LAO PEOPLE'S DEMOCRATIC REPUBLIC
MINISTRY OF INFOMATION, CULTURE AND TOURISM

2nd GMS TOURISM INFRASTRUCTURE FOR INCLUSIVE GROWTH PROJECT

SUBPROJECT V3: WESTERN LOOP RURAL ROAD AND BRIDGE IMPROVEMENTS

SUBMITTED BY:

RAMBOLL

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28 MAY 2020

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2. EXISTING

3. BRIDGE DESIGN

2nd GMS TOURISM INFRASTRUCTURE FOR INCLUSIVE GROWTH PROJECT
SUBPROJECT V3: WESTERN LOOP RURAL ACCESS ROAD AND BRIDGE IMPROVEMENTS

PROJECT LOCATION





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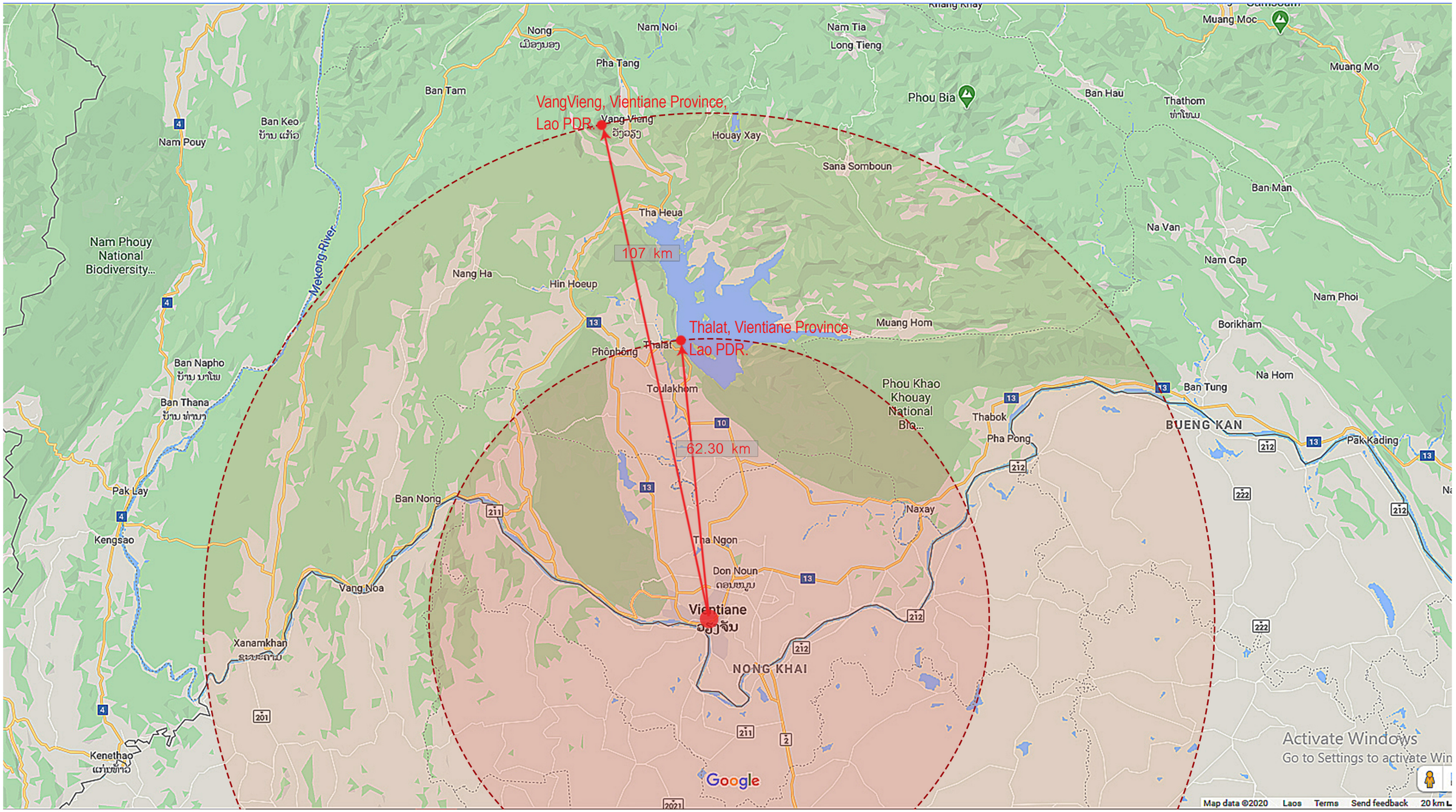

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SITE PLAN



LEGEND

Existing Vehicle bridge to become a Pedestrain Bridge

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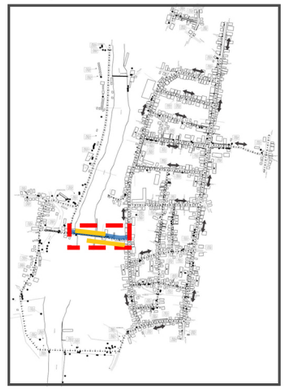
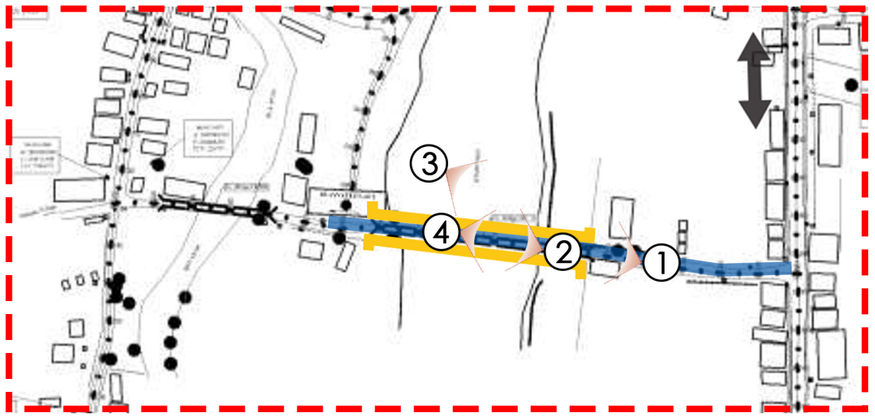
Key Plan



LEGEND

Existing Vehicle bridge to become a Pedestrain Bridge



①



②



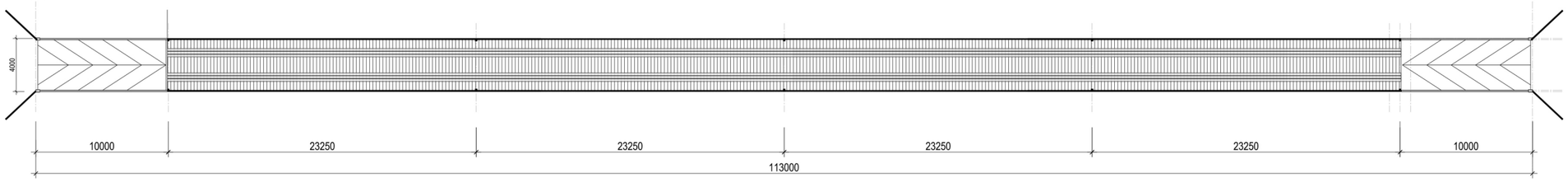
③



④



Plan



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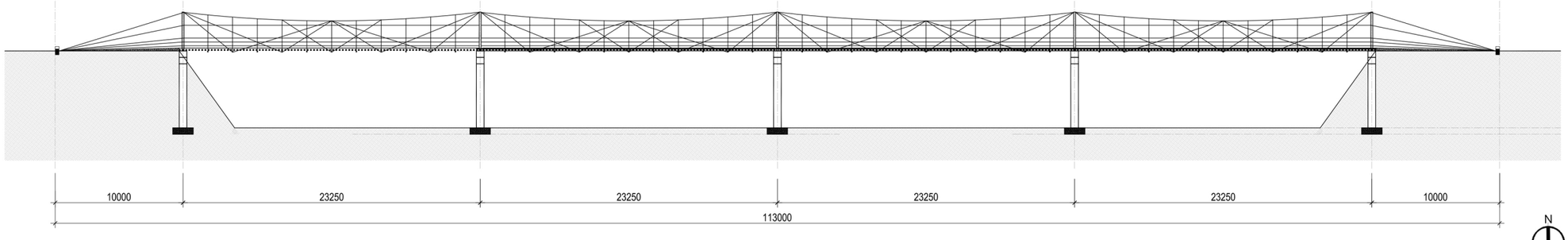

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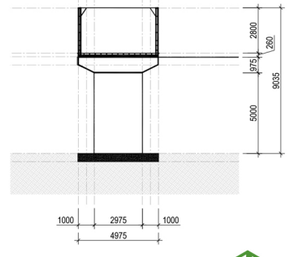

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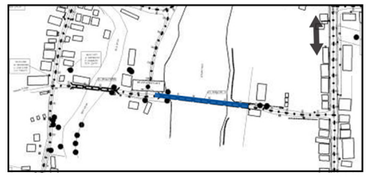

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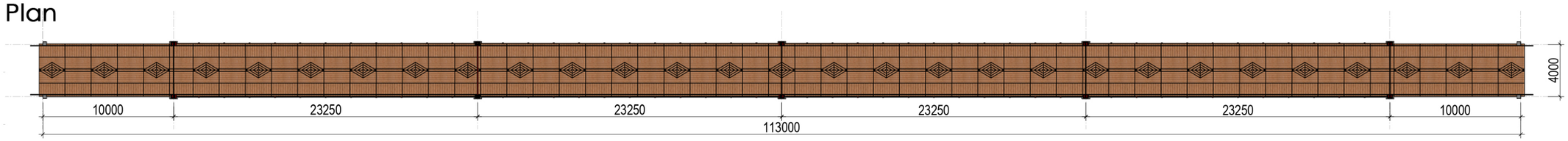

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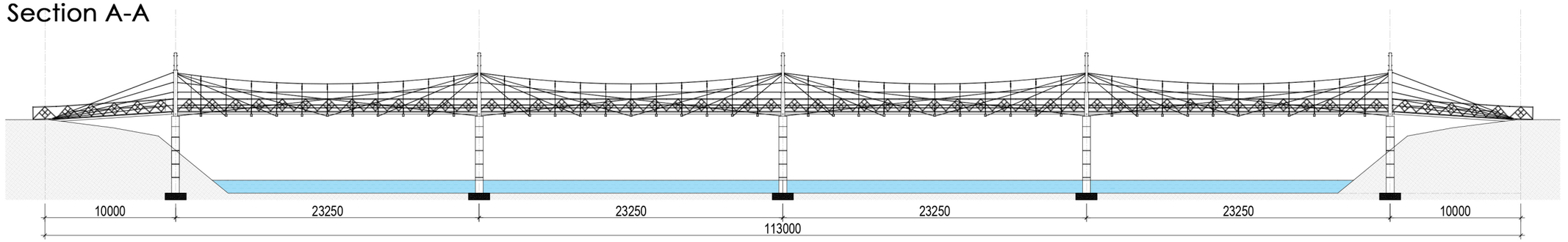

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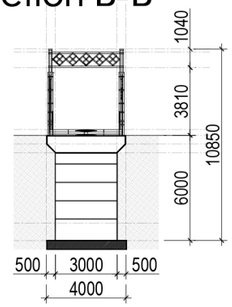
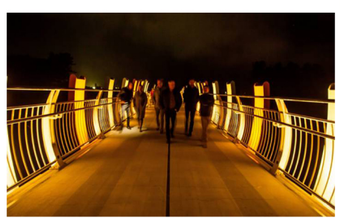
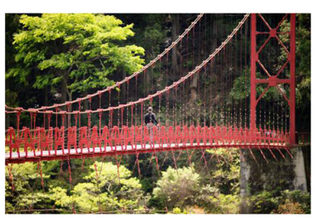


Lighting	Featture Footpath		Reference
LED Line Lighting	Add wooden on deck	Surface pattern	
 			

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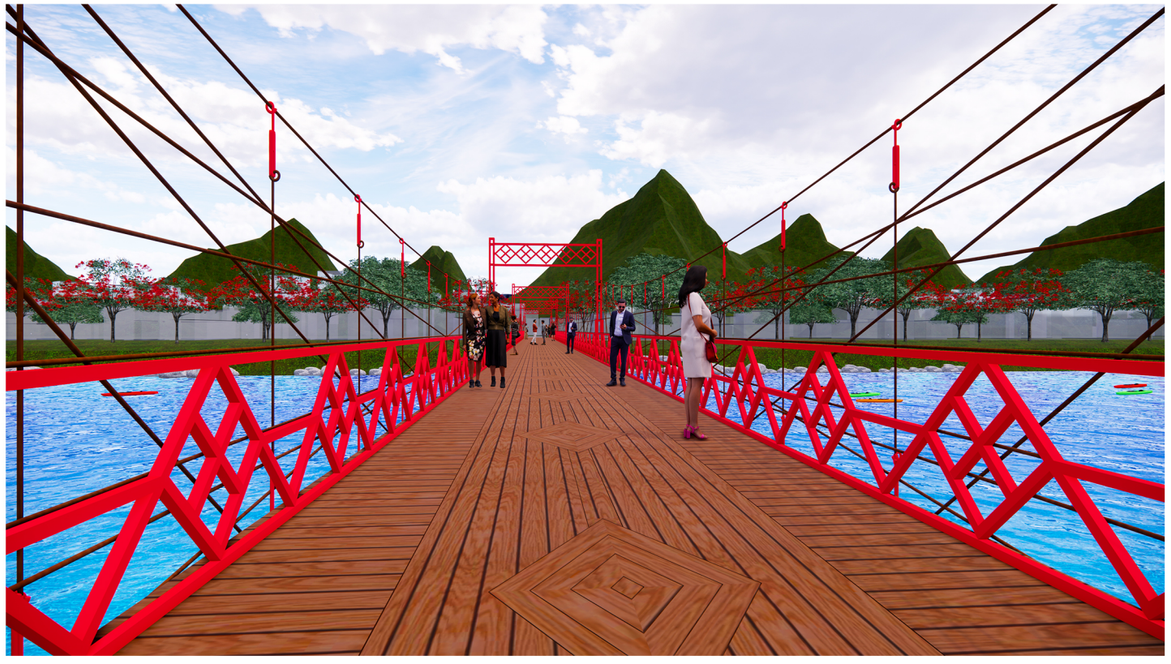

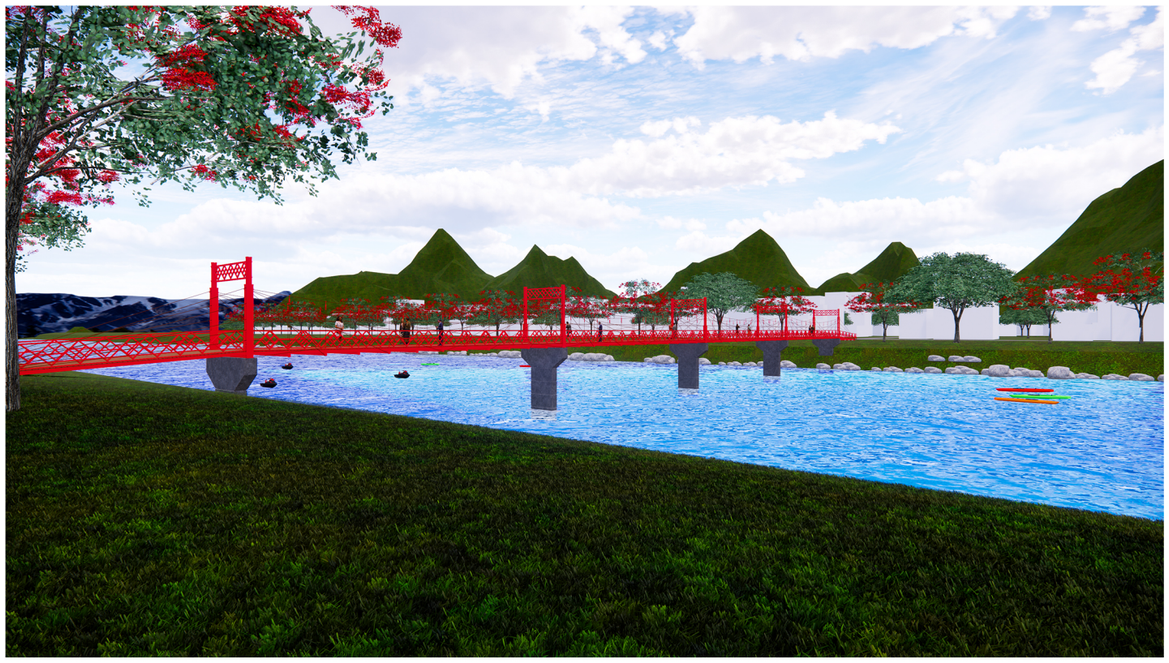



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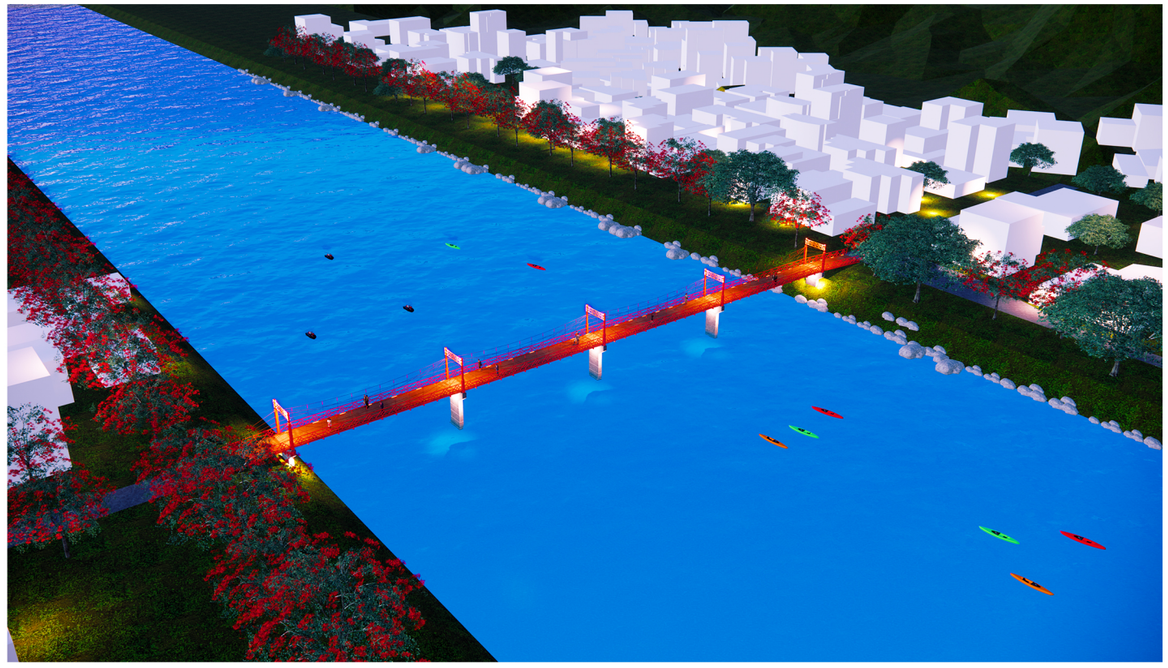

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MINISTRY OF INFOMATION, CULTURE AND TOURISM

2nd GMS TOURISM INFRASTRUCTURE FOR INCLUSIVE GROWTH PROJECT

SUBPROJECT V4 : VANGVIENG URBAN RENEWAL

SUBMITTED BY:

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28 MAY 2020

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1. LOCATION







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PROJECT LOCATION:
VANGVIENG, VIENTIANE PROVINCE, LAO PDR
18°55'19.9"N 102°26'50.6"E

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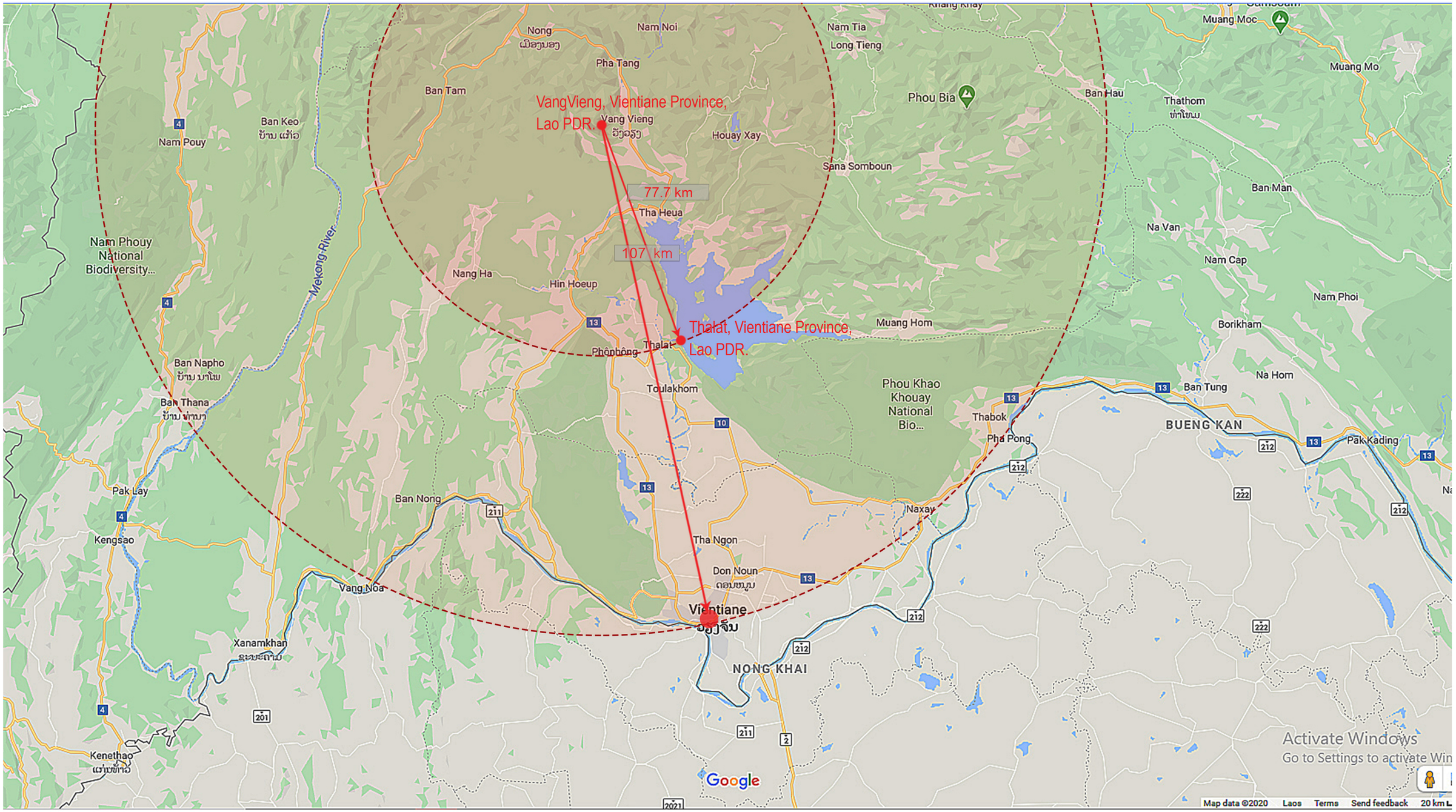

PROJECT LOCATION:
VIENTIANE PROVINCE, LAO PDR
18°31'24.4"N 102°33'19.1"E

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PROJECT LOCATION:
VANGVIENG, VIENTIANE PROVINCE, LAO PDR
18°55'19.9"N 102°26'50.6"E

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2. SITE SURVEY







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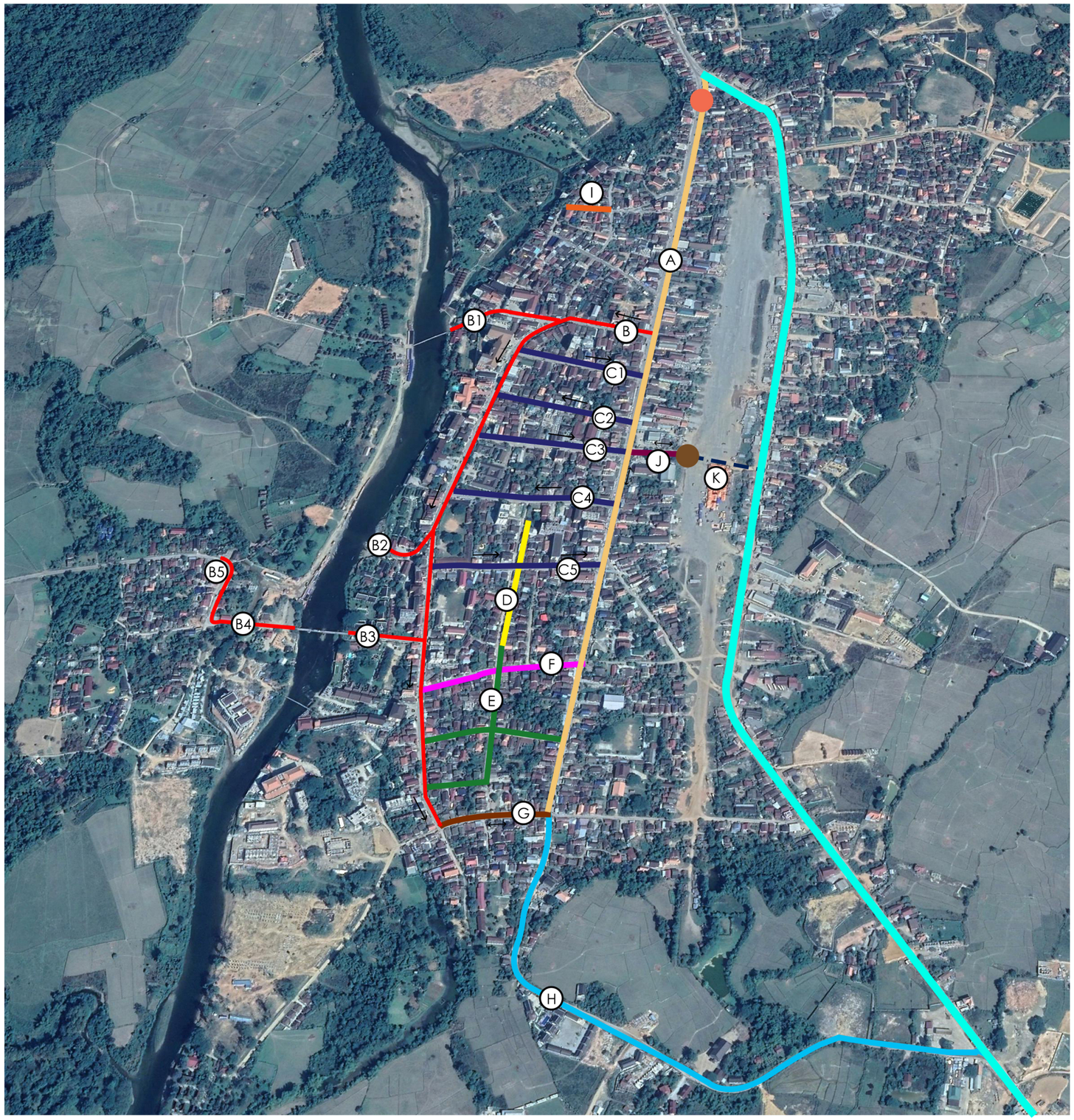
Site plan



- A : Two way road, street lighting, Footpath rehabilitation - 1.45 Km
- B : One way traffic footpath rehabilitation, alternate tree and parking bays @ 20 m spacing, street light - 1.25 Km
- C : One way traffic footpath rehabilitation, alternate tree and parking bays @ 20 m spacing, street light - 1.23 Km
- D : Drain rehabilitation - 270.70 m
- E : New side Drains - 600 m
- F : Footpath and side Drains - 700 m
- G : LIghting - 170 m
- H : Drain and lighting - 950 m
- I : DBST road, side drains
- J: Two way road, street lighting, footpath rehabilitation.
- Road 13 North
- K: TWo way DBST road, street lighting , footpaths, side drains,trees
- Two way
- One way
- Gate 1
- Gate 2

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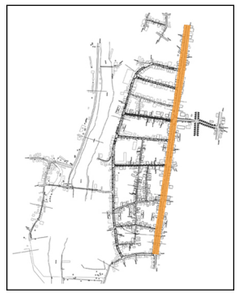
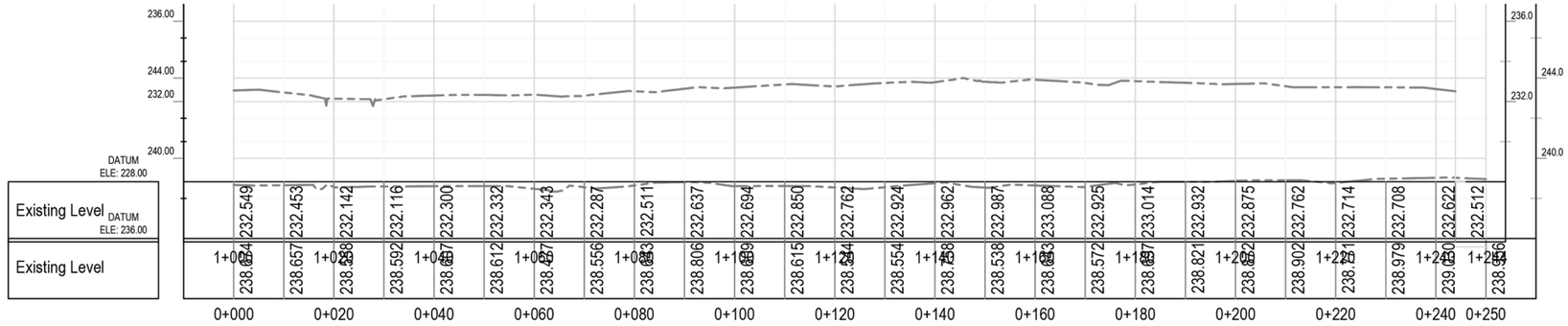
Key Plan



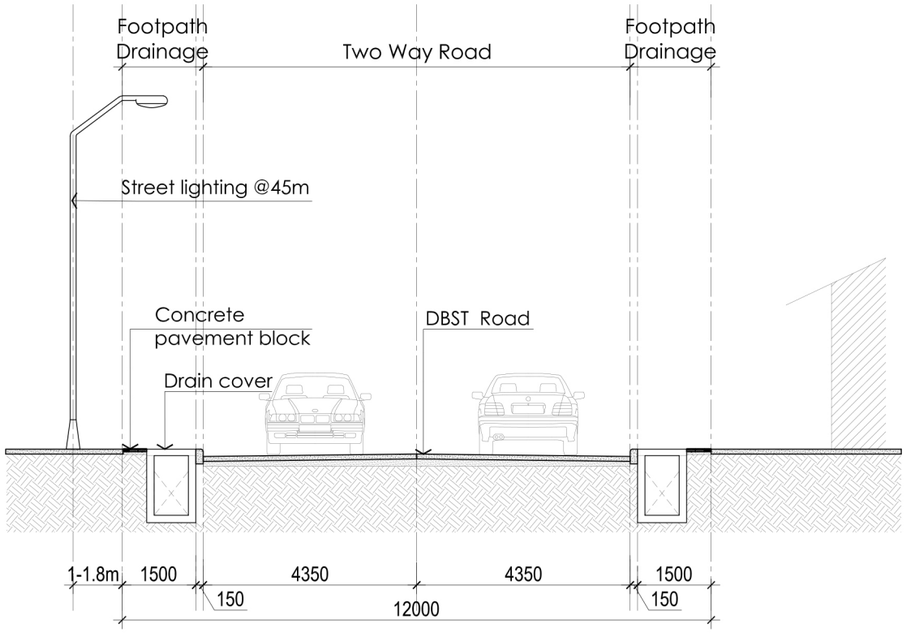
Longitudinal section



Road A alignment



Typical section





① - Water logged beside the footpath
- Drainage color damaged
- Drainage system is blocked



② - The road is broken
- Drainage color damaged



③ - Water logged beside the footpath
- Drainage color damaged
- The cover of drain channel is broken



④ - Water logged beside the footpath
- Drainage color damaged



⑤ - Water logged beside the footpath
- Drainage color damaged

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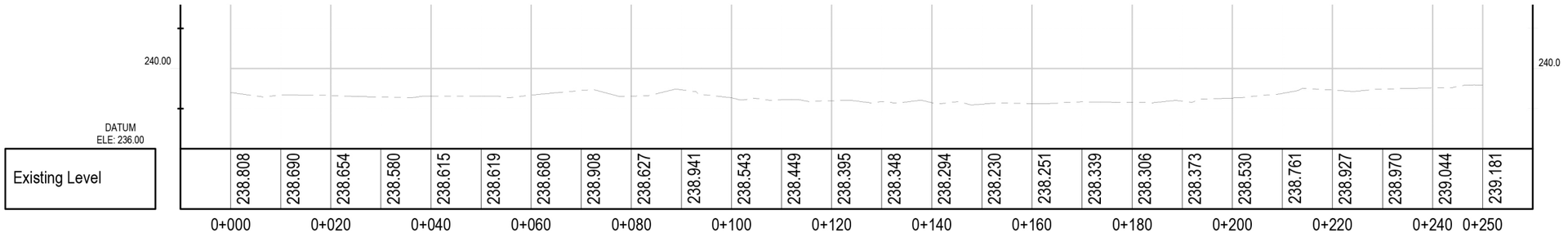
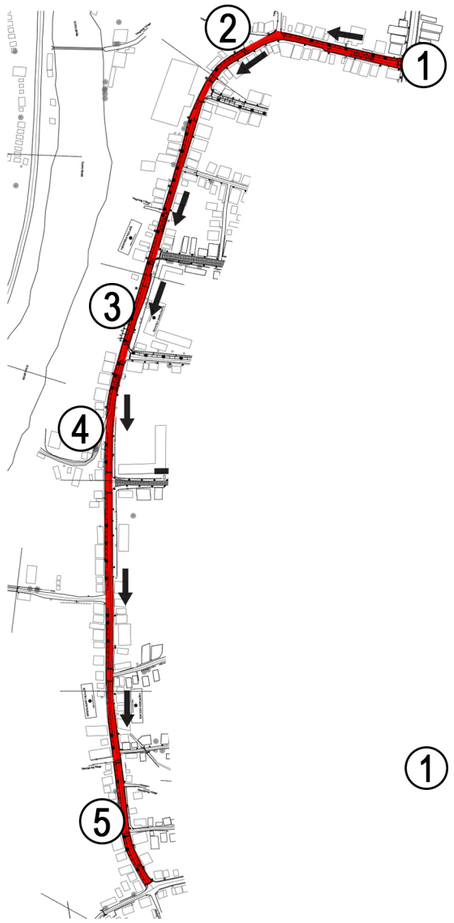
Key Plan



Longitudinal section



Road B alignment



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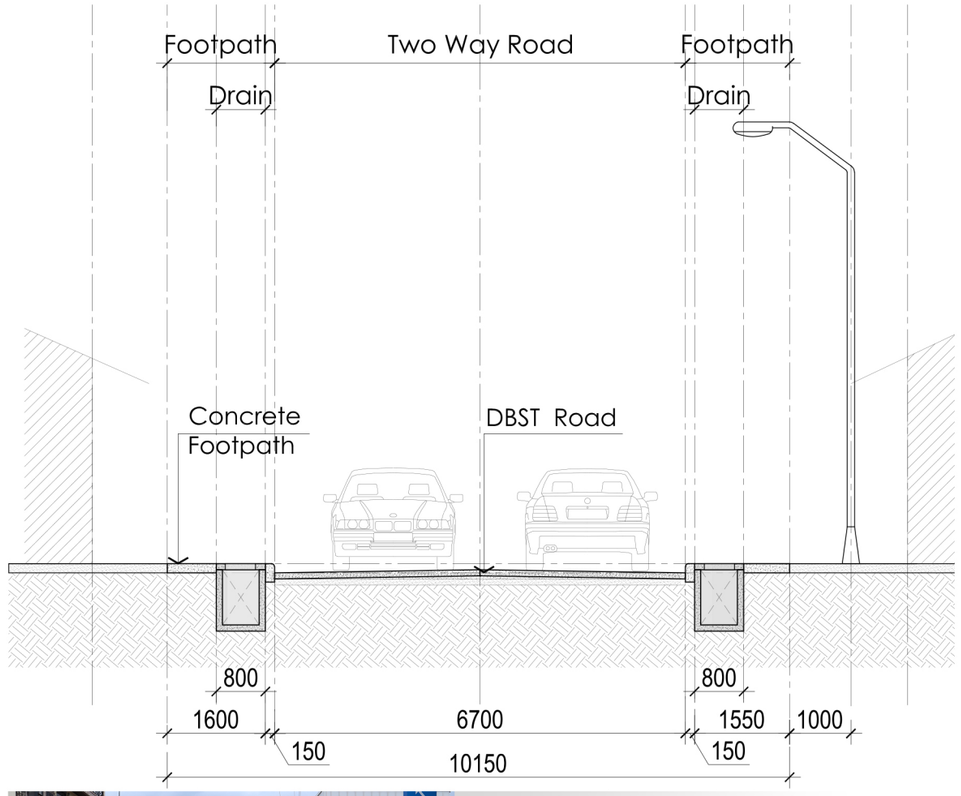



- Water logged beside the footpath
- Drainage color damaged



- Drainage color damaged
- No proper drainage system
- The road is broken



- Drainage color damaged
- No proper drainage system



- Water logged beside the footpath
- Drainage color damaged
- The cover of drain channel is broken



- Water logged beside the footpath
- Drainage color damaged
- The road is broken

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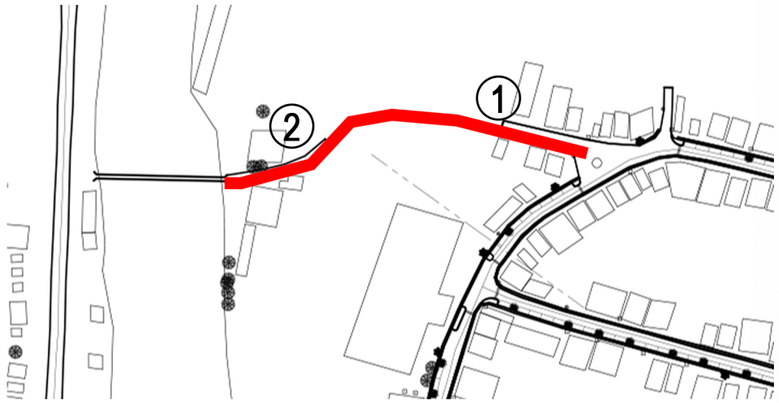
Road B1 alignment

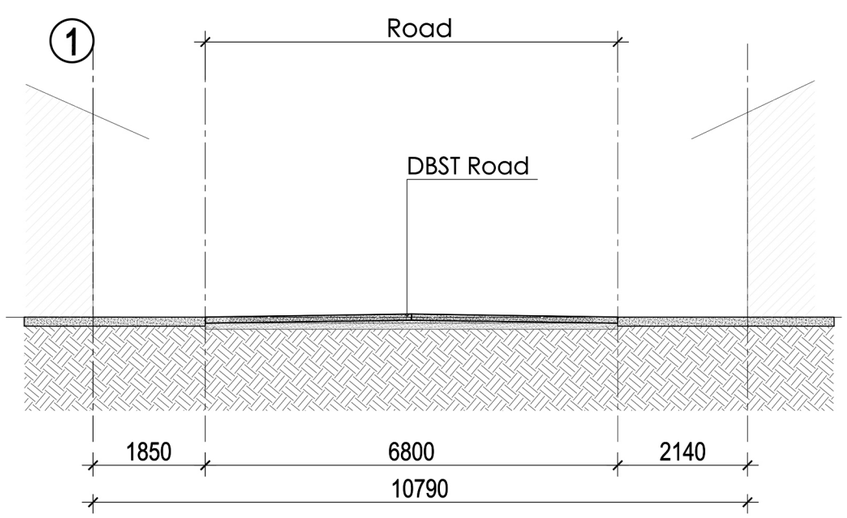


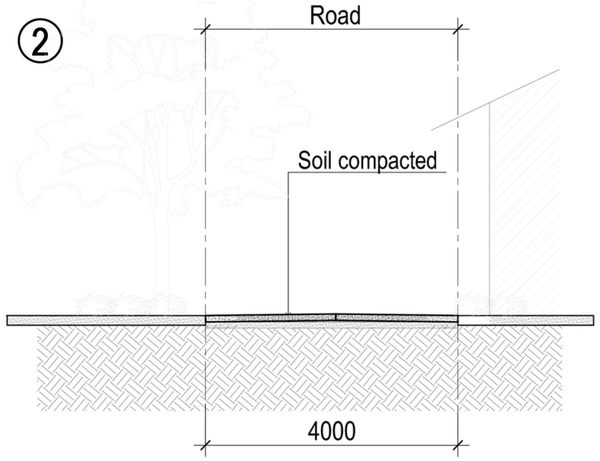
①

- The road is broken
- No proper drainage system



Typical section





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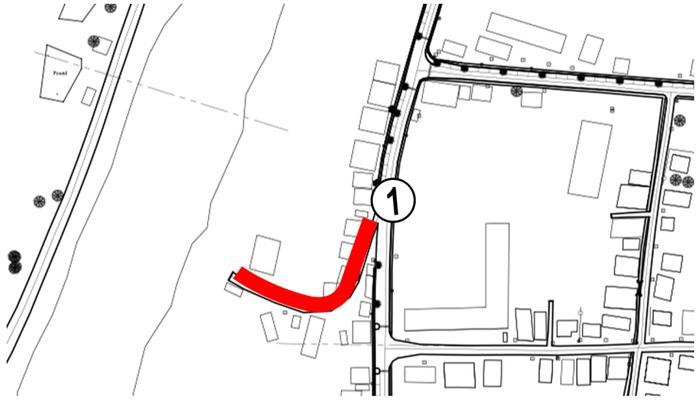
Road B2 alignment

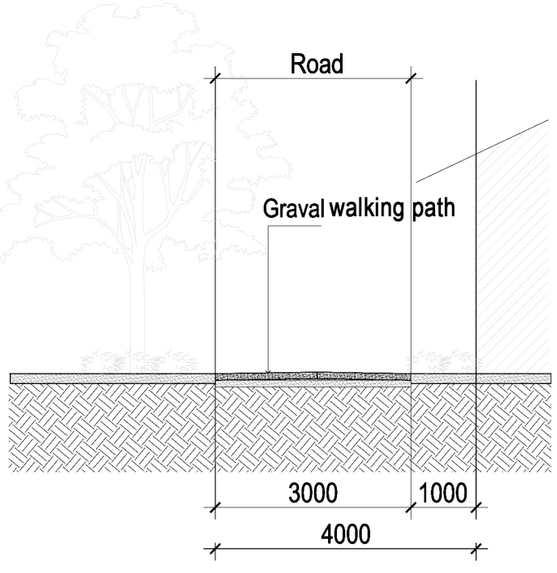


①

- The road is broken
- No proper drainage system



Typical section



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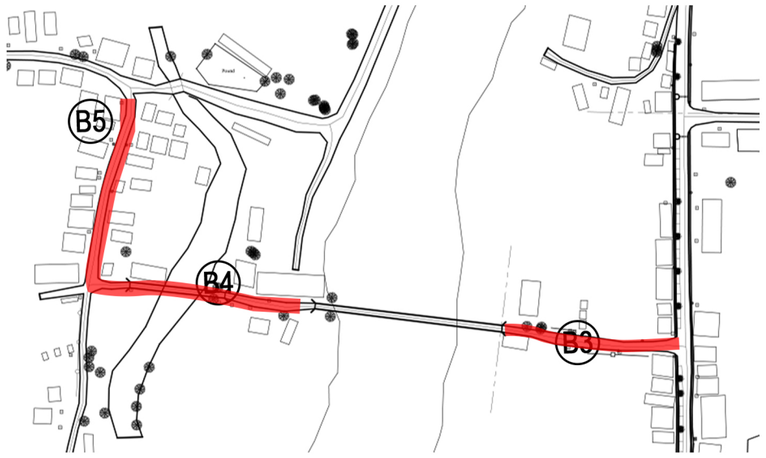
Key Plan



Road B3, B4 and B5 alignment

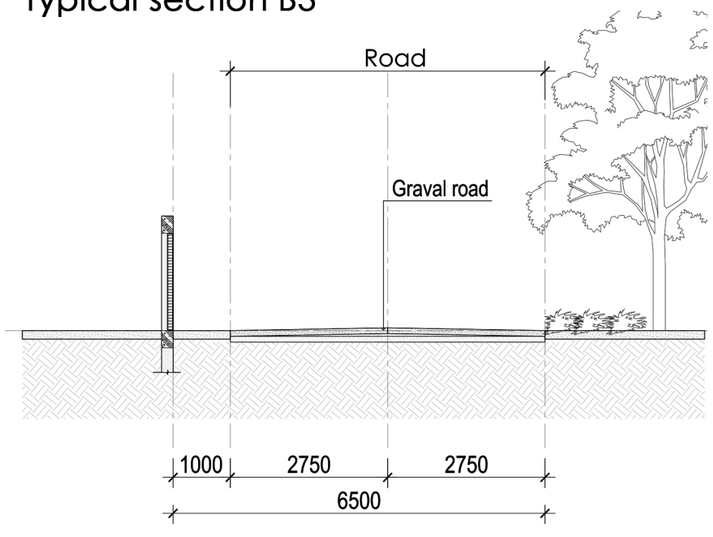


B3

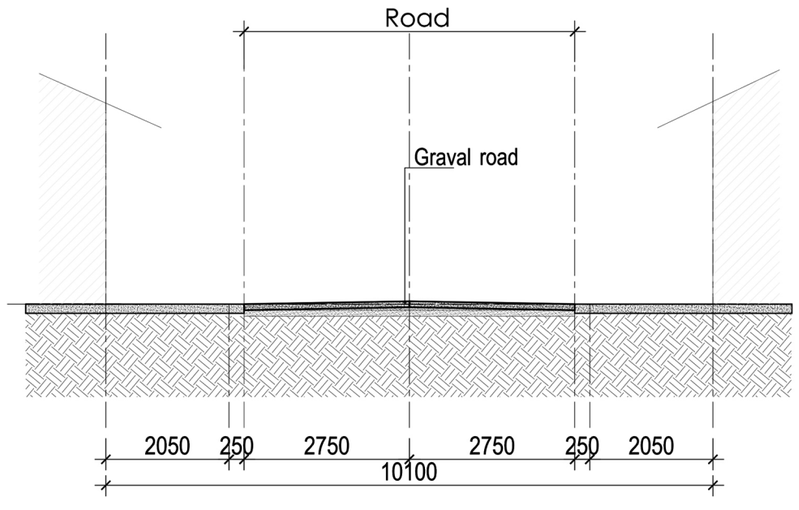
- The road is broken
- No proper drainage system



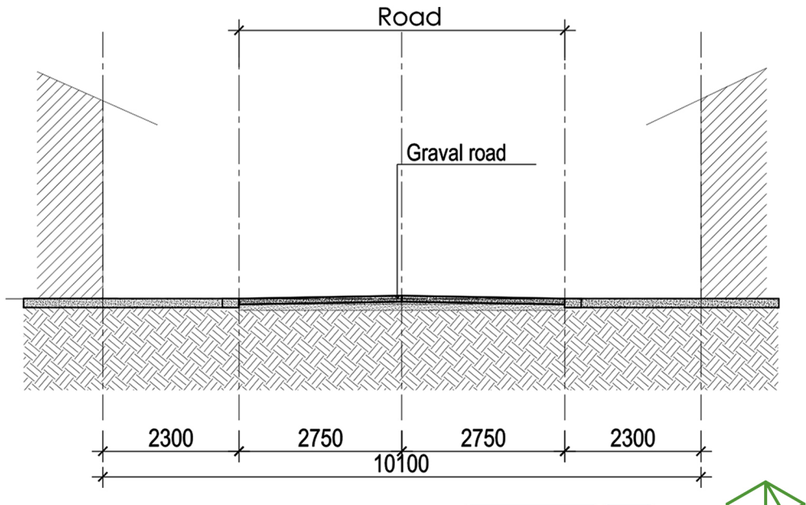
Typical section B3



Typical section B4



Typical section B5



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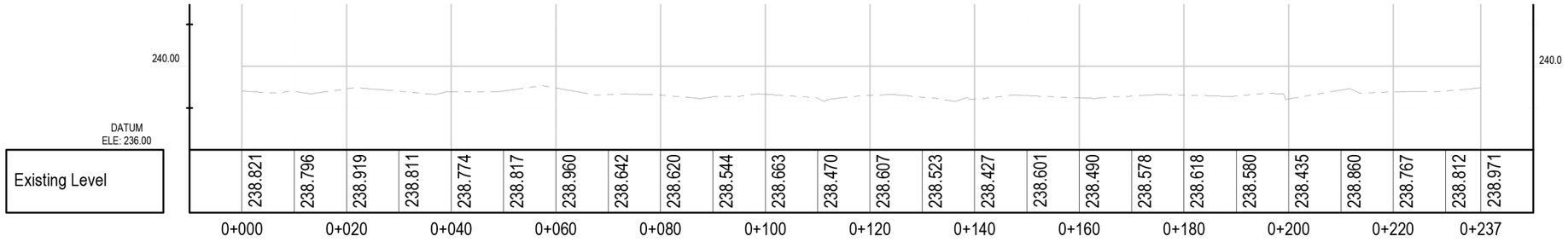
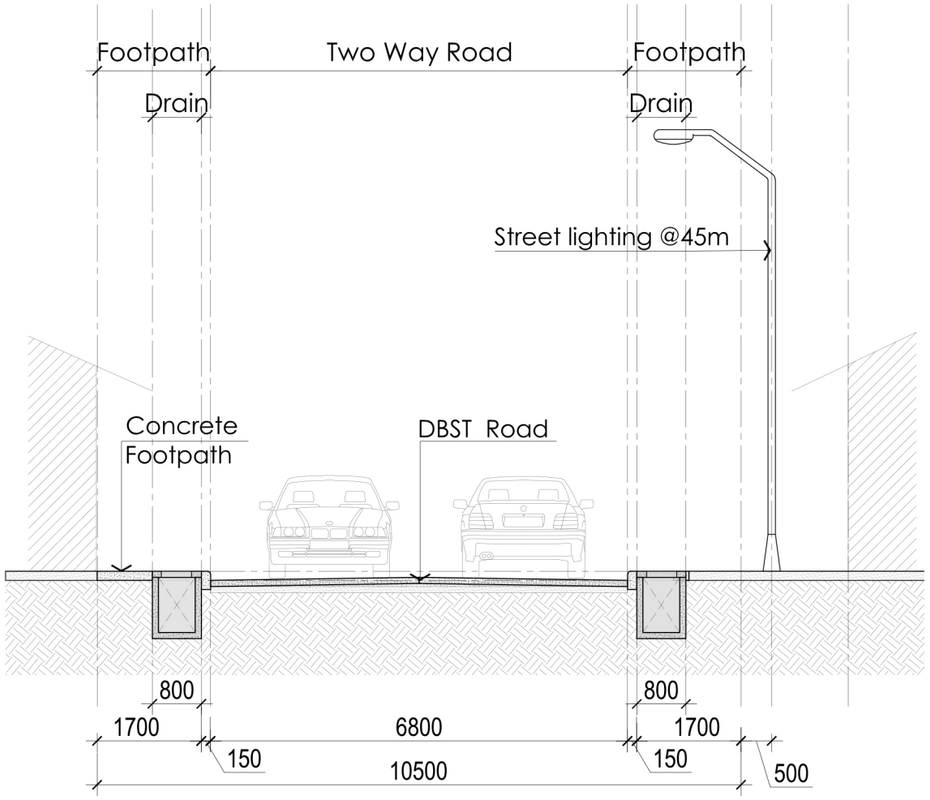
Longitudinal section



Road C1 alignment



Typical section



①

- Drainage color damaged
- The road is broken



②

- Water logged beside the footpath
- The road is broken
- Drainage color damaged
- No proper drainage system



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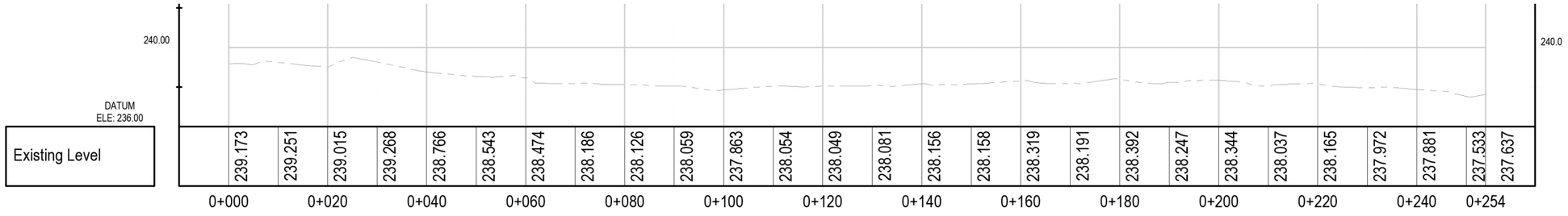
Key Plan



Longitudinal section



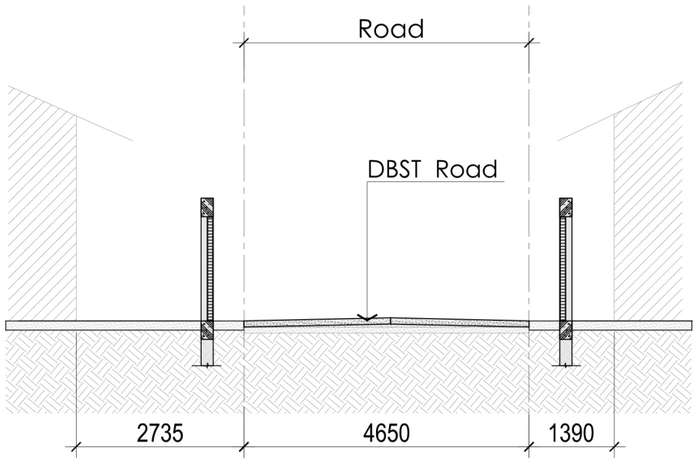
Road C2 alignment



① - No proper drainage system



Typical section



② - The road is broken
- Water logged beside the footpath
- No proper drainage system



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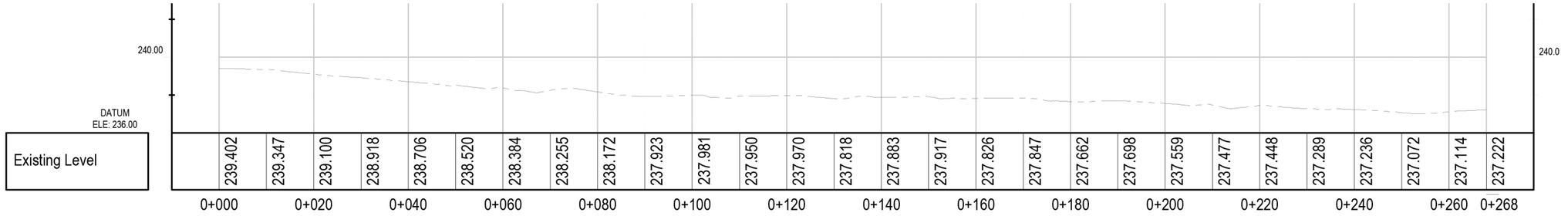
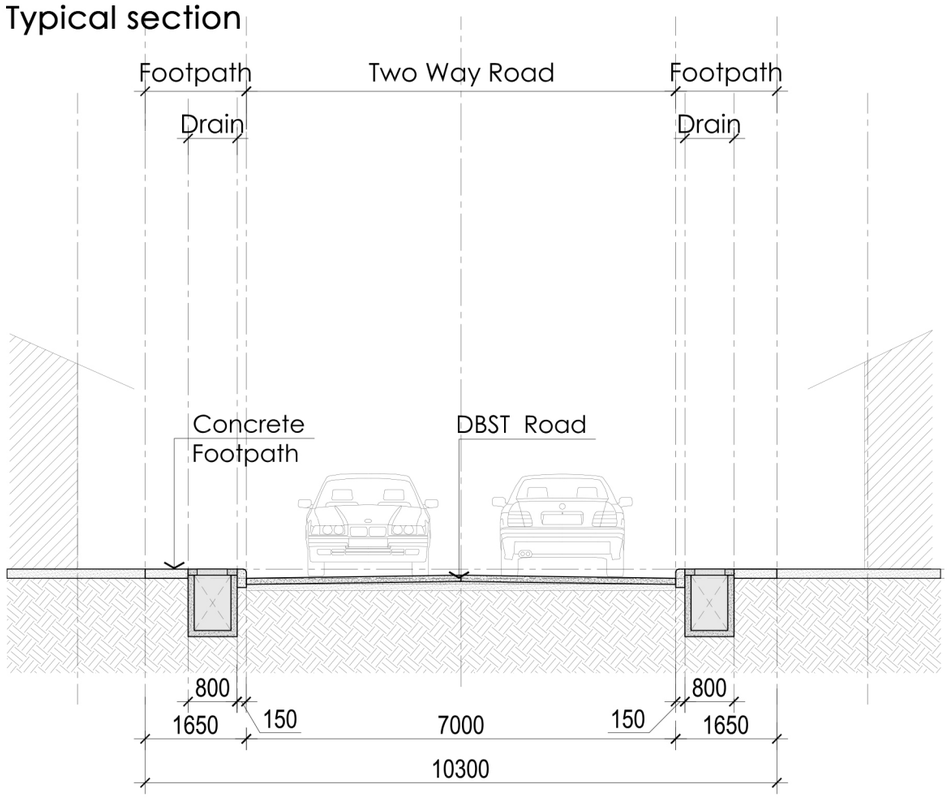
Longitudinal section



Road C3 alignment



Typical section



①

- Drainage color damaged
- The road is broken
- No proper drainage system



②

- Drainage color damaged
- The road is broken
- No proper drainage system



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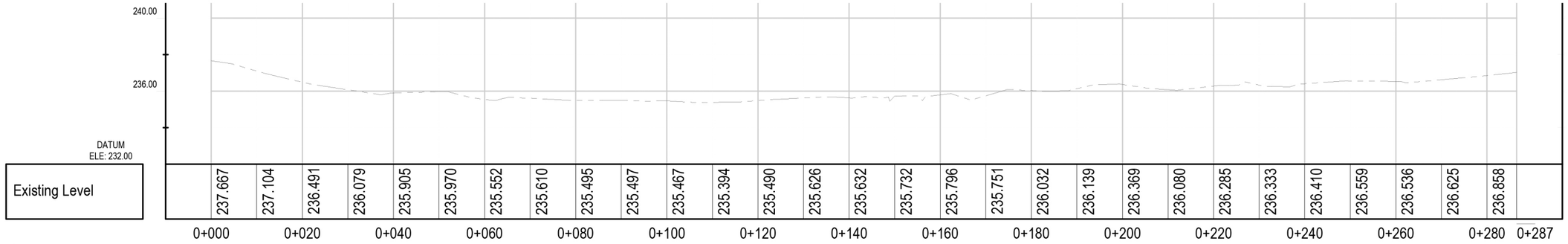
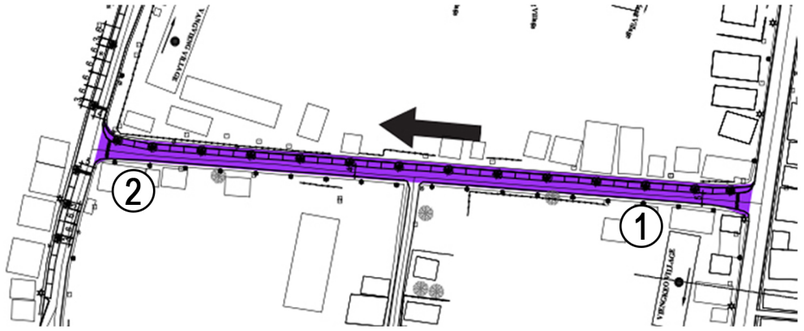
Longitudinal section



Road C4 alignment



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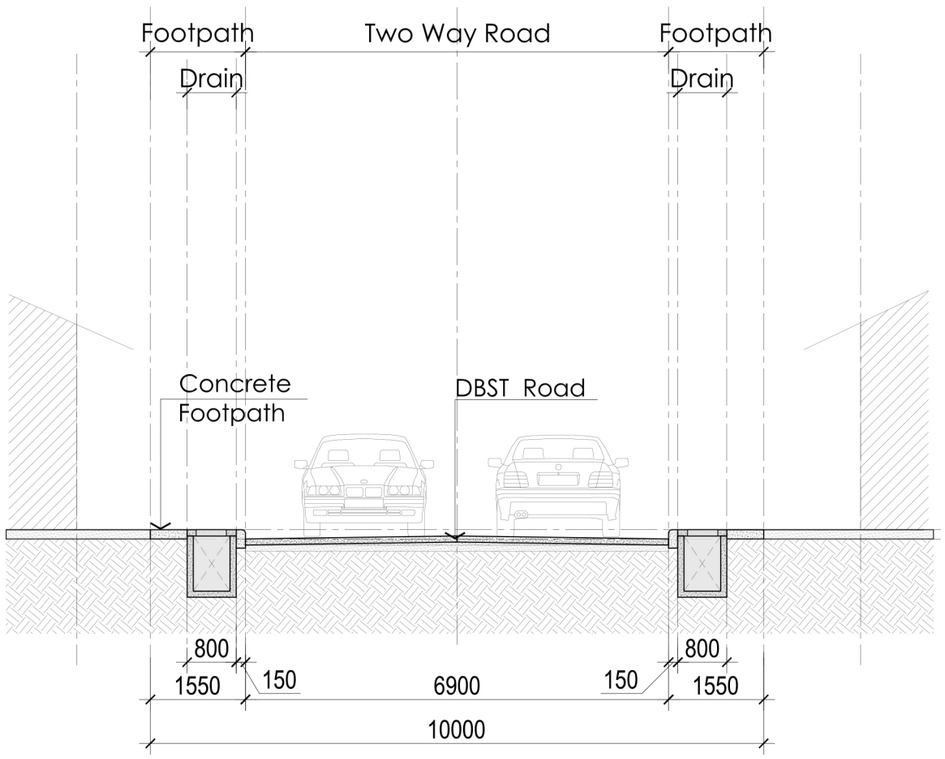

①

- Water logged beside the footpath
- No proper drainage system
- Drainage color damaged



②

- Water logged beside the footpath
- No proper drainage system
- Drainage color damaged



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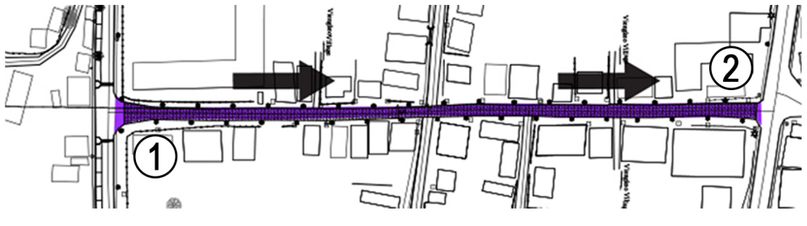
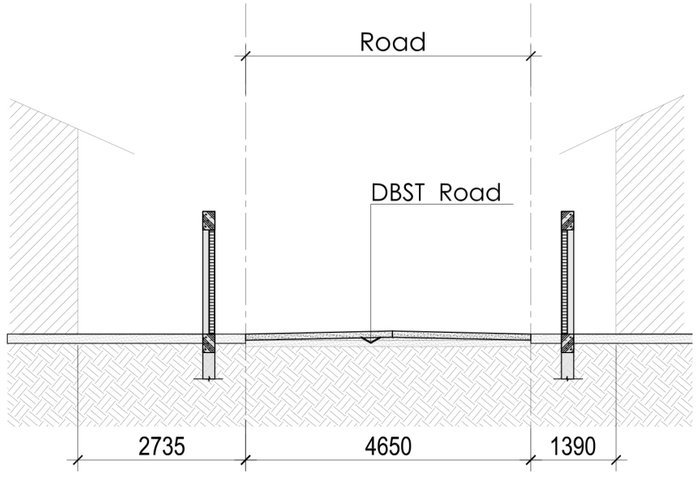
Key Plan



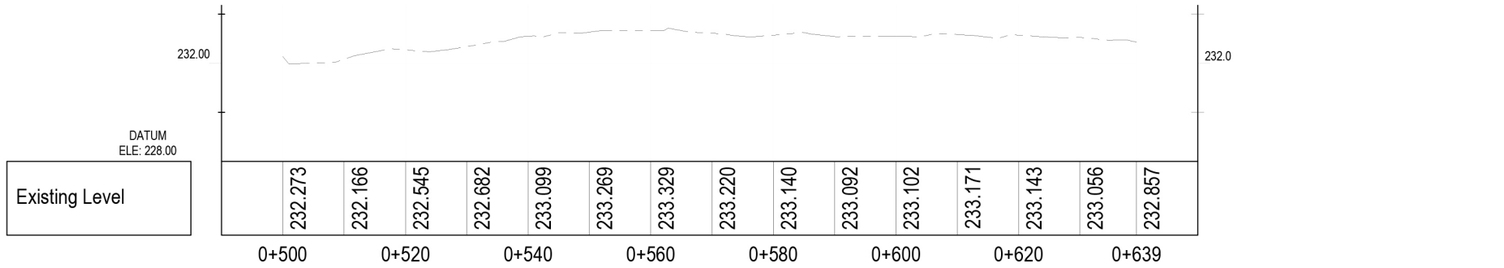
Road C5 alignment



Typical section



Longitudinal section



①

- No proper drainage system
- The road is broken



②

- No proper drainage system
- The road is broken
- Water logged beside the road



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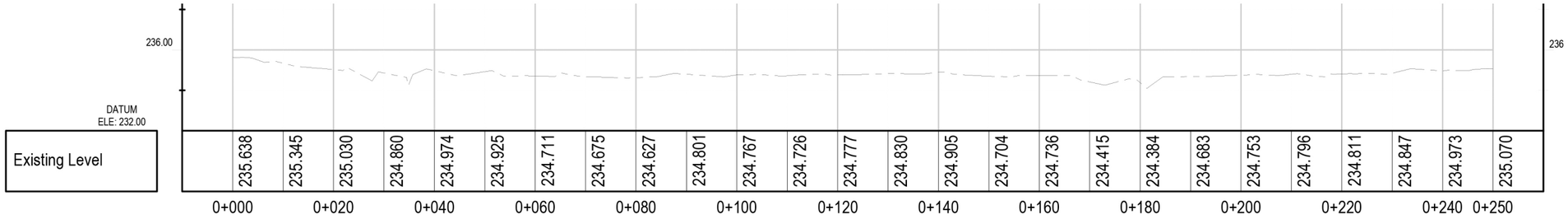
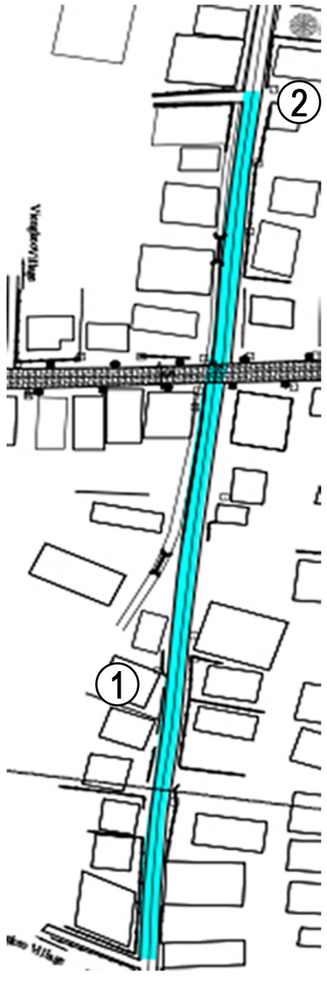
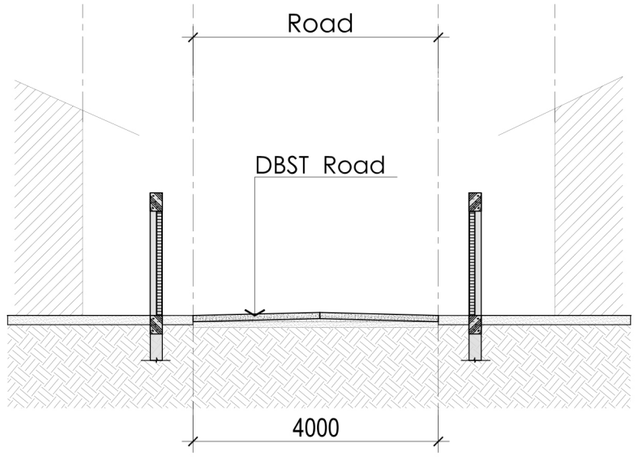
Longitudinal section



Road D alignment



Typical section



①

- No proper drainage system
- The road is broken



②

- No proper drainage system
- The road is broken



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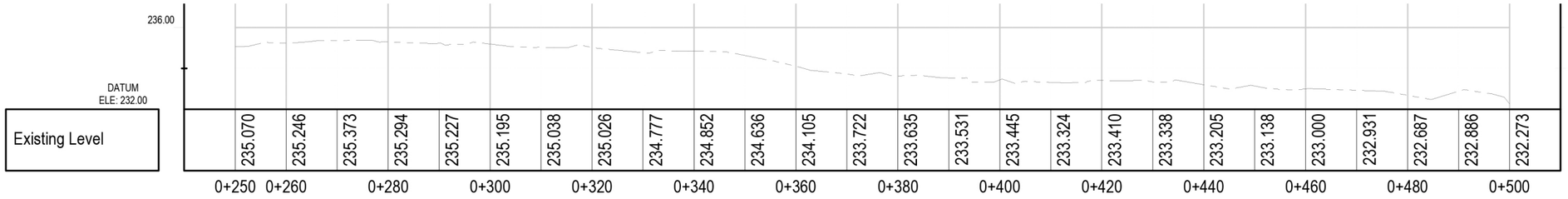
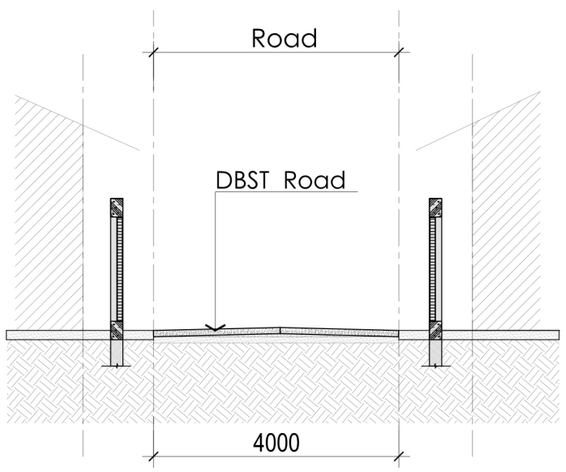


Road E alignment



Typical section



①

- No proper drainage system
- The road is broken



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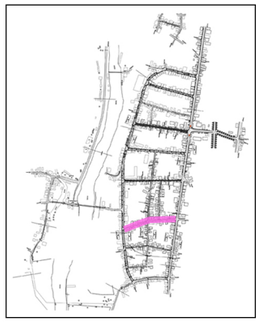
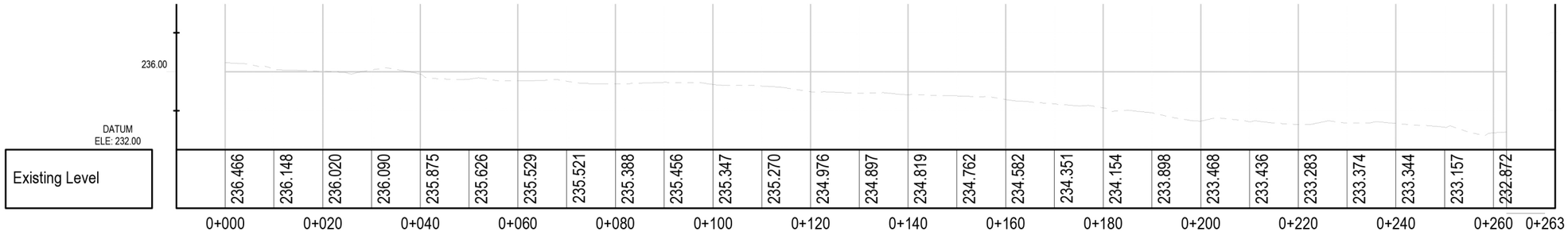
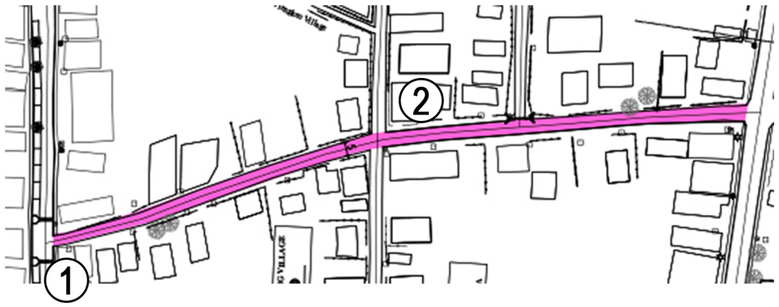


Longitudinal section



Road F alignment



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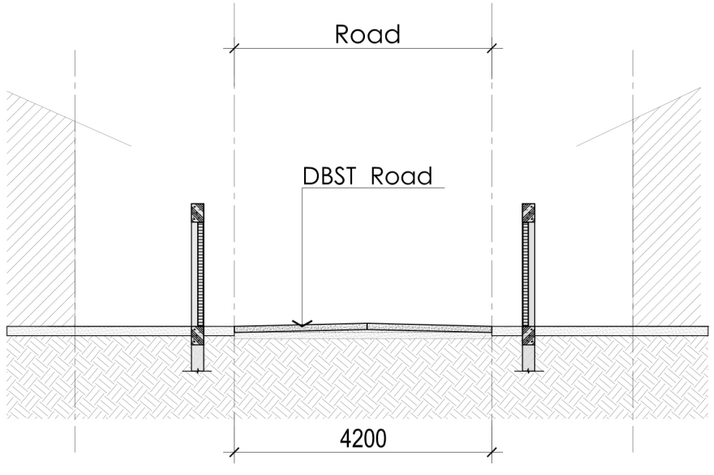

①

- No proper drainage system
- The road is broken



②

- No proper drainage system
- The road is broken



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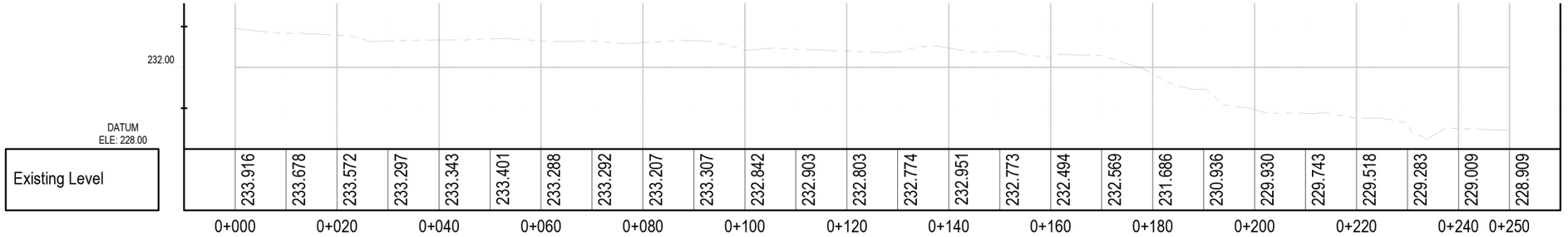
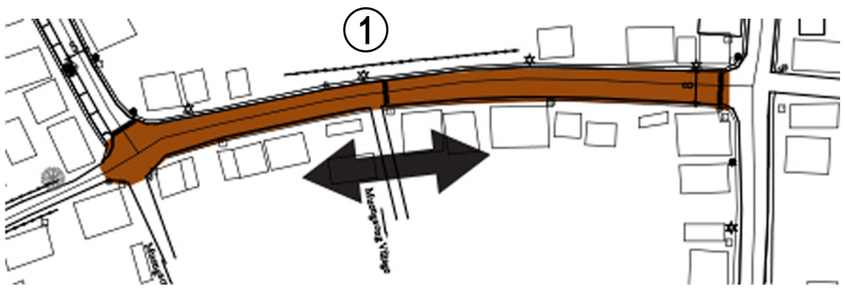
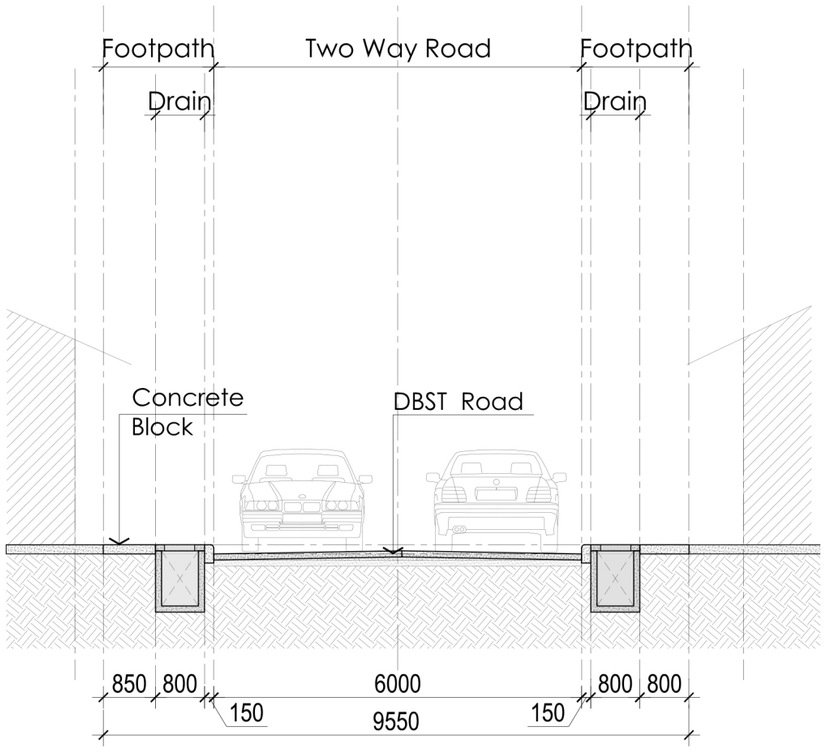
Longitudinal section



Road G alignment



Typical section



①

- Water logged beside the footpath
- The road is broken
- Drainage color damaged
- No proper drainage system



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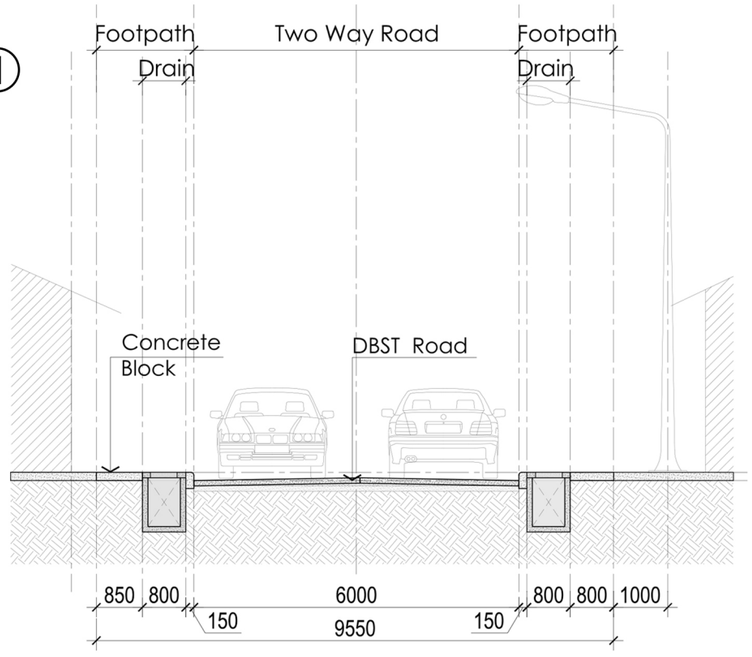
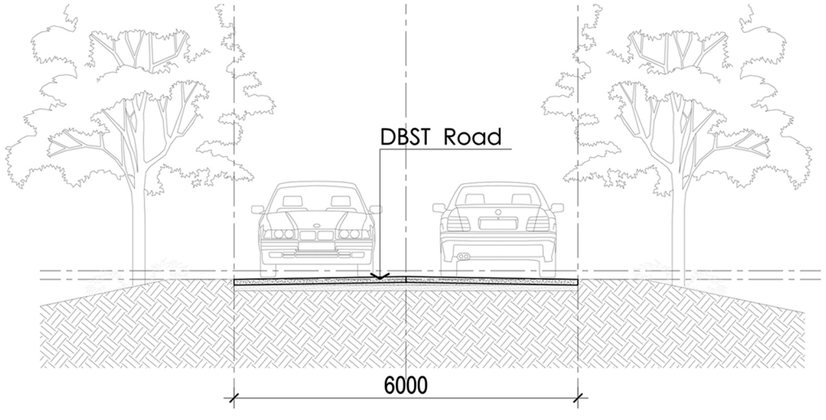
①



②









- Water logged beside the footpath
- The road is broken
- Drainage color damaged
- No proper drainage system

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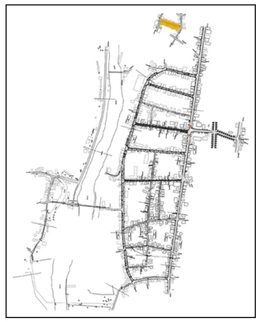
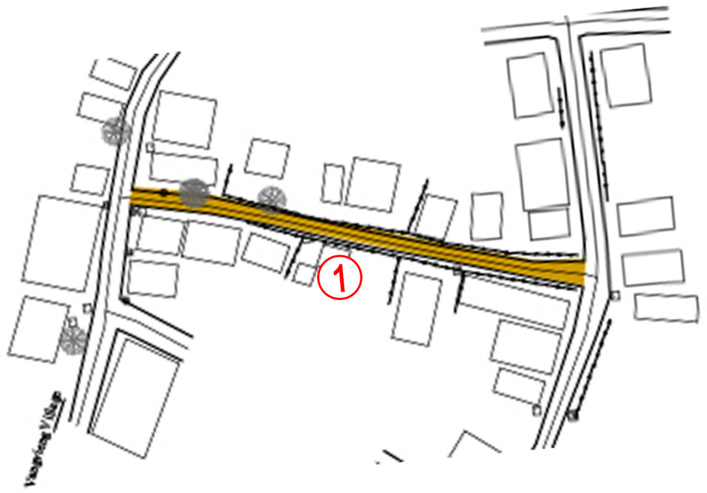


Road I alignment

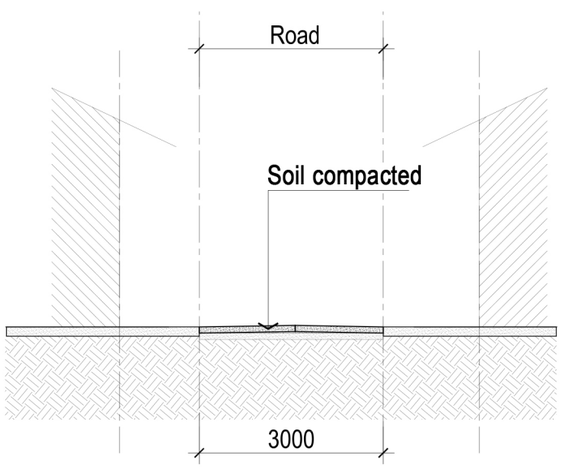


1



- The road is broken
- No proper drainage system

Typical section



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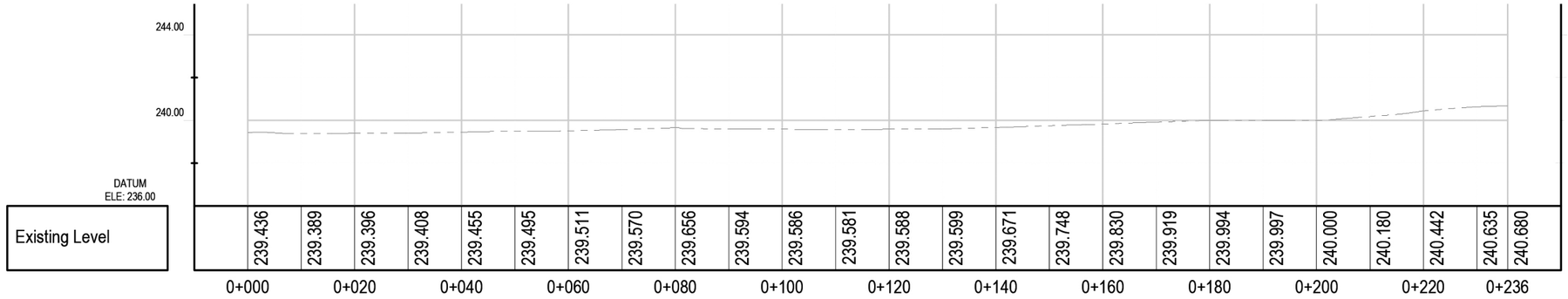
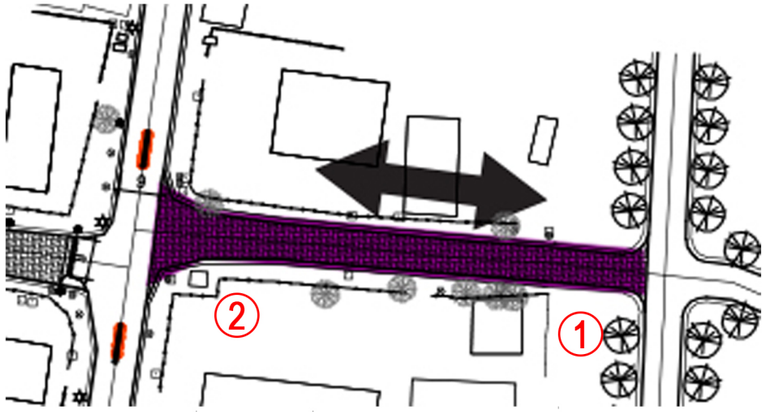


Road J alignment



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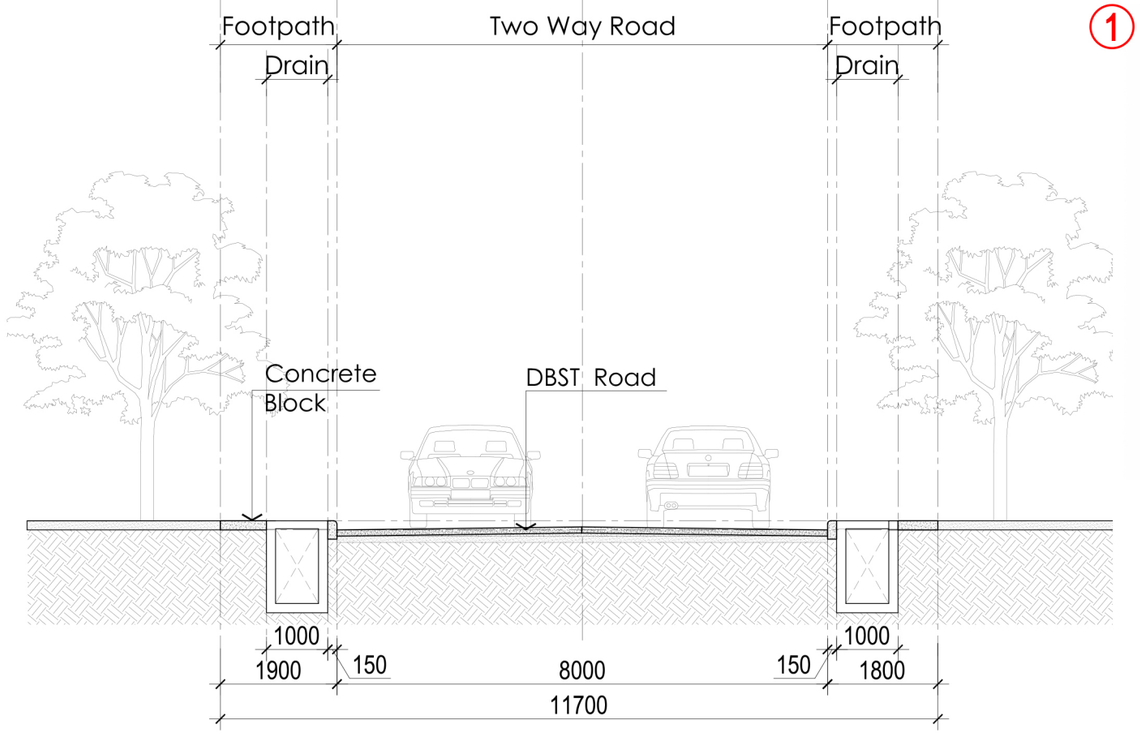

②

- Water logged beside the road
- The road is broken
- No proper drainage system



①

- Water logged
- The road is broken
- No proper drainage system



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4. DESIGN







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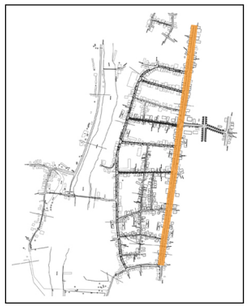
Key Plan



A: Tow way Road, street lighting
Footpath rehabitation - 1.45km.

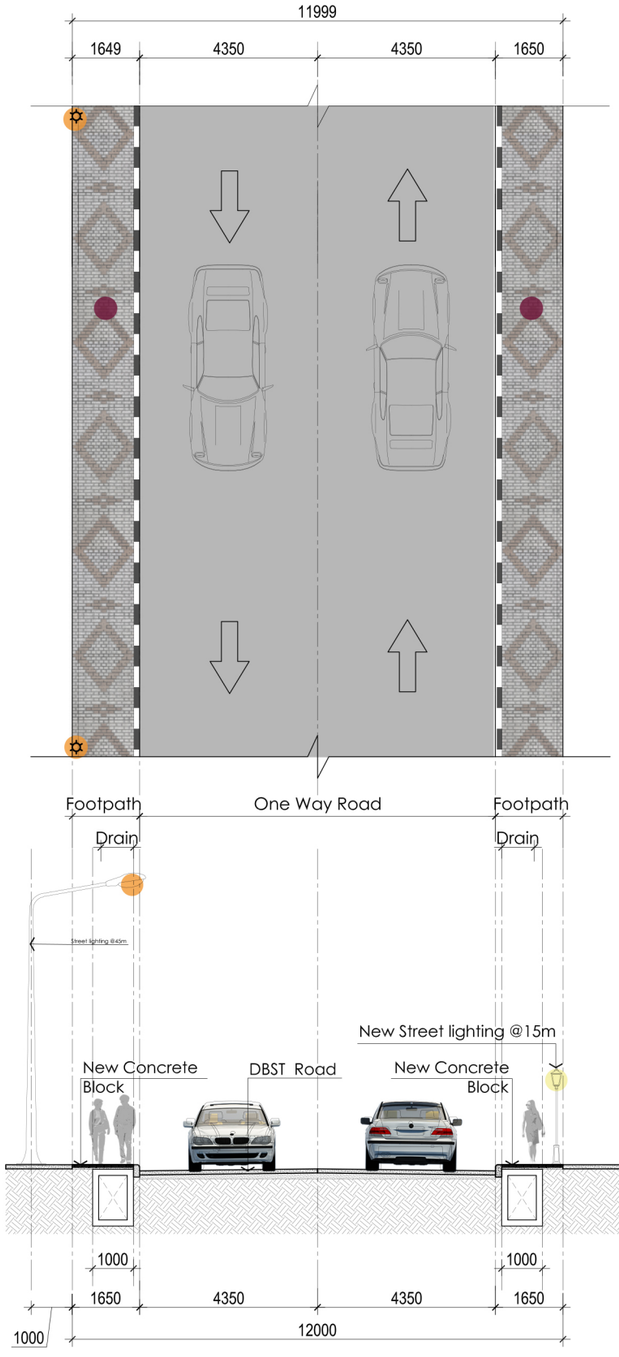
Two way.

Detail:
+ Street Lighting
-LP: 28 set
-LP01: 22 set

Road A alignment



Road A Class IV: Plan and Section

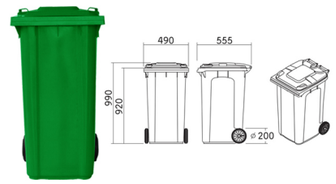


Street view



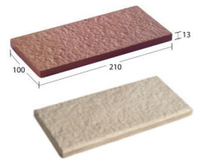
Garbage bin

Garbage bin 120 L @ 50 m



Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm



KENZAI GF-101
- 100x100x13 mm



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
A	Main street - DBST surface, two way road with street lighting , side drain and footpath	CLASS IV	Two-way road	Keep existing	N/A	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting Lumination: 20 lux	N/A	N/A

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B: One-way traffic, footpath rehabilitation alternate tree and parking baya @20m spacing, street lighting - 1.25km.

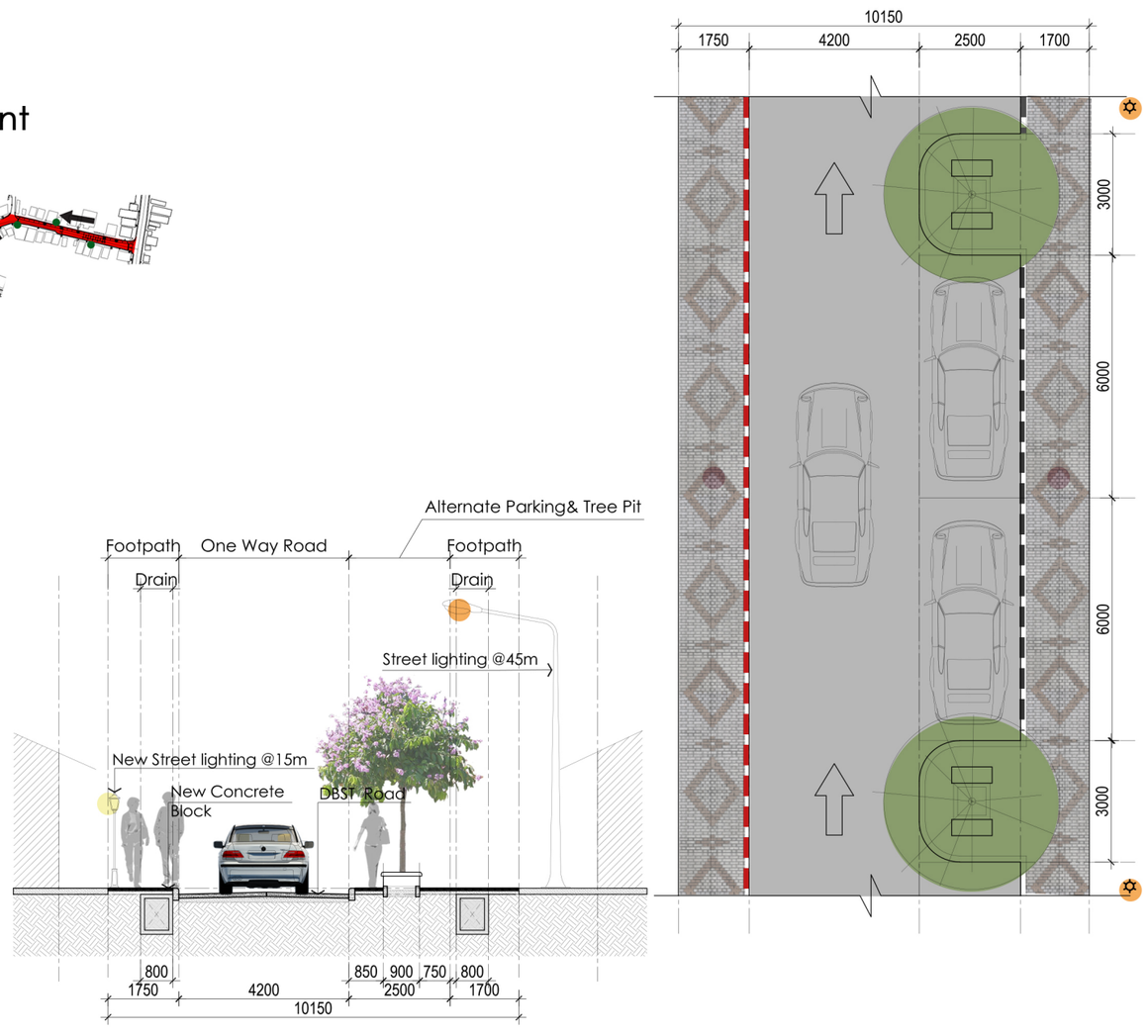
One way

Detail:
+Street Lighting
-LP: 14 set
-LP01: 30 set
+Carparking and Tree pit
-parking bays for 135 car
-Alternate tree 38 set

Road B alignment



Road B Class VII : Plan and Section



Street View



Lighting

Pole Lighting

Street light



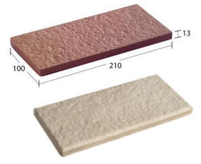
- Singer bracket pole
- Meterial: Steel H: 8m



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm

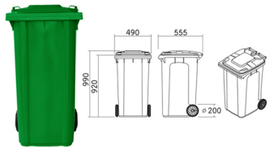


KENZAI GF-101
- 100x100x13 mm



Garbage bin

Garbage bin 120 L @ 50 m



Feature Tree

Lagerstroemia floribunda



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
B	Main tourist loop road - DBST surface, one way road with street lighting, side drain and footpath	CLASS VII	One-way road	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting Lumination: 20 lux	Yes	Yes, located at Planted Tree

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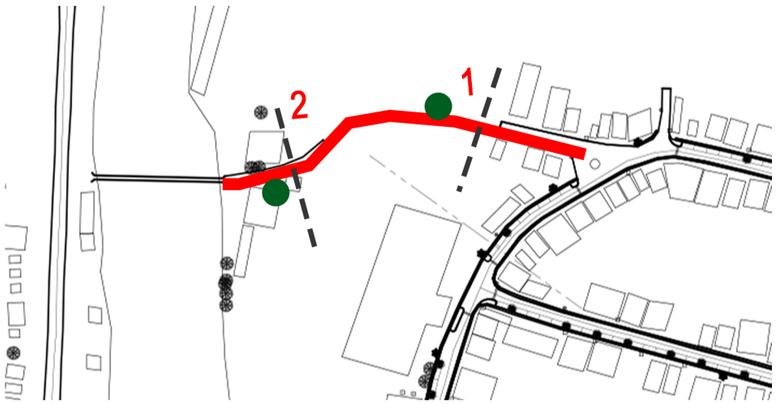
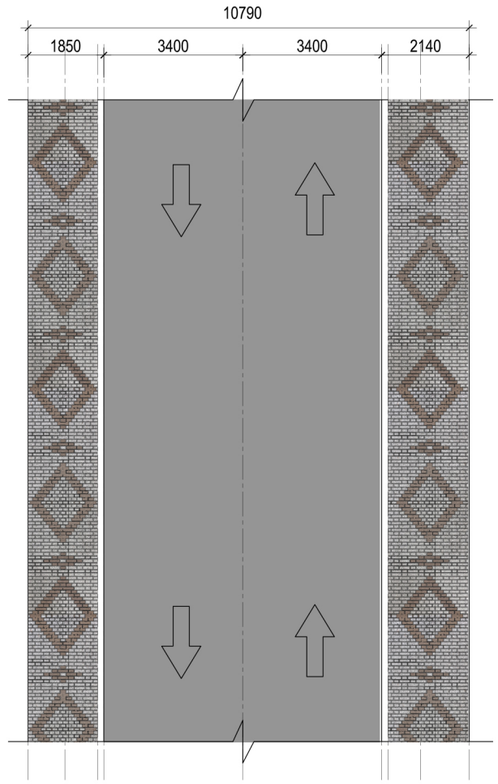
Road B1 alignment

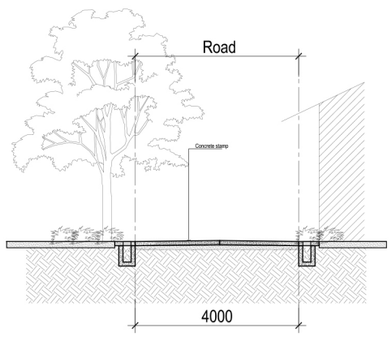


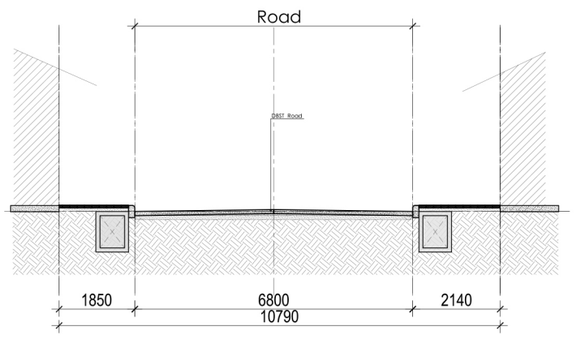
Road B1 : Plan and Section 2



Road B1 : Plan and Section 1







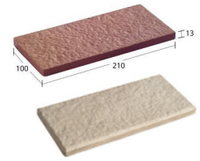
Feature Road Finishing

Stamped concrete



Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm



KENZAI GF-101
- 100x100x13 mm



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Garbage bin

Garbage bin 120 L @ 50 m



Feature Tree

Lagerstroemia floribunda



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
B1	Minor access street, Soil compacted surface, two way road without footpath	CLASS V	Two-way road	Keep existing	N/A	Add Side drain	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A

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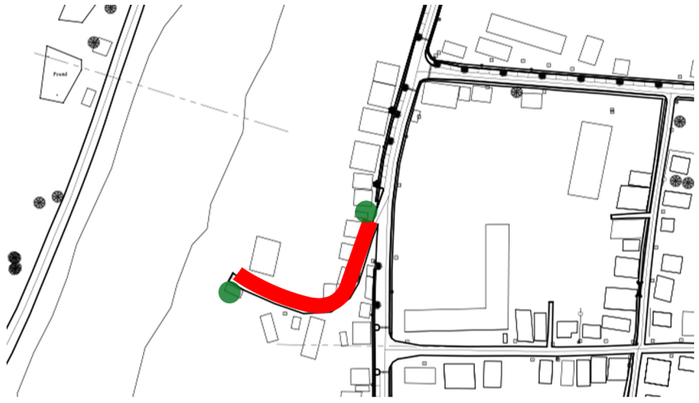
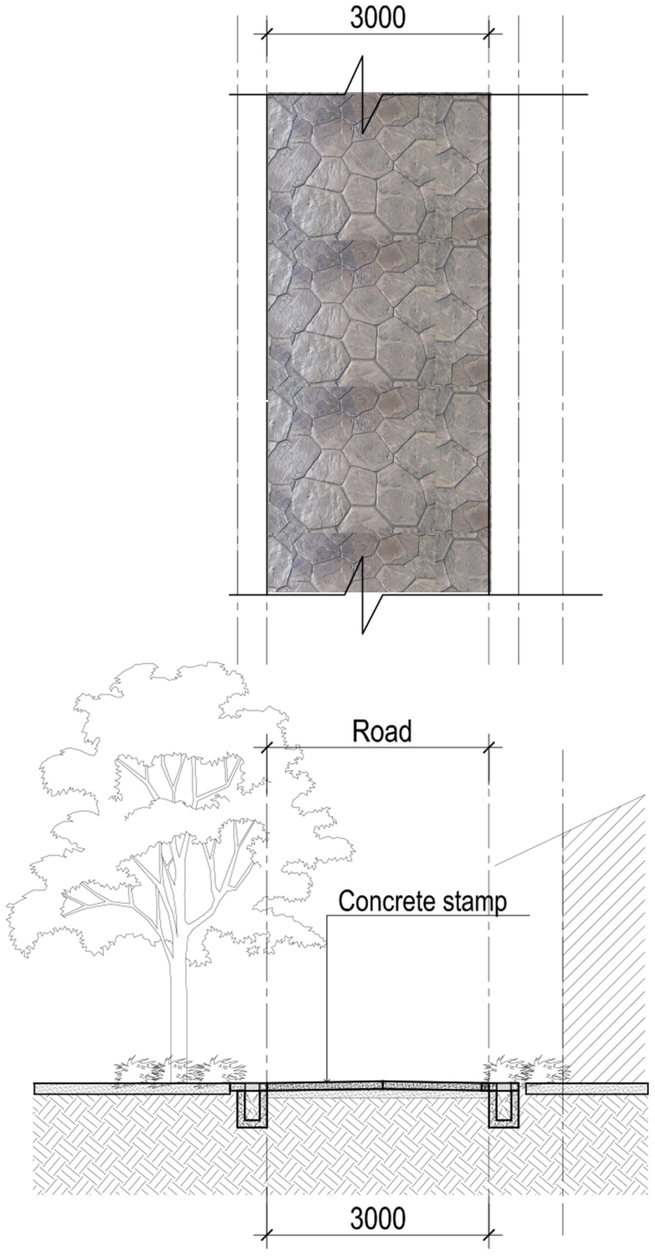
Road B2 alignment



Road B2 : Plan and Section



Feature Road Finishing

Concrete Stamp



Garbage bin

Garbage bin 120 L @ 50 m



Feature Tree

Lagerstroemia floribunda



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
B2	Minor access street, DBST	CLASS VII	Two-way road	New Concrete stamp	N/A	Add Side drain	N/A	N/A	N/A	N/A

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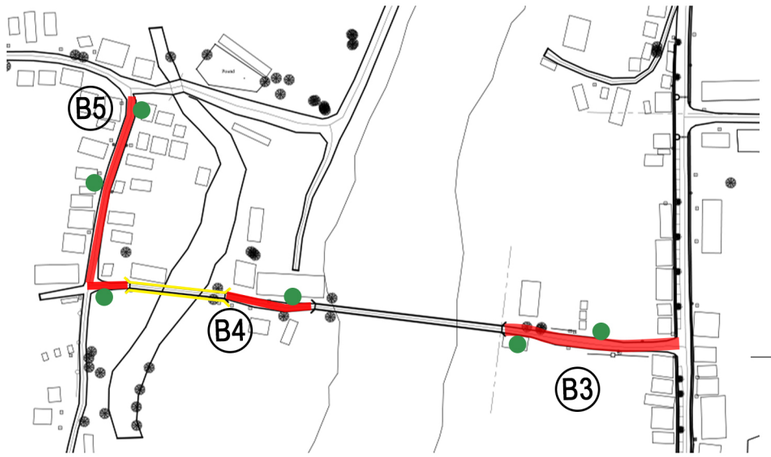
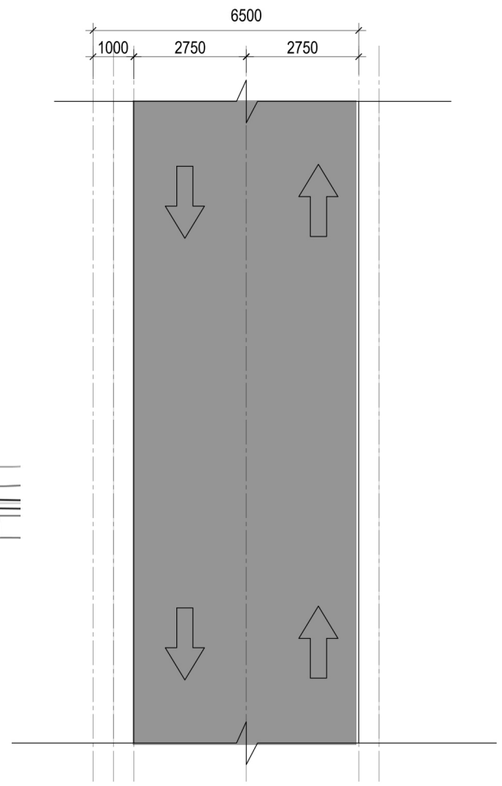
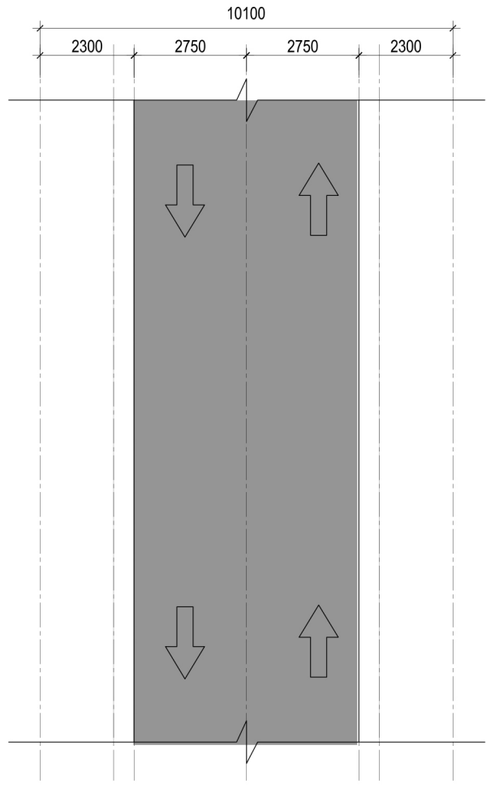
Road B3 and B4 alignment



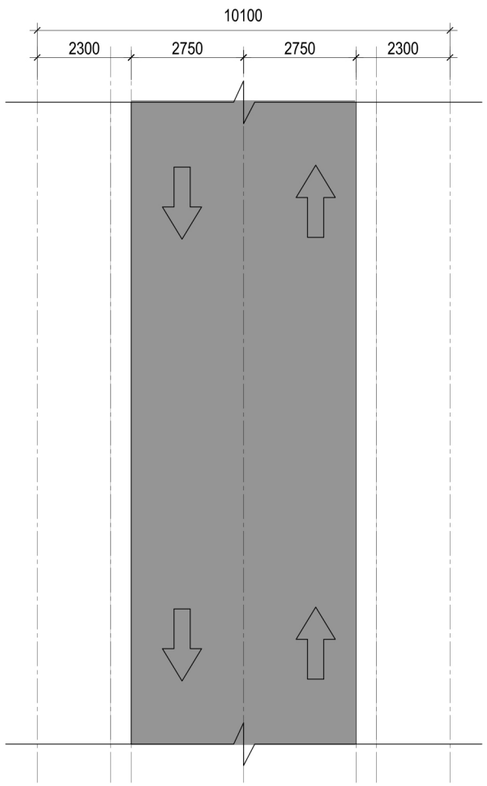
Road B3 : Plan and Section



Road B4 : Plan and Section



Road B5 : Plan and Section



Feature Road Finishing

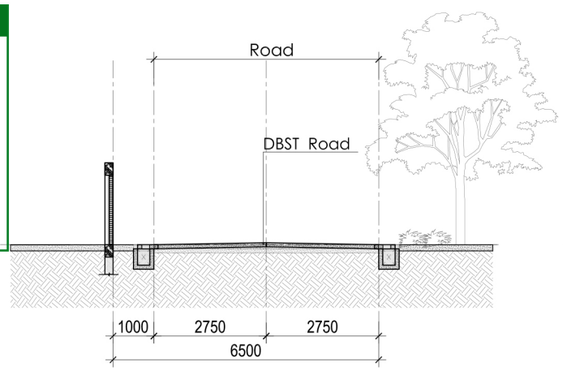
DBST Road

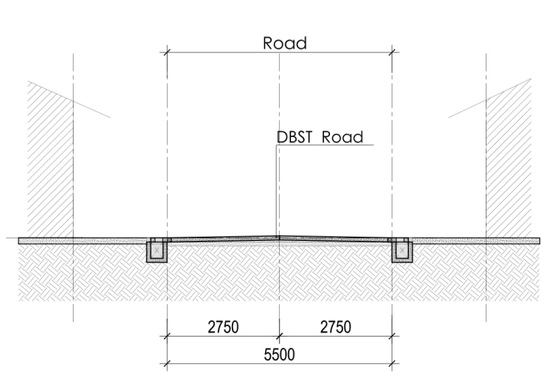


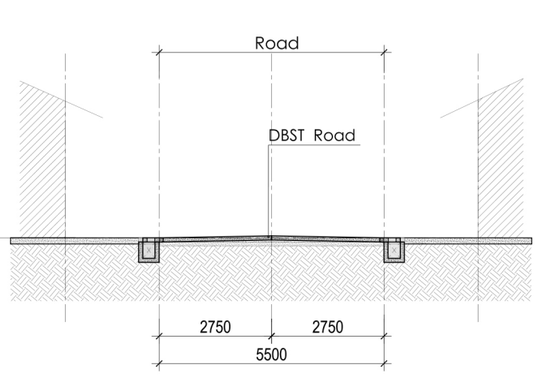
Garbage bin

Garbage bin 120 L @ 50 m









Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
B3	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	Add street lighting Lumination: 20 lux	N/A	N/A
B4	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A
B5	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A

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Key Plan

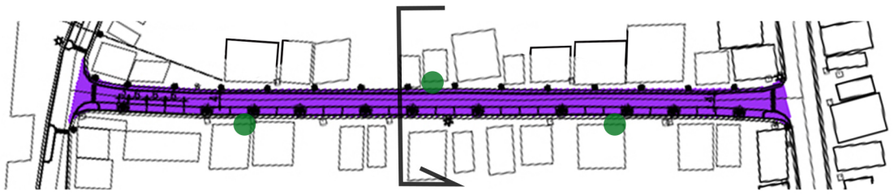


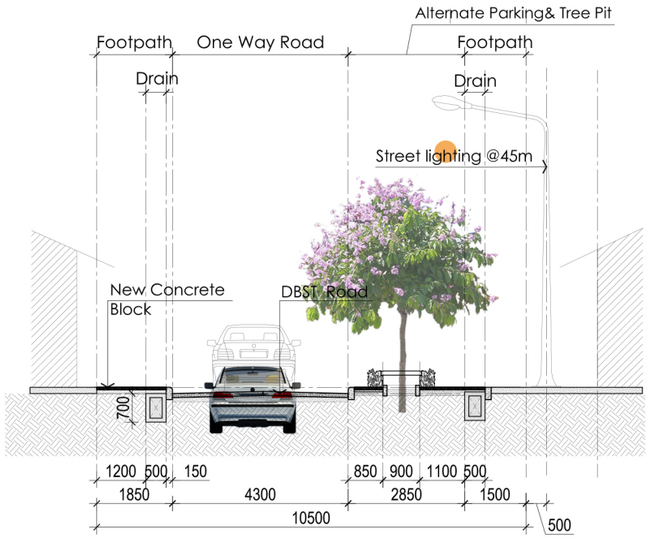
C1: One-way traffic, footpath rehabilitation, alternate tree and parking bays @20m spacing, street lighting - 1.23km.

One way

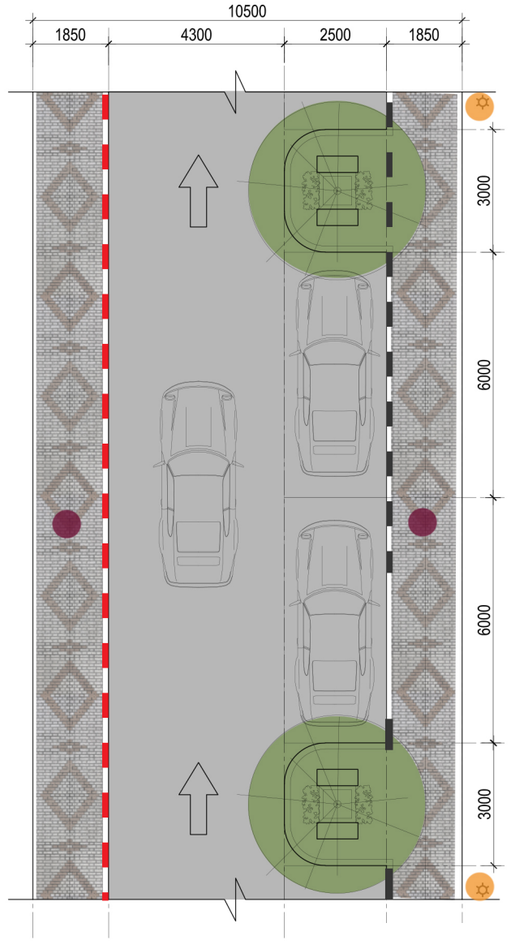
Detail:
+Street lighting
-LP01: 15 set
+Carparking and Tree pit
-parking bays for 30 car
-Alternate Tree 11 set

Road C1 Section





Road C1 Class VII : Plan and Section



Street View



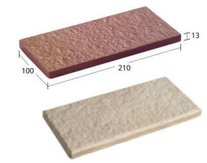
Garbage bin

Garbage bin 120 L @ 50 m



Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm



KENZAI GF-101
- 100x100x13 mm



Feature Tree

Lagerstroemia floribunda



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
C1	East/West side street, DBST surface, two way traffice with street lighting , side drain and footpath	CLASS VII	One-way road (West to East)	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	N/A	Yes	Yes, located at Planted Tree

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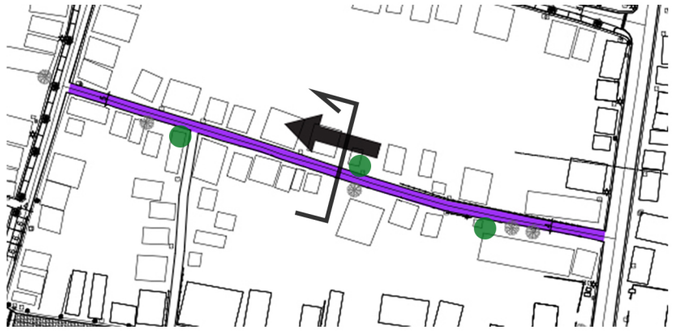
Key Plan



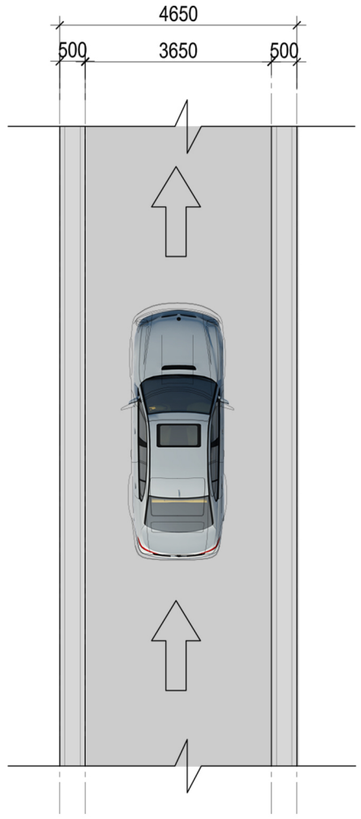
C2: One-way traffic, street lighting.

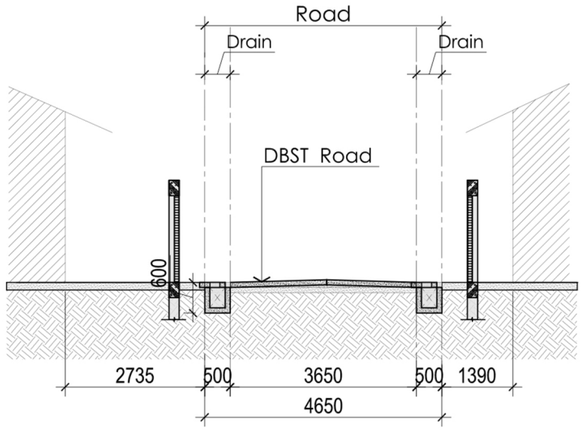
One way.

Road C2 Class VII : alignment



Road C2 : Plan and Section





Garbage bin

Garbage bin 120 L @ 50 m



Feature Road Finishing

DBST Road



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
C2	East/West side street, DBST surface, one way traffice, No street lighting, side drain and footpath	CLASS VII	One-way road (East to West)	Keep existing	N/A	Add Side drain	N/A	N/A	N/A	N/A

N

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Key Plan



C3: One-way traffic, footpath rehabilitation,street lighting, Road rehabilitation.

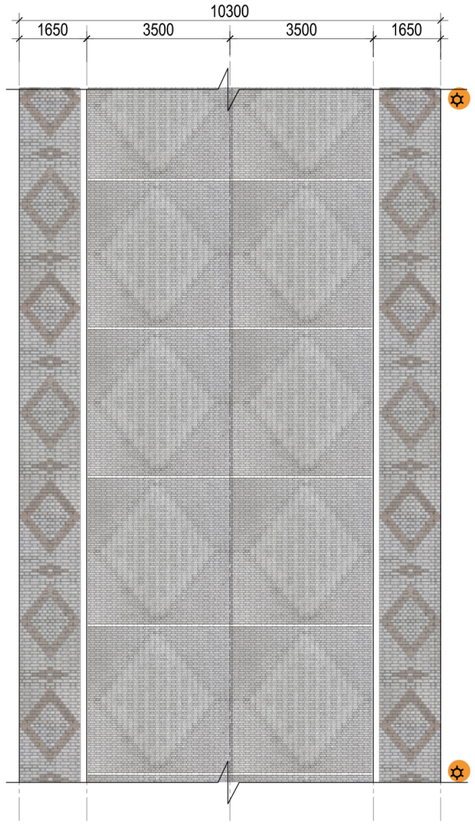
One way

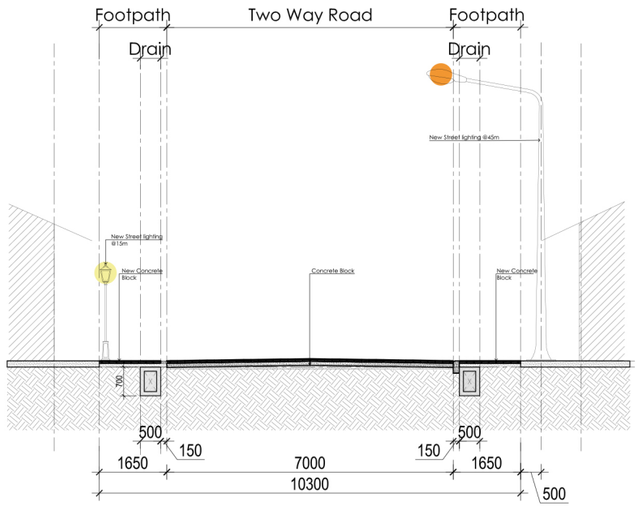
Detail:
+Street Lighting
-LP01: 36 set

Road C3 alignment



Road C3 Class IV : Plan and Section





Street View



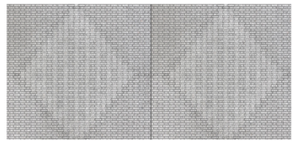
Garbage bin

Garbage bin 120 L @ 50 m



Feature Road Finishing

Concrete stamp



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

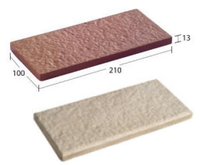
Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm



KENZAI GF-101
- 100x100x13 mm



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
C3	East/West street, DBST surface, two way traffice , side drain and footpath - No Street Lighting. Night market and walking street organized	CLASS IV-Urban	One-way road (West to East)	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	rehabitation the connect of drain if new surface apply	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A

N

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Key Plan



C4: One-way traffic, footpath rehabilitation,alternate tree and parking bays @ 20m spacing, street lighting.

One way.

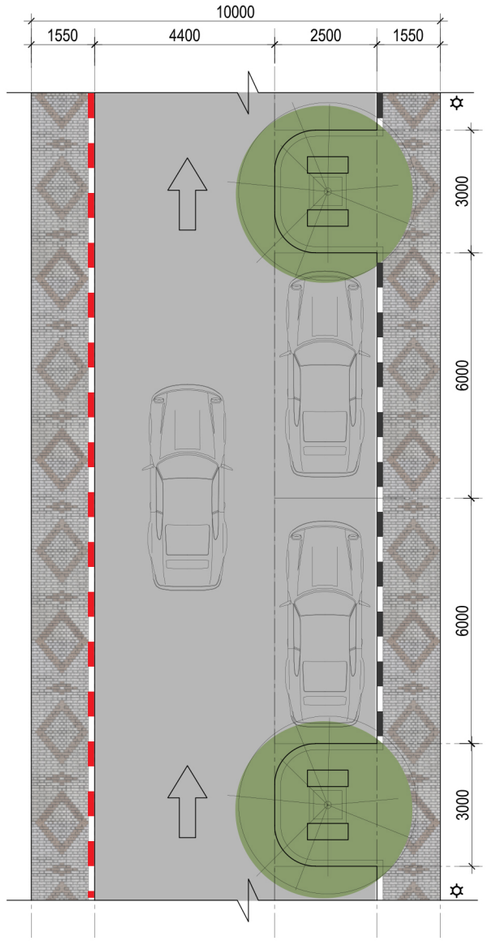
Detail:
+Street Lighting
-LP01: 18 set
+ Parking bays and Tree pit
-Parking bays for 37 car
-Alternate tree 14 set

Road C4 alignment





Road C4 : Plan and Section



Street View



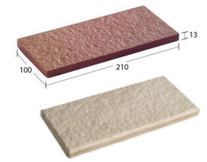
Garbage bin

Garbage bin 120 L @ 50 m



Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm



KENZAI GF-101
- 100x100x13 mm



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m@45m

Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Feature Tree

Lagerstroemia floribunda



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
C4	East/West side street, DBST surface, two way traffice , side drain and footpath - No Street Lighting	CLASS VII	One-way road (East to West)	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	N/A	Yes	Yes, located at Planted Tree

N

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Key Plan



Road C5 alignment

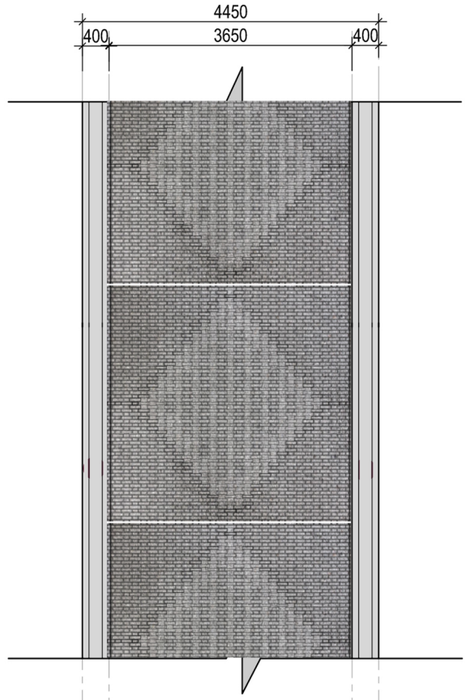


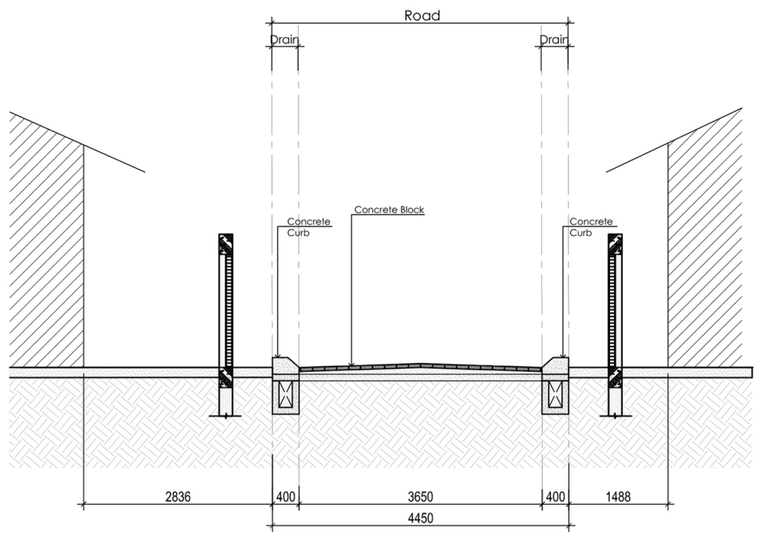
C5: One-way traffic, street lighting.

One way.

Detail:
+Street Lighting
-LP02: 37 set

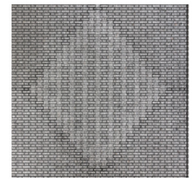
Road C5 Plan and Section: Class VII





Feature Road Finishing

Concrete stamp



Lighting

Street light



- Out door light
- Meterial: Aluminium and Grass
- Size: L230 x W230 x H2315 mm

Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
C5	East/West street, DBST surface, two way traffice , side drain and footpath - No Street Lighting. Night market and walking street organized	CLASS VII	One-way road (West to East)	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	rehabitation the connect of drain if new surface apply	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A

N

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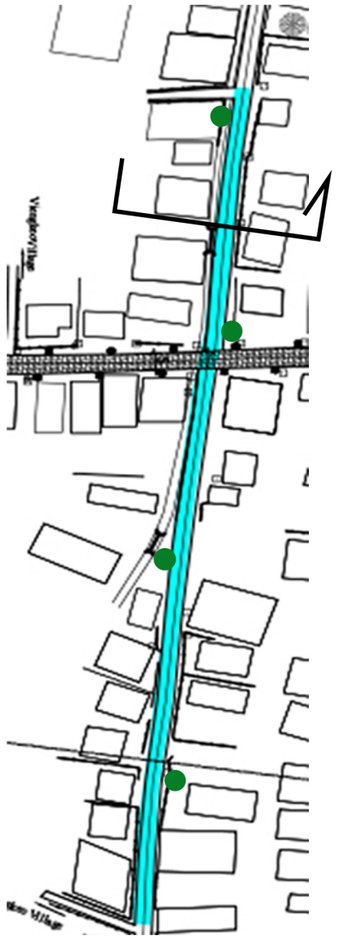
Key Plan

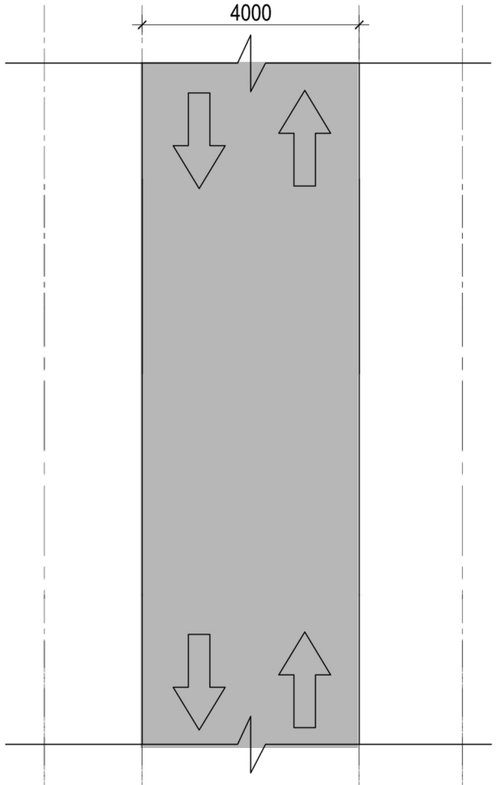


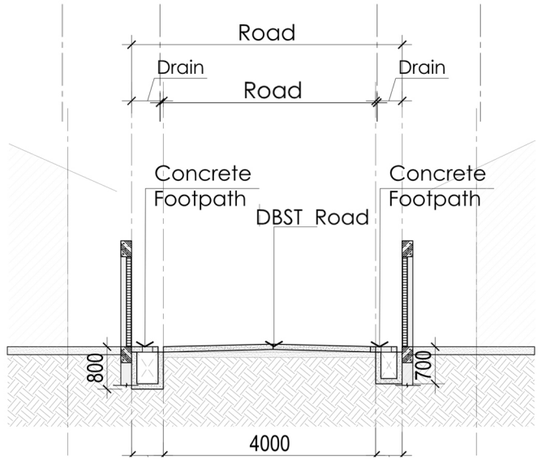
D: Drain rehabilitation - 270.70m.

Road D Class VII alignment



Road D : Plan and Section





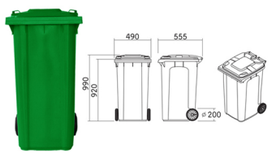
Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
D	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A

N

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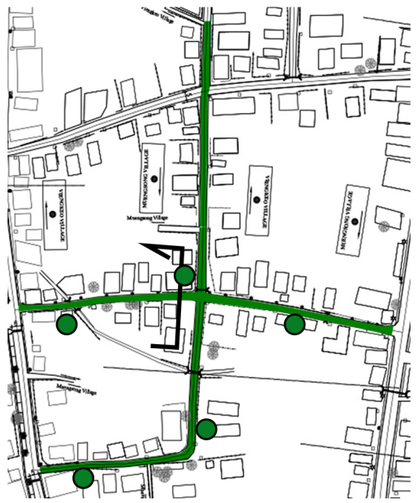
Key Plan

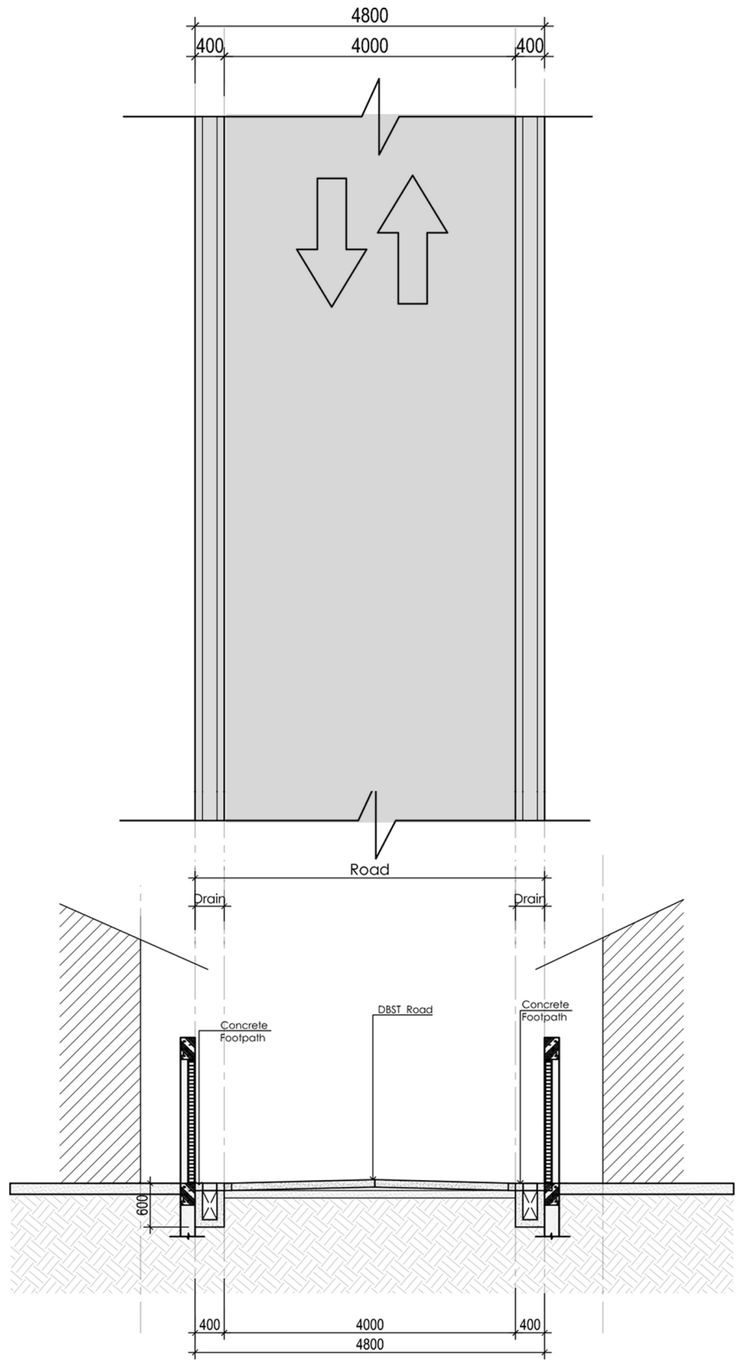


E: New Side Drain - 600,.

Road E alignment



Road E Plan and Section : Class VII



Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
E	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A

N

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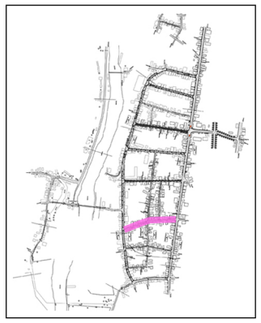
Key Plan

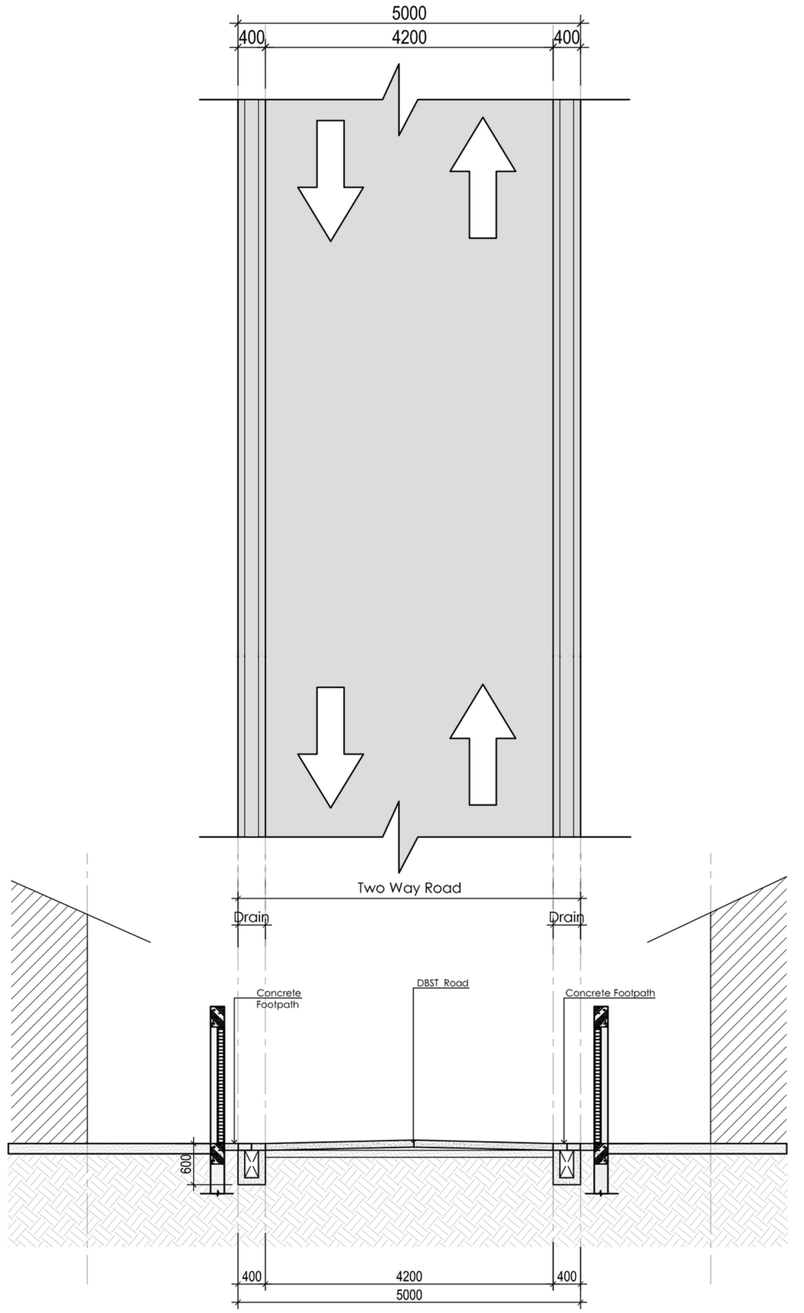


F: Footpath and Side Drain - 700m

Road F alignment



Road F Plan and Section : Class VII



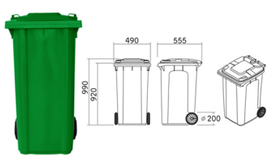
Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
F	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A

N

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Key Plan

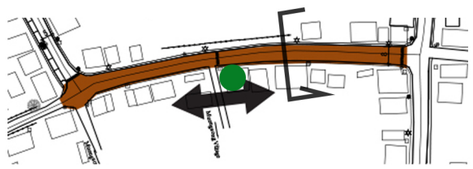


G: Lighting - 170m.

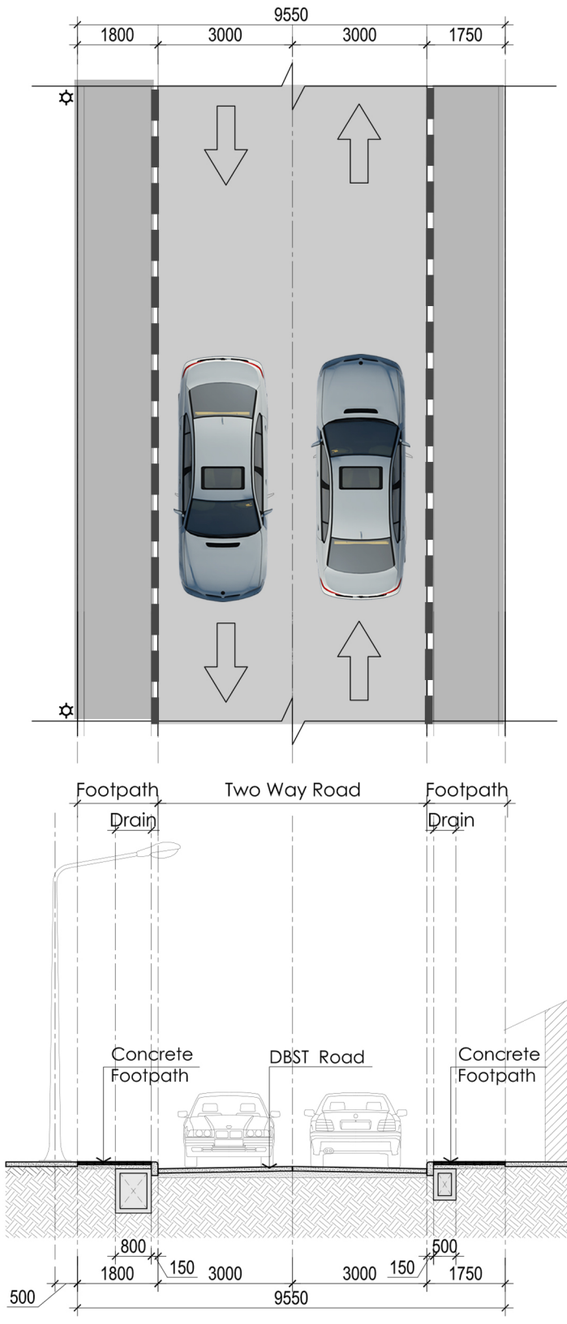
Two way.

Detail:
+Street Lighting
-LP: 8 set

Road G alignment



Road G Plan : Class V



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

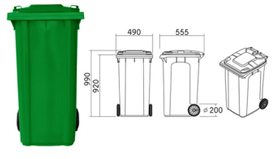
Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
G	Southern loop road connection - DBST surface, two way road with side drain and footpath - No Street lighting	CLASS V	Two-way road	Keep existing	N/A	Rehabitation on side drain connection from road to gutter.	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A

N

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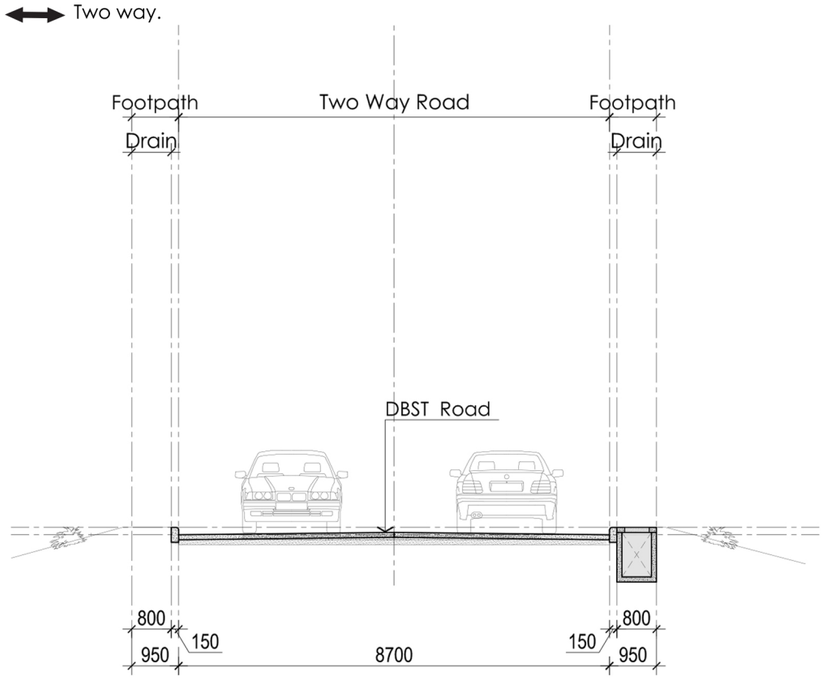
Key Plan

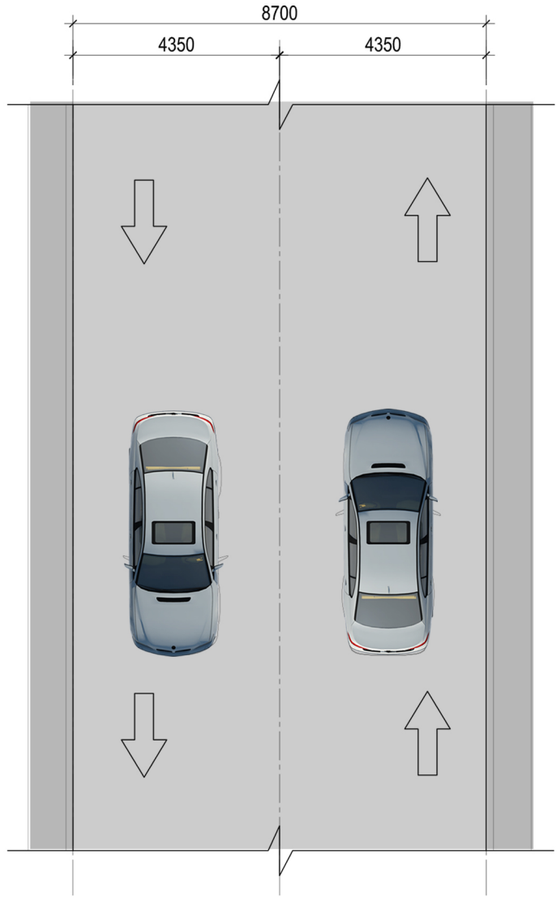


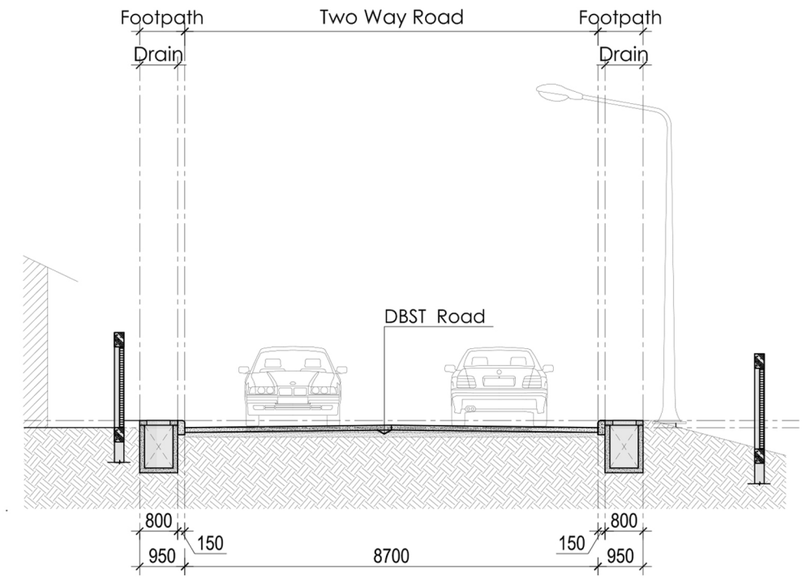
H: Drain and Lighting - 950m

Two way.



Road H Class V : Plan and section





Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
H	Main street - DBST surface, two way road road. Side drain, footpath and street lighting availlable in some section.	CLASS V	Two-way road	Keep existing	N/A	Add Side drain	N/A	Add street lighting Lumination: 20 lux	N/A	N/A

N

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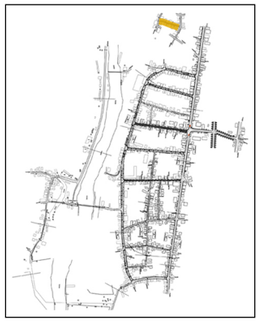
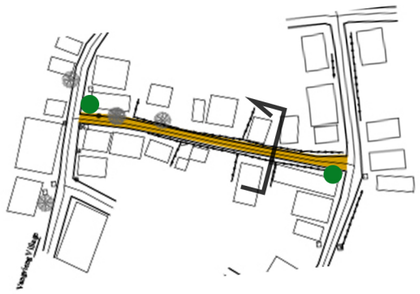
Key Plan

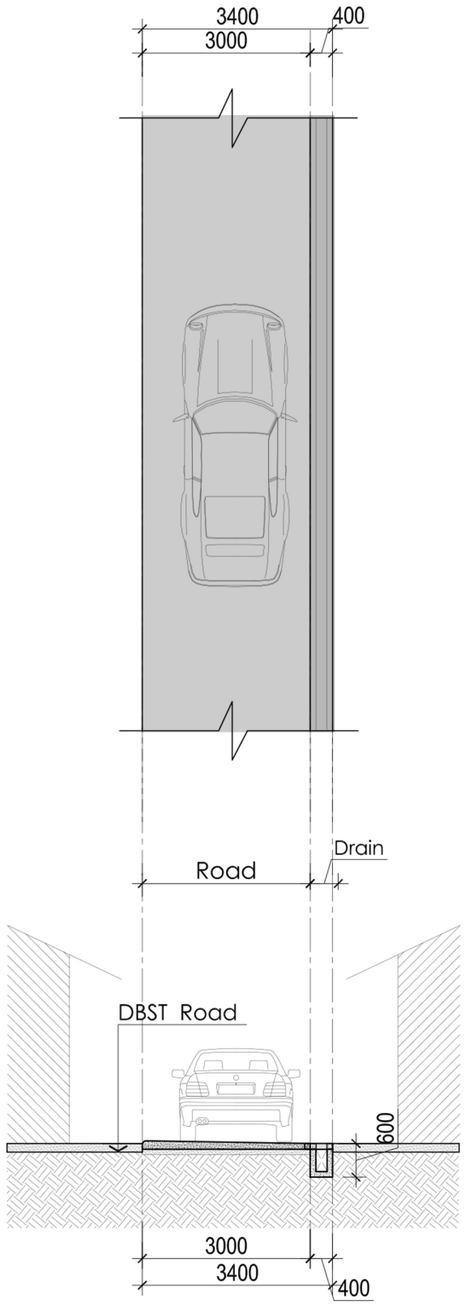


I: DBST Road, side drains.

Road I alignment



Road I Class VII : Plan and section



Feature Road Finishing

DBST Road



Garbage bin

Garbage bin 120 L @ 50 m



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
I	Minor access street, Soil compacted surface.	CLASS VII	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A

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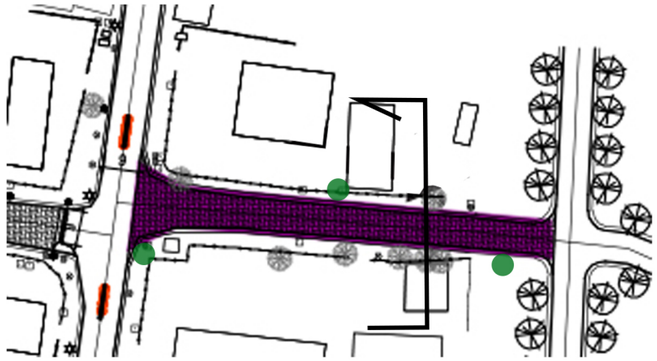
Key Plan

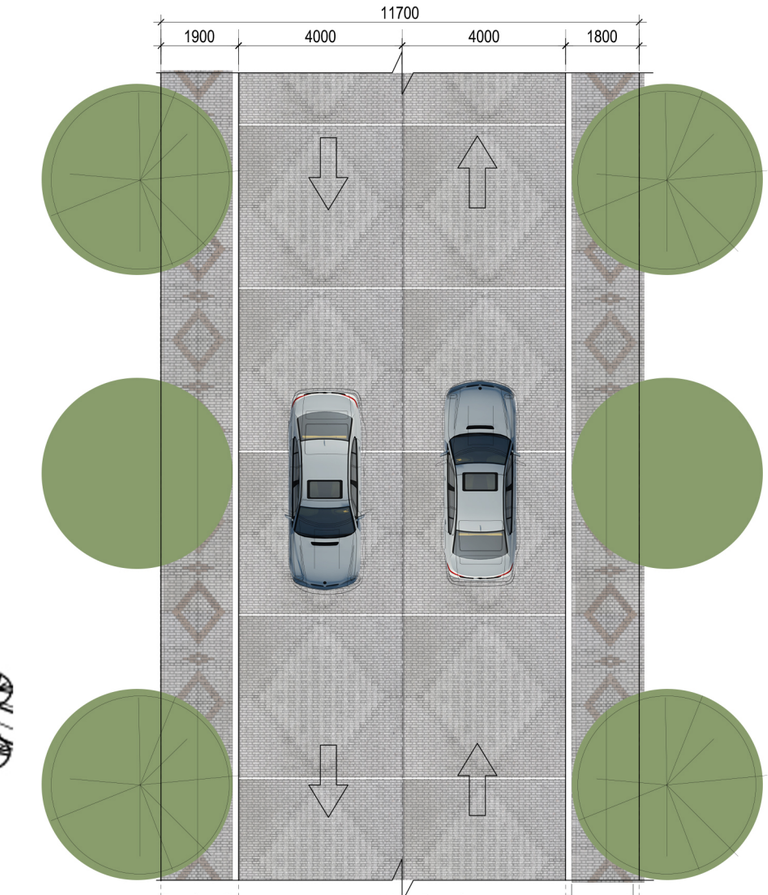


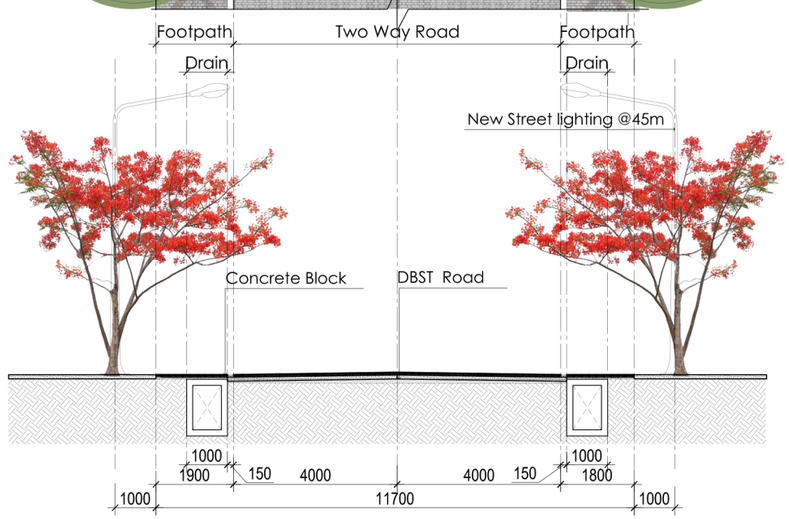
J : Two way road, street lighting footpath rehabilitation, Road rehabilitation.

Road J alignment



Road J New Design Class IV : Plan and Section



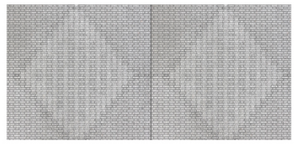


Street view



Feature Road Finishing

Concrete stamp



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

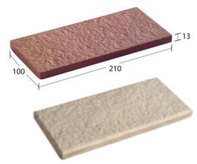
Street light



- Out door light
- Meterial: Aluminium and Glass
- Size: L230xW230xH2315mm

Featture Footpath

KENZAI EX GF-201
- size: 100 x210x13 mm

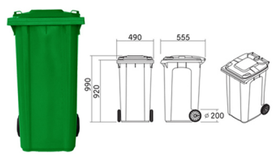


KENZAI GF-101
- 100x100x13 mm



Garbage bin

Garbage bin 120 L @ 50 m



Feature Tree

Delonix regia



Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
J	Existing road use as informal entry to urban center. DBST surface, two way road with footpath, side drain, streetlighting	CLASS IV	Two-way road	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	Rehabitation on side drain connection from road to gutter.	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting	N/A	Yes, add entrance gate

N

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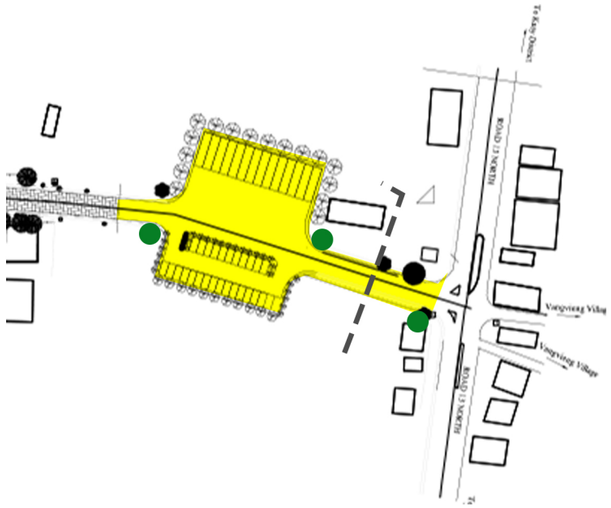
Key Plan

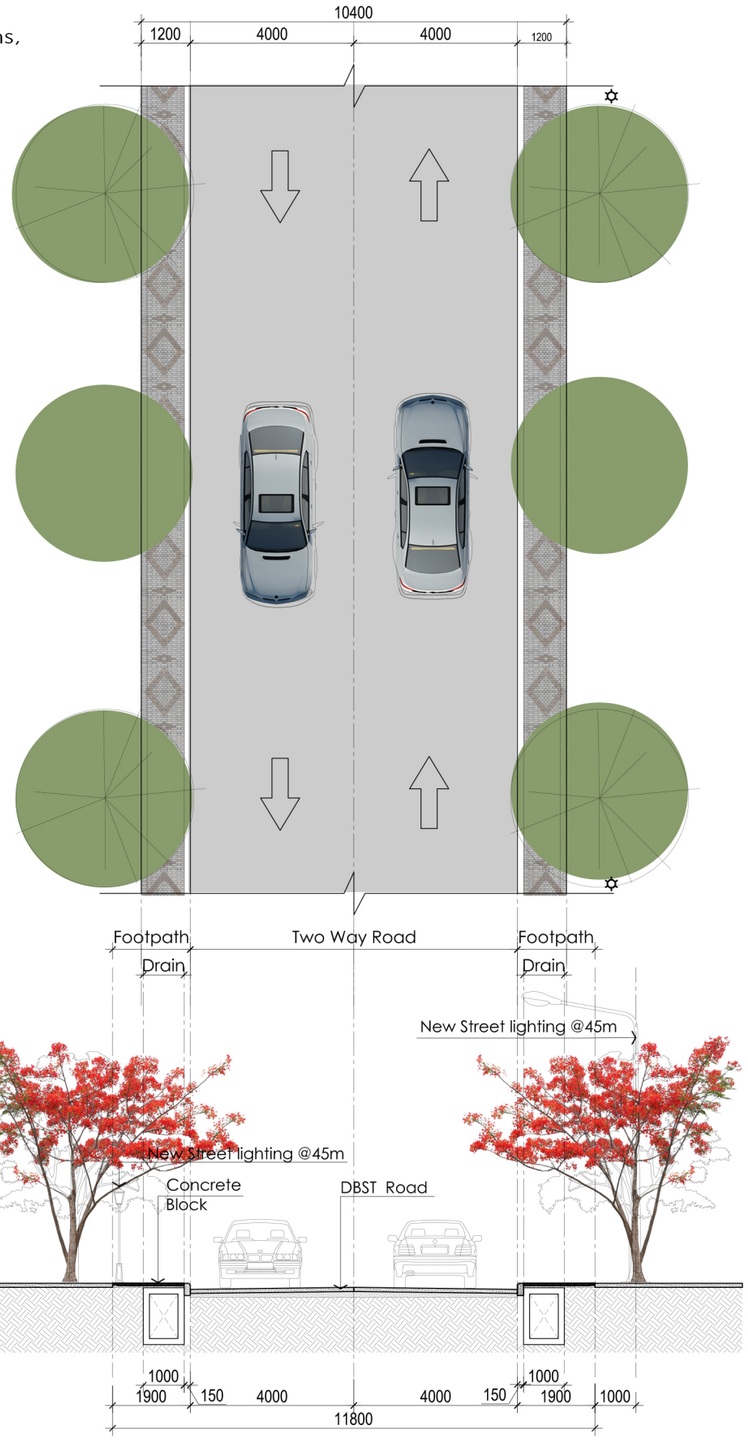


K : Two way DBST, street lightingfootpaths, side drain, trees.
Two way

Road k alignment



Road K Class IV : Plan and Section



Street view



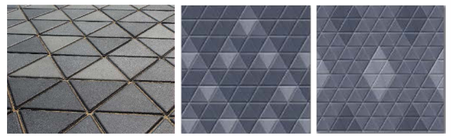
Garbage bin

Garbage bin 120 L @ 50 m



Featture Footpath

Concrete block TRO BLOCK



- Color : Grey, Black, Dark Black
- Size: 20x16.8x6cm Weight: 2.3Kg Usage: 57.80pcs/m2

Feature Tree

Delonix regia



Lighting

Pole Lighting



- Singer bracket pole
- Meterial: Steel H: 8m

Street light



- Out door light
- Meterial: Aluminium and Grass
- Size: L230xW230xH2315mm

Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
K	Existing air-field with DBST surface	CLASS IV	Two-way road	New DBST	N/A	Add Side drain	Footpath pavement	Yes	Yes	Yes, add Entrance Gate

N

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Key Plan



Plan



Entrance gate

Parking lot
Bus : 10 lots
Car : 22 lots

N

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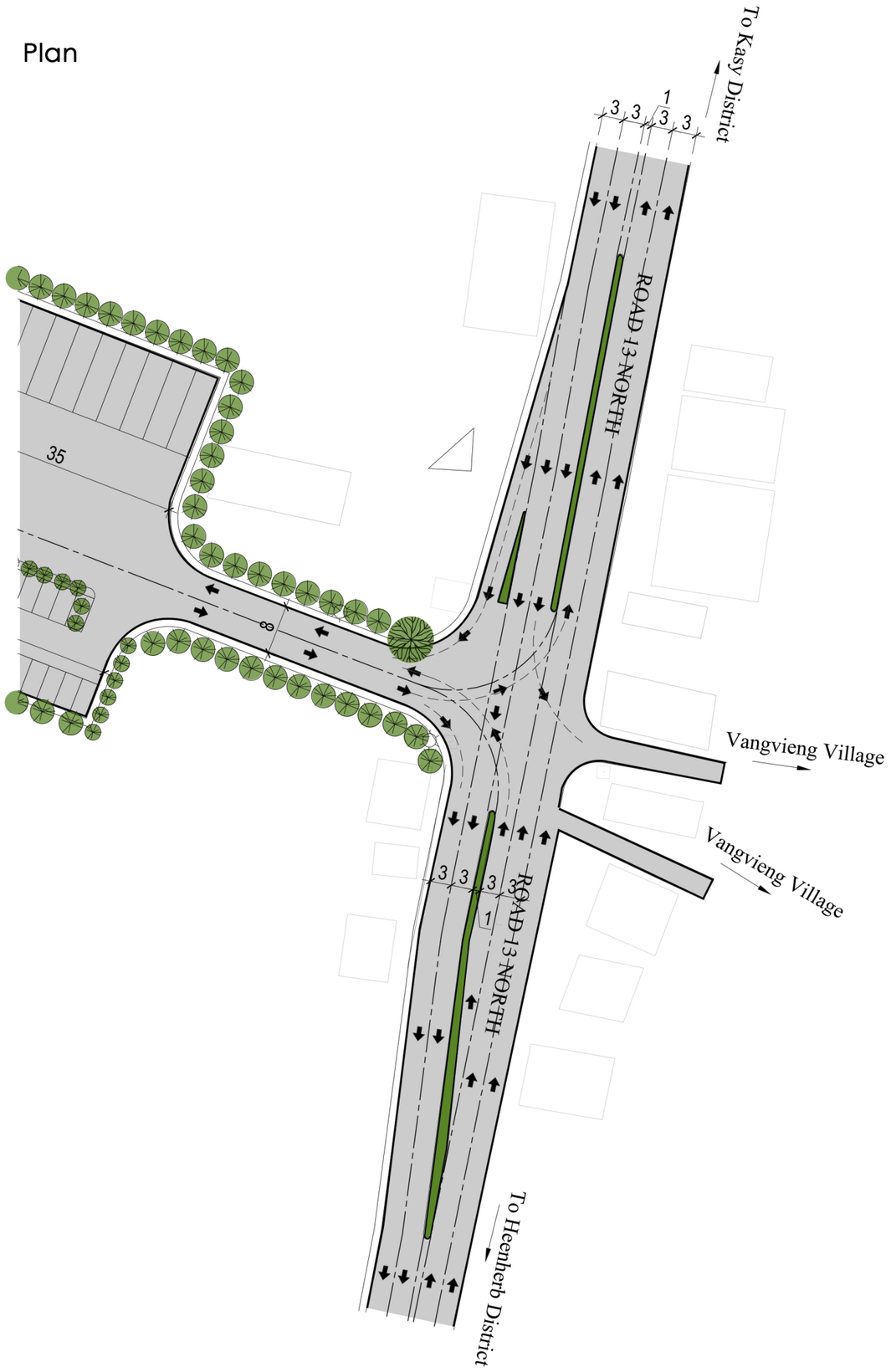
Key Plan



Plan



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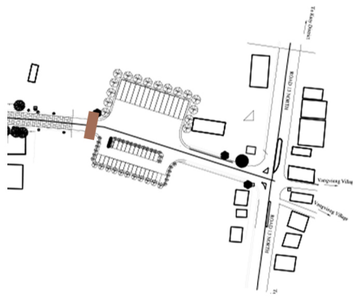
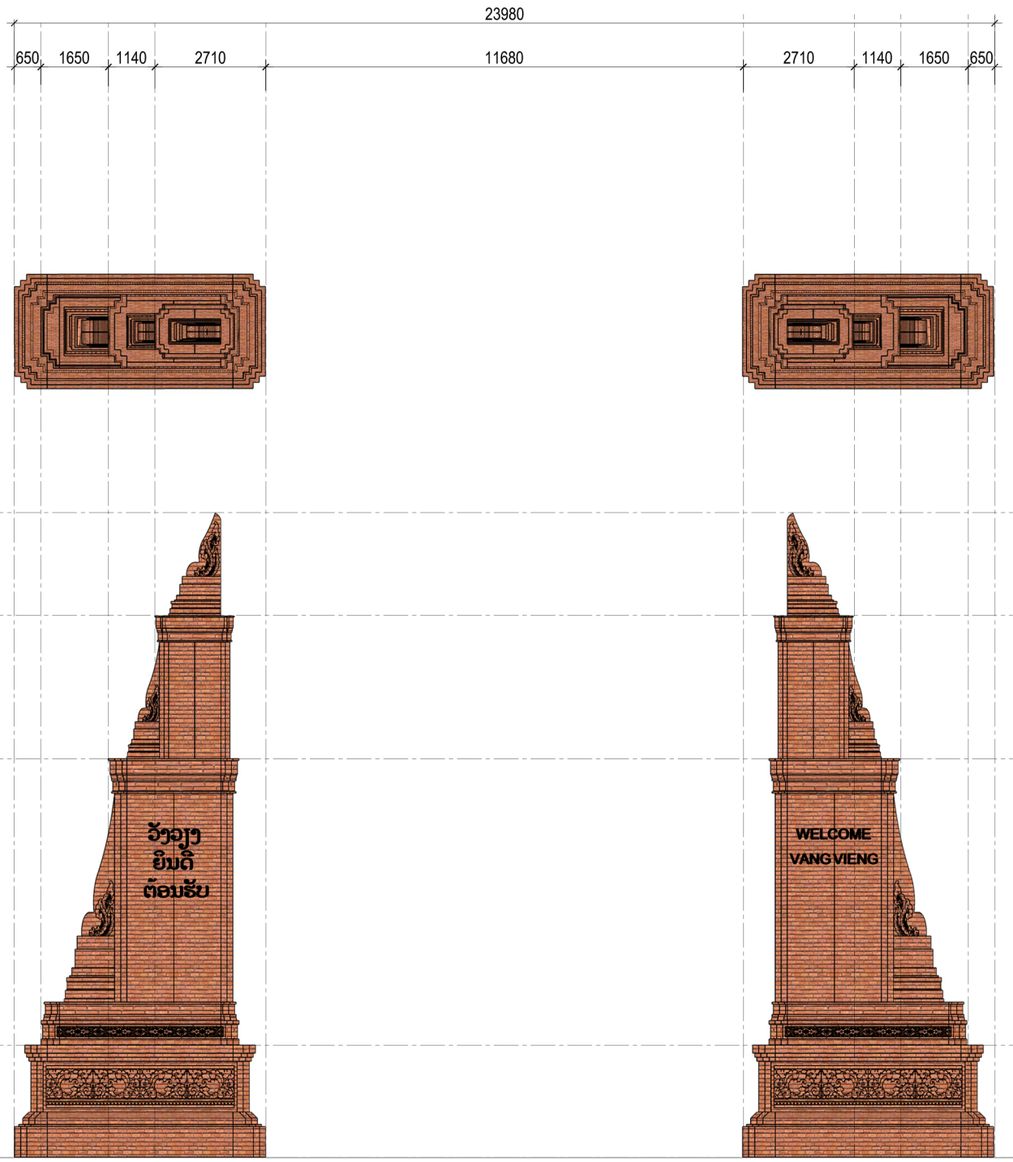
2nd GMS TOURISM INFRASTRUCTURE FOR INCLUSIVE GROWTH PROJECT
SUBPROJECT V4: Vangvieng Urban Renewal

Entrance gate







Top view

Front view

Elevation







Perspective

N

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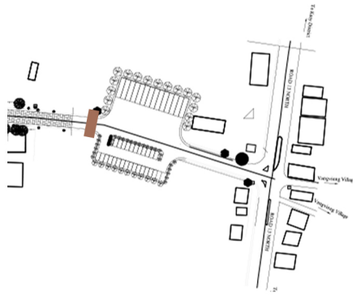
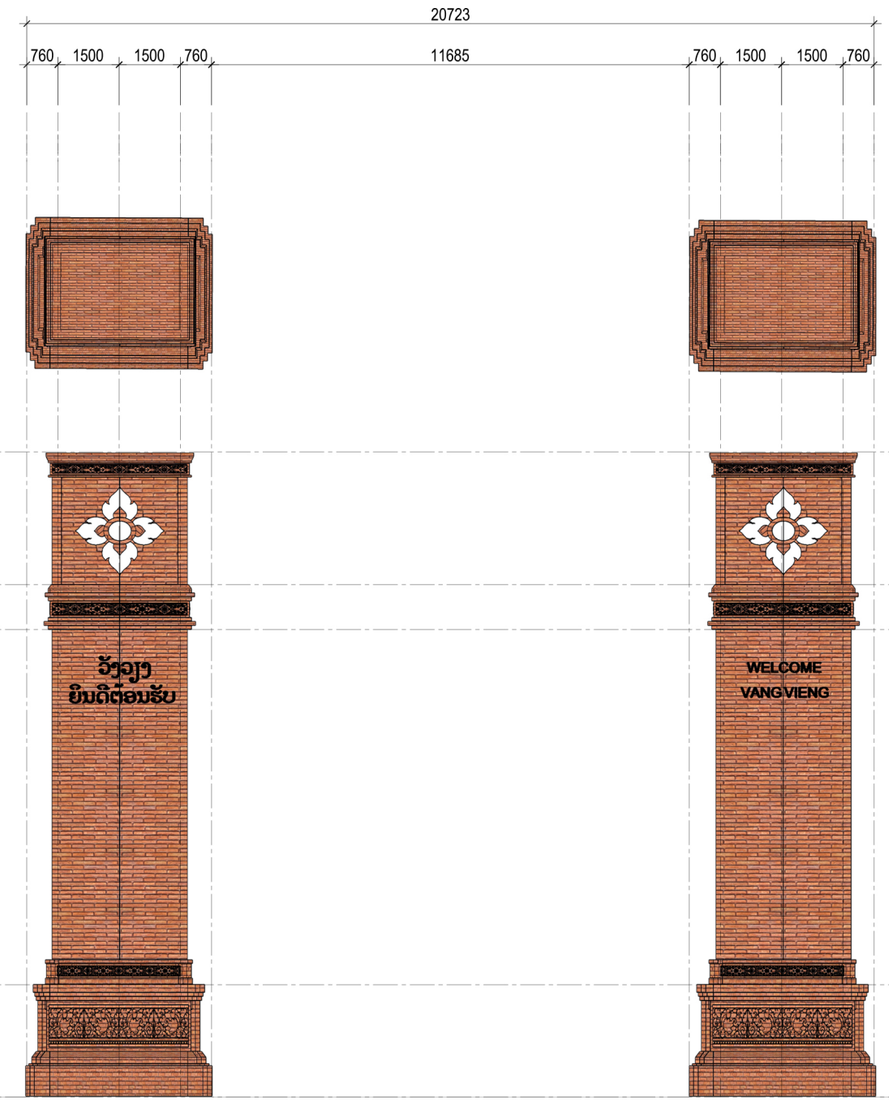
2nd GMS TOURISM INFRASTRUCTURE FOR INCLUSIVE GROWTH PROJECT
SUBPROJECT V4: Vangvieng Urban Renewal

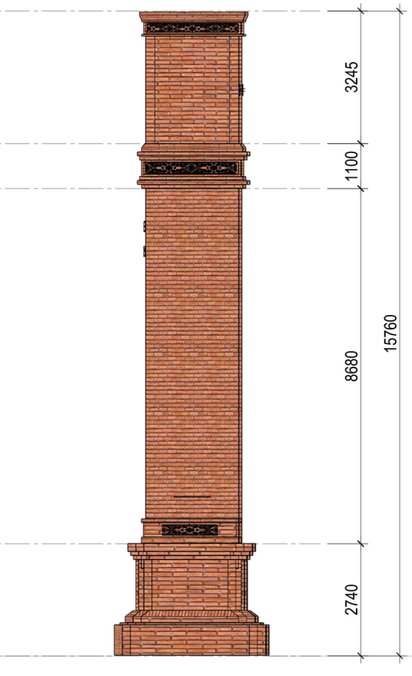
Entrance gate option2







Top view



Front view

Elevation







Perspective

N

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Road ID	Existing Description	Road Classification	Design Proposal: V4							
			Traffic Type	Road Surface	Side Park	Side Drain	Footpath	Street lighting	Tree planting	Street Furniture
A	Main street - DBST surface, two way road with street lighting , side drain and footpath	CLASS IV	Two-way road	Keep existing	N/A	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting Lumination: 20 lux	N/A	N/A
B	Main tourist loop road - DBST surface, one way road with street lighting, side drain and footpath	CLASS VII	One-way road	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting Lumination: 20 lux	Yes	Yes, located at Planted Tree
B1	Minor access street, Soil compacted surface, two way road without footpath	CLASS V	Two-way road	Keep existing	N/A	Add Side drain	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A
B2	Minor access street, DBST	CLASS VII	Two-way road	New Concrete stamp	N/A	Add Side drain	N/A	N/A	N/A	N/A
B3	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	Add street lighting Lumination: 20 lux	N/A	N/A
B4	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A
B5	Minor access street, Soil compacted surface.	CLASS V	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A
C1	East/West side street, DBST surface, two way traffice with street lighting , side drain and footpath	CLASS VII	One-way road (West to East)	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	N/A	Yes	Yes, located at Planted Tree
C2	East/West side street, DBST surface, one way traffice, No street lighting, side drain and footpath	CLASS VII	One-way road (East to West)	Keep existing	N/A	Add Side drain	N/A	N/A	N/A	N/A
C3	East/West street, DBST surface, two way traffice , side drain and footpath - No Street Lighting. Night market and walking street organized	CLASS IV-Urban	One-way road (West to East)	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	rehabitation the connect of drain if new surface apply	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A
C4	East/West side street, DBST surface, two way traffice , side drain and footpath - No Street Lighting	CLASS VII	One-way road (East to West)	Keep existing	Yes: Right side, WxL = 2.5x6m parking space	repair road shoulder and drain channel where there is abstable of drain flow	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	N/A	Yes	Yes, located at Planted Tree
C5	East/West street, DBST surface, two way traffice , side drain and footpath - No Street Lighting. Night market and walking street organized	CLASS VII	One-way road (West to East)	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	rehabitation the connect of drain if new surface apply	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A
D	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A
E	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A
F	Minor access Two way road, DBST surface. No side drain, footpath and streat lighting	CLASS VII	Two-way road	Keep existing, rehabitation of road shoulder	N/A	Add side drain	N/A	N/A	N/A	N/A
G	Southern loop road connection - DBST surface, two way road with side drain and footpath - No Street lighting	CLASS V	Two-way road	Keep existing	N/A	Rehabitation on side drain connection from road to gutter.	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Add street lighting Lumination: 20 lux	N/A	N/A
H	Main street - DBST surface, two way road road. Side drain, footpath and street lighting availlable in some section.	CLASS V	Two-way road	Keep existing	N/A	Add Side drain	N/A	Add street lighting Lumination: 20 lux	N/A	N/A
I	Minor access street, Soil compacted surface.	CLASS VII	Two-way road	New DBST	N/A	Add Side drain	N/A	N/A	N/A	N/A
J	Existing road use as informal entry to urban center. DBST surface, two way road with footpath, side drain, streetlighting	CLASS IV	Two-way road	Resealing with new pavement material/ Flush kerb for multi-purpose street	N/A	Rehabitation on side drain connection from road to gutter.	Resealing the footpath with new pavement material. Allow to have man-hole for drainage maintenant	Improve streetlight ambient by add streetlighting	N/A	Yes, add entrance gate
K	Existing air-field with DBST surface	CLASS IV	Two-way road	New DBST	N/A	Add Side drain	Footpath pavement	Yes	Yes	Yes, add Entrance Gate

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