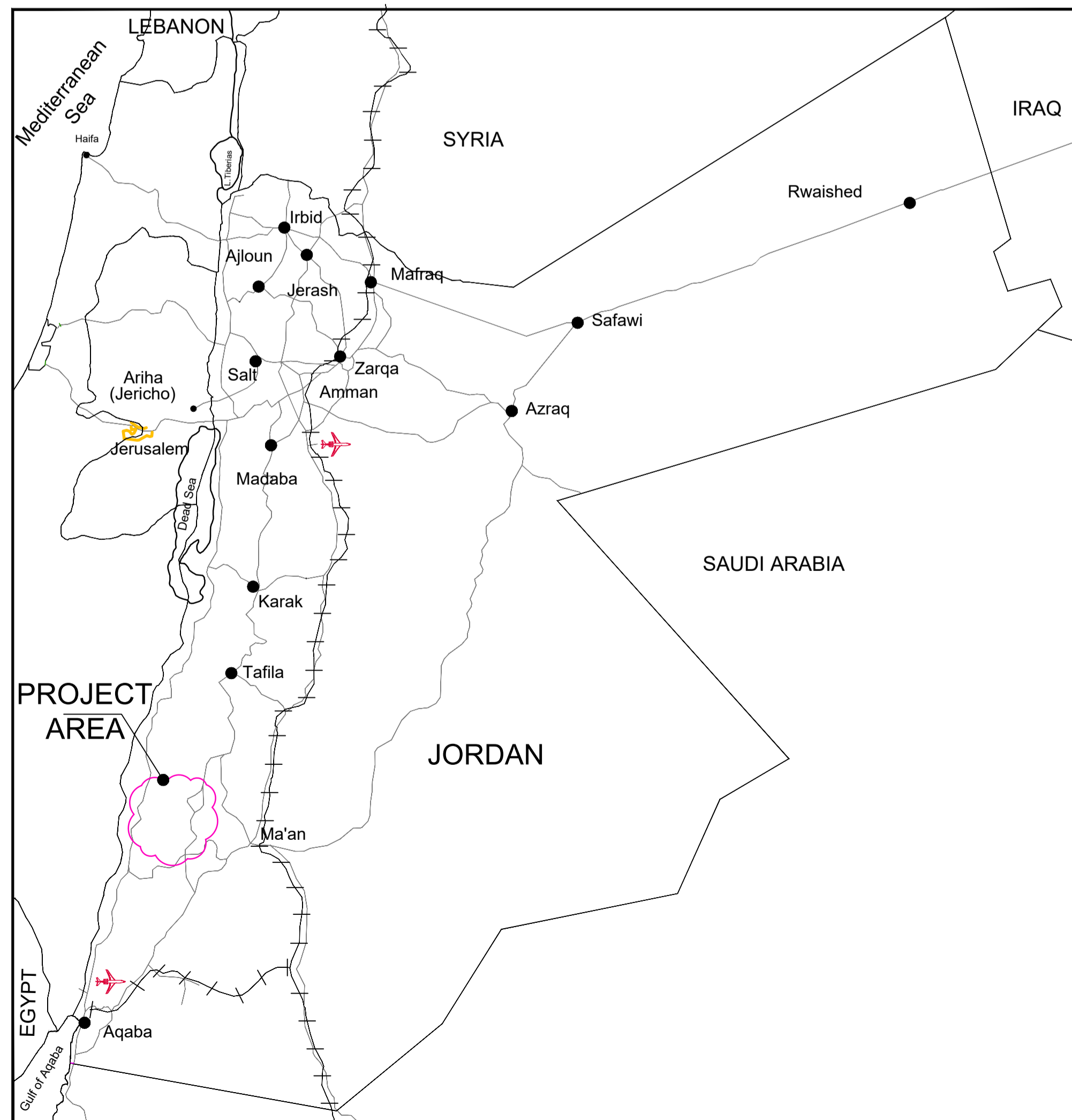




THE HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION  
AUTHORITY



KEY MAP



تنفيذ شارع خدمات الطوارئ - سلطة اقليم البتراء التنموي السياحي

EMERGENCY SERVICES ROAD

VOLUME III

FINAL DRAWINGS

OCTOBER - 2022

# LIST OF DRAWINGS

G-01 LIST OF DRAWINGS

R503 EMERGENCY SERVICES ROAD  
INTERSECTION (RAMP)  
PLAN

D-502 CULVERT 2  
PLAN & SECTION  
STA. 1+026.14

## ROAD NETWORK

R-50 GENERAL LAYOUT

## TRAFFIC SIGNS

TR100 TRAFFIC SIGNS  
GENERAL LAYOUT

TR101 TRAFFIC SIGNS  
FROM STA.0+000 TO STA.0+560

TR102 TRAFFIC SIGNS  
FROM STA.0+560 TO END

## DETAILS

DT-700 GUARD RAIL DETAILS

DT-701 DITCH LINING DETAILS

DT-702 GEOGRID WALLS DETAILS 1/3

DT-703 GEOGRID RETAINING WALLS 2/3

DT-704 GEOGRID RETAINING WALLS 3/3

DT-800 TRAFFIC SIGNS DETAILS  
SHEET 1/2

DT-801 TRAFFIC SIGNS DETAILS  
SHEET 2/2

DT-802 LETTERING DETAILS

DT-803 ROAD MARKING AND  
DUMP DETAILS

DT-804 TYPICAL OBSTRUCTION MARKINGS

DT-805 ROAD MARKING  
DETAILS

DT-806 SOLAR FLASHER WARNING SIGN

DT-807 TYPICAL CROSS SECTION  
OF TABLE HUMP

DT-808 TRAFFIC SIGNS DETAILS

## STORM

D-500 CULVERTS GENERAL  
LAYOUT

D-501 CULVERT 1  
PLAN & SECTION  
STA. 0+206.99

D-800 CULVERT PROTECTION DETAILS

D-801 PIPE CULVERT DETAILS

## ELECTRICAL

E200 STREET LIGHTING  
GENERAL LAYOUT

E201 STREET LIGHTING  
FROM STA.0+000 TO STA.0+640

E202 STREET LIGHTING  
FROM STA.0+640 TO END

E203 FEEDER PILLAR

E204 DETAILS

R100 EXISTING CONDITION  
GENERAL LAYOUT

R101 EXISTING CONDITION  
SHEET 1

R102 EXISTING CONDITION  
SHEET 2

R200 SETTING DATA OUT  
GENERAL LAYOUT

R201 SETTING DATA OUT  
SHEET 1

R202 SETTING DATA OUT  
SHEET 2

R203 SETTING DATA OUT  
SHEET 3

R204 SETTING DATA OUT  
SHEET 4

R300 ROADS  
CURVES & SUPER ELEVATION DETAILS

R400 TYPICAL CROSS SECTIONS  
1/3

R401 TYPICAL CROSS SECTIONS  
2/3

R402 TYPICAL CROSS SECTIONS  
3/3

R-500 EMERGENCY SERVICES ROAD  
GENERAL PLAN

R501 EMERGENCY SERVICES ROAD  
PLAN & PROFILE  
STA.0+000 TO STA.0+600

R502 EMERGENCY SERVICES ROAD  
STA.0+600 TO END  
& RAMP  
PLAN & PROFILE

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/> Review/Verification		<input type="checkbox"/> Validation	
Stage	I	II	III
Date			

KEY PLAN

CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION  
AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

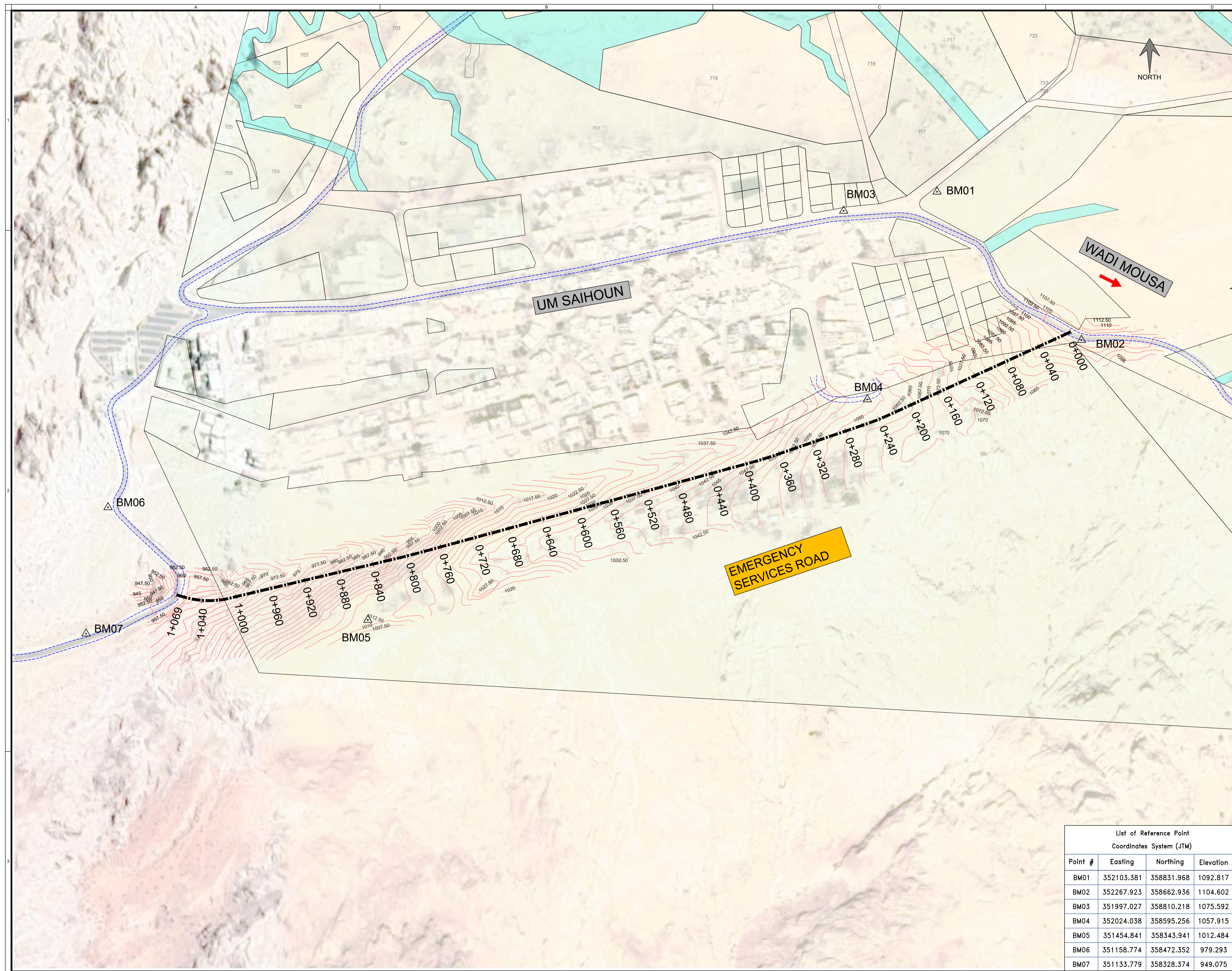
DRAWING NAME

LIST OF DRAWING

SCALE N.T.S.		WHEN PRINTED AT A1 SHEET SIZE	
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	G-01	00

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GENERAL LAYOUT



**LEGEND :**

- CENTER LINE
- EXISTING ROAD
- PUBLIC LANDS

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

CONSTRUCTION DOCUMENT

KEY PLAN

CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

GENERAL LAYOUT

List of Reference Point  
Coordinates System (JTM)

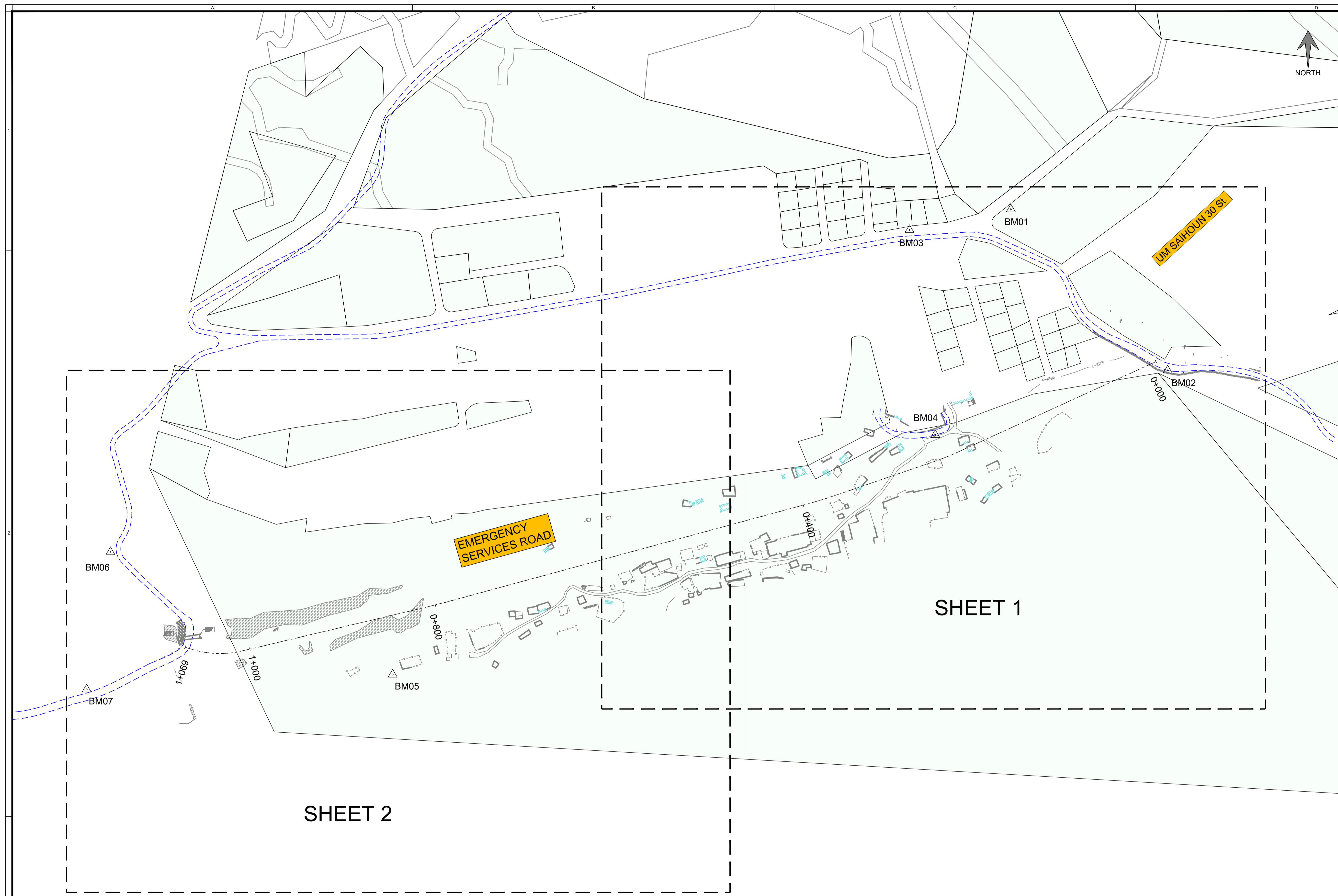
Point #	Easting	Northing	Elevation
BM01	352103.381	358831.968	1092.817
BM02	352267.923	358662.936	1104.602
BM03	351997.027	358810.218	1075.592
BM04	352024.038	358595.256	1057.915
BM05	351454.841	358343.941	1012.484
BM06	351158.774	358472.352	979.293
BM07	351133.779	358328.374	949.075

SCALE 1/2,000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
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DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-50	00

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EXISTING CONDITION

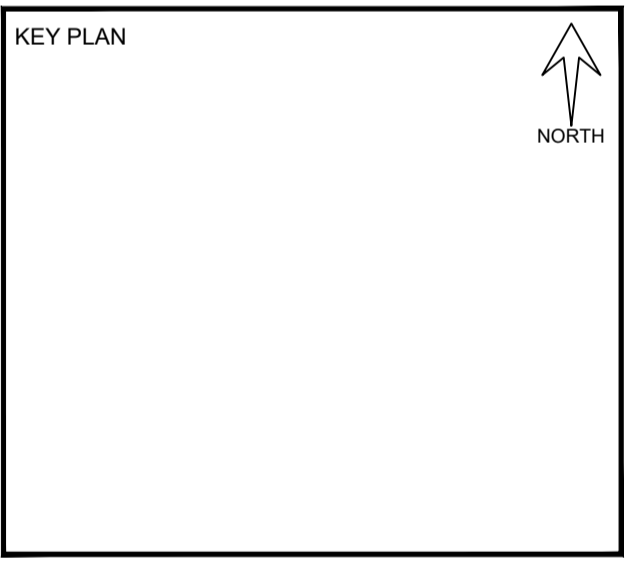


**LEGEND:-**

	RESERVOIR
	UNKNOWN MANHOLE
	SEPTIC-TANK
	MIDDLE VOLTAGE PYLON
	ELECTRIC POLE
	LIGHT POLE (1,2,3,4 LUMBS )
	TELEPHONE POLE
	REFERENCE POINT
	CULVERT INFORMATION
	ROCK
	GABION
	RIPRAP
	CONCRETE SLAB
	GATE
	FENCE
	BUILDING
	WALL
	EXISTING ROAD
	CONT-MJR
	CONT-MNR
	STONE WALL

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

CONSTRUCTION DOCUMENT



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HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 142362 Amman - 11196 - Jordan  
Tel: (962) 96 91000 Fax: (962) 96 91002  
E: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

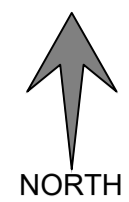
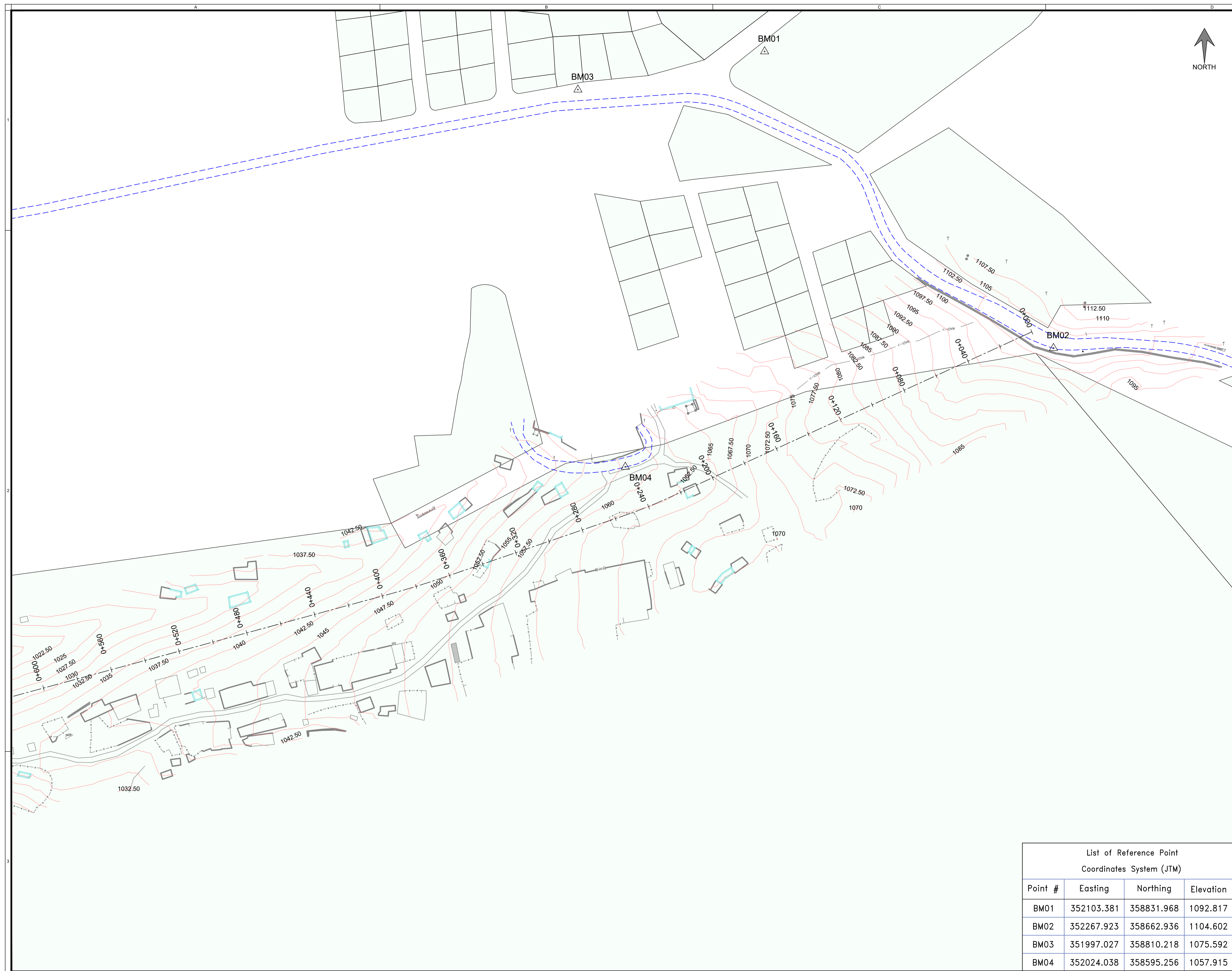
**DRAWING NAME**

EXISTING CONDITION  
GENERAL LAYOUT

SCALE 1/2,000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
SECTION			
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-100	00

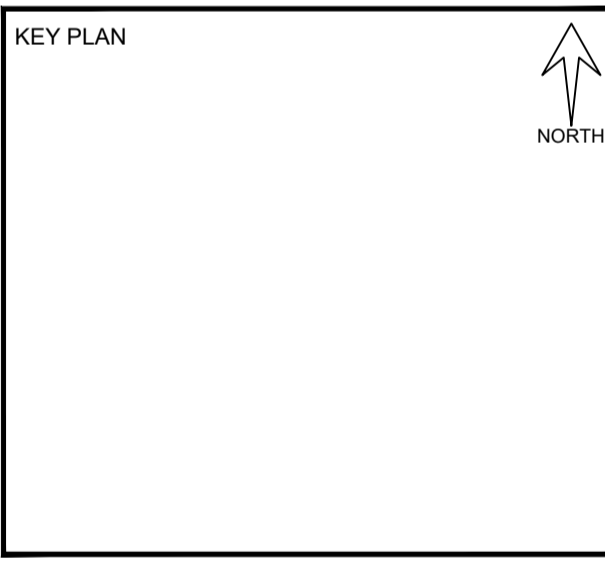
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**LEGEND:-**

	RESERVOIR
	UNKNOWN MANHOLE
	SEPTIC-TANK
	MIDDLE VOLTAGE PYLON
	ELECTRIC POLE
	LIGHT POLE (1,2,3,4 LUMBS )
	TELEPHONE POLE
	REFERENCE POINT
	CULVERT INFORMATION
	ROCK
	GABION
	RIPRAP
	CONCRETE SLAB
	GATE
	FENCE
	BUILDING
	WALL
	EXISTING ROAD
	CONT-MJR
	CONT-MNR
	STONE WALL

BY	DATE	SUBJECT	REV				
<input checked="" type="checkbox"/>	Review/Verification	<input type="checkbox"/>	Validation				
Stage	I	II	III	IV	V	B	CONSTRUCTION DOCUMENT
Date							



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**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

EXISTING CONDITION SHEET 1

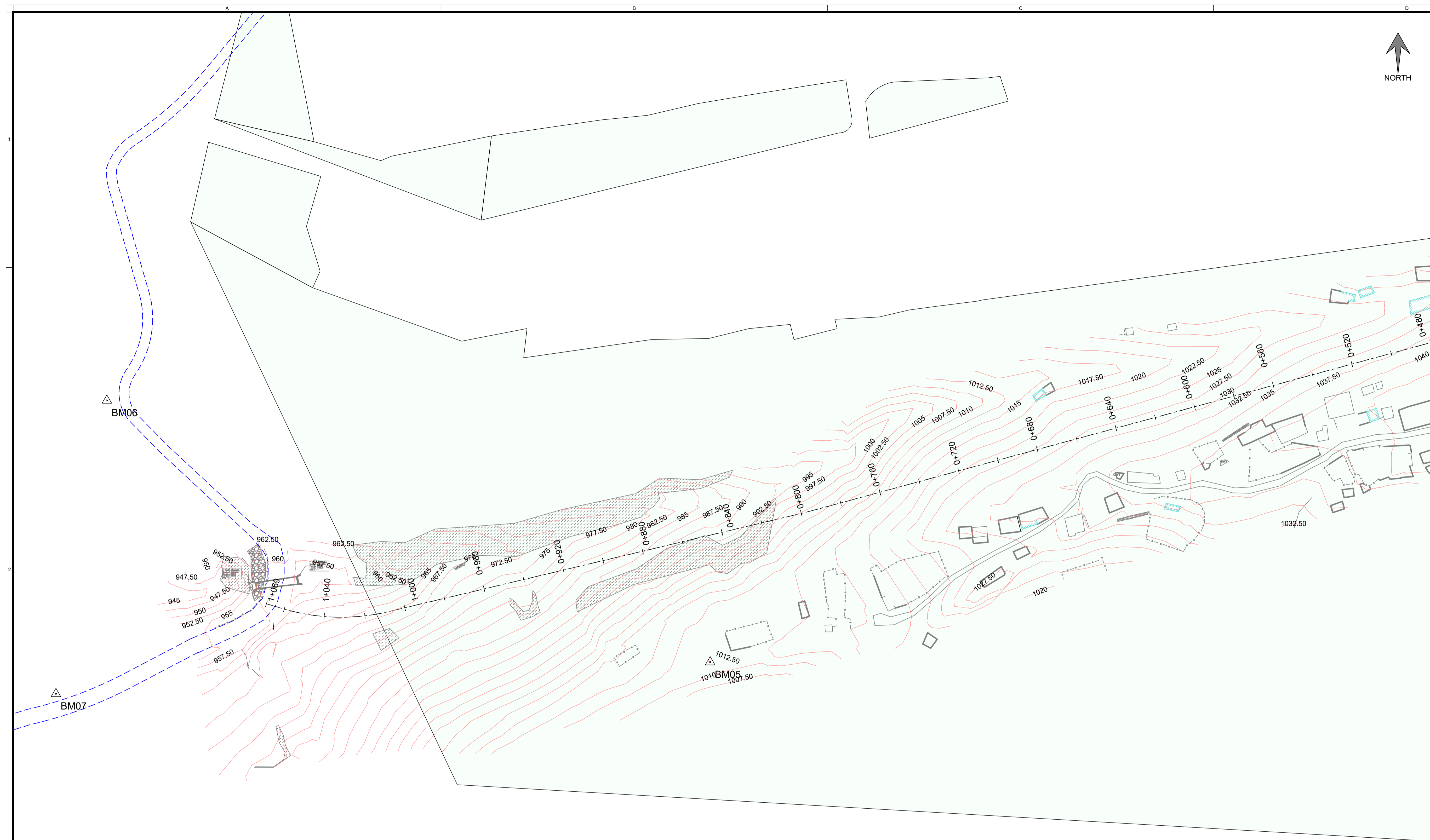
**List of Reference Point**  
Coordinates System (JTM)

Point #	Easting	Northing	Elevation
BM01	352103.381	358831.968	1092.817
BM02	352267.923	358662.936	1104.602
BM03	351997.027	358810.218	1075.592
BM04	352024.038	358595.256	1057.915

SCALE 1/1,000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-101	00

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**LEGEND:-**

	RESERVOIR
	UNKNOWN MANHOLE
	SEPTIC-TANK
	MIDDLE VOLTAGE PYLON
	ELECTRIC POLE
	LIGHT POLE (1,2,3,4 LUMBS )
	TELEPHONE POLE
	REFERENCE POINT
	CULVERT INFORMATION
	ROCK
	GABION
	RIPRAP
	CONCRETE SLAB
	GATE
	FENCE
	BUILDING
	WALL
	EXISTING ROAD
	CONT-MJR
	CONT-MNR
	STONE WALL

BY	DATE	SUBJECT	REV		
<input checked="" type="checkbox"/>	Review/Verification	<input type="checkbox"/>	Validation		
Stage	I	II	III	B	CONSTRUCTION DOCUMENT
Date					

**KEY PLAN**

NORTH

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

EXISTING CONDITION SHEET 2

List of Reference Point  
Coordinates System (JTM)

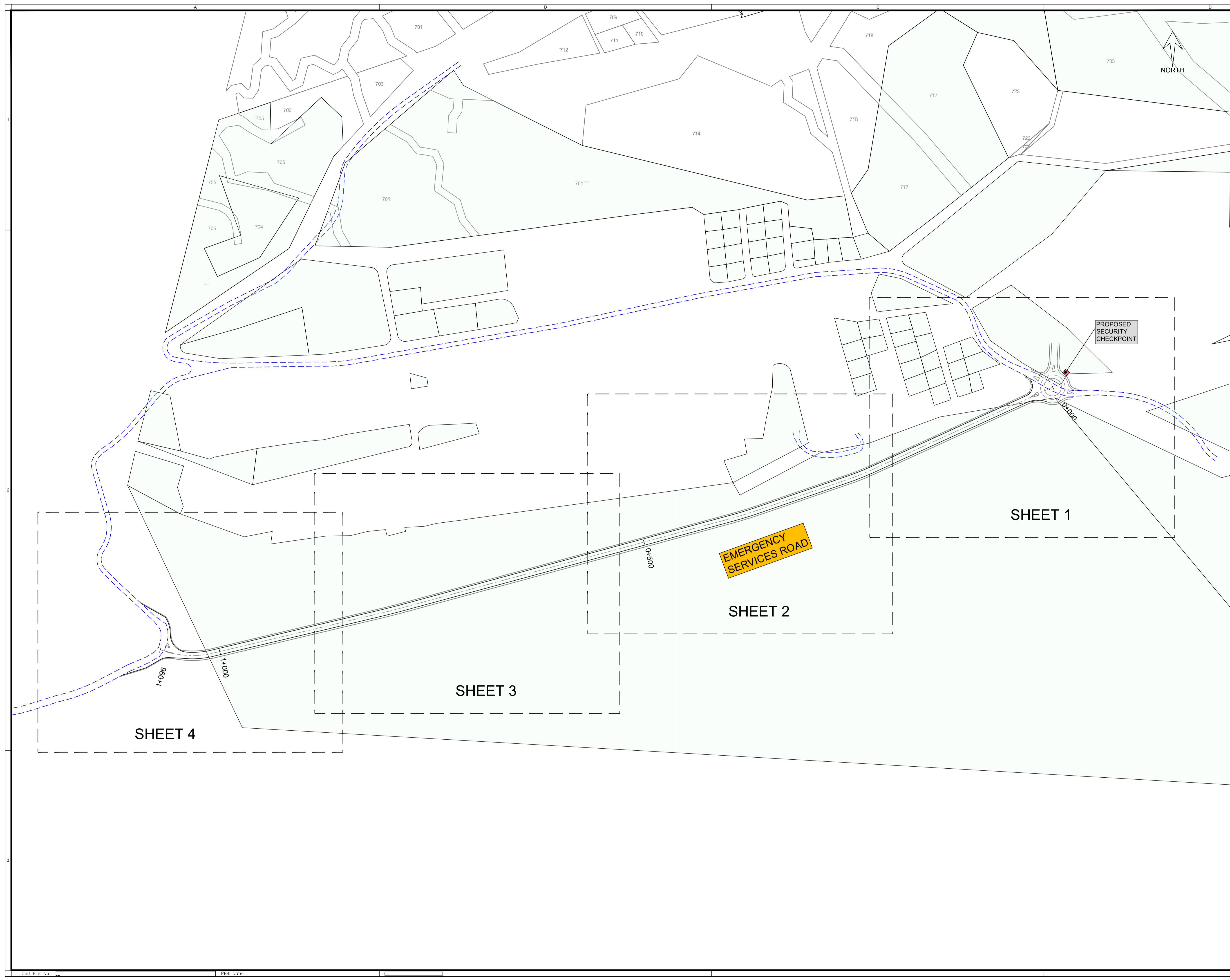
Point #	Easting	Northing	Elevation
BM05	351454.841	358343.941	1012.484
BM06	351158.774	358472.352	979.293
BM07	351133.779	358328.374	949.075

SCALE 1/1,000 WHEN PRINTED AT A1 SHEET SIZE

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CAD&GIS SECTION	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-102	00

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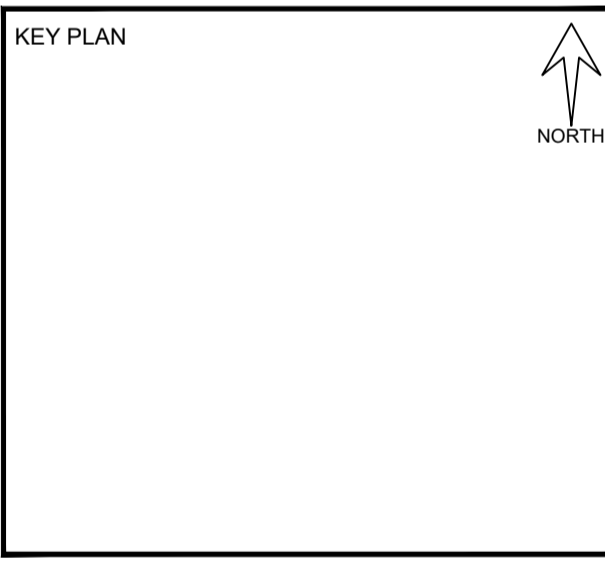
SETTING OUT DATA



- LEGEND :**
- CENTER LINE
  - PAINT LINE
  - ⊠ POINT COORDINATE

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

CONSTRUCTION DOCUMENT



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PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 142362 Amman - 11196 - Jordan  
Tel: (962) 96 81000 Fax: (962) 96 81000  
E: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

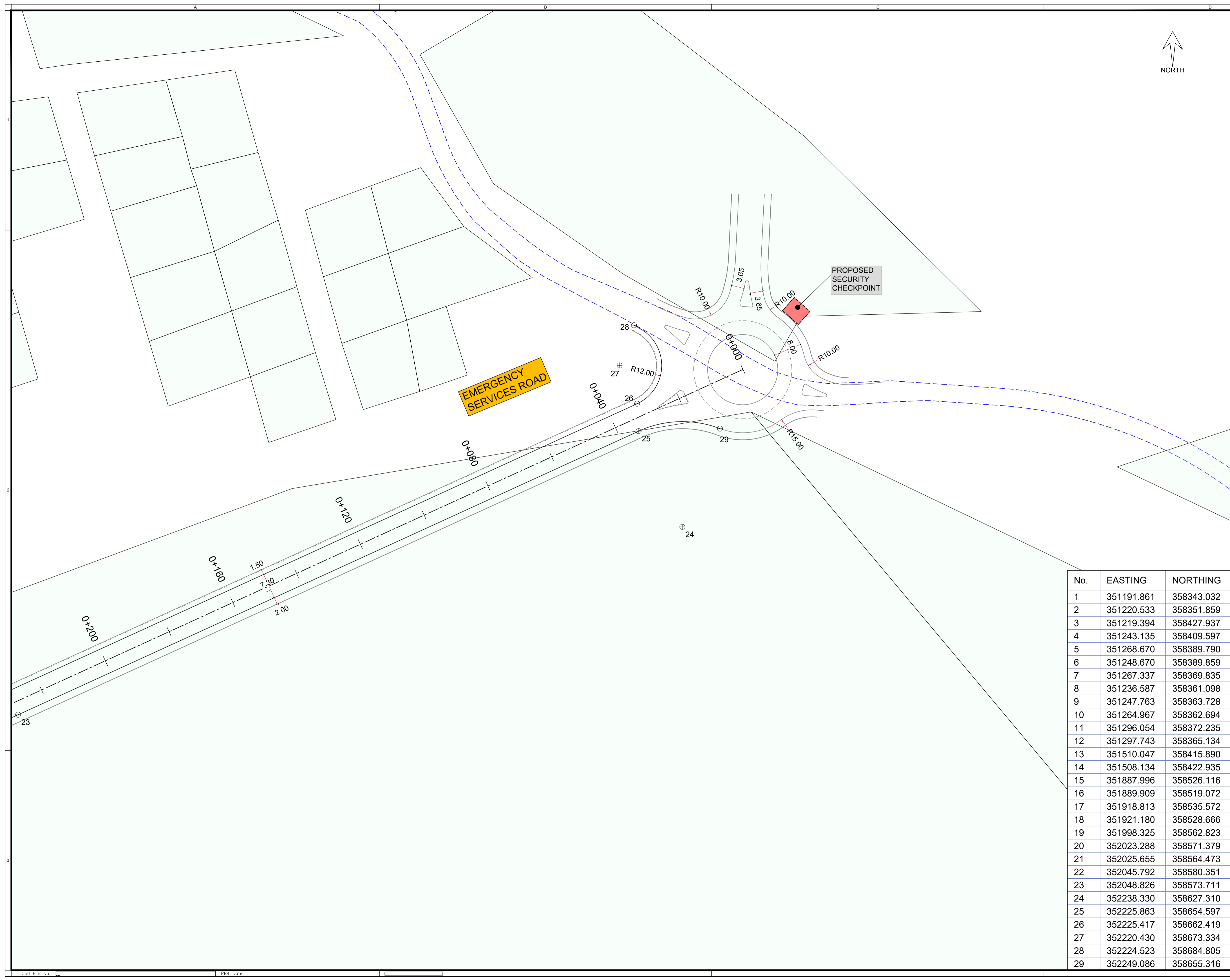
**DRAWING NAME**

SETTING OUT DATA  
GENERAL LAYOUT

SCALE 1/2,000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
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DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-200	00

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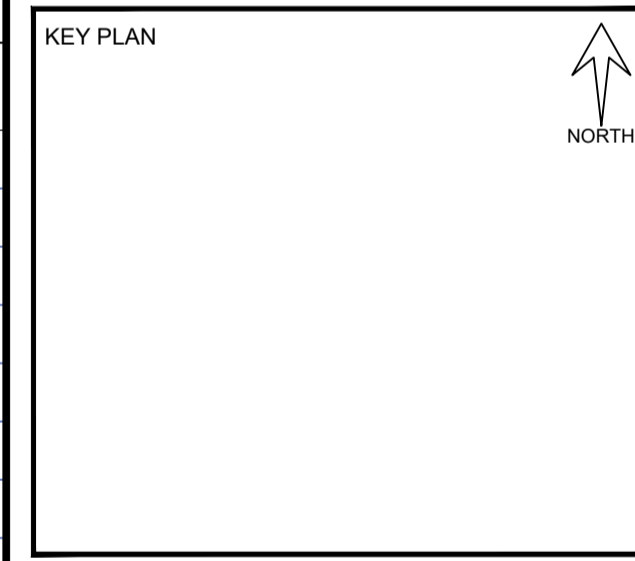
**LEGEND :**  
 - - - - - CENTER LINE  
 ——— PAINT LINE  
 ⊕ POINT COORDINATE



BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

No.	EASTING	NORTHING
1	351191.861	358343.032
2	351220.533	358351.859
3	351219.394	358427.937
4	351243.135	358409.597
5	351268.670	358389.790
6	351248.670	358389.859
7	351267.337	358369.835
8	351236.587	358361.098
9	351247.763	358363.728
10	351264.967	358362.694
11	351296.054	358372.235
12	351297.743	358365.134
13	351510.047	358415.890
14	351508.134	358422.935
15	351887.996	358526.116
16	351889.909	358519.072
17	351918.813	358535.572
18	351921.180	358528.666
19	351998.325	358562.823
20	352023.288	358571.379
21	352025.655	358564.473
22	352045.792	358580.351
23	352048.826	358573.711
24	352238.330	358627.310
25	352225.863	358654.597
26	352225.417	358662.419
27	352220.430	358673.334
28	352224.523	358684.805
29	352249.086	358655.316



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 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT  
  
 DAR AL-OMRAN  
 Amman - Jordan  
 P.O. Box 142382 Amman - 11184 - Jordan  
 Tel: (962) 96 81000 Fax: (962) 96 81000  
 E: info@daral-omran.com Web: www.daral-omran.com

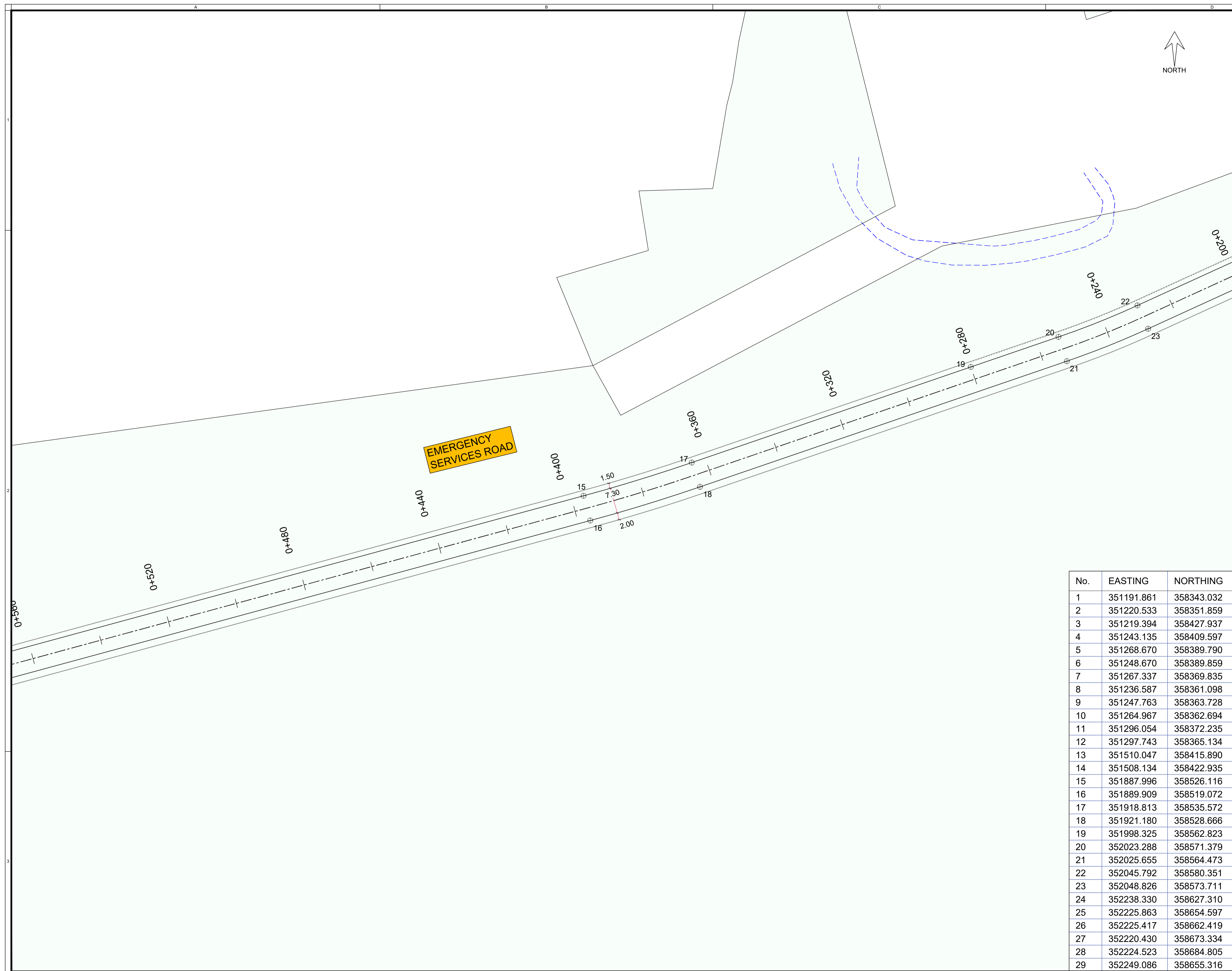
PROJECT TITLE  
 تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

DRAWING NAME  
 SETTING OUT DATA  
 SHEET 1

SCALE 1/500 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS SECTION	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-201	00

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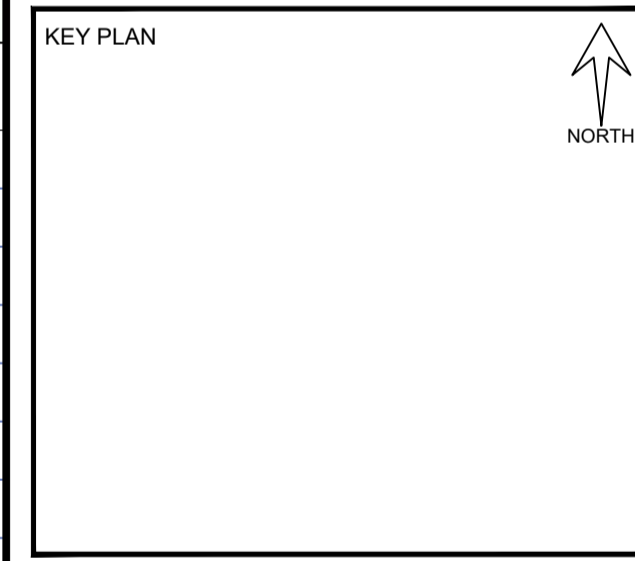
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	PAINT LINE
	POINT COORDINATE

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

No.	EASTING	NORTHING
1	351191.861	358343.032
2	351220.533	358351.859
3	351219.394	358427.937
4	351243.135	358409.597
5	351268.670	358389.790
6	351248.670	358389.859
7	351267.337	358369.835
8	351236.587	358361.098
9	351247.763	358363.728
10	351264.967	358362.694
11	351296.054	358372.235
12	351297.743	358365.134
13	351510.047	358415.890
14	351508.134	358422.935
15	351887.996	358526.116
16	351889.909	358519.072
17	351918.813	358535.572
18	351921.180	358528.666
19	351998.325	358562.823
20	352023.288	358571.379
21	352025.655	358564.473
22	352045.792	358580.351
23	352048.826	358573.711
24	352238.330	358627.310
25	352225.863	358654.597
26	352225.417	358662.419
27	352220.430	358673.334
28	352224.523	358684.805
29	352249.086	358655.316



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PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

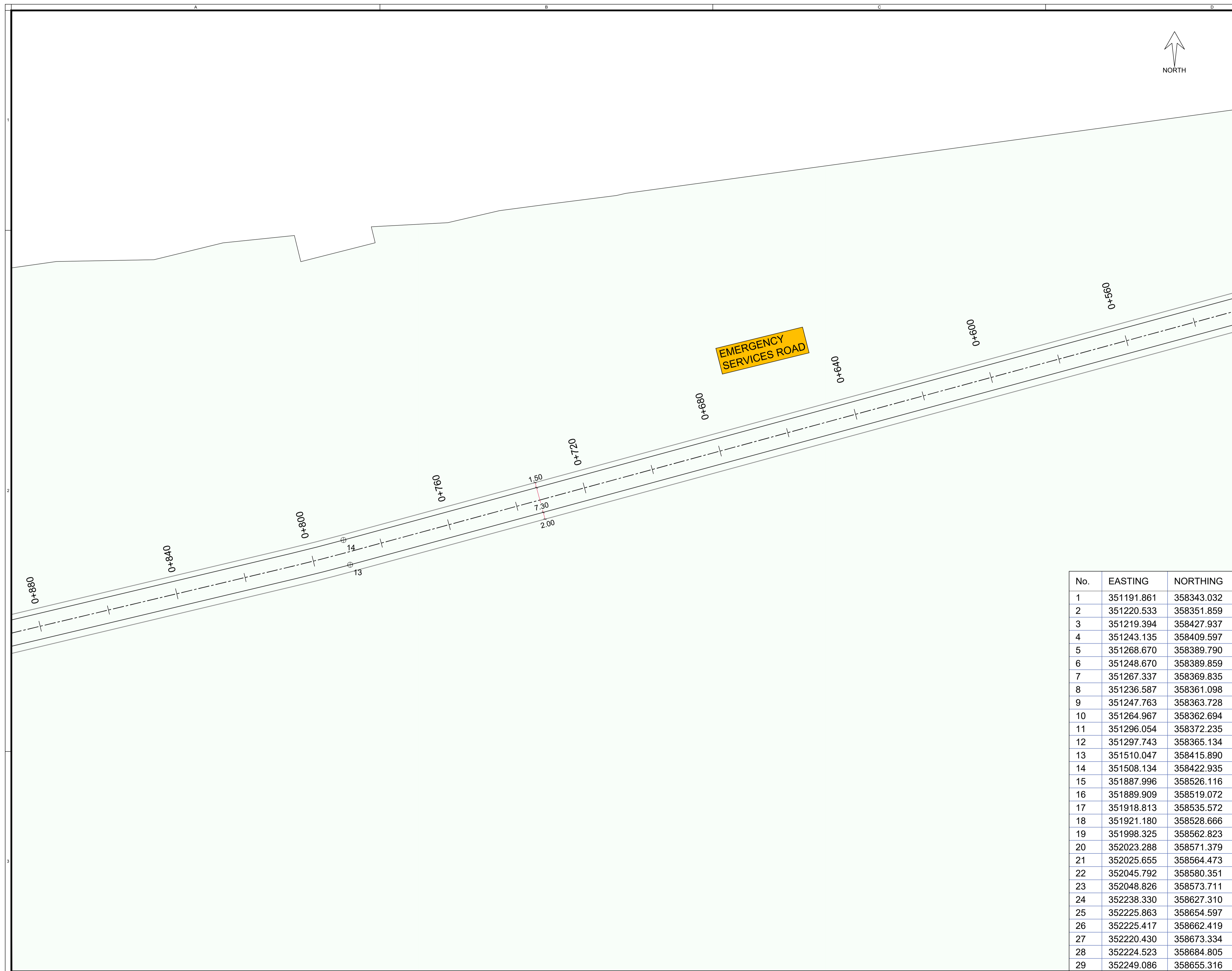
**DRAWING NAME**

SETTING OUT DATA  
SHEET 2

SCALE 1/500      WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
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SECTION			
DATE	PROJECT NO	DRAWING NO	REV
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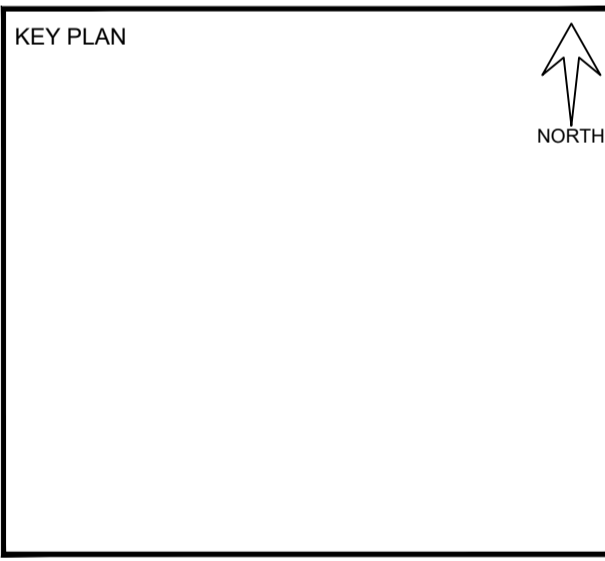


**LEGEND :**  
 - - - - - CENTER LINE  
 ——— PAINT LINE  
 ⊗ POINT COORDINATE

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

No.	EASTING	NORTHING
1	351191.861	358343.032
2	351220.533	358351.859
3	351219.394	358427.937
4	351243.135	358409.597
5	351268.670	358389.790
6	351248.670	358389.859
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9	351247.763	358363.728
10	351264.967	358362.694
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13	351510.047	358415.890
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15	351887.996	358526.116
16	351889.909	358519.072
17	351918.813	358535.572
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20	352023.288	358571.379
21	352025.655	358564.473
22	352045.792	358580.351
23	352048.826	358573.711
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26	352225.417	358662.419
27	352220.430	358673.334
28	352224.523	358684.805
29	352249.086	358655.316



**CLIENT**  
  
 HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**  
  
 DAR AL-OMRAN  
 Amman - Jordan Amman - 20 Strada Al Firdous Street  
 P.O. Box 142382 Amman - 11184 - Jordan  
 Tel: (962) 96 81000 Fax: (962) 96 81000  
 E: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**  
 تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

**DRAWING NAME**  
 SETTING OUT DATA  
 SHEET 3

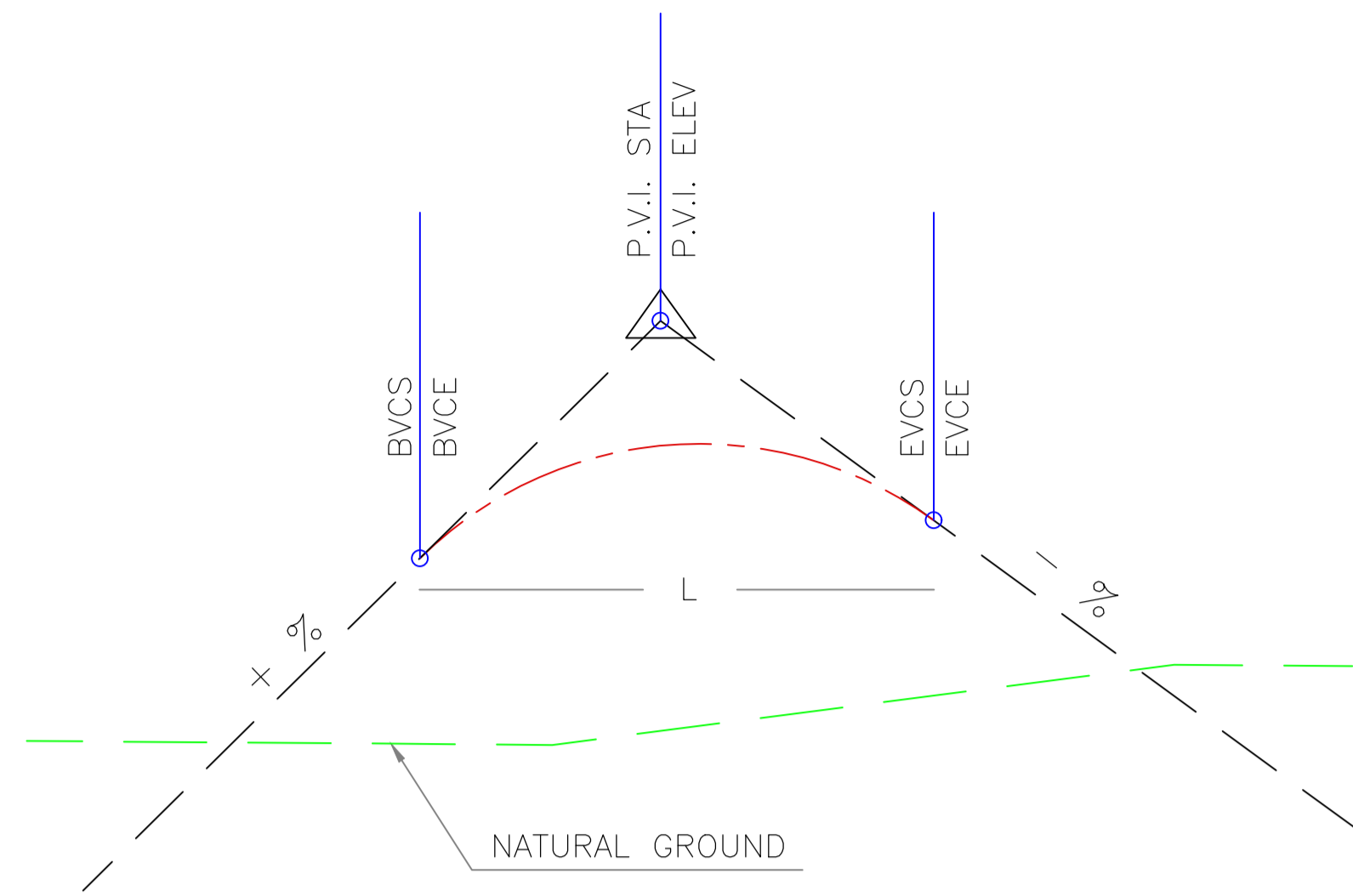
SCALE 1/500 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS SECTION	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-203	00

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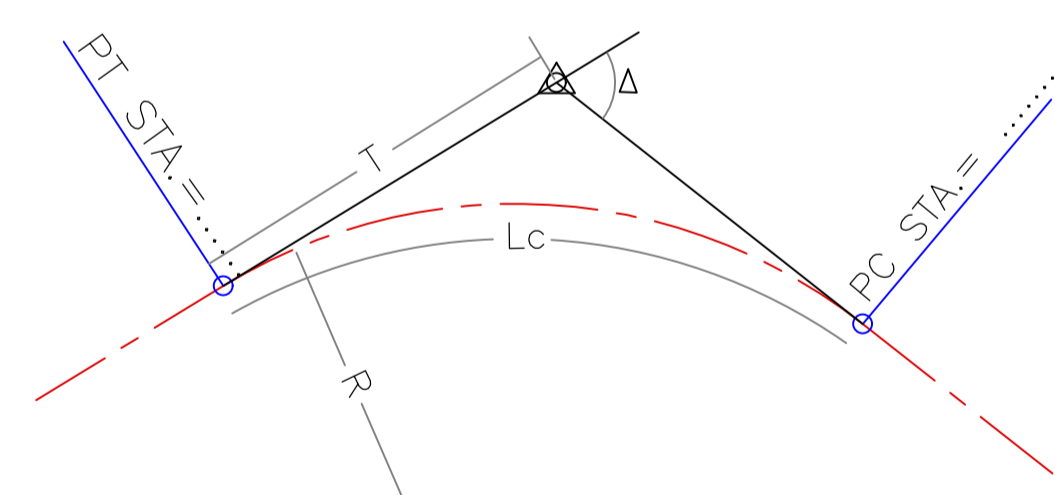


ROADS



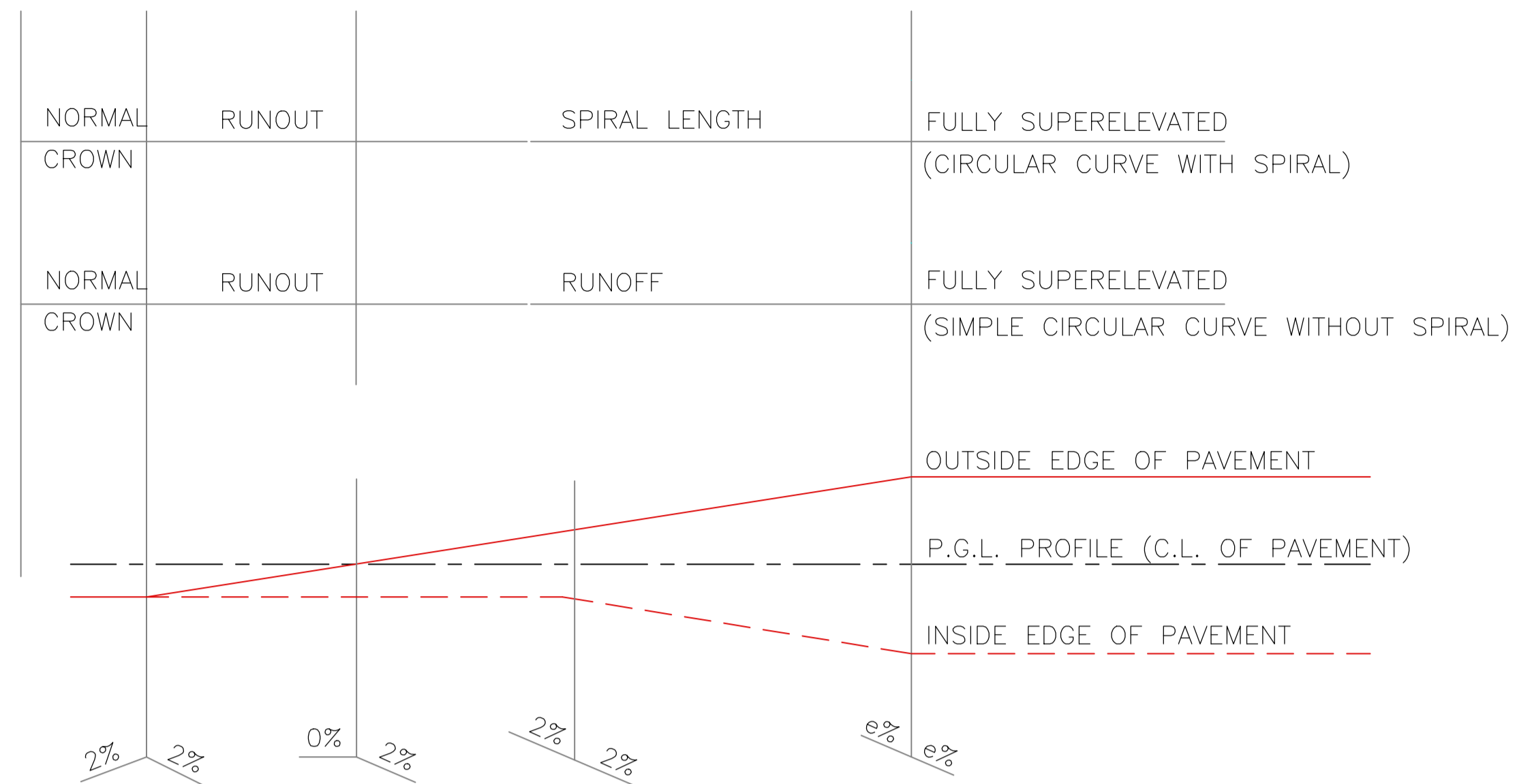
BVC STA. ....  
 BVC ELEV. ....  
 EVC STA. ....  
 EVC ELEV. ....  
 L = .....m  
 K = .....  
 A.D. ....%

**ELEMENTS OF VERTICAL CURVES**

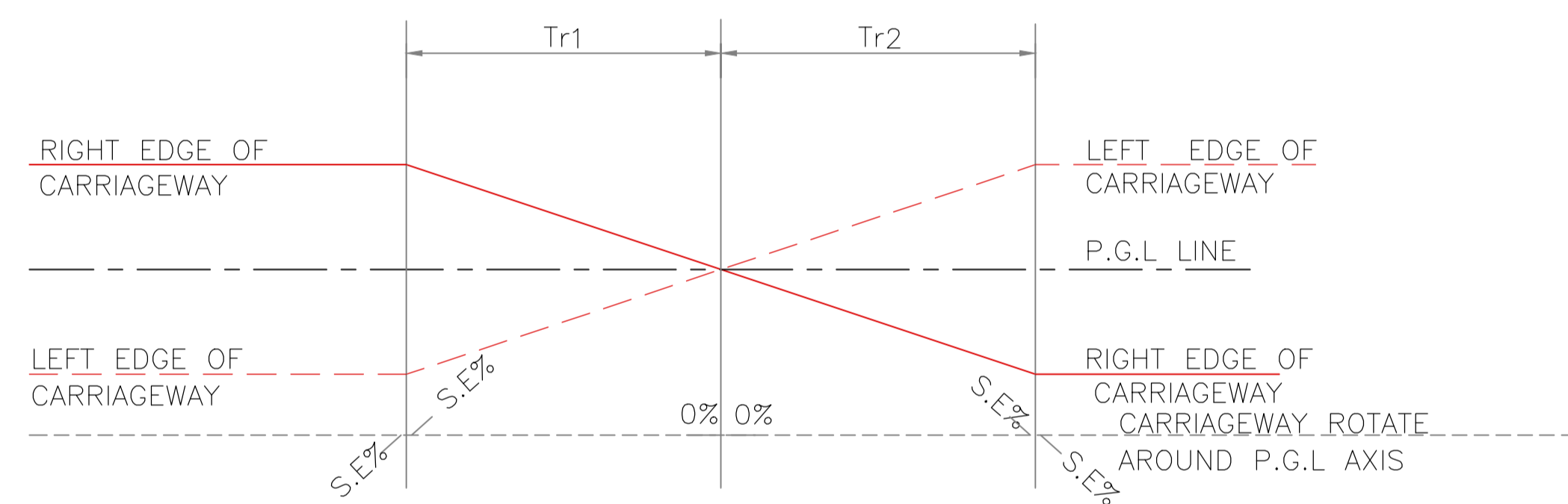


PI.....  
 EASTING = .....  
 NORTHING = .....  
 $\Delta$  = DEGREE ° MINUTE ' SECOND "  
 R = .....m  
 T = .....m  
 Lc = .....m

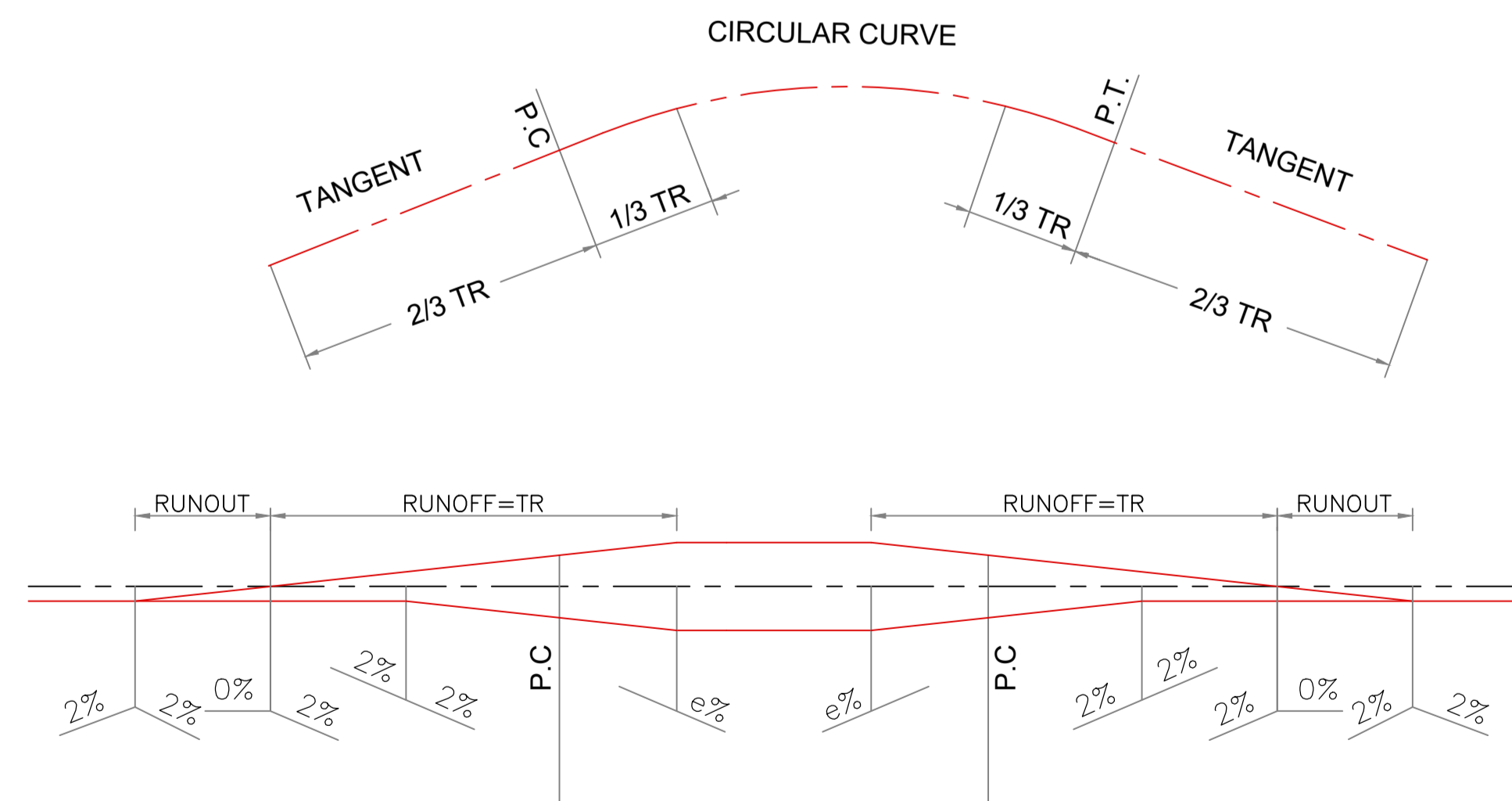
**ELEMENTS OF HORIZONTAL CURVE  
 ( WITHOUT SPIRAL )**



**SUPER ELEVATION DISTRIBUTION DIAGRAM  
 FOR HORIZONTAL CURVES WITH SPIRAL**



**ELEVATION TRANSITION DIAGRAM AT REVERSE CURVES  
 WHERE TANGENTS RUNOUT OVERLAP**



**TRANSITION LENGTH DISTRIBUTION  
 ALONG SIMPLE CIRCULAR CURVES  
 ( WITHOUT SPIRAL )**

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

**CLIENT**  
  
 HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**  
  
 DAR AL-OMRAN

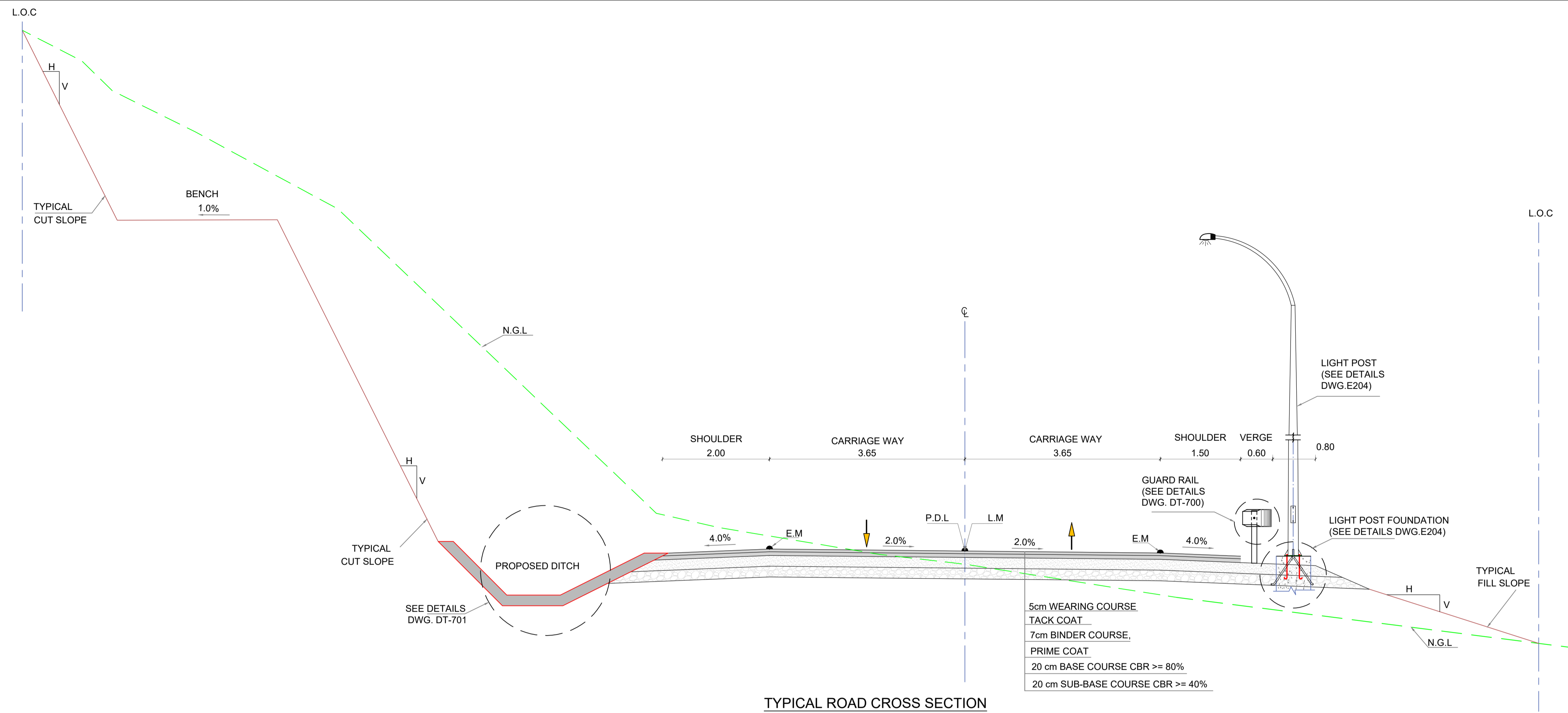
**PROJECT TITLE**  
 تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

**DRAWING NAME**  
 ROADS  
 CURVES & SUPER ELEVATION DETAILS

SCALE	N.T.S	WHEN PRINTED AT A1 SHEET SIZE
DRAWN BY	CHECKED BY	APPROVED BY
SECTION	A.J	M.J
DATE	PROJECT NO	DRAWING NO
OCT. 2022	NLD291-21	R300
		REV
		00

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TYPICAL ROAD CROSS SECTIONS



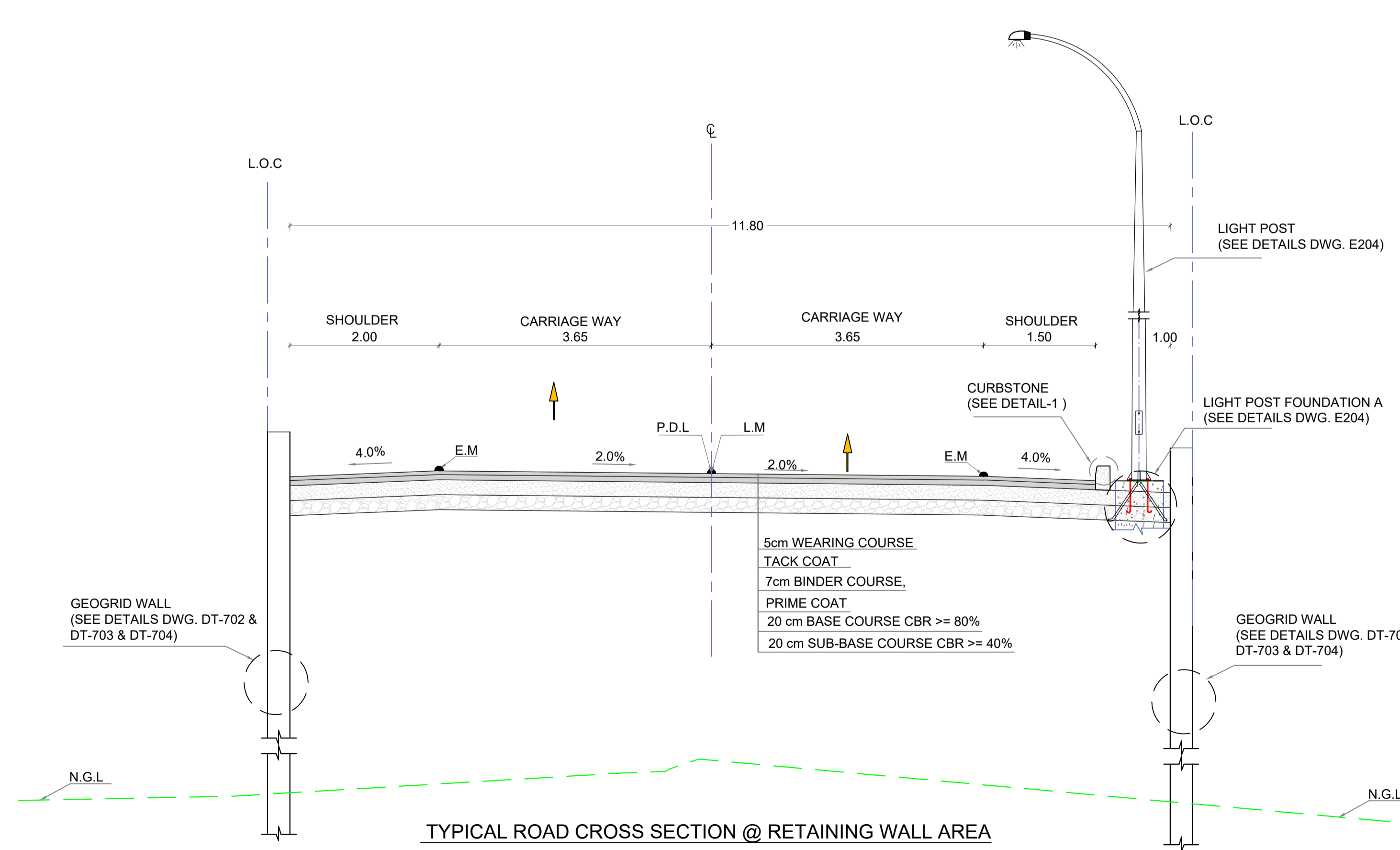
TYPICAL ROAD CROSS SECTION

**NOTE :**

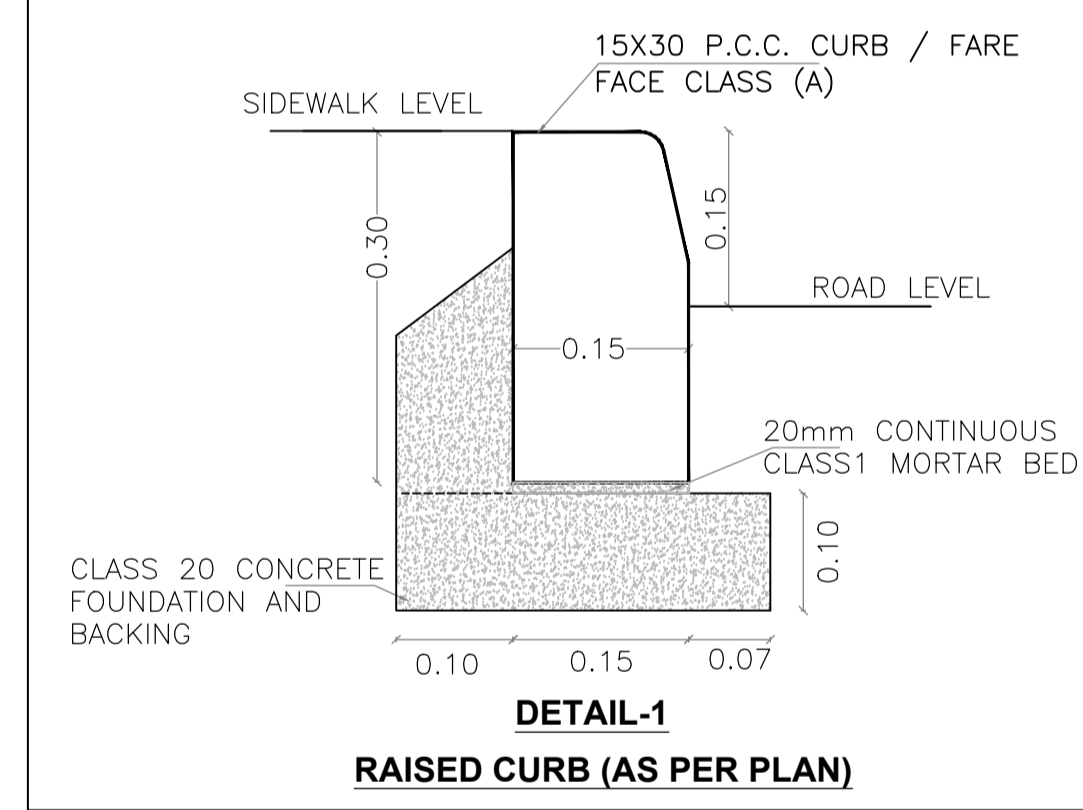
- 1-ALL DIMENSIONS ARE IN METERS UNLESS OTHER WISE INDICATED.
- 2-CUT SLOPE THE CONTRACTOR RESPONSIBILITY TO CHECK SLOPE STABILITY IN CUT SECTIONS BEFORE STARTING ANY EXCAVATIONS AND DECIDE THE METHOD OF EXCAVATION APPLICABLE AT EACH LOCATION.
- 3-20 cm TOPPING CBR >= 25%, IF REQUIRED AS PER SPECIFICATIONS
- 4-THE LOCATIONS OF THE BENCHES ARE DETERMINED BASED ON SOIL INVESTIGATIONS ON THE SITE AND ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.
- 5-THE CONTRACTOR SHALL PROTECT FILL SLOPES AREA TO MAINTAIN THE ROAD CROSS SECTION BY USING GROUDED RIPRAP ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.

**ABBREVIATIONS :**

L.M: LANE MARKING  
 E.M: EDGE MARKING  
 P.D.L: PROPOSED DESIGN LEVEL  
 N.G.L : NATURAL GROUND LEVEL



TYPICAL ROAD CROSS SECTION @ RETAINING WALL AREA



DETAIL-1 RAISED CURB (AS PER PLAN)

**CUT AND FILL SLOPE TABLE**

FILL SLOPE		CUT SLOPE	
H	SLOPE V:H	MATERIAL	SLOPE V:H
H<3	1:3	SOLID ROCK	3:1
H>3	1:2		

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

NORTH

**CLIENT**

**Petra**  
 Petra Development & Tourism Region Authority  
 HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

**DAR AL-OMRAN**  
 Petra Development & Tourism Region Authority  
 P.O. Box 442388 Amman - 11184 - Jordan  
 Tel: (962) 46 81000 Fax: (962) 46 84000  
 E: info@daral-omran.com J: daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

**DRAWING NAME**

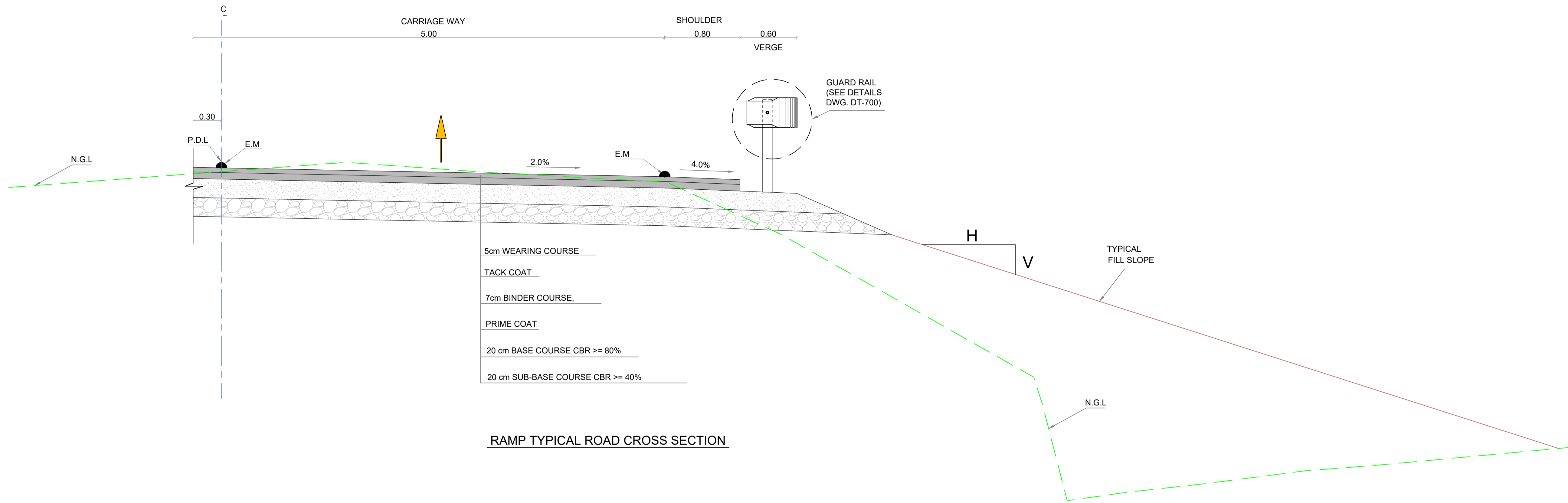
TYPICAL ROAD CROSS SECTIONS  
 1/3

SCALE 1/50 WHEN PRINTED AT A1 SHEET SIZE

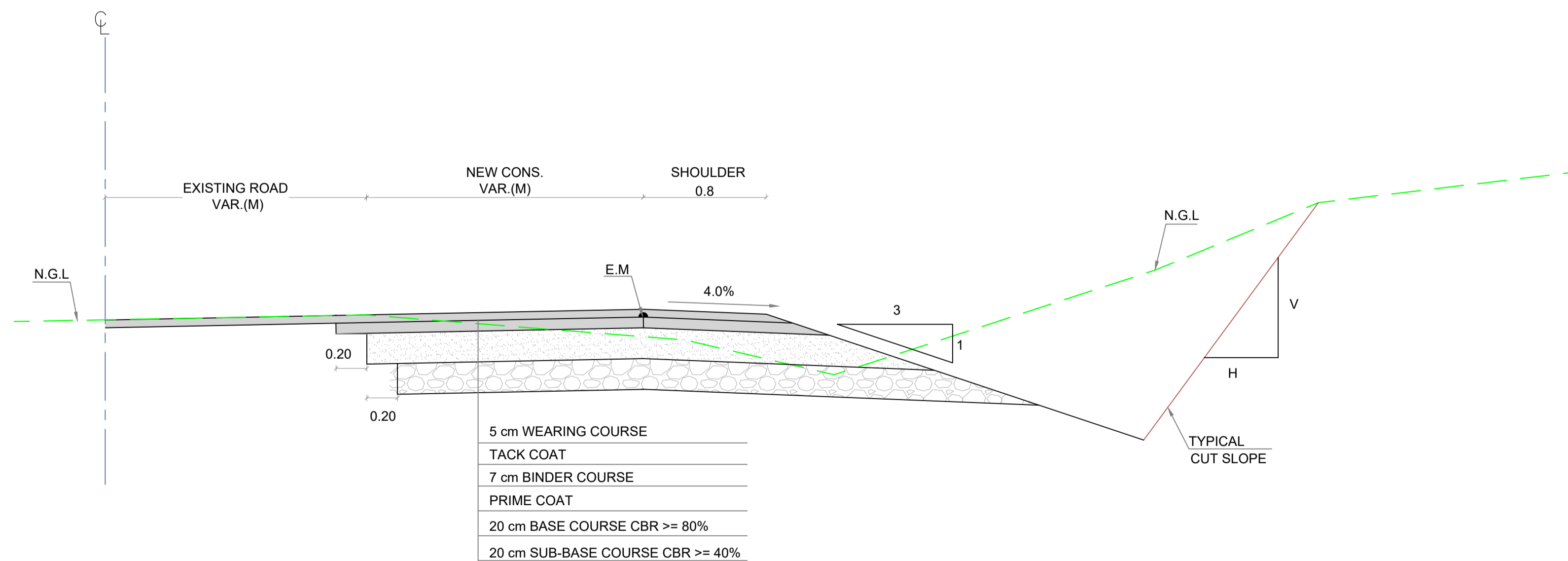
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM

DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-400	00

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RAMP TYPICAL ROAD CROSS SECTION



TYPICAL CROSS SECTION FOR EXISTING ROAD WIDENING

NOTE :

- 1-ALL DIMENSIONS ARE IN METERS UNLESS OTHER WISE INDICATED.
- 2-CUT SLOPE THE CONTRACTOR RESPONSIBILITY TO CHECK SLOPE STABILITY IN CUT SECTIONS BEFORE STARTING ANY EXCAVATIONS AND DECIDE THE METHOD OF EXCAVATION APPLICABLE AT EACH LOCATION.
- 3-20 cm TOPPING CBR >= 25%, IF REQUIRED AS PER SPECIFICATIONS
- 4-THE LOCATIONS OF THE BENCHES ARE DETERMINED BASED ON SOIL INVESTIGATIONS ON THE SITE AND ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.
- 5-THE CONTRACTOR SHALL PROTECT FILL SLOPES AREA TO MAINTAIN THE ROAD CROSS SECTION BY USING GROUDED RIPRAP ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.

ABBREVIATIONS :

- L.M: LANE MARKING
- E.M: EDGE MARKING
- P.D.L: PROPOSED DESIGN LEVEL
- N.G.L : NATURAL GROUND LEVEL

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

CLIENT

Petra Development & Tourism Region Authority  
 HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN  
 Amman - Jordan Amman - 20 Strada Al Firdous Street  
 P.O. Box 94238 Amman - 11194 - Jordan  
 Tel: (962) 98 81000 Fax: (962) 98 84000  
 E-mail: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

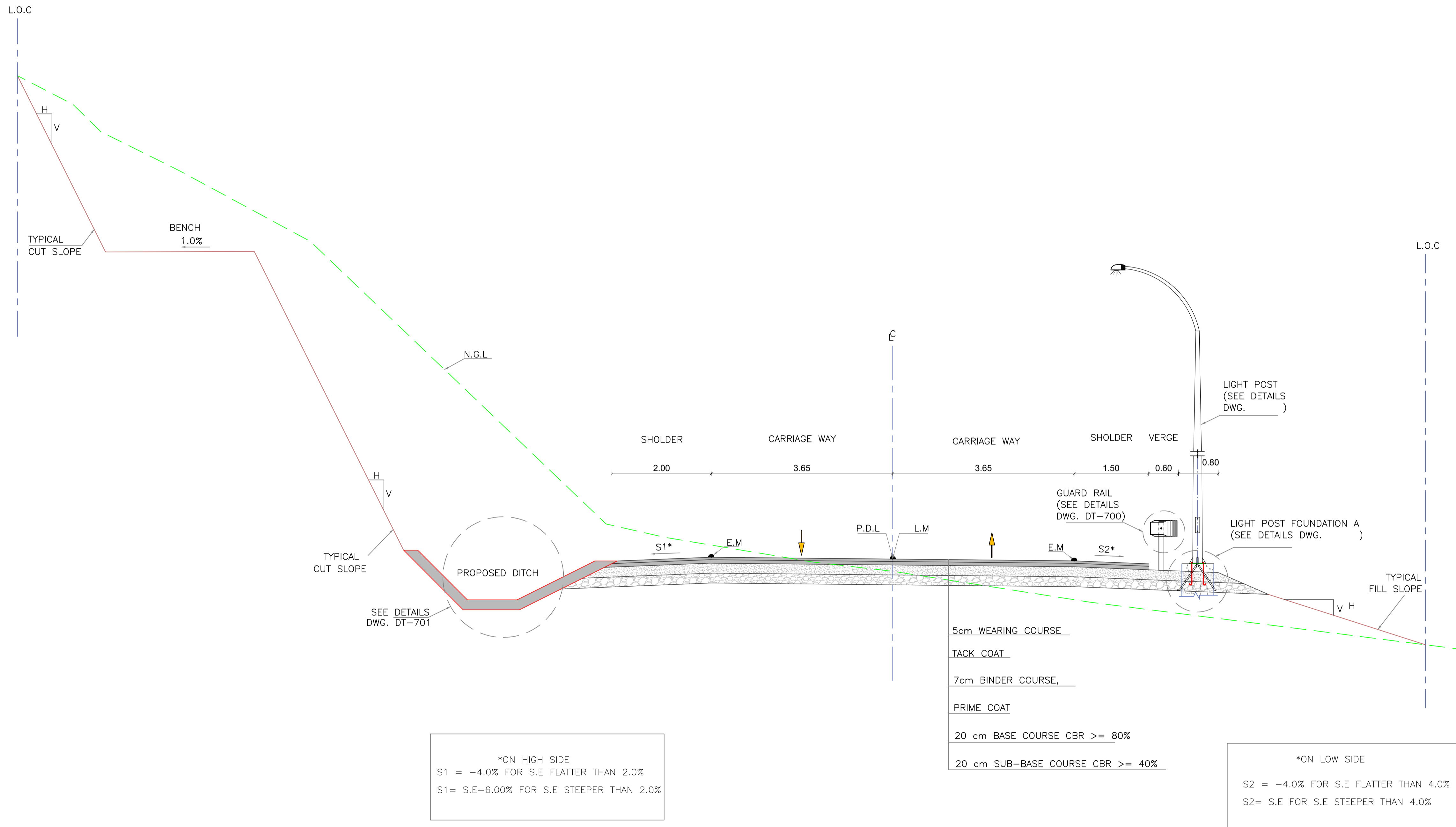
DRAWING NAME

TYPICAL ROAD CROSS SECTIONS  
 2/3

SCALE 1/50 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-401	00

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**SUPER ELEVATED TYPICAL ROAD CROSS SECTION**

**NOTE :**

- 1-ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED.
- 2-CUT SLOPE THE CONTRACTOR RESPONSIBILITY TO CHECK SLOPE STABILITY IN CUT SECTIONS BEFORE STARTING ANY EXCAVATIONS AND DECIDE THE METHOD OF EXCAVATION APPLICABLE AT EACH LOCATION.
- 3-20 cm TOPPING CBR  $\geq$  25%, IF REQUIRED AS PER SPECIFICATIONS
- 4-THE LOCATIONS OF THE BENCHES ARE DETERMINED BASED ON SOIL INVESTIGATIONS ON THE SITE AND ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.
- 5-THE CONTRACTOR SHALL PROTECT FILL SLOPES AREA TO MAINTAIN THE ROAD CROSS SECTION BY USING GROUDED RIPRAP ACCORDING TO THE RECOMMENDATIONS OF THE ENGINEER.

**ABBREVIATIONS :**

- L.M: LANE MARKING
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- P.D.L: PROPOSED DESIGN LEVEL
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BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

NORTH

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN  
Petra Development & Tourism Region Authority  
P.O. Box 142388 Amman - 11194 - Jordan  
Tel: (962) 46 81000 Fax: (962) 46 81000  
E-mail: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

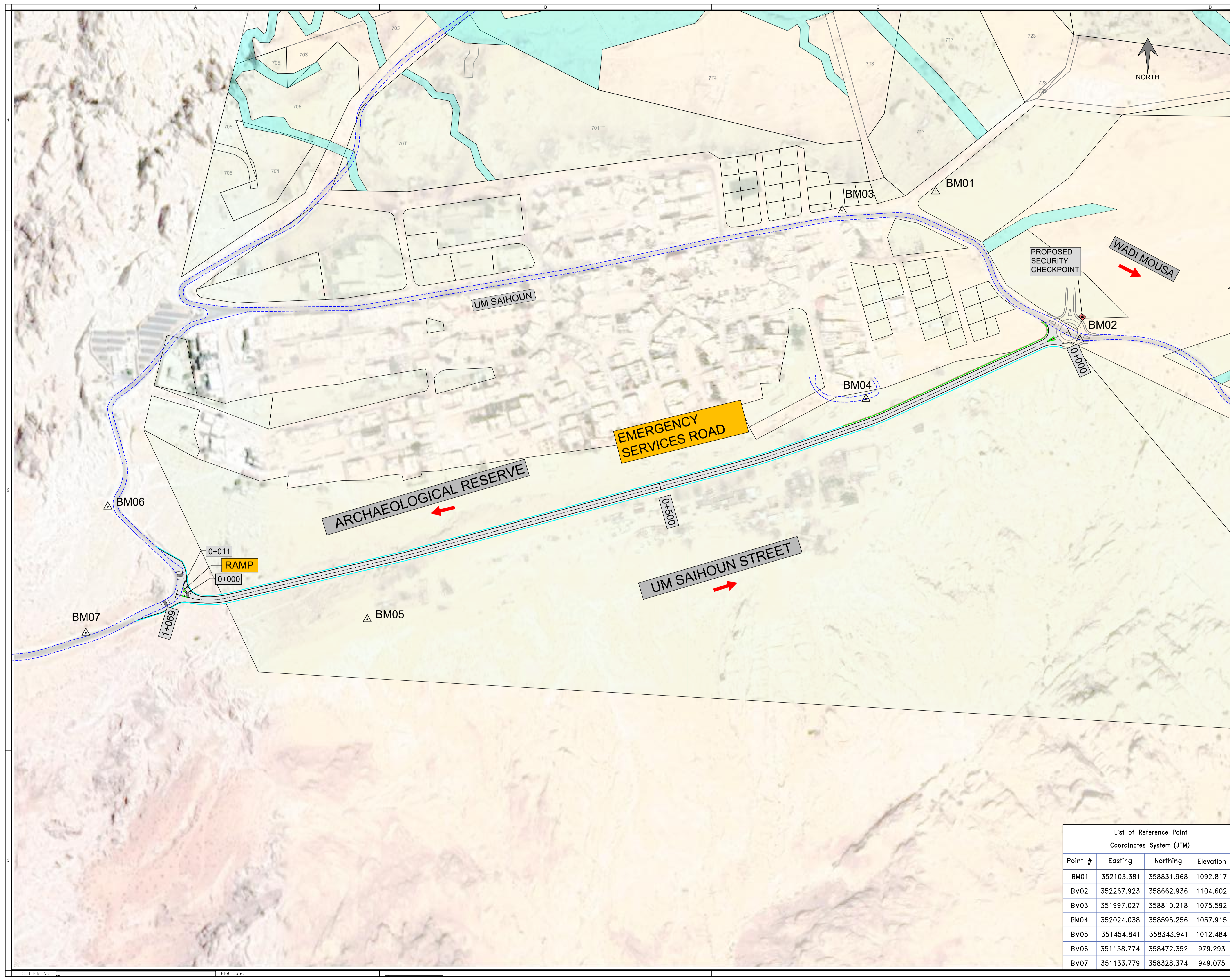
TYPICAL ROAD CROSS SECTIONS  
3/3

SCALE 1/50 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-402	00

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PLAN & PROFILE



**LEGEND :**

- CENTER LINE
- EDGE OF PAVEMENT
- EDGE OF SHOULDER
- CUBSTONE
- PAINT LINE
- LANE LINE
- EXISTING ROAD
- PROPOSED GEO GRID WALL
- GUARDRAIL
- SPEED HUMP
- PROPOSED CULVERT
- CULVERT EXTENSION
- EXISTING CULVERT
- PUBLIC LANDS
- WADI
- ROAD
- SIDE WALK
- SHOULDER

NOTE:  
CONTOUR INTERVAL = 2.50m

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

CONSTRUCTION DOCUMENT

**KEY PLAN**

NORTH

CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE  
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME  
GENERAL PLAN

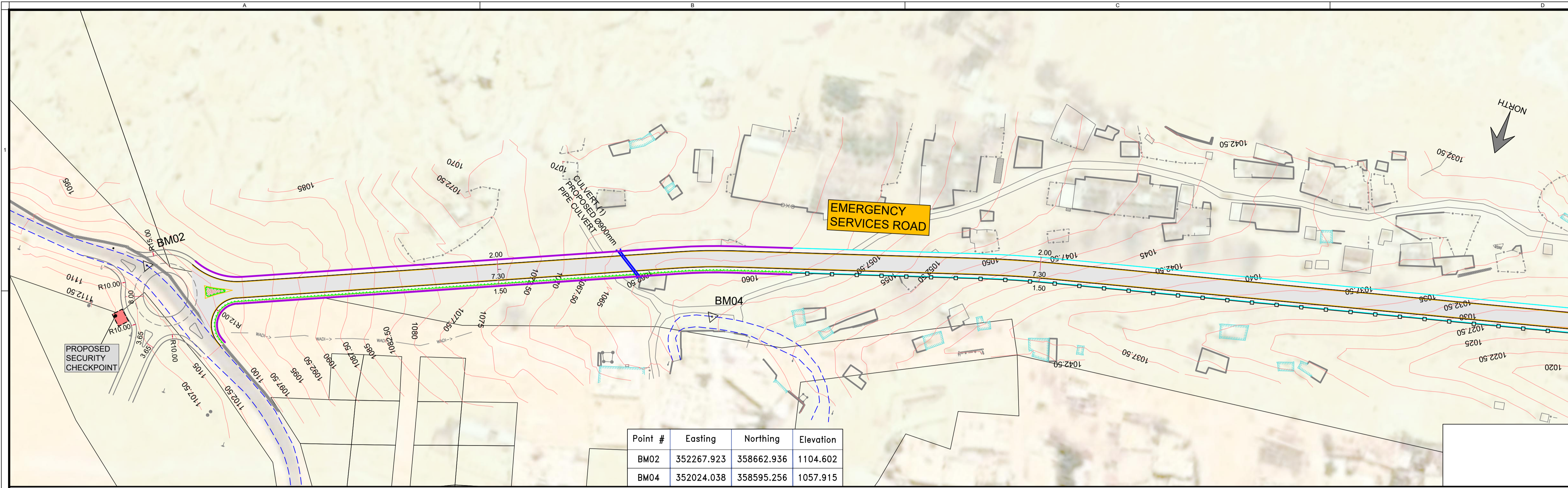
List of Reference Point  
Coordinates System (JTM)

Point #	Easting	Northing	Elevation
BM01	352103.381	358831.968	1092.817
BM02	352267.923	358662.936	1104.602
BM03	351997.027	358810.218	1075.592
BM04	352024.038	358595.256	1057.915
BM05	351454.841	358343.941	1012.484
BM06	351158.774	358472.352	979.293
BM07	351133.779	358328.374	949.075

SCALE 1/2,000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	R-500	00

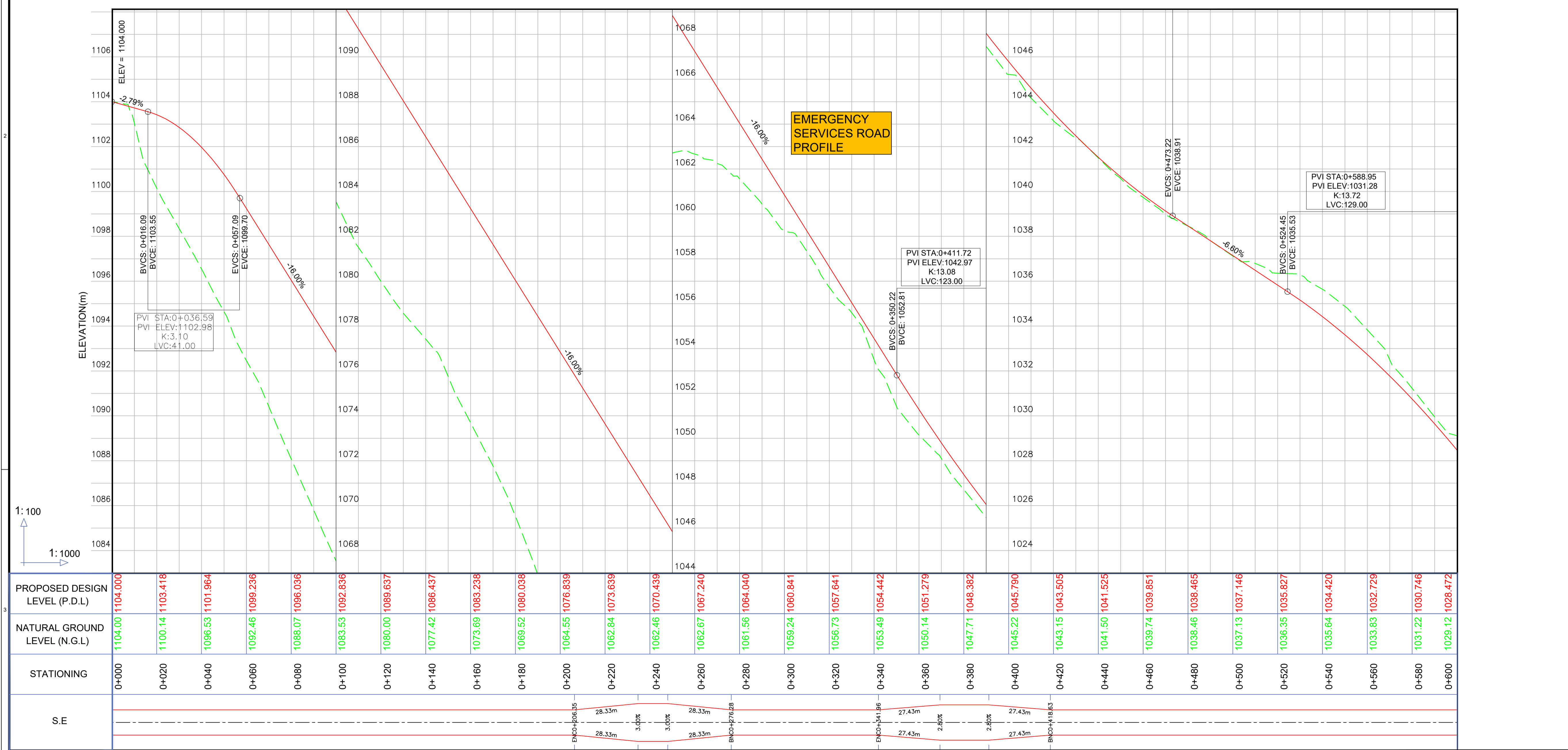
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Point #	Easting	Northing	Elevation
BM02	352267.923	358662.936	1104.602
BM04	352024.038	358595.256	1057.915

- LEGEND :**
- CENTER LINE
  - EDGE OF PAVEMENT
  - EDGE OF SHOULDER
  - CUBSTONE
  - PAINT LINE
  - LANE LINE
  - EXISTING ROAD
  - PROPOSED GEO GRID WALL
  - GUARDRAIL
  - SPEED HUMP
  - PROPOSED CULVERT
  - CULVERT EXTENSION
  - EXISTING CULVERT
  - PUBLIC LANDS
  - WADI
  - ROAD
  - SIDE WALK
  - SHOULDER

NOTE:  
CONTOUR INTERVAL = 2.50m



**EMERGENCY SERVICES ROAD PROFILE**

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

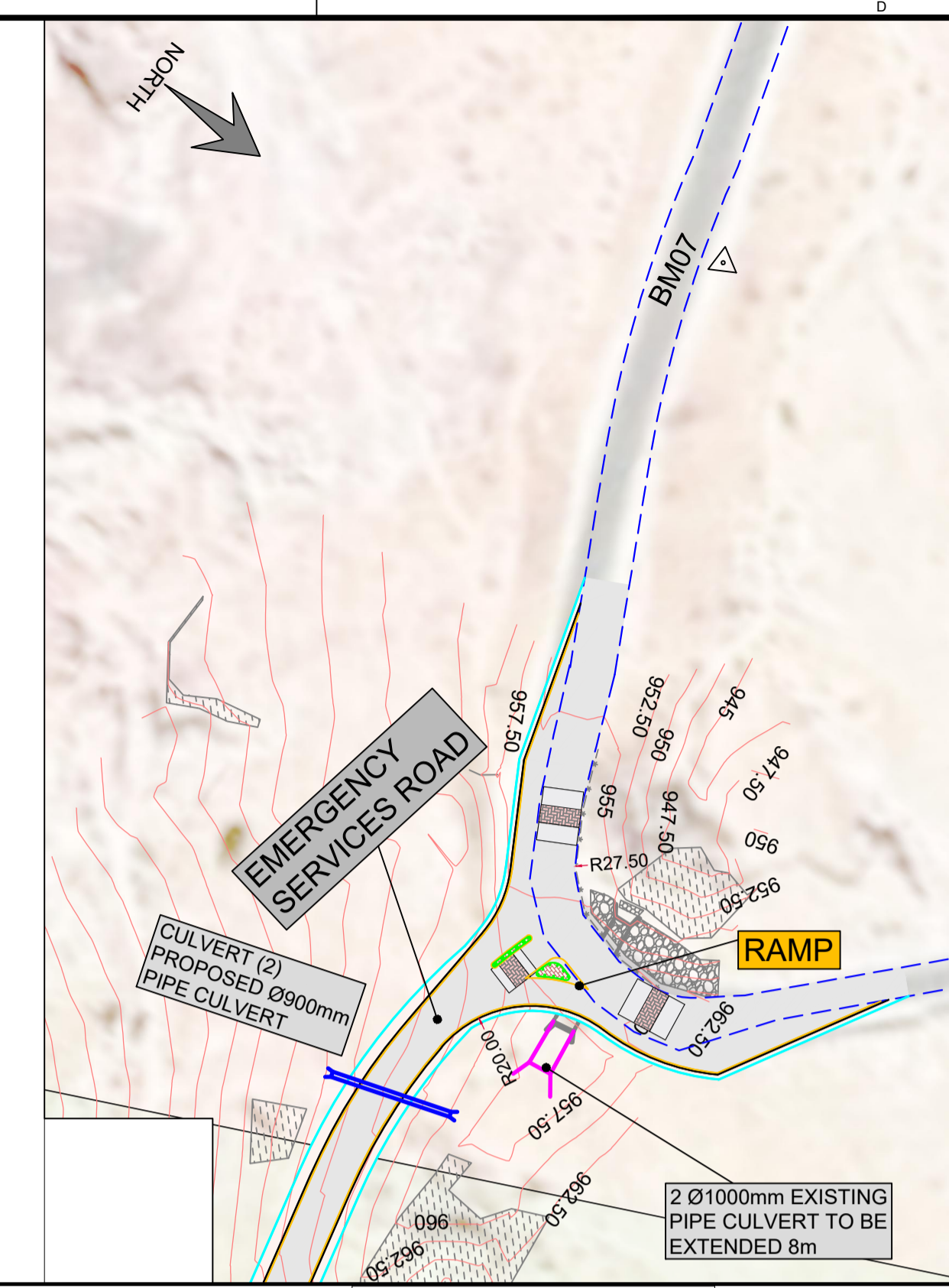
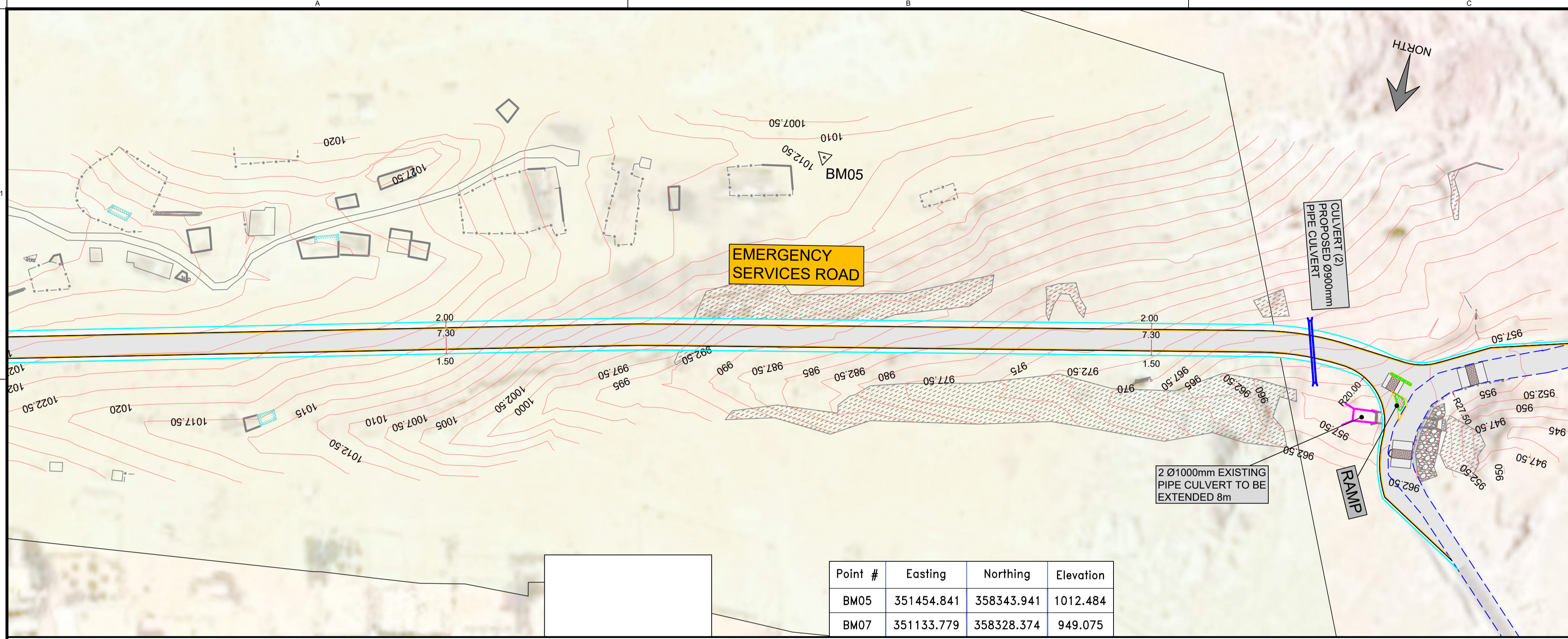
EMERGENCY SERVICES ROAD  
PLAN & PROFILE  
STA.0+000 TO STA.0+600

**SCALE** V:1/100 H:1/1000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY: CAD&GIS    CHECKED BY: A.J    APPROVED BY: M.J    DESIGNED BY: TEAM

DATE: OCT. 2022    PROJECT NO: NLD291-21    DRAWING NO: R-501    REV: 00

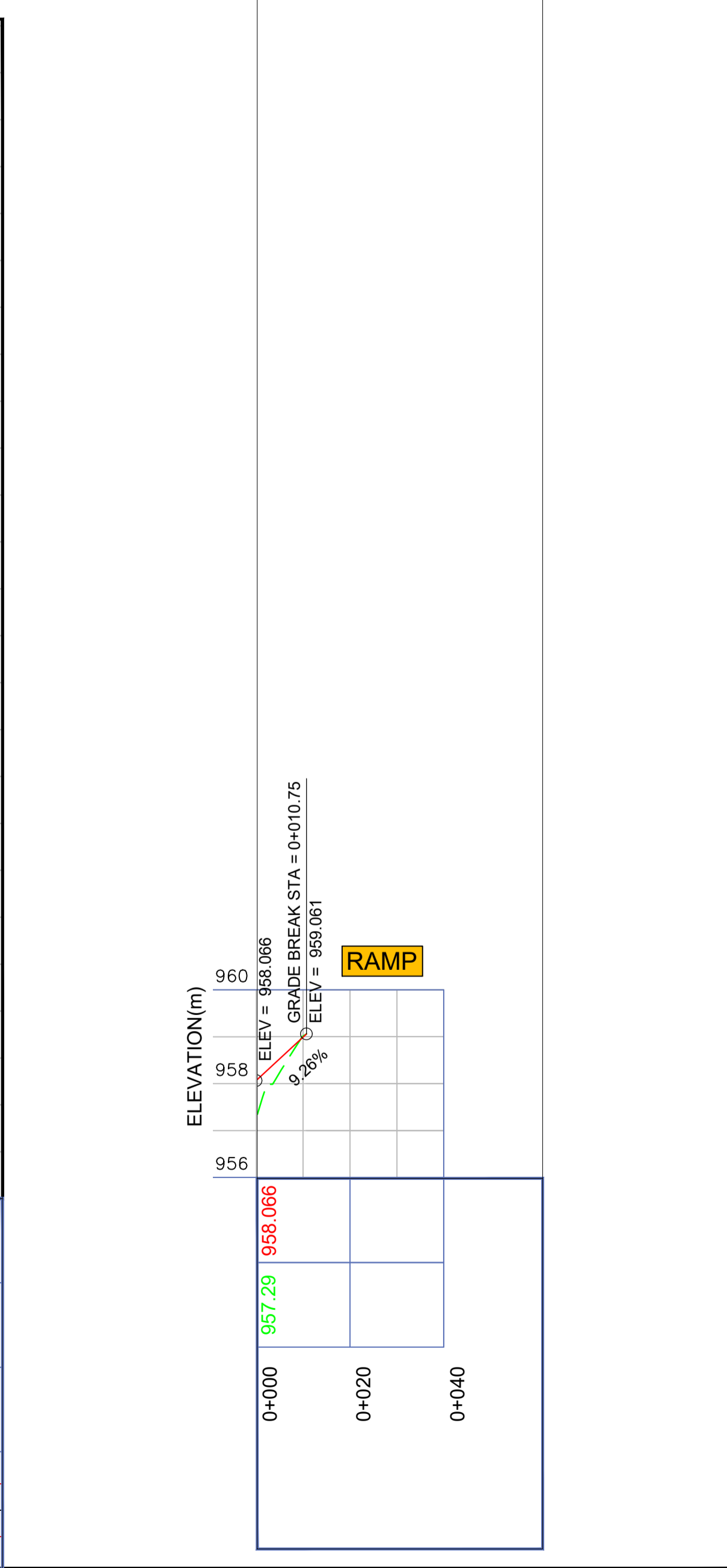
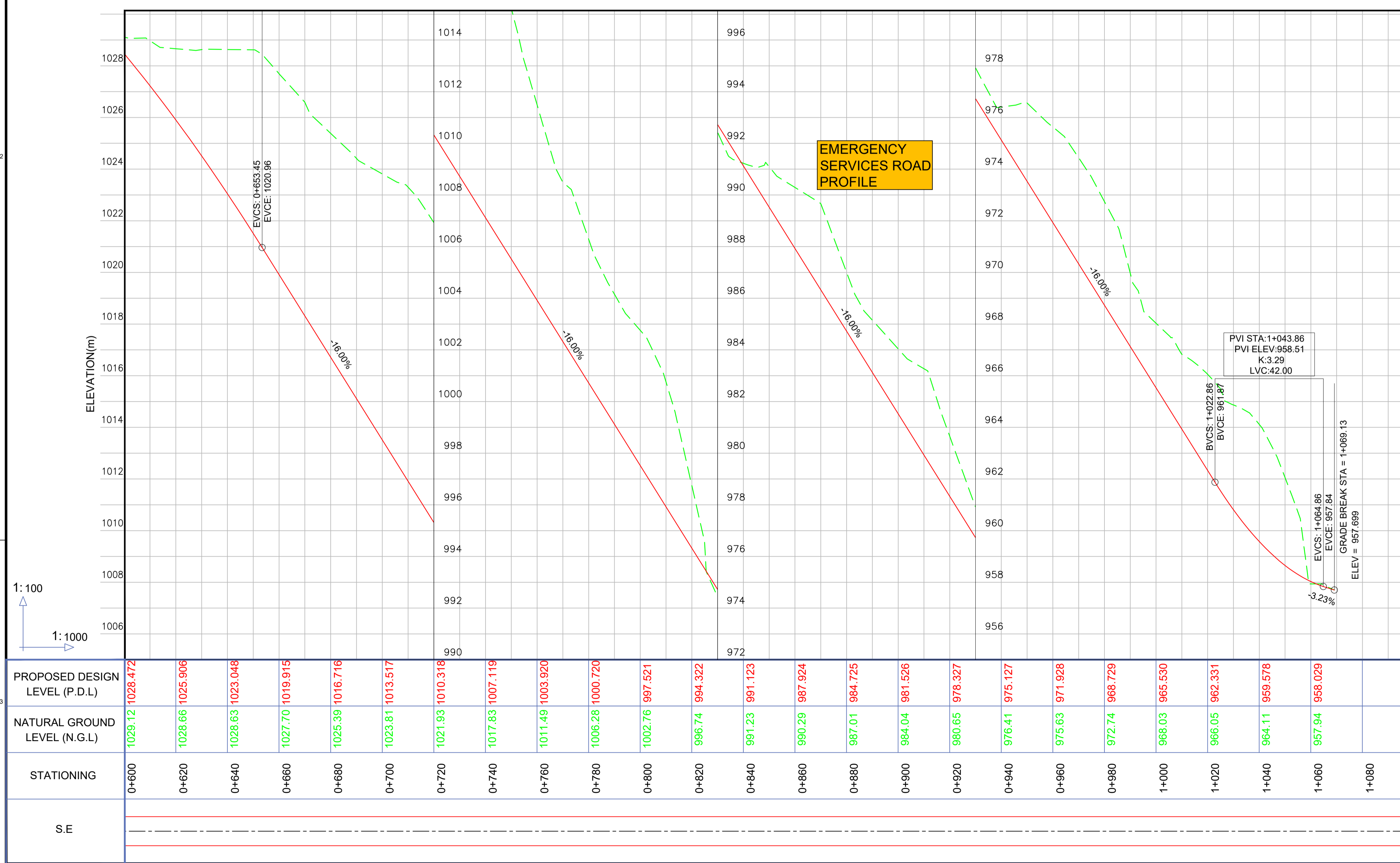
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**LEGEND :**

- CENTER LINE
- EDGE OF PAVEMENT
- EDGE OF SHOULDER
- CUBSTONE
- PAINT LINE
- LANE LINE
- EXISTING ROAD
- PROPOSED GEO GRID WALL
- GUARDRAIL
- SPEED HUMP
- PROPOSED CULVERT
- CULVERT EXTENSION
- EXISTING CULVERT
- PUBLIC LANDS
- WADI
- ROAD
- SIDE WALK
- SHOULDER

NOTE:  
CONTOUR INTERVAL = 2.50m



BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

CLIENT: **Petra**  
 Hashemite Kingdom of Jordan  
 Petra Development & Tourism Region Authority

CONSULTANT: **DAR AL-OMRAN**

PROJECT TITLE: تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

DRAWING NAME: EMERGENCY SERVICES ROAD  
 STA.0+600 TO END & RAMP  
 PLAN & PROFILE

SCALE: V:1/100 H:1/1000 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
A.J	M.J		

DATE: OCT. 2022 PROJECT NO: NLD291-21 DRAWING NO: R-502 REV: 00

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TRAFFIC SIGN



**LEGEND:**

	EDGE OF PAVEMENT
	TRAFFIC POLE
	EXISTING ROAD
	SPEED HUMP
	ROAD
	SHOULDER
	SIDE WALK

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	<input type="checkbox"/>
		Validation	
Stage	I	II	III
			B
Date			

CONSTRUCTION DOCUMENT

**KEY PLAN**

NORTH

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

TRAFFIC SIGN  
GENERAL LAYOUT

SCALE: \_\_\_\_\_ WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	TR-100	00

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**LEGEND:**

- EDGE OF PAVEMENT
- TRAFFIC POLE
- EXISTING ROAD
- SPEED HUMP
- ROAD
- SHOULDER
- SIDE WALK

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

**CONSTRUCTION DOCUMENT**

**KEY PLAN**

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

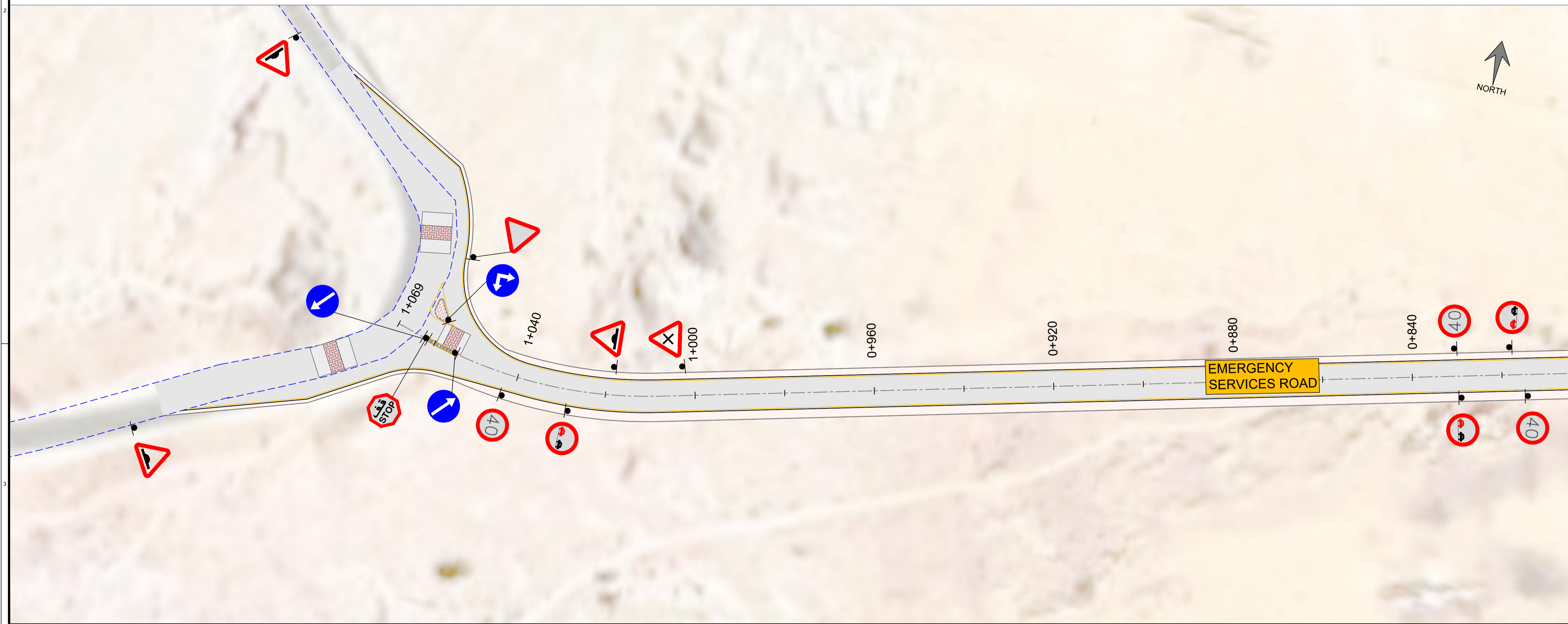
**DRAWING NAME**

TRAFFIC SIGN  
FROM STA.0+000 TO STA.0+560

SCALE 1/500 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
SECTION			
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	TR-101	00

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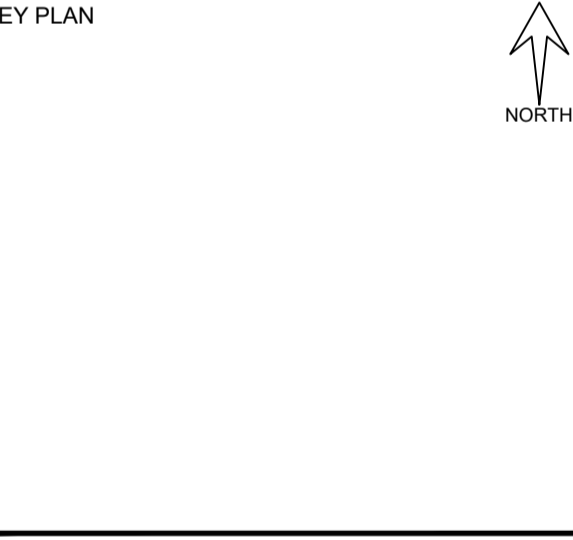


**LEGEND:**

- EDGE OF PAVEMENT
- TRAFFIC POLE
- EXISTING ROAD
- SPEED HUMP
- ROAD
- SHOULDER
- SIDE WALK

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		Review/Verification	
<input type="checkbox"/>		Validation	
Stage	I	II	III
Date			

CONSTRUCTION DOCUMENT



**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

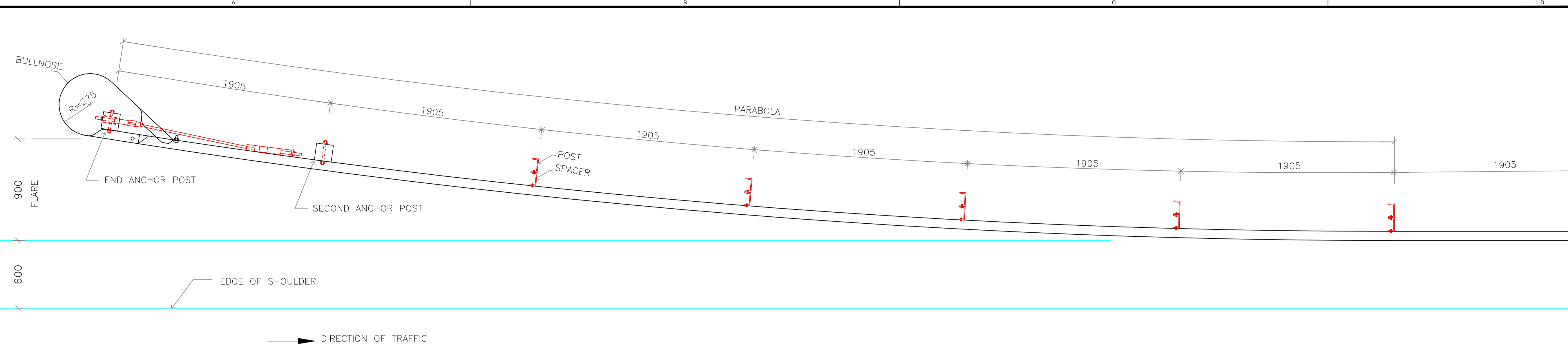
TRAFFIC SIGN  
FROM STA.0+560 TO END

SCALE 1/500 WHEN PRINTED AT A1 SHEET SIZE

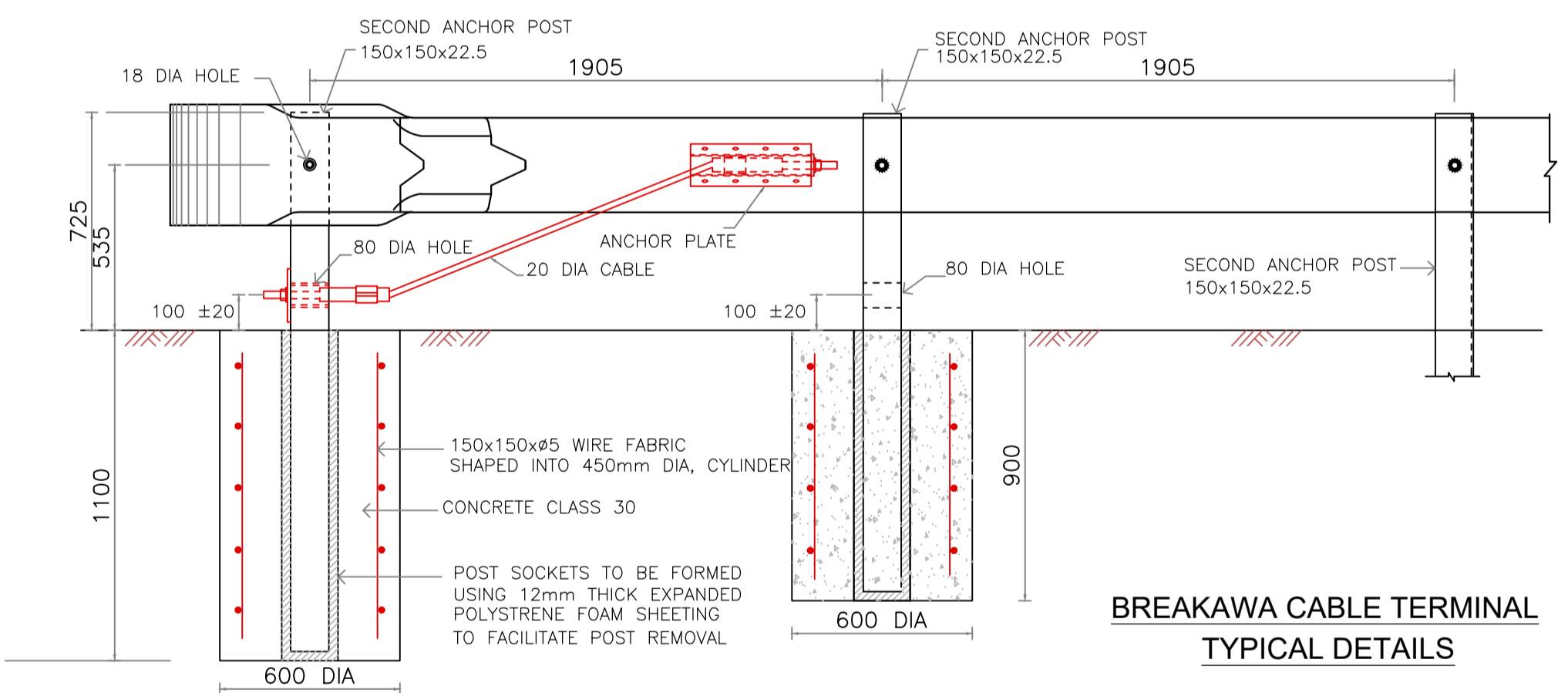
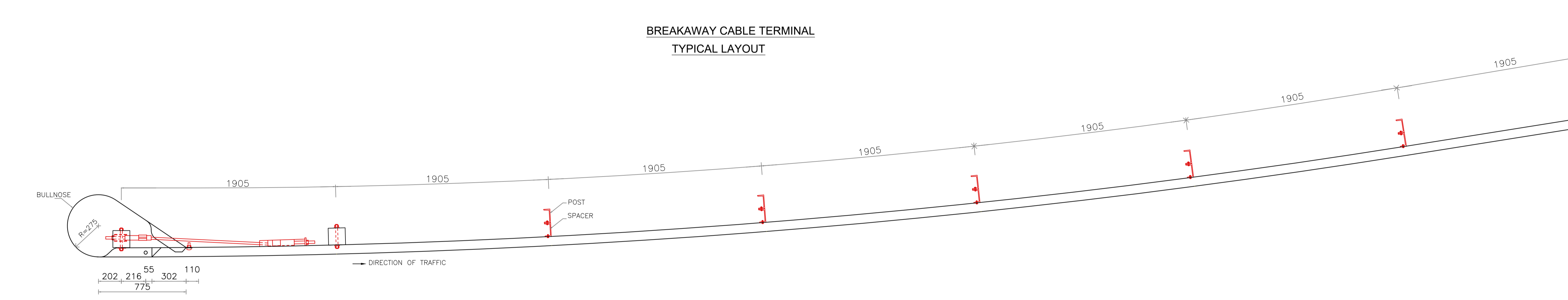
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	TR-102	00

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DETAILS



**BREAKAWAY CABLE TERMINAL  
TYPICAL LAYOUT**



**BREAKAWAY CABLE TERMINAL  
TYPICAL DETAILS**

**GUARD RAIL LOCATIONS**

RIGHT SIDE		
FROM	TO	LENGTH
0+280	0+1050	770

- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETERS.
  2. ALL RAILS SHALL CONFORM TO AASHTO SPECIFICATIONS M160 CLASS 'A' TYPE 2.
  3. STEEL POSTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M183.
  4. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM-A153.
  5. POST AND RAILS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR ZINC COATING ON STRUCTURAL STEEL SHAPES, PLATES AND BARS, AND THEIR PRODUCTS OF THE ASTM-A525.
  6. GUARD RAILS AND POSTS SHALL BE INSTALLED TRUE TO LINE AND GRADE.
  7. GUARD RAIL LAPS SHALL BE AT POST LOCATIONS AND IN THE DIRECTION OF TRAFFIC.
  8. IF THE CONDITION OF SOIL IS SUCH THAT GOOD EMBEDMENT CANNOT BE ATTAINED, OR WHERE STRONGER SOIL RESISTANCE IS REQUIRED, POST LENGTH SHALL BE INCREASED OR SUITABLY MODIFIED BY THE ENGINEER AT NO EXTRA PAYMENT.
  9. BREAKAWAY CABLE TERMINAL DETAILS SHOWN ON THIS DRAWING ARE TENTATIVE. THE CONTRACTOR SHALL SUBMIT DETAILS DRAWINGS FROM THE MANUFACTURER AND SUBMIT TO THE ENGINEER FOR APPROVAL.
  10. GUARD RAILS SHALL BE PROVIDED WITH REFLECTORS SPACED AT 8m ON STRAIGHT AND 4m ON CURVES OR AS DIRECTED BY THE ENGINEER. REFLECTORS TO BE INCLUDED IN GUARD RAIL COSTS.
  11. GUARD RAIL LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CAN BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
  12. GUARD RAIL POSTS SHALL BE MECHANICALLY DRIVEN INTO SOIL WHEREVER SOIL CONDITION PERMITS. POSTS SHALL BE DRIVEN TO THE REQUIRED LEVEL AND ALIGNMENT. CONTRACTOR SHALL CORRECT ANY DISCREPANCIES ALL AS DIRECTED.
  13. NORMAL SPACING OF POSTS IS TO BE AS SHOWN. AT CURVED SECTIONS, SPACING IS TO BE ADJUSTED TO FIT THE CHORD LENGTH OF THE CURVE.

**IMPORTANT NOTE:**  
GUARD RAIL SHALL BE USED AT CULVERTS LOCATIONS AND WHERE DIRECTED BY THE ENGINEER.

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 14238 Amman - 11194 - Jordan  
Tel: (962) 96 91000 Fax: (962) 96 99907  
E: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**  
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

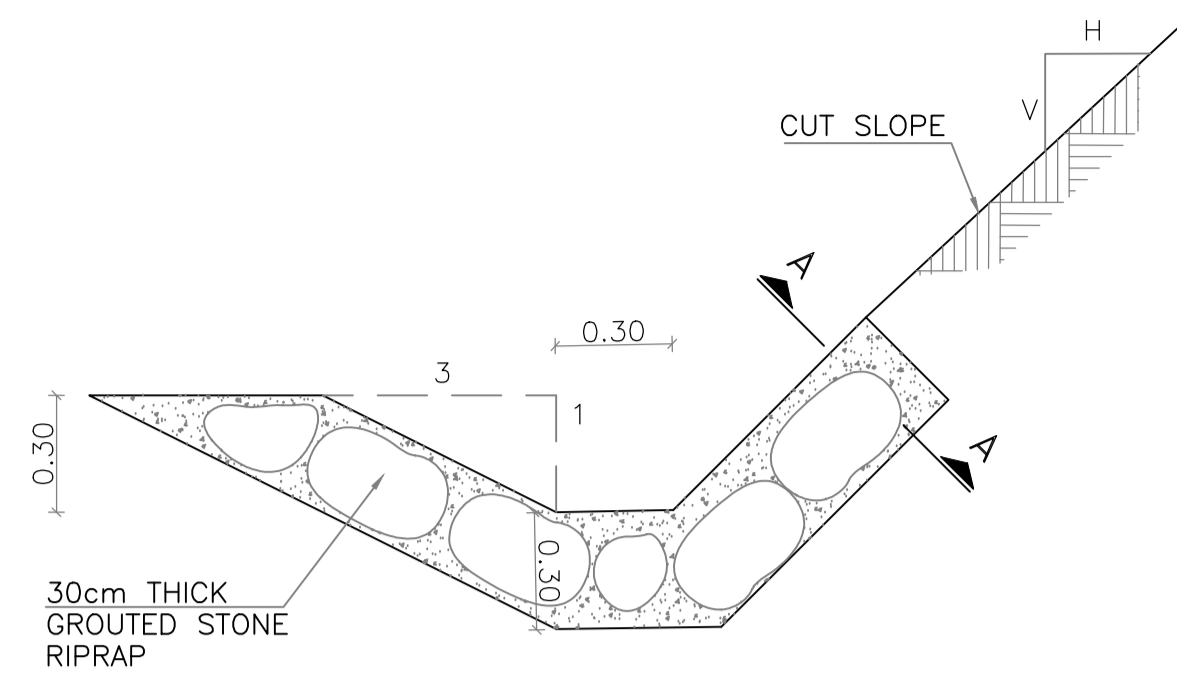
**DRAWING NAME**  
GUARD RAIL DETAILS

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

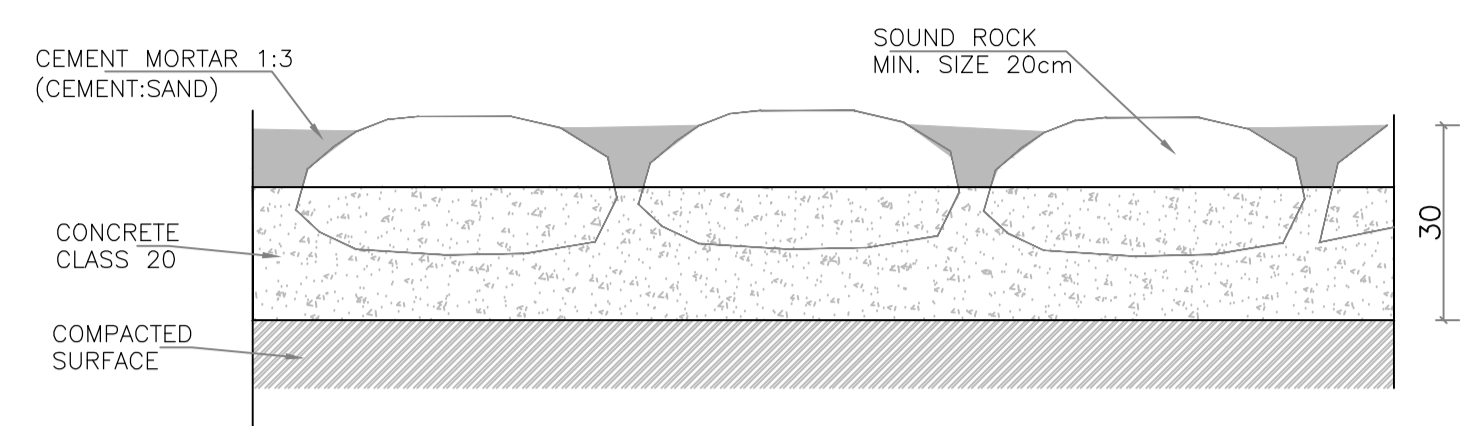
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**DITCH LINING (GROUTED RIPRAP) TYPICAL SECTION**  
**DETAIL 1**  
 SCALE 1/20



**SECTION A-A**  
 SCALE 1/10  
 DIMENSIONS ARE IN cm.

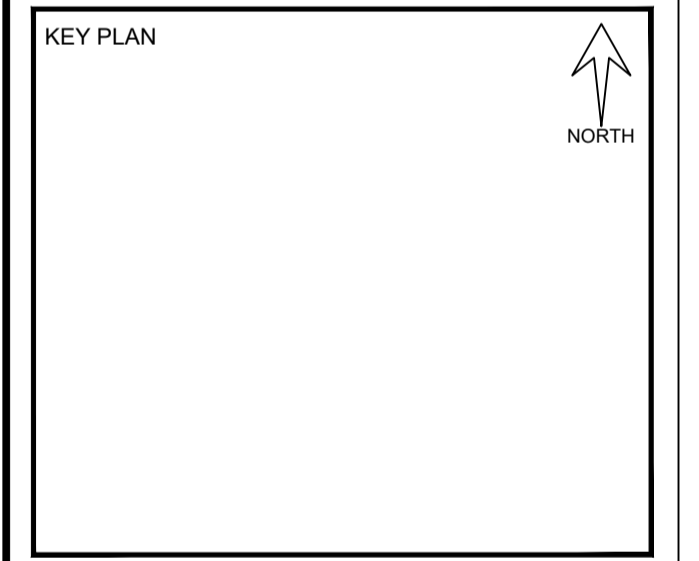
**DITCH LOCATIONS**

LEFT SIDE			RIGHT SIDE		
FROM	TO	LENGTH	FROM	TO	LENGTH
0+300	1+026	726	0+640	0+760	120

NOTE:  
 \*THE CONTRACTOR SHALL PROTECT FILL SLOPES AREA TO MAINTAIN THE ROAD CROSS SECTION, BY USING GROUTED RIPRAP ACCORDING TO THE RECOMMENDATIONS OF THE THE ENGINEER.

BY	DATE	SUBJECT	REV

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 Stage I II III B CONSTRUCTION DOCUMENT  
 Date



CLIENT

HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

DRAWING NAME

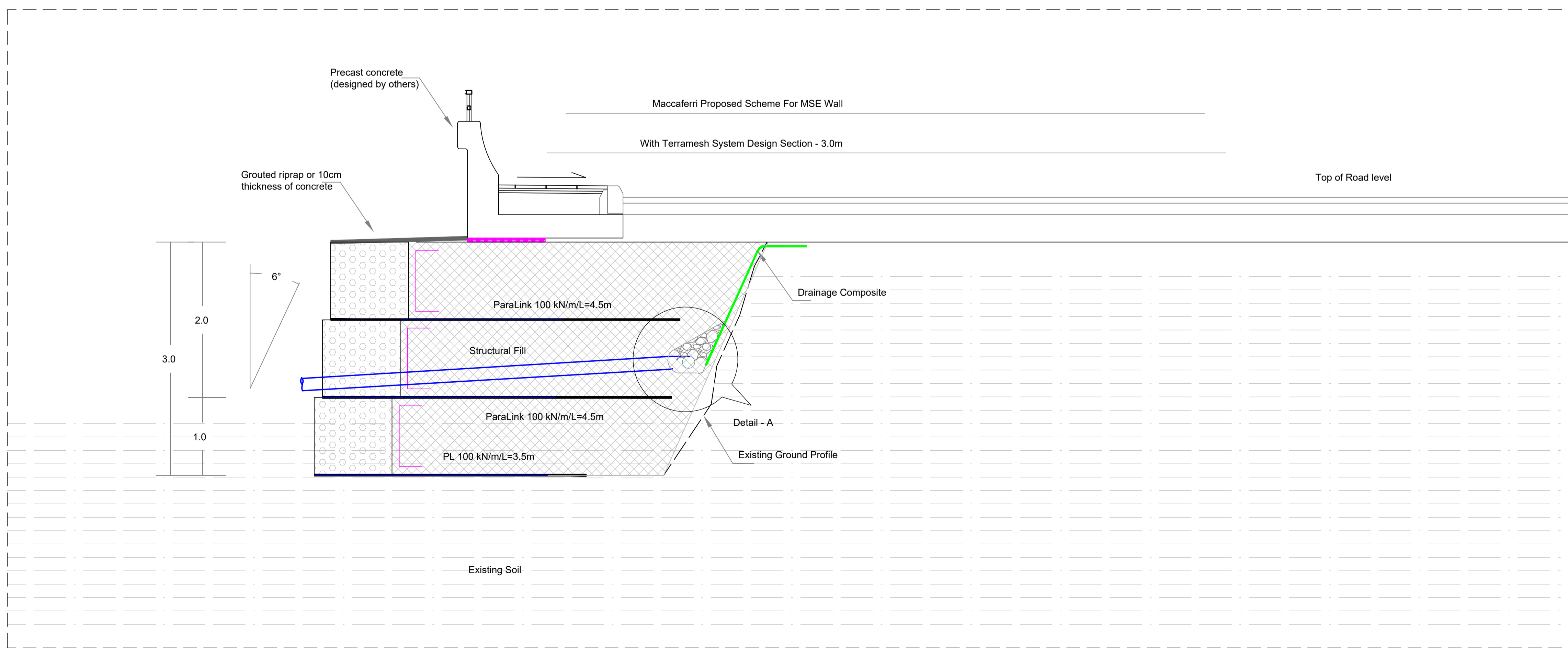
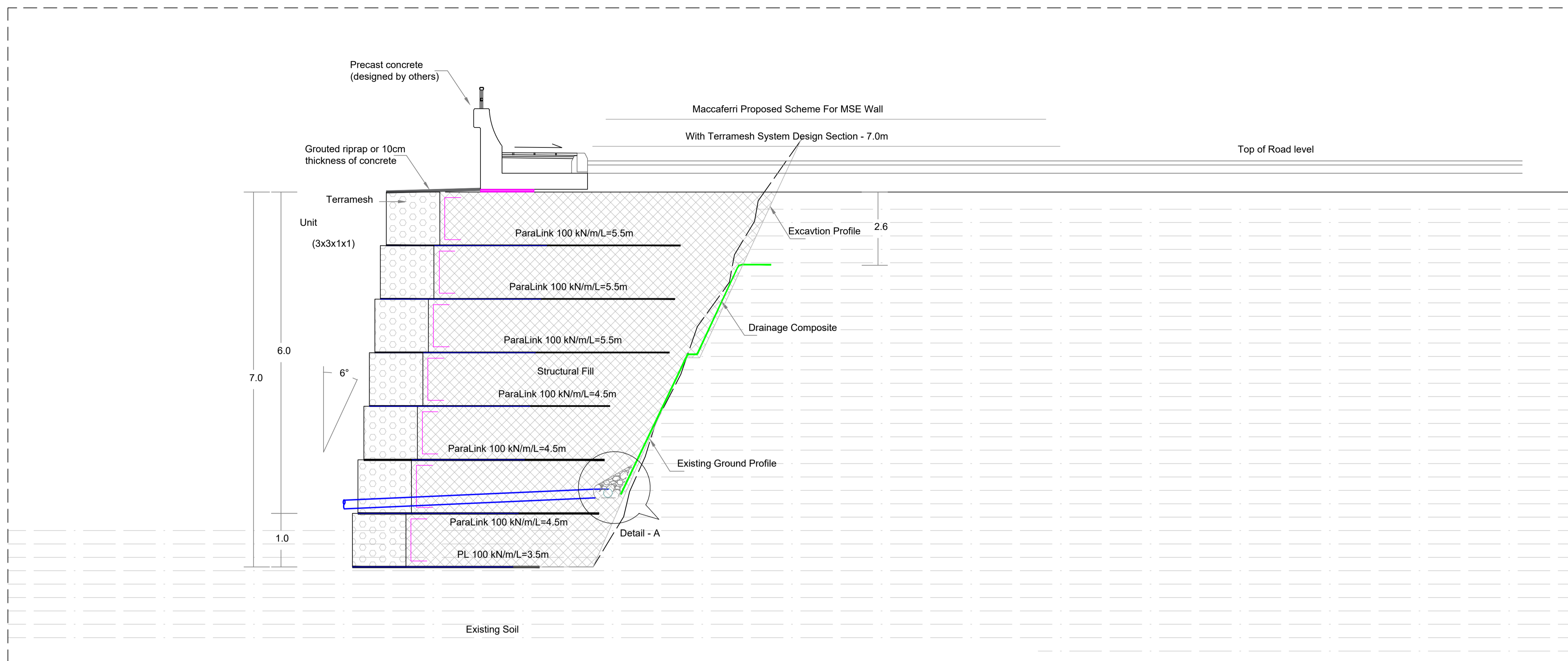
DITCH LINING DETAILS

SCALE \_\_\_\_\_ WHEN PRINTED AT A1 SHEET SIZE

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KEY PLAN

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PROJECT TITLE

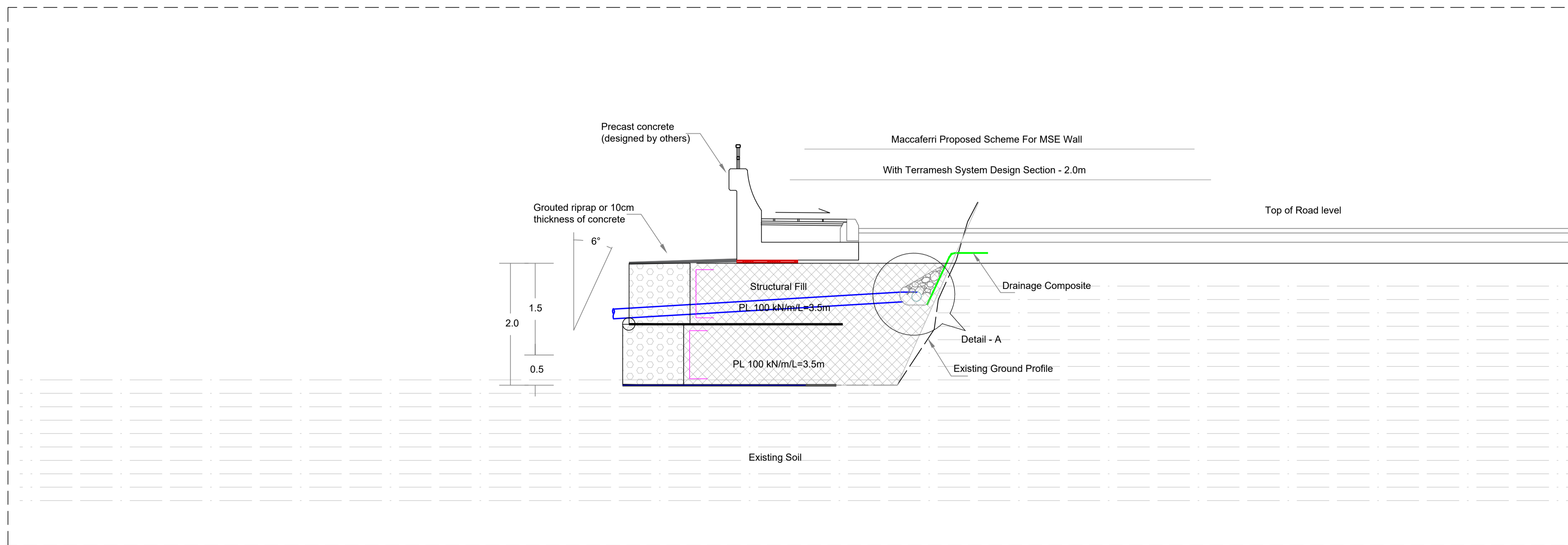
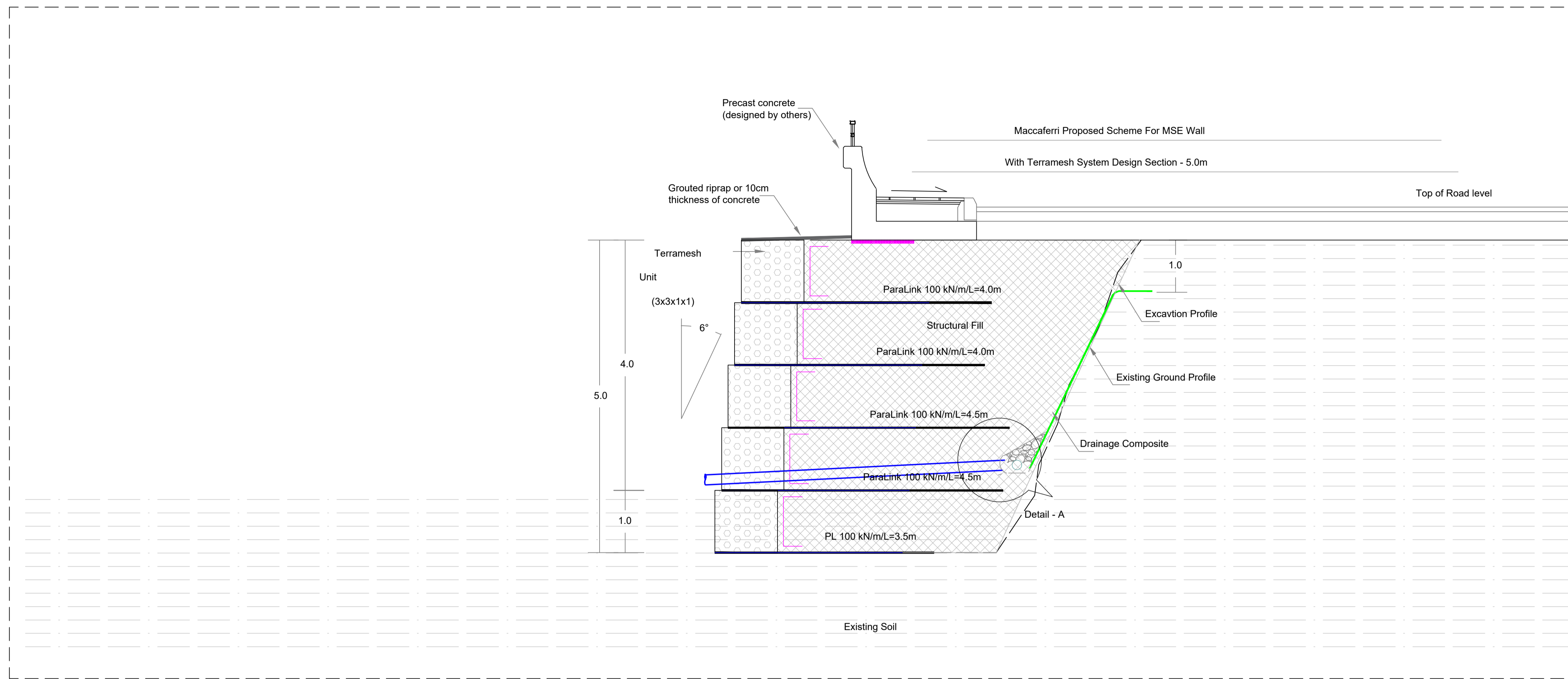
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

GEOGRID WALLS DETAILS 1/3

SCALE N.T.S.	WHEN PRINTED AT A1 SHEET SIZE		
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PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 142382 Amman - 11194 - Jordan  
Tel: (962) 96 81000 Fax: (962) 96 80000  
E: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE

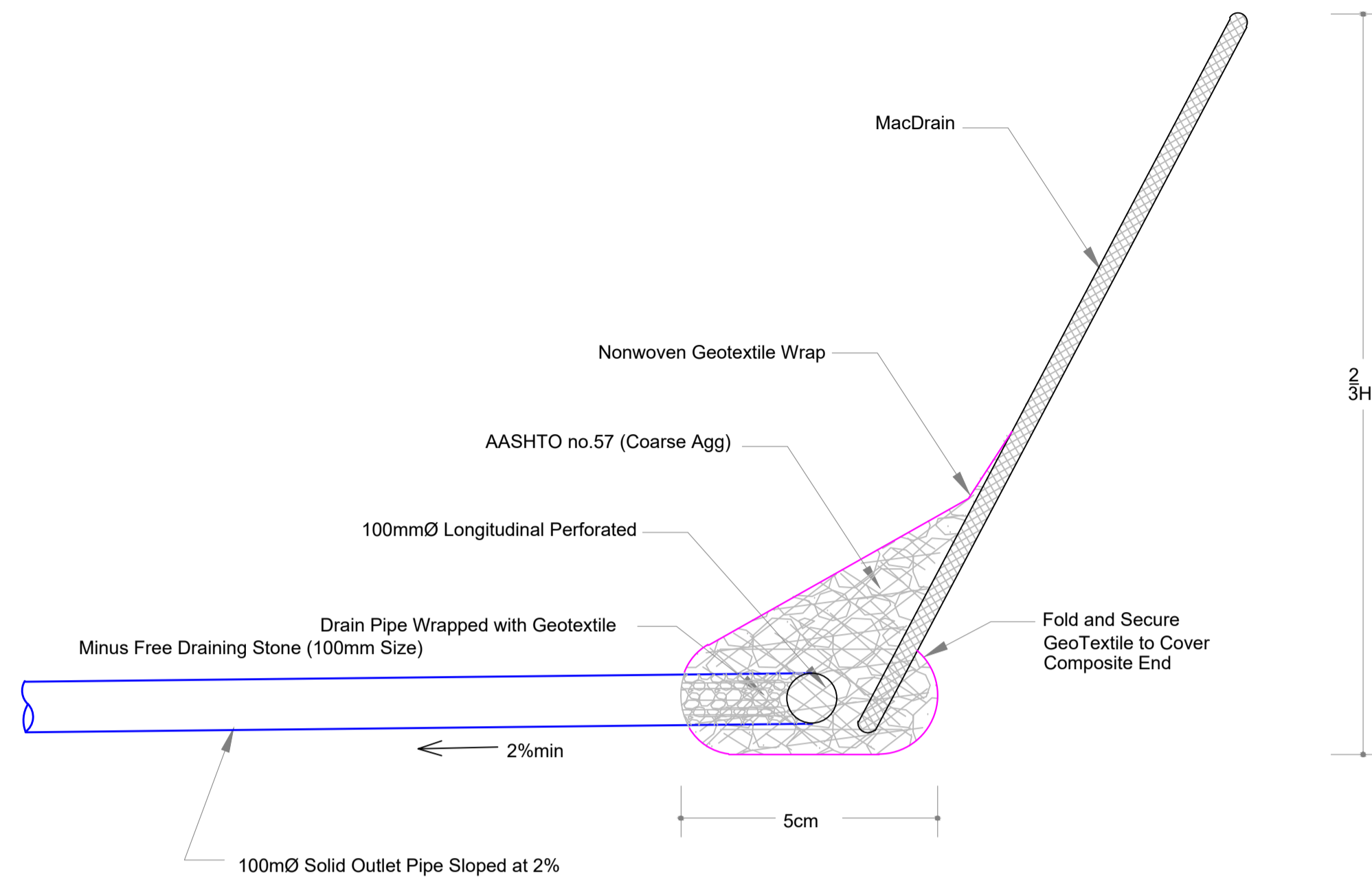
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

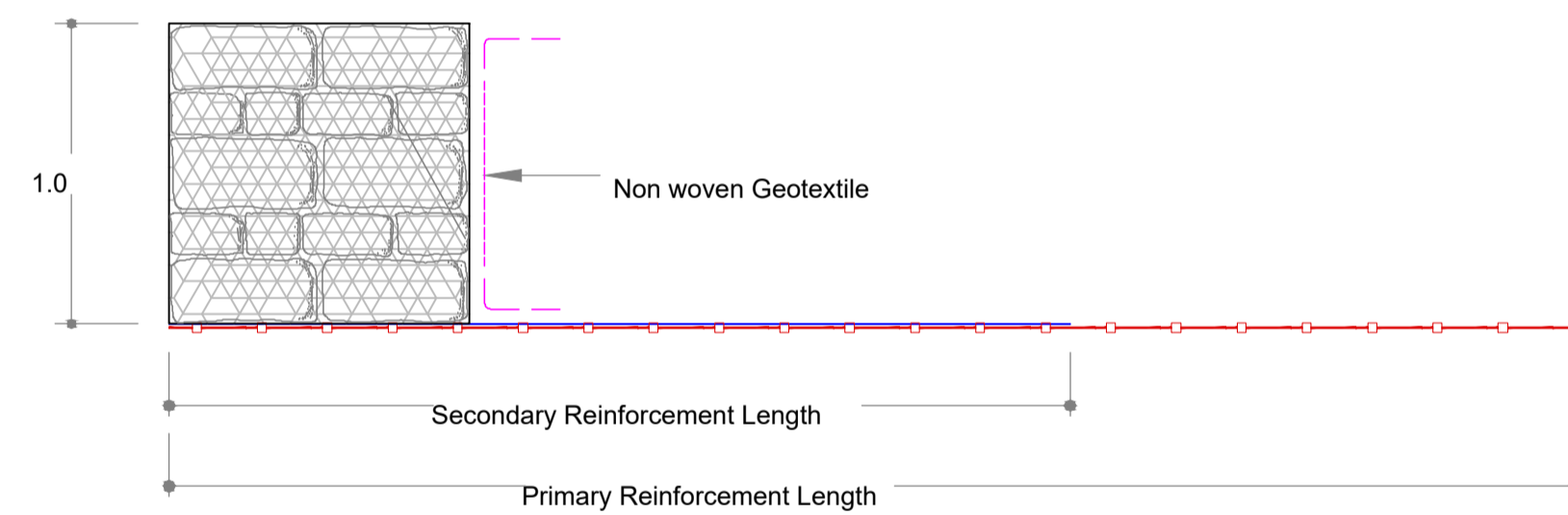
GEOGRID WALLS DETAILS 2/3

SCALE N.T.S.		WHEN PRINTED AT A1 SHEET SIZE	
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
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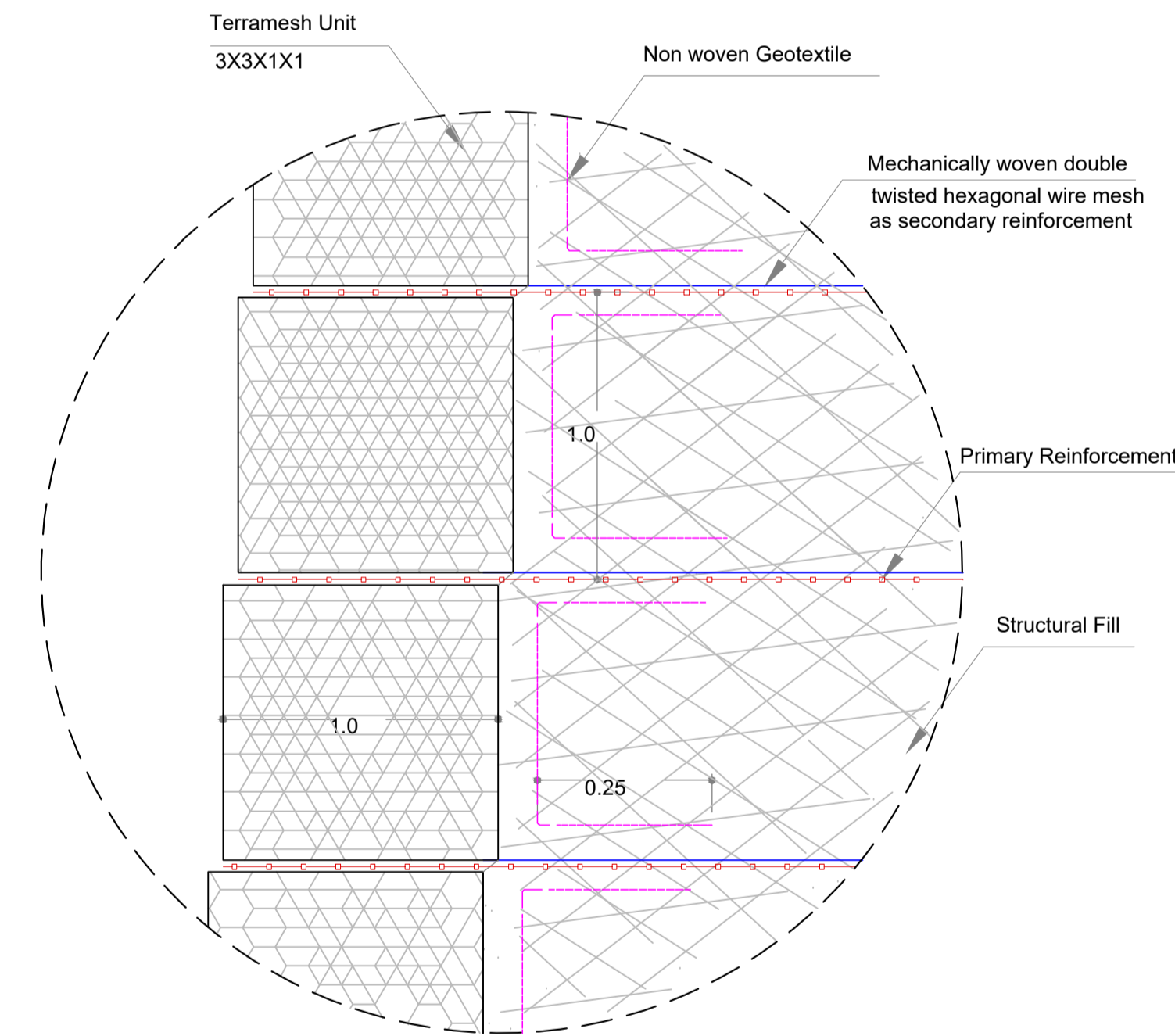
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Drainage Details For Terramesh Walls (Detail - A)



Typical Details of Paramesh System



Typical Details of Paramesh System

## NOTES & STANDARD DESIGN ASSUMPTIONS

1. ALL DIMENSIONS ARE IN METERS.
2. TERRAMESH UNITS CONSIST OF DOUBLE TWISTED, HEXAGONAL WIRE MESH OF SOFT ANNEALED, HOT DIP COATING ACCORDING TO EN10223-3 & EN 10218-1.
3. MESH TYPE FOR TERRAMESH UNITS SHALL BE 8X10
4. WIRE DIAMETER FOR TERRAMESH UNITS SHALL BE 2.7/3.7mm.
5. PARALINK BONDED GRIDS SHALL BE UNIDIRECTIONAL STRIP
6. GEOCOMPOSITE FOR PLANAR DRAINAGE (GCD), REALIZED BY THERMOBONDING A DRAINING MAT IN EXTRUDED MONOFILAMENTS HAVING A BICO-NICAL CUSPATED SHAPE (GMA) WITH TWO FILTERING GEOTEXTILES (GTX) THAT MAY ALSO BE WORKING AS SEPARATION OR PROTECTING LAYERS.
7. SAFE BEARING CAPACITY AT FOUNDATION LEVEL SHALL BE VERIFIED AT SITE BEFORE COMMENCEMENT OF WORK
8. DESIGN ASSUMPTIONS.  
BACKFILL SOIL, BS & STRUCTURAL FILL, SF SHALL BE CLASSIFIED AS A-1-A, A-1-B, A3, A2-4 AND A2-5 (AASHTO M-145) WITH A MINIMUM SHEAR / DENSITY. PROPERTIES AS GIVEN IN THE BELOW TABLE. MAXIMUM PARTICLE SIZE OF 150MM (PERCENTAGE PASSING NOT EXCEEDING 25%).  
BS & SF SOIL PROPERTIES ASSUMED BELOW SHALL BE TESTED & VERIFIED BY A THIRD PARTY LABORATORY BEFORE CONSTRUCTION.

## GEOGRID RETAINING WALLS LOCATIONS

HIGHT (m)	FROM	TO	LENGHT(m)	SIDE
5 to 13	0+000	0+280	280	RIGHT
5 to 13	0+000	0+280	280	LEFT

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Review/Verification     Validation  
 Stage I II III IV V B CONSTRUCTION DOCUMENT  
 Date

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**Petra**  
New Development & Tourism Region Authority  
الهيئة العامة لتنمية وتطوير المنطقة السياحية والتراثية في البتراء

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

**DAR AL-OMRAN**  
الدار العمران  
Amman - Jordan Amman - 20 Sheikh Al-Faisal Street  
P.O. Box 94288 Amman - 11194 - Jordan  
Tel: (962) 94 81000 Fax: (962) 94 99927  
E: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

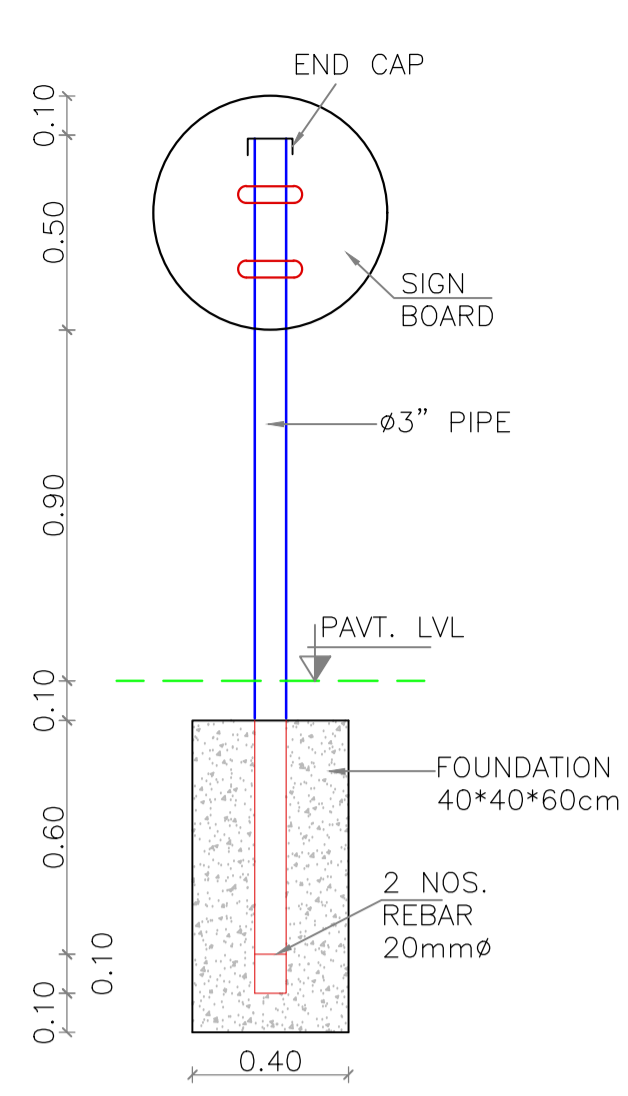
GEOGRID RETAINING WALLS 3/3

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

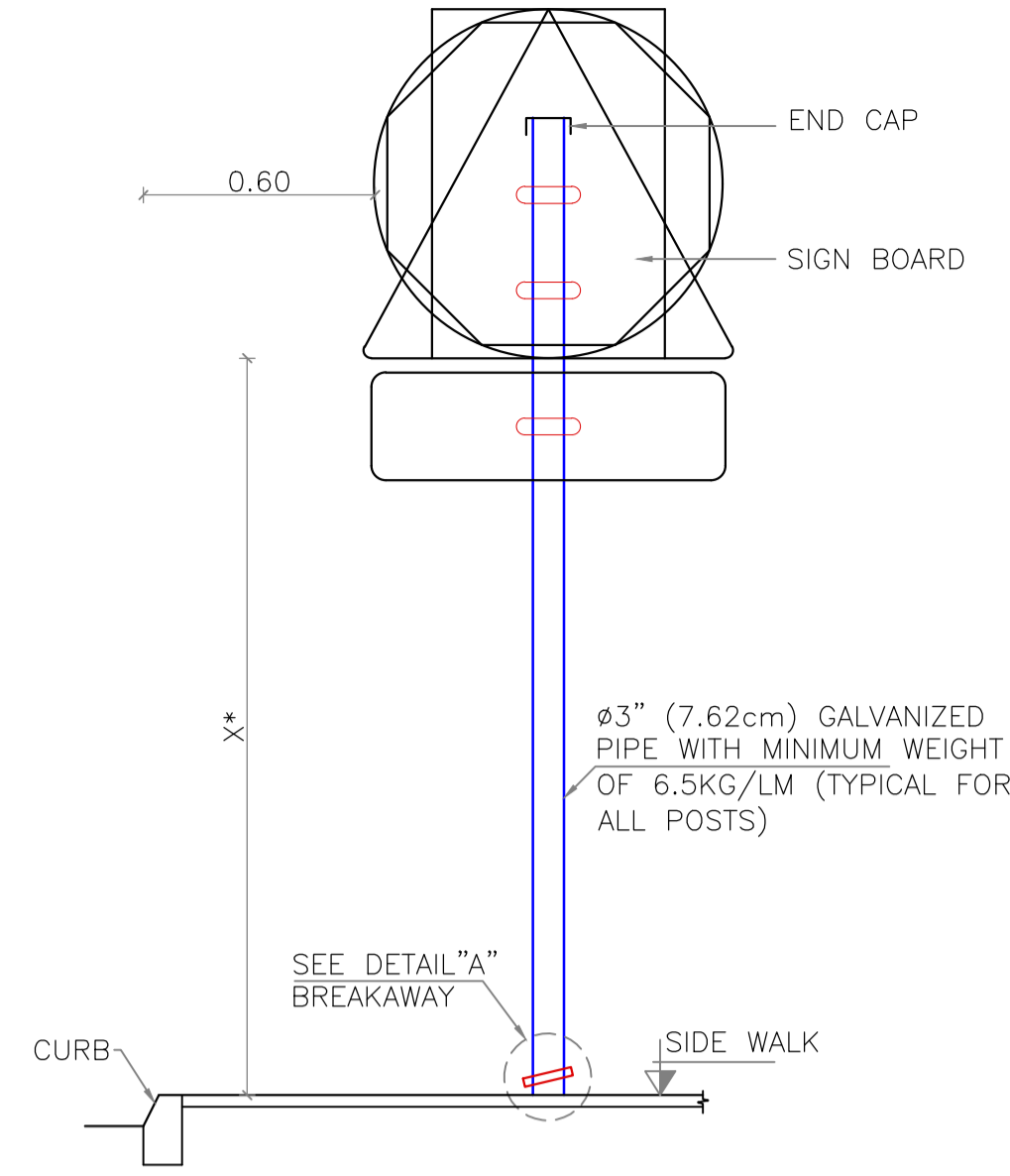
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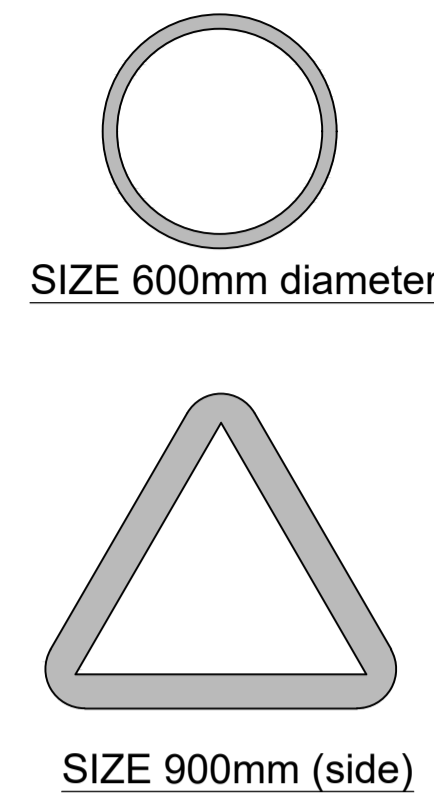
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SIGN 156,157 AND 231



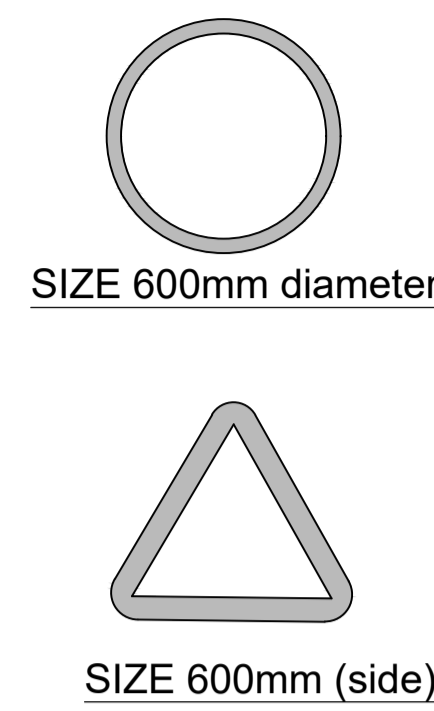
X\* = 2100mm , 2350 mm WITH BOTTOM PLATE.



SIZE 600mm diameter

SIZE 900mm (side)

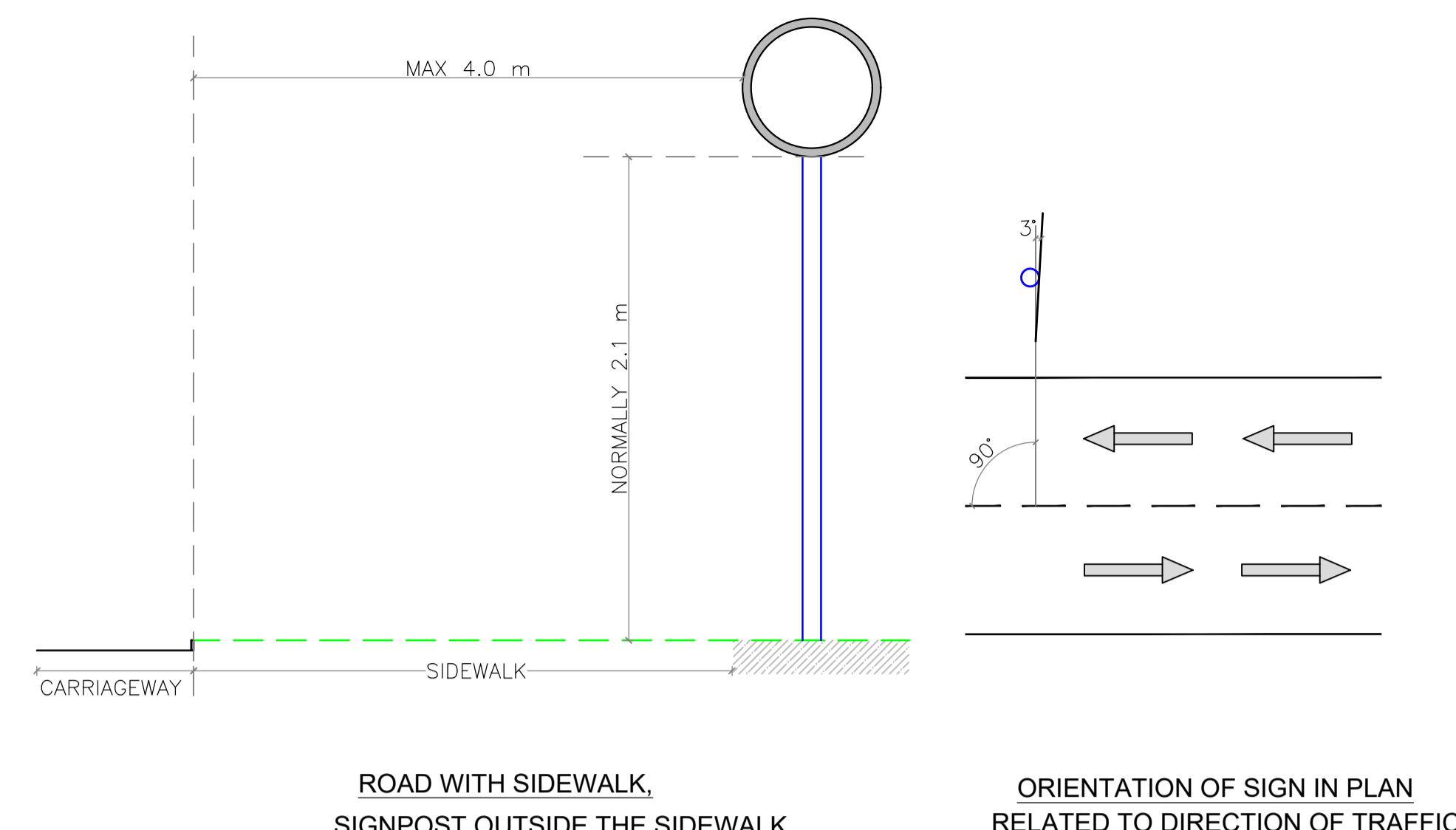
SIZE OF SIGNS  
MAIN STREETS



SIZE 600mm diameter

SIZE 600mm (side)

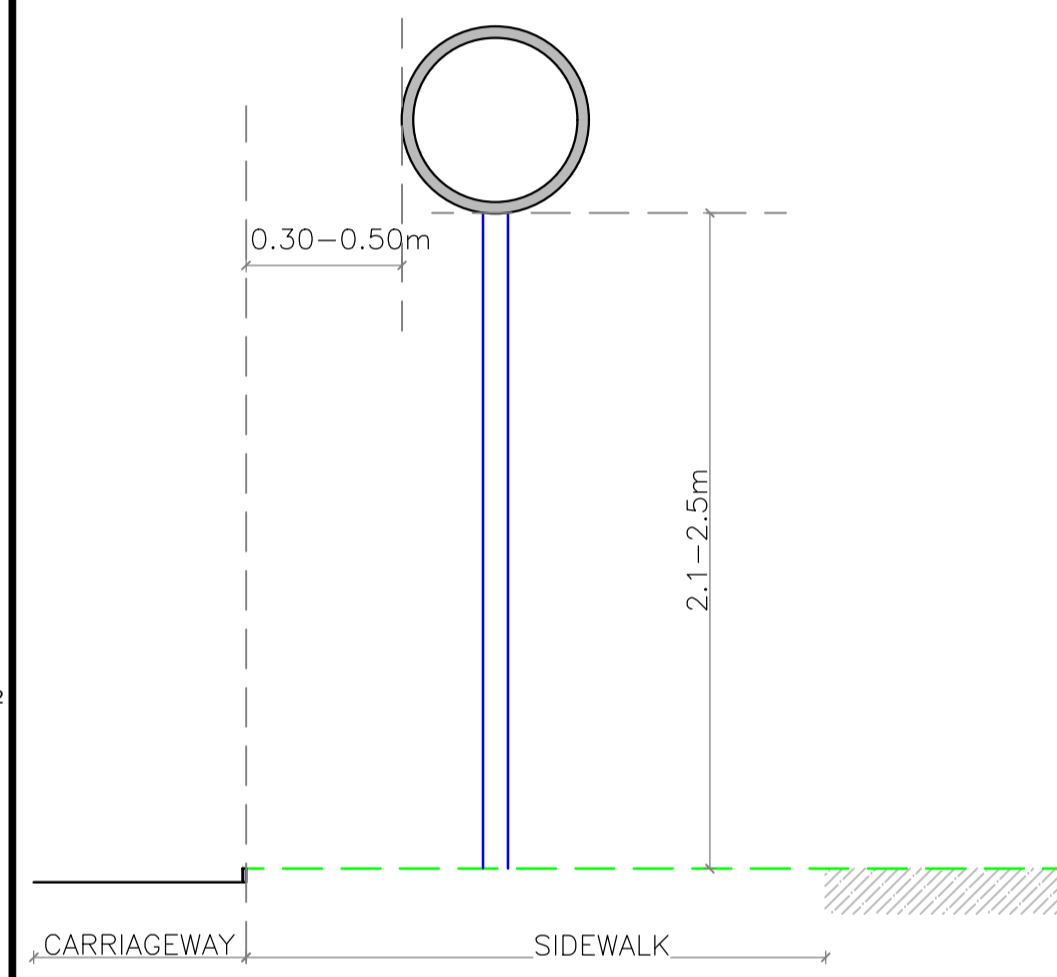
SIZE OF SIGNS  
NARROW STREETS



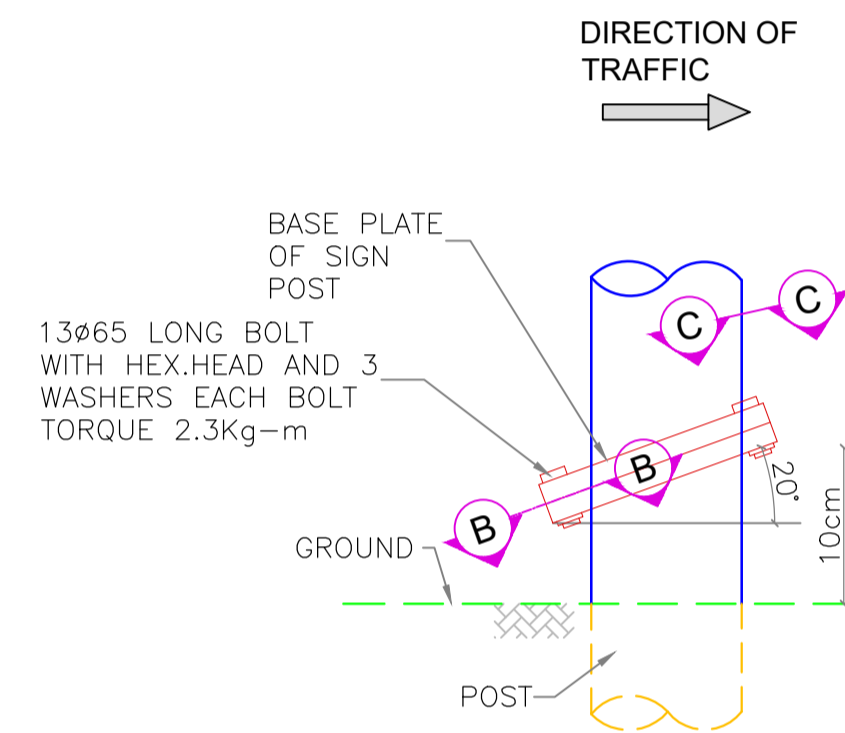
ROAD WITH SIDEWALK,  
SIGNPOST OUTSIDE THE SIDEWALK

ORIENTATION OF SIGN IN PLAN  
RELATED TO DIRECTION OF TRAFFIC

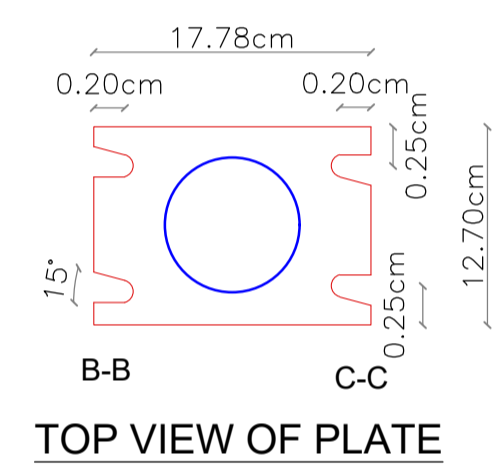
- NOTES :
- 1- THE DIAMETER OF CIRCULAR SIGNS SHALL BE 90cm AND THE HEIGHT OF OCTAGONAL STOP SIGN SHALL BE 90cm.
  - 2- THE LENGTH OF EACH SIDE OF THE TRIANGLE SHALL BE 90cm.
  - 3- THE SIGNS SHALL BE PLACED AT NOT LESS THAN 150m FROM THE HAZARD AND NOT MORE THAN 250m UNLESS THIS IS IMPRACTICAL ON ACCOUNT OF LOCAL CONDITIONS. IN SUCH CASE, THE SIGNS SHALL BE PLACED AS PER THE ENGINEER.
  - 4- FOR MULTIPOST SIGNS SPACING BETWEEN POSTS IS 0.7 METERS.
  - 5- ALL POSTS SHOULD HAVE BREAKAWAY SYSTEMS. MULTIDIRECTIONAL SLIP BASE BREAKAWAY POSTS ARE ONLY USED FOR SMALL SIGNS THAT ARE LOCATED ON MEDIANS AND ISLANDS, OTHERWISE UNIDIRECTIONAL TYPE BREAKAWAYS SHOULD BE USED.
  - 6- THE CONTRACTOR SHALL SUBMIT THE STRUCTURAL DESIGN DRAWINGS AND DETAILS FOR THE TRAFFIC SIGNS FOUNDATIONS.



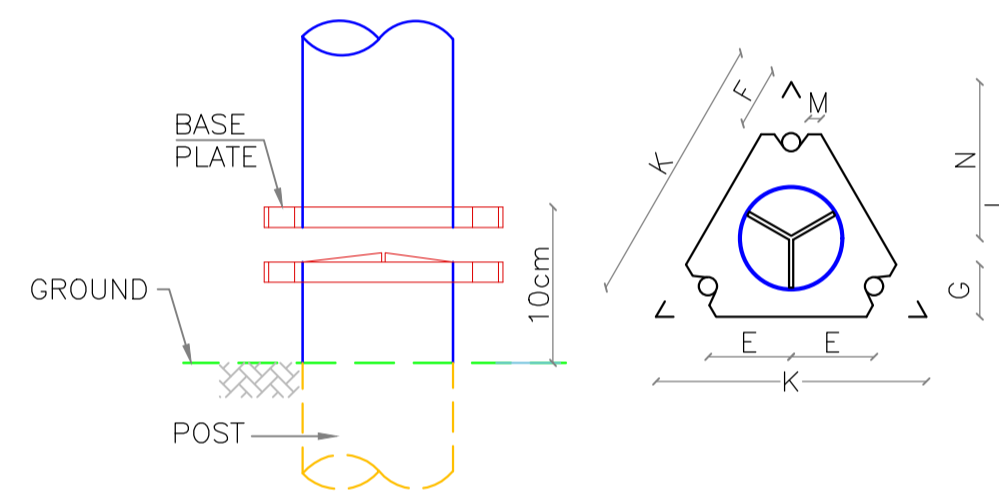
ROAD WITH SIDEWALK,  
SIGNPOST ON THE SIDEWALK



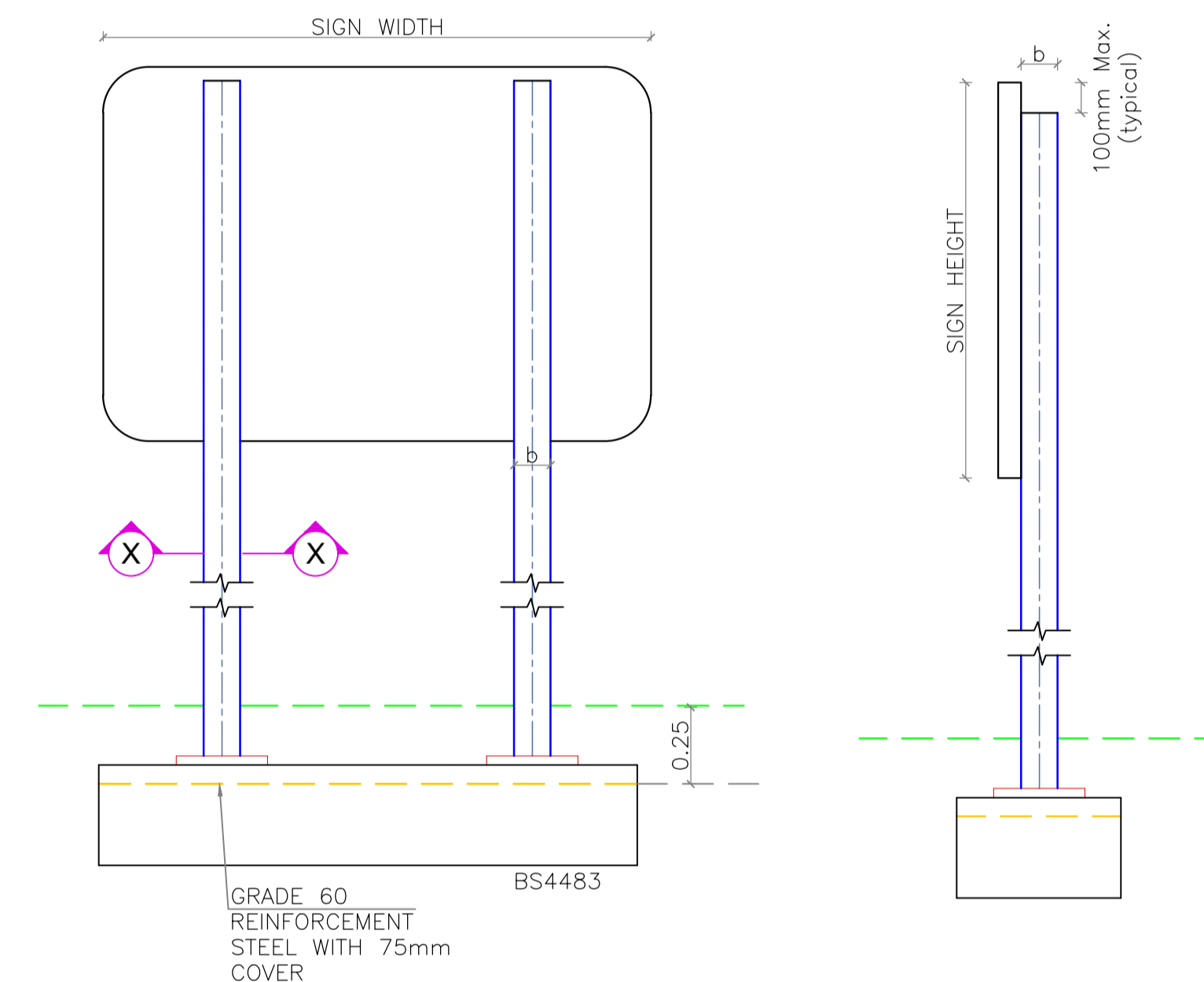
DETAIL "A"  
UNIDIRECTIONAL BREAKAWAY



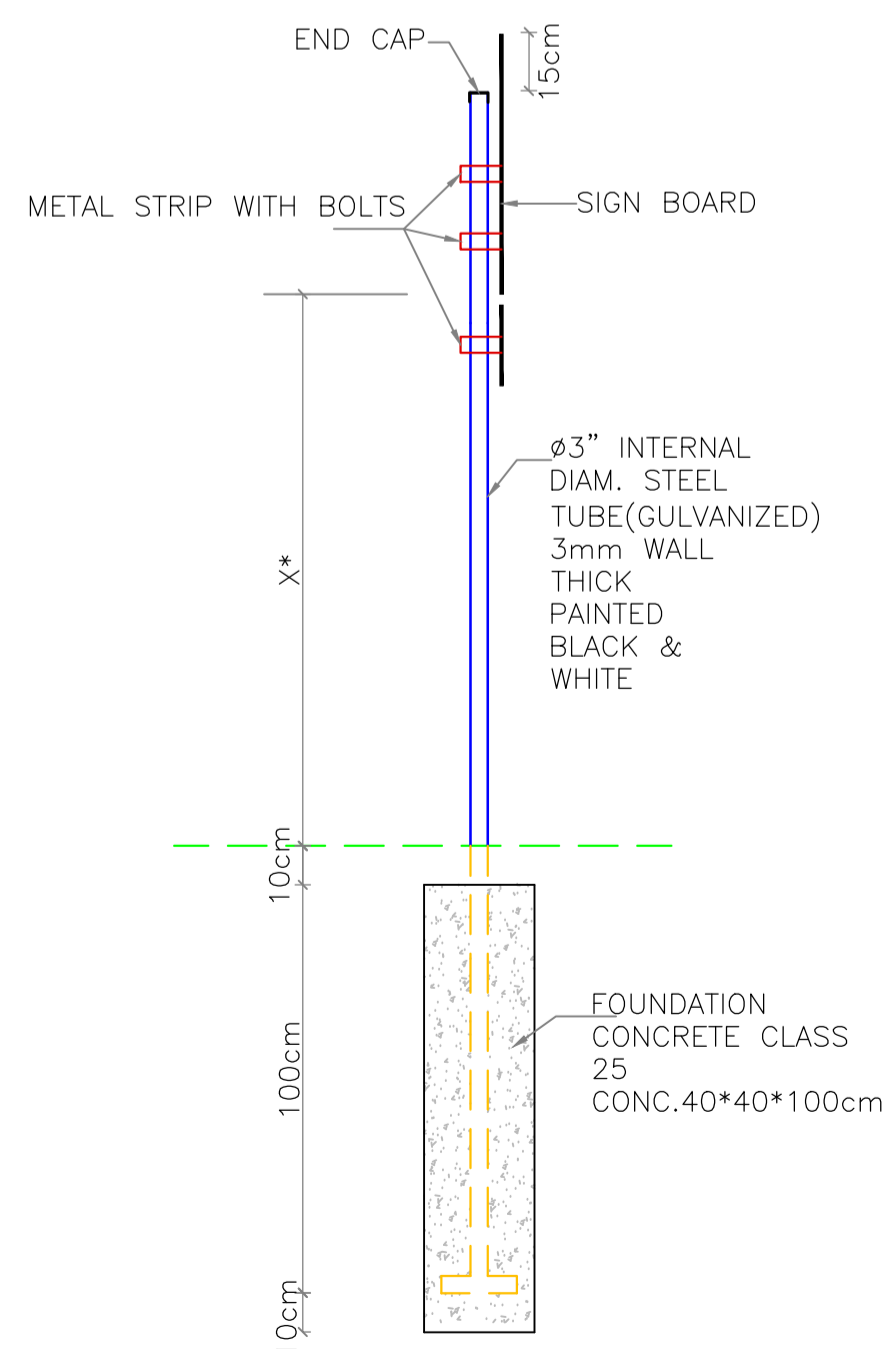
TOP VIEW OF PLATE



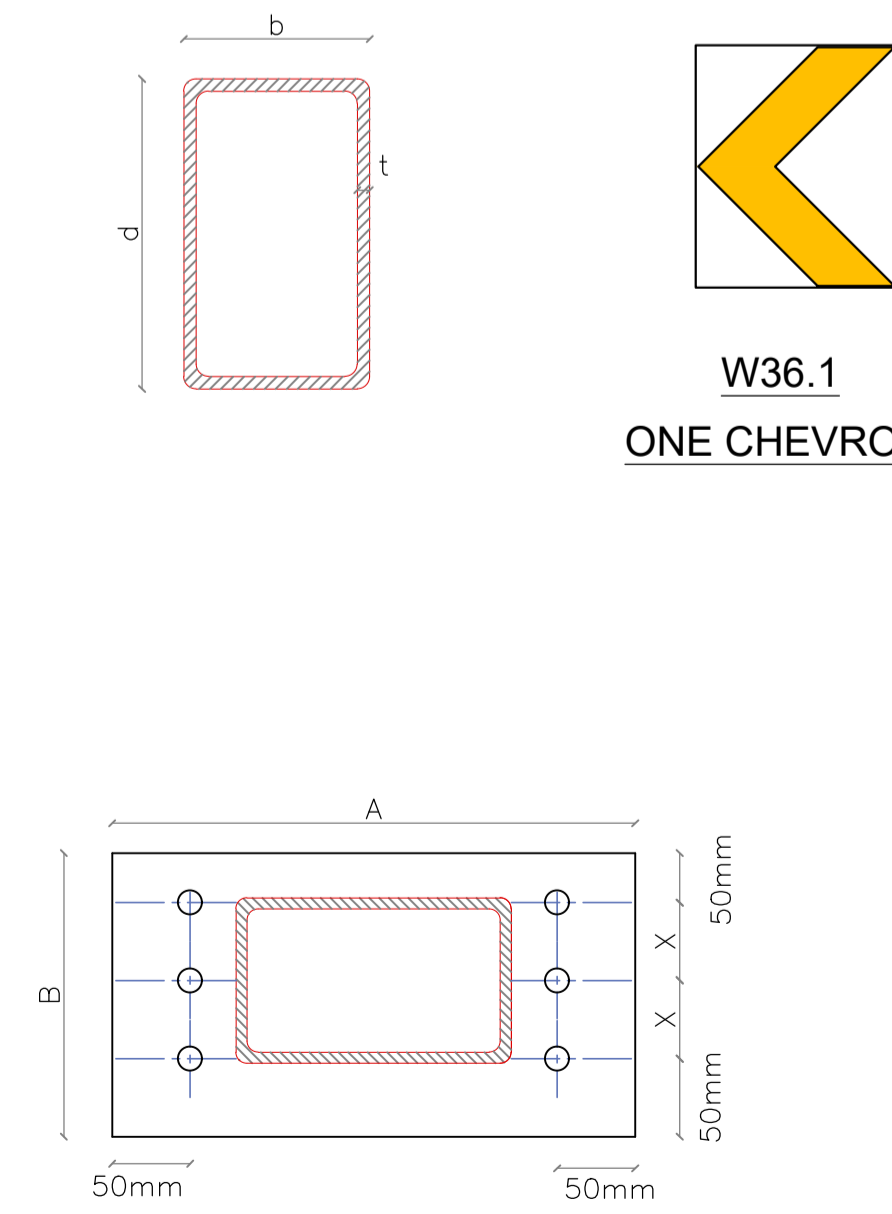
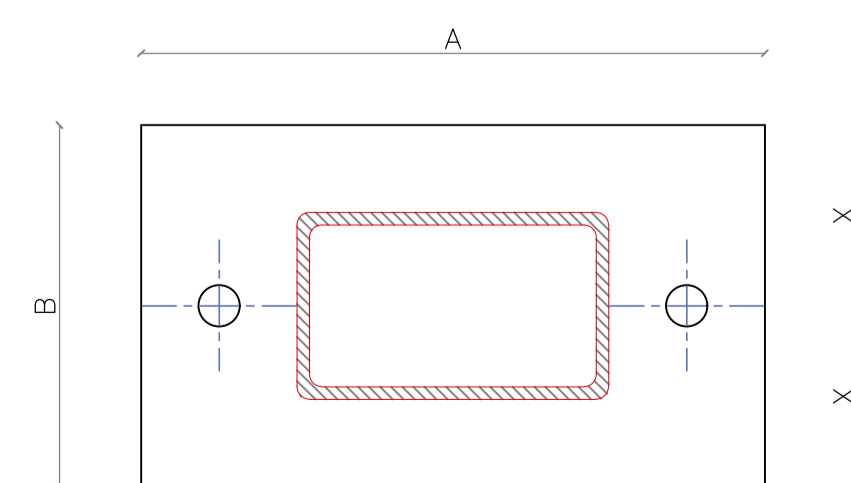
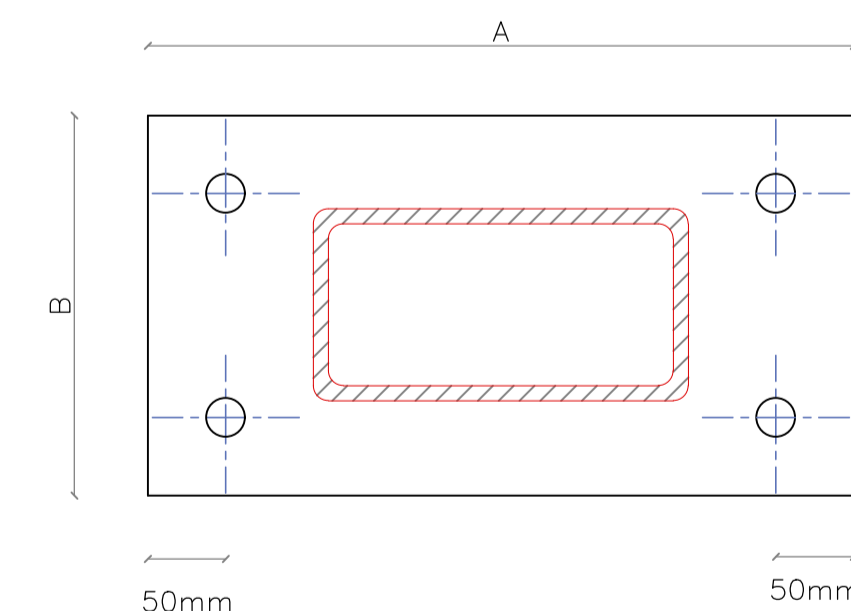
MULTIDIRECTIONAL SLIP BASE BREAKAWAY



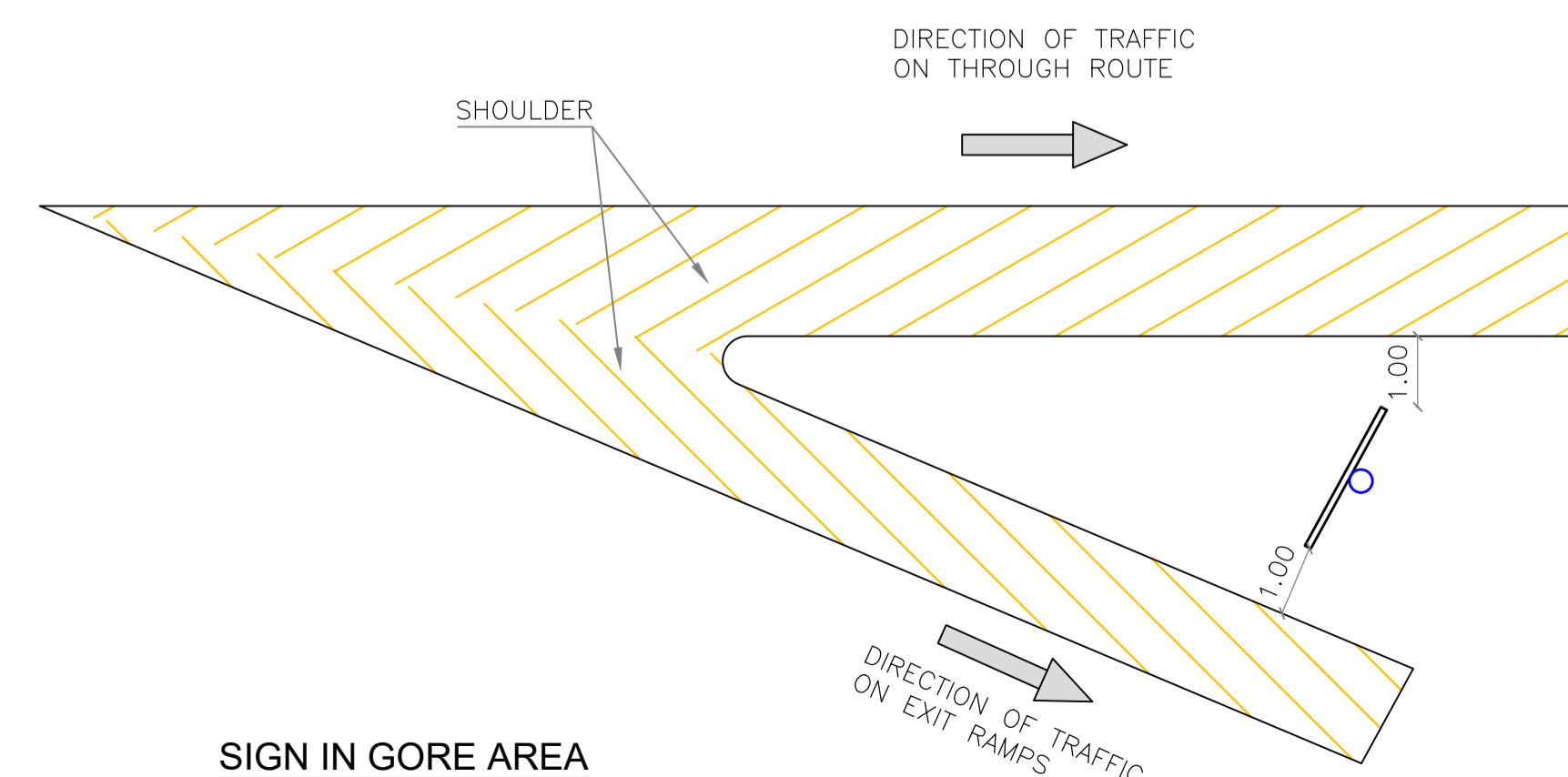
GRADE 60  
REINFORCEMENT  
STEEL WITH 75mm  
COVER



X\* = 2100mm ,  
2350 mm WITH  
BOTTOM PLATE.



W36.1  
ONE CHEVRON



SIGN IN GORE AREA

BY	DATE	SUBJECT	REV

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HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION  
AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

TRAFFIC SIGNS DETAILS  
SHEET 1/2

SCALE AS SHOWN WHEN PRINTED AT A1 SHEET SIZE

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MULTIDIRECTIONAL SLIP BASE DETAILS

Dimensions Pipe Size (diameter)	E	F	G	K	L	M	N
3.0" (7.62 cm)	3.0"(7.62 cm)	2 1/3"(5.874 cm)	2.0"(5.08 cm)	10 3/8"(26.353 cm)	9.0"(22.86 cm)	1/2"(1.27 cm)	6.0"(15.24 cm)
3 1/2" (8.89 cm)	3.0"(7.62 cm)	2 1/3"(5.874 cm)	2.0"(5.08 cm)	10 3/8"(26.353 cm)	9.0"(22.86 cm)	1/2"(1.27 cm)	6.0"(15.24 cm)
4" (10.16 cm)	3 7/8"(9.843 cm)	2 7/8"(7.303 cm)	2 1/2"(6.35 cm)	13.0"(33.02 cm)	11 1/4"(28.575 cm)	7/8"(2.223 cm)	7 1/2"(19.05 cm)
5" (12.70 cm)	3 7/8"(9.843 cm)	2 7/8"(7.303 cm)	2 1/2"(6.35 cm)	13.0"(33.02 cm)	11 1/4"(28.575 cm)	7/8"(2.223 cm)	7 1/2"(19.05 cm)

REFERENCE TABLE FOR SIGN, POSTS & SECTION SIZES

SIGN HEIGHT (m)	SIGN WIDTH (m)	SIGN WIDTH (m)										
		1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5
1.5	d	120	150	150	200	200	200	200	200	200	200	
	b	80	100	100	100	100	100	100	100	100	100	
2.0	d	150	200	200	200	200	200	200	200	200	200	
	b	100	100	100	100	100	100	100	100	100	100	
2.5	d	200	200	200	200	200	250	200	200	250	250	
	b	100	100	100	100	100	150	100	100	150	150	
3.0	d	200	200	200	200	250	250	250	250	250	250	
	b	100	100	100	150	150	150	150	150	150	150	
3.5	d	200	250	250	250	250	250	250	250	250	250	
	b	100	150	150	150	150	150	150	150	150	150	
4.0	d	250	250	250	250	300	300	250	250	300	300	
	b	150	150	150	150	200	200	150	150	200	200	
4.5	d	250	250	250	300	300	300	300	300	300	300	
	b	150	150	150	200	200	200	200	200	200	200	
5.0	d	250	250	300	300	300	300	300	300	300	300	
	b	150	150	200	200	200	200	200	200	200	200	
5.5	d	250	300	300	300	300	300	300	300	300	400	
	b	150	200	200	200	200	200	200	200	200	200	
6.0	d	300	300	300	300	400	300	400	400	400	400	400
	b	200	200	200	200	200	200	200	200	200	200	200
6.5	d	300	300	300	400	400	400	400	400	400	400	400
	b	200	200	200	200	200	200	200	200	200	200	200
7.0	d	300	300	400	400	400	400	400	400	400	400	400
	b	200	200	200	200	200	200	200	200	200	200	200
7.5	d	300	400	400	400	400	400	400	400	400	400	400
	b	200	200	200	200	200	200	200	200	200	200	200
8.0	d	400	400	400	400	400	400	400	400	400	400	400
	b	200	200	200	200	200	200	200	200	200	200	200

BASE PLATE & HOLDING DOWN BOLTS DETAIL

SECTION	BASE PLATE SIZE			RECOMENDED BOLT DIA.	No. OF BOLTS	KN (*)
	A	B	THICK			
120x80x5	320	120	10	20	2	29.7
150x100x5	350	150	15	20	2	50.4
200x100x5	400	150	15	20	2	72.5
200x100x6.3	400	150	15	20	4	48.3
200x100x8	400	150	15	20	4	56.7
250x150x6.3	450	225	20	24	4	71.1
250x150x8	450	225	20	24	4	88.2
300x200x6.3	500	300	20	24	4	97.45
300x200x8	500	300	20	24	4	113.7
300x200x10	600	300	20	24	6	87.6
400x200x10	600	300	20	24	6	91.6
400x200x10	700	400	25	24	6	110 *

(\*) MIN. SAFE WORKING REQUIRED PER BOLT

POSTS WITHIN THIS LIMIT SHALL HAVE BASE PLATES AS MARKED ASTERISK IN THE APPROPRIATE TABLE.

TYPICAL SPACING OF CHEVRON ALIGNMENT ON HORIZONTAL CURVES

CURVE RADIUS (m)	SIGN SPACING
< 60	12.50
60 - 125	25
125 - 250	37.50
250-400	50
> 400	60

NOTES :

BY	DATE	SUBJECT	REV

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 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

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HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

TRAFFIC SIGNS DETAILS  
SHEET 2/2

SCALE AS SHOWN WHEN PRINTED AT A1 SHEET SIZE

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UPPER CASE				LOWER CASE			
TILE	WIDTH	H1	H2	TILE	WIDTH	H1	H2
A	136%	08%	08%	a	111	07	12
B	146	25	15	b	117	13	12
C	148	14	14	c	103	06	08
D	154	25	15	d	119	08	18
E	132	25	20	e	109	08	12
F	119	25	12	f	75	06	06
G	155	14	20	g	114	08	18
H	160	25	25	h	112	13	18
I	73	25	25	i	54	13	18
J	93	02	25	j	58	02	18
K	138	25	06	k	108	13	06
L	107	25	04	l	62	13	12
M	184	25	25	m	164	13	18
N	168	25	25	n	112	13	18
O	156	15	15	o	118	08	15
P	130	25	10	p	118	13	15
Q	158	15	15	q	118	08	18
R	141	25	15	r	73	13	07
S	137	13	15	s	97	05	12
T	109	04	04	t	81	07	07
U	154	25	25	u	115	13	18
V	130	10	10	v	98	06	06
W	183	12	12	w	147	06	06
X	128	12	12	x	104	04	04
Y	123	05	06	y	98	04	04
Z	119	12	12	z	97	08	08

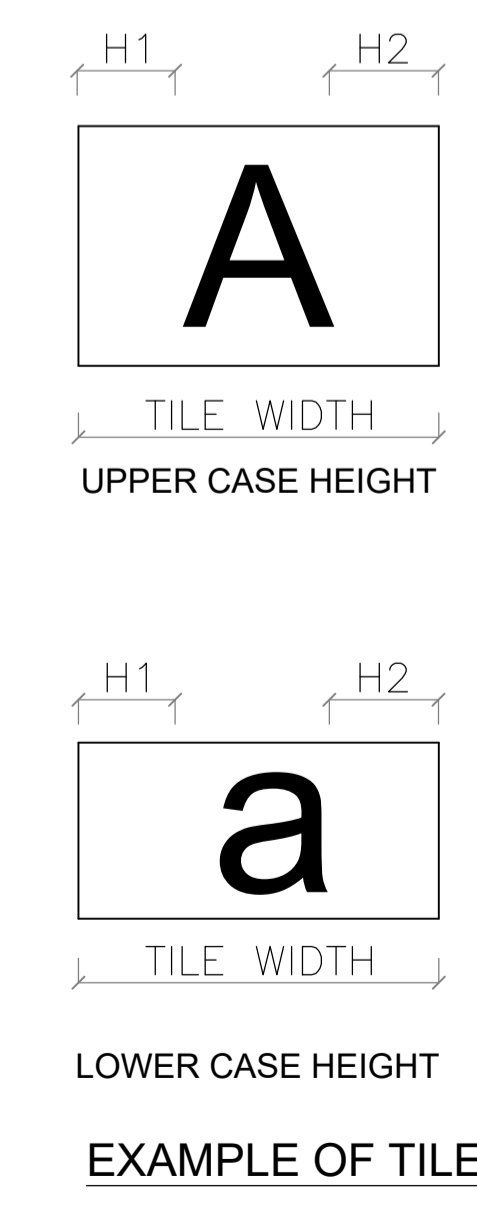
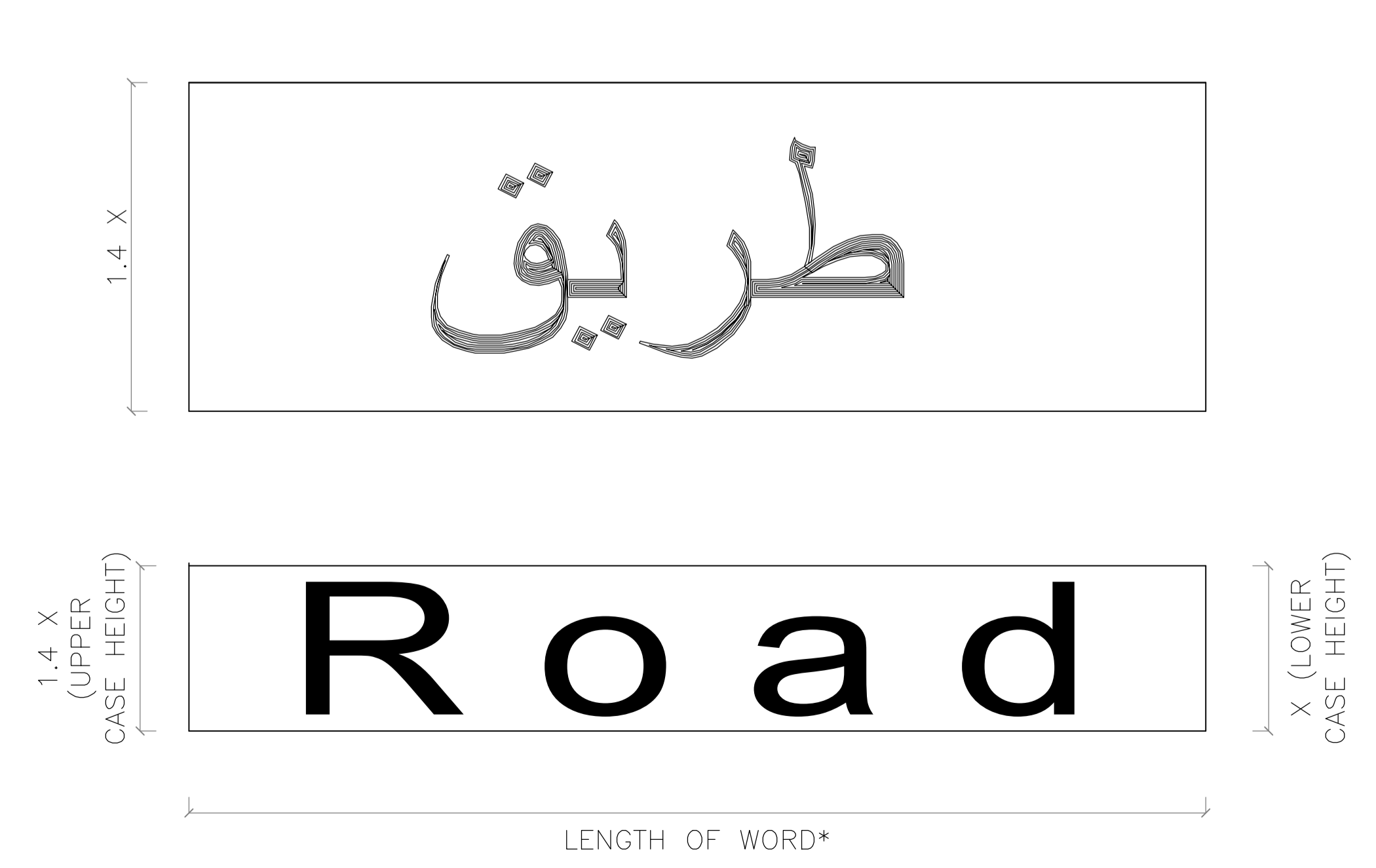
NUMERALS & PUNCTUATION  
MARKS etc.

TILE	WIDTH	H1	H2
1	79	11	23
2	120	10	16
3	127	11	18
4	132	06	10
5	122	12	12
6	126	15	15
7	104	05	05
8	130	16	16
9	128	14	14
0	133	13	13
-	66	10	10
(	105	13	24
)	105	24	13

LETTER SIZES ON INFORMATIVE SIGNS  
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2005 (MPWH)

ARABIC TEXT (mm)	ENGLISH TEXT (mm)	APPLICATION
115	75	INSIDE PARKING LOTS OR OTHER AREAS WITH LOW SPEED TRAFFIC.
190	125	SIDE MOUNTED SIGNS ON LOW TRAFFIC SECONDARY ROADS, ON VILLAGE AND ON NARROW STREETS
300	200	SIDE MOUNTED SIGNS ON PRIMARY AND SECONDARY ROADS
300	200	SIDE MOUNTED SIGNS ON FREEWAYS, EXPRESSWAYS AND SIMILAR ROADS. OVERHEAD MOUNTED SIGNS INSIDE URBAN AREAS. SIGNS FOR EMERGENCY ESCAPE RAMPS.
450	300	OVERHEAD MOUNTED SIGNS ON FREEWAYS, EXPRESSWAYS AND SIMILAR ROADS.

TILE WIDTHS EXPRESSED AS A PERCENTAGE OF LOWER CASE LETTERING HEIGHT (X).



EXAMPLE OF TILE

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III IV V VI VII VIII IX X    CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

NORTH

CLIENT

Petra Development & Tourism Region Authority  
HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN  
Amman - Jordan Amman - 28 Garbala Al-Hadid Street  
P.O. Box 44288 Amman - 11194 - Jordan  
Tel: (962) 94 91000 Fax: (962) 94 99000  
E: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

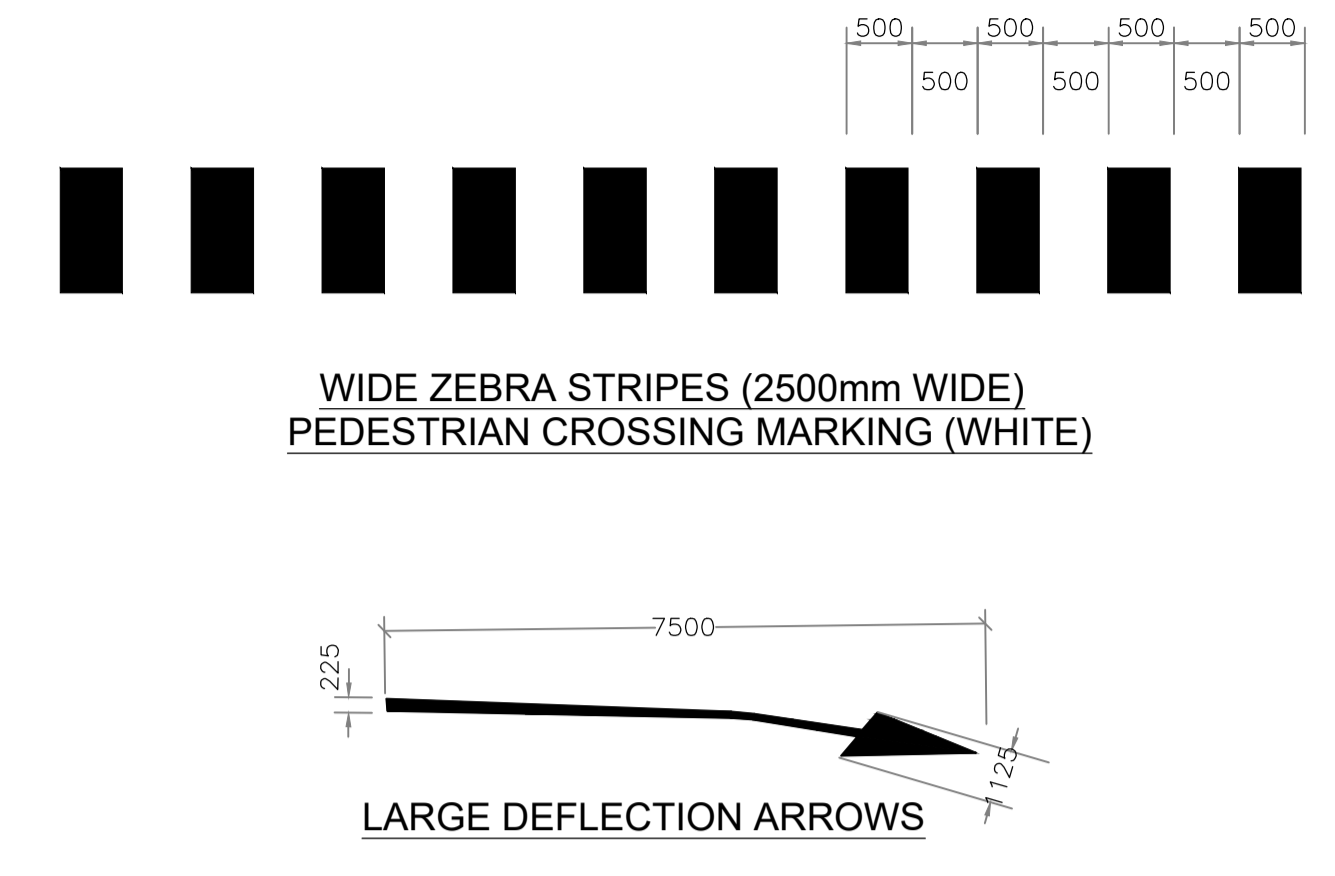
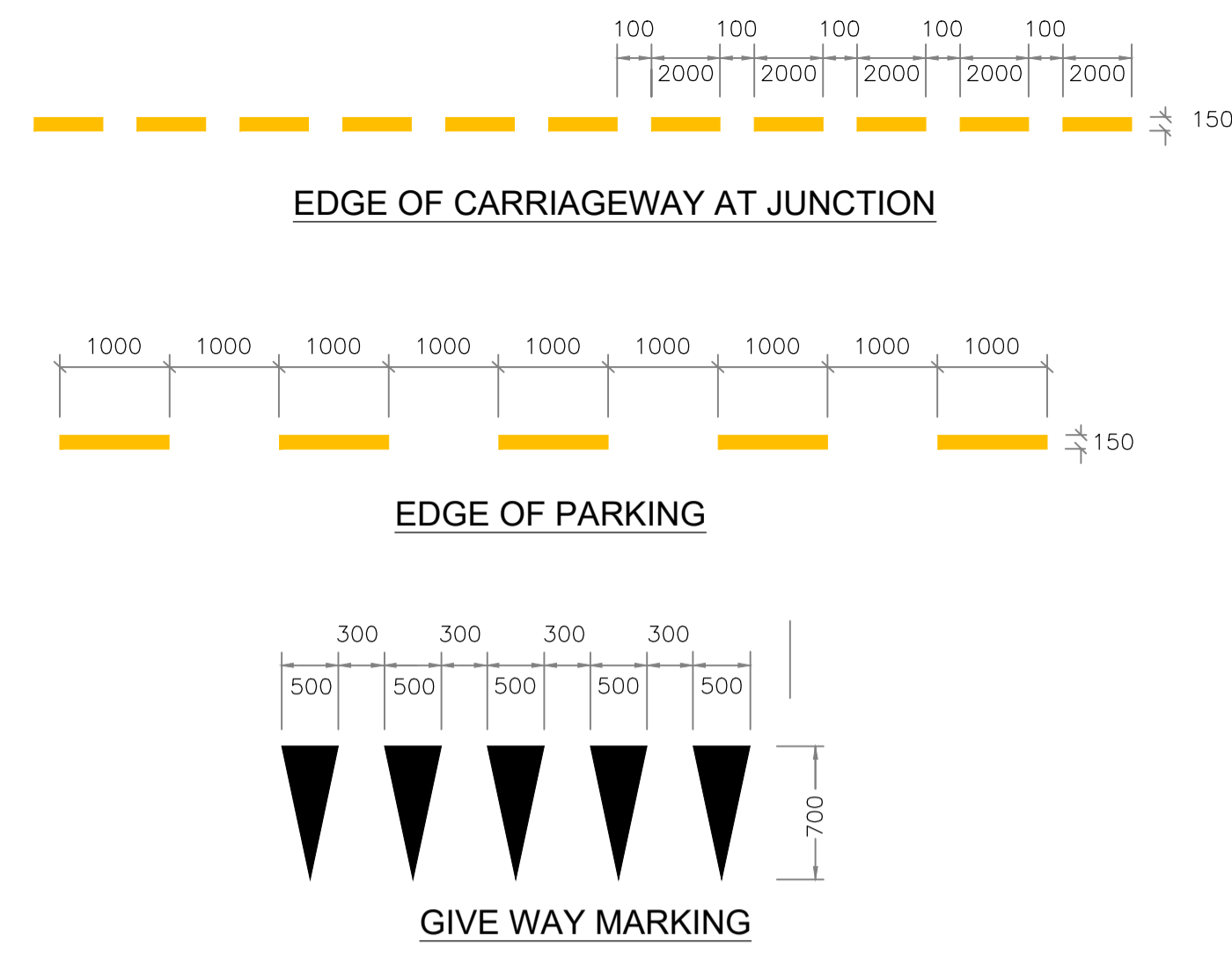
LETTERING DETAILS

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM

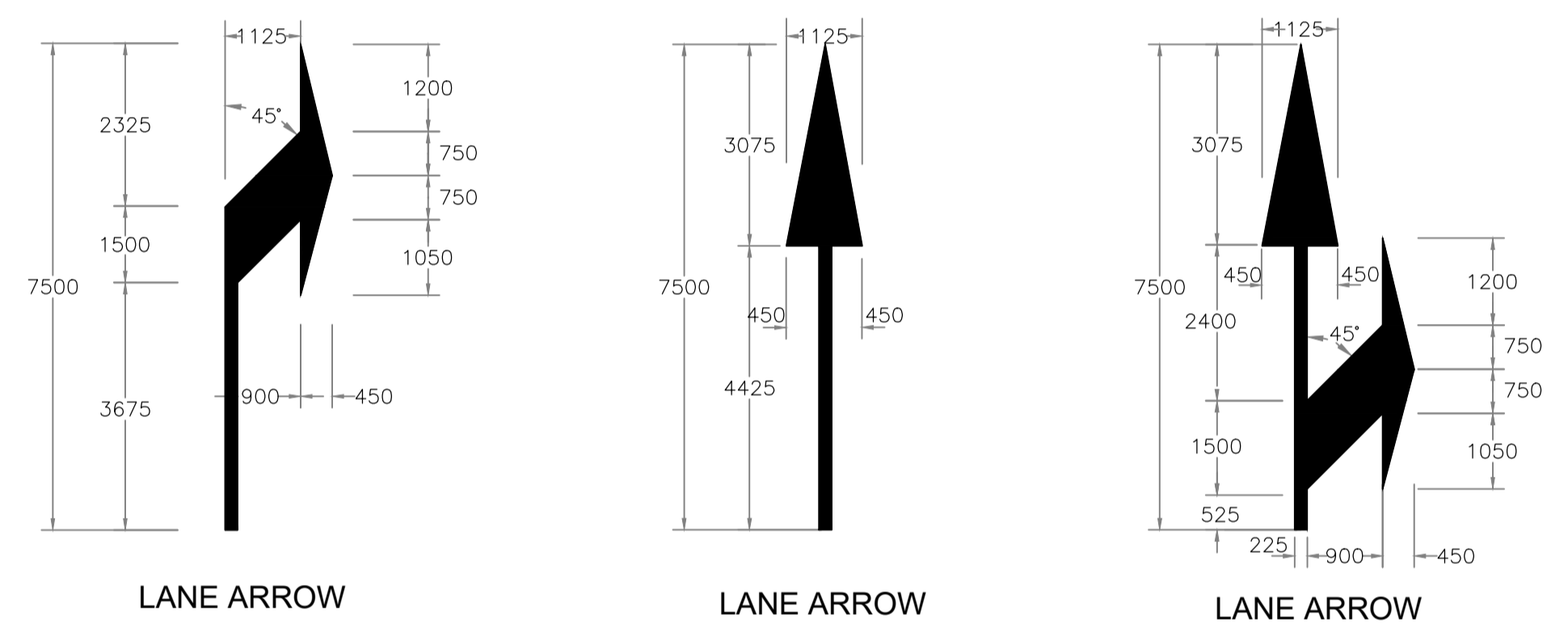
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	DT-802	00

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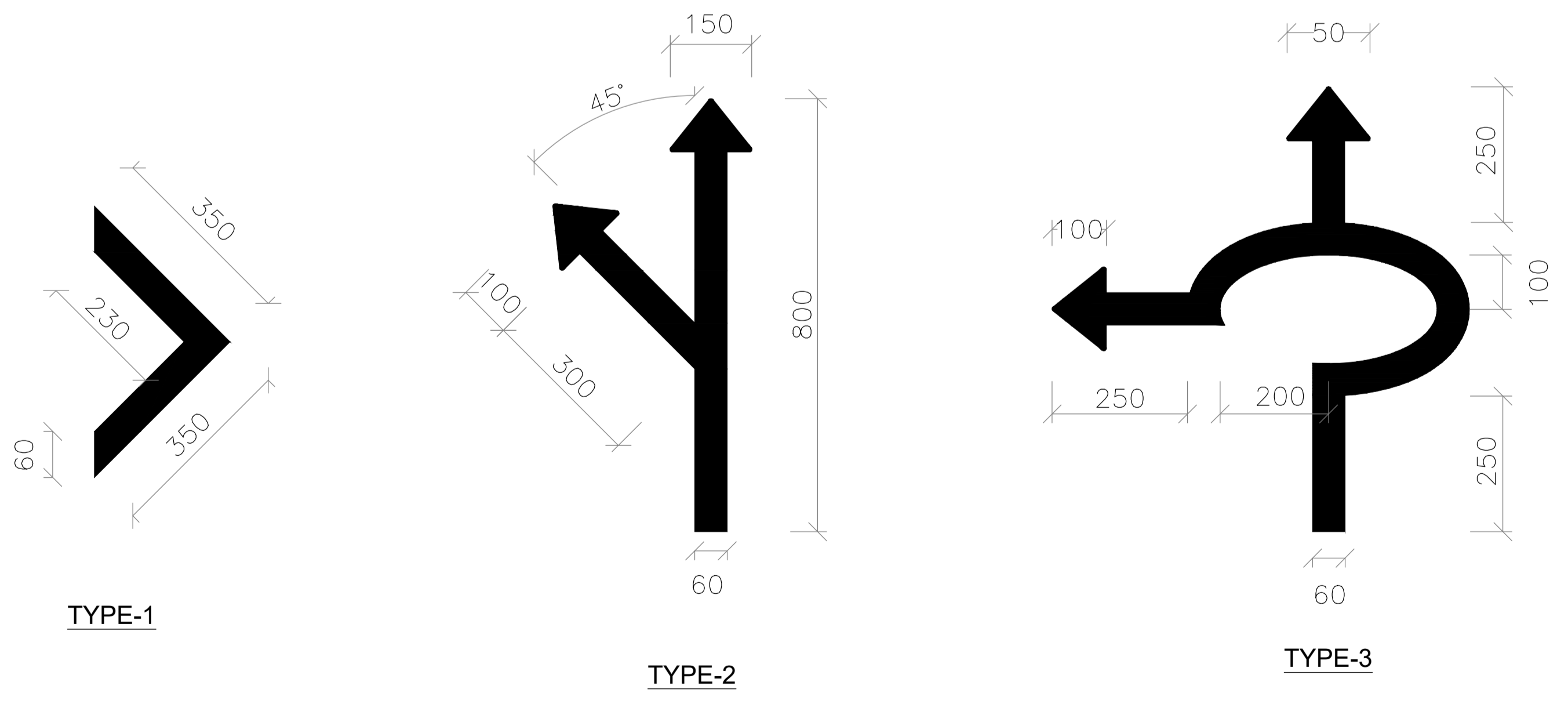
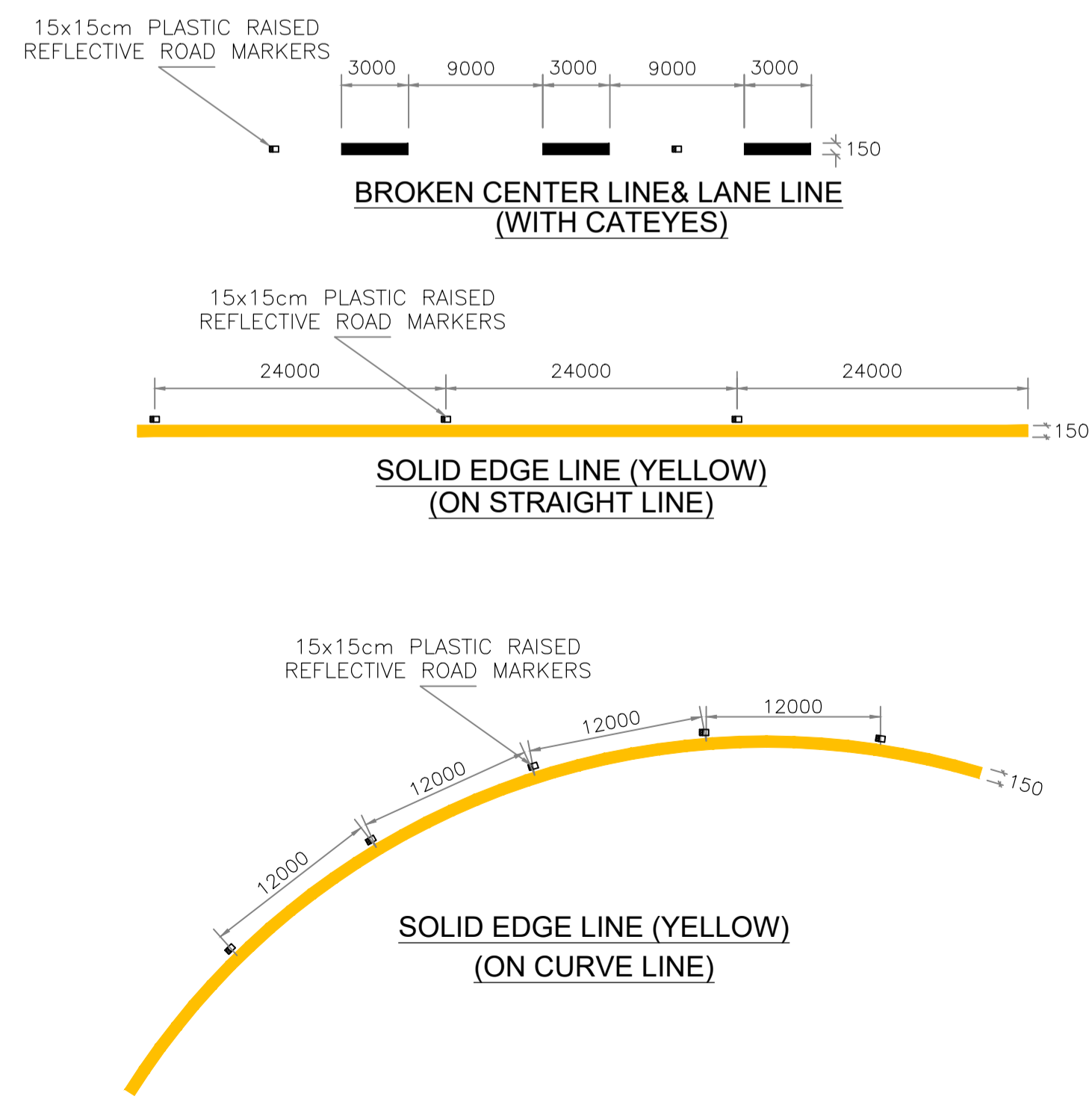
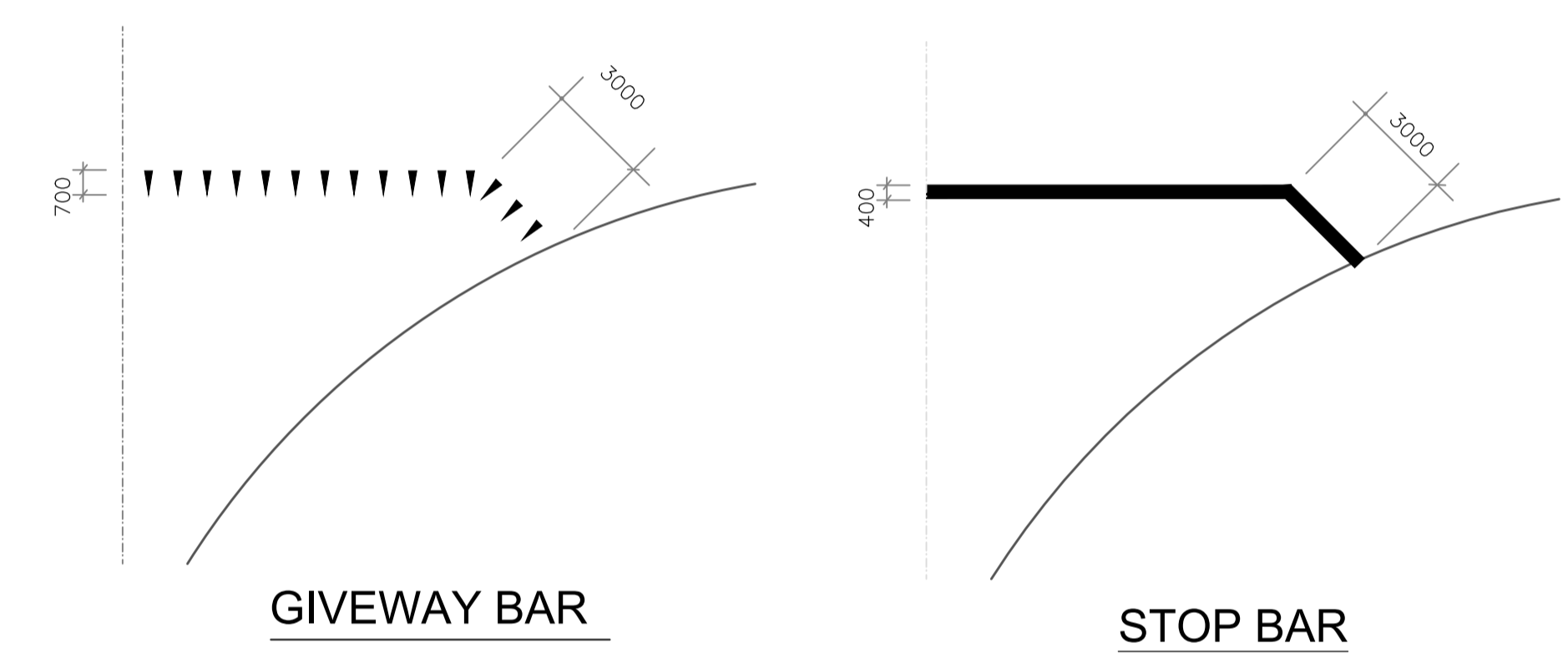


"L" VALUES FOR ROAD MARKING LINES TYPE D4,D5 &D6 (mm)

SPEED	D4		D5		D6	
	L1	L2	L3	L4	L5	L6
< 60 km/HOUR	3000	6000	3000	6000	4000	2000
> 60 km/HOUR	3000	9000	3000	9000	9000	3000



**LARGE SIZE**



**DIMENSION OF ARROWS**

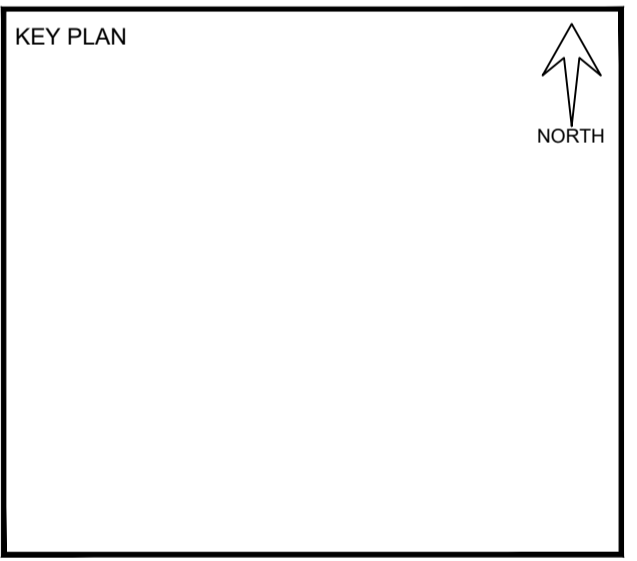
NOTES :-  
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.

BY	DATE	SUBJECT	REV

Review/Verification  Validation

Stage I II III B CONSTRUCTION DOCUMENT

Date



CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

ROAD MARKING AND DUMP DETAILS

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

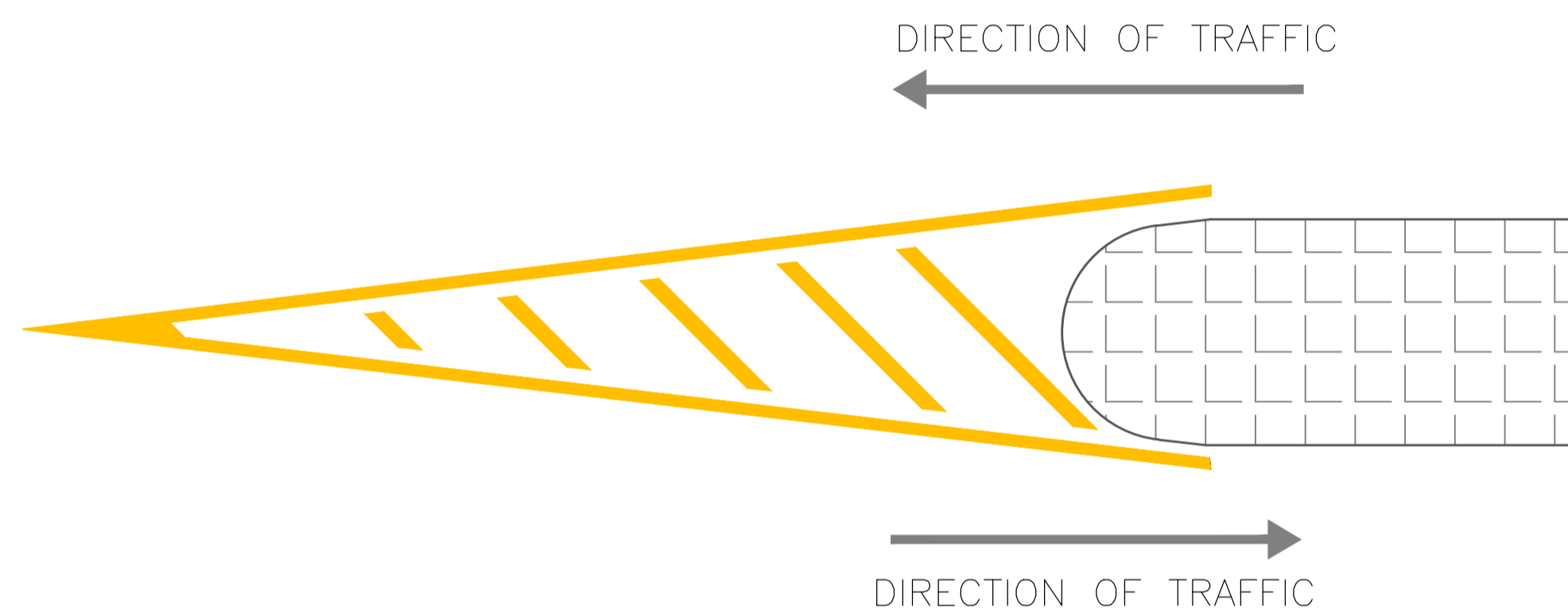
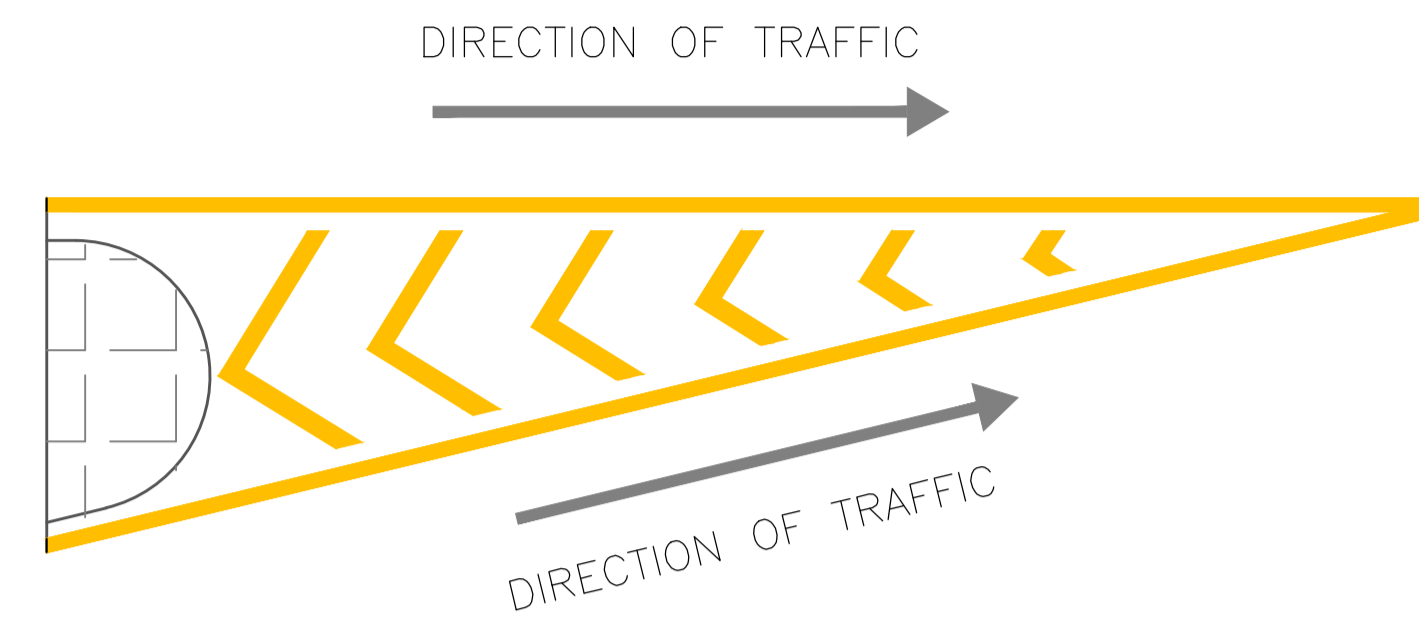
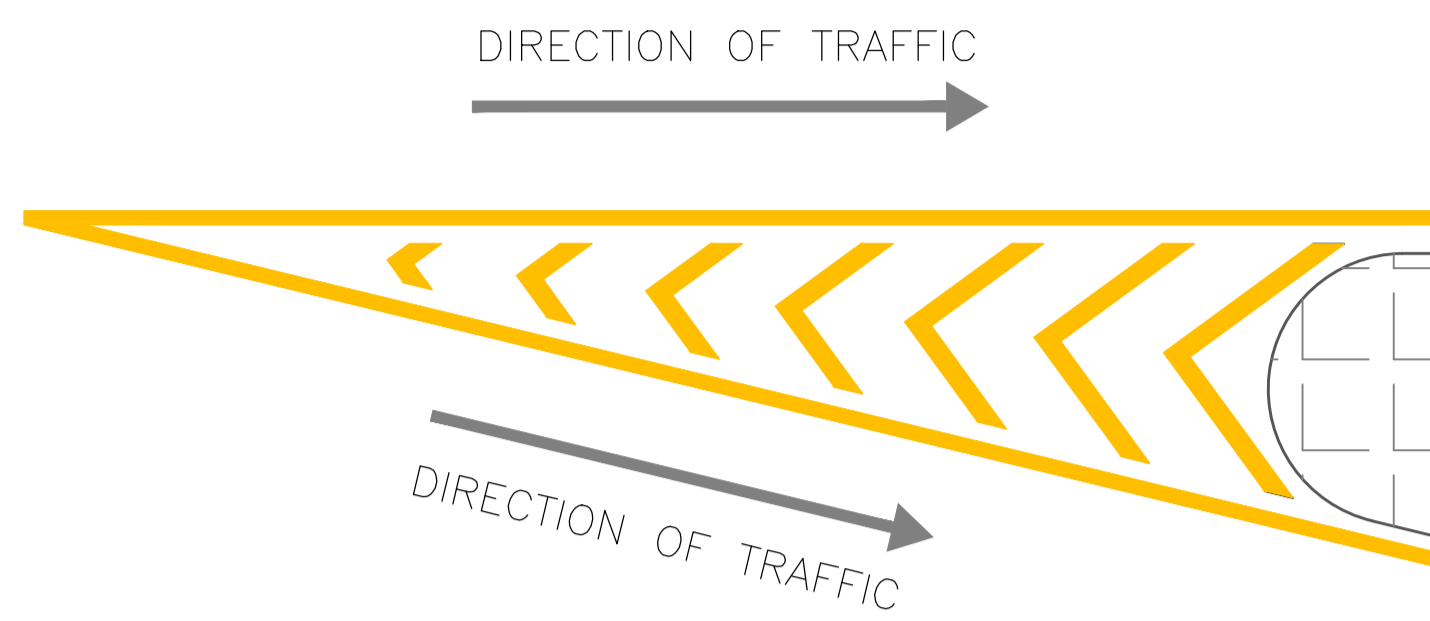
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY

SECTION	A.J	M.J	TEAM

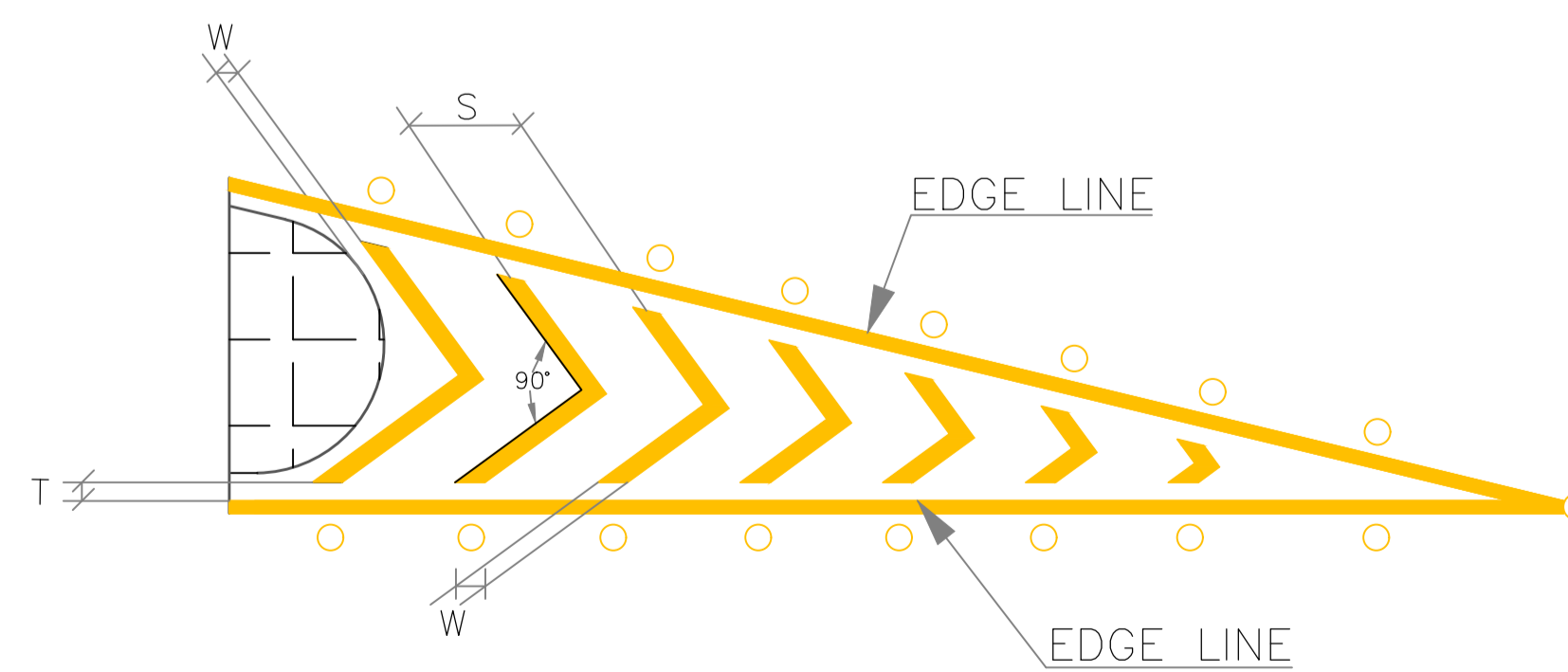
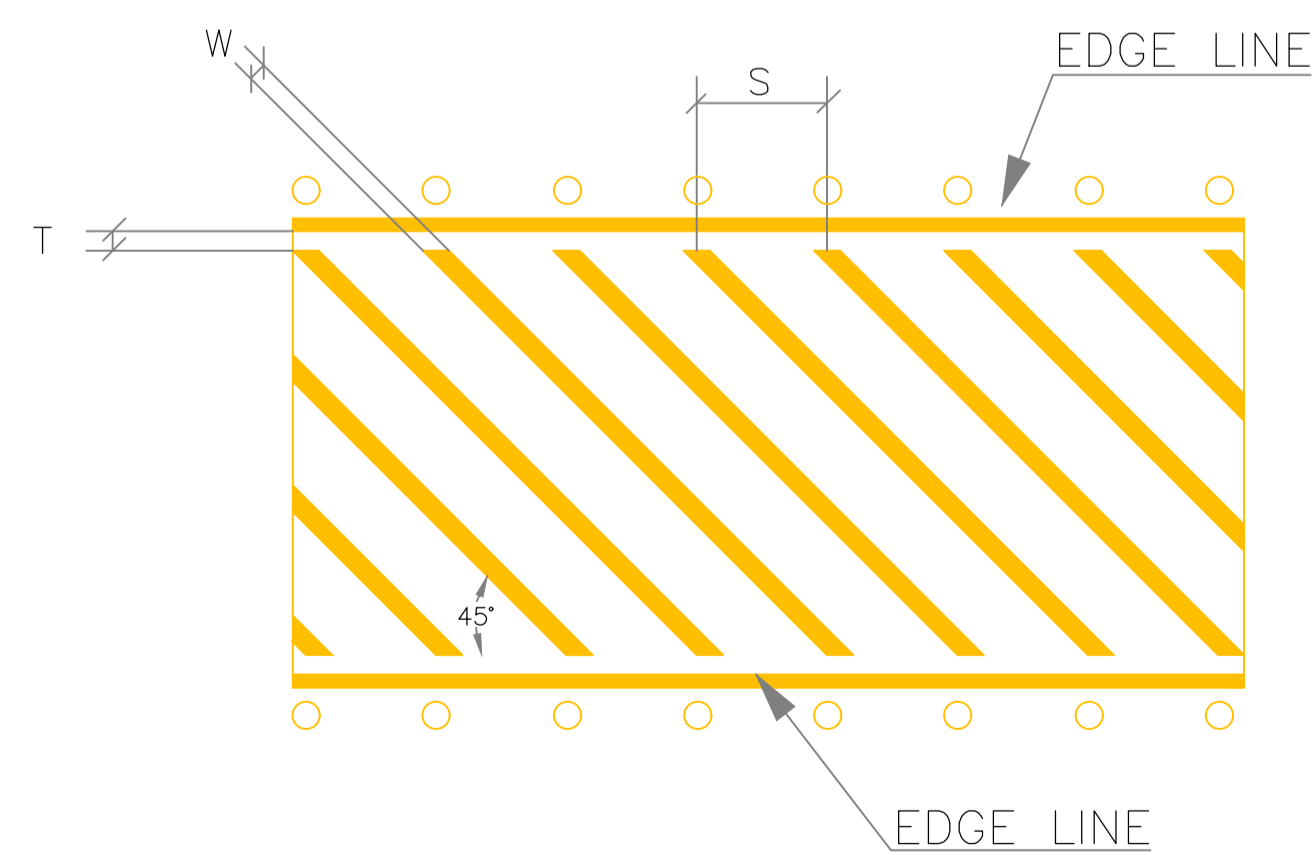
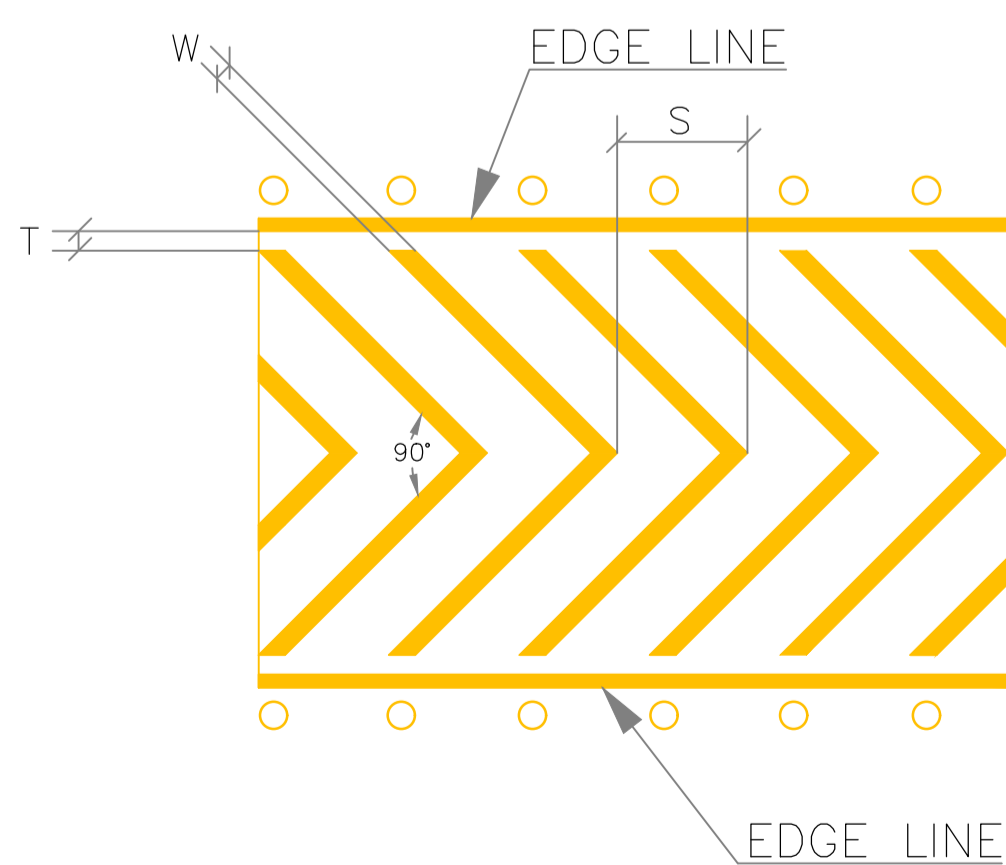
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	DT-803	00

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# TYPICAL OBSTRUCTION MARKINGS



OBSTRUCTION MARKING DIMENSIONS			
DESIGN SPEED (Km/h)	W (mm)	S (m)	t (mm)
40 - < 60	200	1.0	150
60 - < 80	300	1.5	150
80 - < 100	500	2.5	200
>= 100	1000	5.0	200



\* COLOUR OF OBSTRUCTION MARKING SHALL BE YELLOW

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

NORTH

CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

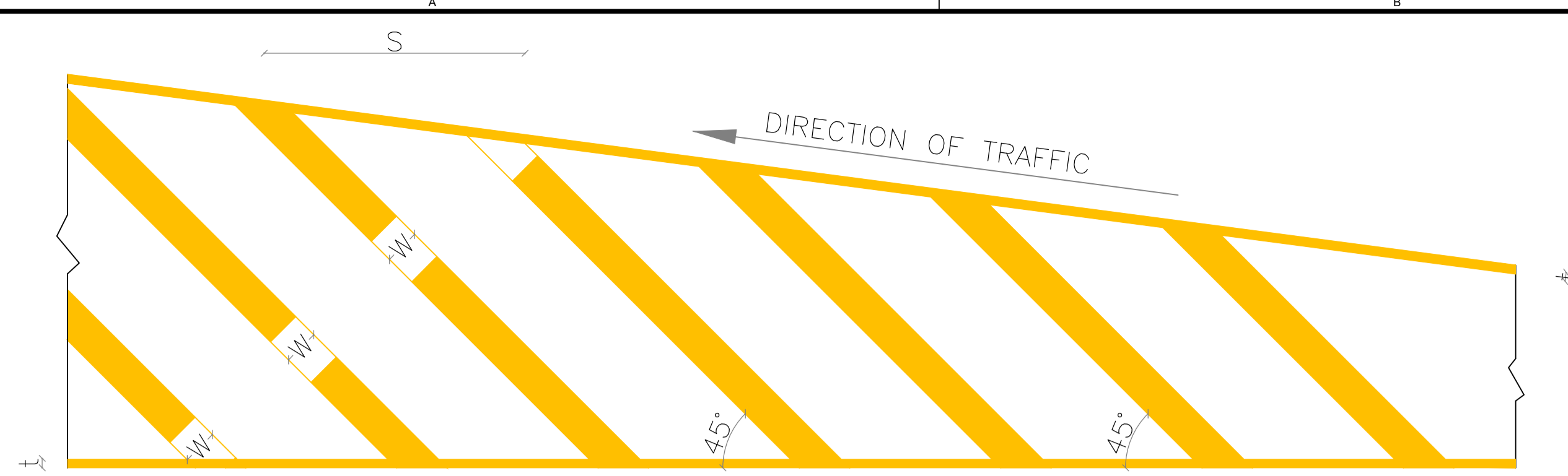
TYPICAL OBSTRUCTION MARKINGS

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM

DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	DT-804	00

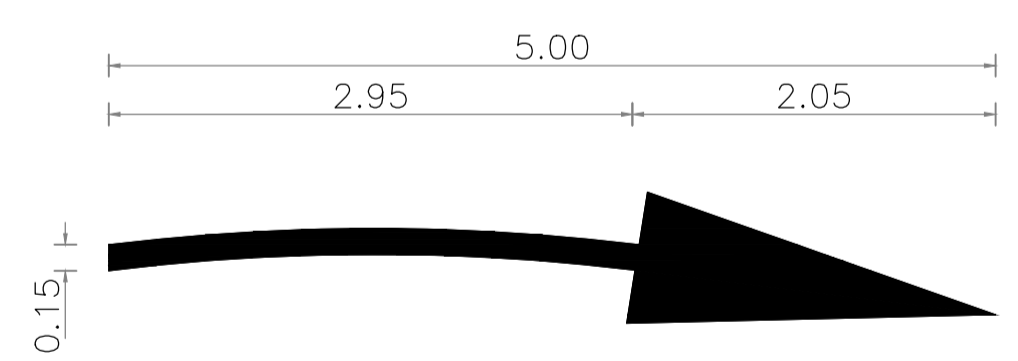
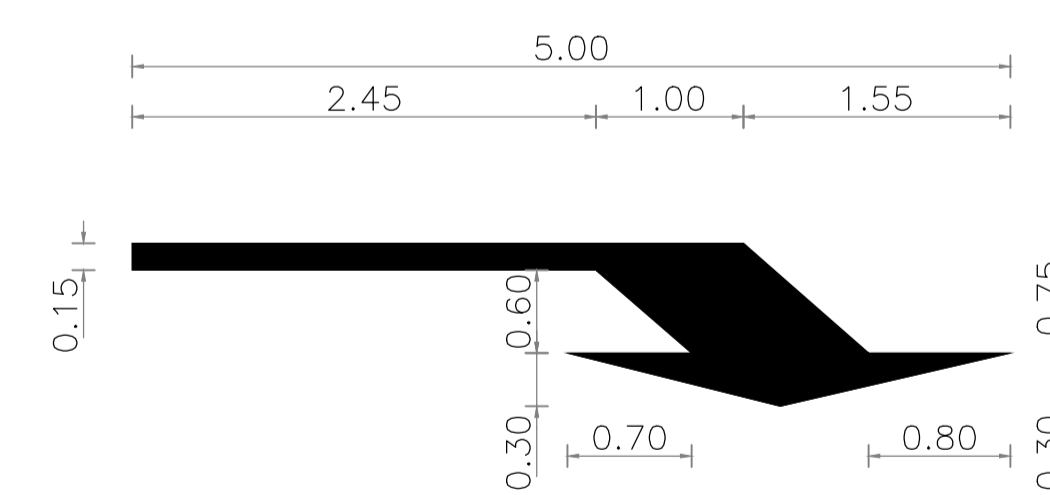
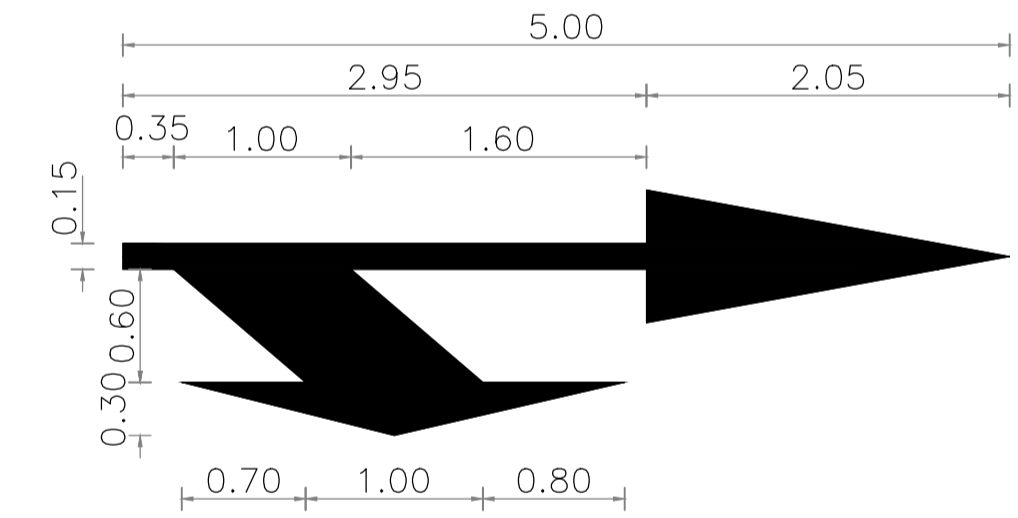
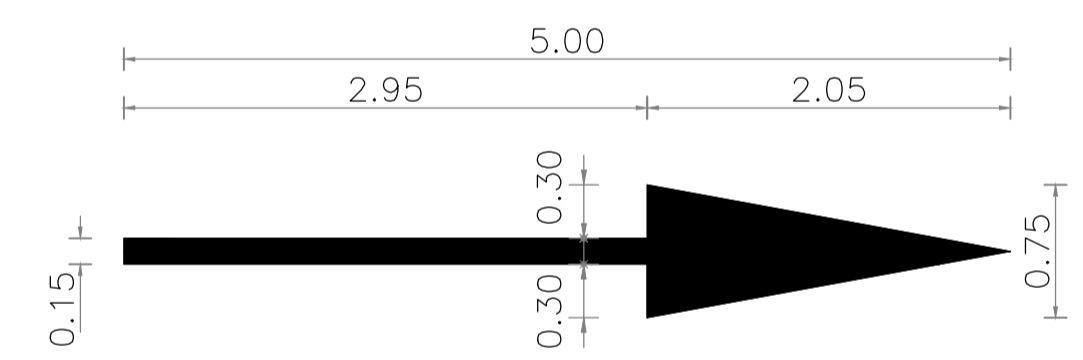
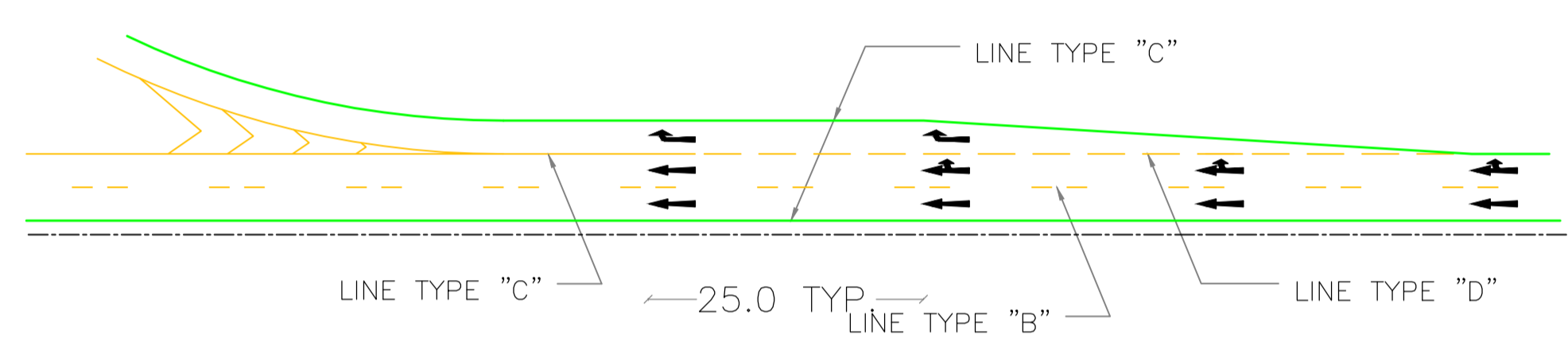
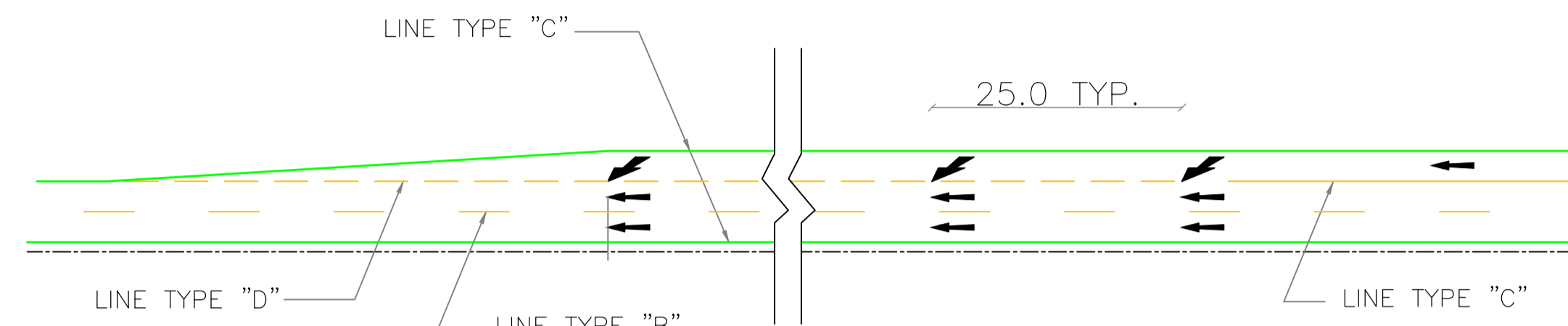
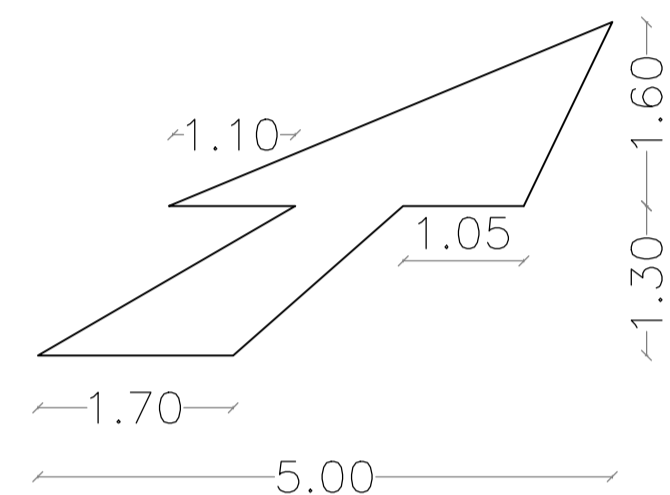
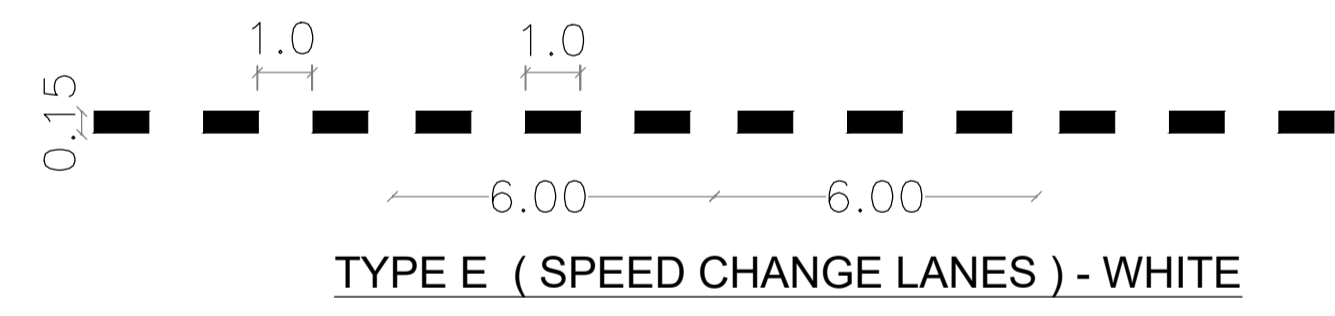
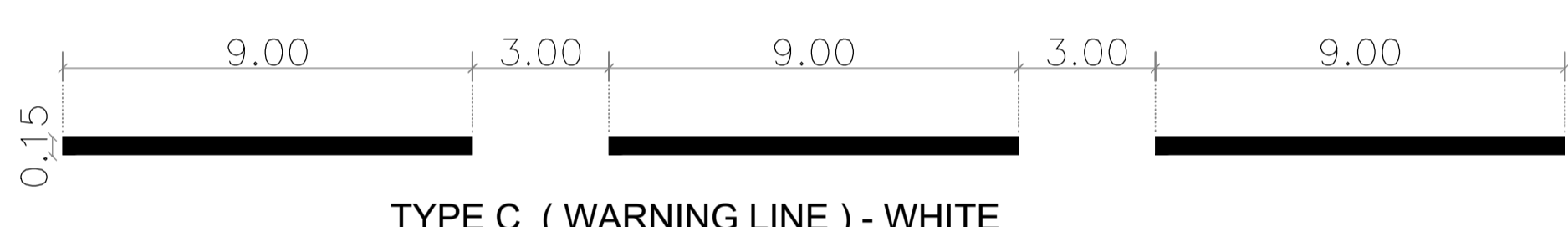
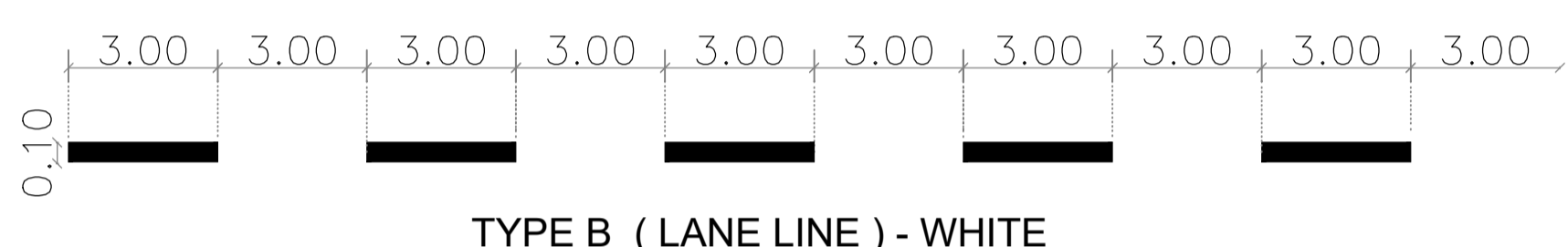
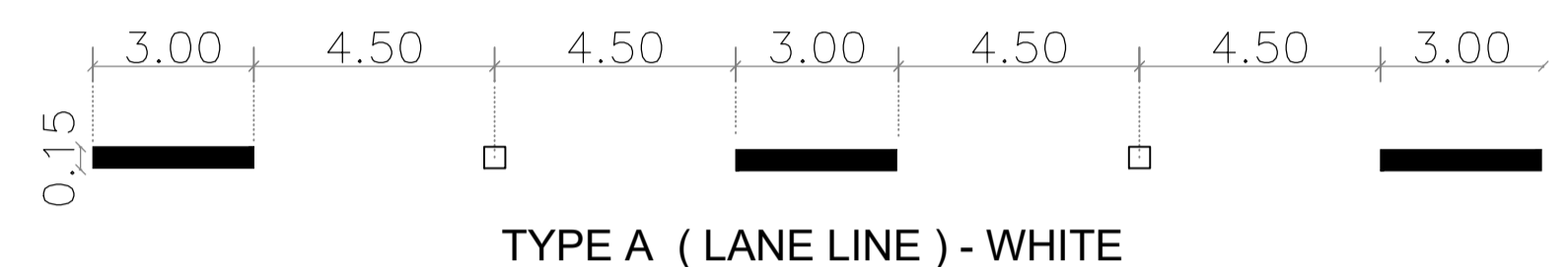
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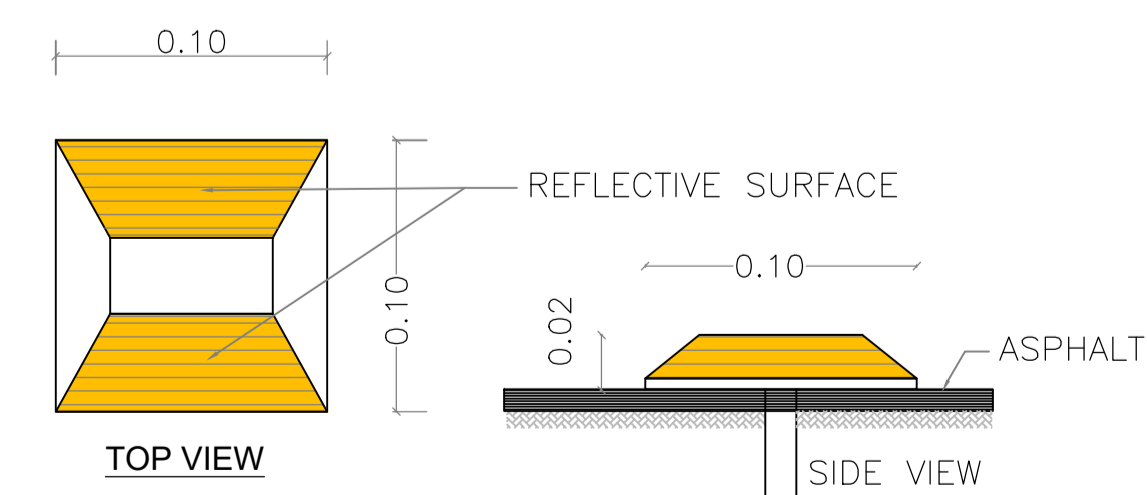
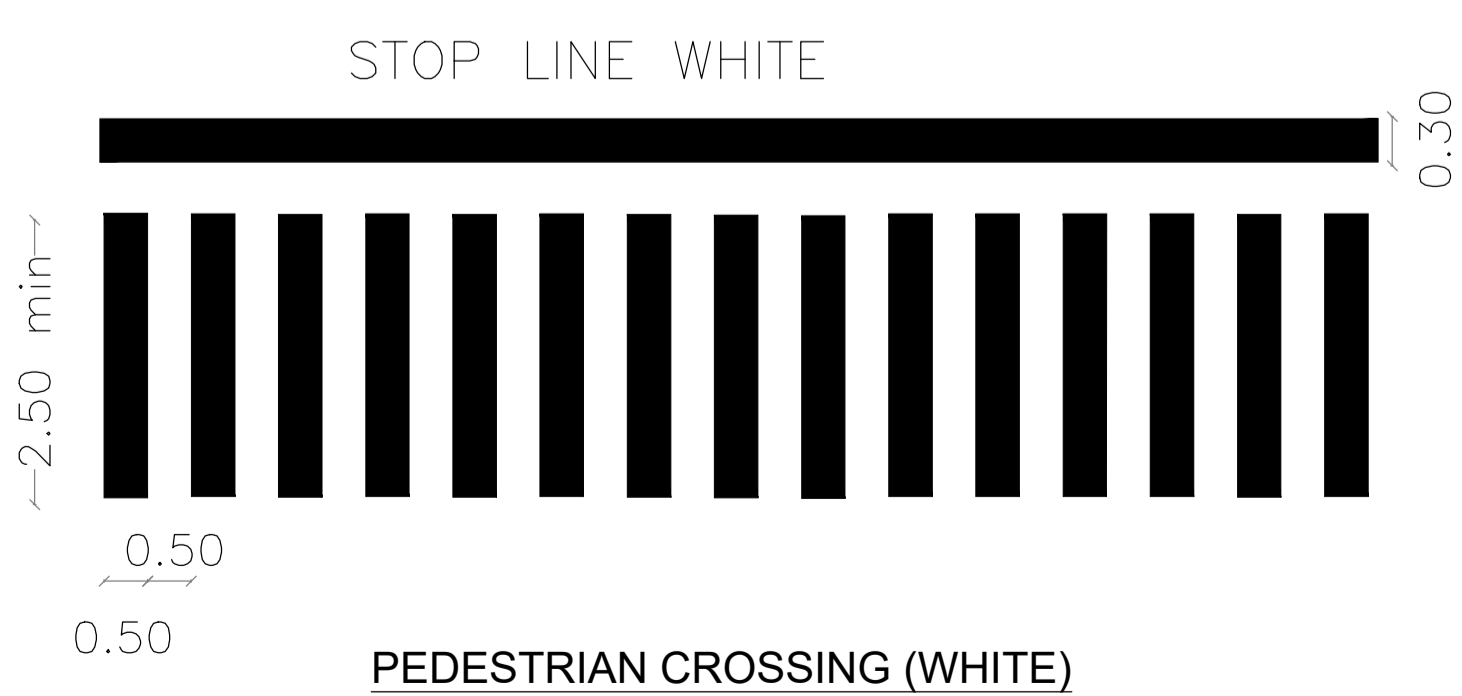
**OBLIQUE PARALLEL LINES**

DESIGN SPEED Km/h	W	S	t
	mm	m	mm
40-<60	200	1.0	150
60-<80	300	1.5	150
80-<100	500	2.5	200
≥100	1000	5.0	200

- NOTES :-**
- 1- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
  - 2- ALL MARKING DETAILS, DIMENSIONS, ...ETC. SHALL CONFORM WITH " MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - 2005" OF MPWH.
  - 3-CENTER MARKING (CM) SHALL BE 100mm WIDE BROKEN WHITE LINE 3m STROKE AND 3m GAP ( TYPE B ). IN NO PASSING ZONES, CENTER MARKING SHALL BE 150mm CONTINUOUS SOLID WHITE LINE
  - 4- EDGE MARKING (EM) SHALL BE 150mm WIDE CONTINUOUS YELLOW LINE ( TYPE D ).
  - 5- SOLID EDGE LINES MUST NOT CONTINUE THROUGH EXIT AND ENTRANCE LANES ON INTERSECTIONS. AT SUCH SECTIONS, EDGE LINE IF USED SHALL BE BROKEN



**ARROW MARKINGS**



TYPE OF ROAD	DIMENSIONS OF ARROW							
	A	B	C	D	E	F	G	H
SECONDARY & ACCESS ROADS	5.00	2.95	0.35	1.60	0.70	0.80	2.45	1.55
PRINCIPAL ARTERIAL ROADS	7.50	5.45	1.45	3.00	1.20	1.30	4.45	2.05

BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

**KEY PLAN**

NORTH

**CLIENT**

**Petra**  
New Development & Tourism Region Authority  
HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

**DAR AL-OMRAN**  
Amman - Jordan  
P.O. Box 142382 Amman - 11184 - Jordan  
Tel: (962) 96 81000 Fax: (962) 96 81001  
E: info@daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
**EMERGENCY SERVICES ROAD**

**DRAWING NAME**

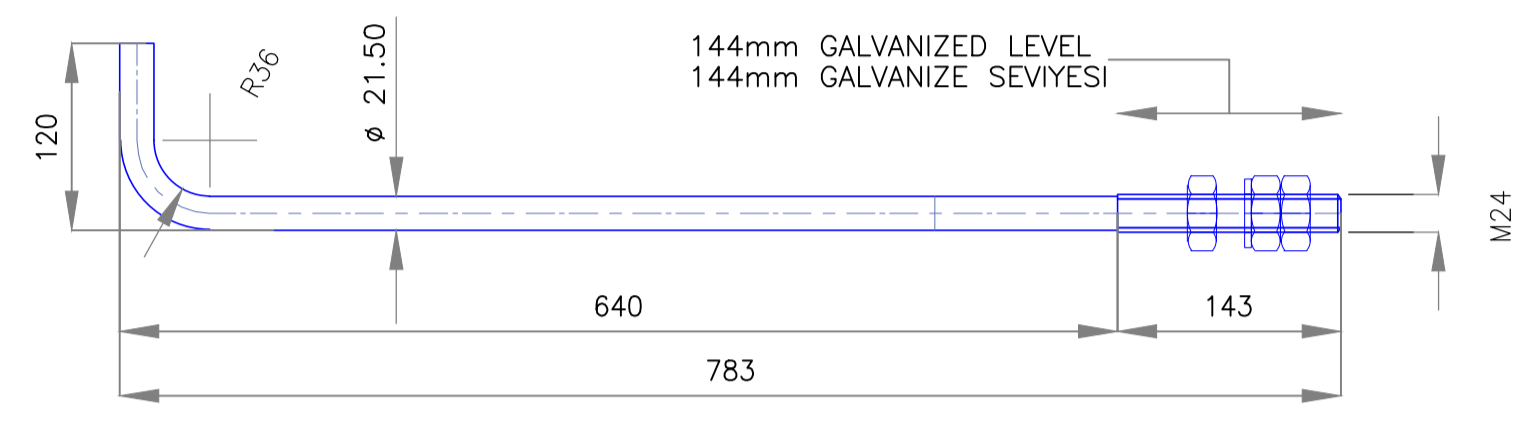
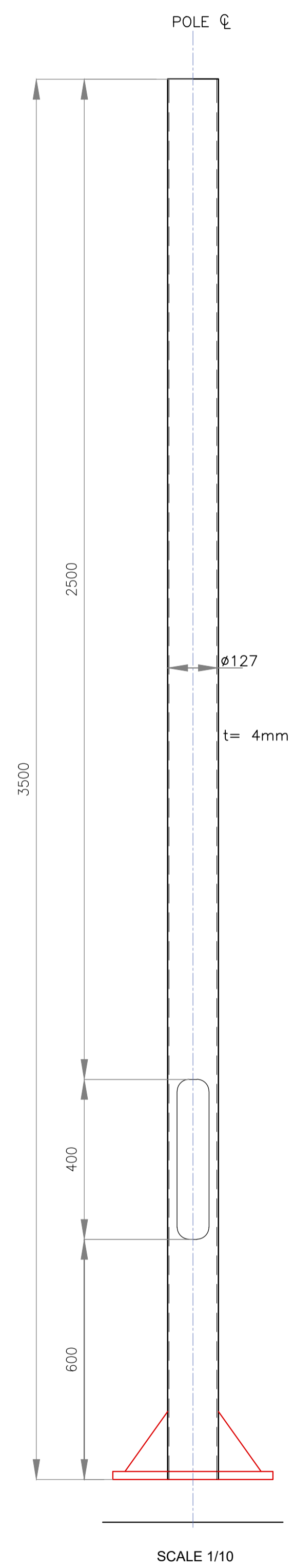
**ROAD MARKING DETAILS**

SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE

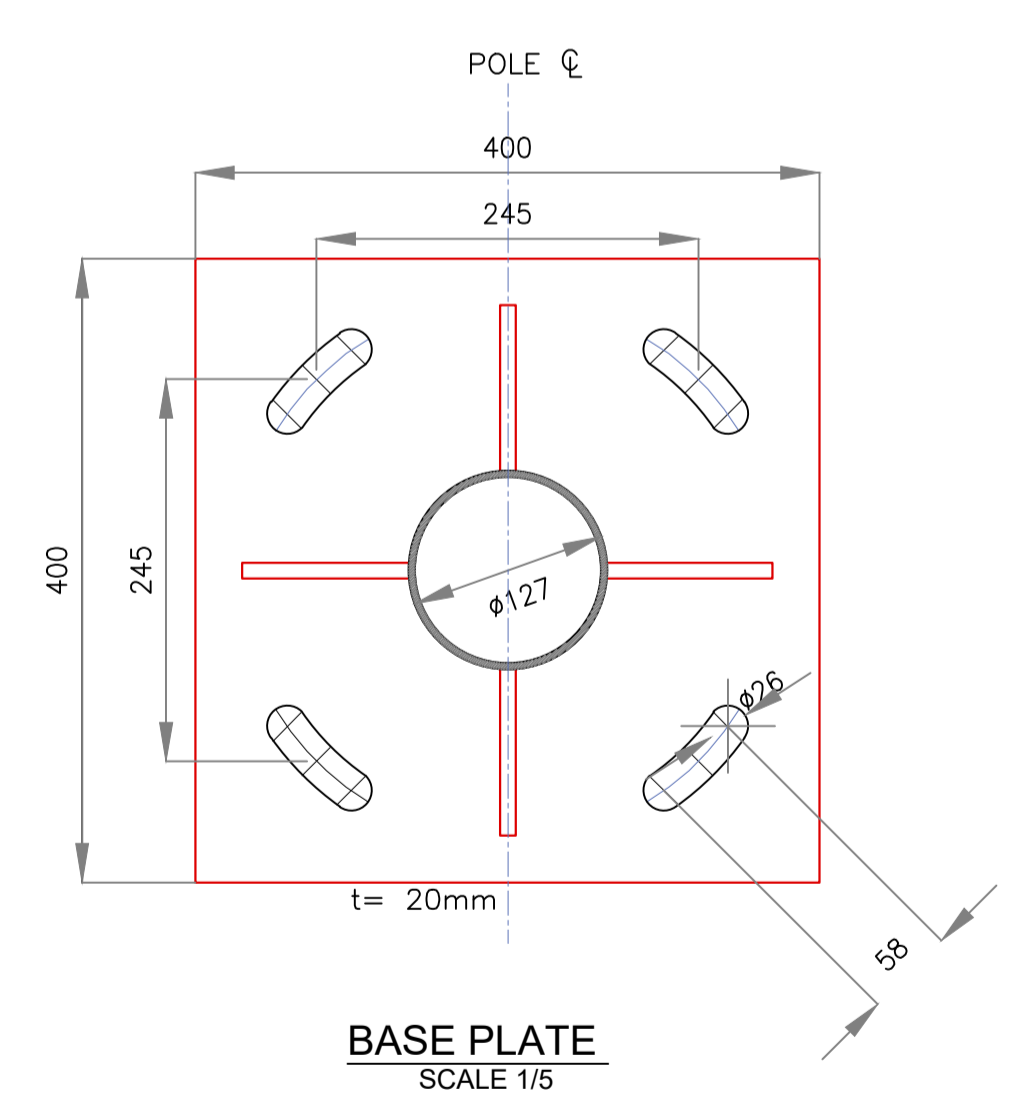
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM

DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	DT-805	00

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**ANCHOR BOLT**  
SCALE 1/5



BY	DATE	SUBJECT	REV

Review/Verification     Validation  
 Stage I II III B CONSTRUCTION DOCUMENT  
 Date

KEY PLAN

NORTH

CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

Amman - Jordan Amman - 28 Strada Al Fakhra Street  
P.O. Box 142362 Amman - 11196 - Jordan  
Tel: (962) 96 81000 Fax: (962) 96 81002  
E: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

SOLAR FLASHER SIGNAL

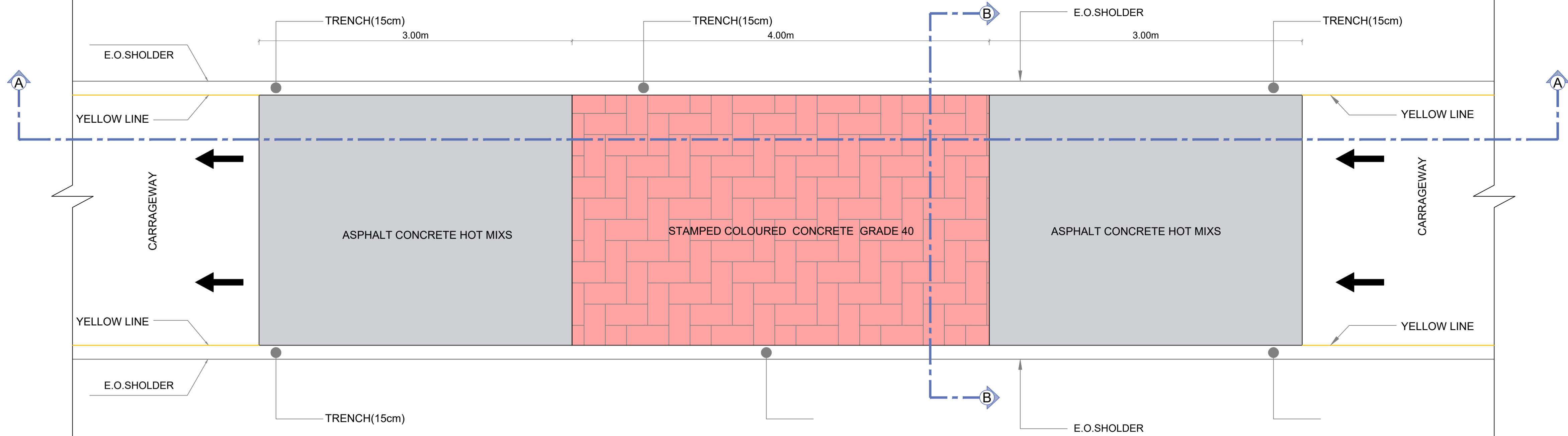
SCALE AS SHOWN WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY

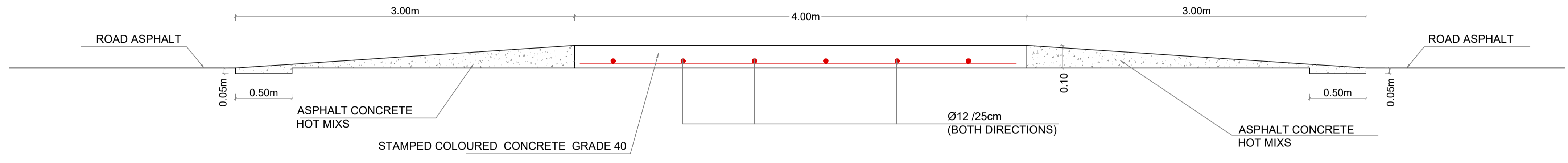
SECTION	A.J	M.J	TEAM

DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	DT-806	00

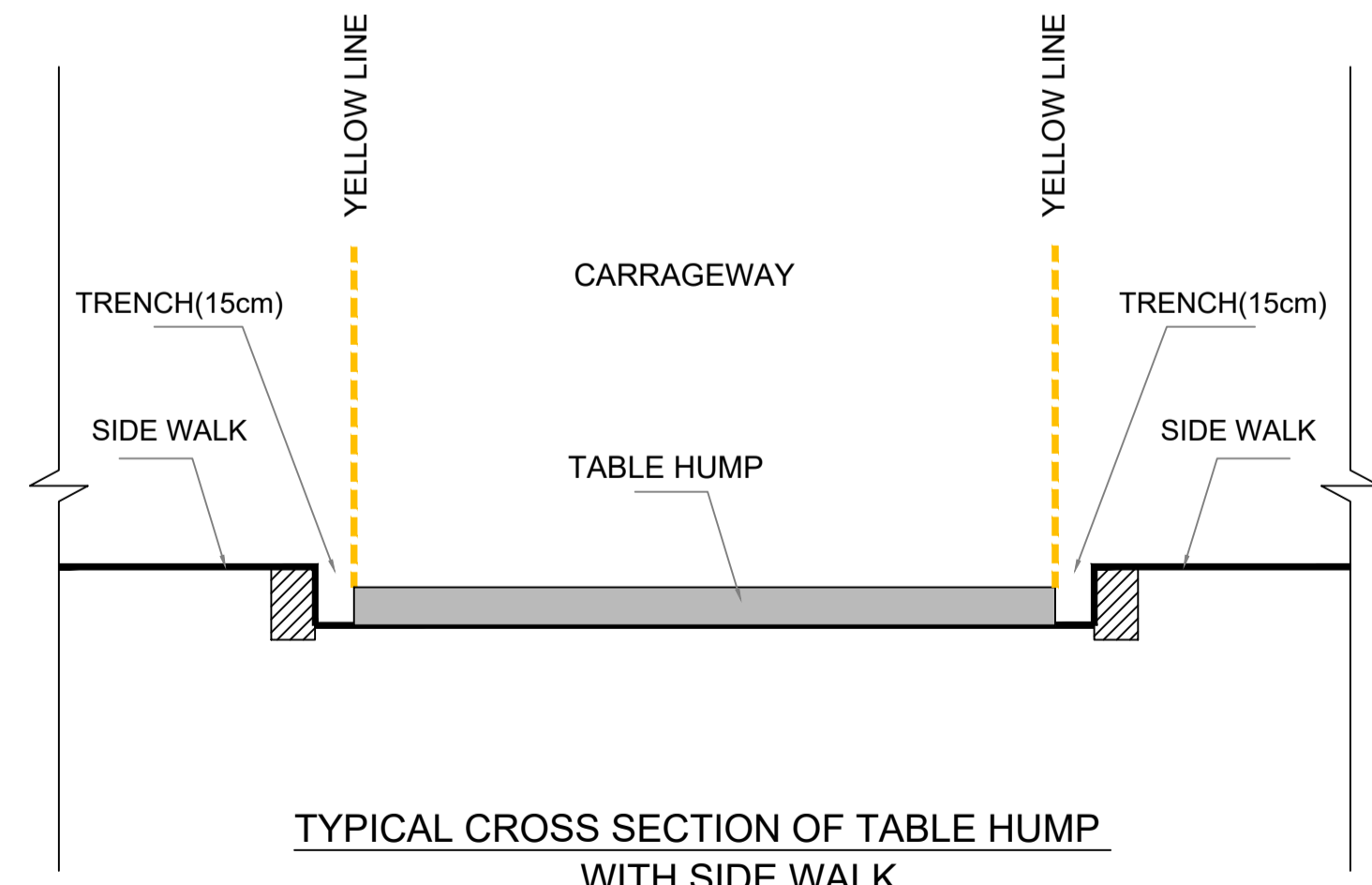
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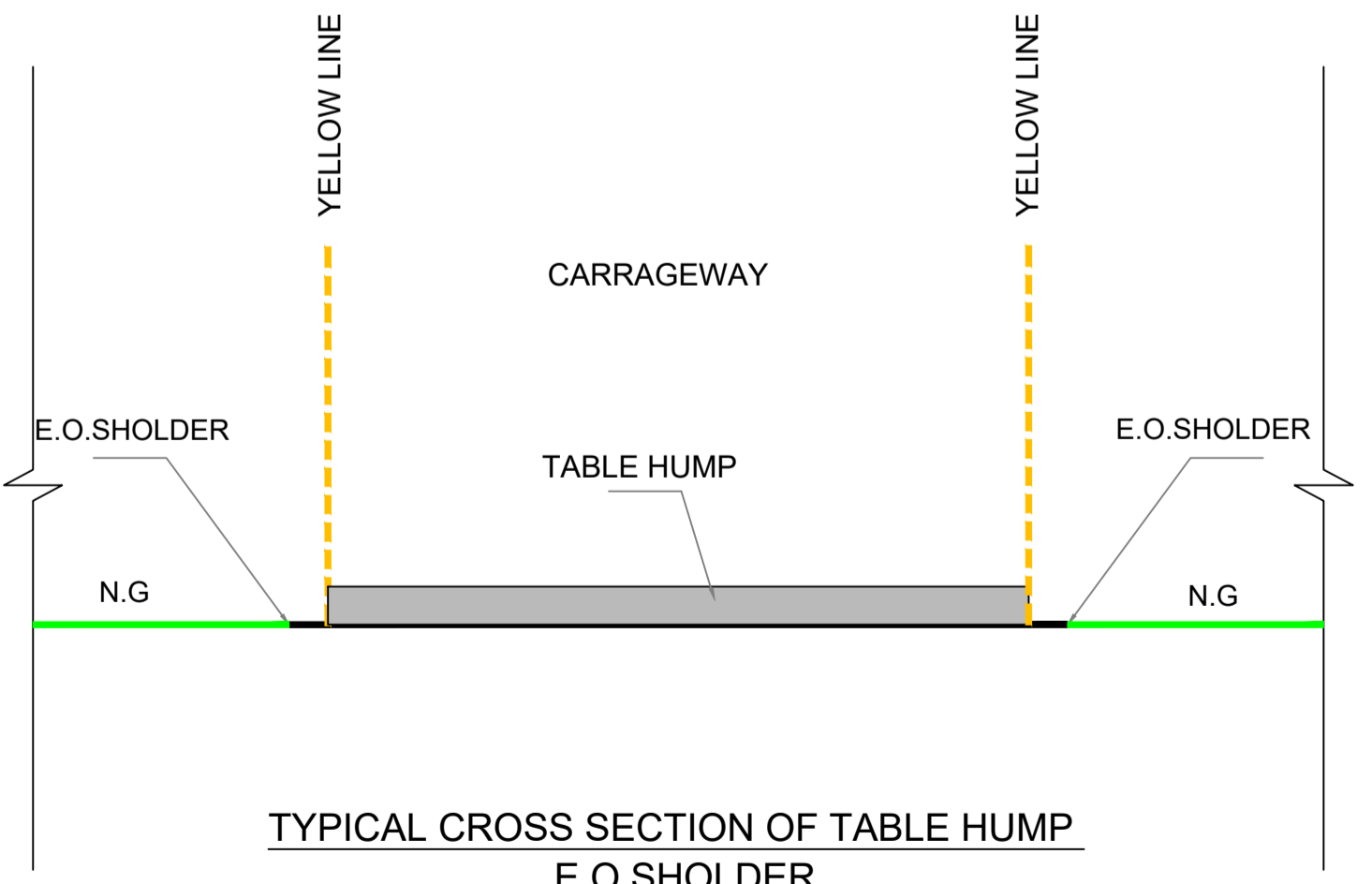
TYPICAL CROSS SECTION OF TABLE HUMP  
PLAN



TYPICAL CROSS SECTION OF TABLE HUMP  
SECTION A-A



TYPICAL CROSS SECTION OF TABLE HUMP  
WITH SIDE WALK  
SECTION B-B



TYPICAL CROSS SECTION OF TABLE HUMP  
E.O. SHOLDER  
SECTION B-B

BY	DATE	SUBJECT	REV

<input checked="" type="checkbox"/> Review/Verification	<input type="checkbox"/> Validation
Stage I II III B	CONSTRUCTION DOCUMENT
Date	



CLIENT

HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN

PROJECT TITLE

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME

TYPICAL CROSS SECTION OF TABLE HUMP

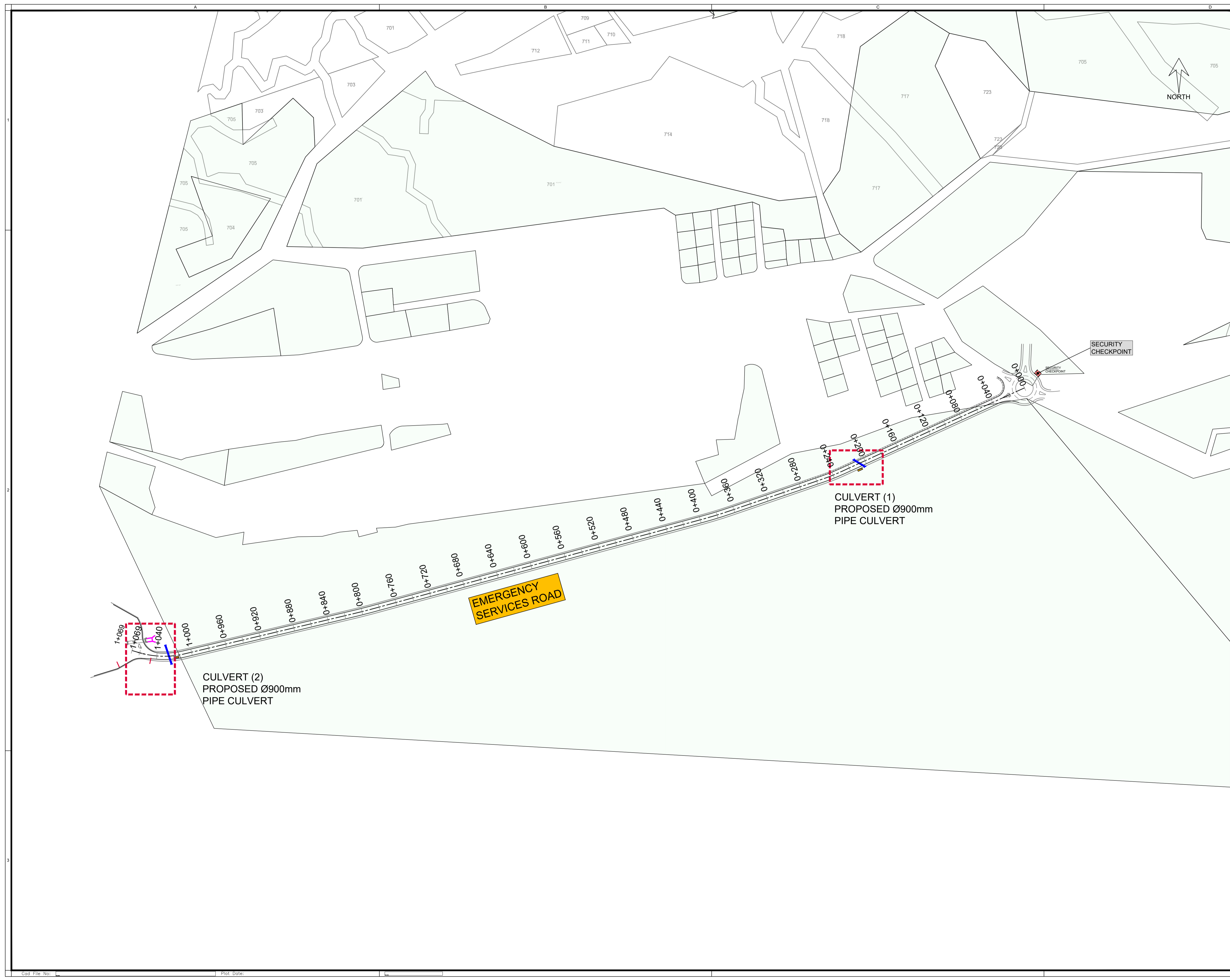
SCALE 1/25	WHEN PRINTED AT A1 SHEET SIZE		
DRAWN BY CAD&GIS SECTION	CHECKED BY A.J	APPROVED BY M.J	DESIGNED BY TEAM
DATE OCT. 2022	PROJECT NO NLD291-21	DRAWING NO DT-807	REV 00

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 I3 LANE PRESELECTION SIGN	 I16 PEDESTRIAN CROSSING	 I17 ONE-WAY ROAD	 I18 NO THROUGH ROAD	 I19 HOSPITAL	 I20 ADVISORY SPEED	 I21 FREEWAY	 I22 END OF FREEWAY	 I24 MOSQUE	 I26 TELEPHONE	 I27 WORKSHOP	 I28 PETROL STATION	
 I29 REFRESHMENT	 I30 RESTAURANT	 I31 HOTEL	 I32 PICNIC SITE	 I33 FIRST-AID STATION	 I37 INDUSTRIAL AREA	 M1.1 TO THE RIGHT	 M1.2 TO THE LEFT	 M1.3 STRAIGHT ON	 M1.4 TURN TO THE RIGHT	 M1.5 TURN TO THE LEFT	 M1.6 U-TURN	
 M1.7 STRAIGHT ON OR TURN TO THE RIGHT	 M1.8 STRAIGHT ON OR TURN TO THE LEFT	 M1.9 TURN TO THE RIGHT OR TURN TO THE LEFT	 M2.1 PASS TO THE RIGHT SIDE	 M2.2 PASS TO THE LEFT SIDE	 M2.3 PASS EITHER SIDE	 M3 COMPULSORY ROUNDABOUT	 M4 COMPULSORY CYCLE TRACK	 P3 PARKING	 P3-1 PARKING	 PB PUSH BUTTON	 AP9.1 ONE DIRECTION	
 AP9.2 BOTH DIRECTIONS	 AP10 END OF PARKING PERMISSION	 AP11 DISABLED PERSONS	 CHEVRON MARKER ONE CHEVRON (Double)	 CHEVRON MARKER ONE CHEVRON	 PARKING METER SIGN	 124 MOSQUE	 SM1 SIGNPOST MARKER	 311 BUS STATION	 R1 YIELD	 R2 STOP	 R3 PRIORITY ROAD	
 R5 PRIORITY FOR ONCOMING TRAFFIC	 R8 NO ENTRY	 R11 NO ENTRY FOR CYCLES	 R13 NO ENTRY FOR GOODS VEHICLES	 R21 NO ENTRY FOR VEHICLES HAVING AN OVERALL EIGHT EXCEEDING... METERS	 R22 NO ENTRY FOR VEHICLES EXCEEDING... TONS LADEN WEIGHT METERS	 R23 WEIGHT LIMIT ON AXLE	 R25 NO LEFT TURN	 R26 NO RIGHT TURN	 R27 NO U-TURN	 R28 OVERTAKING PROHIBITED	 R29 OVERTAKING BY GOODS VEHICLES PROHIBITED	
 R33.1 SPEED LIMIT	 R33.2 SPEED LIMIT	 R33.3 EXIT SPEED	 W1.1 RIGHT BEND	 W1.2 LEFT BEND	 W1.3 DOUBLE BEND OR SUCCESSION OF MORE THAN TWO BENDS THE FIRST TO THE RIGHT	 W1.4 DOUBLE BEND OR SUCCESSION OF MORE THAN TWO BENDS THE FIRST TO THE LEFT	 W1.15 270 DEG LOOP	 W2.1 STEEP DESCENT	 W2.2 STEEP ASCENT	 W3.1 ROAD NARROWS FROM BOTH SIDES	 W3.2 ROAD NARROWS FROM RIGHT	
 W3.3 ROAD NARROWS FROM LEFT	 W7 HUMP	 W8A	 W9 ROAD WORKS AHEAD	 W25 RAIL LEVEL-CROSSING WITH GATES	 W26 RAIL LEVEL-CROSSING WITHOUT GATES	 W11.1 FALLING ROCKS FROM THE RIGHT	 W11.2 FALLING ROCKS FROM THE LEFT	 W12 LOOSE GRAVEL	 W13 PEDESTRIAN CROSSING	 W14 CHILDREN	 W15 CYCLISTS ENTERING OR CROSSING	
 W16.1 ANIMALS	 W20 TRAFFIC SIGNALS	 W21 TWO-WAY TRAFFIC	 W22 DUAL CARRIWAY AHEAD	 W23 DIVIDED ROAD END AHEAD	 W30 INTERSECTION	 W31.1 INTERSECTING MINOR ROAD FROM BOTH SIDES	 W31.5 INTERSECTING MINOR ROAD FROM LEFT	 W31.4 INTERSECTING MINOR ROAD FROM RIGHT	 W31.6 INTERSECTING MINOR ROAD FROM RIGHT	 W31.7 INTERSECTING MINOR ROAD FROM LEFT	 W32 ROUNDAABOUT	
 W33 STOP AHEAD	 W36.1 ONE CHEVRON	 W36.2 THREE CHEVRON	 P2 STANDING AND PARKING PROHIBITED	 TUNNEL AHEAD	 BRIDGE AHEAD	 DANGERS OF DIFFERENT TYPES	 DUAL CARRIWAY AHEAD	 RAIL LEVEL-CROSSING WITHOUT GATES	 RAIL LEVEL-CROSSING WITH GATES	 CHEVRON MARKER THREE CHEVRONE TO RIGHT	 CHEVRON MARKER THREE CHEVRONE TO LEFT	
 I13-1 INTERNATIONAL ROAD NUMBER	 AP1 LENGTH OF AZONE TO WHICH A WARNING APPLIES	 AP2 LENGTH OF AZONE TO WHICH A REGULATION APPLIES	 AP3 DISTANCE TO A DANGEROUS SECTION OR A POINT A REGULATION STARTS TO APPLY	 AP4 MAXIMUM WEIGHT	 AP6.1 REGULAR APPLIES IN BOTH DIRECTION	 AP6.2 END OF REGULATION	 AP7 DIRECTION OF A HAZARD	 P100 NO PARKING	 W38-1 HEIGHT OBSTACLE MARKER WITH 45° ANGEL BANDS			

BY	DATE	SUBJECT	REV
<input checked="" type="checkbox"/>		<input type="checkbox"/>	
Stage	I	II	III
Date			
<input checked="" type="checkbox"/> Review/Verification <input type="checkbox"/> Validation CONSTRUCTION DOCUMENT			
KEY PLAN			
 NORTH			
CLIENT  HASHEMITE KINGDOM OF JORDAN PETRA DEVELOPMENT & TOURISM REGION AUTHORITY			
CONSULTANT  DAR AL-OMRAN			
PROJECT TITLE تنفيذ شارع خدمات الطوارئ EMERGENCY SERVICES ROAD			
DRAWING NAME			
TRAFFIC SIGNS DETAILS			
SCALE N.T.S. WHEN PRINTED AT A1 SHEET SIZE			
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
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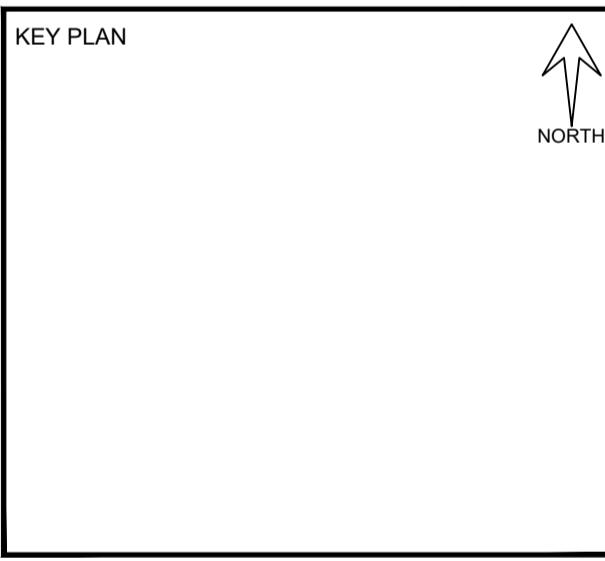
PROPOSED CULVERTS CROSS SECTIONS



- LEGEND :**
- CENTER LINE
  - EDGE OF PAVEMENT
  - ▭ PROPOSED CULVERT
  - ▭ EXTEND CULVERT
  - ▭ EXISTING CULVERT

BY	DATE	SUBJECT	REV

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 Stage I II III IV V B CONSTRUCTION DOCUMENT  
 Date



**CLIENT**

Petra Development & Tourism Region Authority  
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 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN  
 Address: Jeddah - Jeddah - 20 Streets Al-Fahd Street  
 P.O. Box 84288 Jeddah - 21584 - Jordan  
 Tel: (962) 56 81000 Fax: (962) 56 88887  
 E: info@daral-omran.com Web: www.daral-omran.com

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

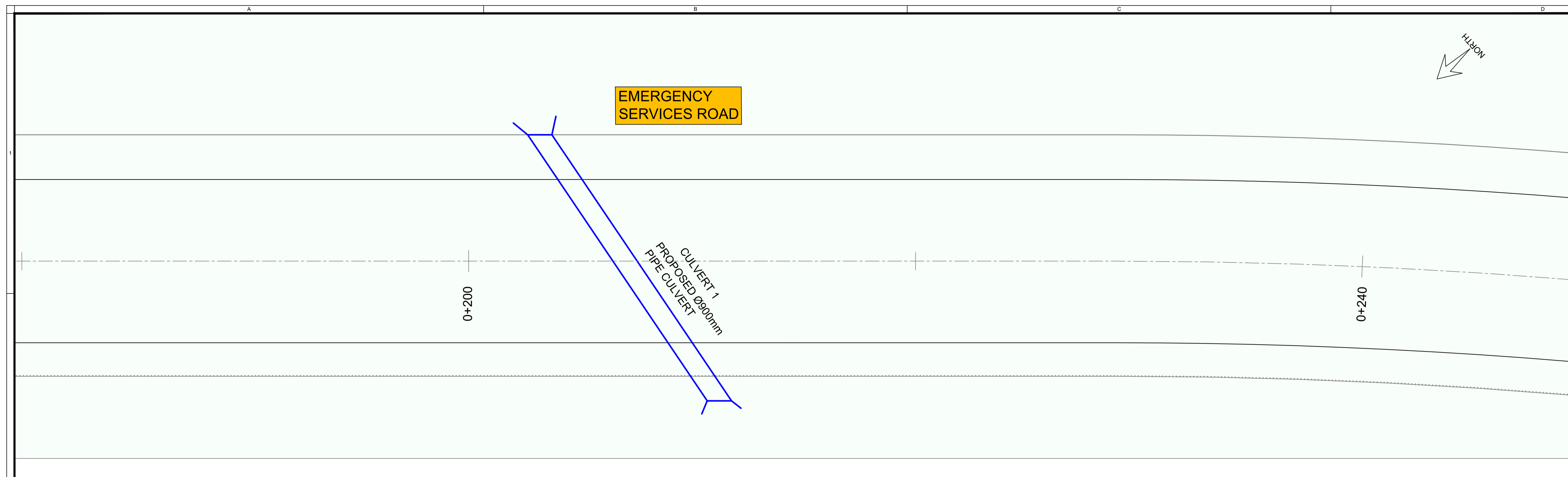
**DRAWING NAME**

CULVERTS  
 GENERAL LAYOUT

SCALE 1/2,000 WHEN PRINTED AT A1 SHEET SIZE

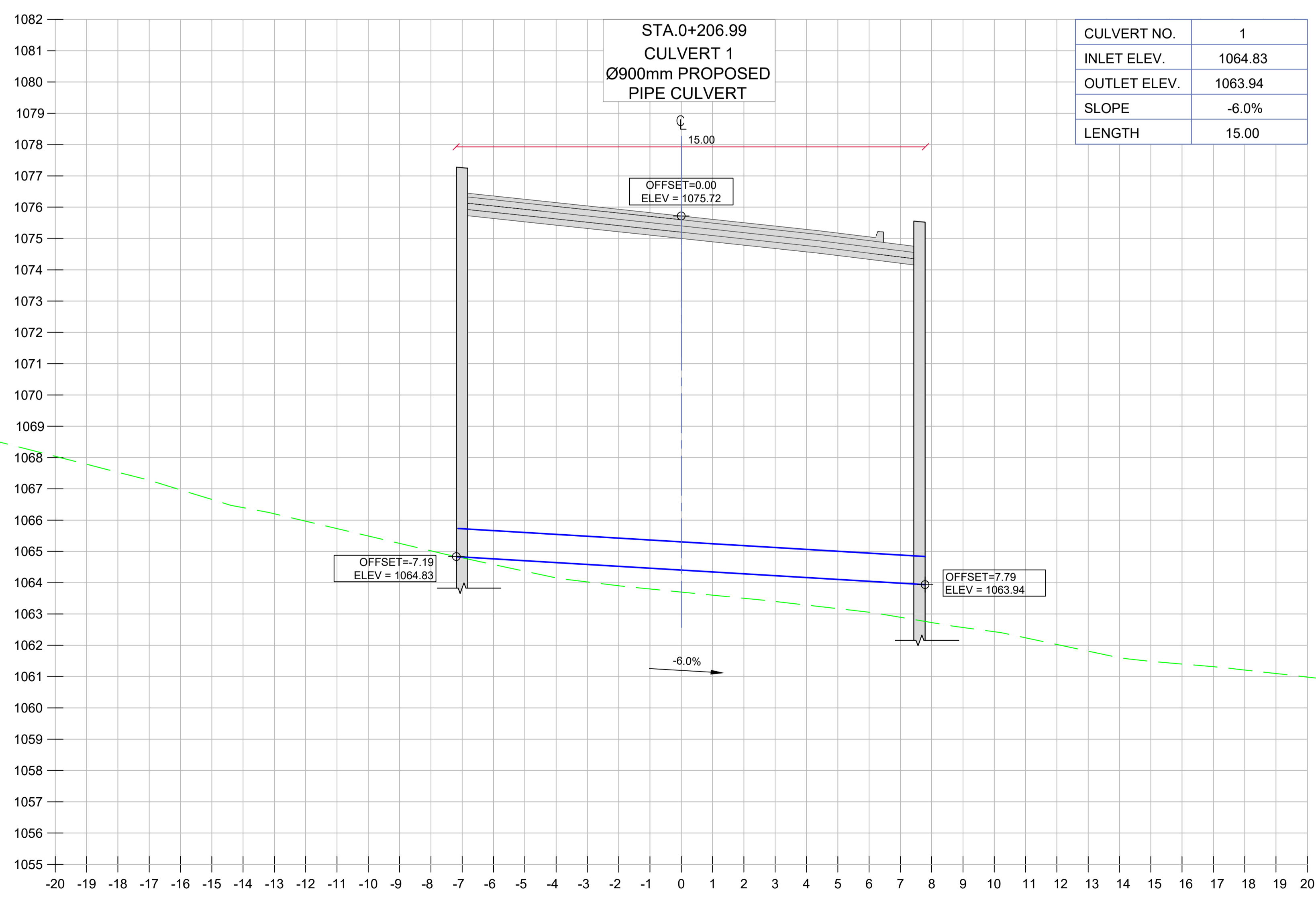
DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
CAD&GIS	A.J	M.J	TEAM
DATE	PROJECT NO	DRAWING NO	REV
OCT. 2022	NLD291-21	D500	00

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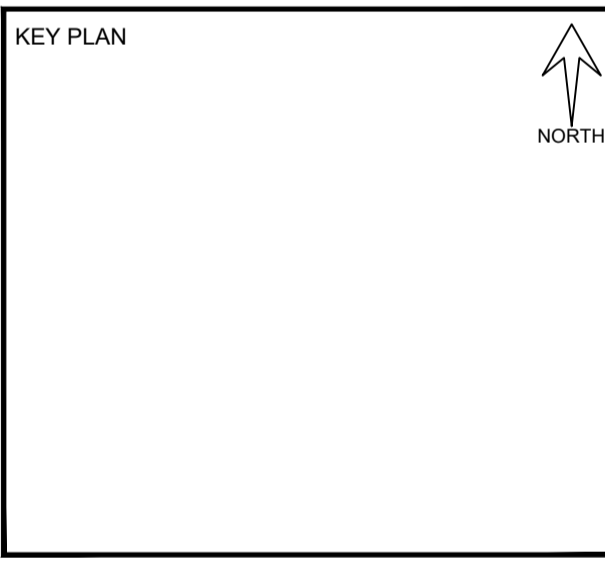
- LEGEND :**
- CENTER LINE
  - EDGE OF PAVEMENT
  - ▭ PROPOSED CULVERT
  - ▭ EXTEND CULVERT
  - ▭ EXISTING CULVERT

**NOTE :**  
 DESIGN, DETAILING & ADAPTATION AS PER SITE CONDITION FOR WING WALLS & APRONS TO BE PROVIDED BY THE CONTRACTOR & TO BE SUBMITTED TO ENGINEER APPROVAL.



BY	DATE	SUBJECT	REV

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 Date



**CLIENT**

HASHEMITE KINGDOM OF JORDAN  
 PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

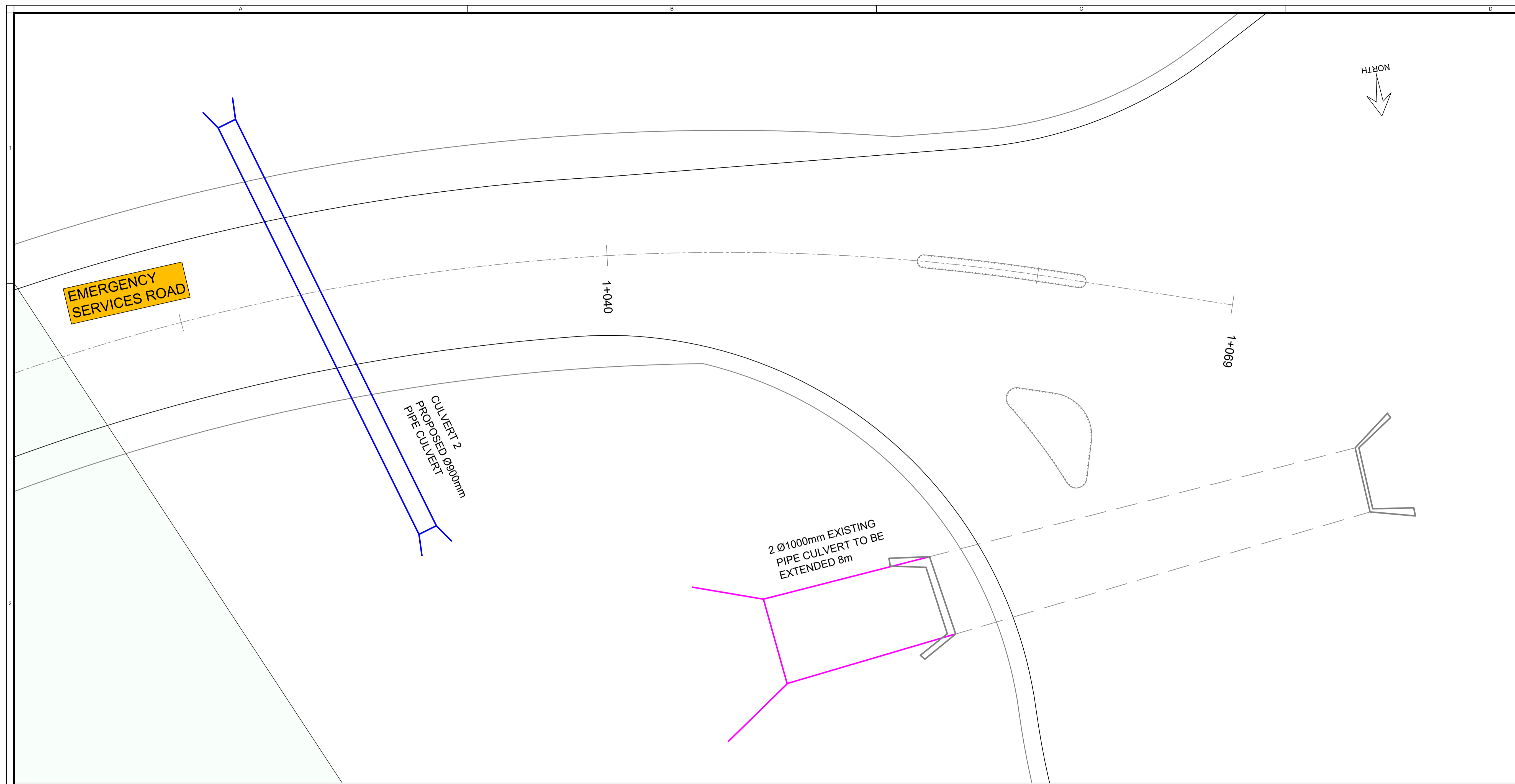
**PROJECT TITLE**  
 تنفيذ شارع خدمات الطوارئ  
 EMERGENCY SERVICES ROAD

**DRAWING NAME**  
 CULVERT 1  
 PLAN & SECTION  
 STA. 0+206.99

SCALE 1/100 WHEN PRINTED AT A1 SHEET SIZE

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SECTION	A.J	M.J	TEAM
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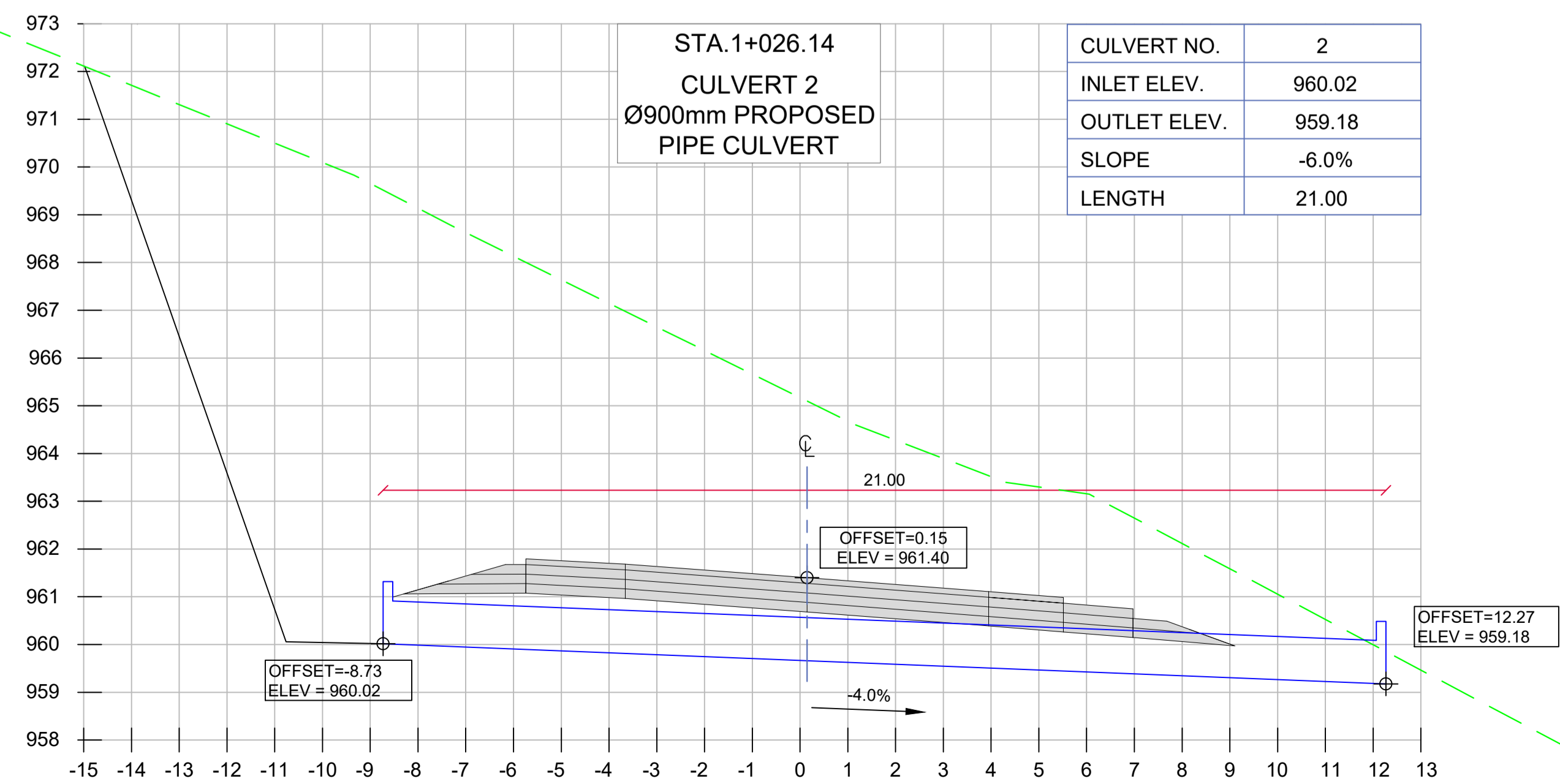
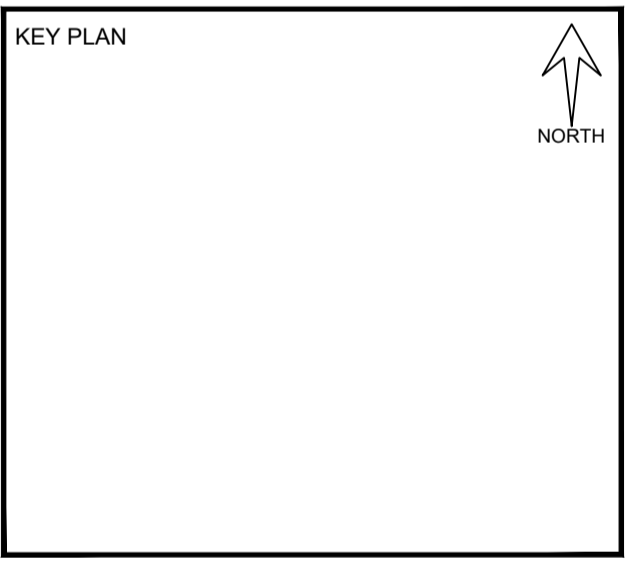


**LEGEND :**

- CENTER LINE
- EDGE OF PAVEMENT
- ▭ PROPOSED CULVERT
- ▭ EXTEND CULVERT
- ▭ EXISTING CULVERT

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PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

**CONSULTANT**

DAR AL-OMRAN

**PROJECT TITLE**

تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

**DRAWING NAME**

CULVERT 2  
PLAN & SECTION  
STA. 1+026.14

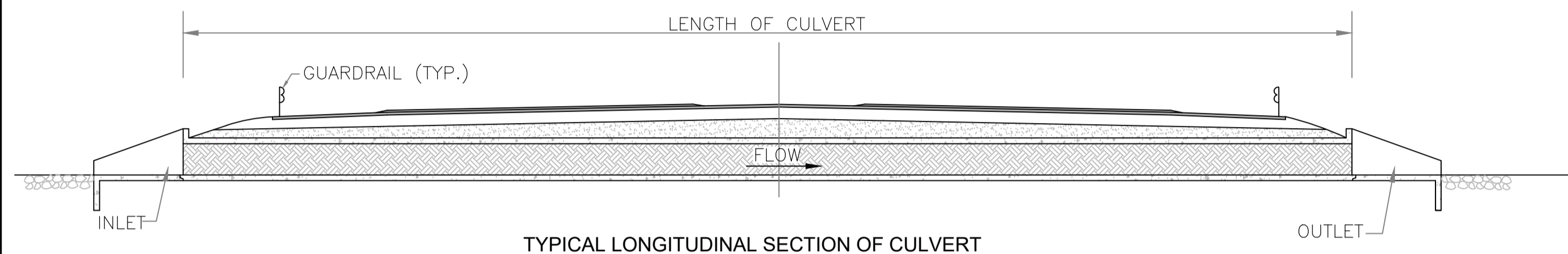
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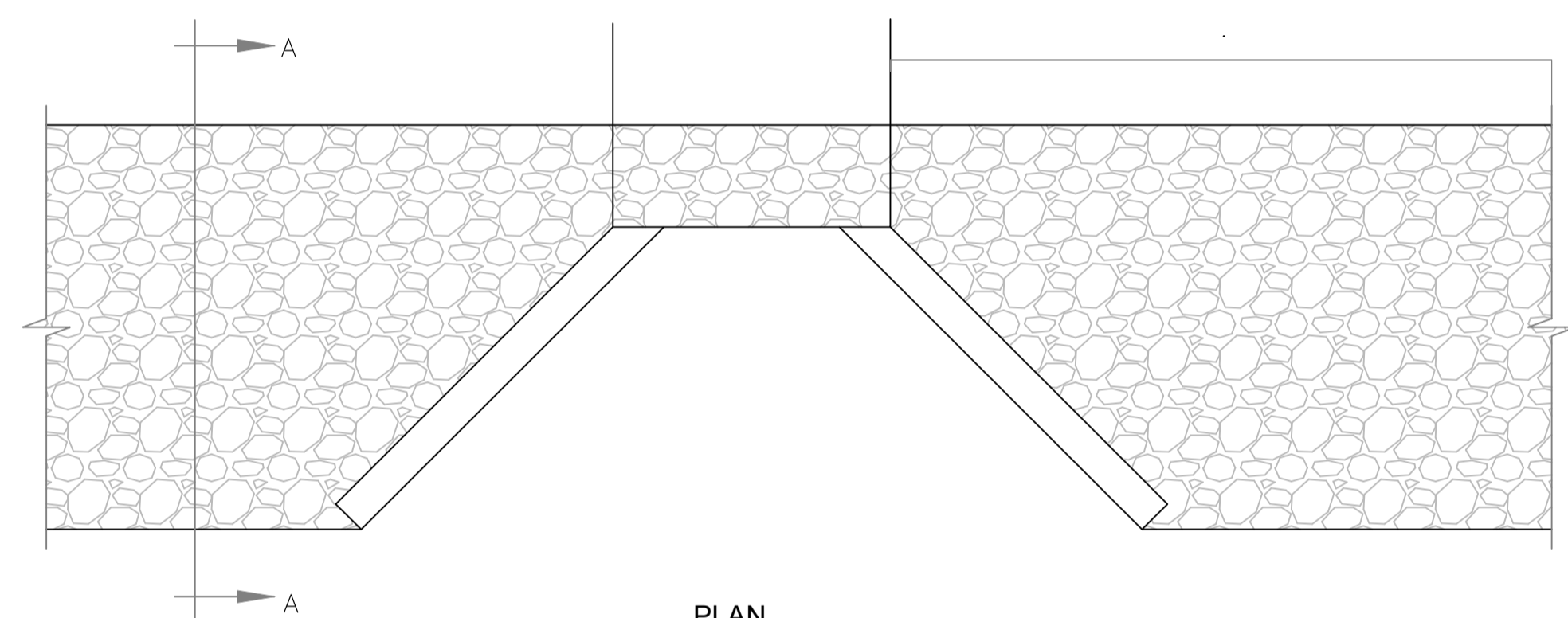
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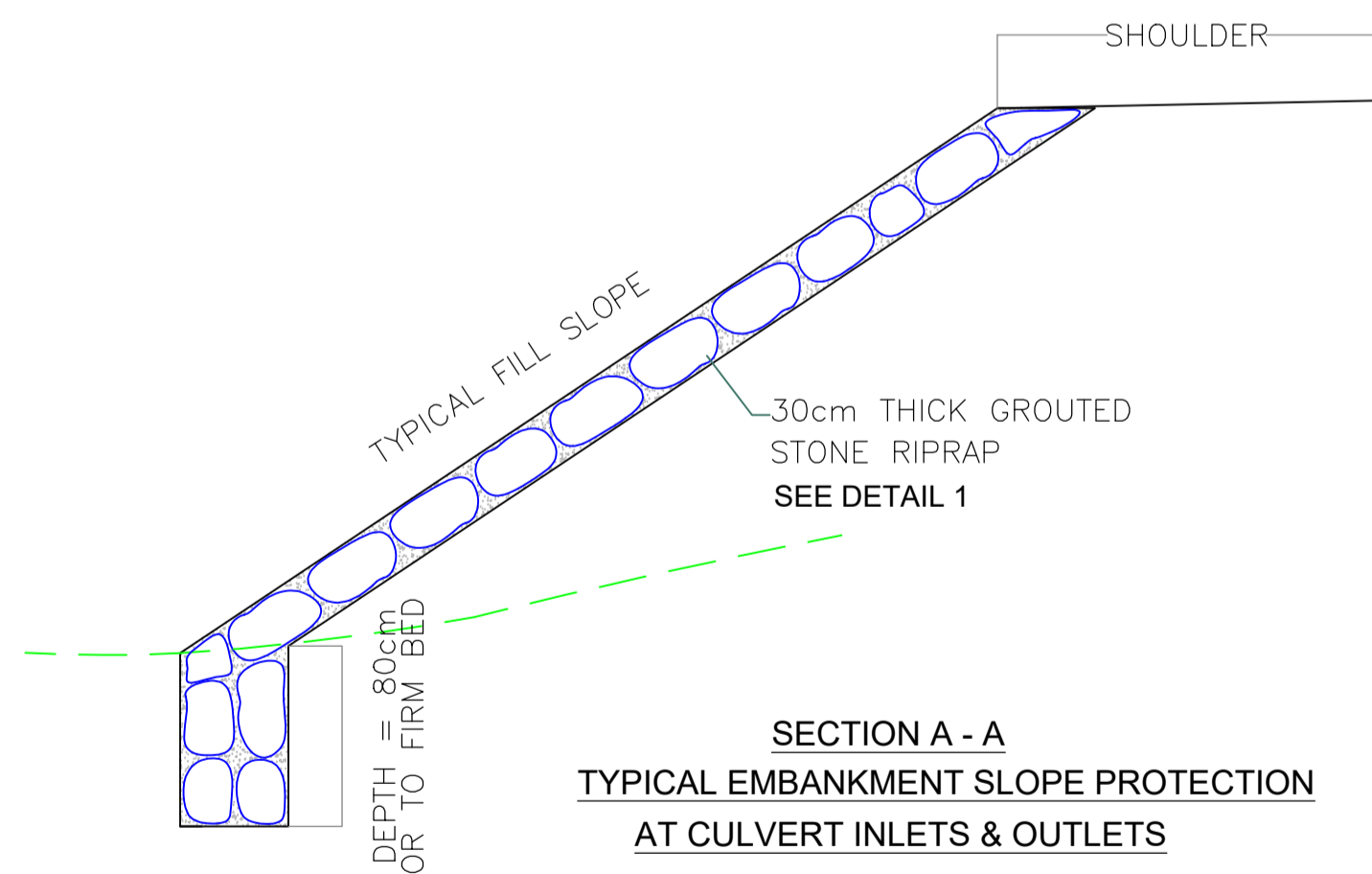
DRAINAGE  
DETAILS



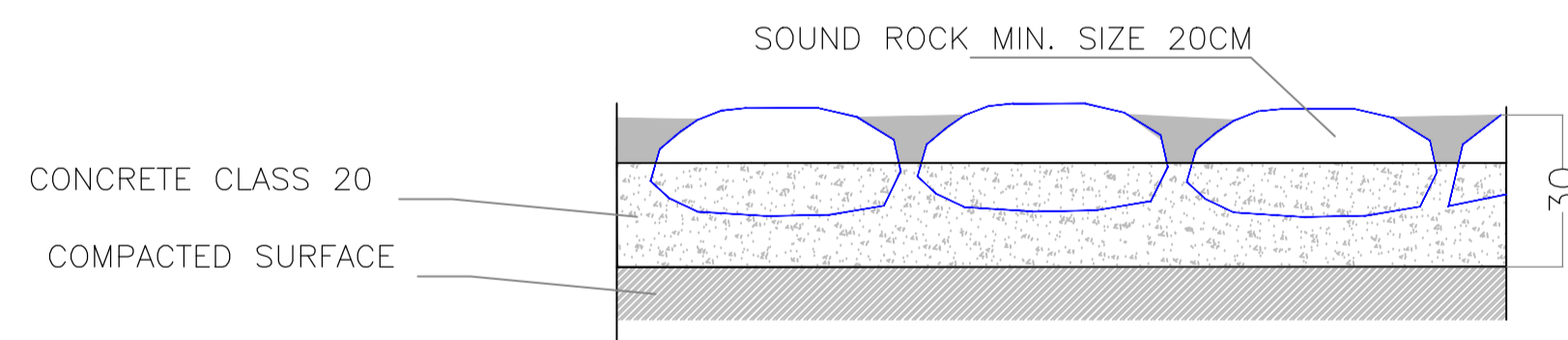
TYPICAL LONGITUDINAL SECTION OF CULVERT



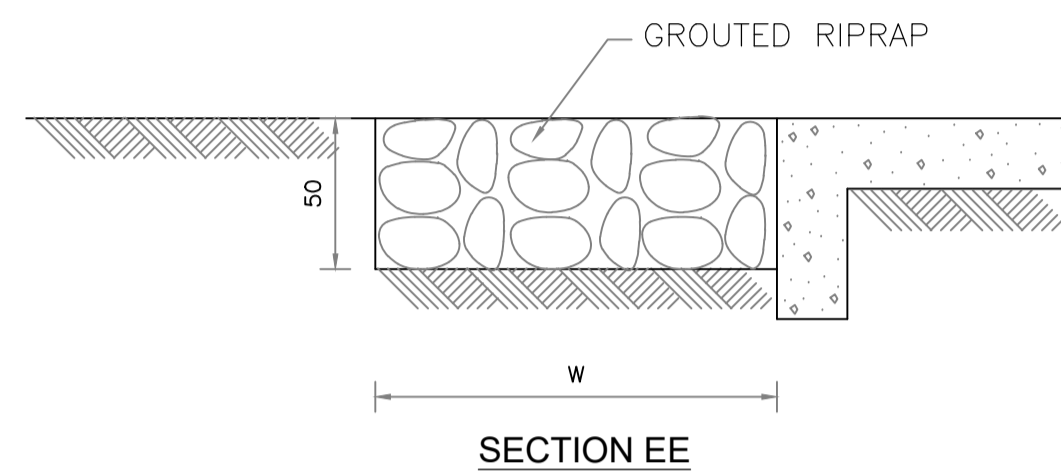
PLAN CULVERT INLETS & OUTLETS



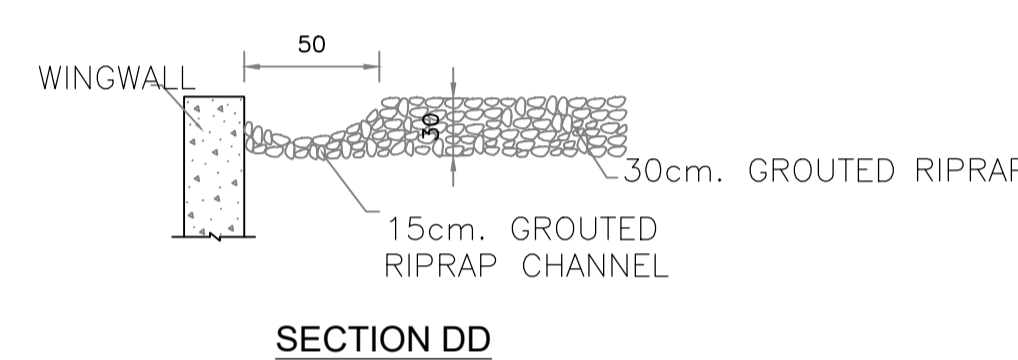
SECTION A - A TYPICAL EMBANKMENT SLOPE PROTECTION AT CULVERT INLETS & OUTLETS



GROUDED STORM RIPRAP DETAIL 1

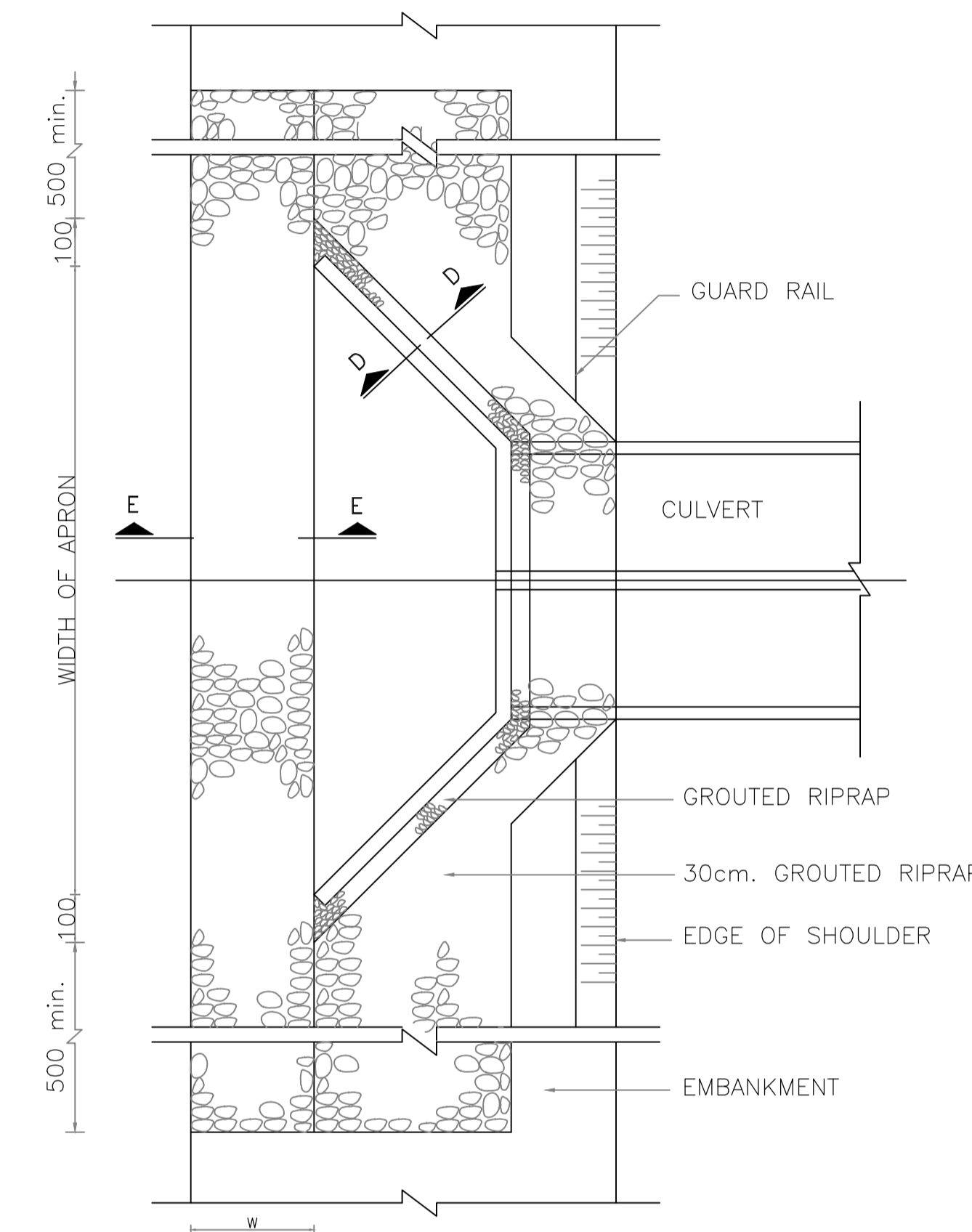


SECTION EE

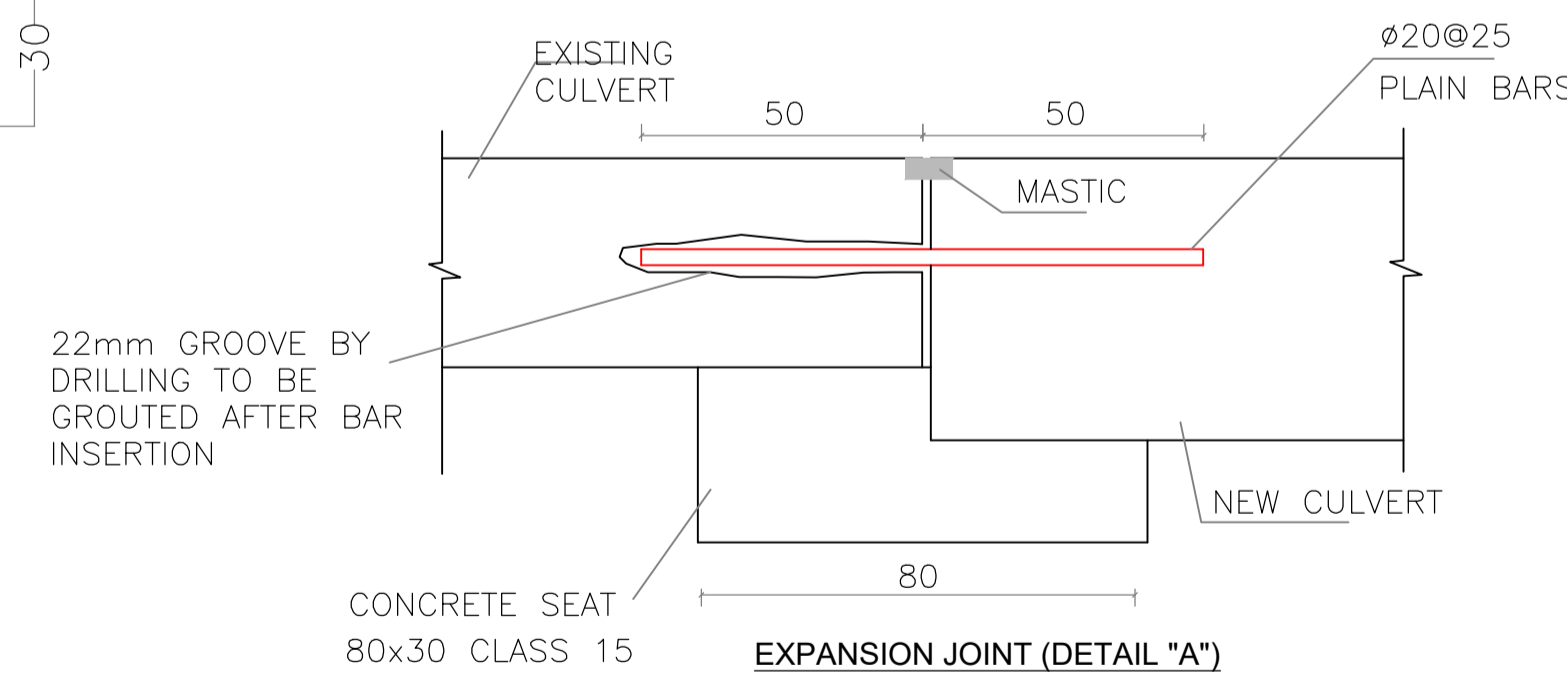


SECTION DD

	W
INLET	200min.
OUTLET	300min.



PLAN CULVERT WING WALL PROTECTION INLET AND OUTLET



EXPANSION JOINT (DETAIL "A")

- NOTE:
- 1-ALL DIMENSIONS ARE IN cm.
  - 2- IF THE SOIL UNDER THE CULVERT OR APRON SLAB IS NOT SUITABLE, THE CONTRACTOR HAS TO REPLACE IT BY SELECTED COARSE MATERIAL AS APPROVED BY THE ENGINEER .
  - 3-THE CONTRACTOR SHOULD SUBMIT TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION DETAILED WORKING DRAWINGS FOR EVERY CULVERT SHOWING EXACT LOCATION SLOPE, INVERT LEVEL, AND ALL OTHER NEEDED DETAILS.
  - 4-GROUDED OR LOOSE RIPRAP LOCATIONS AS SHOWN ON THE DRAWINGS, STANDARD AND BOQ OR AS DIRECTED BY THE ENGINEER.

BY	DATE	SUBJECT	REV

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 Stage I II III IV V VI VII VIII IX X XI XII  
 Date    CONSTRUCTION DOCUMENT

KEY PLAN

CLIENT

Hashemite Kingdom of Jordan  
Petra Development & Tourism Region Authority

CONSULTANT

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 142382 Amman - 11184 - Jordan  
Tel: (962) 96 81000 Fax: (962) 96 81000  
E: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE  
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

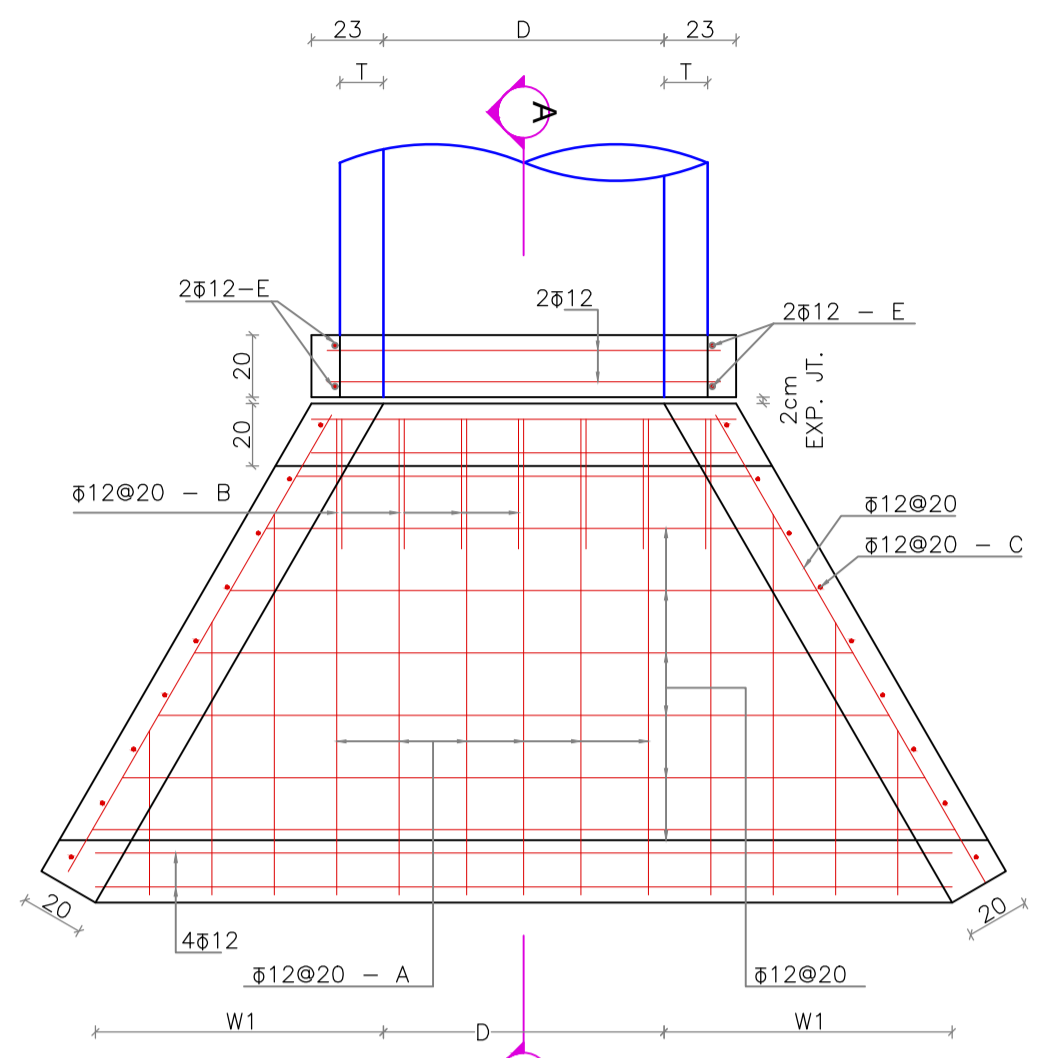
DRAWING NAME  
CULVERT PROTECTION DETAILS

SCALE N.T.S    WHEN PRINTED AT A1 SHEET SIZE

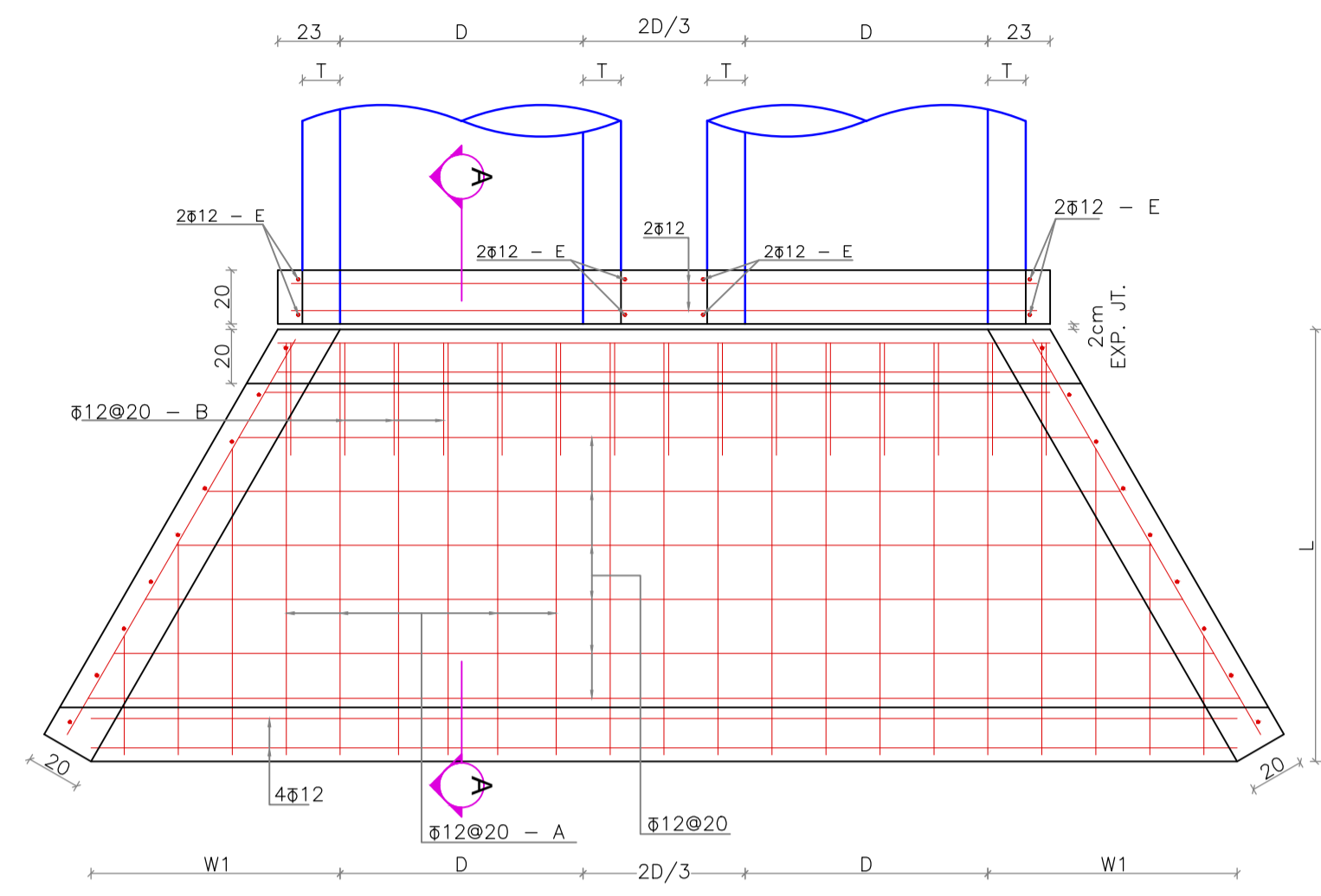
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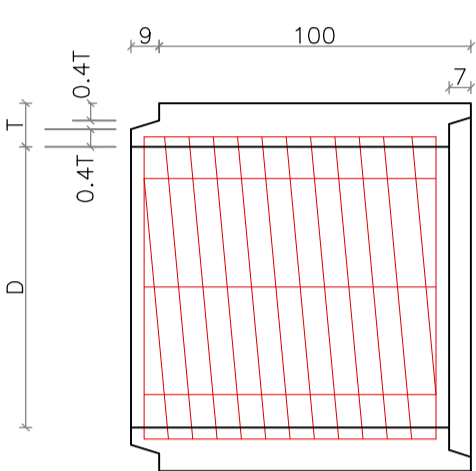
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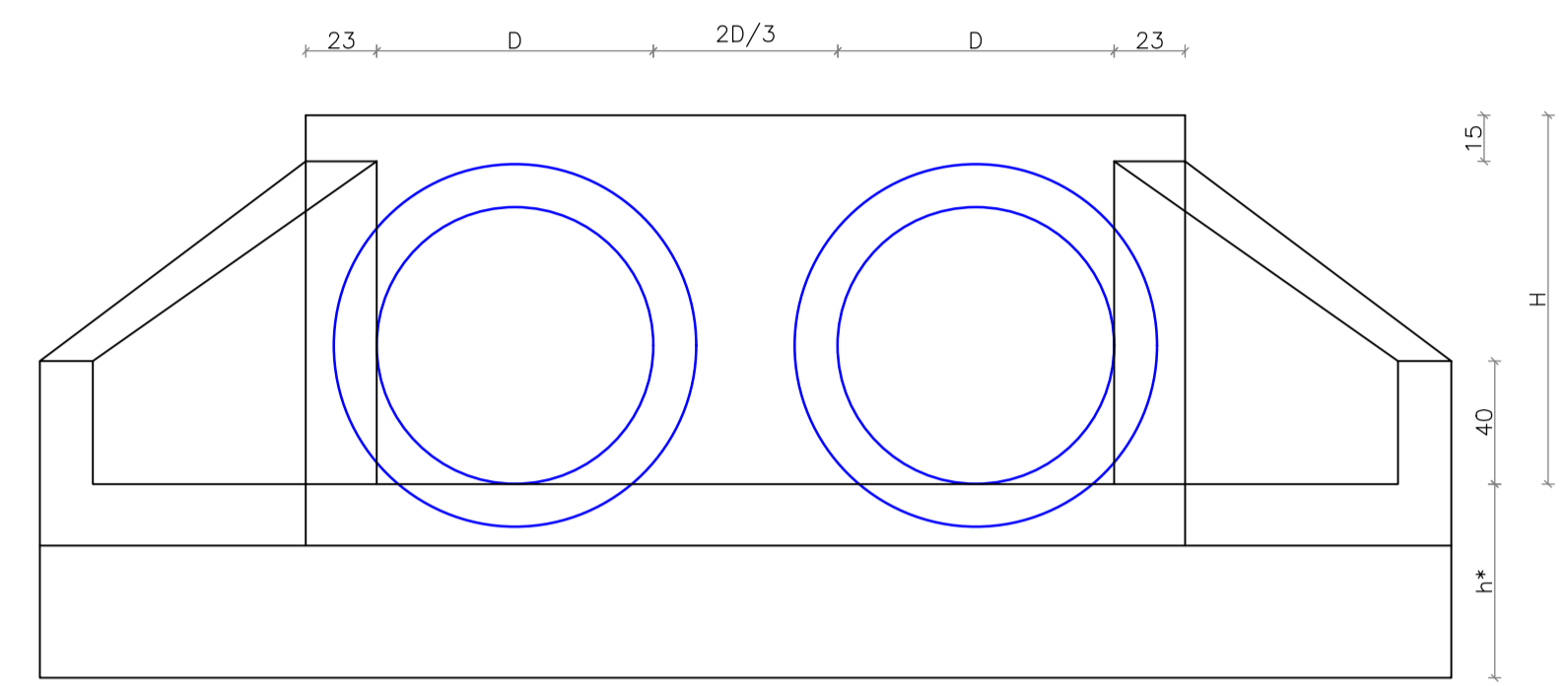
**SINGLE PIPE CULVERT PLAN**  
SCALE 1/20



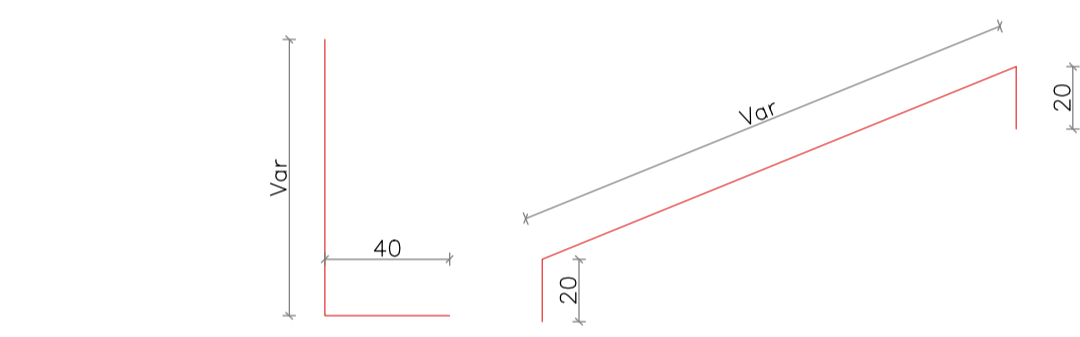
**TWIN PIPE CULVERT PLAN**  
SCALE 1/20



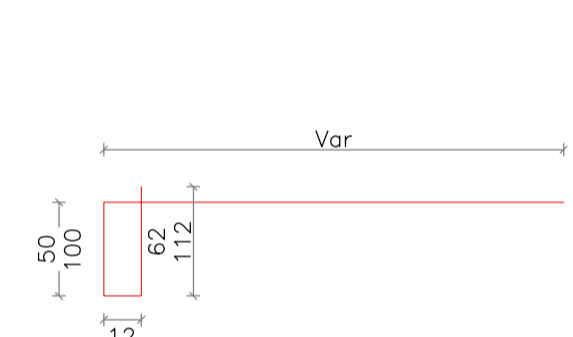
SCALE 1/20



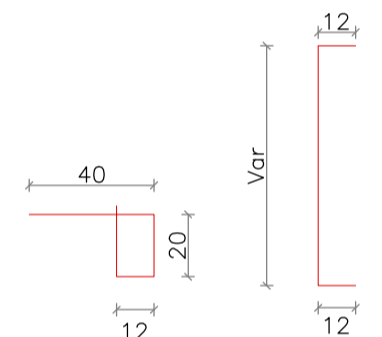
**TWIN PIPE CULVERT PLAN**  
SCALE 1/20



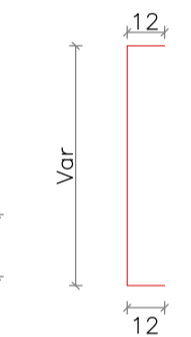
**BARS - C**  
SCALE 1/20



**BARS - A**  
SCALE 1/20



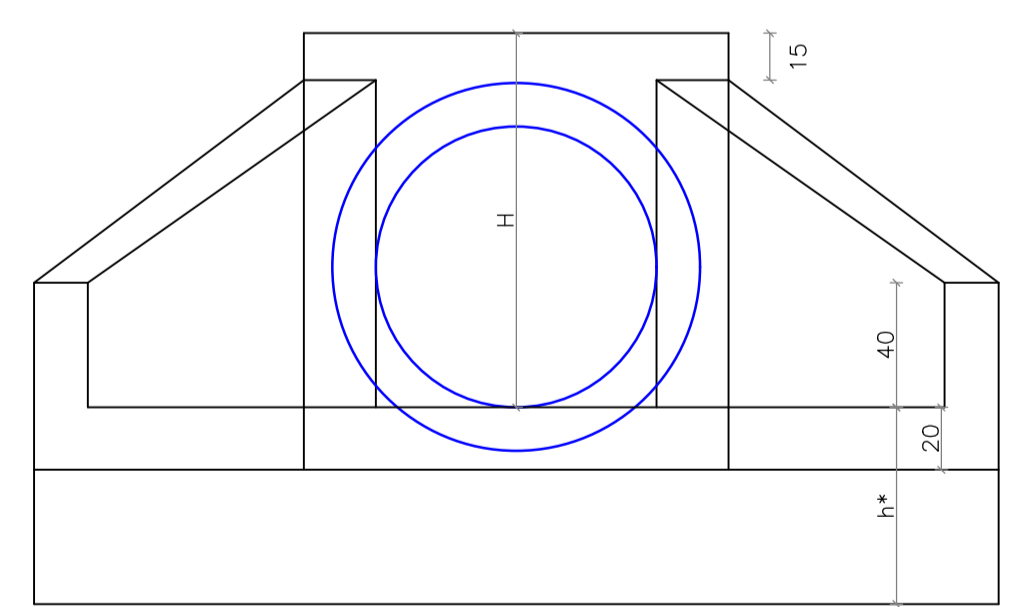
**BARS - B**  
SCALE 1/20



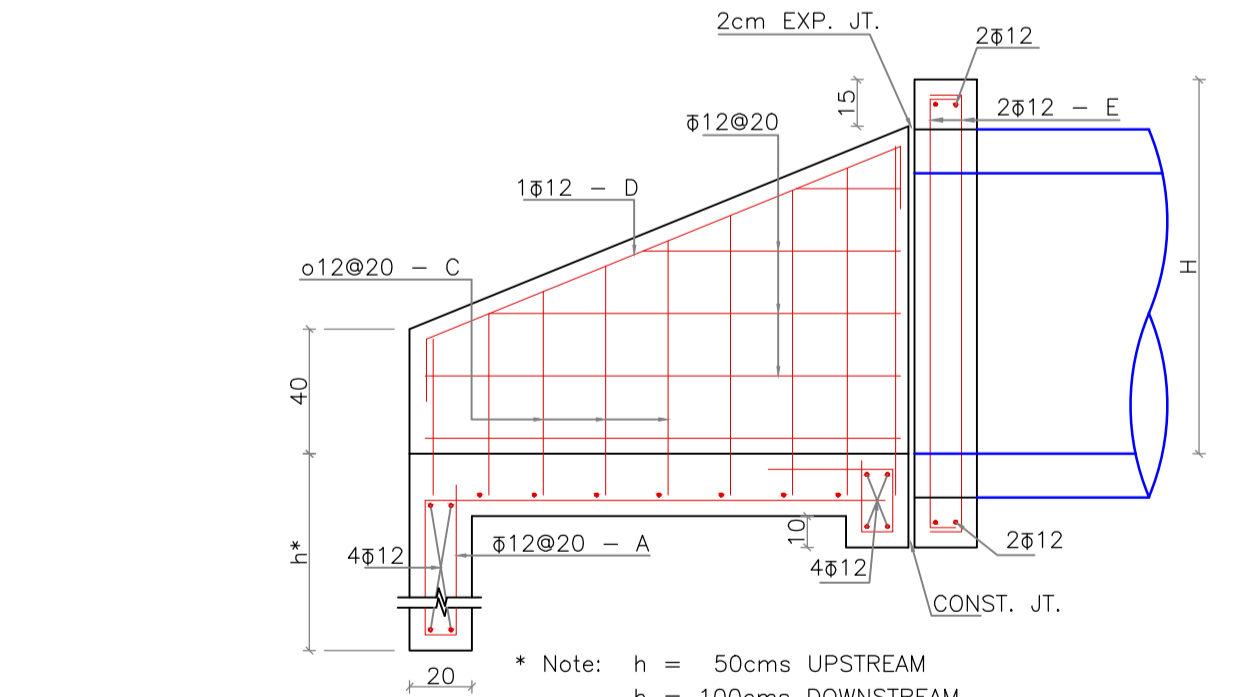
**BARS - E**  
SCALE 1/20

D	L	H
50	100	80
60	120	90
75	140	105
90	160	120

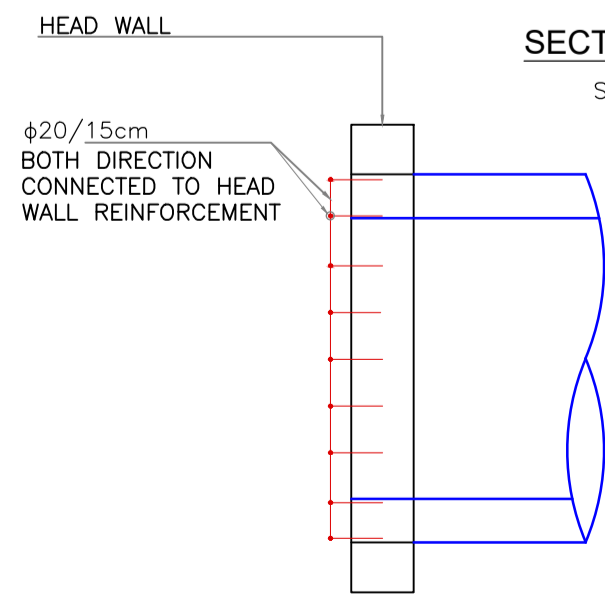
$$W1 = \frac{L}{\tan(60^\circ)}$$



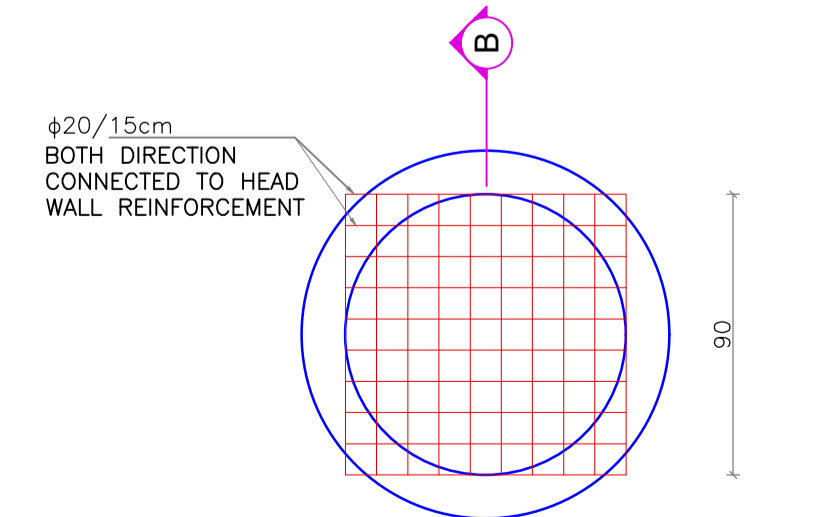
**SINGLE PIPE CULVERT ELEVATION**  
SCALE 1/20



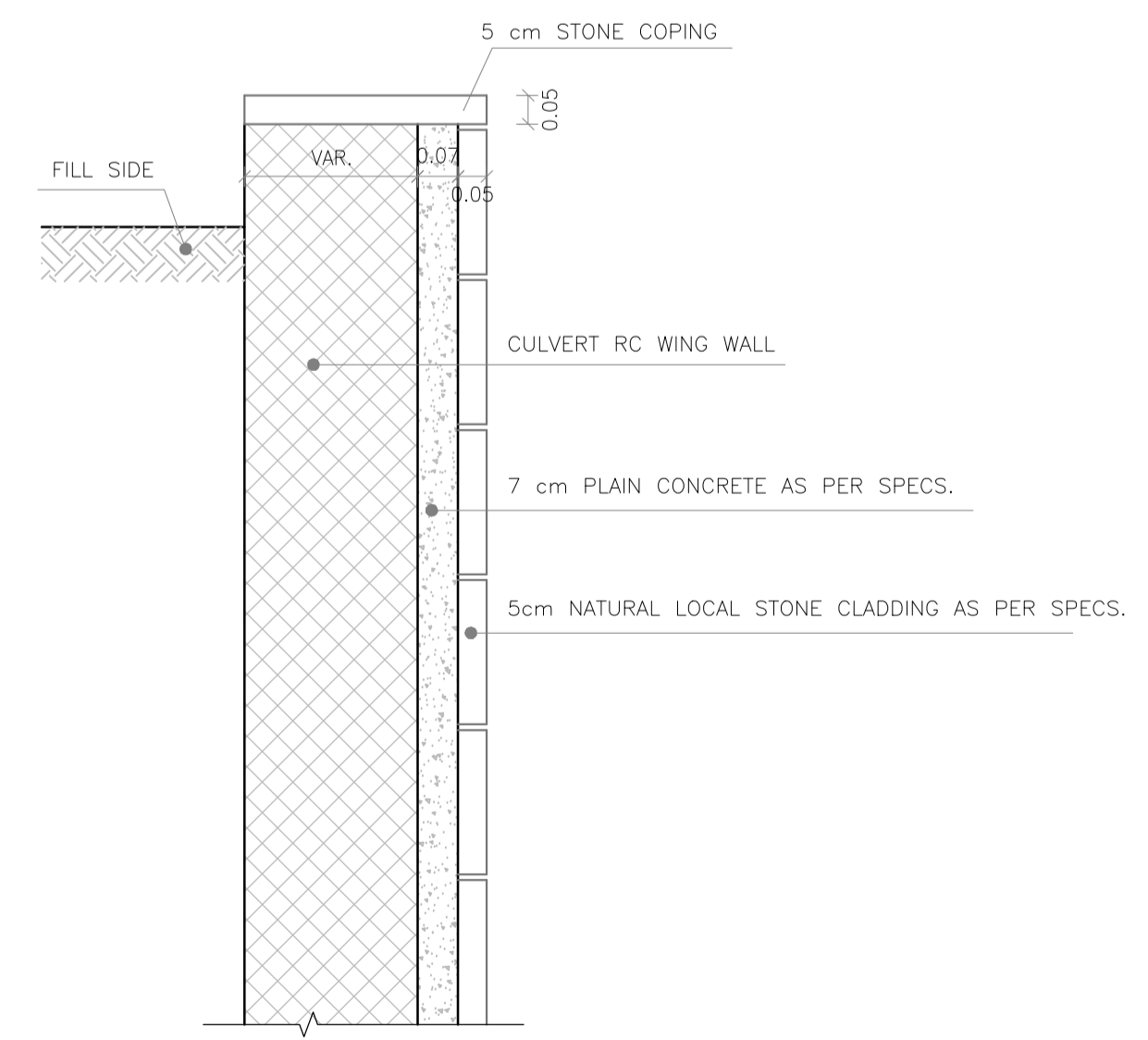
**SECTION A - A**  
SCALE 1/20



**SECTION B - B**  
SCALE 1/20



**STEEL MESH TO COVER THE WHOLE OPENING OF CULVERTS INLETS**  
SCALE 1/20

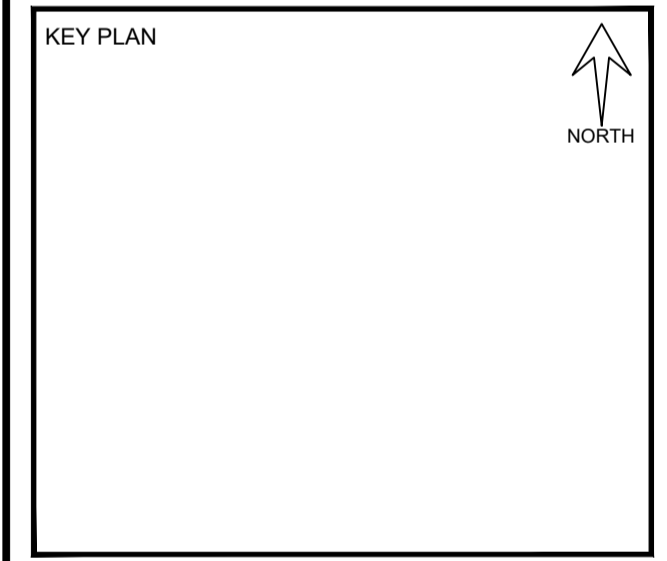


**TYPICAL WING WALLS & HEADWALL CLADDING DETAIL**  
SCALE 1/10

- ALL DIMENSIONS ARE IN cm EXCEPT REINFORCEMENT BAR DIAMETER WHICH ARE IN mm.
- STEEL REINFORCEMENT SHALL CONFORM TO THE REQ. OF ASTM A615 GARDE 60.
- ALL EXPOSED FACES OF WING-WALLS AND HEAD-WALL SHALL BE FAIR-FACED CONCRETE.
- PROVIDE 7.5cm THICK BLINDING CONC. C15 UNDER APRON SLAB & WING-WALLS.
- FLARE ANGLES, WING WALLS & APRON SLAB DIMENSIONS (L, W1, H...) SHALL BE DETERMINED BY THE ENGINEER TO SUIT SITE CONDITION.
- REINFORCEMENT BARS SHALL HAVE THE FOLLOWING CONC. COVER :-  
I) ALL OUTSIDE FACES 4cm.  
II) VERTICAL INSIDE FACES 5cm.  
III) BOTTOM SLAB TOP FACES 7.5cm.
- OTHER PIPES REINFORCEMENT ARRANGEMENT CAN BE USED IF IT SATISFIES SPECIFICATIONS REQUIREMENTS.
- ALL INLETS OF CULVERTS SHALL BE PROVIDED WITH A STEEL MESH BY USING REINFORCEMENT STEEL BARS NOT LESS THAN Ø20mm CONNECTED TO HEAD WALL REINFORCEMENT AND COVERS THE WHOLE OPENING OF CULVERTS WITH SPACING OF 15cm BOTH DIRECTION AND SHALL BE DEEMED TO BE INCLUDED IN THE UNIT PRICES OF THE PIPE CULVERTS.
- REINFORCED CONCRETE SHALL BE CLASS 30, AND BLINDING CONCRETE SHALL BE CLASS 15
- BACKFILL IMMEDIATELY ABOVE THE REINFORCED PIPES SHALL BE COMPACTED MANUALLY.
- WHERE AN EXISTING PIPE CULVERT IS TO BE EXTENDED, THE EXISTING HEADWALL, APRON AND WINGWALLS AT THE EXTENSION SIDE SHALL BE DEMOLISHED AND DISPOSED OFF AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS WORK.

BY	DATE	SUBJECT	REV

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 Stage I II III B CONSTRUCTION DOCUMENT  
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HASHEMITE KINGDOM OF JORDAN  
PETRA DEVELOPMENT & TOURISM REGION AUTHORITY

CONSULTANT

DAR AL-OMRAN  
Amman - Jordan  
P.O. Box 44238 Amman - 11184 - Jordan  
Tel: (962) 46 81000 Fax: (962) 46 81000  
E-mail: info@daral-omran.com Web: www.daral-omran.com

PROJECT TITLE  
تنفيذ شارع خدمات الطوارئ  
EMERGENCY SERVICES ROAD

DRAWING NAME  
PIPE CULVERT DETAILS

SCALE 1/25 WHEN PRINTED AT A1 SHEET SIZE

DRAWN BY	CHECKED BY	APPROVED BY	DESIGNED BY
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