

MFRT

[Modular Floated Rubbish Trapping]



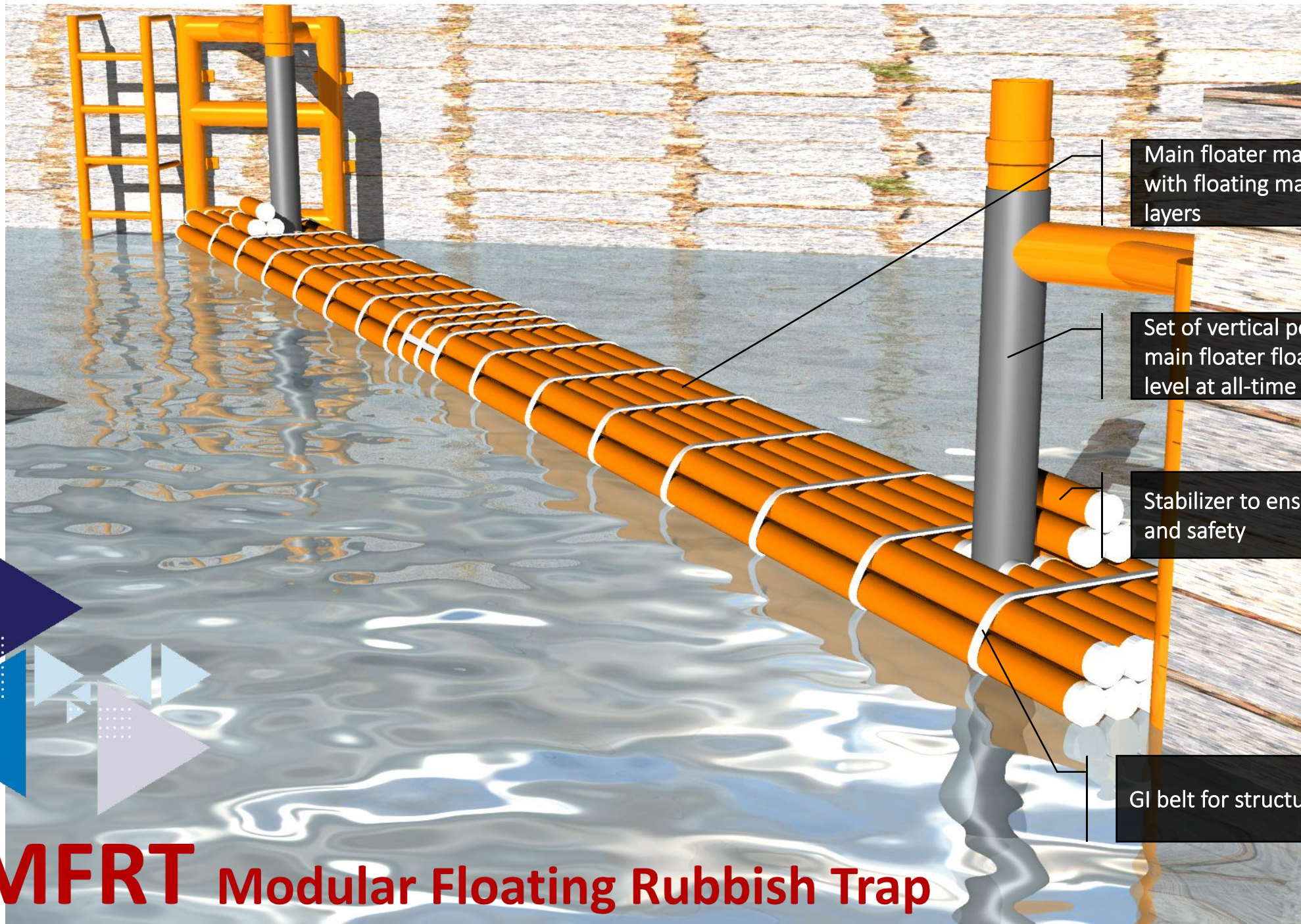
MFRT provide a simple and effective way to manage floating rubbish and grease in the river, tributaries or monsoon drain. The structure of the MFRT floats through a set of strong vertical poles. MFRT is placed at 35-45 degrees across the water flow to drive trapped rubbish to a collection buffer for easy collection and handling.

Specialties

- *Maximum trapping rate*
- *Fast and easy to install*
- *Cost effective*
- *Trap even oil and grease.*
- *Environmentally friendly*
- *Strong and Durable*
- *Dynamic architecture*
- *Easy collection*
- *Can be associated with mechanical collector.*

System	MFRT
units	sets
State	Mfg. & Installed 2008-2020
Perlis	6
Kedah	16
Penang	19
Perak	11
Selangor / WP	1
Melaka	4
N. Sembilan	2
Pahang	-
Johor	-
Terangganu	33
Kelantan	2
Sabah	-
Sarawak	1
Jumlah	95

Product	MFRT
Description	MODULAR FLOATING RUBBISH TRAPPER
R&D	2006
Commercial	2008
Uses	MFRT is the second generation's rubbish trapping system which made of interlocking UPVC cylinder filled with floating materials. It traps floating and submersible rubbish and divert them to a temporary collection buffer to enable rubbish collection activity can be done systematically. suitable for tributaries monsoon drain and river.
Recognition	SILVER MEDAL GENEVA 2006 ANUGERAH INOVASI BERSAMA KERAJAAN & SWASTA 2006



Main floater made of UPVC fill with floating material interlock 2 layers

Set of vertical pole to assure the main floater float with the water level at all-time

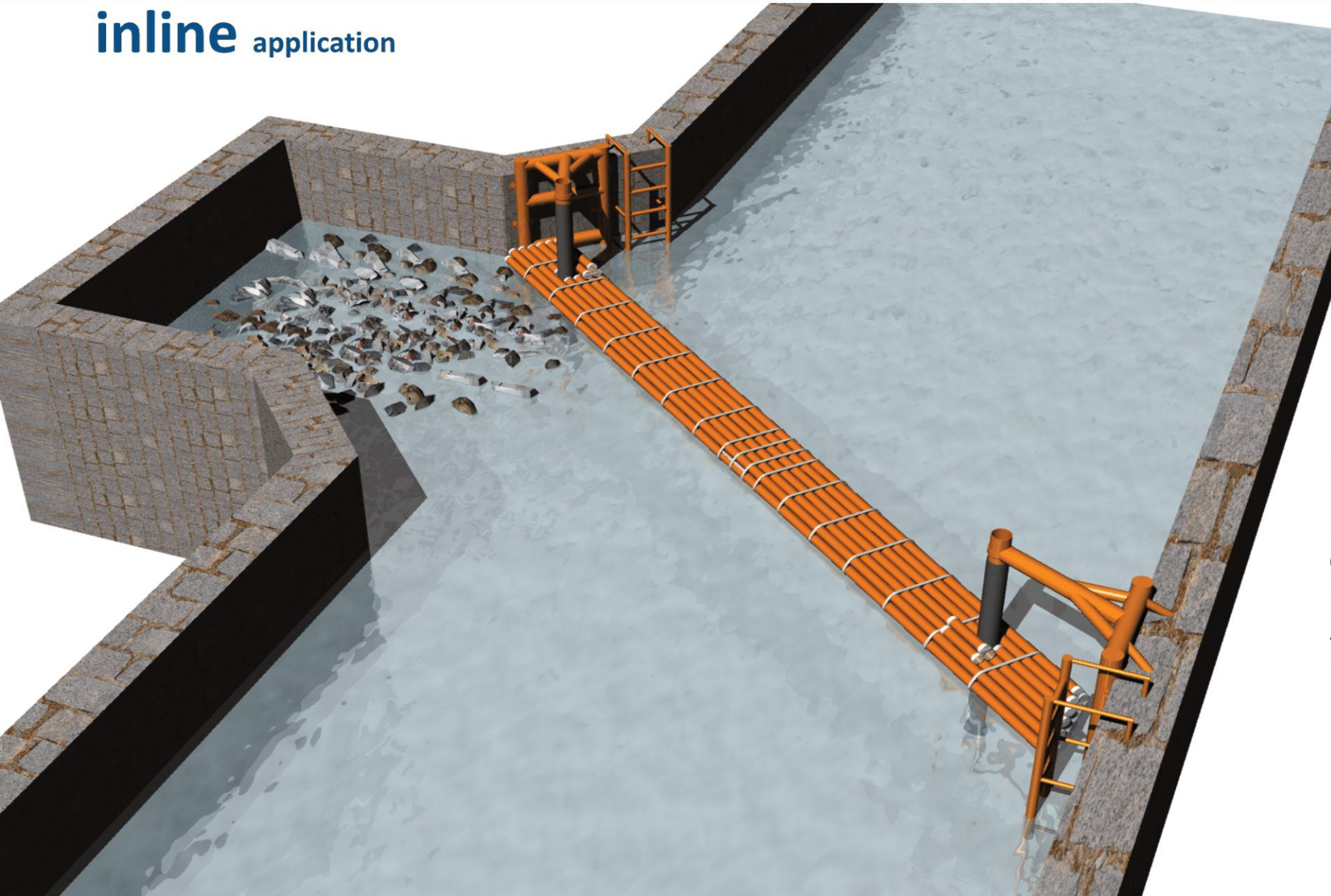
Stabilizer to ensure the stability and safety

GI belt for structure strength

MFRT Modular Floating Rubbish Trap

MFRT with basic concrete buffer

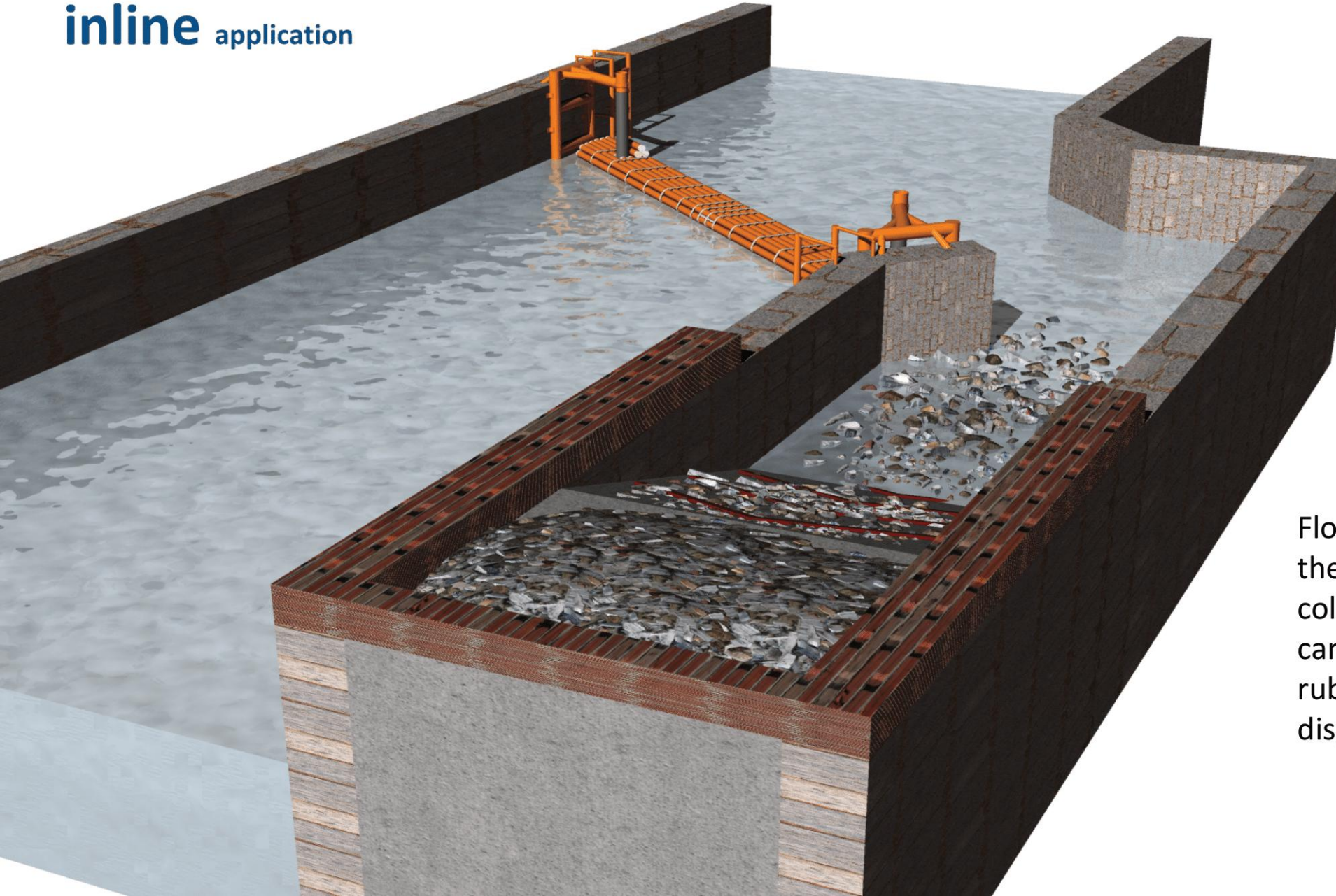
inline application



Floating rubbish is driven by the MFRT angle setting to a collection buffer . Operator can collect the trapped rubbish in the buffer for disposal

MFRT with ramped concrete buffer

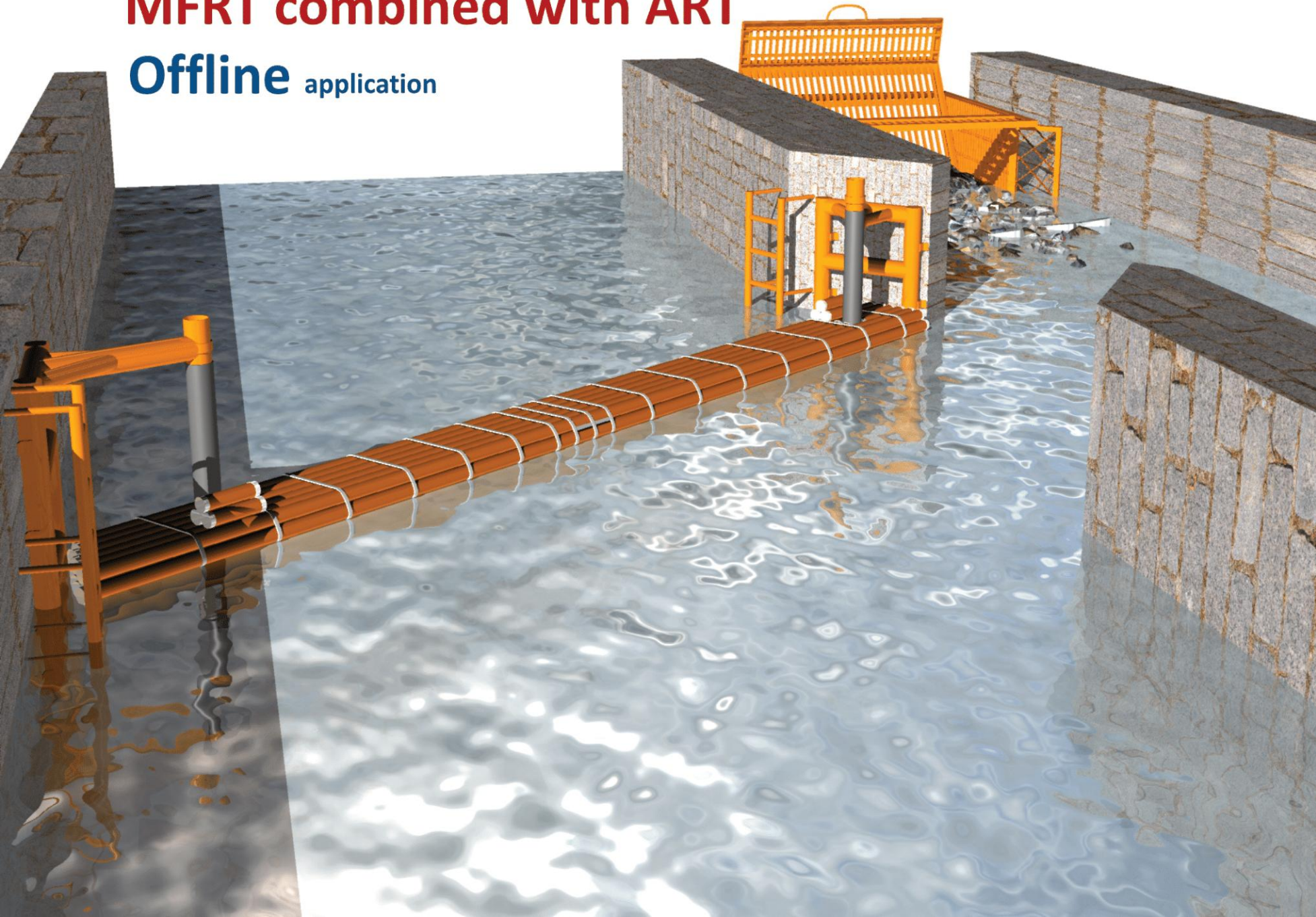
inline application



Floating rubbish is driven by the MFRT angle setting to a collection buffer . Operator can collect the trapped rubbish through a ramp for disposal

MFRT combined with ART

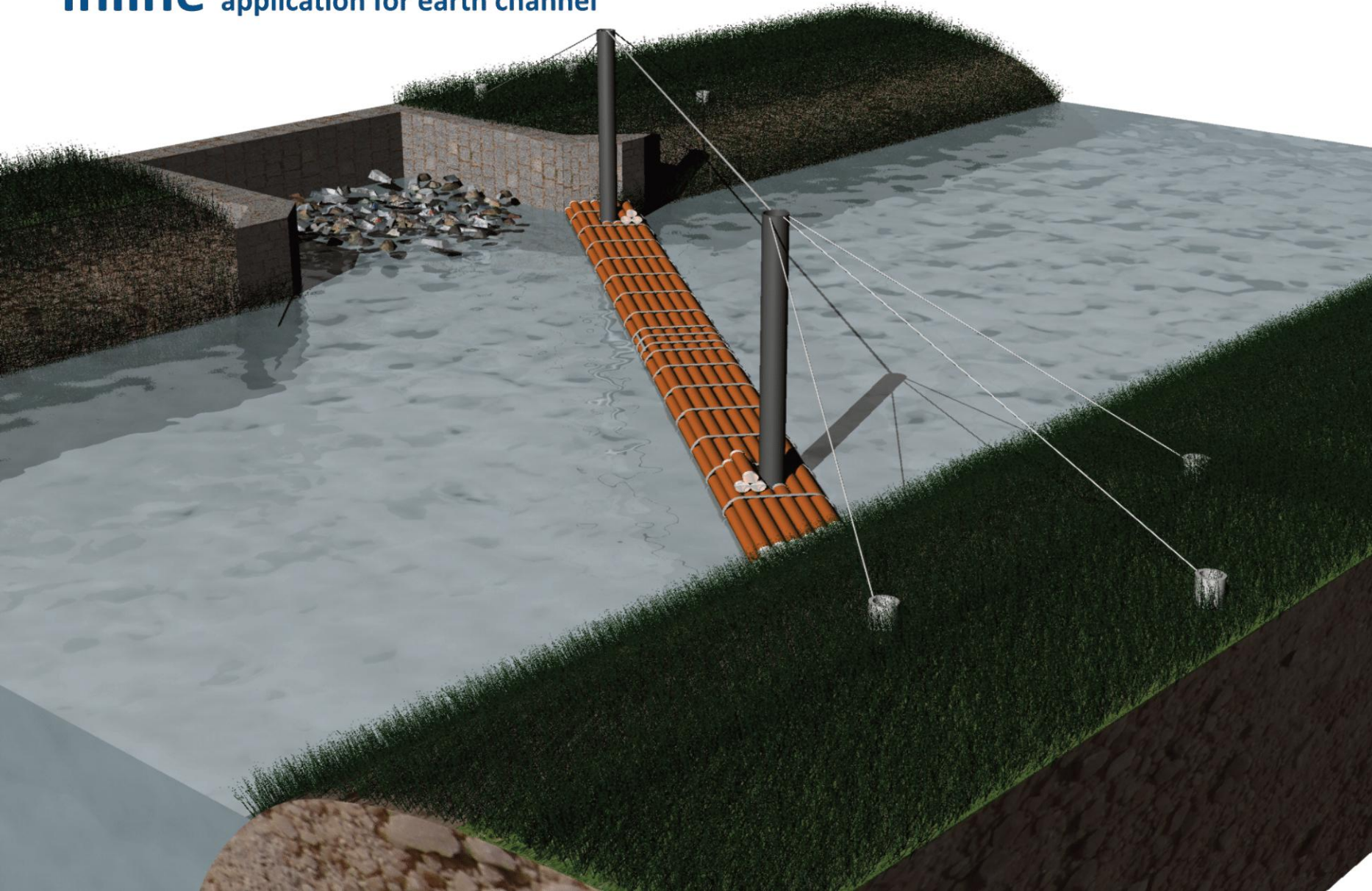
Offline application



MFRT in monsoon drain
combined with ART to
minimize
main flow disruption

MFRT with basic concrete buffer

inline application for earth channel

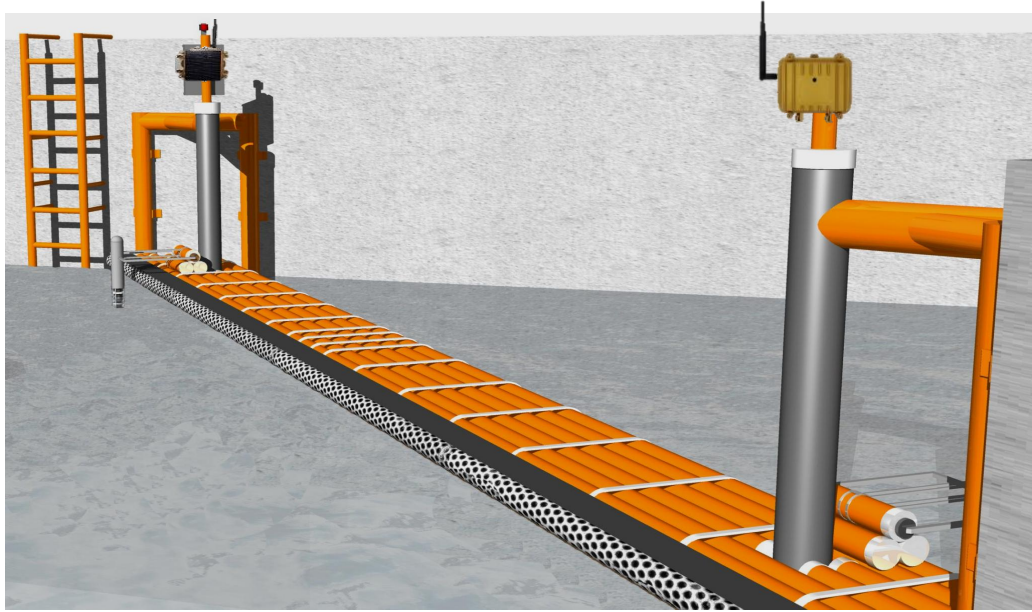


Floating rubbish is driven by the MFRT angle setting to a collection buffer . Operator can collect the trapped rubbish in the buffer for disposal

MFRT with mechanical collector



BIL	PART(S)
1	MECHANIZED RUBBISH COLLECTOR
2	MFRT
3	BIN
4	SUMP
5	DRAIN



i-MFRT

[Intelligent Modular Floated Rubbish Trap]

i-MFRT a new R&D that has been improved using the Intelligence system in water quality monitoring, flood EWS and smart eye – sensor for collection alert with I- version. i-MFRT provide a simple and effective way to manage floating rubbish and grease in the river, tributaries or monsoon drain. The structure of the MFRT floats through a set of strong vertical poles. MFRT is placed at 35-45 degrees across the water flow to drive trapped rubbish to a collection buffer for easy collection and handling.

Specialties

- Maximum trapping rate
- Fast and easy to install
- Cost effective
- Trap even oil and grease with oil boom fitting.
- Environmentally friendly
- Strong and Durable
- Can be associated with mechanical collector.
- Intelligence interface for water quality monitoring, Flood EWS, Smart eye – sensor for collection alert with **I version**

System	MFRT
units	sets
State	Mfg. & Installed 2008-2020
Perlis	6
Kedah	16
Penang	19
Perak	11
Selangor / WP	1
Melaka	4
N. Sembilan	2
Pahang	-
Johor	-
Terangganu	33
Kelantan	2
Sabah	-
Sarawak	1
Jumlah	95

Product	i-MFRT
Description	INTELLIGENT MODULAR FLOATING RUBBISH TRAPPER
R&D	2021
Commercial	-
Uses	i-MFRT is the innovated (R&D) rubbish trapping system which made of interlocking UPVC cylinder filled with floating materials. It traps floating and submersible rubbish and divert them to a temporary collection buffer to enable rubbish collection activity can be done systematically. Suitable for tributaries monsoon drain and river.
Recognition	-

1 Unit SuperLynx™ Gateway to upload live sensor data to the database

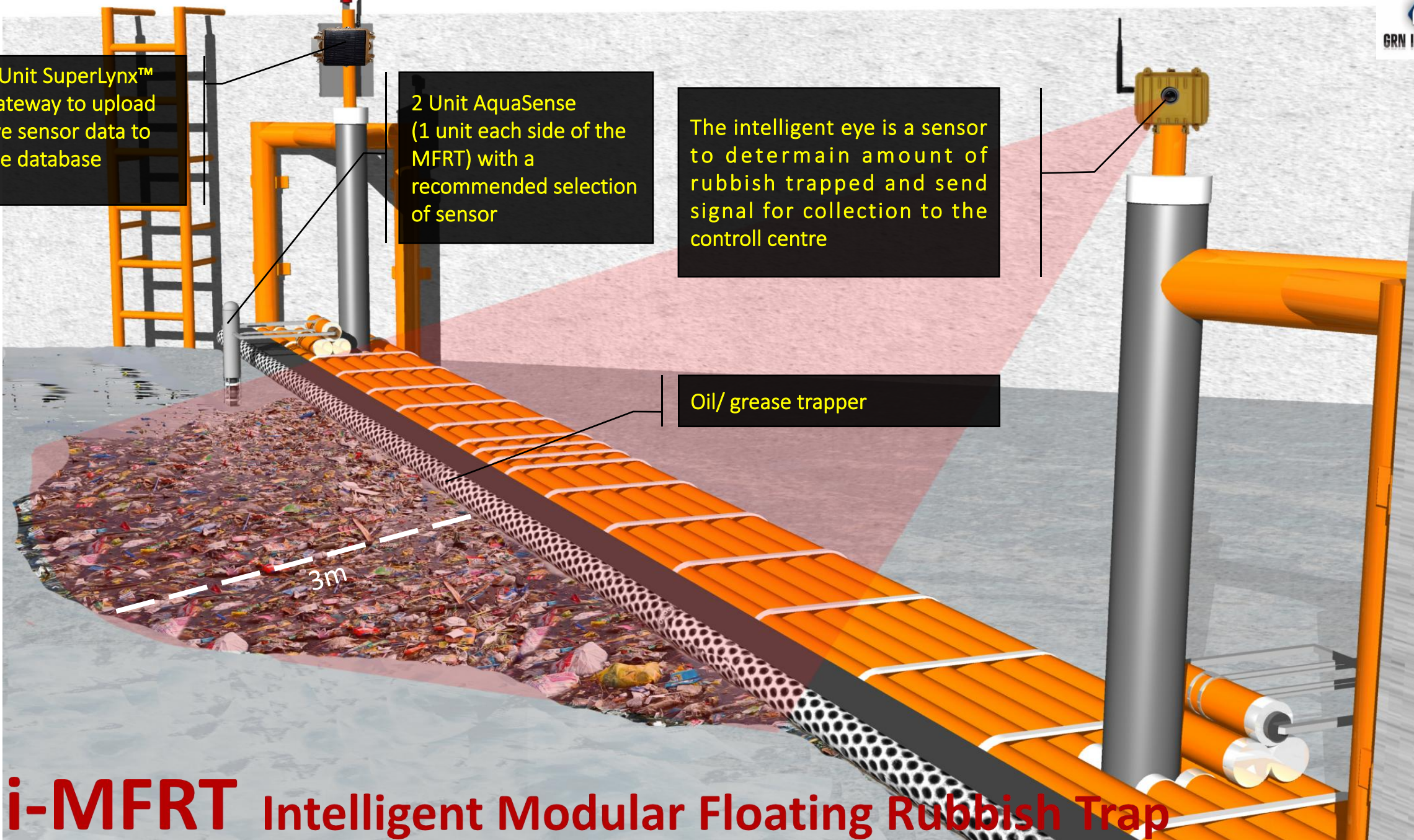
2 Unit AquaSense (1 unit each side of the MFRT) with a recommended selection of sensor

The intelligent eye is a sensor to determine amount of rubbish trapped and send signal for collection to the control centre

Oil/ grease trapper

3m

i-MFRT Intelligent Modular Floating Rubbish Trap





ART V1

[Anti Backflow Rubbish Trap]

ART - Anti Back flow Rubbish Trap is an invention resulted from careful study for rubbish trapping in drainage system especially in urban area.

Backflow phenomena is a common problem when a conventional trash screen is used to trap rubbish in a drain. With ART this problem can be eliminated. The multi-dimensional structure allows water to rush out while rubbish trapping is in progress. It also equipped with automatic relief door to allow maximum water flow out especially in extreme situations. ART is made by FRP materials, it's strong, anti-rust and anti-theft. ART is the best product of choice to be used in the Drain (max 2 meters wide).

Specialties

- Maximum trapping rate
- Fast and easy to install
- Cost effective
- Anti – Back flow
- Environmentally friendly
- Strong and Durable
- Dynamic architecture
- Easy collection

System units	ART sets
State	Mfg. & Installed 2008-2020
Perlis	-
Kedah	20
Penang	7
Perak	23
Selangor / WP	-
Melaka	1
N. Sembilan	5
Pahang	-
Johor	-
Terangganu	46
Kelantan	-
Sabah	-
Sarawak	3
Jumlah	105

Product	ART V1
Description	ANTI BACK FLOW RUBBISH TRAPPER
R&D	2007
Commercial	2008
Uses	ART resulted from innovative technology and proper R&D in creating rubbish trapping system in drains. It come with anti-backflow mechanism that reduce backflow phenomena that cause flash flood. Using anti-theft material -FRP. Very suitable for urban drainage system, sum and end-culvert.
Recognition	SILVER MEDAL GENEVA 2006 ANUGERAH INOVASI BERSAMA KERAJAAN & SWASTA 2006



FRP (Fibre Reinforced Plastic)
used as trapping fins

Automatic water pressure
releaser gate

GI (galvanised iron) as main
structure

Side fixer - expended

ART v1 Anti-backflow Rubbish Trap

ART V2

[Anti Backflow Rubbish Trap V2]



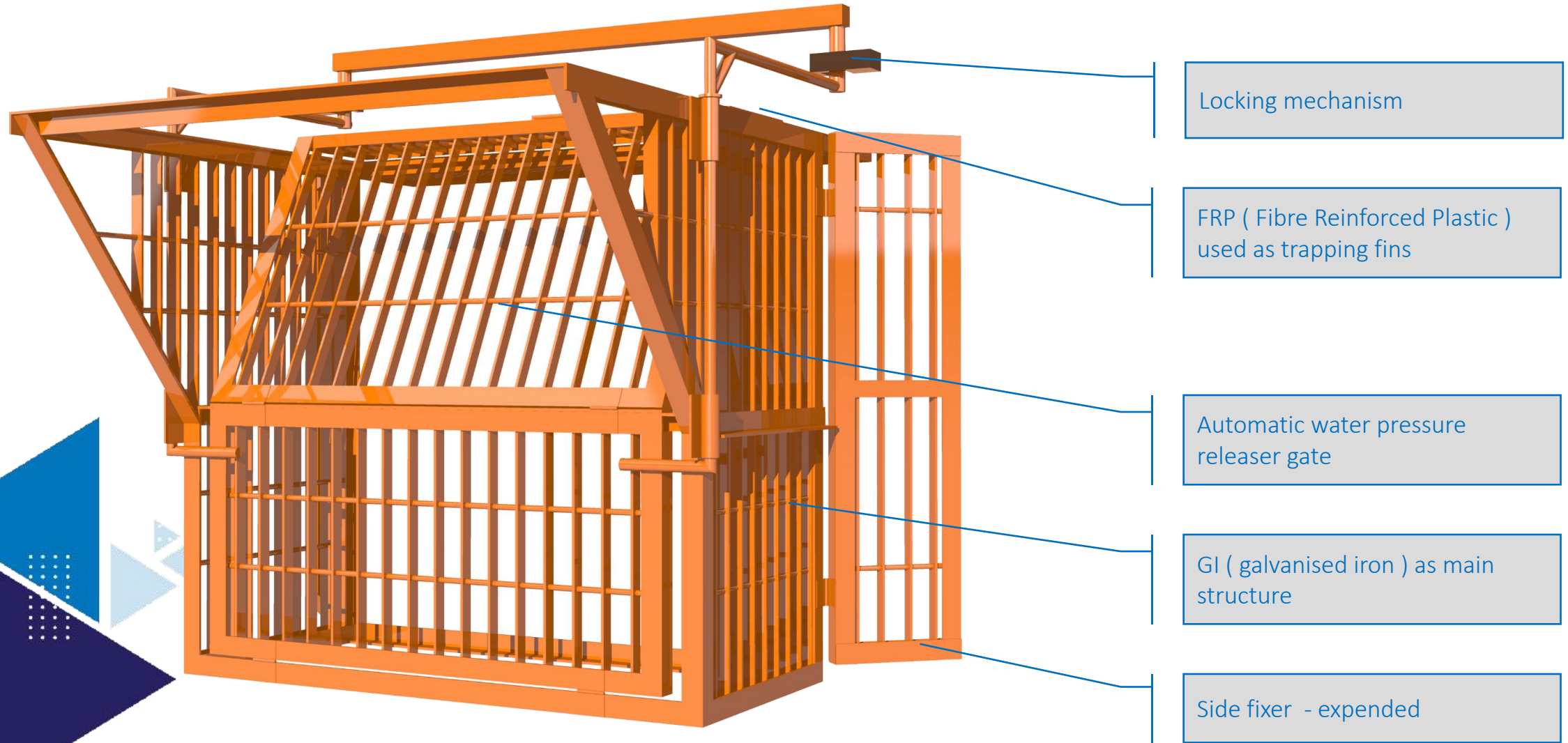
ART - Anti Back flow Rubbish Trap is an invention resulted from careful study for rubbish trapping in drainage system especially in urban area. Backflow phenomena is a common problem when a conventional trash screen is used to trap rubbish in a drain. With ART this problem can be eliminated. The multi-dimensional structure allows water to rush out while rubbish trapping is in progress. It also equipped with automatic relief door to allow maximum water flow out especially in extreme situations. In critical situation, ART will allow full release when an emergency releaser is engaged. ART is made by FRP materials, it's strong, anti-rust and anti-theft. ART is the best product of choice to be used in the Drain (max 2 meters wide).

Specialties

- Maximum trapping rate
- Fast and easy to install
- Cost effective
- Anti – Back flow
- Environmentally friendly
- Strong and Durable
- Dynamic architecture
- Easy collection

System units	ART sets
State	Mfg. & Installed 2008-2020
Perlis	-
Kedah	20
Penang	7
Perak	23
Selangor / WP	-
Melaka	1
N. Sembilan	5
Pahang	-
Johor	-
Terangganu	46
Kelantan	-
Sabah	-
Sarawak	3
Jumlah	105

Product	ART V2
Description	ANTI BACK FLOW RUBBISH TRAPPER
R&D	2020
Commercial	2021
Uses	ART resulted from innovative technology and proper R&D in creating rubbish trapping system in drains. It come with anti-backflow mechanism that reduce backflow phenomena that cause flash flood. Using anti-theft material -FRP. Very suitable for urban drainage system, sum and end-culvert.
Recognition	SILVER MEDAL GENEVA 2006 ANUGERAH INOVASI BERSAMA KERAJAAN & SWASTA 2006



ART v2 Intelligent Anti-backflow Rubbish Trap

ART v2 normal position



In normal condition of water flow in a drain , the automatic first releaser gate of the ART will be closed to trap rubbish in full capacity.



ART v2 Heavy Load position



In heavy load condition of rubbish trapped or water flow in a drain , the automatic first releaser gate of ART will be opened to release water in preventing backflow while the rubbish is still trapped .

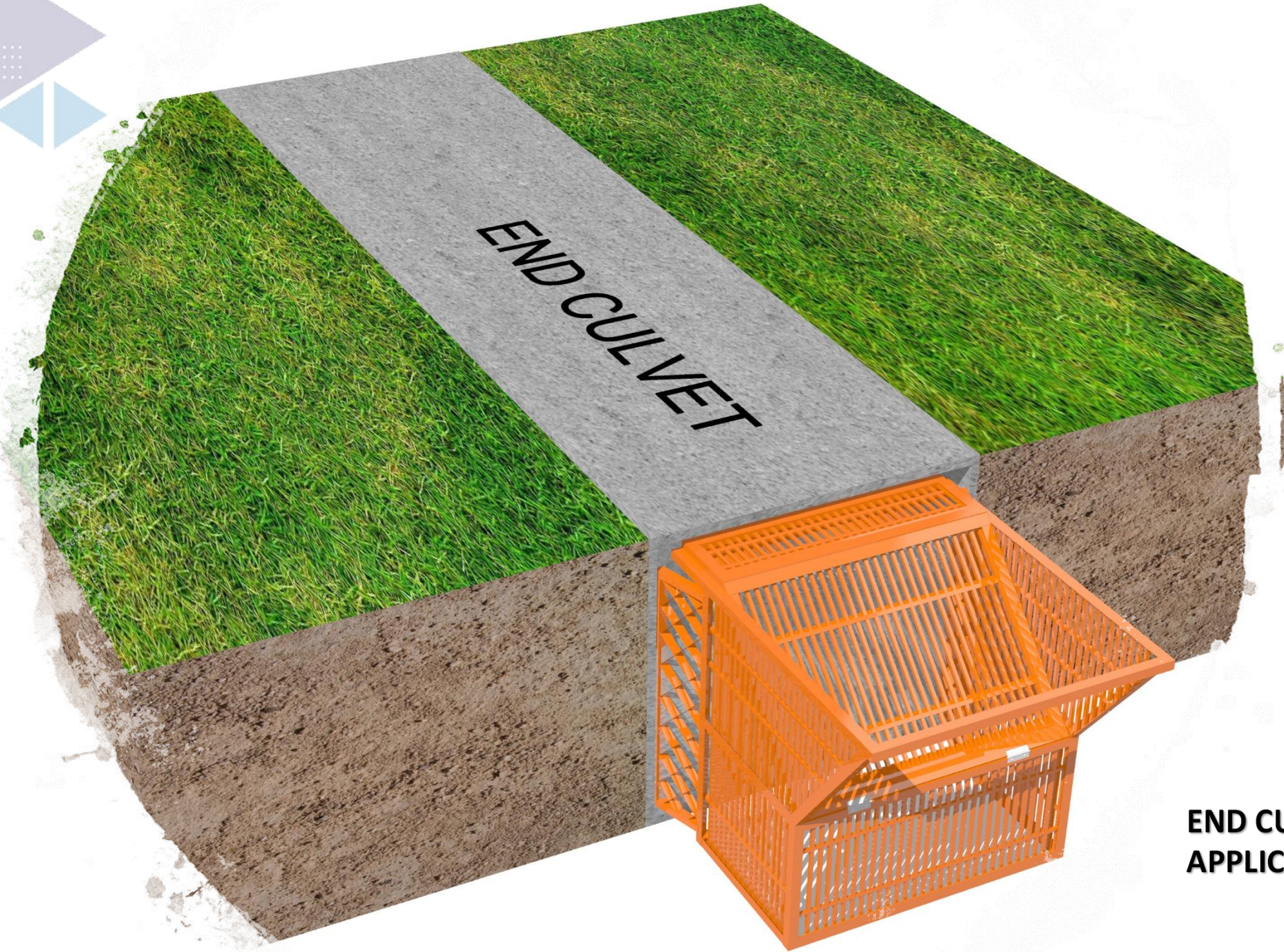
ART v2 extreme position



In extreme condition of water flow in a drain (high water level) , the automatic water pressure releaser gate of ART will be opened to release water in preventing backflow while the rubbish is still trapped .



**INLINE APPLICATION
OF ART**



**END CULVERT
APPLICATION OF ART**

GEOPROTECT

Interlocking Modular Block for Soil erosion Control



GEOPROTECT

Geoprotect is basically a formation block of hollow tubes made by specially formulated plastic material. The hollow tubes are interlocked together to form a modular block and can be expended to cover a wide area. The modular block is inserted at the toe of the slope covering the slip circle and exposed above the invert level at least one third of total length. The tie back mechanism will have enhanced the stability of the structure by pulling back evenly the main front module. The modules are fill with granular materials or other available materials at site.



Specialties

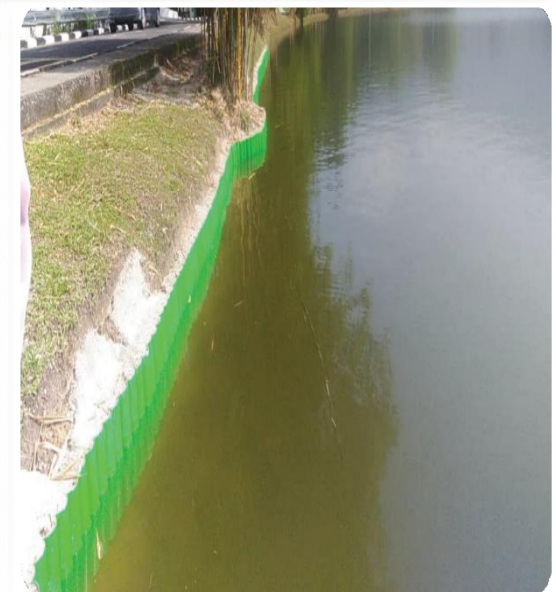
- *Simple in design*
- *Fast and easy to install*
- *Cost effective*
- *Even at location with minimal excess.*
- *Environmentally friendly*
- *Strong and Durable*
- *Dynamic architecture*

System units	GEOPROTECT meter run
State	Mfg. & Installed 2008-2020
Perlis	65
Kedah	1,367
Penang	3,111
Perak	830
Selangor / WP	1,030
Melaka	535
N. Sembilan	12
Pahang	882
Johor	2,923
Terangganu	360
Kelantan	235
Sabah	-
Sarawak	1,000
Jumlah	12,350

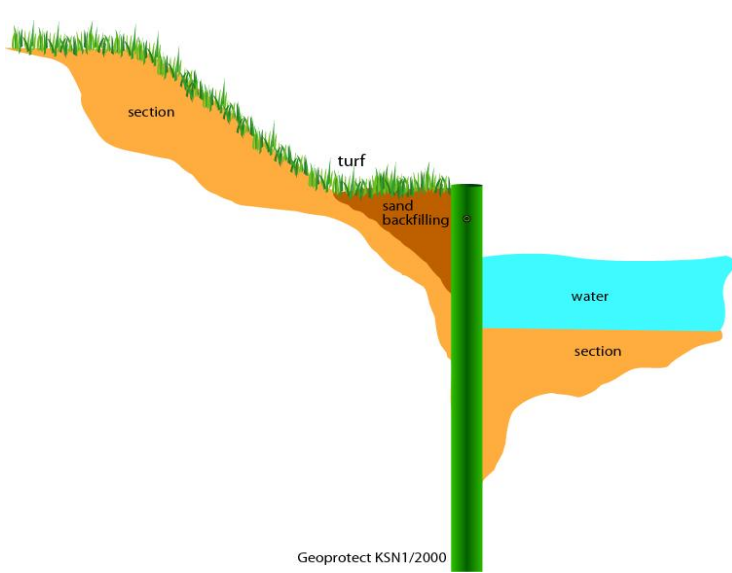
Product	GEOPROTECT
Description	INTERLOCKING MODULAR BLOCK FOR SOIL ERROSION CONTROLL
R&D	2002 - 2004
Commercial uses	2005
uses	Geoprotect is an interlocking modular block for soil erosion control. It is suitable to be use to protect, realign and strengthen the toe section of the river or soil/earth channel. It can also be use for aesthetic purpose especially for lake or pond
Recognition	GOLD MEDAL GENEVA 2006 ANUGERAH INOVASI BERSAMA KERAJAAN & SWASTA 2006 CHAMPION PAMERAN S&T MALAYSIA 2008

Application

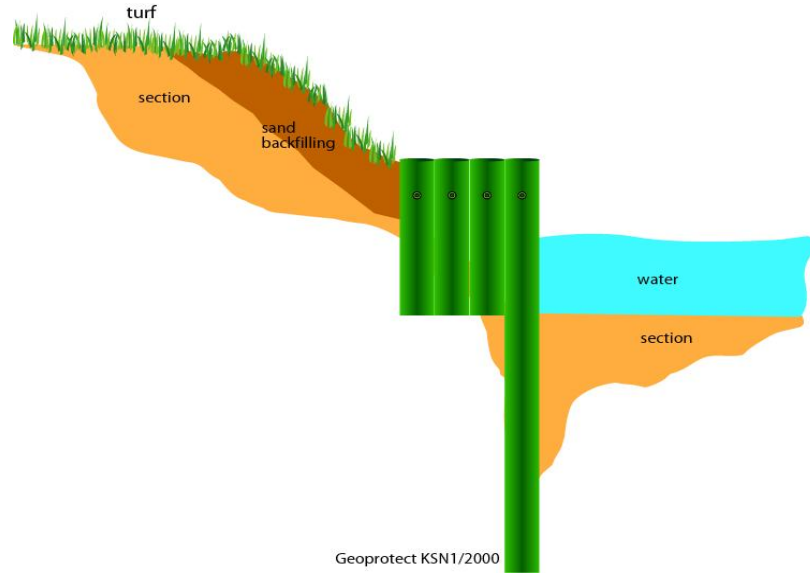
Geoprotect can be used to prevent erosion and siltation at riverbank or slopes. It can also be used for river realignment, pond or irrigation channel. The system is easy and fast to install and don't require heavy machineries, therefore it can be applied at site with very limited or no excess.



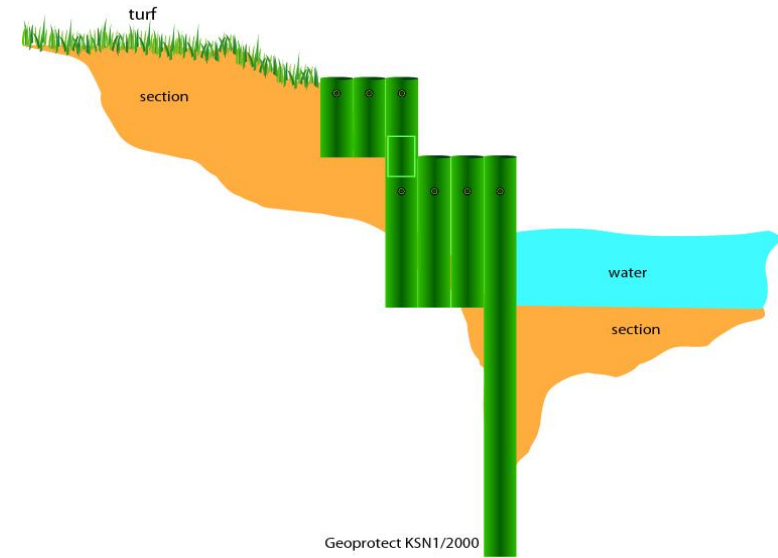
INSTALLATION



The most simplest design to protect the river's toe. Using 1.5 to 2 meter single pipe



The combination of 2meter single interlocked front lining with 1m modules.



The staged design – combination of 1.5meter front lining with 0.5 meter modules and connected with 0.25 meter modules on top

RORO BIN

[Roll On Roll Off Bin]

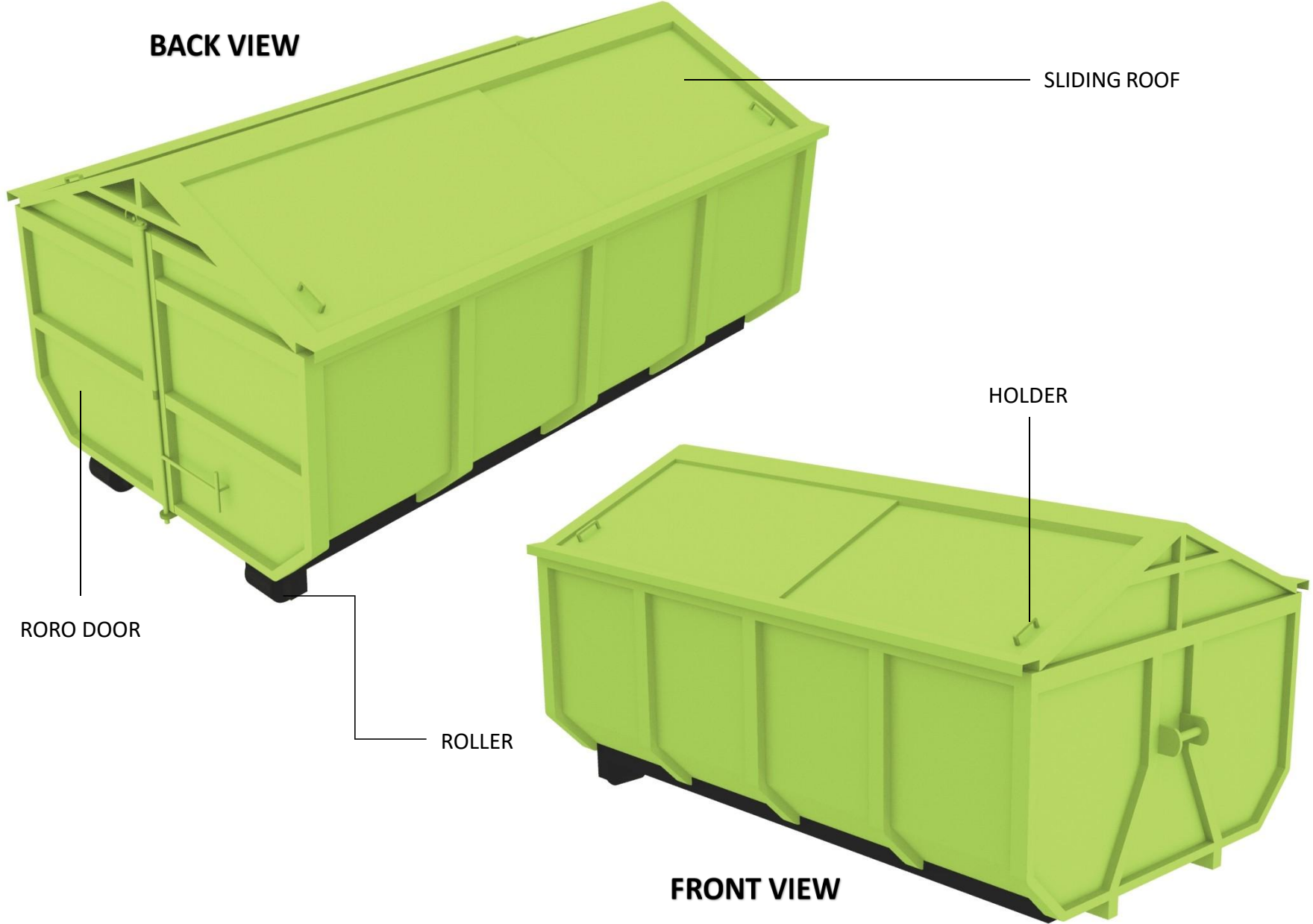


Roll-On Roll-Off (RORO) bins are perfect for the removal of large amounts of bulky waste. The fully opening rear doors make disposing of materials from commercial and industrial clients, such as building sites and other large scale operations, easy and hassle-free. GRN has been produce 2 type of standard bin, with is closed bin and opened bin.



Specialties

- *Build according to current approved standard*
- *Strictly using approved and specification compliance material*
- *Custom-made unit accepted*
- *using multilayer undercoat and whether shield paint*



BACK VIEW

SLIDING ROOF

RORO DOOR

ROLLER

HOLDER

FRONT VIEW



FRONT VIEW



BACK VIEW

RORO DOOR

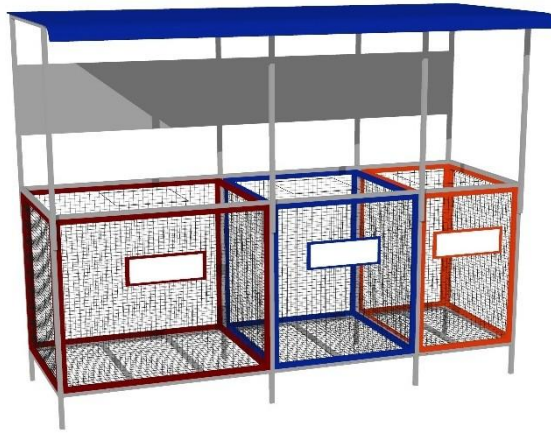
ROLLER



Manufacturing process of RORO BIN located at Simpang Ampat factory.

3R BIN

[3 Recycle Bin]

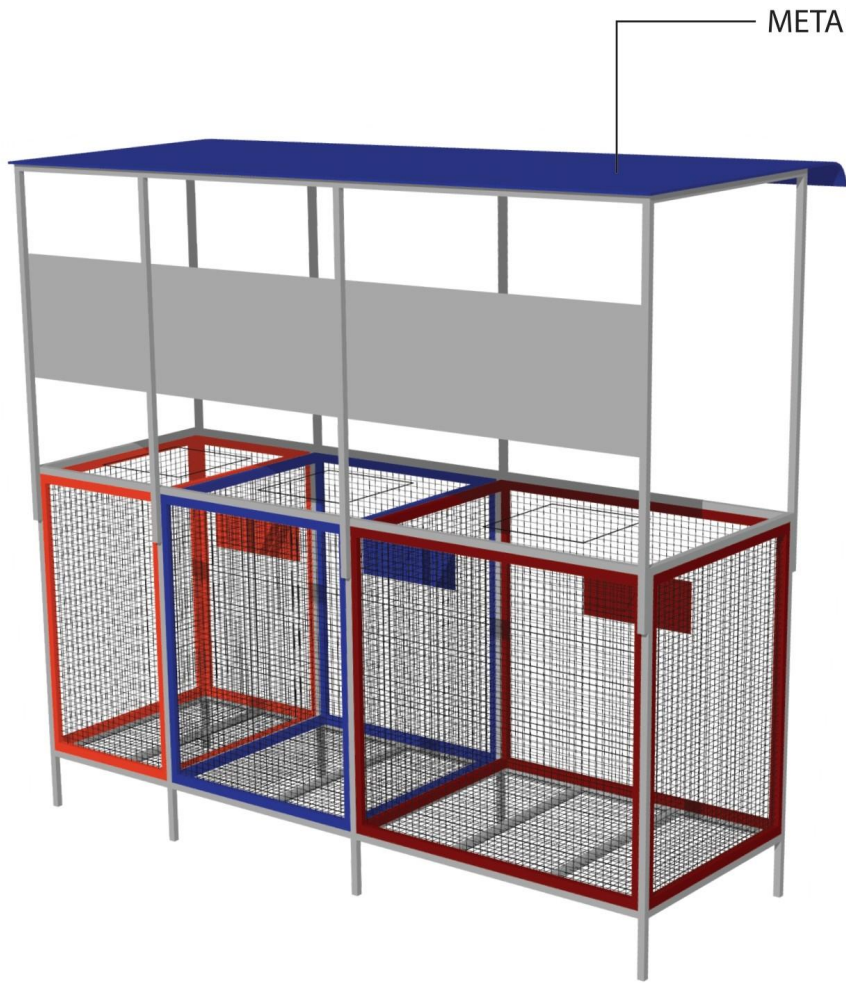


3R BIN - 3 Recycle Bin is an innovative product that are both aesthetic and environmentally friendly and will benefit the city's residents. 3R BIN is built with 3 types of colors to facilitate the segregation of waste by categories (Cans, Paper, Plastic).

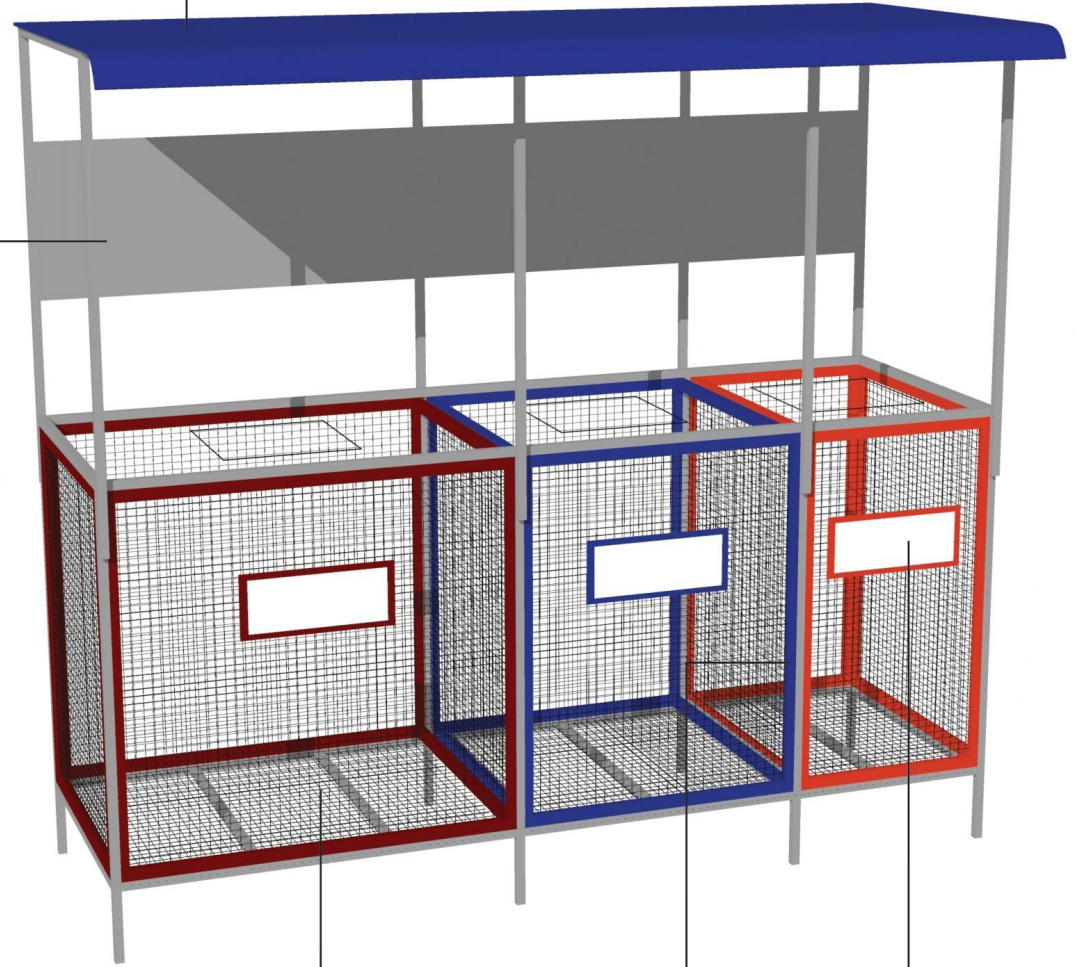
Specialties

- *Build according to current approved standard*
- *Strictly using approved and specification compliance material*
- *Custom-made unit accepted*
- *using multilayer undercoated whether shield paint*
- *Safe and secured*





METAL DET ROOFING



ADVERTISEMENT PANEL

WIRE MESH WITH
SPECIFIC COLOUR
COATED FINISHING

FLIPPED DOOR

CATEGORY
LABELING

COLOUR REFERENCES



CANS



PAPERS



PLASTICS



**APPLICATION AT
PUBLIC PLACE**



**APPLICATION AT
RESIDENTIAL PARK**



**APPLICATION AT
SCHOOL**

SIDE CAR for motorcycle



GRN is a leading SWM support product and system manufacturer for northern states of Malaysia. we have supported an array of SWM players including SWM concession companies.

GRN is now producing a side car for motorcycle which commonly use as road cleaning support vehicle.

We are looking forward to become the most reliable SWM support partner for the whole Malaysia.

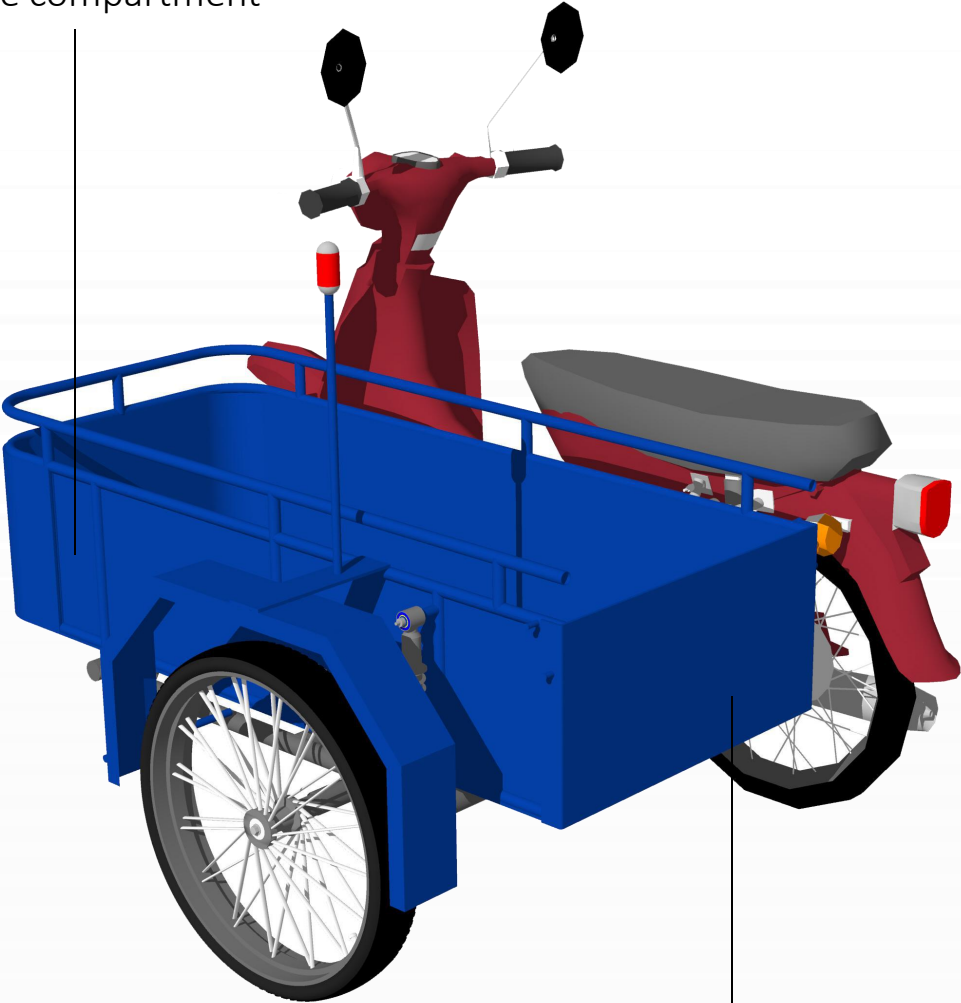
Specialties

- *Build according to the current approved standard*
- *Design for safety and operational convenience*
- *Custom-made unit accepted*
- *Using multilayer undercoat and whether shield paint*
- *Equipped with blinker*

Tricycle general specification

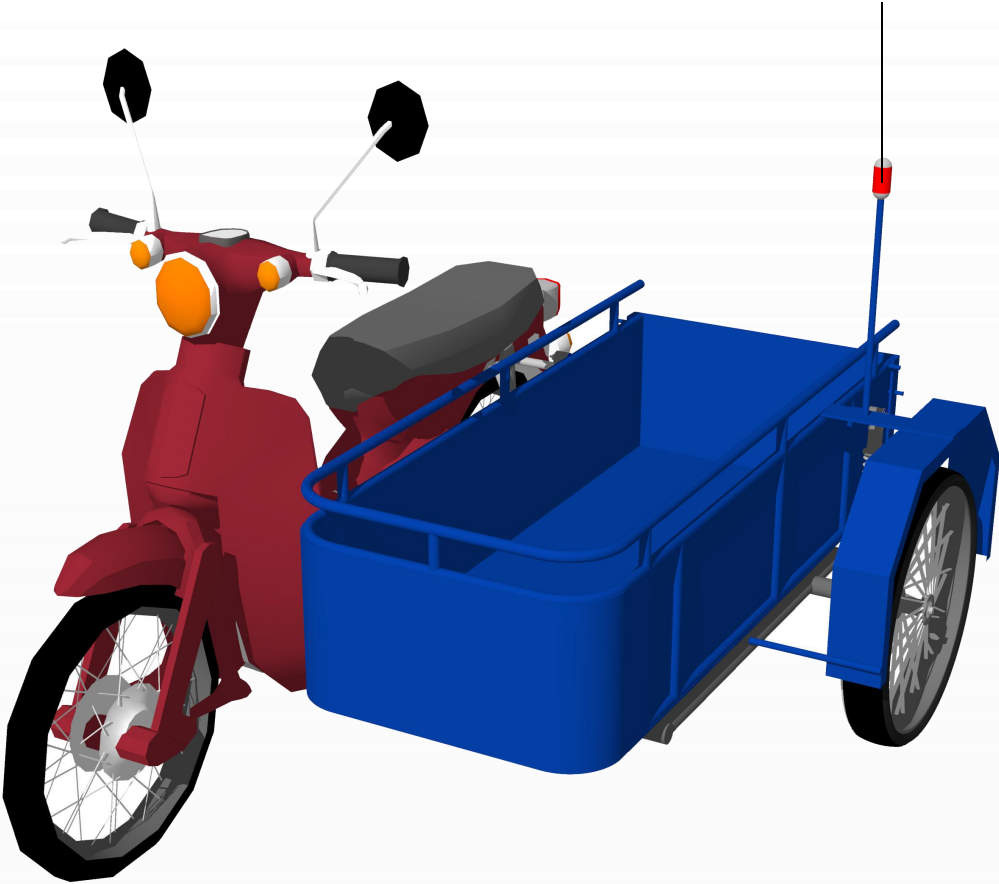
Specification	Dimension range
Length	1400mm
Width	620mm
Body height	519mm
Full height	605mm
Wall thickness	1.5mm to 2mm
Base thickness	1.5mm to 2mm

Side compartment



Tail board

Emergency Warning Light





Side car
requested
by MPKK
with
emergency
warning
light
(custom
design)



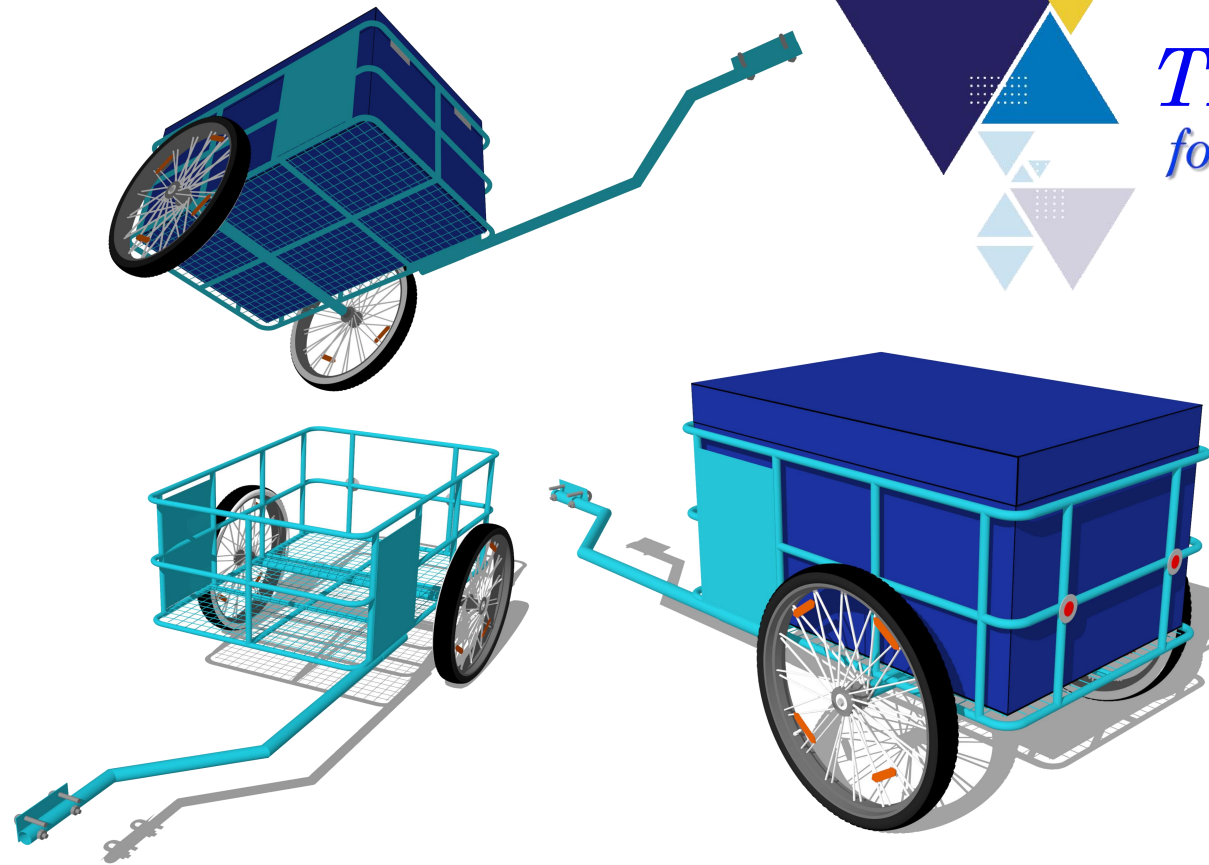
Side car model making

TRICYCLE for bicycle

GRN is a leading SWM support product and system manufacturer for northern states of Malaysia. we have supported an array of SWM players including SWM concession companies.

GRN is now producing a Tricycle for bicycle which commonly use as road cleaning support vehicle.

We are looking forward to become the most reliable SWM support partner for the whole Malaysia.

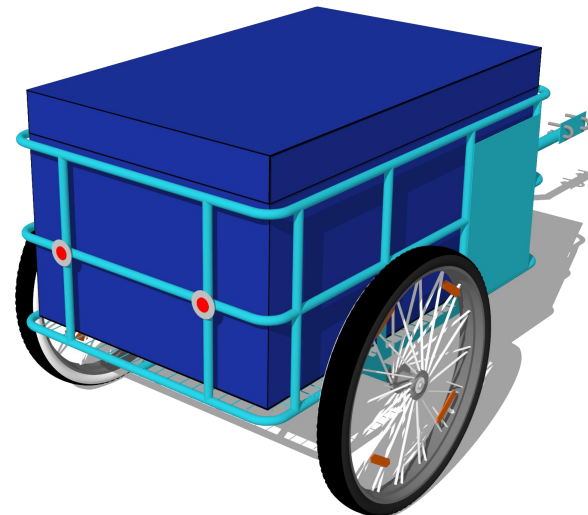


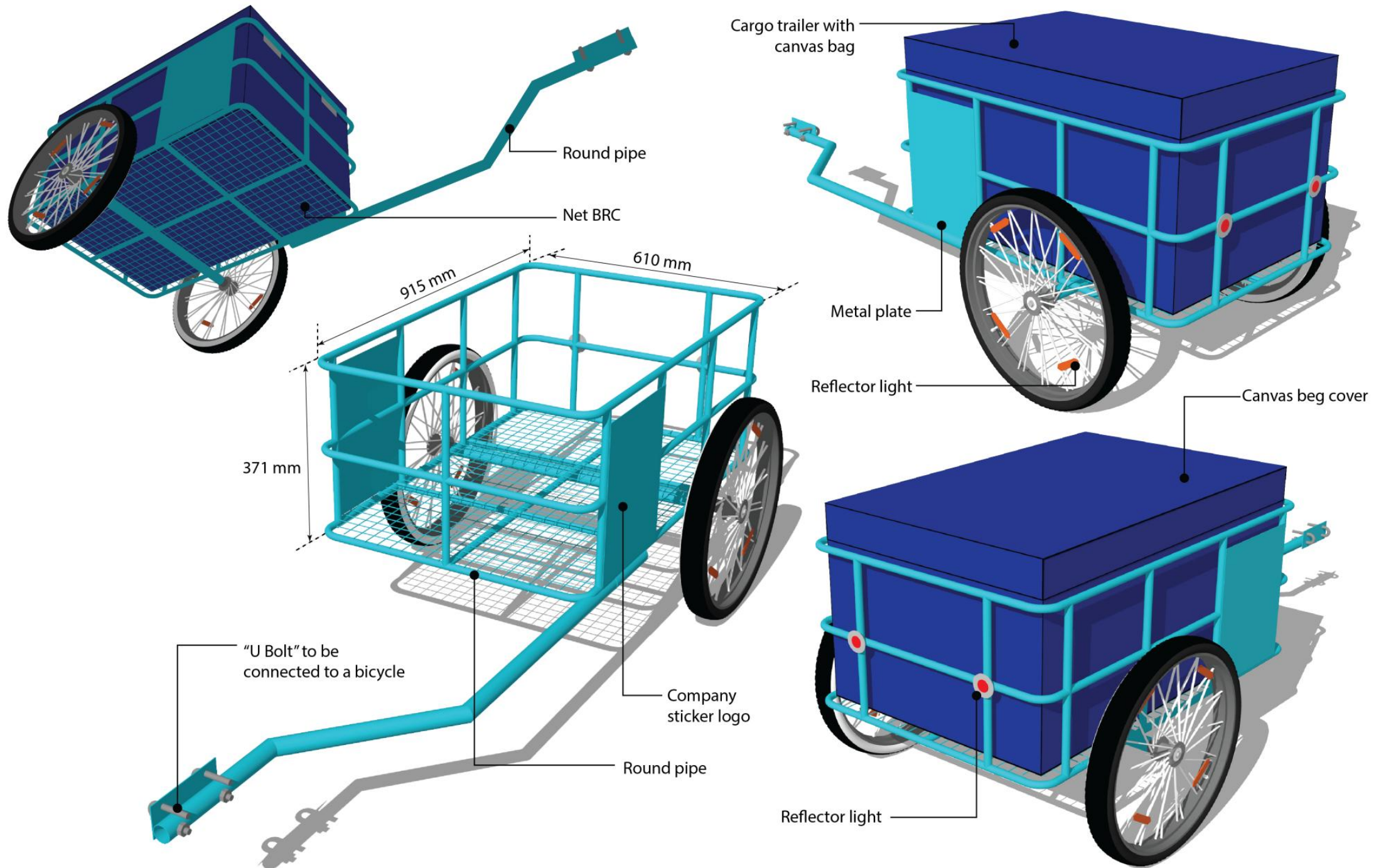
Specialties

- *Build according to the current approved standard*
- *Design for safety and operational convenience*
- *Custom-made unit accepted*
- *Light and easy to handle*
- *Equipped with reflector light*

Tricycle general specification

Specification	Dimension range
Length	915mm
Width	610mm
Body height	371mm







Tricycle requested by E-Idaman