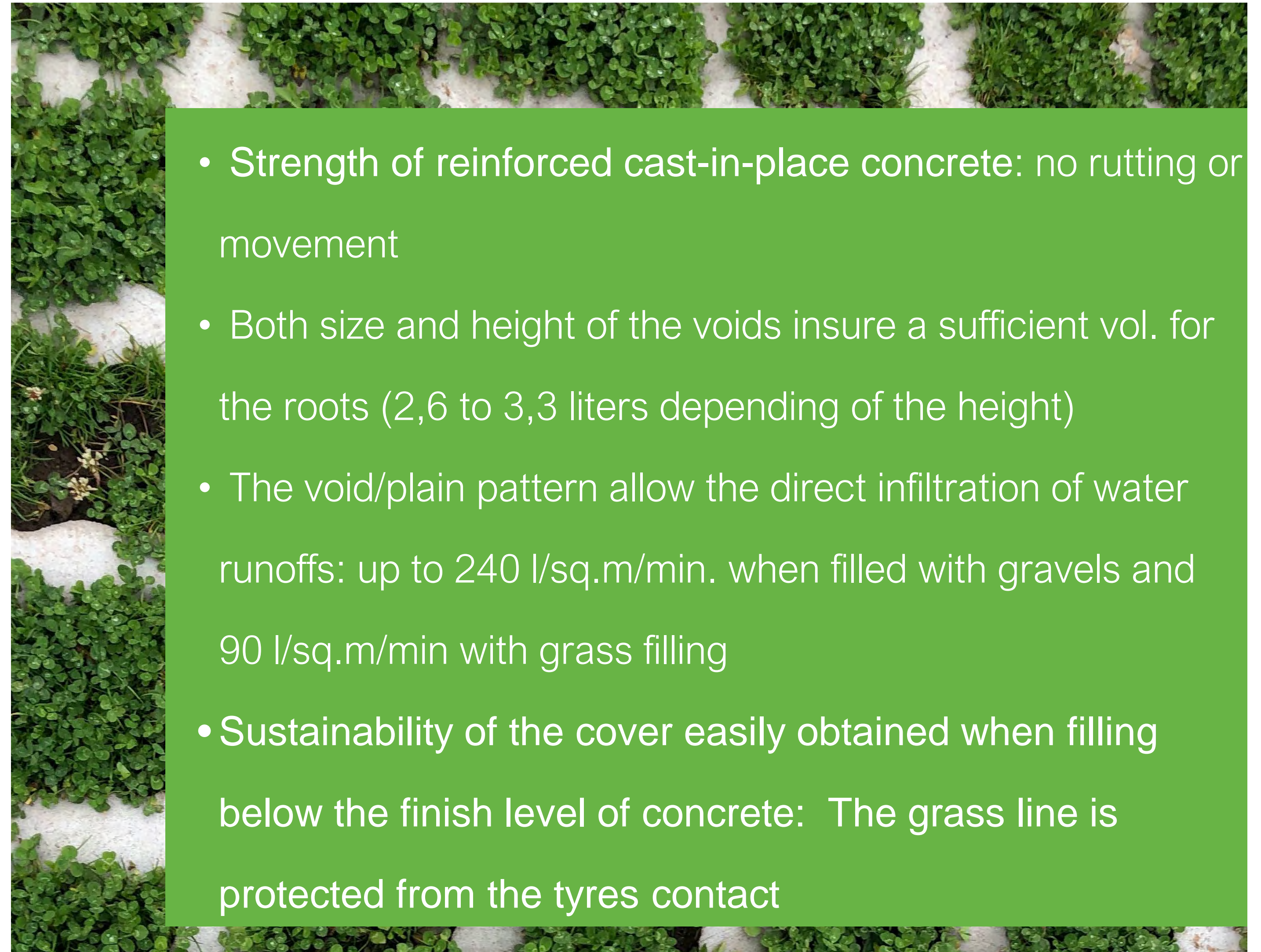
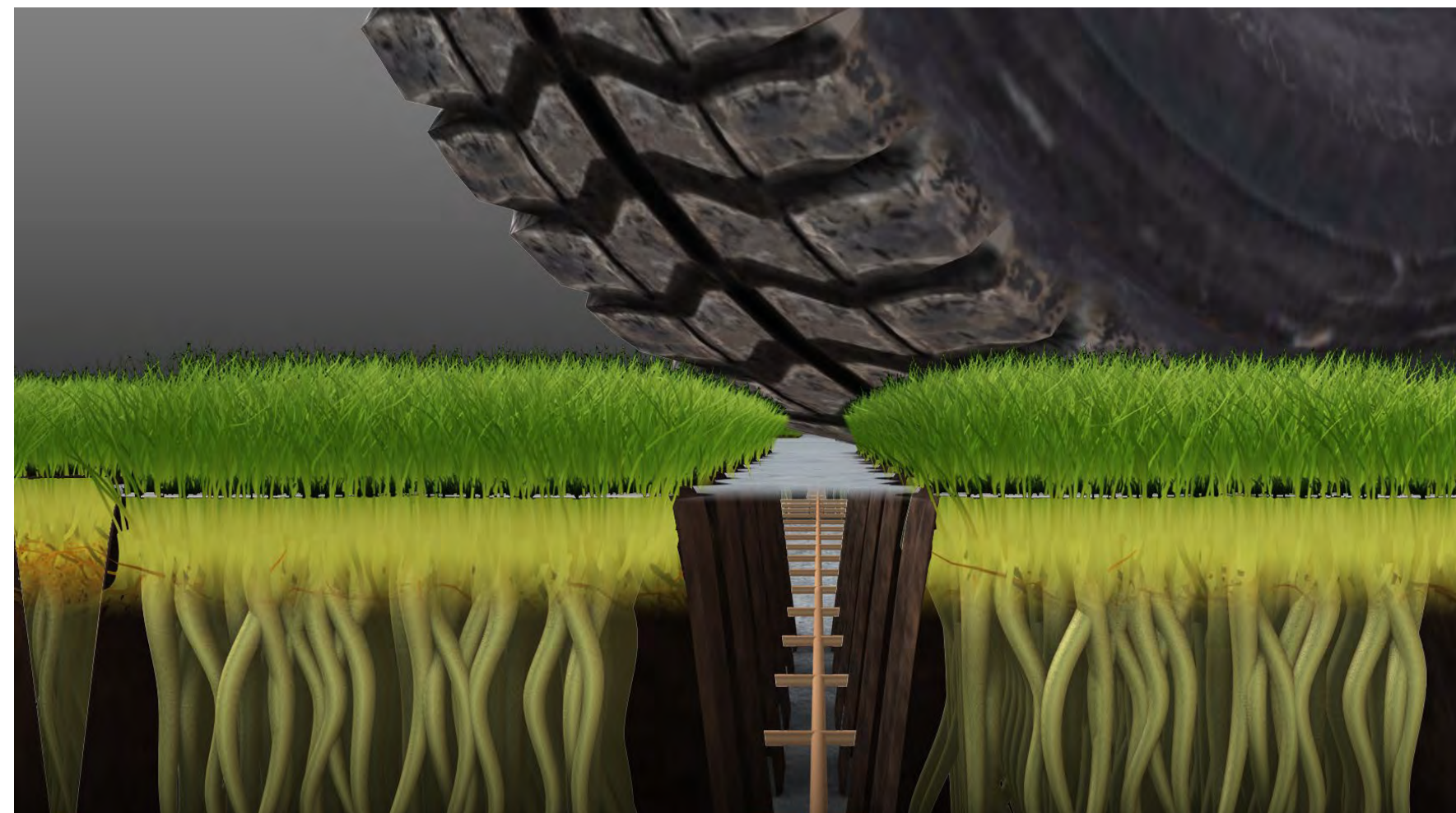
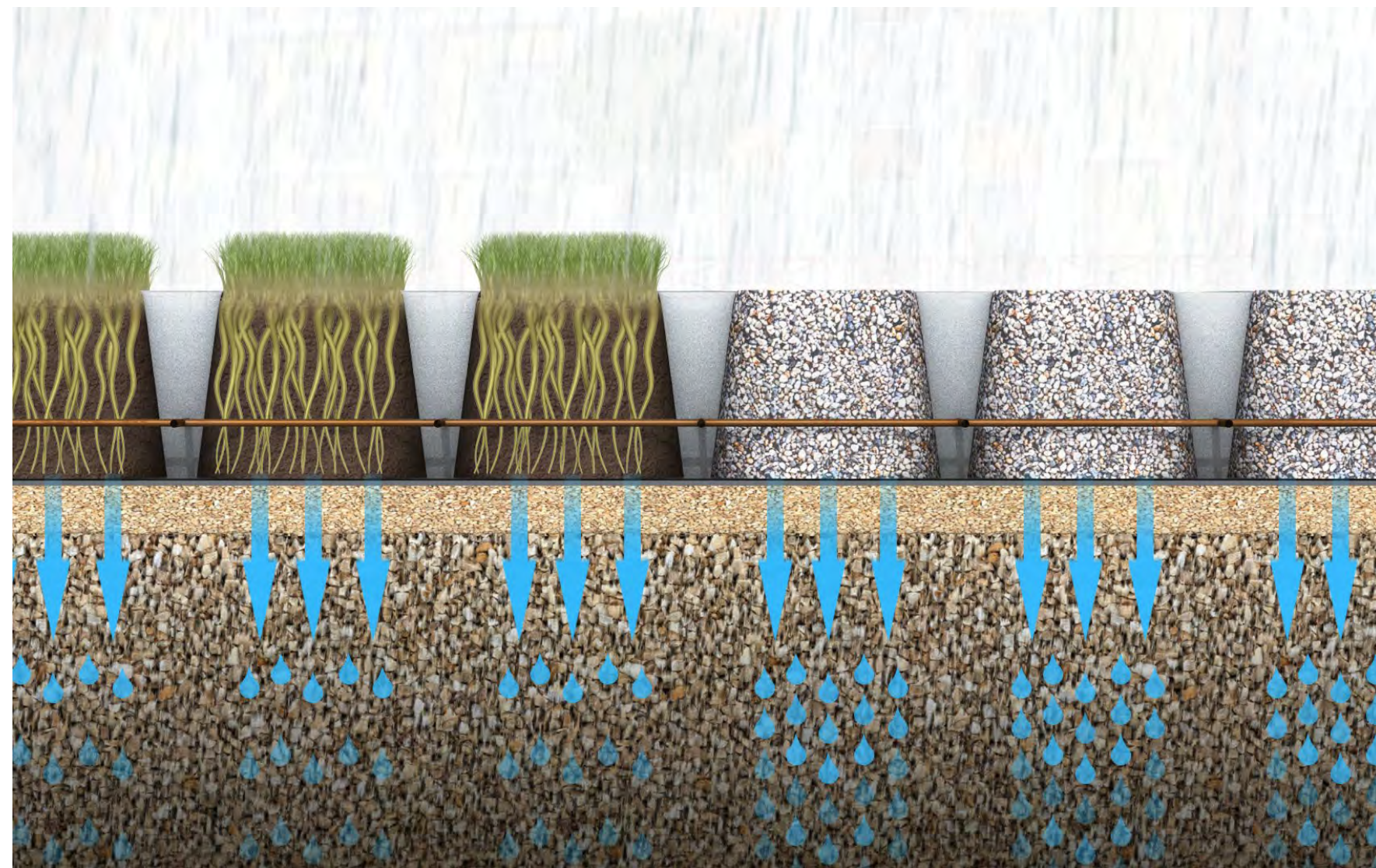
Access Paths



Paths

Parking Lots • Tramway Platforms • Paths • Driveway Access/Entrances • Access Paths (Emergencies)
• Bike Paths • Forest Tracks • Boat Launch Areas...

TECHNICAL ADVANTAGES



- Strength of reinforced cast-in-place concrete: no rutting or movement
- Both size and height of the voids insure a sufficient vol. for the roots (2,6 to 3,3 liters depending of the height)
- The void/plain pattern allow the direct infiltration of water runoffs: up to 240 l/sq.m/min. when filled with gravels and 90 l/sq.m/min with grass filling
- Sustainability of the cover easily obtained when filling below the finish level of concrete: The grass line is protected from the tyres contact

TECHNICAL ADVANTAGES

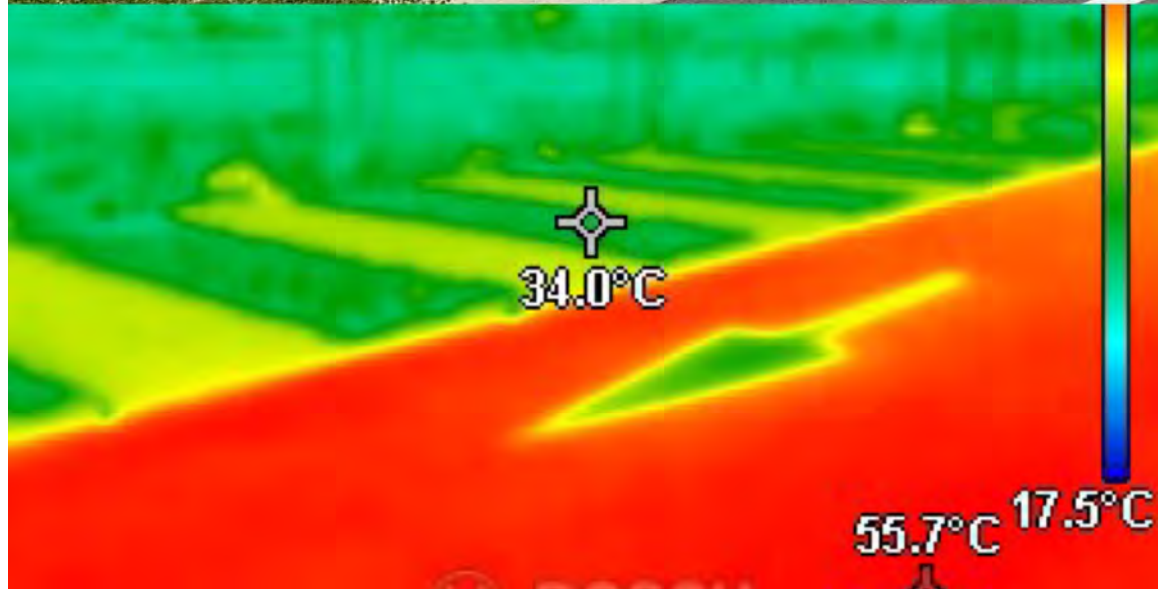
- **Parking lots:** Such a layout allow the drivers to park their car atop the grass & to walk through plain concrete and limit the use of paintings
- **Tramway platforms:** Emergency vehicles can use the platforms for safety issues and the mowing/maintenance is easier than classic lawn



AN ECO-FRIENDLY CONCEPT

COOLER

than asphalt or concrete thks
to **evapotranspiration** of the
grass cover



PERVIOUS

Limit the surface runoff
& the congestion of
sewage networks



Résultats des essais

Les résultats obtenus sont les suivants :

Date de l'essai	10/11/2016	
Perméabilité (m/s)	Essai n° 1	1,23 ^E -03
	Essai n° 2	1,19 ^E -03
	Essai n° 3	1,21 ^E -03
Perméabilité moyenne (m/s)	1,21 ^E -03	

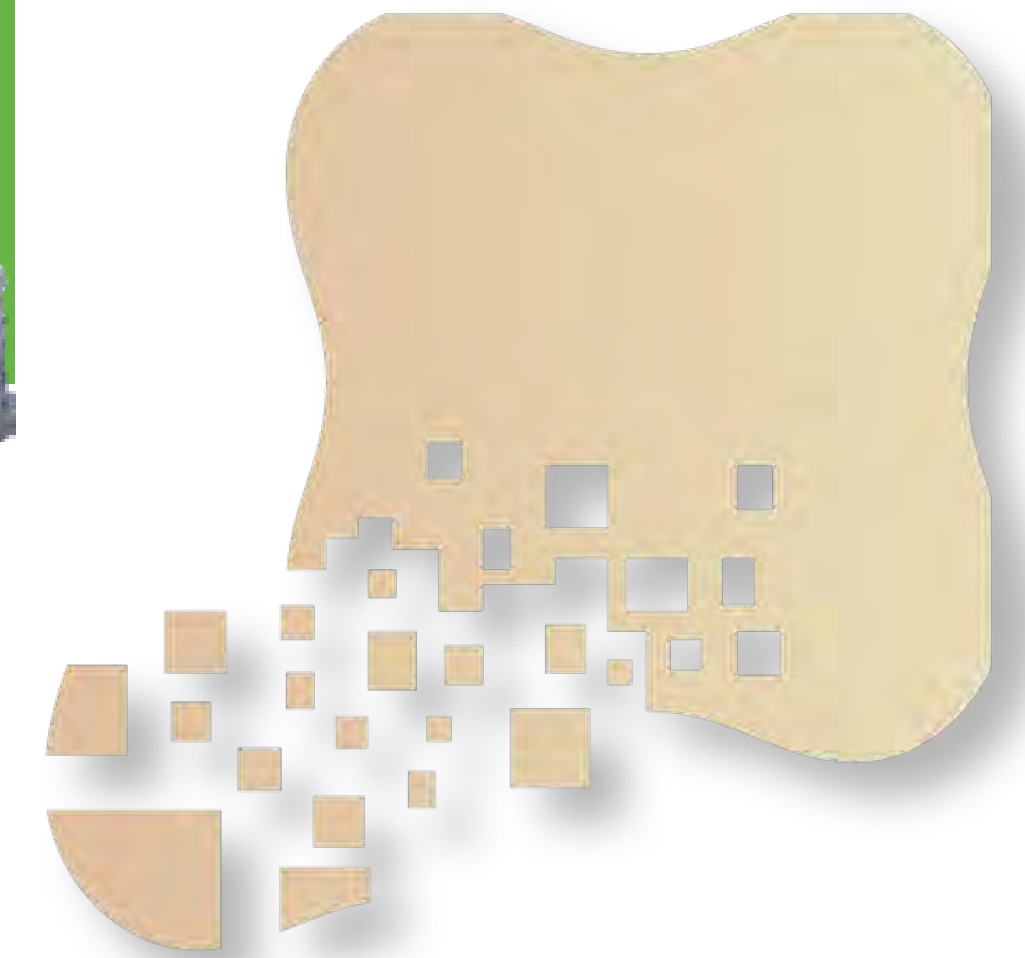
LOCAL, LOW CARBON & RESOURCE SAVING

Standard concrete from the
local Ready mix plant.
Recycled gravels & low
carbon cement can be used



RECYCLABILITY

Biodegradation of the
moulds will **help recycling**
the **concrete** in the future



PARTNERSHIPS, EXPERT NETWORKS & PRESS RELEASES

CONSTRUCTION &
SUSTAINABLE AMENITIES

EXPERT CLUSTERS &
ASSOCIATIONS FOCUSED ON
WATER MANAGEMENT CONCERNS

SPECIALIST PRESS &
PROFESSIONAL GUIDELINES



ÉTABLISSEMENTS PUBLICS DU MINISTÈRE
EN CHARGE DU DÉVELOPPEMENT DURABLE



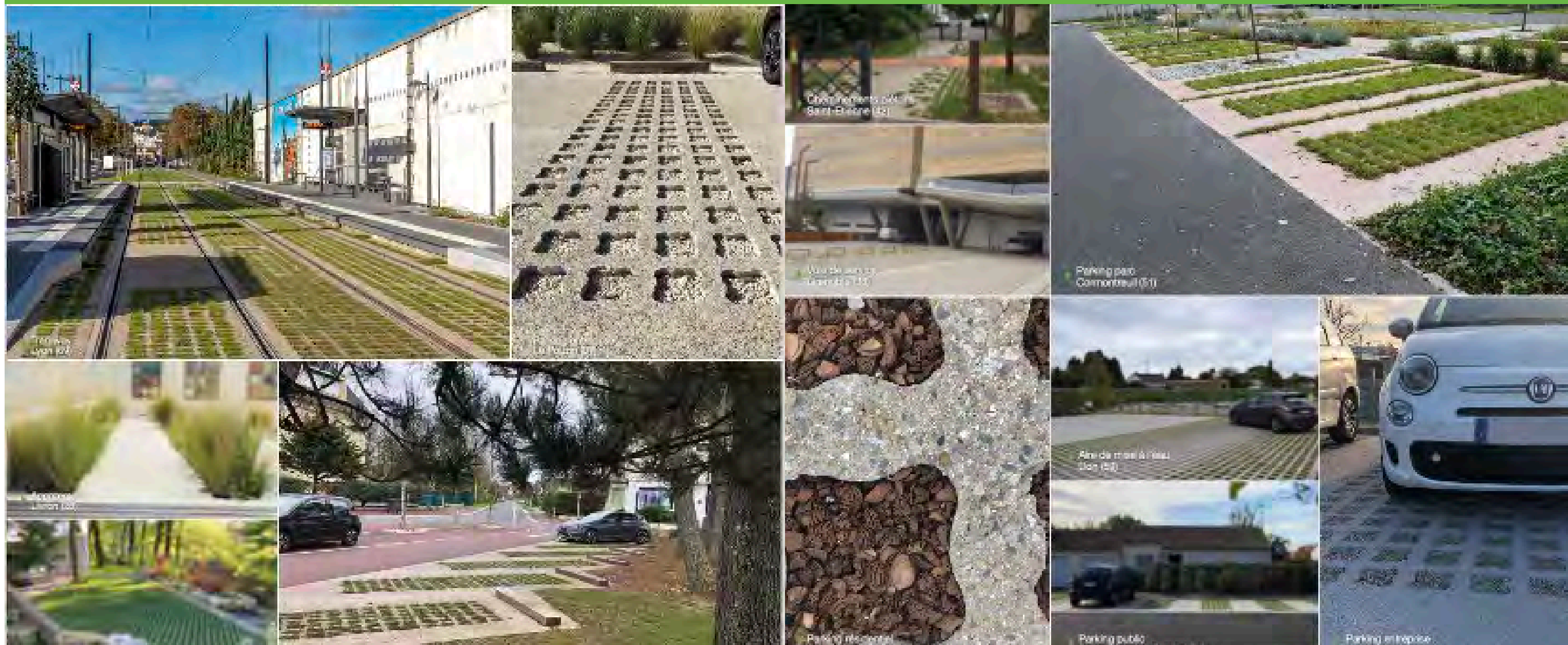
REALIZATIONS IN FRANCE



LYON- MARSEILLE-
VALENCE- NANTES-
BORDEAUX- SAINT
ETIENNE-
CLERMONT
FERRAND- PARIS-
TOURS- ORLEANS-
BREST-
STRABOURG-DIJON-
AVIGNON-NIMES-
MONTPELLIER
PERPIGNAN-
ANGERS-CHOLET-
TOULON-REIMS,
METZ

NICE- AIX EN
PROVENCE-ROUEN-
LE HAVRE-CAEN-
AMIENS-ANNECY-
GRENOBLE-NANCY-
LILLE-POITIERS-
VERSAILLES-SAINT
PIERRE-PAU-LA
ROCHELLE-SAINT
NAZAIRE-VANNES-
CALAIS-AJACCIO-
MERIGNAC-
BIARRITZ-TROYES-
CHAMBERY-VOIRON-
LORIENT

1st JOBSITE IN **2011**, MORE THAN **100** REALIZATIONS YET
86 000 SQ.M OF VIA VERDE APPLIED BTW **2017 & 2021**
EQUIVALENT TO **6 000** PARKING SPACES



EXAMPLES OF AMENITIES/FACILITIES



MALAKOFF HUMANIS – ST JEAN DE BRAYE (41)

EXAMPLES OF AMENITIES/FACILITIES



MARSEILLE (13)

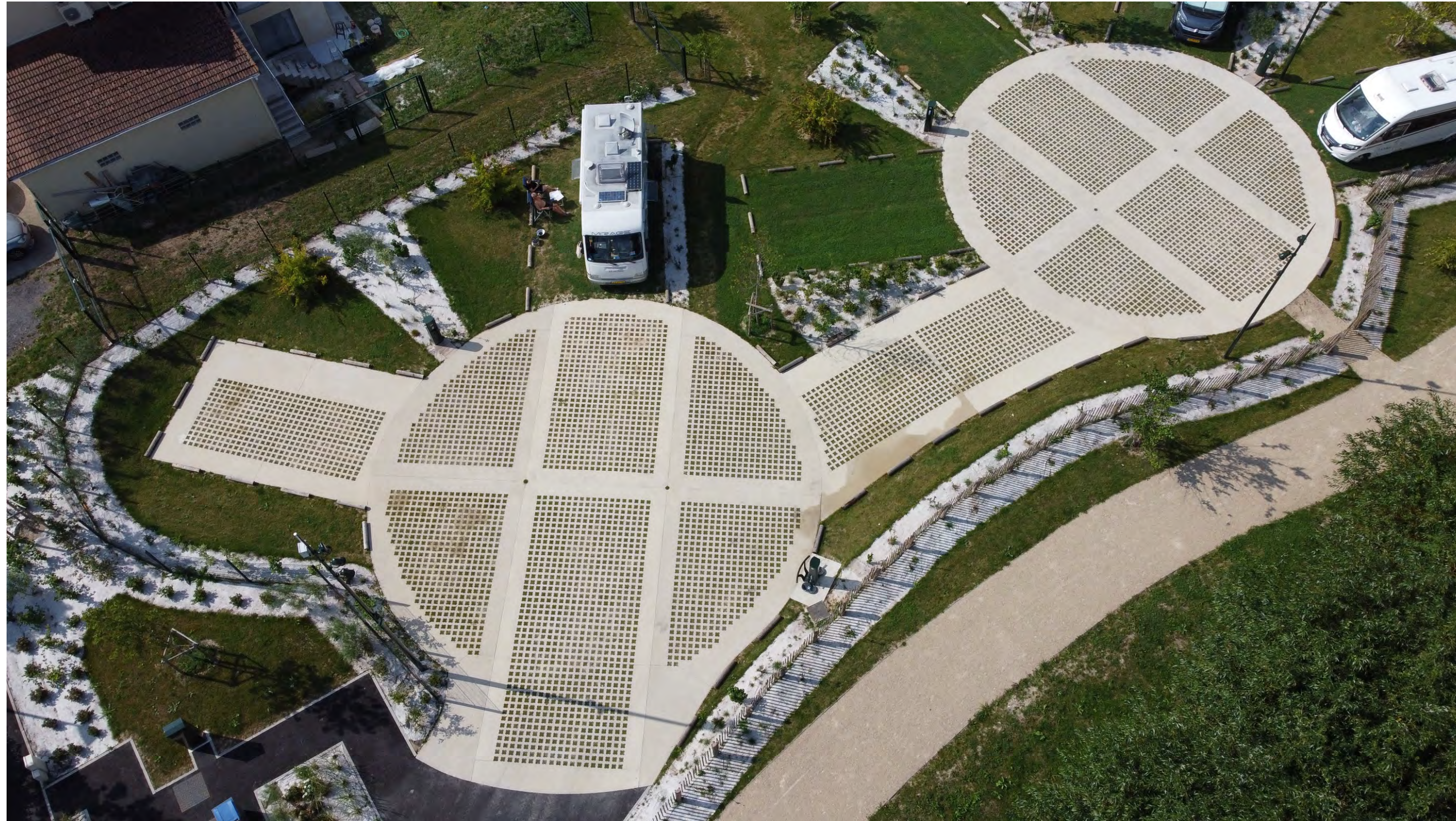
RTM

EXAMPLES OF AMENITIES/FACILITIES

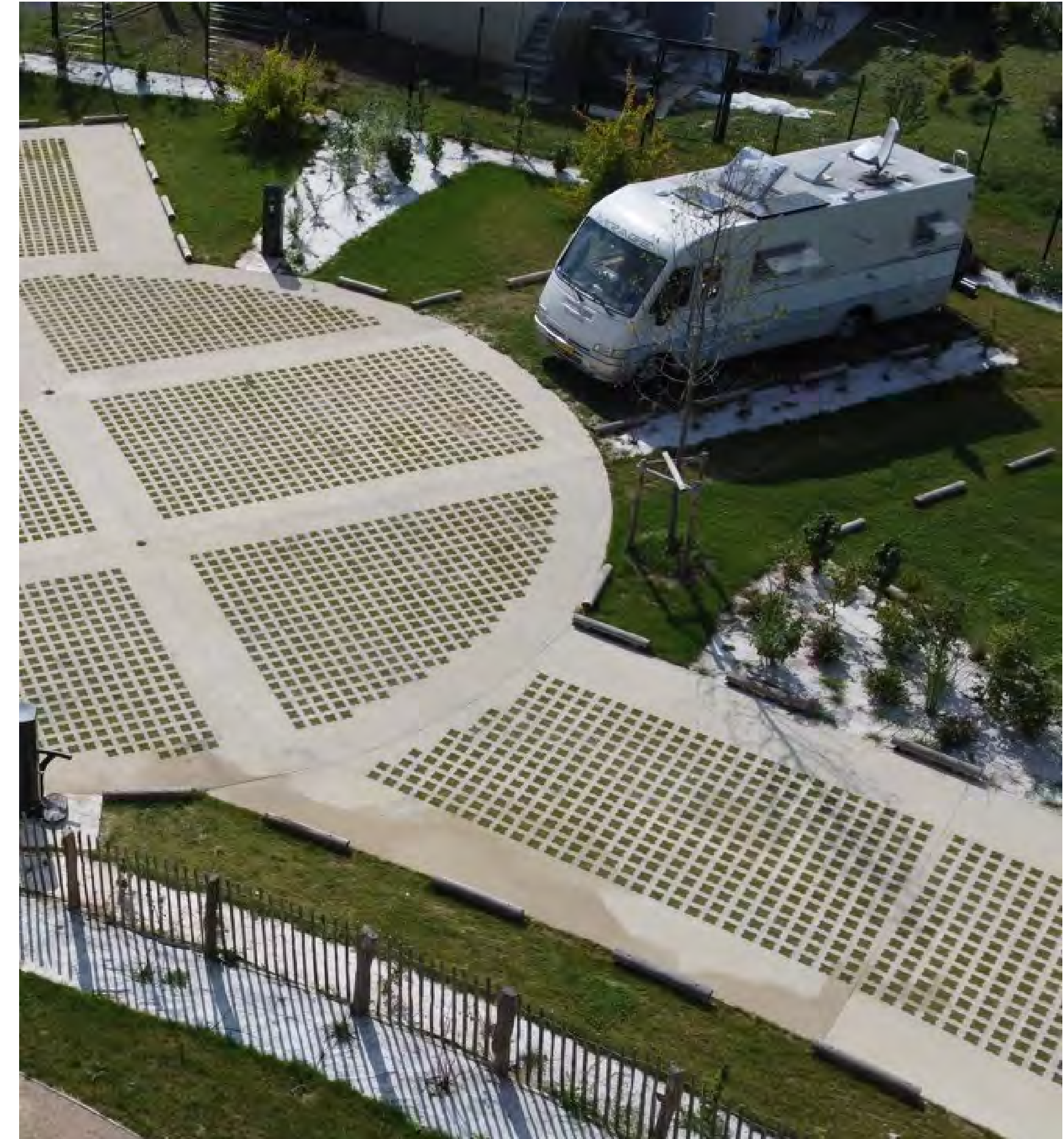


LINE 6 TRAMWAY OF LYON (69)

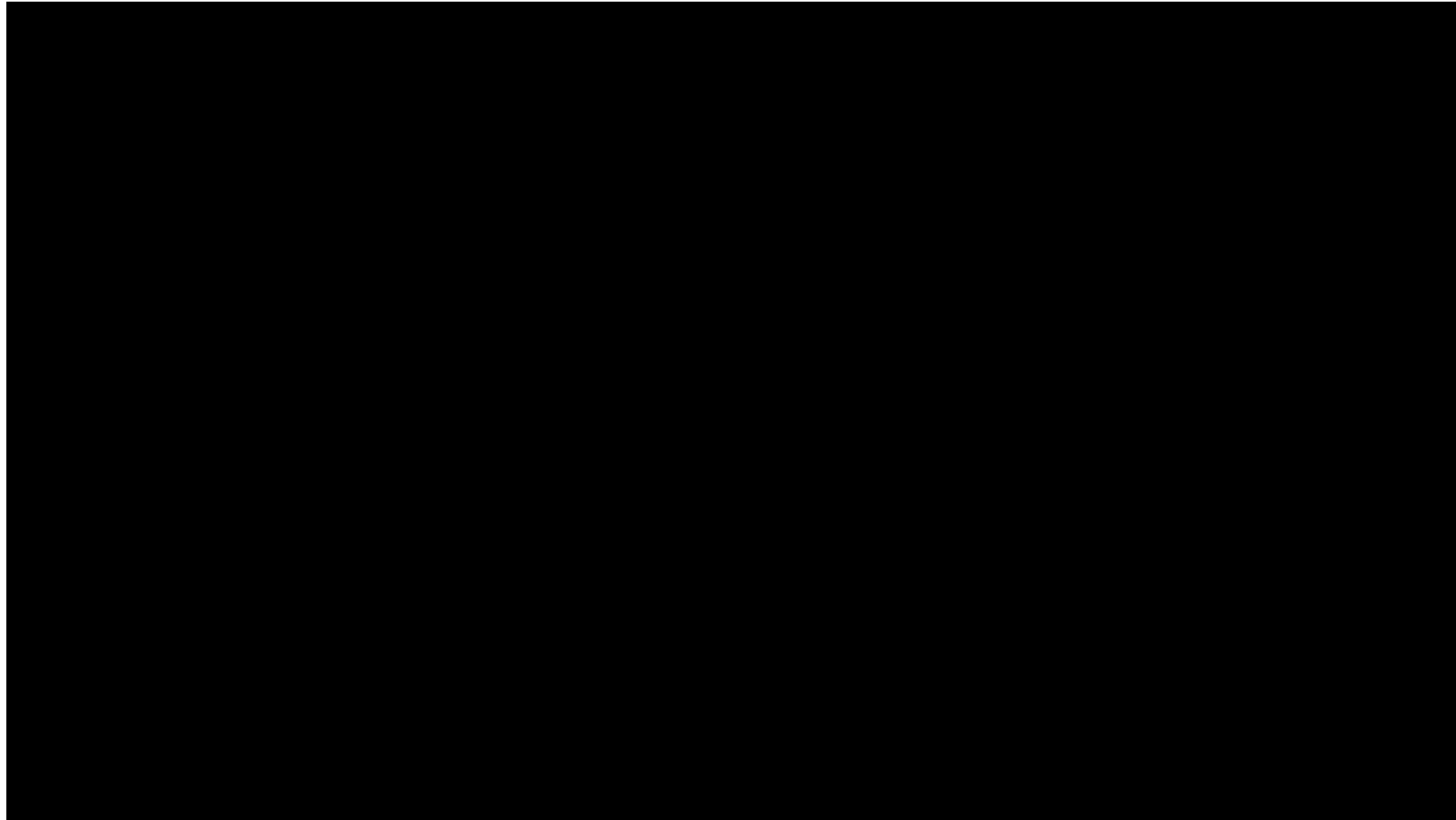
EXAMPLES OF AMENITIES/FACILITIES



EPERNAY (51)



OVERVIEW OF A JOBSITE



MAZAN (84)

Thank you for your attendance

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