

**NOTES :-**

- 1) For geometric, marking & signing details of intersection & profiles of ramps see drawings No. DSPW-36 TO DSPW-38
- 2) All dimensions are in meters unless otherwise indicated.

**Project:**  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan

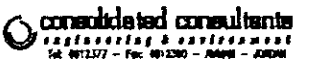
**Executing Agency:**  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

**SUB-PROJECT:**  
 Dead Sea Parkway

**Note:**  
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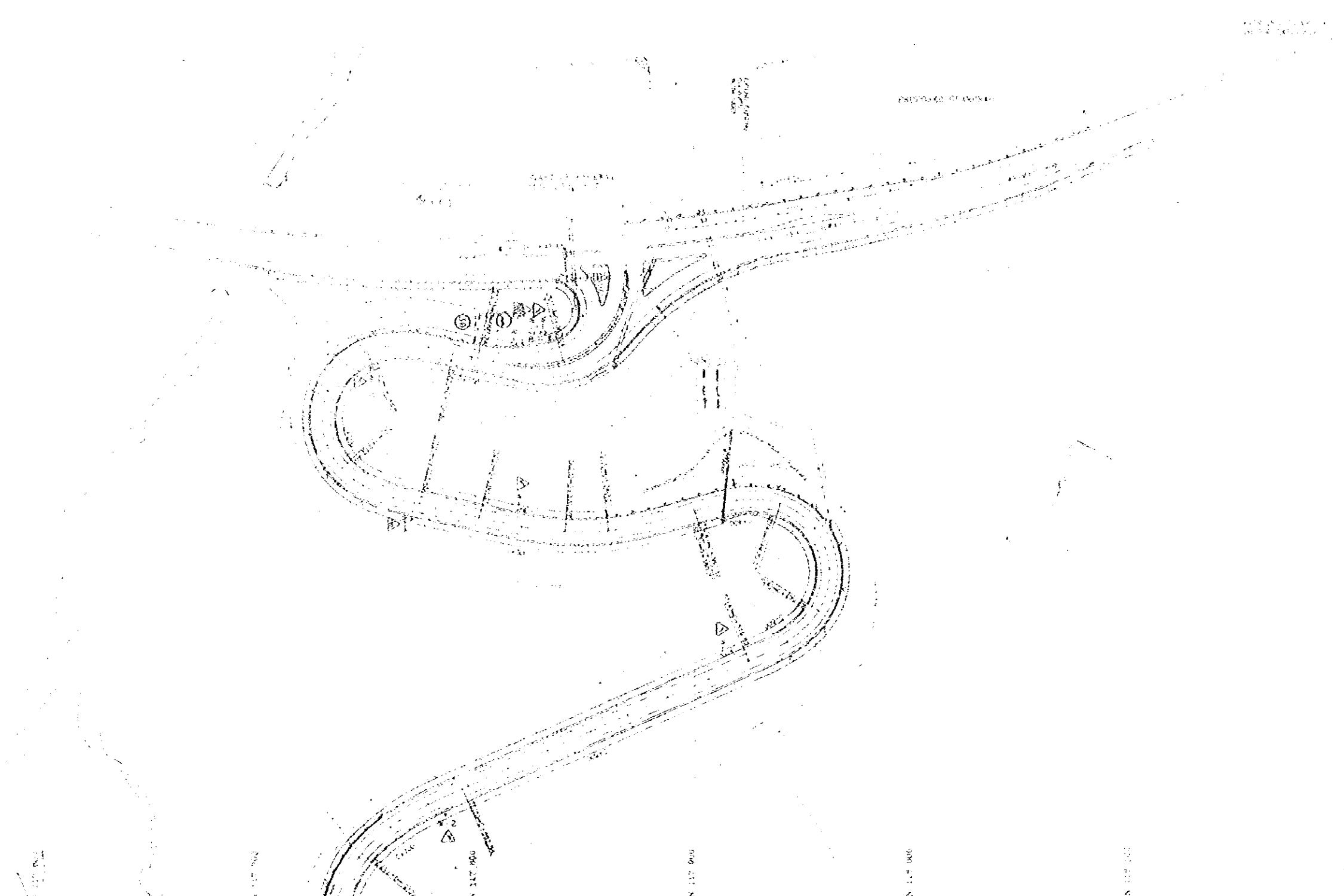
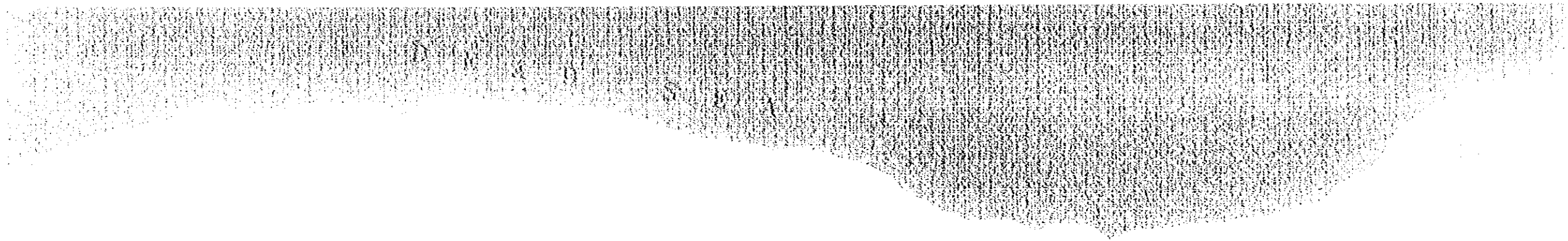
**Designed by:**  
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**JICA Study Team:**  
 Joint Venture of  
 Pacific Consultants International and  
 Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
  
 consolidated consultants  
 engineering & environment  
 SO. 0112177 - Fax. 0112300 - AMMAN - JORDAN

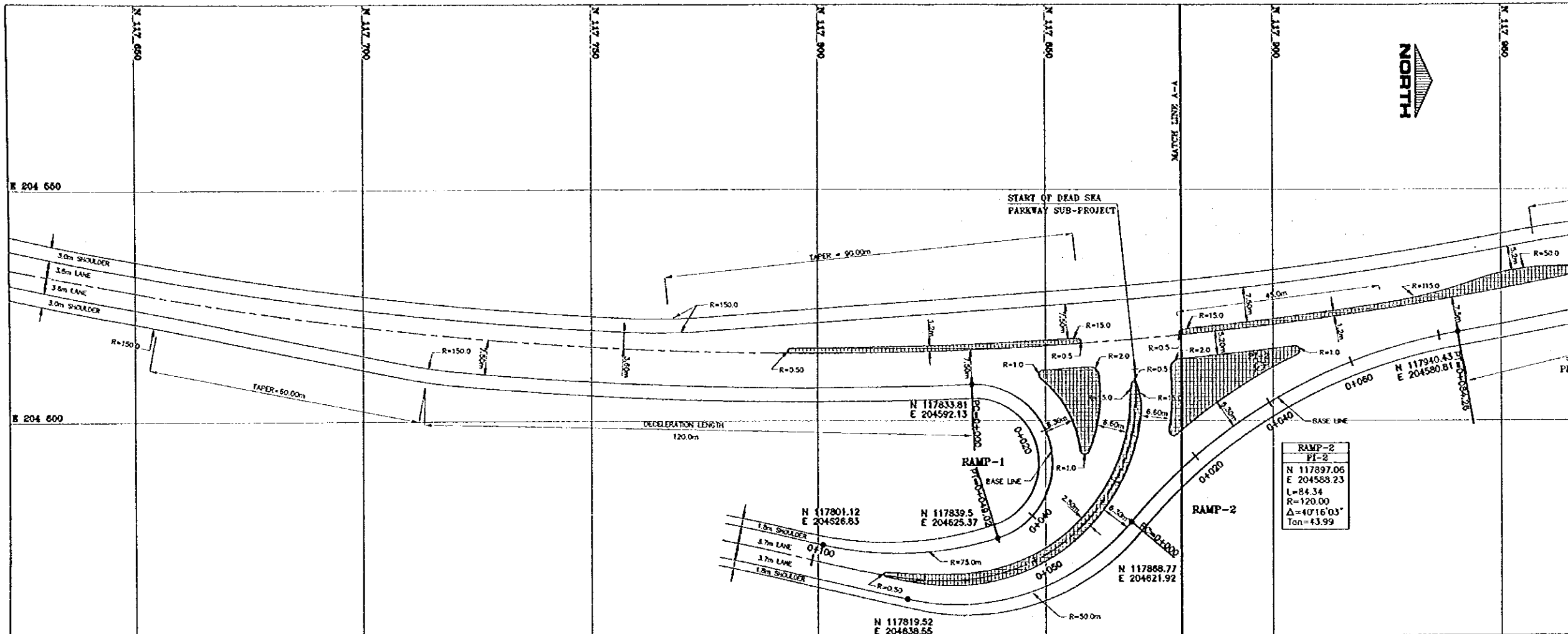
**Drawing Title:**  
 DEAD SEA INTERSECTION  
 GENERAL PLAN

**Scale:** 1:1000 **Drawing No.:** DSPW-35

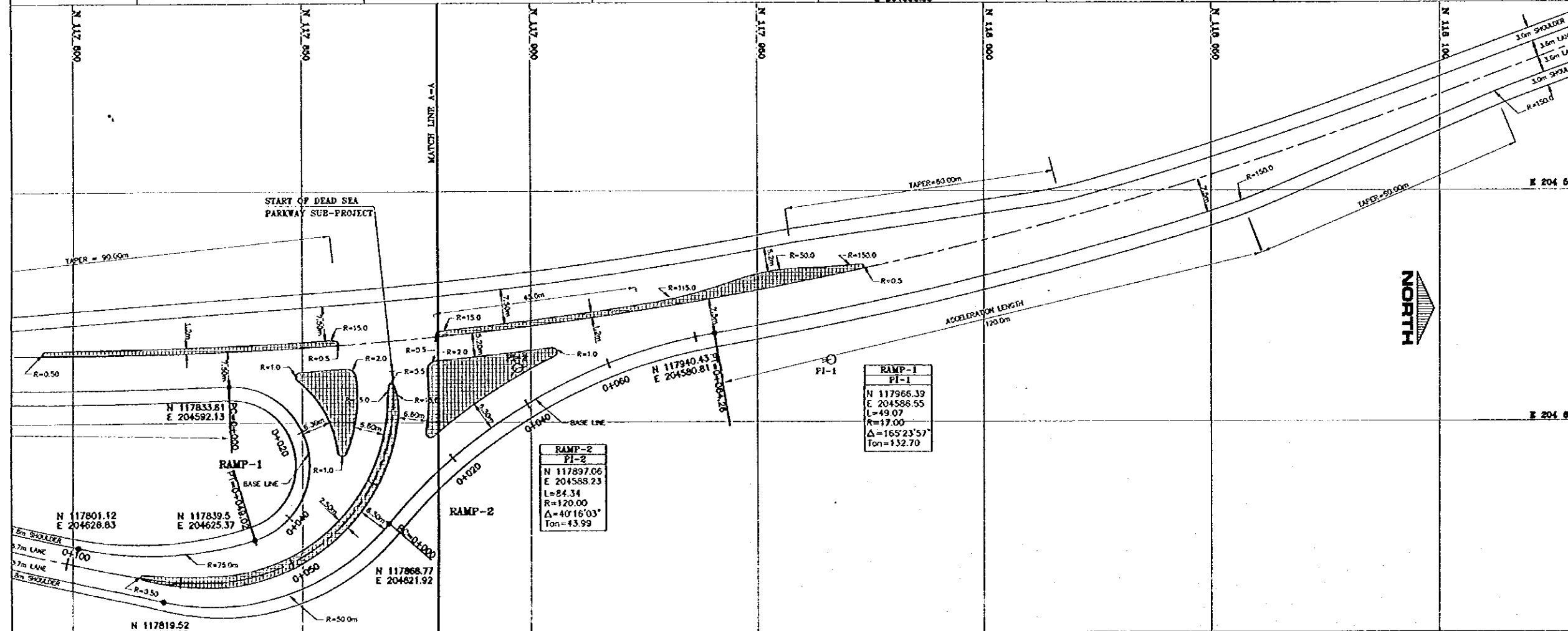


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11/11/00  
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NOTES :-  
1) All dimensions are in meters unless otherwise indicated.



Project:  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

Executing Agency:  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

SUB-PROJECT:  
Dead Sea Parkway

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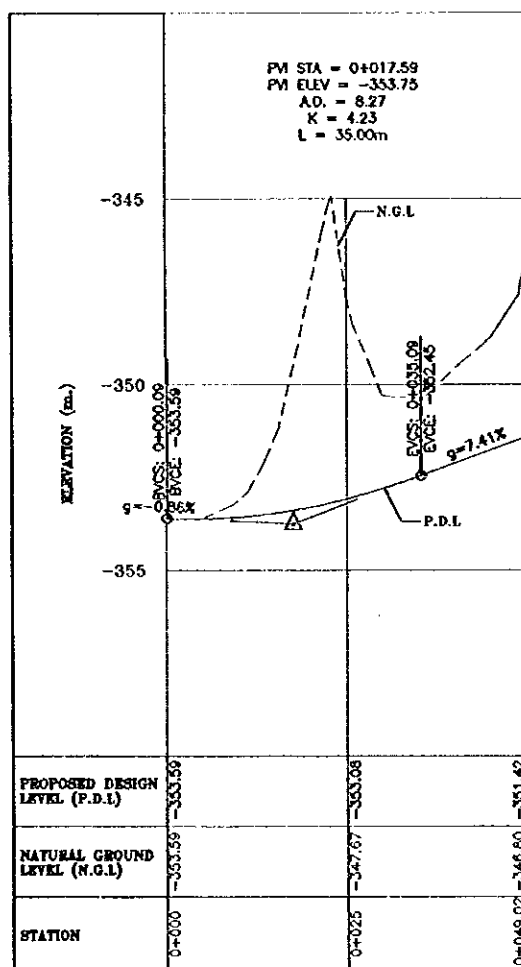
JICA Study Team:  
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1st floor - P.O. Box 91230 - JORDAN - AMMAN

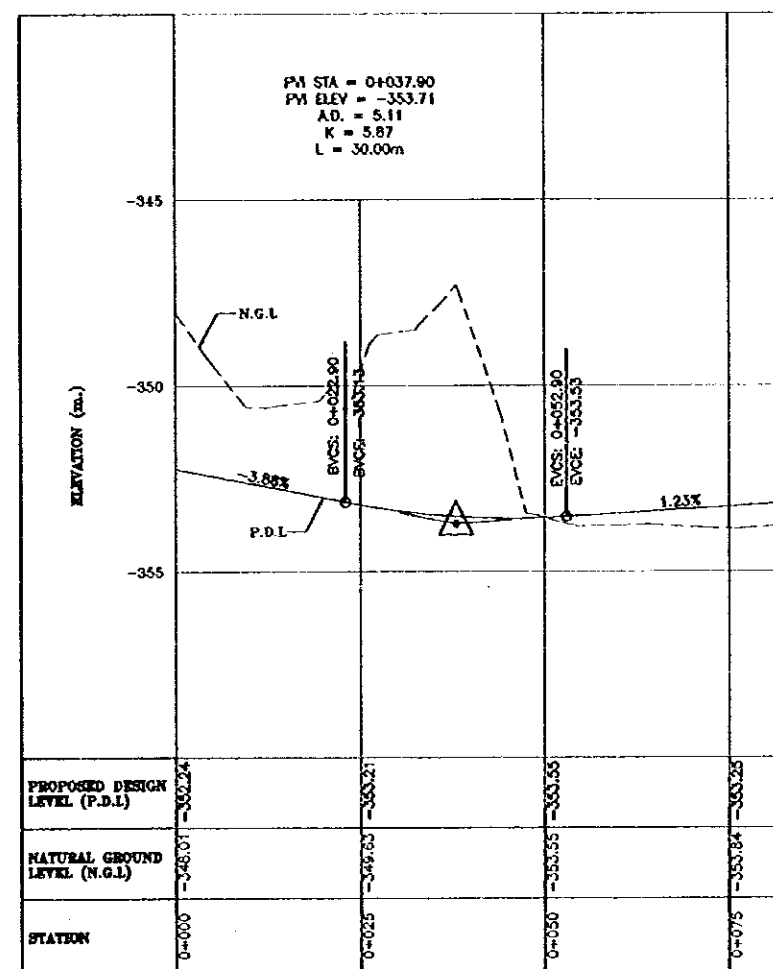
Drawing Title:  
**DEAD SEA INTERSECTION  
GEOMETRIC DESIGN**

Scale: 1:500    Drawing No.: **DSPW-36**

NOTE :-  
 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .



PROFILE FOR RAMP-1



PROFILE FOR RAMP-2

Project:  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan


Executing Agency:  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

SUB-PROJECT:  
 Dead Sea Parkway

No's:  
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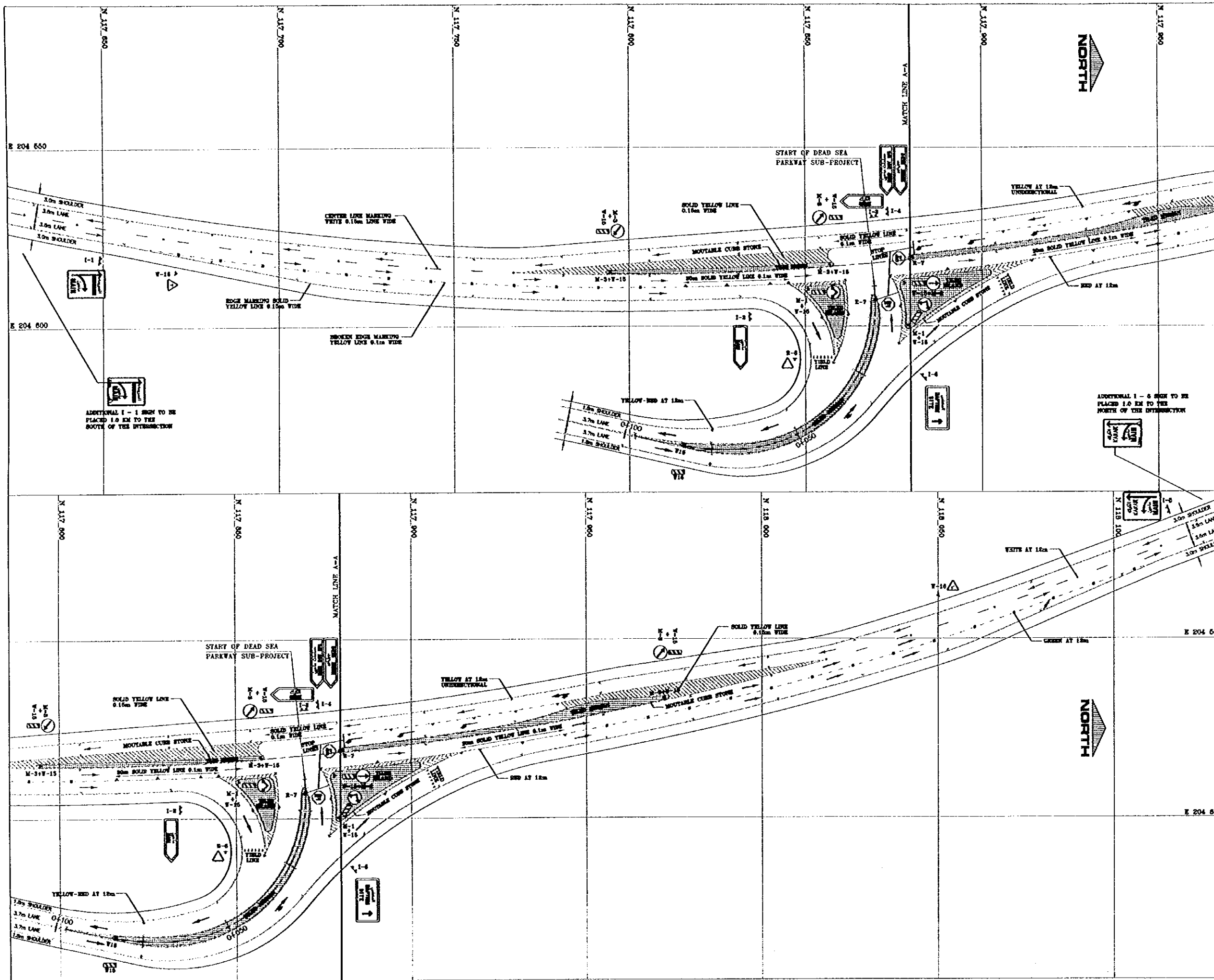
Designed by:  
 Japan International Cooperation Agency (JICA)

JICA Study Team:  
 Joint Venture of Pacific Consultants International and Yamasita Sekkei Inc.

Subcontracted Local Consultant:  
  
 14, 401277 - Fax: 401280 - AMM - JORDAN

Drawing Title:  
 DEAD SEA INTERSECTION  
 (PROFILES FOR RAMP-1 & RAMP-2)

Scale: H 1:500 V 1:100 Drawing No.: DSPW-37



- NOTES:**
- 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED.
  - 2) FOR DETAILS OF MARKING SEE DRAWING No. DSPW - 122
  - 3) FOR DETAILS OF SIGNING SEE DRAWINGS No. DSPW - 116 TO DSPW - 119
  - 3) FOR MOUNTABLE CURBSTONE DETAILS SEE DRAWING No. DSPW - 130
  - 4) MARKING OFFSET FOR ALL TRIANGULAR ISLANDS SHALL BE 1.0m.

- CAT EYES LEGEND**
- WHITE UNIDIRECTIONAL
  - × YELLOW UNIDIRECTIONAL
  - GREEN UNIDIRECTIONAL
  - ▲ RED UNIDIRECTIONAL
  - ◆ YELLOW-RED BI DIRECTIONAL

**Project:**  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan


**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

**Note:**  
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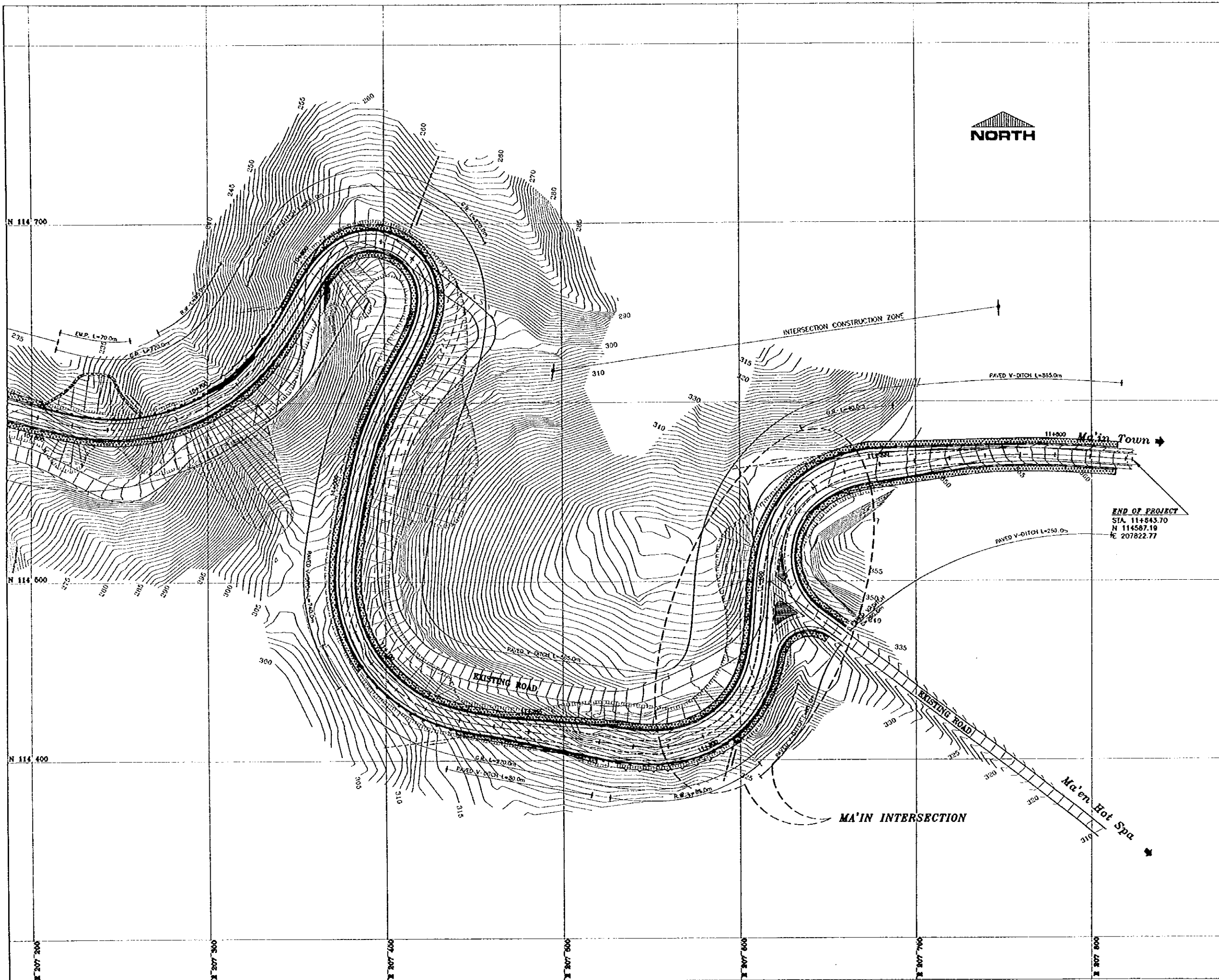
**JICA Study Team:**  
Joint Venture of Pacific Consultants International and Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
  
116 4612377 - Fax 4612380 - JAPAN - JICA

**Drawing Title:**  
DEAD SEA INTERSECTION  
MARKING & SIGNING

**Scale:** 1:500 **Drawing No.:** DSPW-38





- NOTES :-**
- 1) For geometric, marking & signing details of intersection & profiles of ramps see drawings No. DSPW-41 TO DSPW-43
  - 2) All dimensions are in meters unless otherwise indicated.

**Project:**  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan


**Executing Agency:**  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

**SUB-PROJECT:**  
 Dead Sea Parkway

**Note:**  
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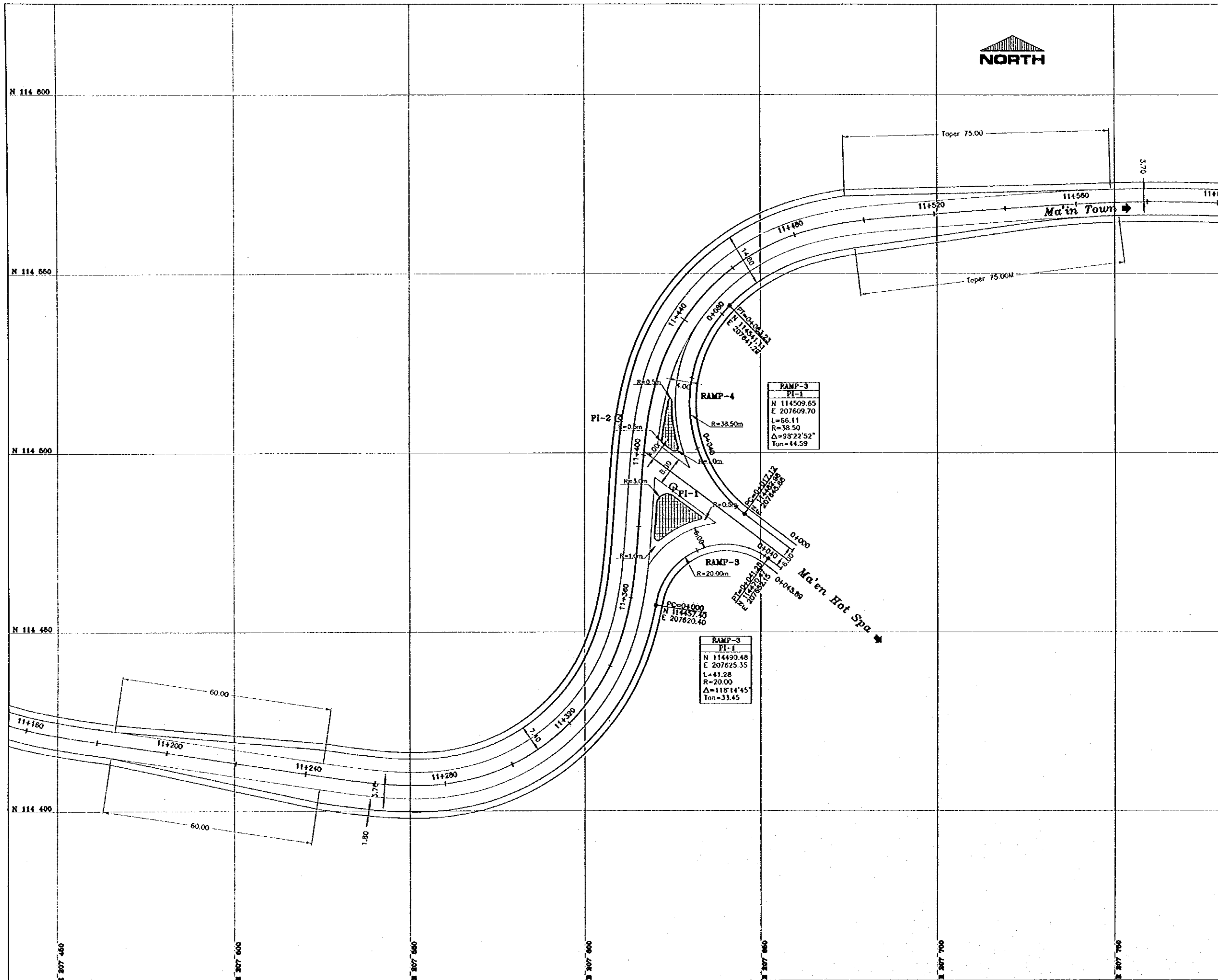
**Designed by:**  
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**JICA Study Team:**  
 Joint Venture of Pacific Consultants International and Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
  
 consolidated consultants  
 engineering & construction  
 Tel: 961377 - Fax: 961380 - Amman - Jordan

**Drawing Title:**  
 MA'IN INTERSECTION  
 GENERAL PLAN

**Scale:** 1:1000 **Drawing No.:** DSPW-40



**NOTES :-**  
 1) All dimensions are in meters unless otherwise indicated.

**Project:**  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan

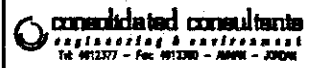
**Executing Agency:**  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

**SUB-PROJECT:**  
 Dead Sea Parkway

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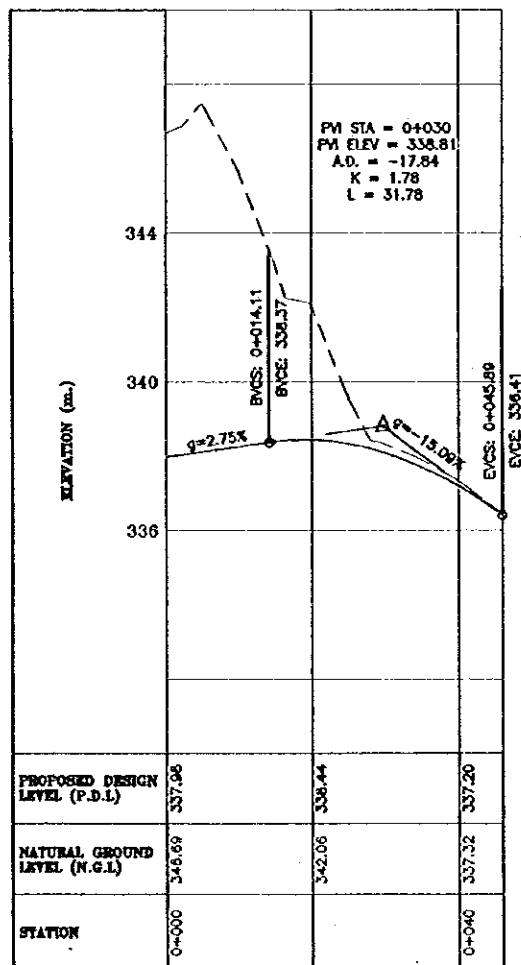
**JICA Study Team:**  
 Joint Venture of Pacific Consultants International and Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
  
 consolidated consultants  
 engineering & environment  
 Tel: 4612377 - Fax: 4612380 - AMMAN - JORDAN

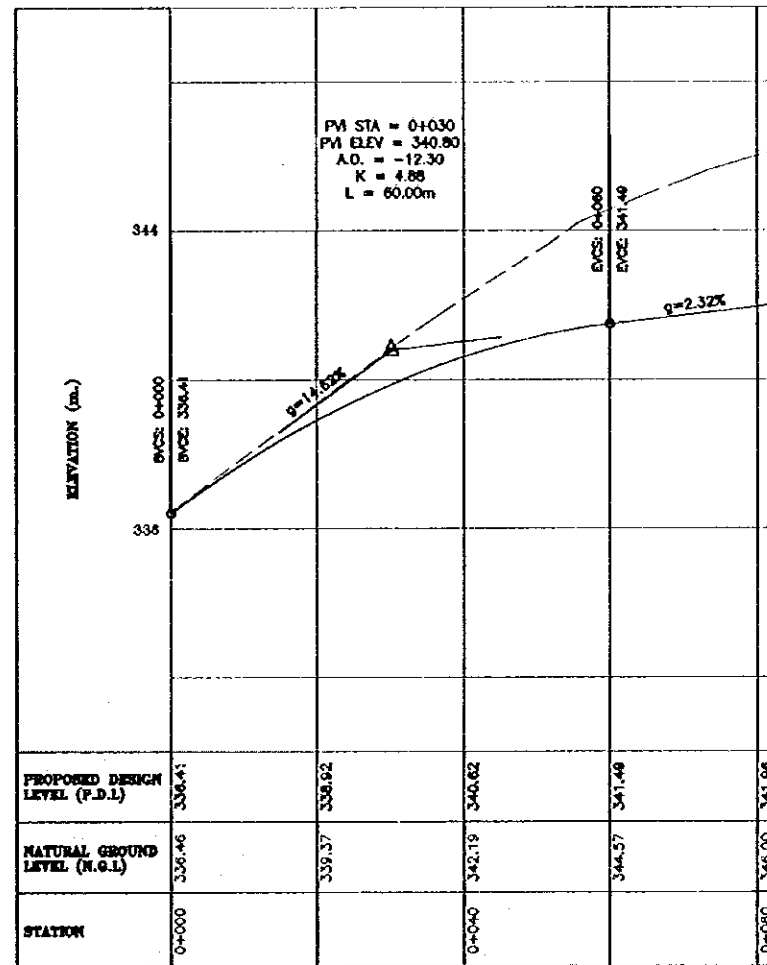
**Drawing Title:**  
 MA'IN INTERSECTION  
 GEOMETRIC DESIGN

**Scale:** 1:500 **Drawing No.:** DSPW-41

NOTE :-  
 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .



PROFILE FOR RAMP-3



PROFILE FOR RAMP-4

Project:  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan

Executing Agency:  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

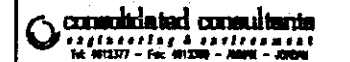
SUB-PROJECT:  
 Dead Sea Parkway

Note:  
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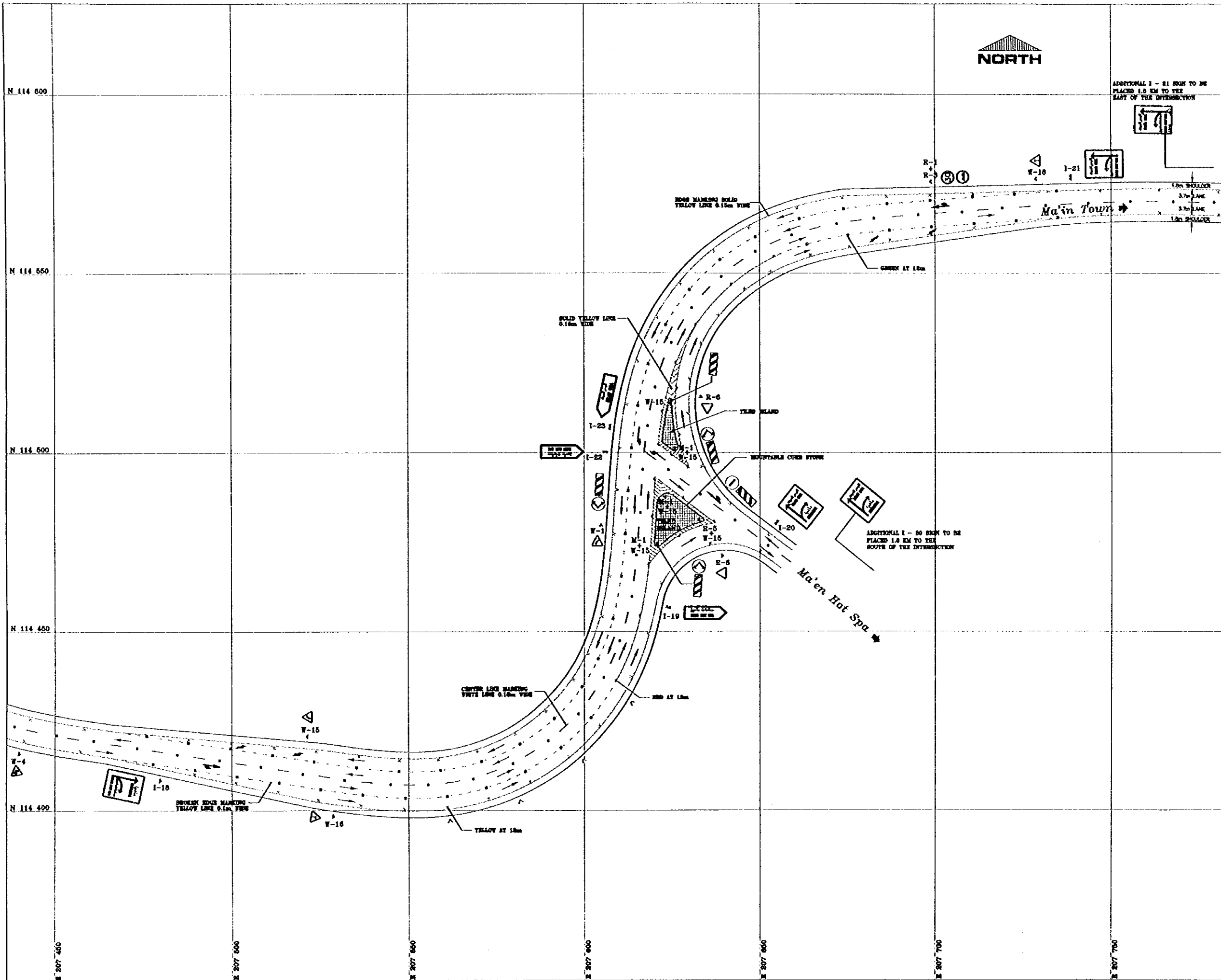
Subcontracted Local Consultant:



Drawing Title:  
 MAIN INTERSECTION  
 (PROFILES FOR RAMP-3 & RAMP-4)

Scale: H 1:500 V 1:100 Drawing No.: DSPW-42





- NOTES :-**
- 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .
  - 2) FOR DETAILS OF MARKING SEE DRAWING No. DSPW - 122
  - 3) FOR DETAILS OF SIGNING SEE DRAWINGS No. DSPW - 116 TO DSPW - 119
  - 4) FOR MOUNTAIN CURESTONE DETAILS SEE DRAWING No. DSPW - 130
  - 5) MARKING OFFSET FOR ALL TRIANGULAR ISLANDS SHALL BE 1.0m.

- CAT EYES LEGEND**
- WHITE UNIDIRECTIONAL
  - X YELLOW UNIDIRECTIONAL
  - ▲ GREEN UNIDIRECTIONAL
  - ▼ RED UNIDIRECTIONAL

**Project:**  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

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Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
**consolidated consultants**  
engineering & environment  
Tel: 012377 - Fax: 012380 - AMMAN - JORDAN

**Drawing Title:**  
MA'IN INTERSECTION  
MARKING & SIGNING

**Scale:** 1:500 **Drawing No.:** DSPW-43



**NOTE :-**  
 1) FOR DETAILS OF GEOMETRIC DESIGN, MARKING  
 SIGNING, LANDSCAPING AND PROFILES SEE  
 DRAWINGS No:- DSPW - 48 TO DSPW - 50

**Project:**  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan


**Executing Agency:**  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

**SUB-PROJECT:**  
 Dead Sea Parkway

**Note:**  
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**JICA Study Team:**  
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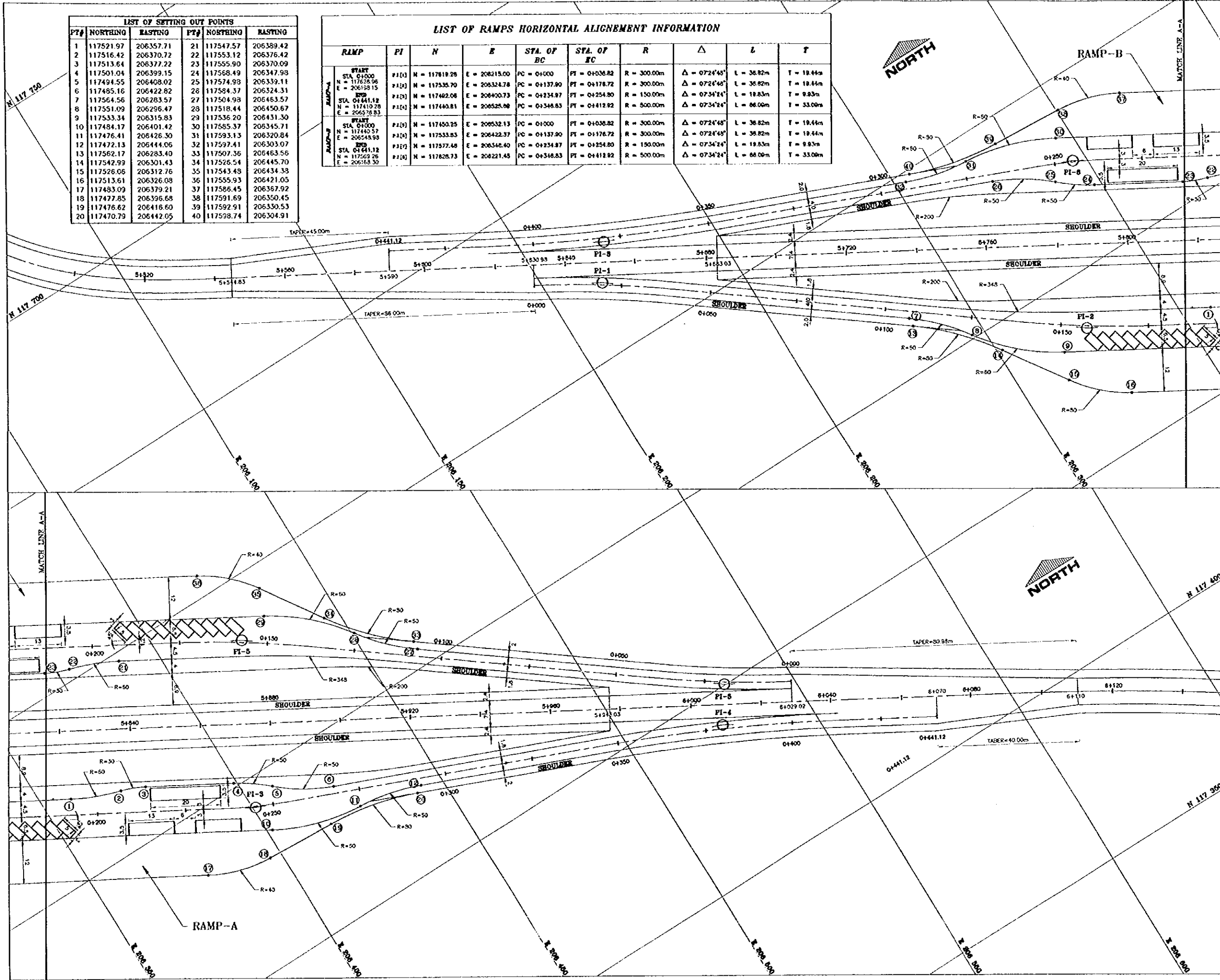
**Subcontracted Local Consultant:**  
  
 consolidated consultants  
 engineering & environment  
 Tel. 9912577 - Fax 9912390 - AMMAN - JORDAN

**Drawing Title:**  
 PARKWAY FACILITY  
 (GENERAL PLAN)

**Scale:** 1:1000 **Drawing No.:** DSPW-45

LIST OF SETTING OUT POINTS					
PT#	NORTHING	EASTING	PT#	NORTHING	EASTING
1	117521.97	206357.71	21	117547.57	206389.42
2	117516.42	206370.72	22	117553.12	206376.42
3	117513.64	206377.22	23	117555.90	206370.09
4	117501.04	206399.15	24	117568.49	206347.98
5	117494.55	206408.02	25	117574.93	206339.11
6	117485.16	206422.82	26	117584.37	206324.31
7	117564.56	206283.57	27	117504.98	206463.57
8	117551.09	206296.47	28	117518.44	206450.67
9	117533.34	206315.83	29	117536.20	206431.30
10	117484.17	206401.42	30	117585.37	206345.71
11	117476.41	206426.30	31	117593.13	206320.84
12	117472.13	206444.06	32	117597.41	206303.07
13	117562.17	206283.40	33	117507.36	206463.56
14	117542.99	206301.43	34	117526.54	206445.70
15	117526.06	206312.76	35	117543.48	206434.38
16	117513.61	206326.08	36	117555.93	206421.05
17	117483.09	206379.21	37	117586.45	206367.92
18	117477.85	206396.68	38	117591.69	206350.45
19	117476.62	206416.60	39	117592.91	206330.53
20	117470.79	206442.05	40	117598.74	206304.91

LIST OF RAMPS HORIZONTAL ALIGNMENT INFORMATION										
RAMP	PI	N	E	STA. OF BC	STA. OF EC	R	Δ	L	T	
RAMP-A	START	PI(1)	N = 117619.28	E = 206215.00	PC = 0+000	PT = 0+036.82	R = 300.00m	Δ = 072°4'45"	L = 36.82m	T = 19.44m
	STA. 0+000	PI(2)	N = 117535.70	E = 206324.78	PC = 0+137.90	PT = 0+176.72	R = 300.00m	Δ = 072°4'45"	L = 36.82m	T = 19.44m
	END	PI(3)	N = 117482.08	E = 206400.73	PC = 0+234.87	PT = 0+254.80	R = 150.00m	Δ = 073°4'24"	L = 19.83m	T = 9.93m
RAMP-B	START	PI(1)	N = 117480.25	E = 206532.13	PC = 0+000	PT = 0+036.82	R = 300.00m	Δ = 072°4'45"	L = 36.82m	T = 19.44m
	STA. 0+000	PI(2)	N = 117533.83	E = 206422.37	PC = 0+137.90	PT = 0+176.72	R = 300.00m	Δ = 072°4'45"	L = 36.82m	T = 19.44m
	END	PI(3)	N = 117577.48	E = 206346.40	PC = 0+234.87	PT = 0+254.80	R = 150.00m	Δ = 073°4'24"	L = 19.83m	T = 9.93m
RAMP-C	START	PI(1)	N = 117626.73	E = 206221.45	PC = 0+346.83	PT = 0+412.92	R = 500.00m	Δ = 073°4'24"	L = 66.09m	T = 33.06m
	STA. 0+300	PI(2)	N = 117440.81	E = 206525.98	PC = 0+346.83	PT = 0+412.92	R = 500.00m	Δ = 073°4'24"	L = 66.09m	T = 33.06m
	END	PI(3)	N = 117440.81	E = 206525.98	PC = 0+346.83	PT = 0+412.92	R = 500.00m	Δ = 073°4'24"	L = 66.09m	T = 33.06m



**NOTE :-**  
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED.

---

**Project:**  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

**Note:**  
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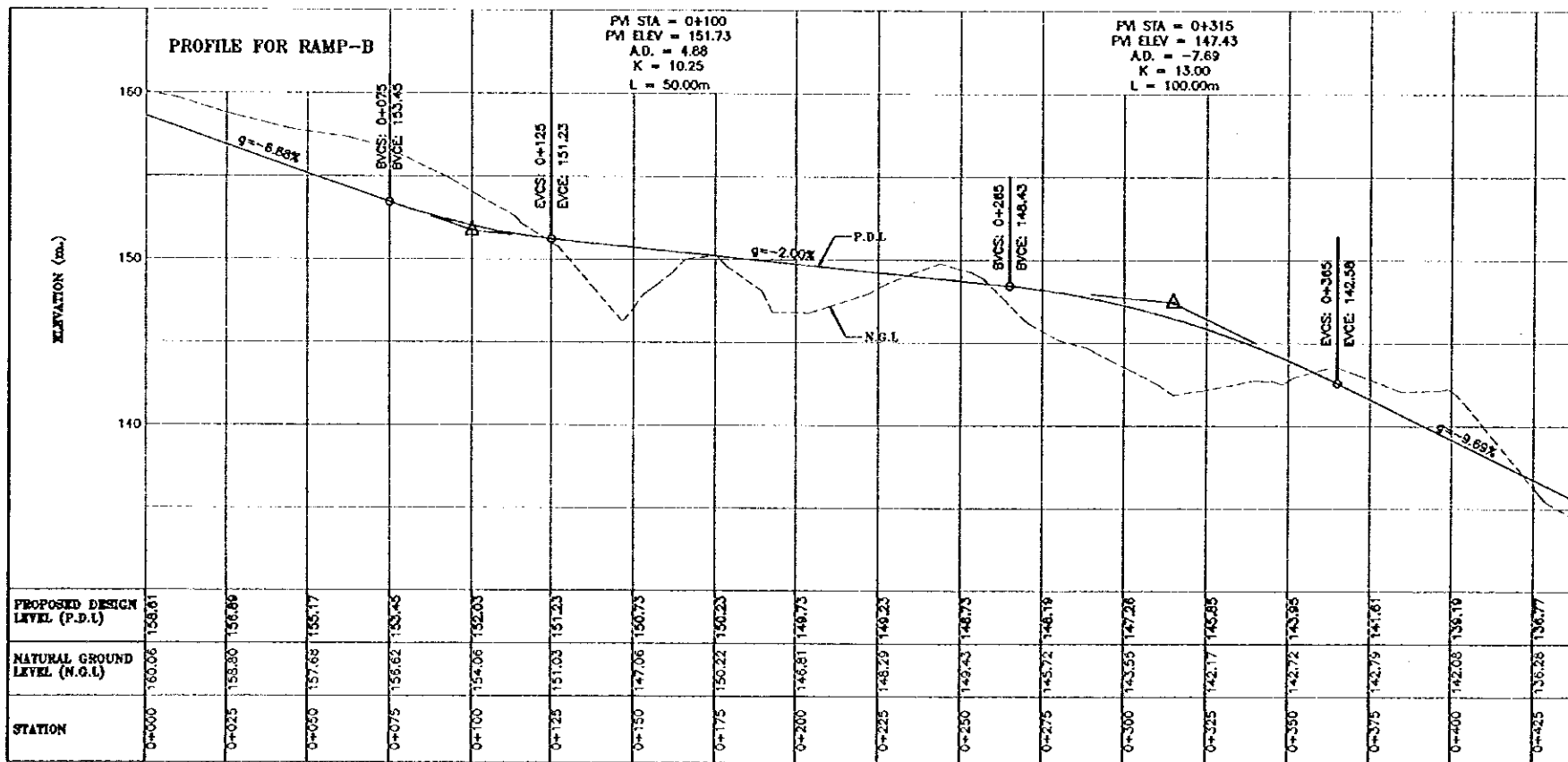
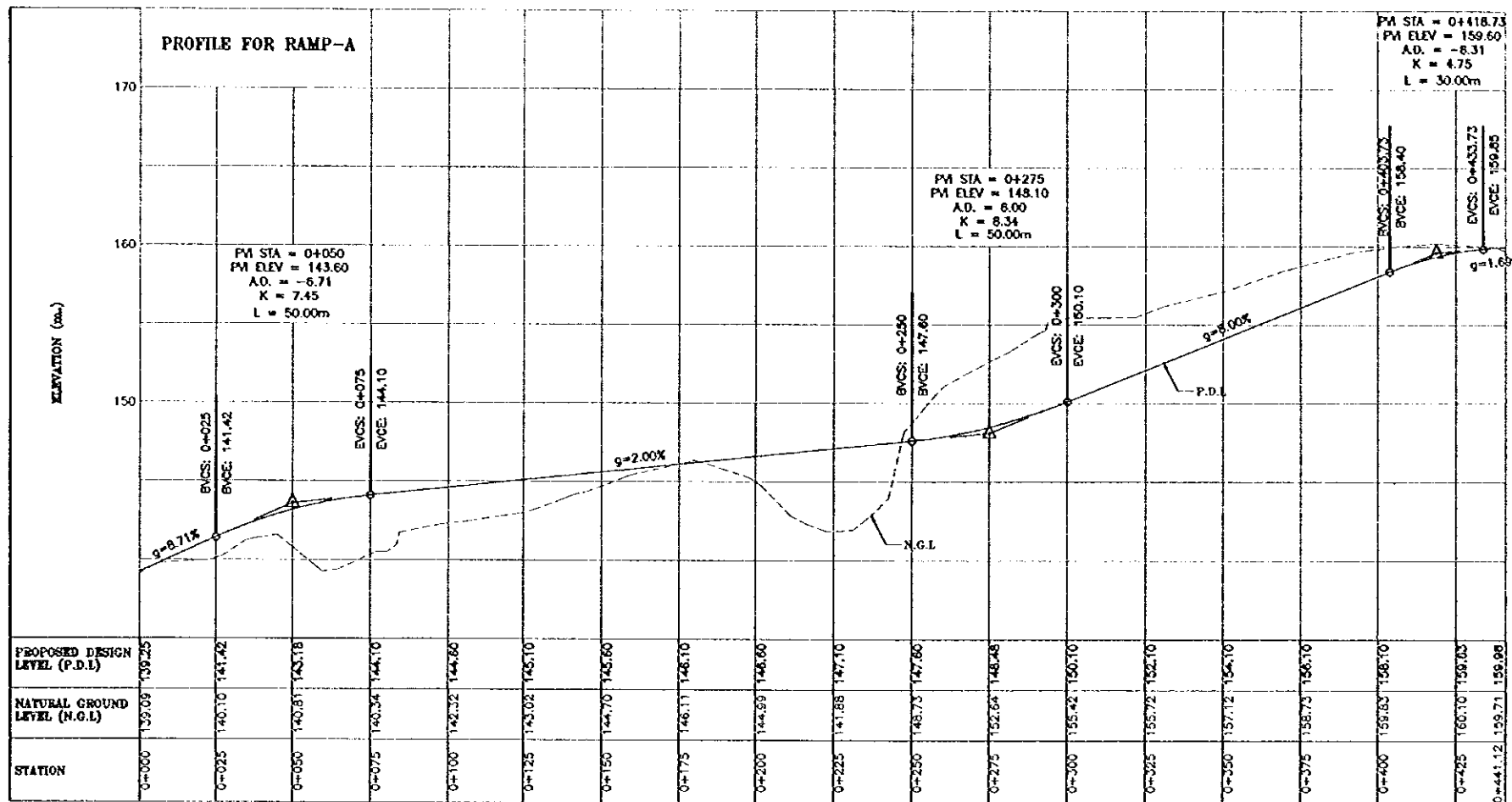
**JICA Study Team:**  
Joint Venture of Pacific Consultants International and Yamashita Sekkei Inc.

**Subcontracted Local Consultant:**  
**consolidated consultants**  
engineering & environment  
Tel: 0112377 - Fax: 0112300 - AMM - JORDAN

---

**Drawing Title:**  
**PARKWAY FACILITY  
(GEOMETRIC DESIGN)**

**Scale:** 1:500    **Drawing No.:** DSPW-46



**NOTE :-**  
1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .

**Project:**  
Tourism Sector Development Project in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

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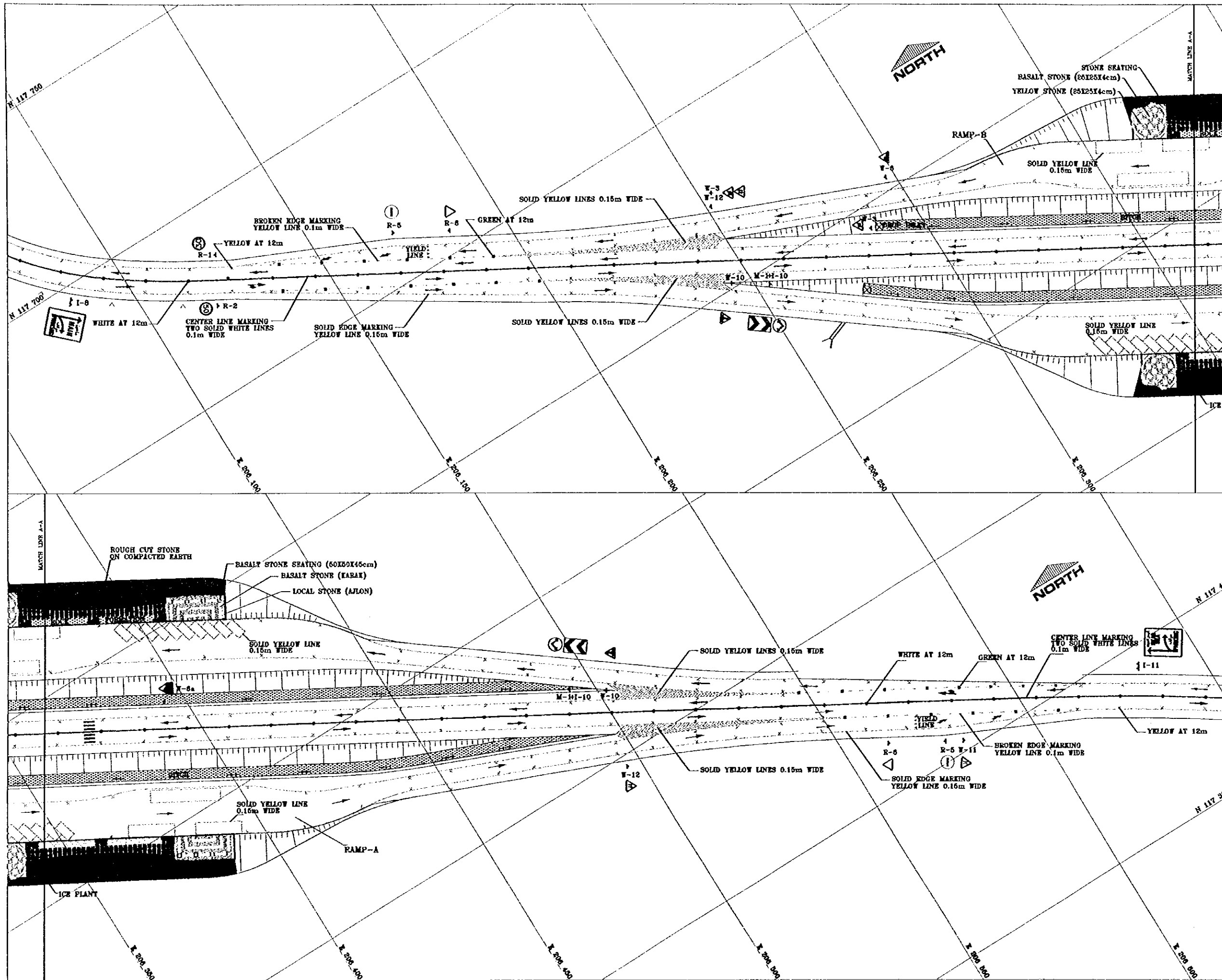
**JICA Study Team:**  
Joint Venture of Pacific Consultants International and Yamashita Sekkel Inc.

**Subcontracted Local Consultant:**  
 consolidated consultants  
Engineering & Environment  
Tel: 9612377 - Fax: 9612380 - JORDAN

**Drawing Title:**  
**PARKWAY FACILITY**  
(PROFILES FOR RAMP-A & RAMP-B)

**Scale:** H 1:1000  
V 1:200

**Drawing No.:** DSPW-47



- NOTES :-**
- 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .
  - 2) FOR DETAILS OF MARKING SEE DRAWING No. DSPW - 122
  - 3) FOR DETAILS OF SIGNING SEE DRAWINGS No. DSPW - 116 TO DSPW - 119

- CAT EYES LEGEND**
- WHITE UNIDIRECTIONAL
  - ⊘ YELLOW UNIDIRECTIONAL
  - GREEN UNIDIRECTIONAL

**Project:**  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

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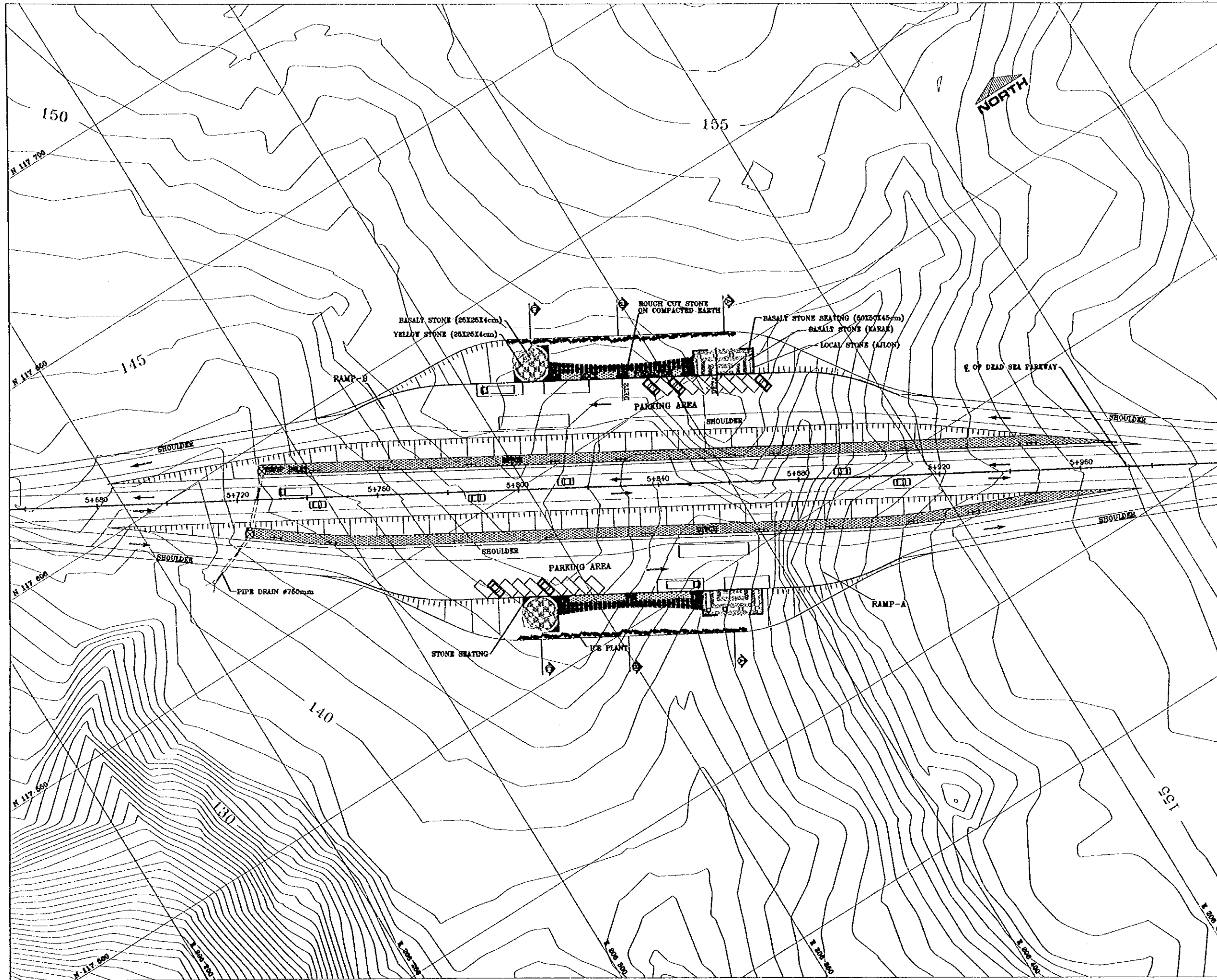
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Agency (JICA)

**JICA Study Team:**  
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Pacific Consultants International and  
Yamasita Sekkei Inc.

**Subcontracted Local Consultant:**  
**consolidated consultants**  
engineering & environment  
Tel: 962377 - Fax: 962380 - AMMAN - JORDAN

**Drawing Title:**  
**PARKWAY FACILITY  
(MARKING & SIGNING)**

**Scale:** 1:500 **Drawing No.:** DSPW-48



**NOTE :-**  
 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .  
 2) THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRAWING DSPW - 50

**Project:**  
 Tourism Sector Development Project  
 in the Hashemite Kingdom of Jordan

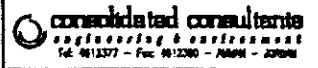
**Executing Agency:**  
 The Ministry of Tourism and Antiquities  
 The Ministry of Planning

**SUB-PROJECT:**  
 Dead Sea Parkway

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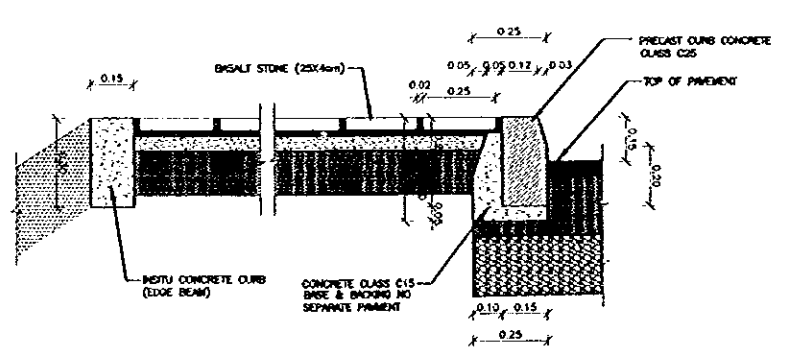
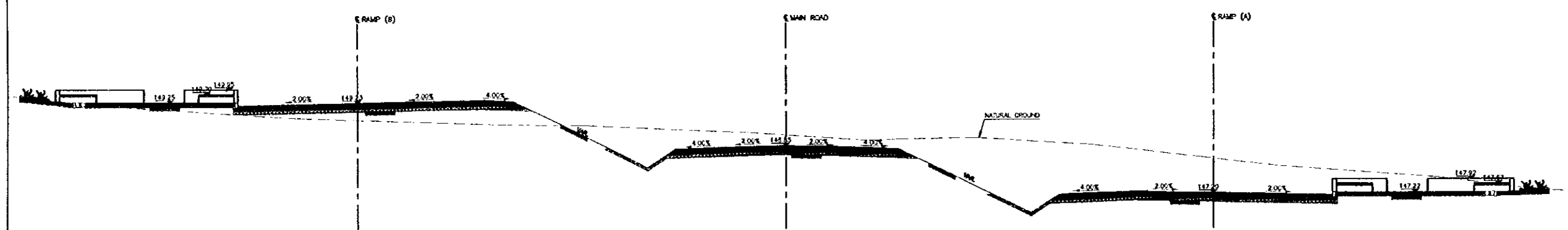
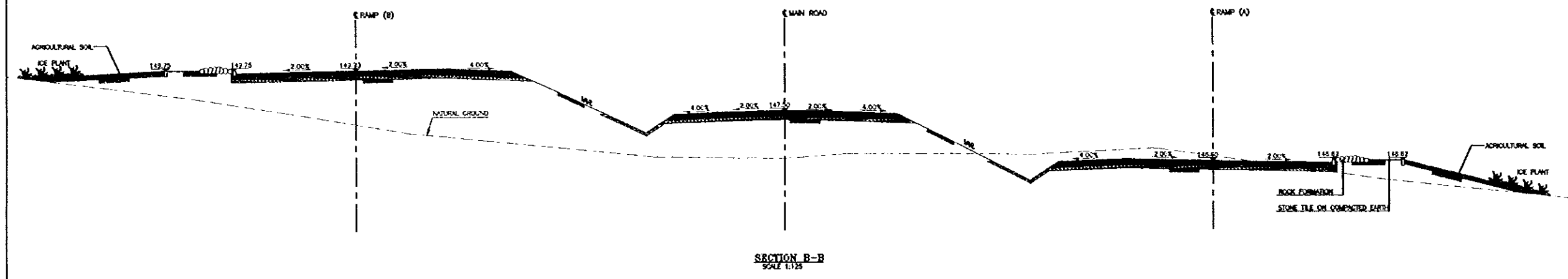
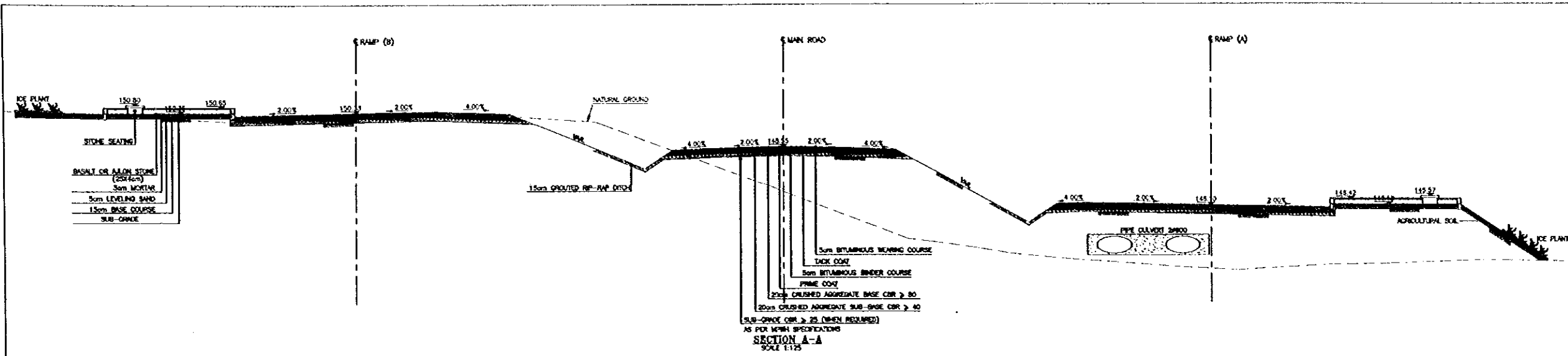
**JICA Study Team:**  
 Joint Venture of Pacific Consultants International and Yamasita Sekkel Inc.

**Subcontracted Local Consultant:**  
  
 consolidated consultants  
 engineering & environment  
 Tel: 9613377 - Fax: 9613380 - NAMA - 23004

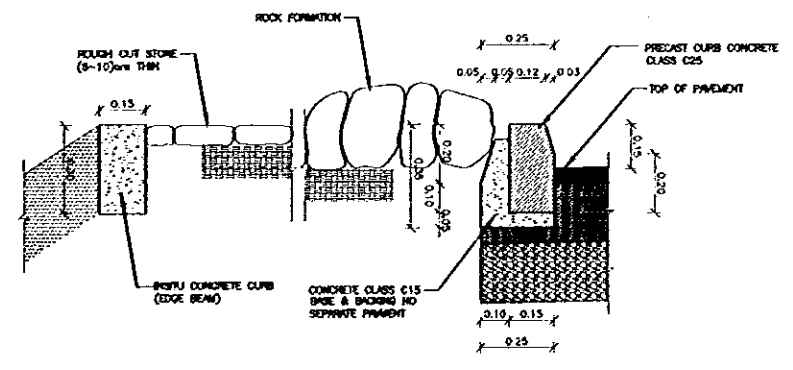
**Drawing Title:**  
 PARKWAY FACILITY  
 LANDSCAPING & STORM WATER  
 DRAINAGE DETAILS (1 OF 2)

**Scale:** 1:500 **Drawing No.:** DSPW-49





DETAIL 1  
SCALE 1:25



DETAIL 2  
SCALE 1:25

- NOTE :-
- 1) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE INDICATED .
  - 2) GUARDRAIL FOR THE PARKWAY FACILITY IS SHOWN ON PLAN-PROFILE DRGS.
  - 3) SIDE SLOPES BETWEEN RAMP(A), MAIN ROAD & RAMP(B) ARE VARIABLE. SIDE SLOPES ARE TOTALLY DEPENDENT ON RELEVANT PROFILES.

Project:  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

Executing Agency:  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

SUB-PROJECT:  
Dead Sea Parkway

Note:  
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Pacific Consultants International and  
Yamasa Sekkei Inc.

Subcontracted Local Consultant:  
**consolidated consultants**  
Engineering & Environment  
Tel: 011237 - Fax: 011230 - AMMAN - JORDAN

Drawing Title:  
PARKWAY FACILITY  
LANDSCAPING & STORM WATER  
DRAINAGE DETAILS (2 OF 2)

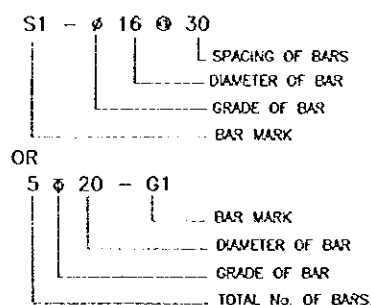
Scale:  
AS SHOWN

Drawing No.:  
DSPW-50

**GENERAL NOTES:**

- DESIGN SPECIFICATIONS : AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LATEST EDITION ,TOGETHER WITH ANY TENTATIVE OR SUPPLEMENTAL SPECIFICATIONS APPROVED BY THE AASHTO COMMITTEE ON BRIDGES AND STRUCTURES.
- LOADING:-  
-DEAD LOAD INCLUDES 5.0cm OF FUTURE WEARING SURFACE.  
-LIVE LOAD HS 20-44 (WITH 50% INCREASE IN WHEEL LOADING TO ENCOUNTER THE UNEXPECTED TRUCK LOADINGS) AS PER MPWH RECOMMENDATIONS.
- CONCRETE:-  
-PLAIN & BLINDING CONCRETE TO BE CLASS C15--CHARACTERISTIC COMPRESSIVE CYLINDER STRENGTH OF 11.55 MPa AT 28 DAYS.  
-REINFORCED CONCRETE TO BE CLASS C25 & C30 AS SPECIFIED ON THE DRAWINGS FOR THE RELEVANT REINFORCED STRUCTURES - CHARACTERISTIC COMPRESSIVE CYLINDER STRENGTH OF 21.75 MPa & 26.1 MPa RESPECTIVELY AT 28 DAYS.  
-PRESTRESSED CONCRETE TO BE CLASS C40 - CHARACTERISTIC COMPRESSIVE CYLINDER STRENGTH OF 34.8 MPa AT 28 DAYS.
- STEEL:-  
-REINFORCING STEEL BARS SHALL BE DEFORMED BARS OF HIGH TENSILE STRENGTH , GRADE 60, CONFORMING TO JSS/441/1986 OR AASHTO M31M(ASM , A615M) , AND DESIGNATED AS  $\phi$ .  
-PLAIN MILD STEEL BARS SHALL BE USED AS SHOWN ON DWGS. AND AS DIRECTED BY THE ENGINEER.IT SHALL CONFORM TO JSS/442/1986 AND DESIGNATED AS  $\phi$ .  
-PRESTRESSING STEEL FOR PRECAST CONCRETE GIRDERS SHALL BE AS DEFINED ON THE SPECIFICATIONS & THE RELEVANT DRAWINGS.
- NO BARS PARTIALLY EMBEDDED IN CONCRETE SHALL BE FIELD BENT EXCEPT AS SHOWN ON THE DRAWINGS OR PERMITTED BY THE ENGINEER .
- MINIMUM CLEAR COVER TO REINFORCEMENT , UNLESS OTHERWISE SPECIFIED , SHALL BE AS FOLLOWS :-  
- DECK SLAB 50mm  
- GIRDER DIAPHRAGM 50mm  
- PARAPET 50mm  
- ABUTMENT WALLS,WINGWALLS AND PIERS 70mm  
- ABUTMENT,WINGWALL AND PIER BASES 75mm
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 2cm UNLESS OTHERWISE NOTED .
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS SHOWN ON DRAWINGS AND SHALL NOTIFY THE ENGINEER OF ANY AND ALL DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORK. THE FAILURE OF THE CONTRACTOR TO REPORT ANY DISCREPANCY WILL BE TAKEN TO IMPLY HIS ACCEPTANCE TO TAKE FULL AND TOTAL RESPONSIBILITY FOR THE CORRECTNESS OF THE DESIGN AND ITS EXECUTION AS SHOWN ON THE DRAWINGS TO THE SATISFACTION OF THE ENGINEER .
- ALL EXPOSED CONCRETE SURFACES ABOVE GROUND LEVEL TO BE SMOOTH AND FAIR FACED TO THE SATISFACTION OF THE ENGINEER AND CONFORM WITH CLASS (F1) FINISH - AND BURIED SURFACES SHALL BE COATED WITH BITUMINOUS DAMP PROOFING AS DEFINED BY THE SPECIFICATIONS .
- IN THE EVENT THAT THE SOIL ALLOWABLE BEARING CAPACITY FOR FOOTINGS AND BASES BE FOUND TO BE LESS THAN THE DESIGN FOUNDATION PRESSURE SPECIFIED IN THE DESIGN DRAWINGS , THE DEPTH OR DIMENSIONS OF FOOTING OR BASE SHALL BE CHANGED BY THE ENGINEER .

11) REINFORCEMENT ARE PRESENTED AS SHOWN BELOW:-



12) LOCATION OF REINFORCEMENT LAP SPLICES & CONSTRUCTION JOINTS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.

BAR SIZE mm	DEVELOPMENT LENGTH			LAP SPLICE LENGTH		
	COMP.	TENSION BARS	OTHER BARS	COMP.	TENSION BARS	OTHER BARS
	NOT ENCLOSED	TOP BARS	OTHER BARS	NOT ENCLOSED	TOP BARS	OTHER BARS
12	270	340	300	360	440	390
16	360	460	330	480	600	430
20	460	660	470	600	860	610
25	570	1030	740	740	1340	960
32	730	1690	1210	950	2200	1570
36	820	2140	1530	1070	2780	1990
40	910	2420	1730	1190	3150	2250

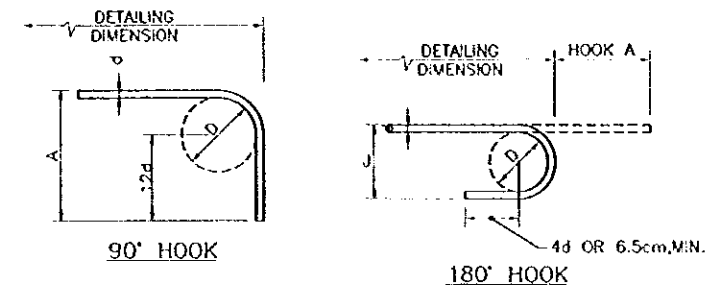
**REINFORCEMENT DEVELOPMENT AND LAP SPLICE LENGTHS**

**NOTES FOR TABLE:-**

- LENGTHS IN TABLE ARE BASED ON A CONCRETE COMPRESSIVE CYLINDER STRENGTH OF 210 Kg/cm<sup>2</sup> AND DEFORMED REINFORCING STEEL CONFORMING TO THE STRENGTH REQUIREMENTS OF ASTM-A615 GRADE 60. (FY = 410 MPa)
- ALL TABLE VALUES ARE IN MILLIMETERS.
- VALUES GIVEN IN TABLE ARE FOR BARS SPACED AT LEAST 15 cm CENTERS
- FOR OTHER CONDITIONS THE FOLLOWING MULTIPLIES SHALL BE USED:
  - TENSION BARS SPACED LESS THAN 15cm CENTERS = 1.25 x TABLE VALUE
  - 3-BAR BUNDLES IN TENSION OR COMPRESSION = 1.20 x TABLE VALUE
  - 4-BAR BUNDLES IN TENSION OR COMPRESSION = 1.33 x TABLE VALUE
  - LAPS FOR EACH BAR IN A BUNDLE SHALL BE STAGGERED.
  - IF Fy IS LESS THAN 410 MPa MULTIPLY TABLE VALUES BY Fy / 410.
  - IF Fc' IS GREATER THAN 210 Kg/cm<sup>2</sup> MULTIPLY TABLE VALUES BY  $\sqrt{210 / Fc'}$  , EXCEPT MINIMUM LENGTH SHALL BE 30cm
- TOP BARS ARE HORIZONTAL BARS, SUCH AS IN WALLS, BEAMS AND SLABS, SO PLACED THAT MORE THAN 30 cm OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
- NO SPLICING OF STEEL BARS IS PERMITTED UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- LAP SPLICES SHALL NOT BE USED IN LOCATIONS OF MAXIMUM MOMENTS.
- THE VALUES OF TENSION LAP SPLICES SHOWN IN TABLE ARE FOR CLASS "B" SPLICES. FOR OTHER SPLICE CONDITIONS THE FOLLOWING MULTIPLIERS SHALL BE USED :
  - CLASS "A" SPLICE = 0.77 x TABL VALUE.
  - CLASS "C" SPLICE = 1.31 x TABLE VALUE.
  - CLASS "D" SPLICE = 1.54 x TABLE VALUE.
 AND FOR SPLICE CLASS DESCRIPTION SEE AASHTO.

**LEGEND**

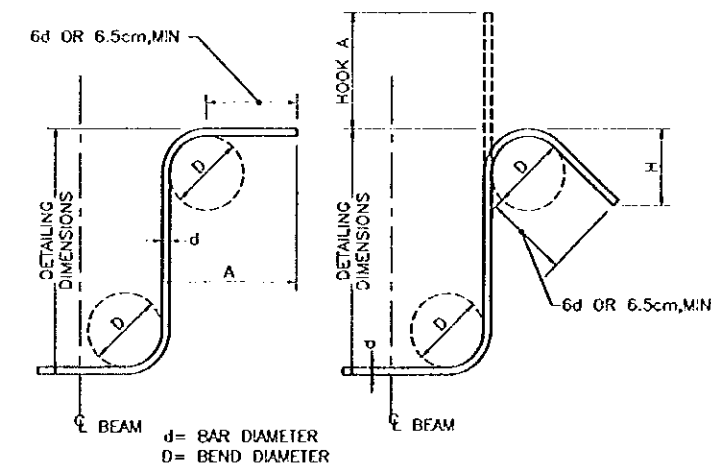
- B: BOTTOM
- T: TOP
- EF: EACH FACE
- OF: OUTSIDE FACE
- IF: INSIDE FACE



BAR SIZE mm	D=6d FOR 8 TO 25 D=8d FOR 30 TO 32 STANDARD 180° HOOK			D=6d FOR 8 TO 25 D=8d FOR 30 TO 32 STANDARD 90° HOOK	
	HOOK A	J	D	A	D
8	130	64	48	128	48
10	140	80	60	160	60
12	150	96	72	192	74
14	165	112	84	224	84
16	180	128	96	256	96
20	230	160	120	320	120
25	280	250	150	400	150
30	410	300	240	510	240
32	440	320	256	544	256

Fy = 410 MPa  
d = BAR DIAMETER  
D = BEND DIAMETER

**REINFORCEMENT STANDARD HOOK DETAILS**



NOTE : TIE BENDS ARE SIMILAR TO STIRRUP HOOK SHOWN  
90° HOOK                      135° HOOK

BAR SIZE mm	D	90° HOOK		135° HOOK	
		A	HOOK A	H	
8	40	100	110	70	
10	50	110	120	75	
12	60	120	130	80	
14	65	135	145	90	
16	70	150	160	100	
20	80	180	210	130	

**REINFORCEMENT STIRRUP AND TIE HOOK DIMENSIONS**

Project:  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

Executing Agency:  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

SUB-PROJECT:  
Dead Sea Parkway

Note:  
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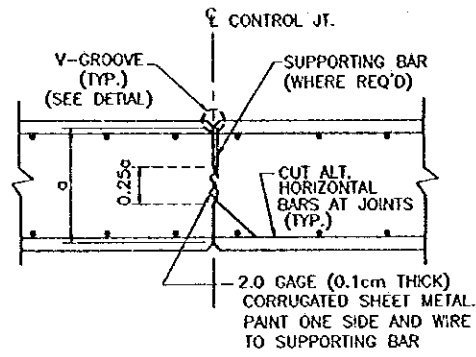
Designed by:  
Japan International Cooperation Agency (JICA)

JICA Study Team:  
Joint Venture of  
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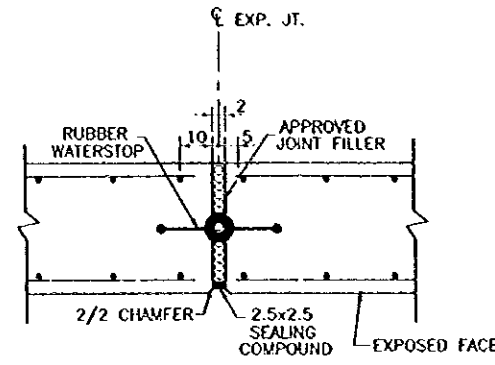
Subcontracted Local Consultant:  
**consolidated consultants**  
Engineering & Environment  
Tel: 911277 - Fax: 911280 - Addis - JICA

Drawing Title:  
**GENERAL STRUCTURAL NOTES AND DETAILS**

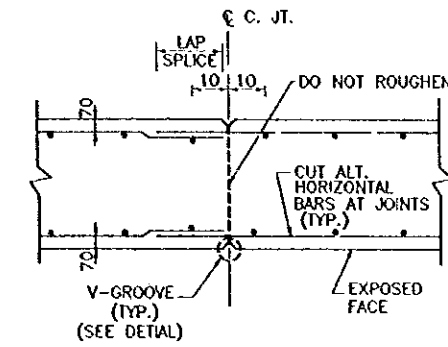
Scale: AS SHOWN      Drawing No.: DSPW-60



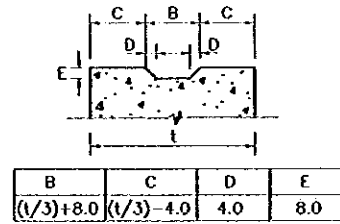
CONTROL JOINT



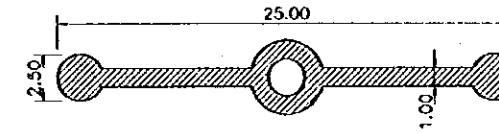
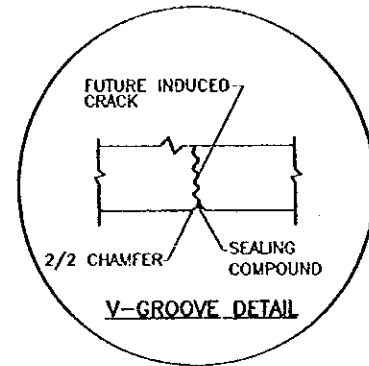
EXPANSION JOINT (EXP. JT.)



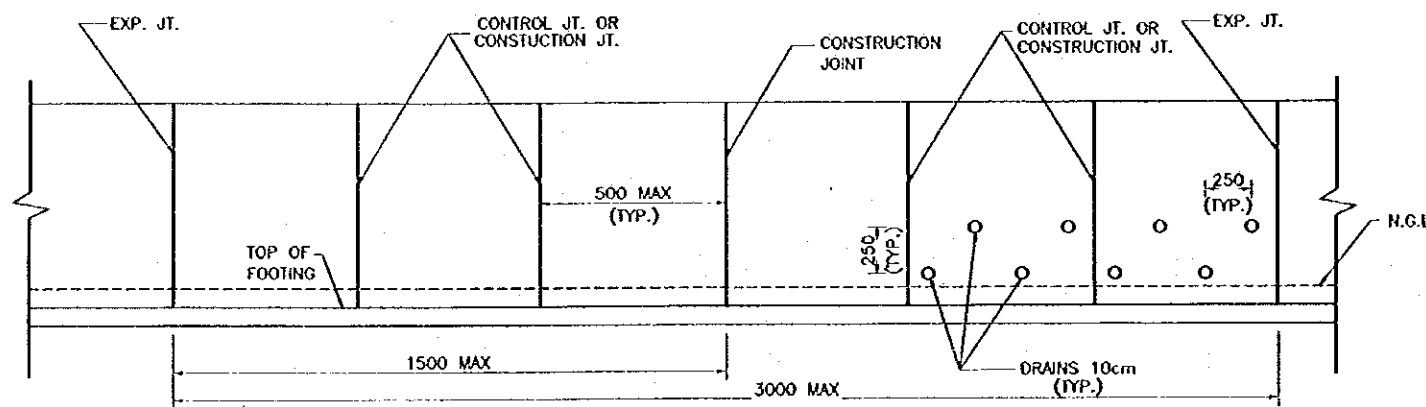
CONSTRUCTION JOINT (C. JT.)



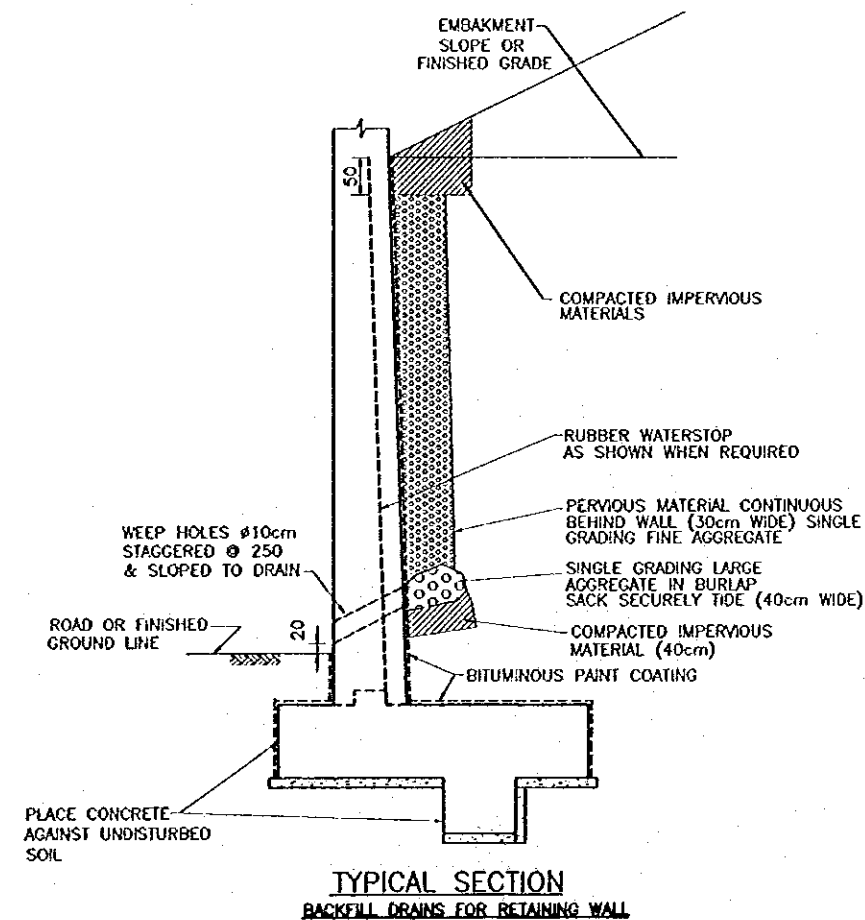
VERTICAL WALL KEYS



RUBBER WATERSTOP



RETAINING WALL ELEVATION SHOWING VERTICAL JOINTS



NOTES:

- 1) ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT REINF. BAR DIA. WHICH ARE IN mm.
- 2) NO HORIZONTAL C.JT. SHALL BE ALLOWED IN WALLS UNLESS SHOWN ON DRAWINGS OR APPROVED BY THE ENGINEER.
- 3) WEEP HOLES SHALL BE PROVIDED AT THE SPACING SHOWN. SUITABLE UNDERDRAINS LOCATED BACK OF STEM AND CONNECTED TO AN OUTLET PIPE MAY BE USED IN LIEU OF WEEP HOLES.

Project:  
Tourism Sector Development Project  
in the Hashemite Kingdom of Jordan

Executing Agency:  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

SUB-PROJECT:  
Dead Sea Parkway

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accordance with the agreement between  
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(JICA) and JICA Study Team.  
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Designed by:  
Japan International Cooperation  
Agency (JICA)

JICA Study Team:  
Joint Venture of  
Pacific Consultants International and  
Yamasita Sakkel Inc.

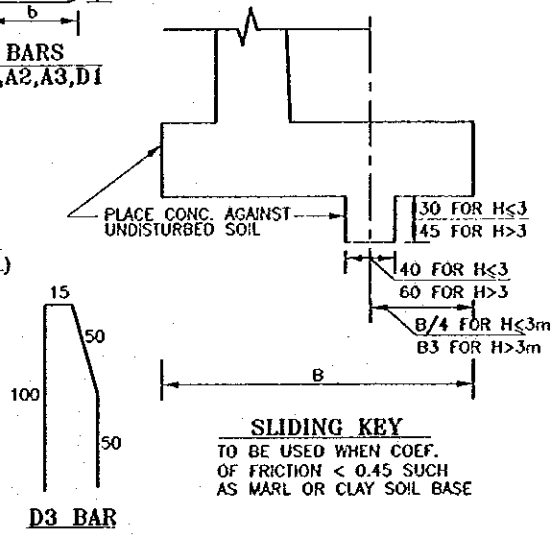
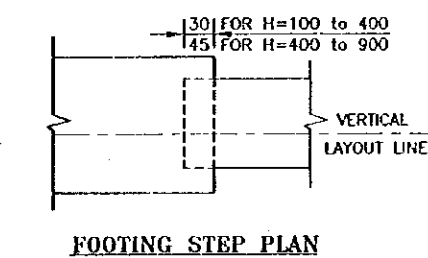
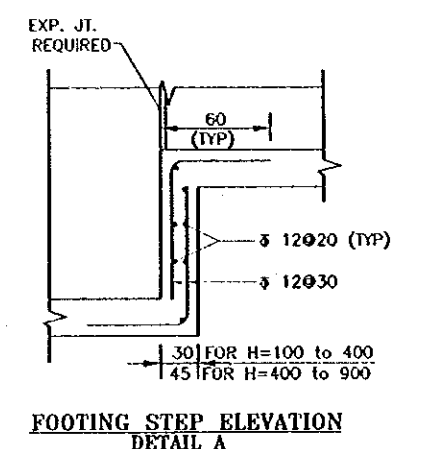
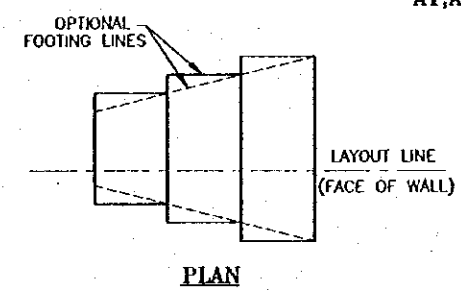
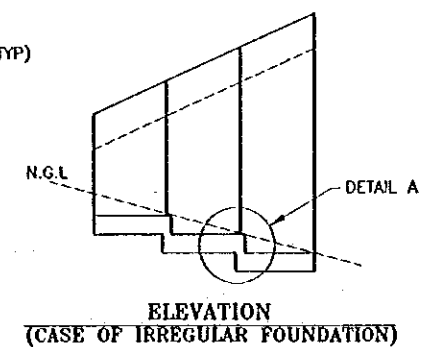
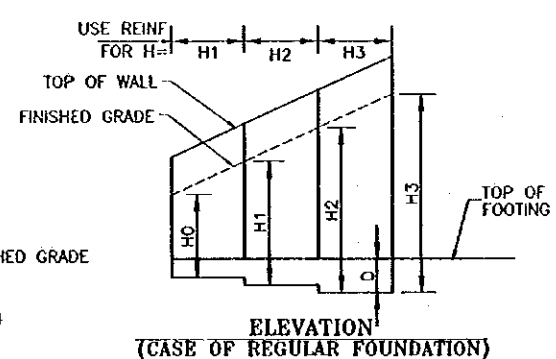
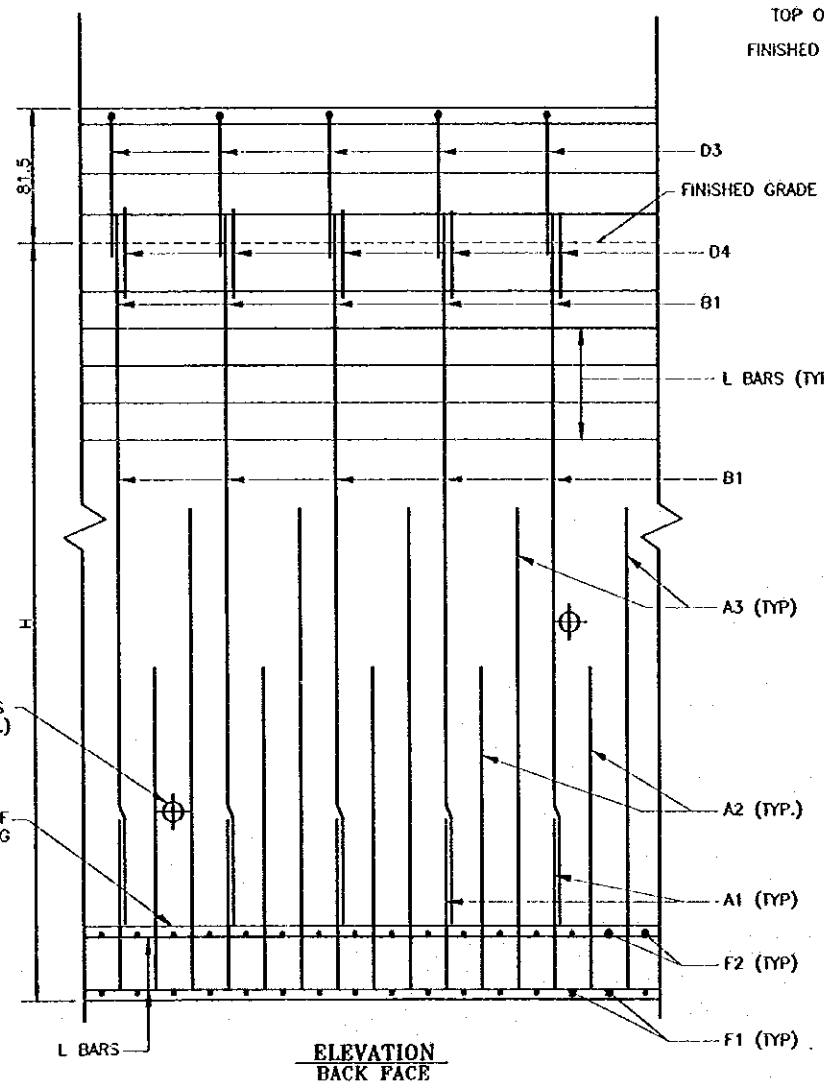
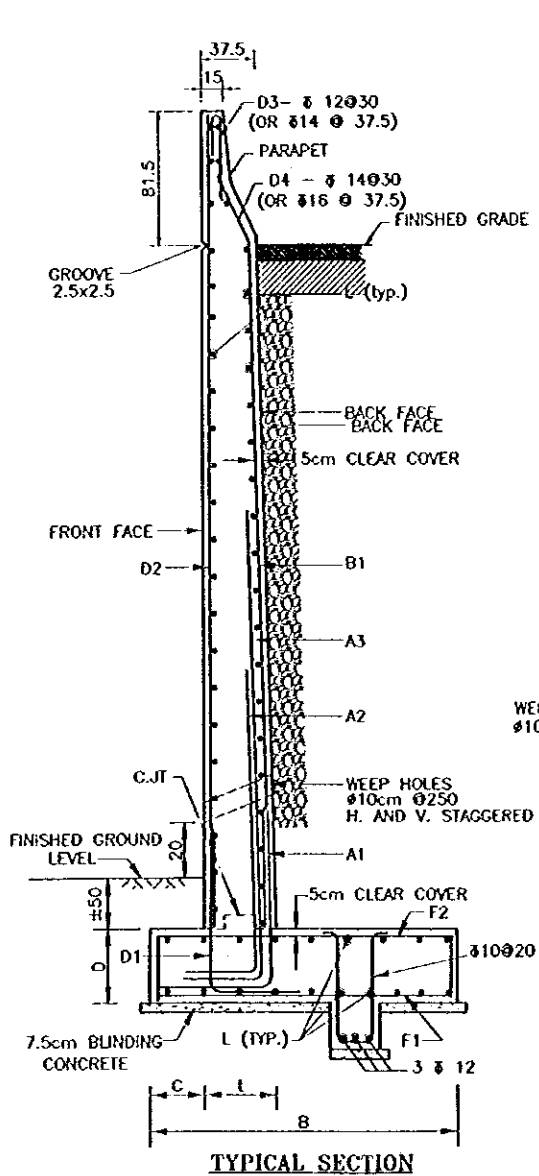
Subcontracted Local Consultant:  
**consolidated consultants**  
engineering & environment  
Tel: 011377 - Fax: 011370 - AMMAN - JORDAN

Drawing Title:  
**RETAINING WALL  
JOINT & BACKFILL  
DRAINS DETAILS**

Scale: N.T.S. Drawing No.: DSPW-01

DIMENSIONS					REINFORCEMENT																				QUANTITIES PER m RUN		MAX. BEARING PRESS.	MAX. WALL HEIGHT																	
H	B	C	D	t	BAR A1				BAR A2				BAR A3				BAR D1				D2		B1		F1		F2		L		CON.	STEEL													
cm	cm	cm	cm	cm	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	NO.	Cu.M	Kg	Kg/cm <sup>2</sup>										
150	90	25	30	25	-	-	-	-	-	-	-	-	-	-	12	30	140	20	160	10	30	140	20	150	-	-	-	-	-	-	-	-	10	30	80	12	30	80	10	30	23	0.57	27.6	0.55	150
200	120	35	30	25	-	-	-	-	-	-	-	-	-	-	12	30	190	20	210	10	30	190	20	210	-	-	-	-	-	-	-	-	10	30	110	12	30	110	10	30	28	0.79	34.7	0.66	200
250	145	40	30	25	-	-	-	-	-	-	-	-	-	-	12	50	120	20	140	12	50	240	20	260	-	-	-	-	-	-	-	-	10	30	135	12	25	135	10	30	33	0.99	43.0	0.82	250
300	170	50	30	30	-	-	-	-	-	-	-	-	-	-	12	30	135	20	155	12	30	290	20	310	-	-	-	-	-	-	-	-	12	30	160	12	30	160	12	30	38	1.25	68.1	0.94	300
350	190	55	35	35	-	-	-	-	-	-	-	-	-	-	12	30	165	20	185	12	30	340	20	360	-	-	-	-	-	-	-	-	12	30	180	12	30	180	12	30	43	1.61	77.6	1.14	350
400	215	65	40	40	12	30	80	95	175	12	30	175	20	195	12	30	230	20	250	12	30	80	20	100	12	30	355	12	30	355	12	30	205	16	30	205	12	30	46	2.03	102.0	1.26	400		
450	240	75	40	40	16	30	90	105	195	16	30	190	30	220	16	30	265	30	295	12	30	80	20	100	12	30	405	16	30	405	12	30	230	16	30	230	12	30	52	2.29	140.6	1.36	450		
500	265	80	45	45	16	30	95	115	210	16	30	200	30	230	16	30	280	30	310	12	30	85	20	105	12	30	450	16	30	450	12	30	255	16	30	255	12	30	56	2.79	152.2	1.52	500		
550	290	90	45	45	16	30	100	125	225	16	30	225	30	255	16	30	320	30	350	12	30	85	20	105	12	30	500	16	30	500	12	30	280	20	30	280	12	30	61	3.07	175.3	1.62	550		
600	315	100	50	50	20	30	120	140	260	20	30	245	35	280	20	30	355	35	390	12	30	90	20	110	12	30	545	20	30	545	12	30	305	20	20	305	12	30	66	3.64	247.8	1.73	600		
650	335	110	50	50	20	30	135	150	285	20	30	260	35	295	20	30	385	35	420	12	30	90	20	110	12	30	595	20	30	595	12	30	325	20	20	325	12	30	70	3.93	265.8	1.86	650		
700	360	120	55	55	20	30	140	165	305	20	30	280	35	315	20	30	410	35	445	16	30	100	30	130	16	30	640	20	30	640	16	30	350	20	20	350	16	30	75	4.56	364.1	1.97	700		
750	385	130	60	60	25	30	165	180	345	25	30	300	40	340	25	30	440	40	480	16	30	105	30	135	16	30	685	25	30	685	16	30	375	20	20	375	16	30	80	5.24	476.5	2.08	750		
800	405	130	65	65	25	30	170	185	355	25	30	325	40	365	25	30	475	40	515	16	30	110	30	140	16	30	730	25	30	730	16	30	395	20	20	395	16	30	85	5.94	505.3	2.30	800		
850	430	140	70	70	25	30	200	200	400	25	30	350	40	390	25	30	505	40	545	16	30	115	30	145	16	30	775	25	30	775	16	30	420	25	20	420	16	30	88	6.72	564.9	2.41	850		
900	455	150	75	75	25	30	205	215	420	25	30	370	40	410	25	30	535	40	575	16	30	120	30	150	16	30	820	25	30	820	16	30	445	25	20	445	16	30	93	7.54	596.3	2.52	900		

- NOTES:**
- 1) ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT REINF. DIA. WHICH ARE IN mm
  - 2) DESIGN DATA:
    - a- ANGLE OF INTERNAL FRICTION ( $\phi$ )=33°41'
    - b- WEIGHT OF SOIL = 2.0 t/m<sup>3</sup>
    - c- LIVE LOAD (HS 20-44)+50%
  - 3) FOR JOINTS DETAILS, SPACINGS, & BACKFILL DRAINS SEE DRG. No. (DSP# - 61)
  - 4) EXPOSED SURFACES SHALL BE FAIR FACED AND BURIED SURFACES SHALL BE COATED WITH BITUMINOUS DAMP PROOFING.
  - 5) READ NOTES ON DRAWING No. (DSP# - 60)
  - 6) FOOTING DIMENSIONS ARE VARIED TO OBTAIN A MORE DESIRABLE SOIL PRESSURE, IF REQUIRED AS DIRECTED BY THE ENGINEER. ACCORDING CHANGE MUST BE MADE IN THE FOOTING DESIGN TO ADJUST REINFORCING.
  - 7) THE REINFORCING SCHEDULES SHOWN ARE ONLY FOR THE CORRESPONDING WALL DIMENSIONS LISTED. LENGTH OF REINFORCING BARS SHOULD BE ADJUSTED TO MATCH THE RETAINING WALL HEIGHT.
  - 8) FOR REINFORCEMENT HOOK DETAILS SEE DRG. NO. 700
  - 9) QUANTITIES SHOWN IN THE TABLE INCLUDE THE SUDING KEY AND ARE USED ONLY FOR ESTIMATION PURPOSES.
  - 10) COMBINATION PARAPET COULD BE USED INSTEAD OF CONCRETE PARAPET AT TOP OF RETAINING WALL
  - 11) REINFORCED CONCRETE SHALL BE CLASS C30.
  - 12) BLINDING CONCRETE SHALL BE CLASS C15.
  - 13) STEEL REINFORCEMENT SHALL CONFORM TO THE REQUIR. OF ASTM A615 GRADE 60.



Project: Tourism Sector Development Project in the Hashemite Kingdom of Jordan

Executing Agency: The Ministry of Tourism and Antiquities, The Ministry of Planning

SUB-PROJECT: Dead Sea Parkway

Note: This detailed design has been executed by a team of consultants as shown below in accordance with the agreement between Japan International Cooperation Agency (JICA) and JICA Study Team. The copyright of this drawing rests with JICA.

Designed by: Japan International Cooperation Agency (JICA)

JICA Study Team: Joint Venture of Pacific Consultants International and Yamamoto Sekkel Inc.

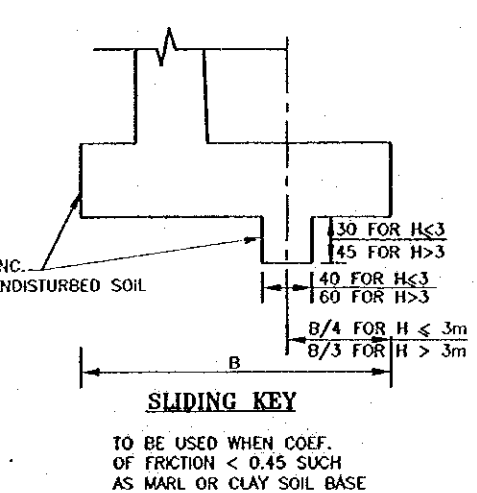
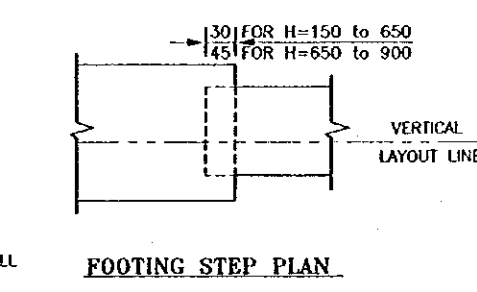
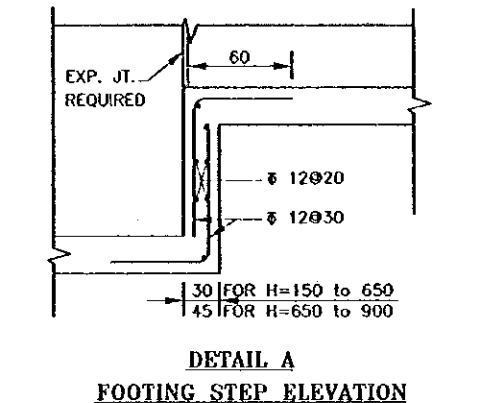
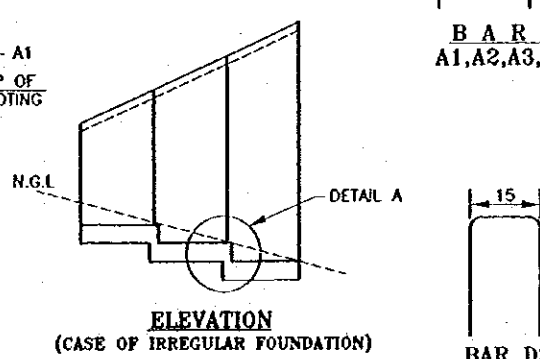
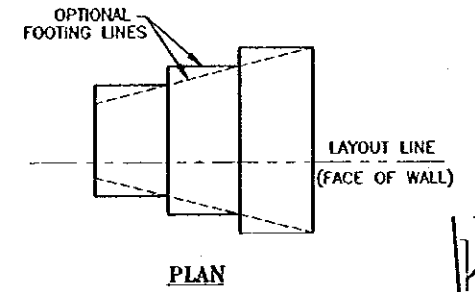
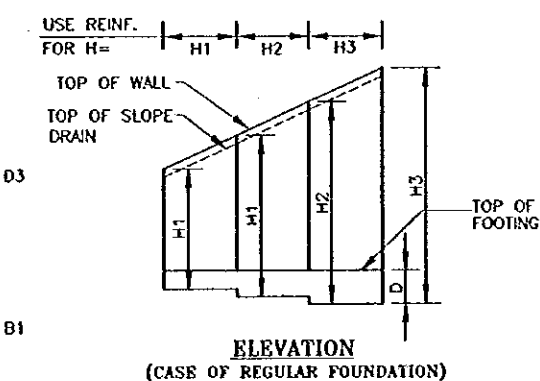
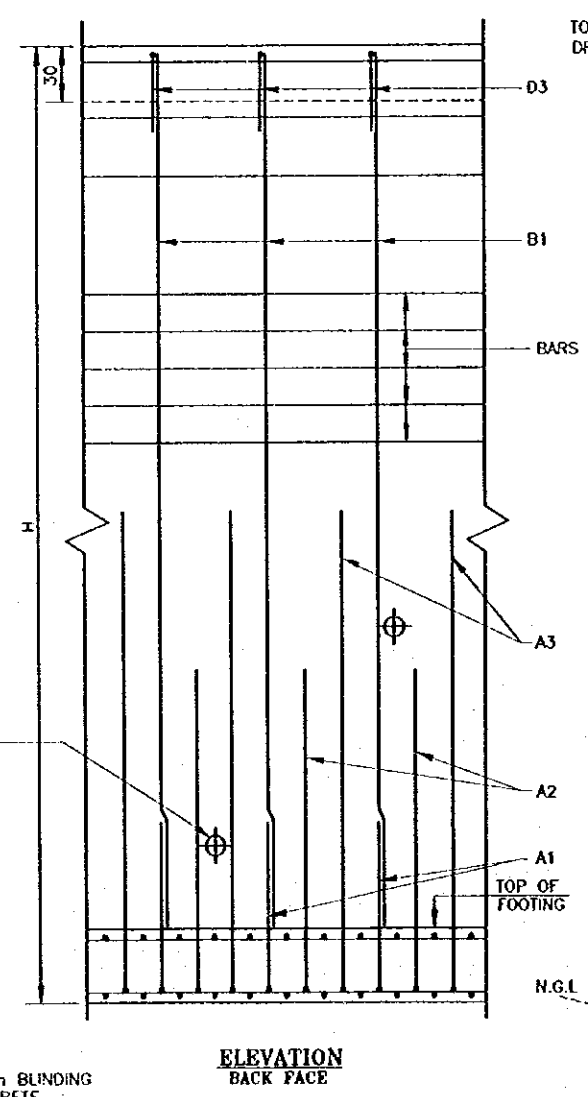
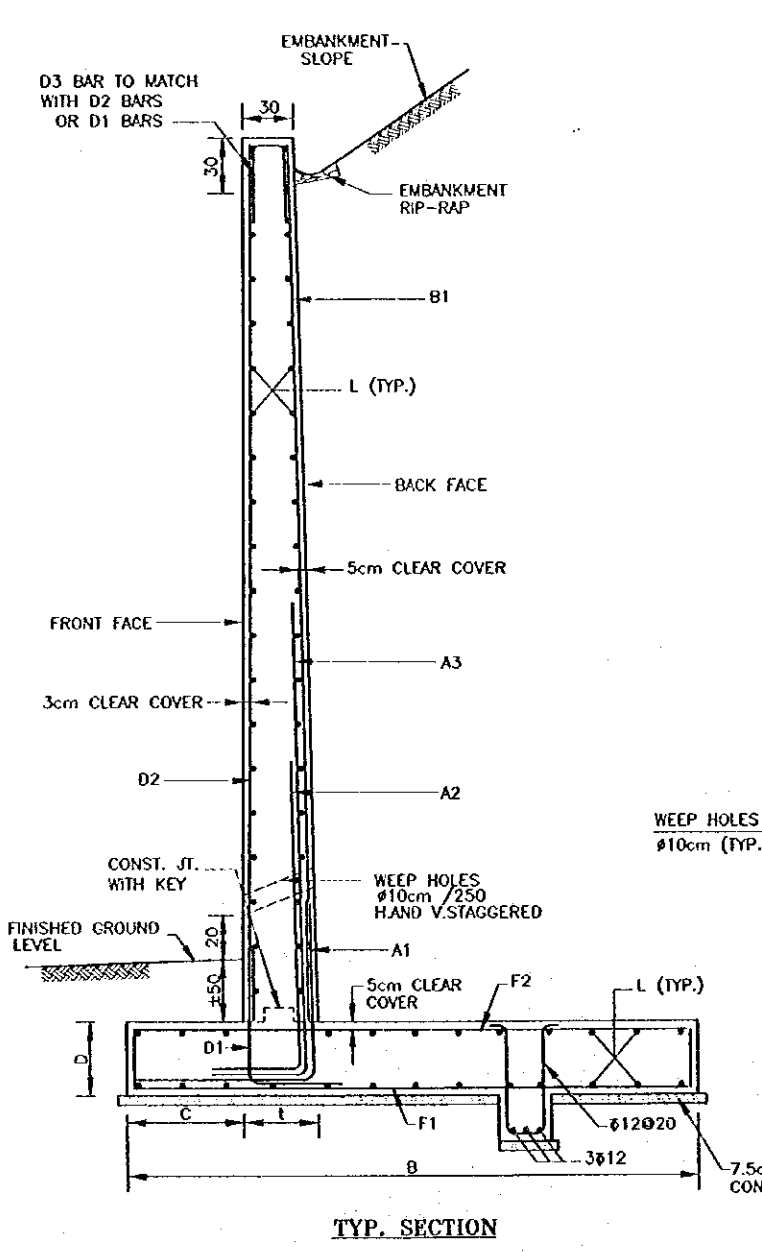
Subcontracted Local Consultant: consolidated consultants

Drawing Title: T-SHAPE RETAINING WALL ADJACENT TO ROAD CARRIAGE

Scale: AS SHOWN Drawing No.: DSP#-62

DIMENSIONS					REINFORCEMENT																				QUANTITIES PER m RUN		MAX. BEARING PRESS.	MAX. WALL HEIGHT																						
H	B	C	D	t	BAR A1					BAR A2					BAR A3					BAR D1					D2					B1					F1					F2					L		CON.	STEEL		
cm	cm	cm	cm	cm	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	a	b	LENG.	SIZE	SP	NO.	Cu.M	Kg	Kg/cm <sup>2</sup>										
150	75	20	30	25	12	30	140	35	175	12	30	140	20	160	12	30	140	20	160	12	30	140	20	160	12	30	140	20	160	12	30	140	20	160	12	30	18	0.53	26.79	0.62	150									
200	110	25	30	25	12	30	190	40	230	12	25	190	40	230	12	25	190	40	230	12	25	190	40	230	12	25	190	40	230	12	25	190	40	230	12	25	24	0.76	39.84	0.86	200									
250	145	30	30	25	12	30	240	45	260	12	40	240	45	260	12	40	240	45	260	12	40	240	45	260	12	40	240	45	260	12	40	240	45	260	12	40	28	0.99	53.12	1.09	250									
300	185	35	35	40	14	30	220	65	285	12	30	380	20	400	12	30	380	20	400	12	30	380	20	400	12	30	380	20	400	12	30	380	20	400	12	30	35	1.25	98.39	1.33	300									
350	205	45	35	35	16	30	165	70	235	16	30	340	30	370	12	15	340	20	360	12	15	340	20	360	12	15	340	20	360	12	15	340	20	360	12	15	40	1.66	124.58	1.57	350									
400	240	65	45	40	12	30	150	100	250	12	30	220	25	245	12	30	310	25	335	12	30	105	20	125	12	30	440	14	30	440	12	15	230	20	15	230	12	30	44	2.13	155.73	1.82	400							
450	275	60	45	45	16	37.5	85	95	180	16	37.5	190	30	220	16	37.5	270	30	300	12	12.5	80	20	100	12	12.5	400	16	37.5	400	12	12.5	265	20	12.5	265	12	30	50	2.66	201.96	1.99	450							
500	310	70	50	45	20	45	110	105	215	20	45	200	35	235	20	45	300	35	335	12	15	85	20	105	12	15	445	20	45	445	12	15	300	25	15	300	12	30	55	3.13	247.51	2.17	500							
550	340	85	55	50	20	45	115	125	240	20	45	225	35	260	20	45	330	35	365	12	15	90	20	110	12	15	490	20	45	490	12	15	330	25	15	330	12	30	60	3.73	271.25	2.31	550							
600	370	100	60	55	20	37.5	120	145	265	20	37.5	245	35	280	20	37.5	360	35	395	12	12.5	95	20	115	12	12.5	535	20	37.5	535	12	12.5	360	25	12.5	360	12	30	64	4.38	341.22	2.45	600							
650	405	105	65	60	25	45	160	155	315	25	45	260	40	300	25	45	390	40	430	16	15	110	30	140	16	15	580	25	45	580	16	15	395	30	15	395	16	30	71	5.12	521.60	2.69	650							
700	435	110	75	65	25	45	170	165	335	25	45	280	40	320	25	45	420	40	460	16	15	120	30	150	16	15	620	25	45	620	16	15	425	30	15	425	16	30	75	6.08	556.85	2.98	700							
750	470	115	85	75	25	37.5	180	180	360	25	37.5	300	40	340	25	37.5	450	40	490	16	12.5	130	30	160	16	12.5	660	25	37.5	660	16	12.5	460	30	12.5	460	16	30	79	7.32	688.95	3.24	750							
800	490	150	75	80	25	30	230	220	450	25	30	380	50	430	25	30	540	50	590	14	30	140	20	160	14	30	700	25	37.5	810	16	12.5	495	30	12.5	495	16	30	84	8.50	734.94	3.50	800							
850	540	130	105	90	25	37.5	200	210	410	25	37.5	350	40	390	25	37.5	510	40	550	16	12.5	150	30	180	16	12.5	740	25	37.5	740	16	12.5	530	32	12.5	530	16	30	89	9.95	814.38	3.69	850							
900	580	140	115	100	25	37.5	215	230	445	25	37.5	370	40	410	25	37.5	540	40	580	16	12.5	165	30	195	16	12.5	775	25	37.5	775	16	12.5	565	32	12.5	565	16	30	92	11.78	859.86	3.94	900							
950	630	150	130	110	25	30	225	250	475	25	30	390	40	430	25	30	570	40	610	16	10	175	30	205	16	10	815	25	30	815	16	10	620	30	10	620	16	30	98	13.73	1067.31	4.02	950							
1000	700	160	140	120	25	30	235	270	505	25	30	410	40	450	25	30	600	40	640	16	10	185	30	215	16	10	855	25	30	855	16	10	690	32	10	690	16	30	105	16.04	1204.33	4.03	1000							

- NOTES:**
- 1) ALL DIMENSIONS ARE IN cm. EXCEPT REINF. DIA. WHICH ARE IN mm
  - 2) DESIGN DATA:  
a- ANGLE OF INTERNAL FRICTION (φ) = 33°  
b- WEIGHT OF SOIL = 1.8 t/m<sup>3</sup>
  - 3) FOR DETAILS OF JOINTS, SPACINGS, AND BACKFILL DRAINS SEE DRG. NO. (DSPW - 61)
  - 4) EXPOSED SURFACES SHALL BE FAIR FACED AND BURED SURFACES SHALL BE COATED WITH BITUMINOUS DAMP PROOFING.
  - 5) FOOTING DIMENSIONS ARE VARIED TO OBTAIN A MORE DESIRABLE SOIL PRESSURE AS DIRECTED BY THE ENGINEER. A CORRESPONDING CHANGE MUST BE MADE IN THE FOOTING DESIGN TO ADJUST REINFORCING.
  - 6) THE REINFORCING SCHEDULES SHOWN ARE ONLY FOR THE CORRESPONDING WALL DIMENSIONS LISTED. LENGTH OF REINFORCING BARS SHOULD BE ADJUSTED TO MATCH THE RETAINING WALL HEIGHT.
  - 7) FOR REINFORCEMENT HOOK DETAILS SEE DRG. NO. (DSPW - 60)
  - 8) QUANTITIES SHOWN IN THE TABLE INCLUDE THE SLIDING KEY AND ARE USED ONLY FOR ESTIMATION PURPOSES.
  - 9) REINFORCED CONCRETE SHALL BE CLASS C30.
  - 10) BLINDING CONCRETE SHALL BE CLASS C15.
  - 11) STEEL REINFORCEMENT SHALL CONFORM TO THE REQUIRE OF ASTM A615 GRADE 60.



**Project:**  
Tourism Sector Development Project in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

**Note:**  
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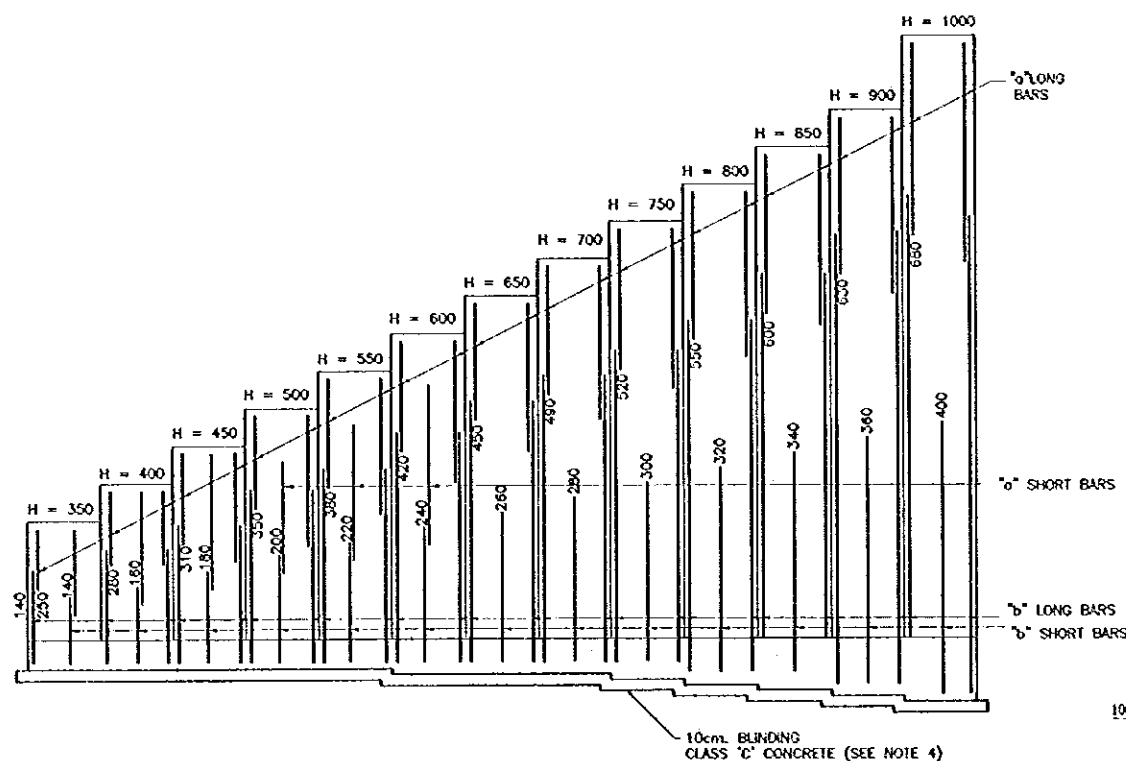
**Designed by:**  
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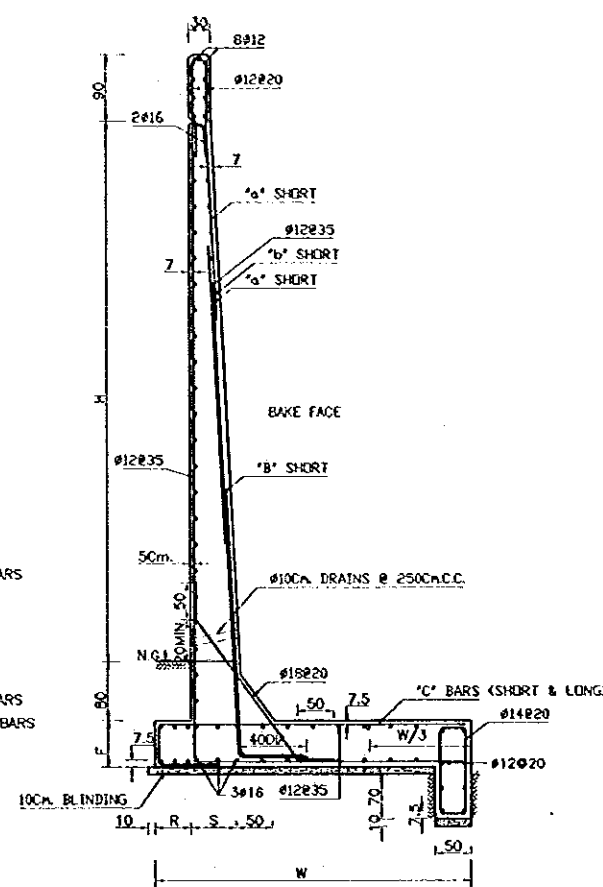
**Subcontracted Local Consultant:**  
**consolidated consultants**  
engineering & environment  
Tel: 0112377 - Fax: 0112300 - AMMAN - JORDAN

**Drawing Title:**  
**T-SHAPE RETAINING WALL WITH SLOPED EMBANKMENT**

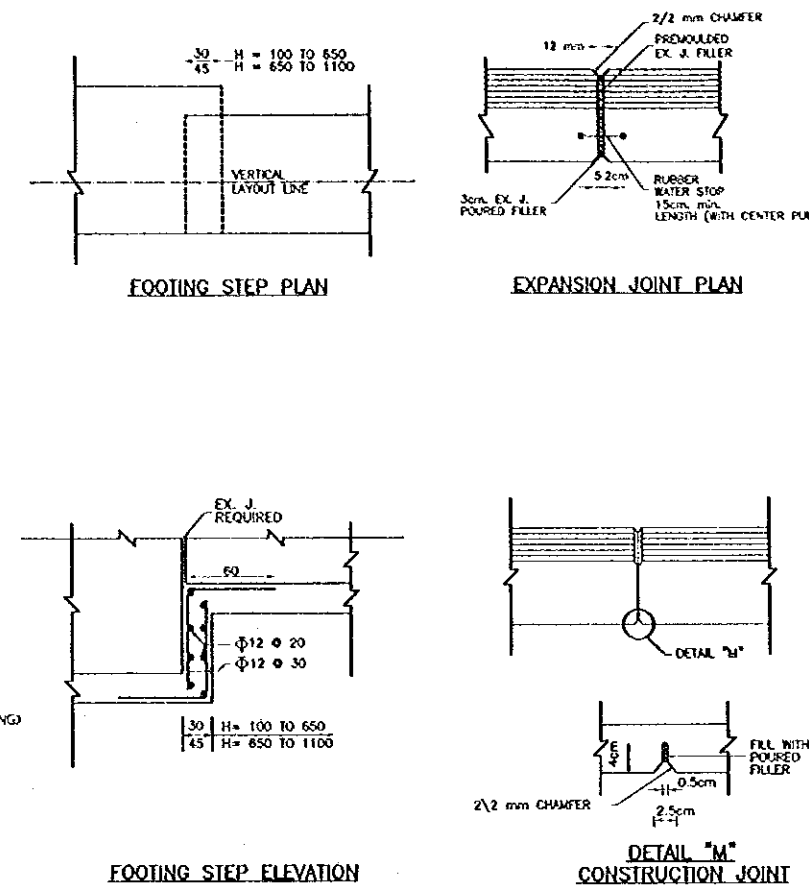
**Scale:** AS SHOWN **Drawing No.:** DSPW-63



**ELEVATION REINFORCEMENT DETAILS**



**TYPICAL SECTION SCALE 1/50**



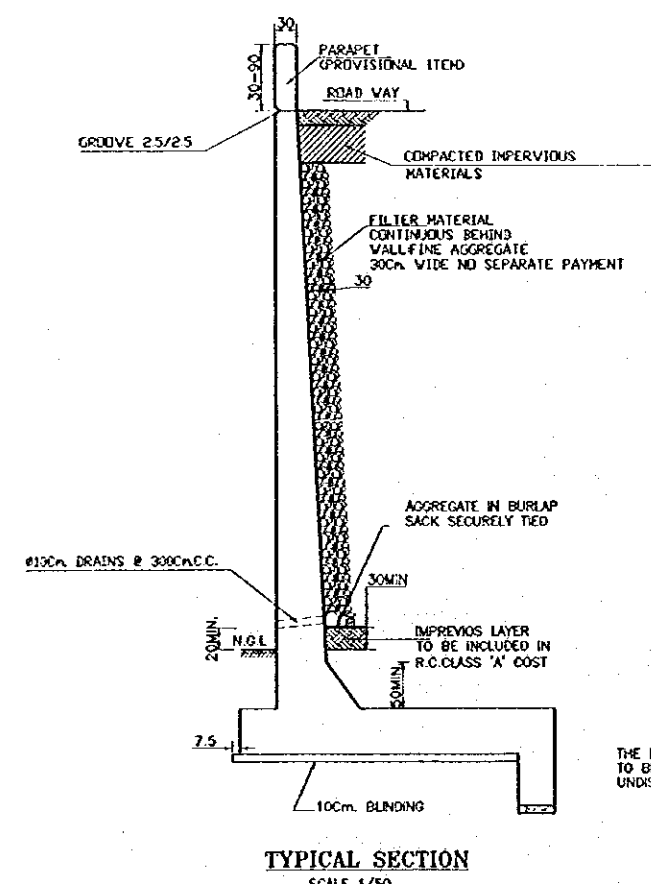
**FOOTING STEP ELEVATION**

**DETAIL "M" CONSTRUCTION JOINT**

- NOTES:-**
- 1) ALL DIMENSIONS ARE IN C.M.S
  - 2) COST OF:
    - a- BITUMEN
    - b- FILTER MATERIAL
    - c- JOINTS COMPLETE
    - d- WATER STOP
    - e- DRAIN
 WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN UNIT BED PRICE OF CONCRETE CLASS 'A' IN RETAINING WALLS.
  - 3) COST OF REINFORCED CONCRETE TO INCLUDE ALL COSTS OF FORMWORK.
  - 4) FOR CLARITY 10cm. THICK BUILDING ONLY SHOWN. THE CONTRACTOR IS TO CARRY OUT A VERY DETAILED SURVEY EACH WALL LOCATION. CARRY OUT DETAILED SOIL STUDY AND ALL TESTING NEEDED TOO AND SUBMIT BOTH TO THE ENGINEER WELL IN ADVANCE OF ANY CONSTRUCTION. NO WORK ON WALLS OF ANY KIND WILL BE ALLOWED BEFORE SUBMITTING THIS.
  - 5) ANY UNSUITABLE SOIL IS TO BE REMOVED AND EITHER WALL FOUNDATION LOWERED OR CONCRETE CLASS 'C' OR BASE MATERIAL PLACED TO DEPTH TO BE ENSURE TOE PRESSURE REQUIRED IS ACHIEVED.
  - 6) ALLOWABLE BEARING CAPACITY=5.0kg/cm<sup>2</sup> AS SHOWN IN THE TABLE.
  - 7) IT'S THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK THAT BEARING CAPACITY ON SITE IS AS PER DESIGN. THE CONTRACTOR SHALL NOT BE PAID FOR CARRYING ANY REQUIRED SOIL INVESTIGATION AS PER THE ENGINEER'S REQUEST.
  - 8) IT'S ALSO THE RESPONSIBILITY OF THE CONTRACTOR AND AT HIS OWN EXPENSE TO CHECK SLOPE STABILITY AGAINST RETAINING WALLS WEIGHT ON SITE BEFORE CONSTRUCTION.

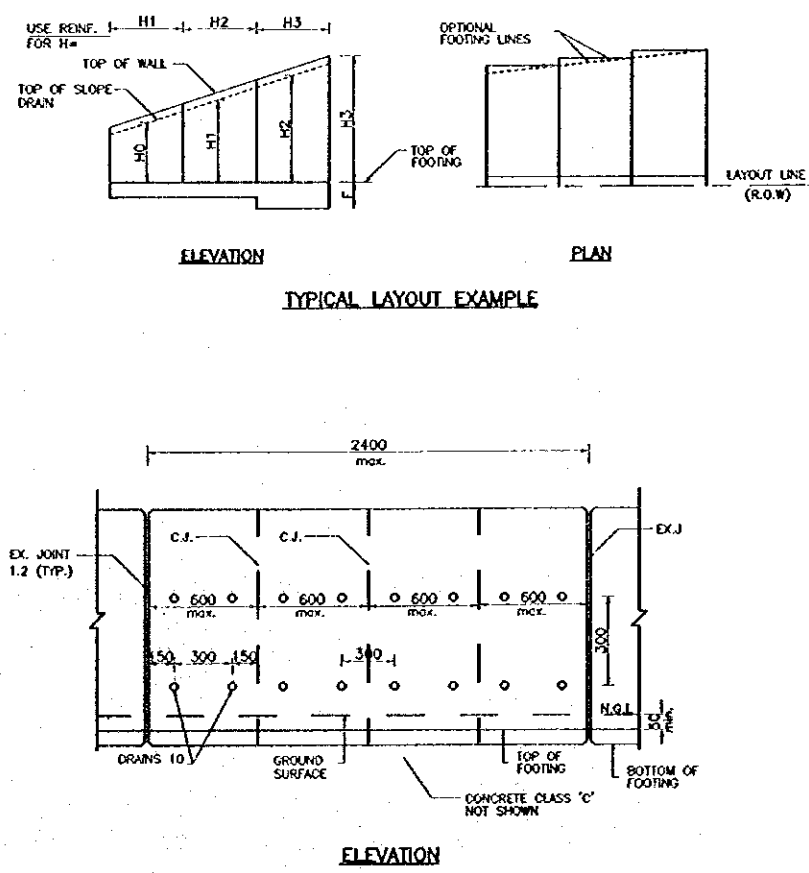
**TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA**

H m.	0	450	500	550	600	650	700	750	800	850	900	1000	1100
W m.	325	345	400	445	480	545	570	600	650	710	800	920	
S m.	45	45	50	55	60	65	70	75	80	90	100	110	
F m.	55	60	65	70	75	80	85	90	95	100	120	130	
R cm.	50	50	50	80	80	100	100	100	120	140	180	160	
"a" BARS $\phi$	12/20	12/20	14/20	14/20	18/30	18/30	22/30	22/30	25/30	25/30	25/30	25/25	
"b" BARS $\phi$	20/20	22/20	25/20	28/20	25/15	25/15	30/15	30/15	32/15	32/15	32/15	32/15	
"c" BARS $\phi$	20/15	22/15	25/15	25/15	25/15	28/12.5	32/12.5	32/12.5	32/12.5	32/12.5	32/10	32/10	
Toe Max. Press Kg/cm <sup>2</sup>	4.1	4.9	4.7	4.2	4.5	4.9	4.8	4.9	4.8	5.0	4.9	5.0	
CONCRETE Cu M Per m run	4.35	4.82	5.71	6.61	7.51	8.70	9.65	10.69	11.97	13.69	17.36	20.99	
STEEL Kg Per m run	210	256	375	518	563	612	693	796	910	1028	1243	1487	



**TYPICAL SECTION SCALE 1/50**

THE KEY CONCRETE TO BE PLACED AGAINST UNDISTURBED MATERIAL



**TYPICAL LAYOUT EXAMPLE**

**ELEVATION**

**Project:**  
Tourism Sector Development Project in the Hashemite Kingdom of Jordan

**Executing Agency:**  
The Ministry of Tourism and Antiquities  
The Ministry of Planning

**SUB-PROJECT:**  
Dead Sea Parkway

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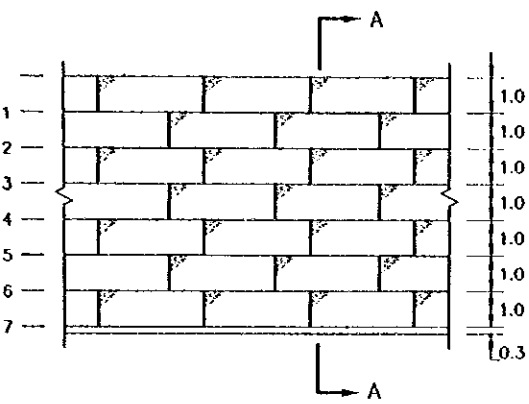
**JICA Study Team:**  
Joint Venture of Pacific Consultants International and Yamasita Sakkel Inc.

**Subcontracted Local Consultant:**  
**consolidated consultants**  
ENGINEERING & CONSULTANTS  
TEL: 0112377 - Fax: 0112380 - AMMAN - JORDAN

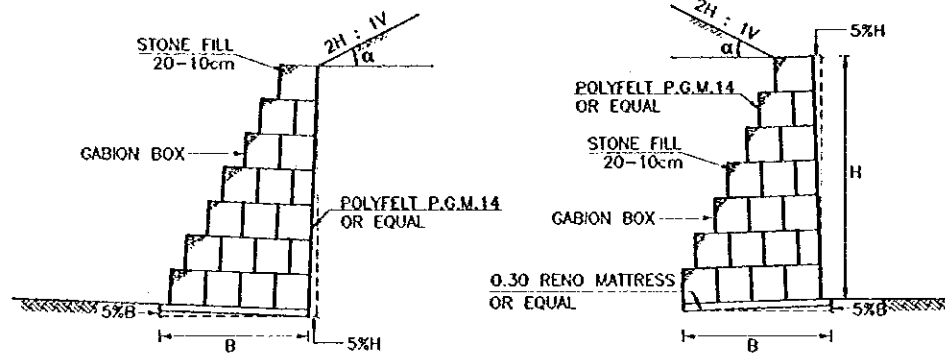
**Drawing Title:**  
**L-SHAPE RETAINING WALL**

**Scale:** AS SHOWN **Drawing No.:** DSPW-04





ELEVATION

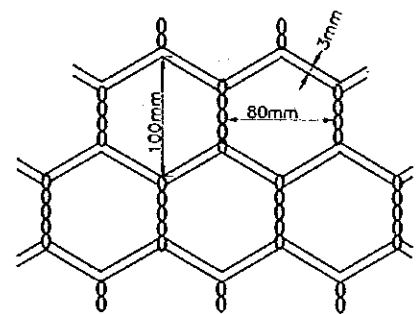


SEC. A-A  
NORMAL CASE

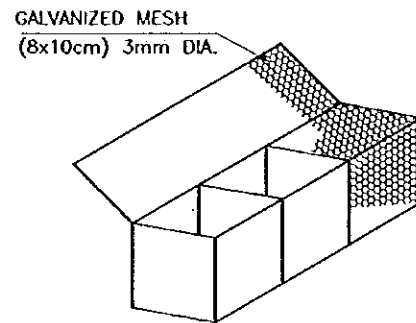
SEC. A-A  
CASE FOR LIMITED SPACE

**GABION WALLS**

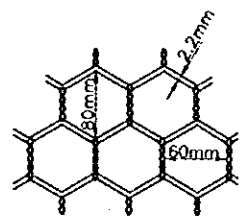
HEIGHT OF WALL (H)	WIDTH OF LAYER No.								BASE WIDTH (B)	No. OF LAYERS
	1	2	3	4	5	6	7	8		
3	1.0	2.0	3.0						3.25	3
4	1.0	1.5	2.5	3.5					3.75	4
5	1.0	1.5	2.0	3.0	4.0				4.25	5
6	1.5	1.5	2.0	2.0	3.5	5.0			5.25	6
7	1.5	1.5	2.5	2.5	3.5	5.5	5.5		5.75	7



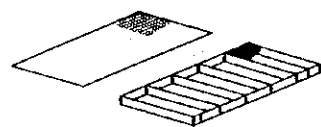
STEEL WIRE MESH FOR GABION BOX



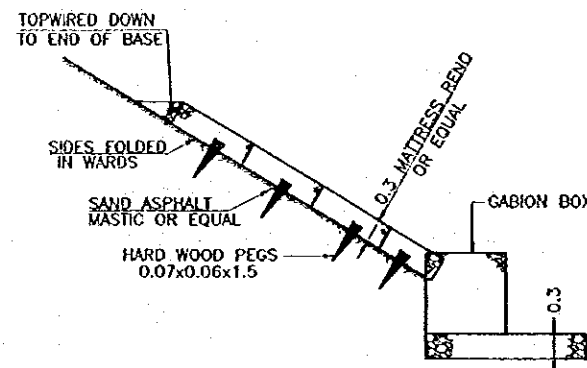
GALVANIZED BOX GABIONS  
[3.0x1.0x1.0]



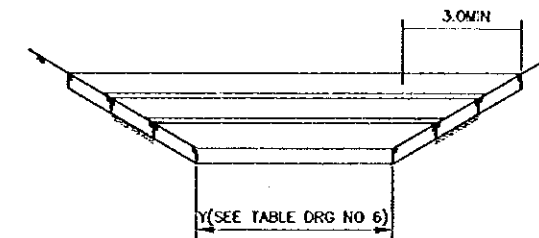
STEEL WIRE MESH FOR MATTRESS



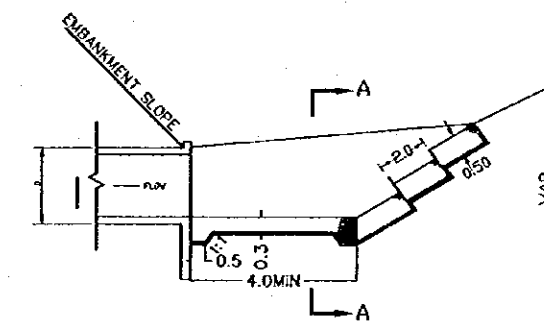
GALVANIZED MATTRESS POCKET



MATTRESS PROTECTING SLOPE



SEC A-A



CULVERT INLET DETAILS  
TYPE (2)

**NOTES:-**

- DESIGN DATA :-  
A- ANGLE OF REPOSE OF SOIL  $\phi=30^{\circ}$  41'  
B- ANGLE OF SURCHARGE  $\alpha=33^{\circ}$  41'  
C- LL H520-44 MS 18  
D- DENSITY OF SOIL 118  $\text{t/m}^3$
- STONE-FILLING SIZE :-  
A- FOR GABION BOX, >1.5 OF MESH OPENING (15cm IDEAL) .  
B- FOR MATTRESSES, >1.25 OF MESH OPENING AND <2/3 OF THE MATTRESS THICKNESS (10cm IDEAL)
- FOR SEVERE CONDITIONS OF CORROSION USE HEAVY ZINC COATED WIRES (GALV.) WITH PVC SLEEVES .
- ALL DIM. ARE IN METERS UNLESS OTHERWISE SHOWN .
- FOR  $M > 3\text{m}$  BATTER VERTICAL EXT. WALL FACE 5% TO THE SOIL SIDE .
- PROVIDE ANCHOR POSTS OR PEGS AS PER DMG. OR AS DIRECTED BY THE ENGINEER. IF THE GABION OR MATTRESS IS LAID ON A SLOPE STEEPER THAN 1 : 2 .
- THE HT. OF THE STEPPED GABION WEIR SHOULD BE 3 METERS MIN. UNLESS OTHERWISE ORDERED BY THE ENG.
- THE GABION IS DESIGNED FOR EFFECTIVE PEAK ACCELERATION (EPA) 0.15g AND VERTICAL ACCELERATION 0.05g .
- THE GABION IS DESIGNED FOR ALLOWABLE BEARING CAPACITY OF 5  $\text{kg/cm}^2$
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REACH A LAYER THAT WILL ACHIEVE THIS BEARING CAPACITY AND MAKE SOIL TESTS AFTER EXCAVATION .

Project:  
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in the Hashemite Kingdom of Jordan

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The Ministry of Planning

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Subcontracted Local Consultant:  
**consolidated consultants**  
Engineering & Environment  
Tel: 9613377 - Fax: 9613380 - JARANA - JORDAN

Drawing Title:  
**GABION DETAILS**

Scale: N.T.S. Drawing No.: DSPW-65