

THE HASHEMITE KINGDOM OF JORDAN
MINISTRY OF WATER AND IRRIGATION (MWI)
WATER AUTHORITY OF JORDAN (WAJ)
YARMOUK WATER COMPANY (YWC)

THE STUDY FOR BASIC/DETAILED DESIGN AND
DRAFT BIDDING DOCUMENTS (COMPONENT B)
UNDER
THE PROJECT FOR THE STUDY ON WATER SECTOR FOR
THE HOST COMMUNITIES OF SYRIAN REFUGEES
IN NORTHERN GOVERNORATES
IN THE HASHEMITE KINGDOM OF JORDAN

DRAFT BIDDING DOCUMENTS

(4/6)

MARCH 2017

JAPAN INTERNATIONAL COOPERATION AGENCY

TEC INTERNATIONAL CO., LTD., JAPAN
IN ASSOCIATION WITH
ARABTECH JARDANEH, JORDAN

BIDDING DOCUMENTS

for

Procurement of

*Construction of Drinking Water Distribution Pipelines including DMA formation in Irbid
City and Suburbs (Package 2)*

Vol. IV

ICB No: *[insert ICB number]*

Project: *[insert name of Project]*

Employer: *Water Authority of Jordan*

Country: *The Hashemite Kingdom of Jordan*

Issued on: *[insert date]*

Vol. IV: Drawings

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No	Title
Water Networks Layout (Gravity System) PACKAGE-2	
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No	Title
Water Networks Profiles (Gravity System)	
PRG-01	Profile of Line PKG2-A from Sta.0+00 to 1+055.00
PRG-02	Profile of Line PKG2-A from Sta.1+055.00 to 2+025.00
PRG-03	Profile of Line PKG2-A from Sta.2+025.00 to 2+970.00
PRG-04	Profile of Line PKG2-A from Sta. 2+970.00 to 4+140.00
PRG-05	Profile of Line PKG2-A from Sta. 4+140.00 to 4+497.20 & Profile of Line PKG2-A-1 from Sta. 0+00 to 0+590.73
PRG-06	Profile of Line PKG2-A-2 from Sta. 0+00 to 0+289.78 & Profile of Line PKG2-A-3 from Sta. 0+00 to 0+575.00
PRG-07	Profile of Line PKG2-A-3 from Sta. 0+575.00 to 1+746.64
PRG-08	Profile of Line PKG2-A-3-1 from Sta. 0+00 to 0+585.41 & Profile of Line PKG2-A-4 from Sta. 0+00 to 0+515.00
PRG-09	Profile of Line PKG2-A-4 from Sta. 0+585.41 to 0+729.15 & Profile of Line PKG2-B from Sta. 0+00 to 0+627.84
PRG-10	Profile of Line PKG2-C from Sta. 0+00 to 0+737.58 & Profile of Line PKG2-D from Sta. 0+00 to 0+410.00
PRG-11	Profile of Line PKG2-E from Sta. 0+00 to 0+821.98 & Profile of Line PKG2-E1 from Sta. 0+00 to 0+250.00
PRG-12	Profile of Line PKG2-E1 from Sta. 0+250.00 to 0+482.75 & Profile of Line PKG2-F from Sta. 0+00 to 0+935.00
PRG-13	Profile of Line PKG2-F from Sta. 0+935.00 to 1+900.00
PRG-14	Profile of Line PKG2-F from Sta. 1+900 to 3+005.00
PRG-15	Profile of Line PKG2-F from Sta. 3+005.00 to 3+049.89 & Profile of Line PKG2-F1
PRG-16	Profile of Line PKG2-G from Sta.0+00 to 1+058.39
PRG-17	Profile of Line PKG2-G from Sta.1+058.39 to 2+084.68
PRG-18	Profile of Line PKG2-G from Sta. 2+084.68 to 2+843.63
PRG-19	Profile of Line PKG2-G from Sta. 2+843.63 to 3+636.60
PRG-20	Profile of Line PKG2-G from Sta. 3+636.60 to 4+022.65 & Profile of Line PKG2-G-1 from Sta. 0+00 to 0+561.66
PRG-21	Profile of Line PKG2-G-1 from Sta. 0+561.66 to 1+127.07 & Profile of Line PKG2-G-1-1 from Sta. 0+00 to 0+316.12
PRG-22	Profile of Line PKG2-G-2 from Sta. 0+00 to 0+875.00
PRG-23	Profile of Line PKG2-G-2 from Sta. 0+875.00 to 1+650.00
PRG-24	Profile of Line PKG2-G-2 from Sta. 1+650.00 to 2+418.88 & Profile of Line PKG2-H from Sta. 0+00 to 0+245.00
PRG-25	Profile of Line PKG2-H from Sta. 0+245.00 to 0+834.75 & Profile of Line PKG2-I from Sta. 0+00 to 0+257.18 Profile of Line PKG2-J from Sta. 0+00 to 0+331.44

No	Title
Typical Details	
ST 01	Standard Details Schedule of Connection Details
ST 02	Standard Details Schedule of Connection Details
ST 03	Standard Details Connection Structural Chamber & Disconnection Details
ST 04	Standard Details Air Valve Chambers
ST 05	Standard Details Air Valve Chambers
ST 06	Standard Details Washout Chambers
ST 07	Standard Details Washout Chambers
ST 08	Standard Details Fire Hydrant
ST 09	Standard Details Typical Trench Cross Sections For Ductile Iron Pipes And Pe Dn ≥ 90
ST 10	Standard Details Typical Cross Sections For Two Ductile Iron Pipes In One Trench
ST 11	Standard Details Cross Section For Road Crossing Pipeline
ST 12	Standard Details Concrete Chambers For Electro Magnetic Flow Meter
ST 13	Standard Details Pressure Reducing Station Valve
ST 14	Standard Details Installation Of Di Pipes On Slope And Crossing Sewer Line
ST 15	Standard Details Thrust Blocks For Pipe Line Installation

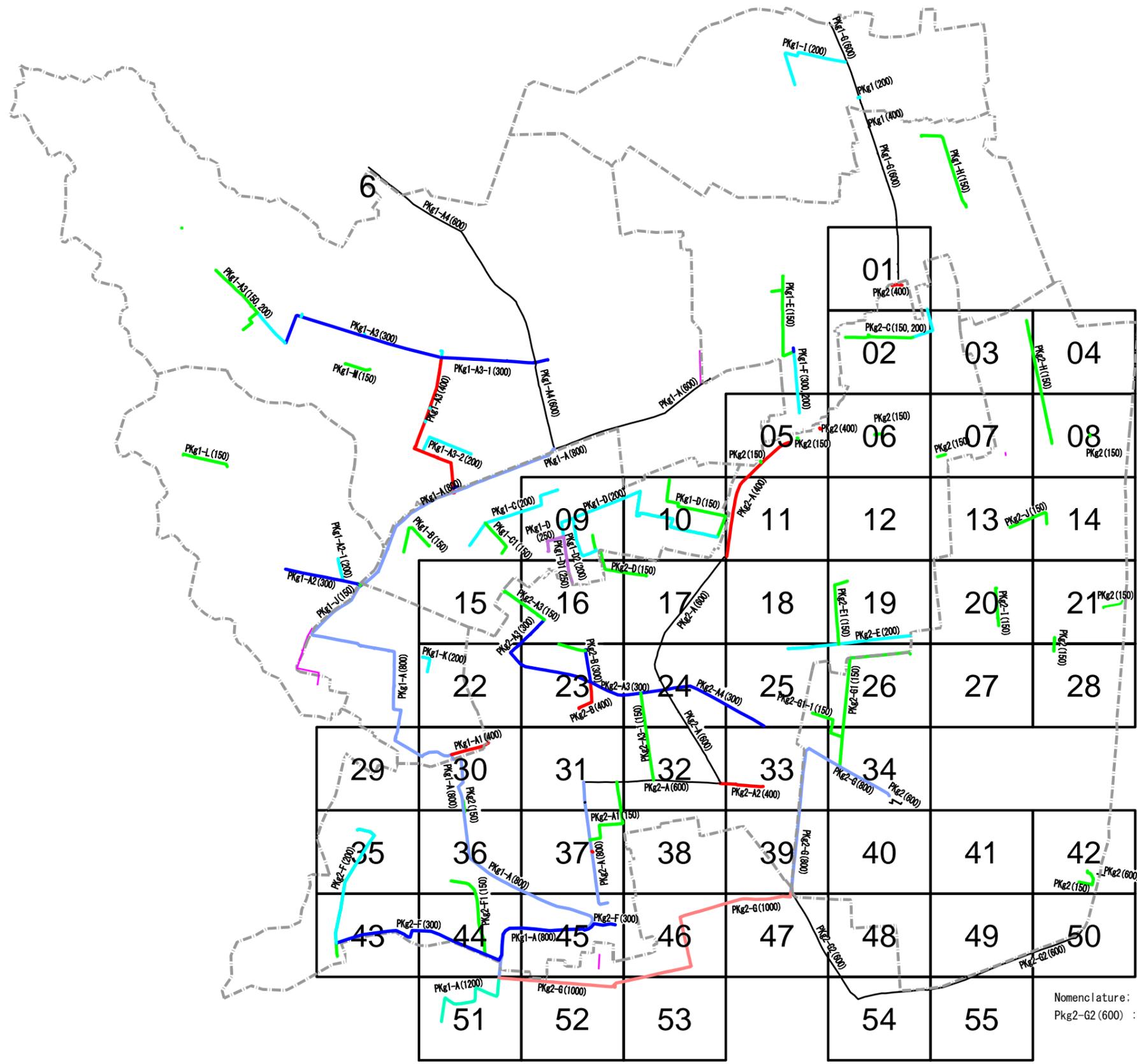
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

Project Title
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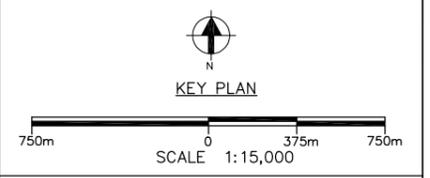
Drawing Title
List of Drawings

Design By	Reviewed By	Date	Mar.2017
Checked By	Date	Mar.2017	
Drawing No.	Scale	Size	
L-01		A1	



- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - DMA BOUNDARY

Notes:
Pipeline name is shown in Profile drawings.



REVISIONS			
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Drawing Title
Project Layout Key Map (Gravity System) PACKAGE2

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No. KM-G-01	Scale	Size A1	

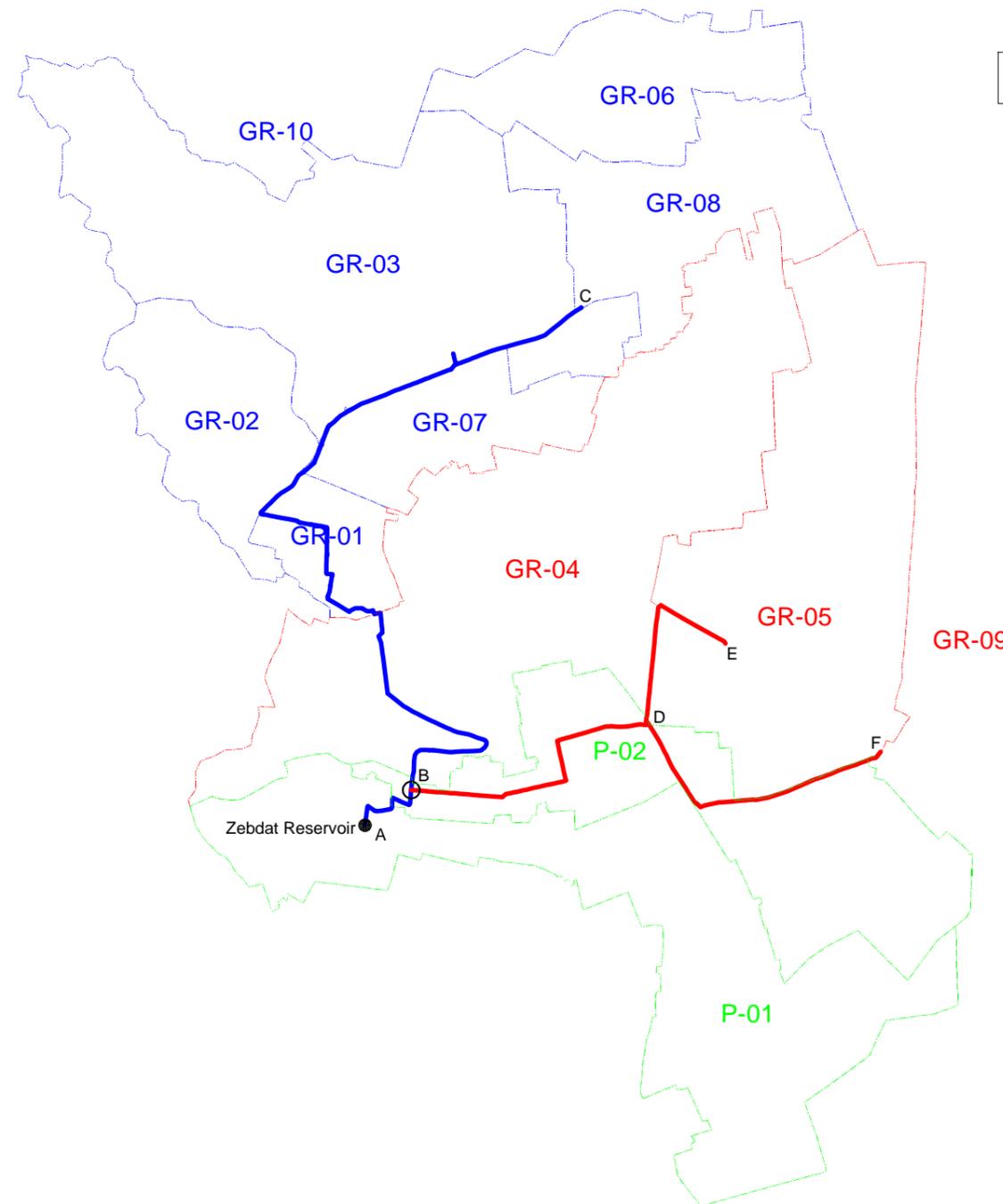
Nomenclature:
PKg2-G2 (600) : Package number - Pipeline name (Diameter)

list of Triangle & BENCHMARK - Irbed Water				
Point	Easting	Northing	Elevation	Name
1			553.221	BH3
2	225922.434	223179.297		IR35
3	231053.835	223000.749		IR40
4	232240.492	222816.731		IR41
5	228972.164	221045.08		IR71
6	230141.041	219854.667		IR91
7	228037.112	220076.028		IR93
8	229939.78	214819.71		IR181

General Notes:

1. All pipes dimensions are indicated in millimeters (mm).
2. Jordan- Palestine (Cassini) Grid System has been used.
3. All elevations are in above mean sea level (amsl).
4. It's the Contractor's responsibility to coordinate with the Local Authorities and service providers.
5. It's the Contractor responsibility to avoid any crossing with existing utilities wherever possible.
6. It's the Contractor responsibility to coordinate with Ministry of Public. works & Housing (MoPWH) in case of passing through a jurisdiction road of MoPWH.
7. It's the Contractor responsibility to coordinate with WAJ & YWC.
8. All provided data about the existing utilities are indicative.
9. The depths of the connection points are approximate and need to be verified at site.
10. The disconnection points between any two different packages will be included in the scope of succeeding construction package.
11. All pipeline's alignment are indicative in the drawings. It's Contractor's responsibility to lay the proposed pipelines within boundaries of municipality planned roads taking into consideration of Water Authority of Jordan general specifications (Sewerage Works and Water Mains & Distribution systems & Appurtenances) to minimize any interruption to the existing utilities and to comply with minimum distance between water and wastewater pipelines according to the instruction and approval of Engineer.

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Drawing Title General Notes			
Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No.	GN-01	Scale	Size A1



*Only the Primary Main pipe which straddles a package is shown in the drawing.

Construction Package

Pkg1;

- 1.Primary Main pipe : A to B, B to C
- 2.Distribution pipe in DMAs
(GR-01,GR-02,GR-03,GR-06,GR-07,GR-08,Bani Kinanah)
- 3.Connections : Between each Primary Main pipe and Distribution pipe. Point B is Included.
- 4.Disconnections : Across the DMAs shown by Blue-lines in the drawing
- 5.Pipe Connections to the Existing Reservoir

Pkg2;

- 1.Primary Main pipe : B to D, D to E, D to F
- 2.Distribution pipe in DMAs
(GR-04,GR-05,GR-09)
- 3.Connections : Between each Primary Main pipe and Distribution pipe.
- 4.Disconnections : Across the DMAs shown by Red-lines in the drawing

Pkg3;

- 1.Primary Main pipe
- 2.Distribution pipe in DMAs
(P-01,P-02)
- 3.Connections : Between each Primary Main pipe and Distribution pipe.
- 4.Disconnections : Across the DMAs shown by Green-lines in the drawing

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Drawing Title
General Notes

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale		Size
GN-02			A1

list of benchmarks-Irbed Water				
Point	Easting	Northing	Elevation	Name
1	232741.52	215386.15	579.66	I98
2	232747.73	214954.25	581.06	I97
3	232876.54	216394.14	568.5	I101
4	233105.99	217551.75	558.82	T3
5	232362.49	218445.04	560.04	T17
6	231604.04	217290.22	564.04	T22
7	231945.32	215613.68	587.34	T27
8	232016.57	215208.62	592.94	T28
9	227727.89	216256.82	558.11	WA34
10	227505.34	216105.64	569.79	WA35
11	228492.85	216301.25	592.99	WA36
12	231922.42	215212.04	594.55	A1
13	231801.15	215556.47	589.49	A2
14	231565.21	216434.35	581.33	A5
15	231567.45	215998.65	588.28	A5-
16	231350.44	216421.32	583.99	A7
17	232067.22	215627.26	584.36	A8
18	227847.05	215767.96	623.43	AM1
19	228202.9	215814.96	601.41	AM2
20	228525.36	215853.96	625.27	AM3
21	228259.36	216095.06	604.04	AM4
22	228338.64	216080.98	607.57	AM5
23	228309.68	215966.43	611.38	AM6
24	228375.32	215963.93	615.3	AM7
25	231693.77	220788.52	547.77	AA1
26	231309.65	221915.4	579.73	B29
27	231066.03	222388.24	590.32	B34
28	231057.29	214263.28	624.76	M1
29	231057.81	214625.48	621.41	M2
30	231085.7	214908.68	633.75	M3
31	231176.19	214945.46	630.38	M4
32	231363.61	214985.76	623.45	M5
33	231367.96	214841.78	629.77	M6
34	231359.7	214701.45	625.01	M7
35	231618.62	214378.53	604.77	M8
36	231861.35	214470.73	599.9	M9
37	230994.9	215161.13	627.54	M10
38	231298.23	215301.87	609.34	M11
39	230909.59	215081.35	636.1	M12
40	230834.09	215283.44	624.17	M13
41	230716.94	215547.13	613.2	M14

42	230543.31	215474.31	620.18	M15
43	230616.72	215254.57	627.68	M16
44	230317.51	215448.12	626.82	M17
45	230202.07	215423.32	632.42	M18
46	230121.56	215495.3	627.16	M19
47	229650.17	215571.39	635.42	M20
48	229444.58	215619.78	635.81	M21
49	229291.22	215644.98	629.41	M22
50	229104.48	215672.58	621.84	M23
51	229064.71	215535.89	627.44	M24
52	228889.39	215566.91	612.67	M25
53	228749.64	215337.3	643.82	M26
54	228619.03	215356.88	645.35	M27
55	228416.56	215378.04	635.28	M28
56	228364.91	215506.92	628.93	M29
57	228378.32	215623.73	631.24	M30
58	228243.38	215699.59	614.85	M31
59	228121.36	215581.33	613.29	M32
60	228507.49	215697.68	638.75	M33
61	228582.91	215684.86	636.93	M34
62	228701.1	215692.63	626.91	M35
63	228817.4	215741.51	611.69	M36
64	228455.78	216044.3	609.93	M37
65	228471.05	216177.46	600.31	M38
66	228567.64	216007.44	609.52	M39
67	228700.51	215926.05	609.87	M40
68	228829.64	215949.12	600.66	M41
69	228971.13	215965.6	584.93	M42
70	229191.44	216028.25	597.96	M43
71	229204.14	216086.82	594.21	M44
72	229428.11	216071.36	590.03	M45
73	229744.2	216040.77	599.16	M46
74	229808.93	216075.57	599.05	M47
75	230120.85	216200.09	587.88	M48
76	230009.1	216176.63	588.92	M49
77	229769.06	216160.92	590.05	M50
78	229770.13	216377.78	577.26	M51
79	229727.93	216492.16	572.88	M52
80	229582.5	216427.35	569.19	M53
81	229343.58	216408.95	567.67	M54
82	229025.42	216398.43	571.59	M55
83	228894.93	216260.79	573.93	M56
84	228879.51	216368.01	566.04	M57
85	228835.73	216650.87	553.63	M58
86	228656.98	216355.33	581.67	M59
87	228522.32	216408.6	590.57	M60
88	228392.38	216362.75	593.93	M61
89	228305.64	216406.08	584.72	M62
90	227904.97	216365.18	573.34	M63

91	227963.88	216747.69	578.37	M64
92	228158.94	217057.31	546.47	M65
93	229564.24	216539.53	575.41	M66
94	229339.65	216599.68	568.94	M67
95	229098.28	216721.1	567.34	M68
96	228797.69	216978.76	566.75	M69
97	228766.93	217196.68	555.49	M70
98	228752.06	217385.65	541.03	M71
99	228733.49	217598.05	530.41	M72
100	228497.31	217567.4	525.64	M73
101	228311.99	217694.82	528.48	M74
102	228330.11	217785.2	540.23	M75
103	228338.65	217877.87	546.93	M76
104	228287.19	217901.98	544.17	M77
105	228300.58	218094.56	559.12	M78
106	228297.21	218275.63	560.85	M79
107	228486.08	218242.57	554.44	M80
108	228500.79	218360.06	541.7	M81
109	228082.72	218308.75	553.59	M82
110	227938.98	218344.84	547.55	M83
111	227721.19	218386.32	529.61	M84
112	227796.46	218473.89	536.05	M85
113	227901.2	218542.13	532.93	M86
114	228028.34	218657.61	521.84	M87
115	228077.46	218718.9	516.2	M88
116	227948.85	218762.12	516.6	M89
117	227688.41	218803.13	516.96	M90
118	227665.74	218214.55	515.68	M91
119	227680.36	218154.92	509.73	M92
120	228956.96	216785.7	560.68	M93
121	229653.27	216585.13	578.78	M94
122	229637.01	216734.5	585.72	M95
123	229614.17	216923.16	588.36	M96
124	229593.93	217016.63	584.94	M97
125	229662.58	217034.53	583.58	M98
126	229659.65	217114.9	578.61	M99
127	229822.54	217129.62	579.57	M100
128	229780.35	217404.01	565.01	M101
129	229550.64	217398.24	562.37	M102
130	230024.42	217418.77	566.48	M103
131	230134.15	217412.79	567.77	M104

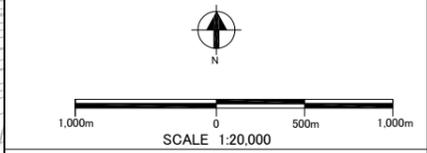
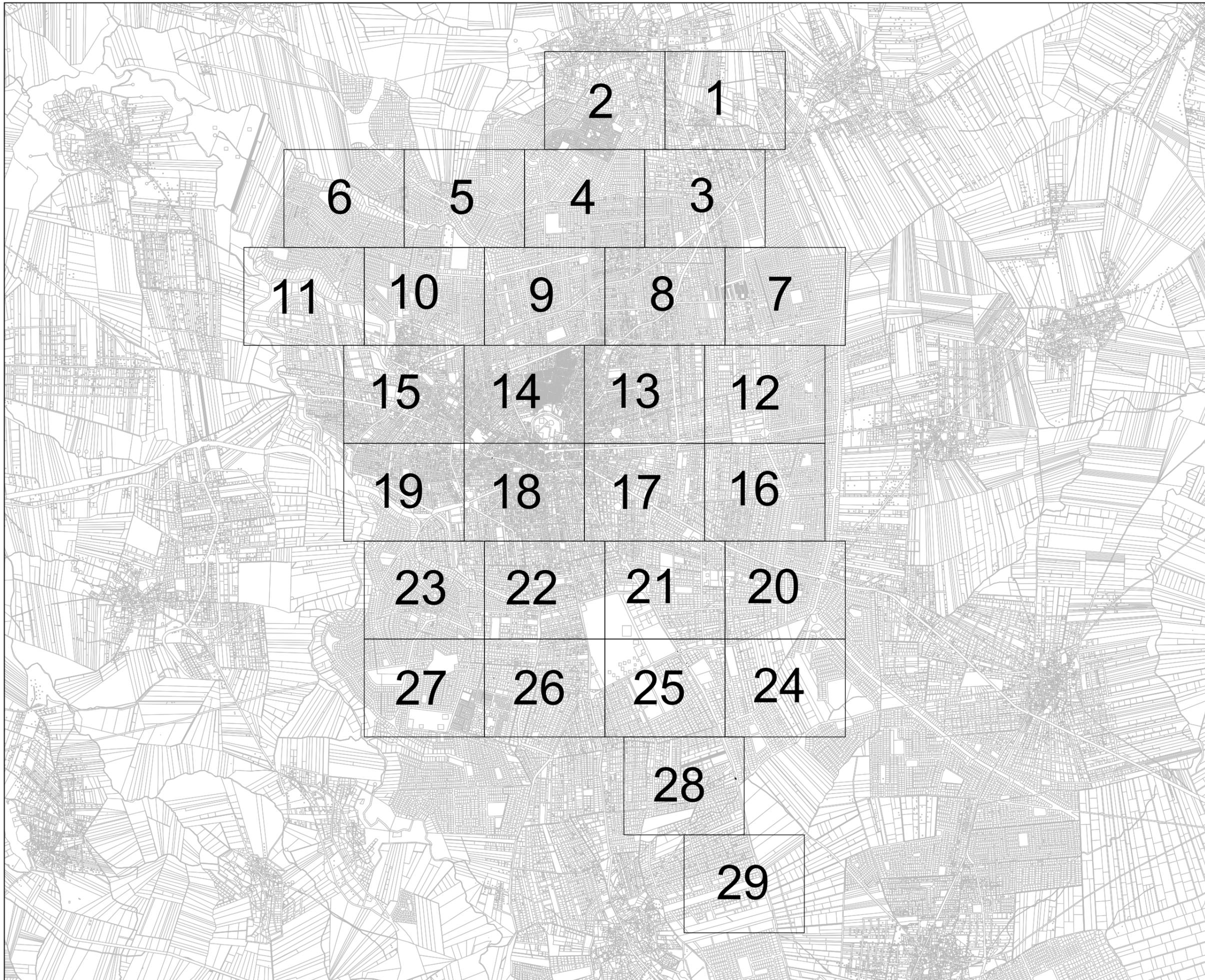
REVISIONS			
No.	DESCRIPTION	BY	DATE

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DRAFT BIDDING DOCUMENTS (COMPONENT B)
UNDER THE PROJECT FOR THE STUDY ON WATER
SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
REFUGEES IN NORTHERN GOVERNORATES IN THE
HASHEMITE KINGDOM OF JORDAN

Drawing Title
General Notes

Design By		Reviewed By	
Checked By		Date	Mar.2017
Drawing No.	GN-03	Scale	
		Size	A1



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

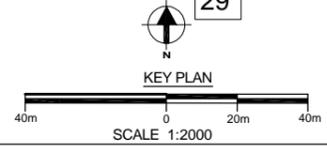
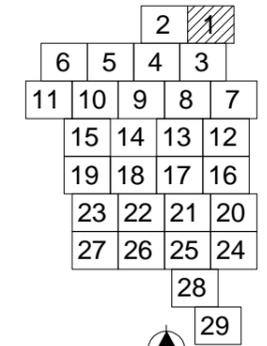
Drawing Title
**Survey Works
 Key Map**

Design By	Reviewed By	Date	Mar. 2017
Checked By	Scale	1/20,000	
Drawing No.	SU-00	Size	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



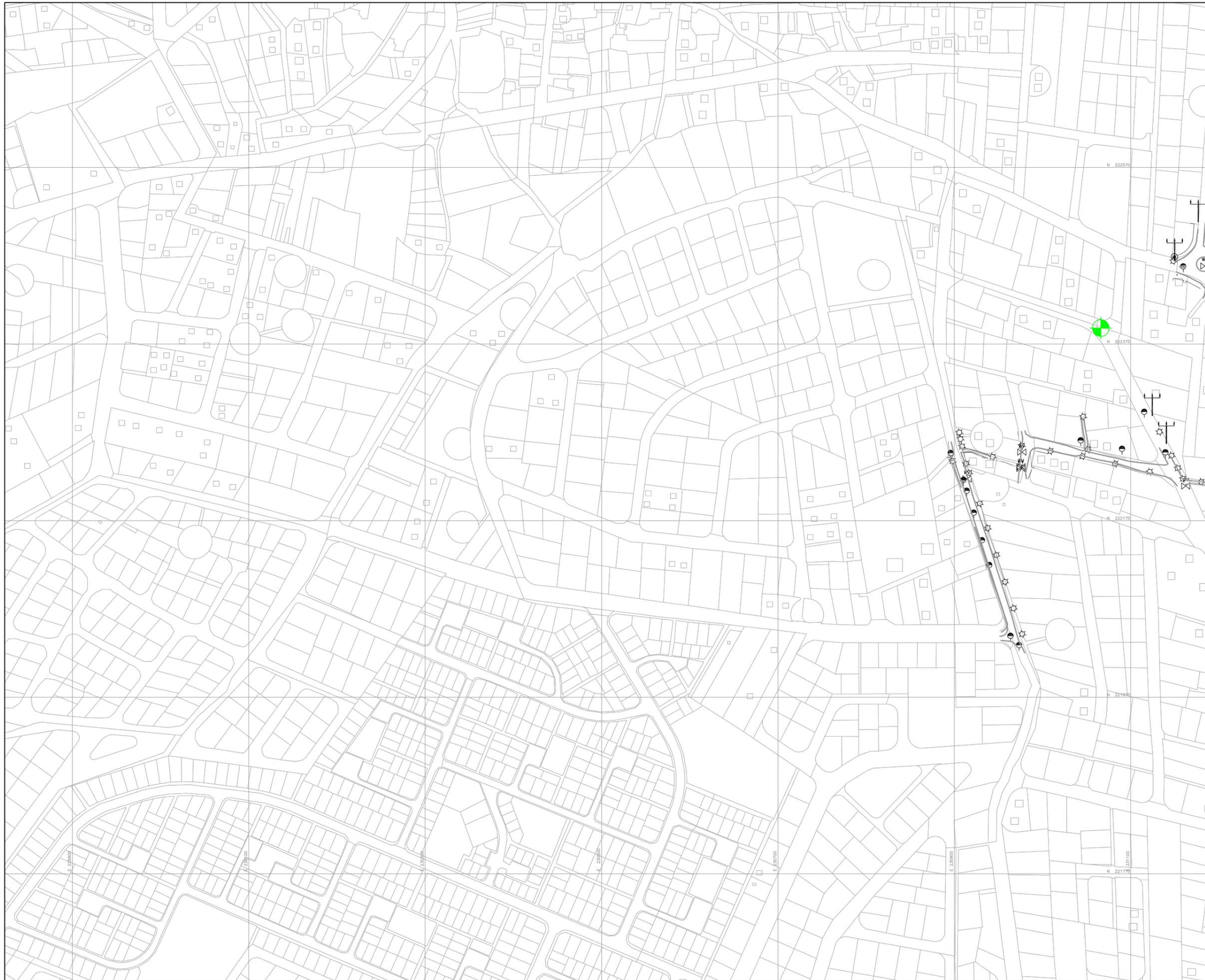
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

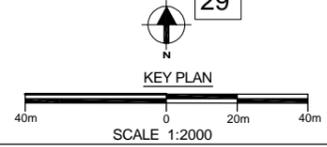
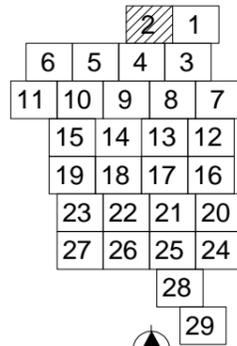
Drawing Title
**Survey Works
 Sheet (01 of 29)**

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-01	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



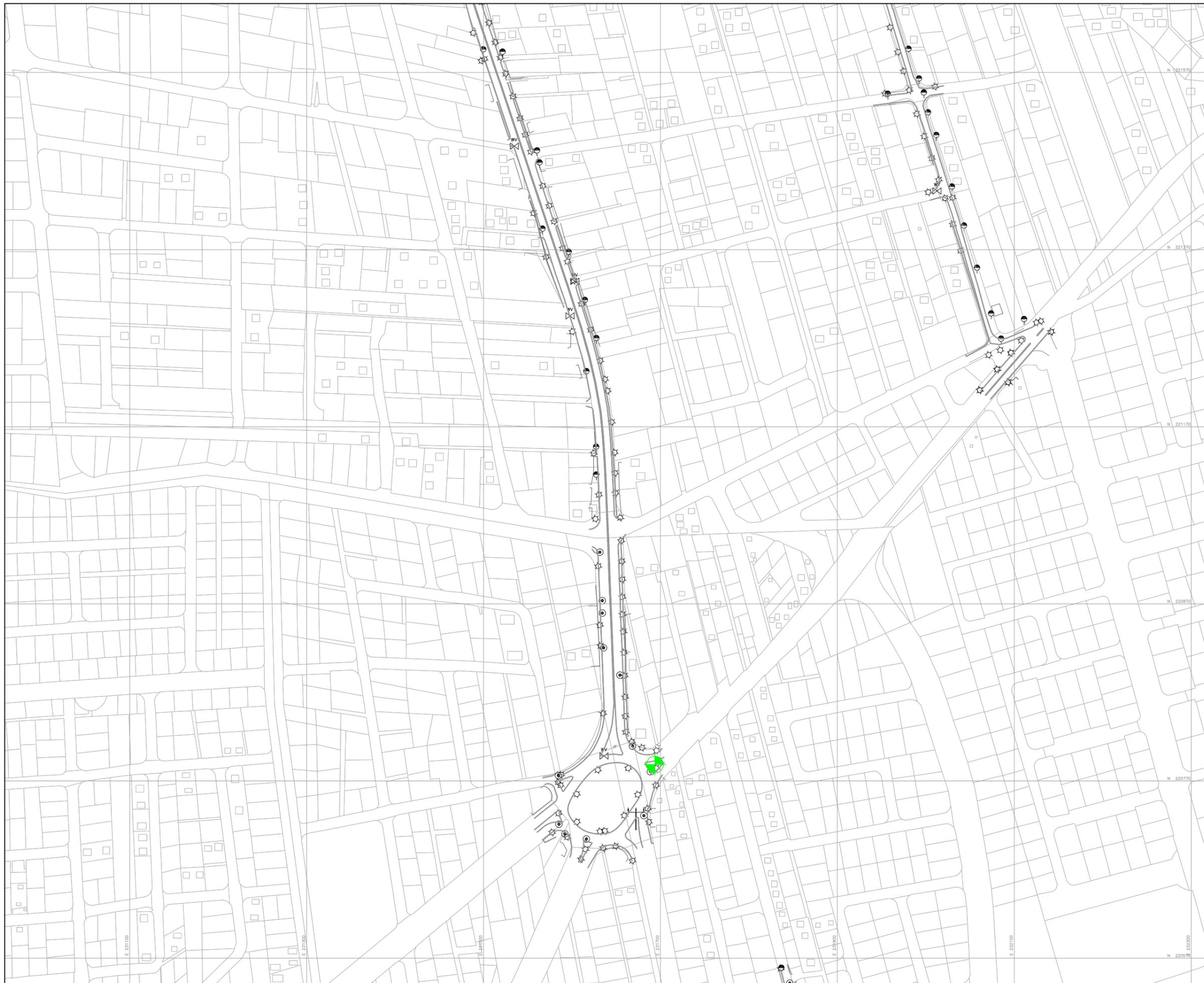
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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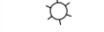
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

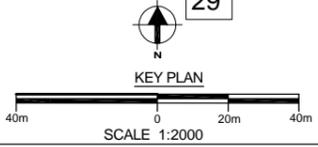
Drawing Title
Survey Works
Sheet (02 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-02	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



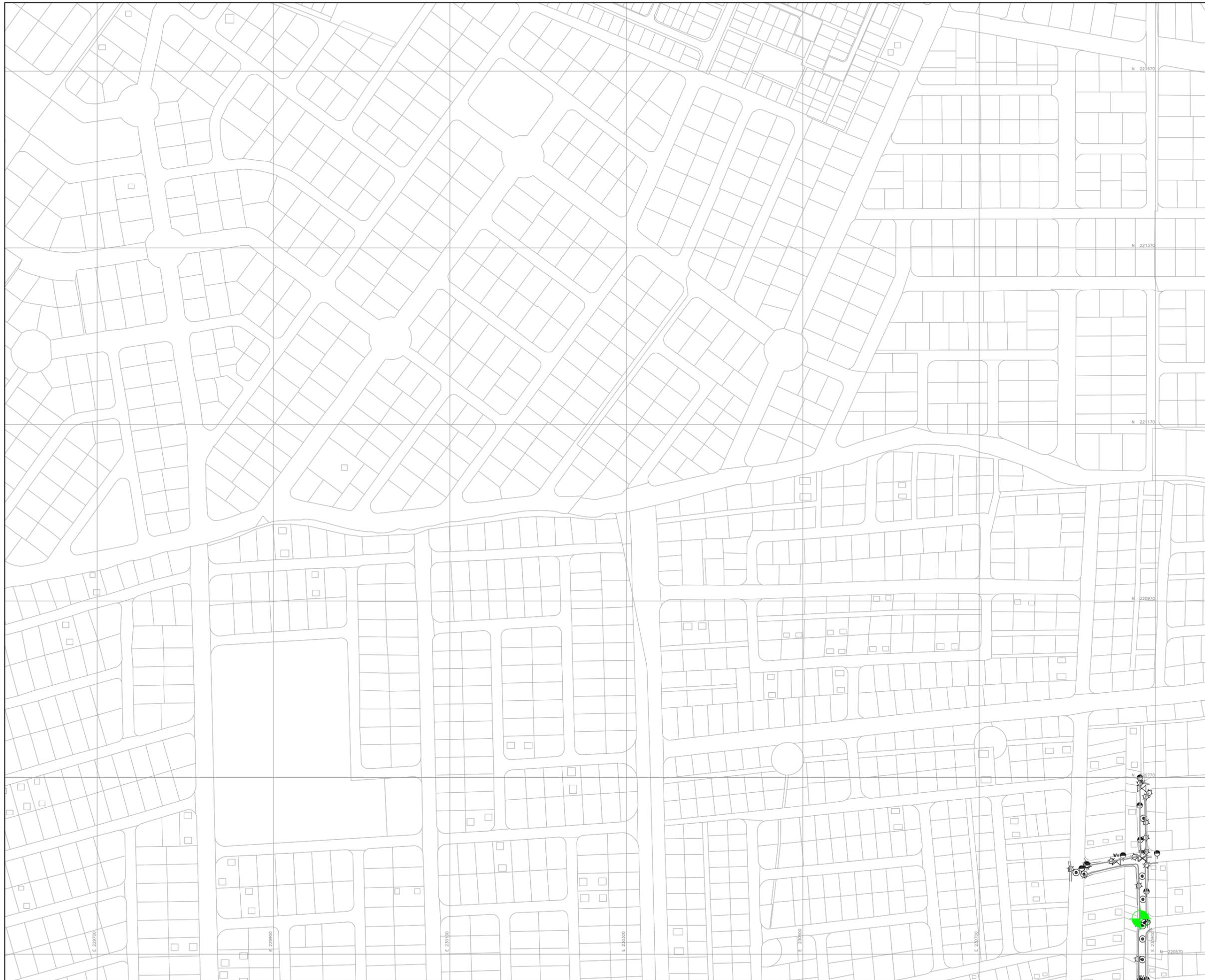
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

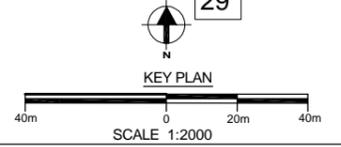
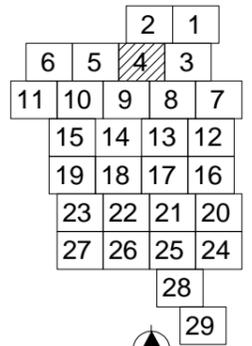
Drawing Title
Survey Works
Sheet (03 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-03	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Survey Works
Sheet (04 of 29)

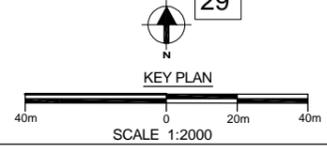
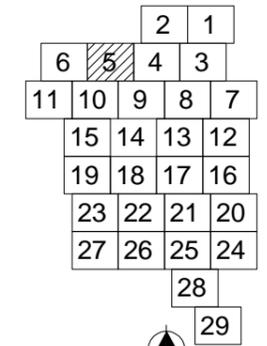
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	
Drawing No.	1/2000	A1	

SU-04



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



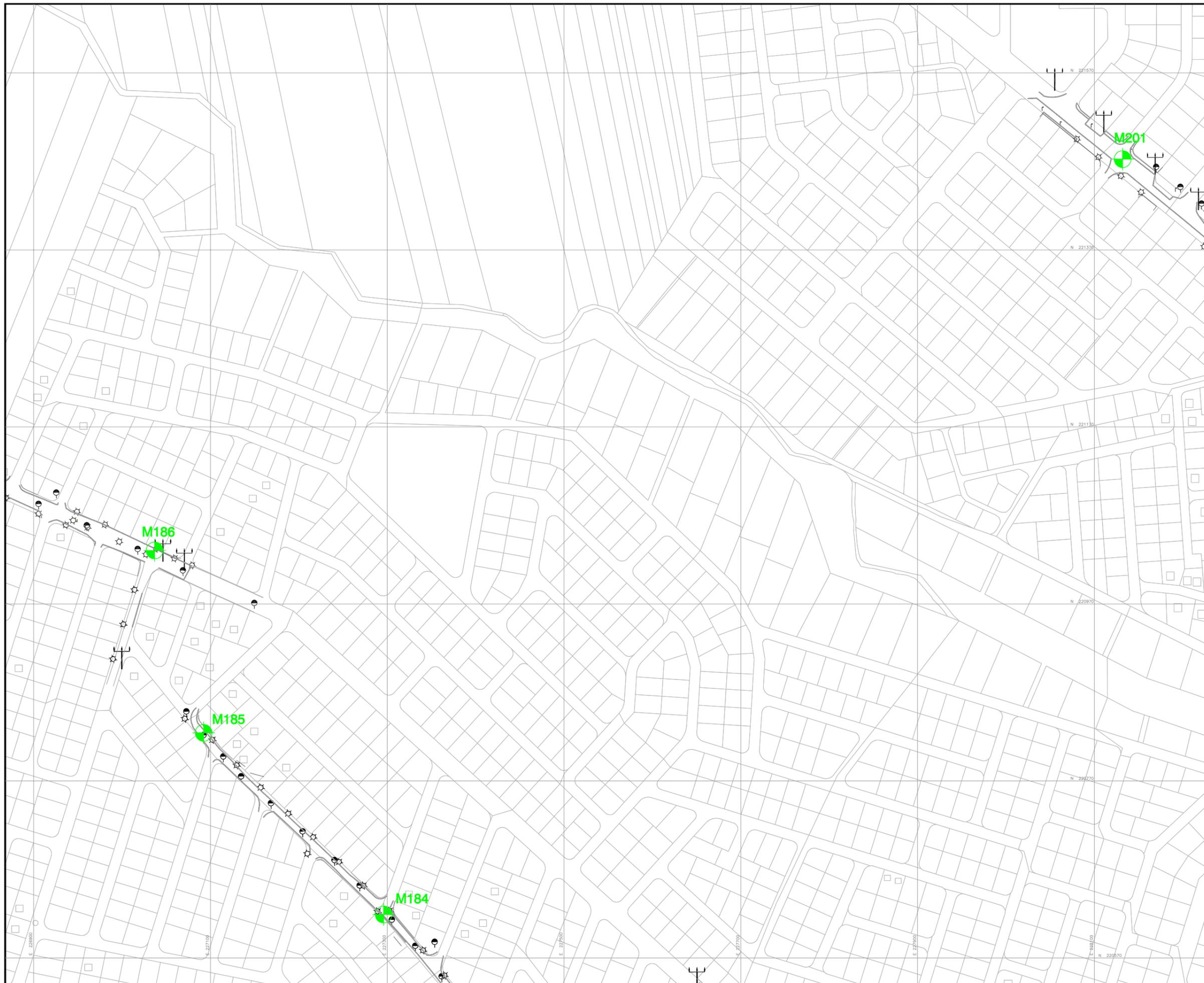
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
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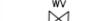
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

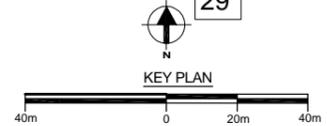
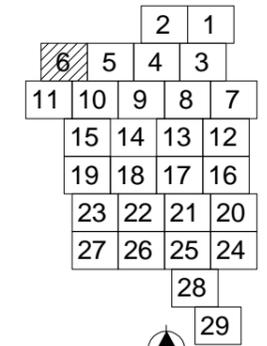
Drawing Title
Survey Works
Sheet (05 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-05	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

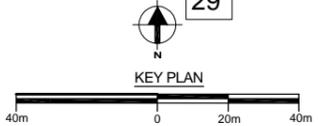
Drawing Title
Survey Works
Sheet (06 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-06	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



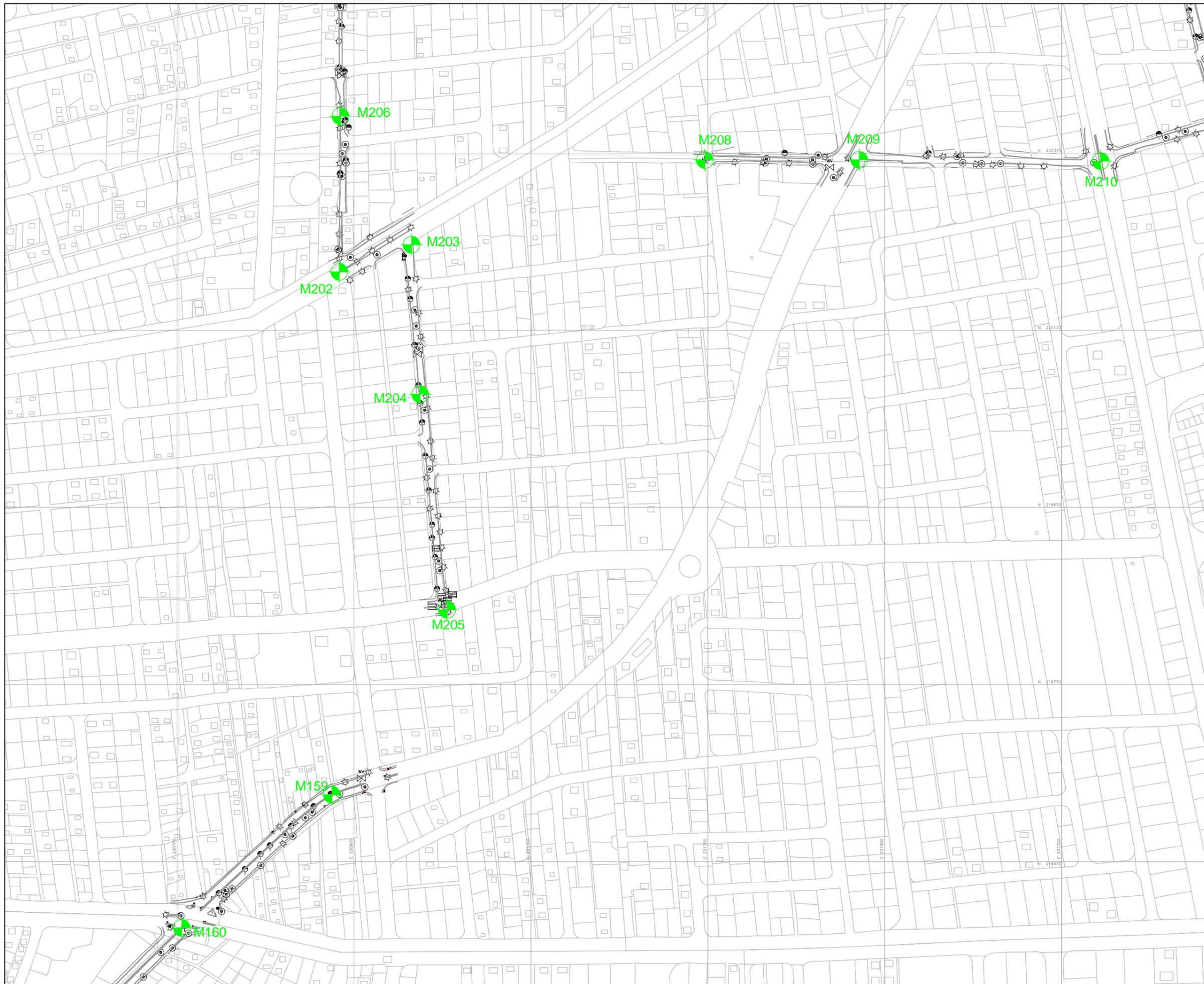
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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ARABTECH JARDANEH, JORDAN

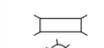
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

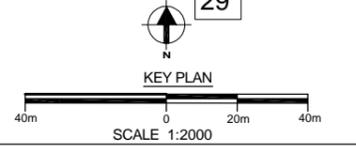
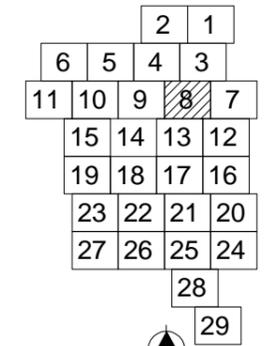
Drawing Title
Survey Works
Sheet (07 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Drawing No.	Size
	1/2000	SU-07	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
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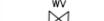
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

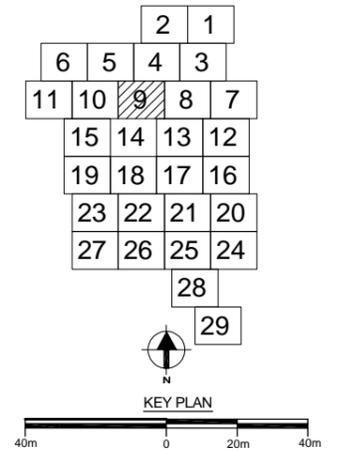
Drawing Title
Survey Works
Sheet (08 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-08	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



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No.	DESCRIPTION	BY	DATE

Consultant
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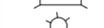
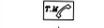
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

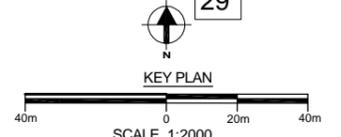
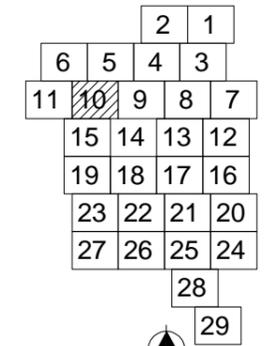
Drawing Title
Survey Works
Sheet (09 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
SU-09	1/2000	A1	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



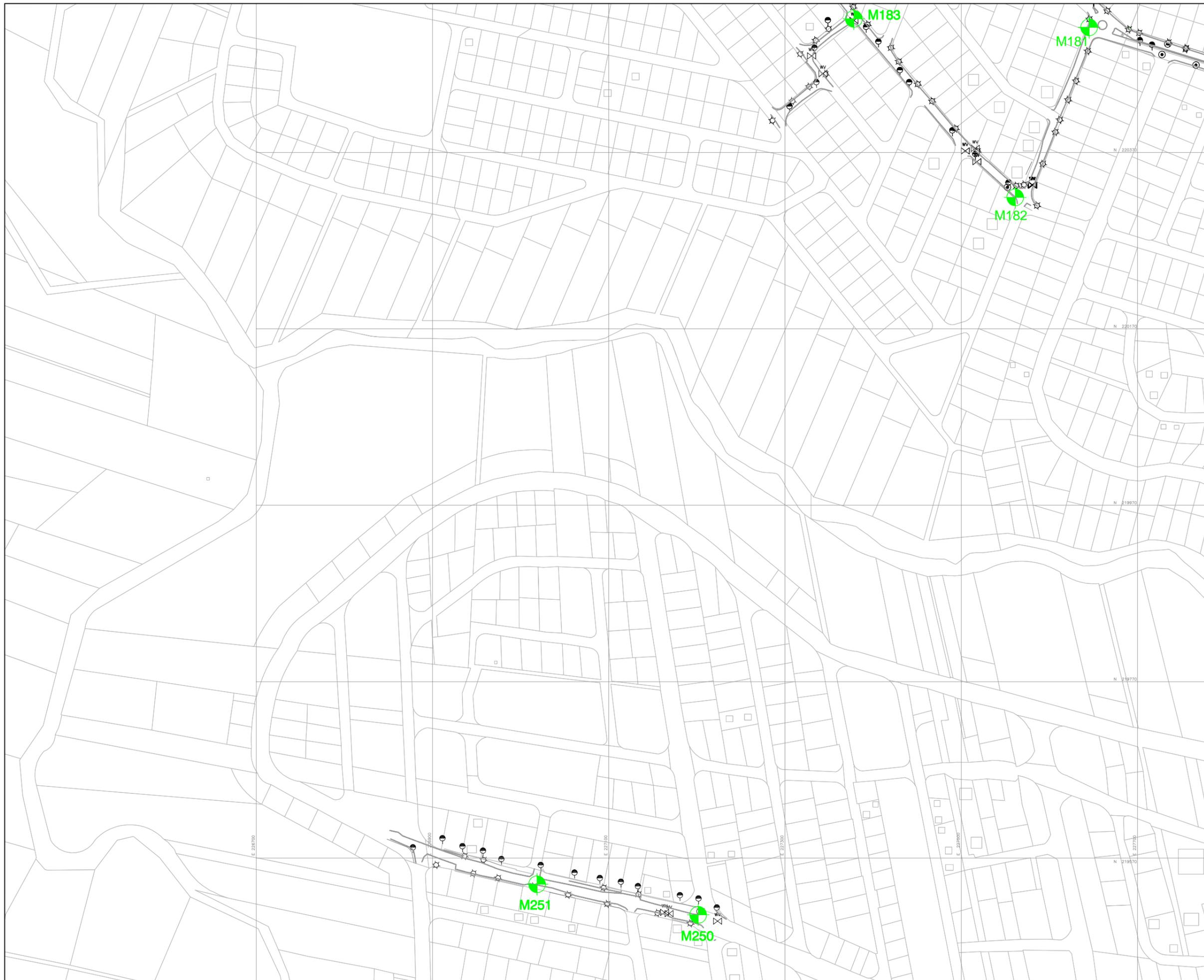
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

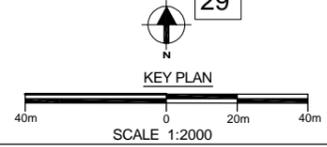
Drawing Title
Survey Works
Sheet (10 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-10	1/2000	A1



Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
- EXISTING TELEPHONE MANHOLE
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- ELECTRICAL MANHOLE
- STORM WATER MANHOLE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST



REVISIONS			
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Consultant
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

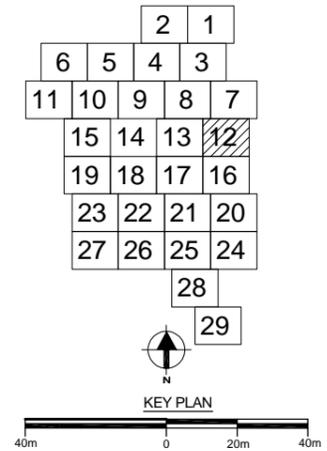
Drawing Title
Survey Works
Sheet (11 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-11	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

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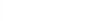
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

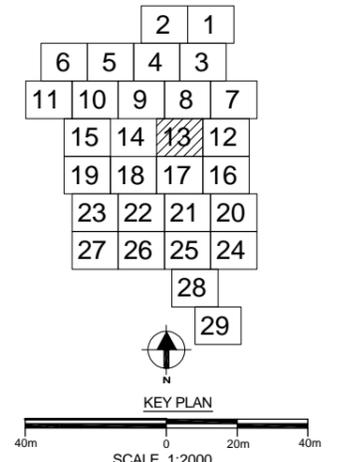
Drawing Title
Survey Works
Sheet (12 of 29)

Design By	Reviewed By		
Checked By	Date	Mar.2017	
Drawing No.	Scale	Size	
SU-12	1/2000	A1	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



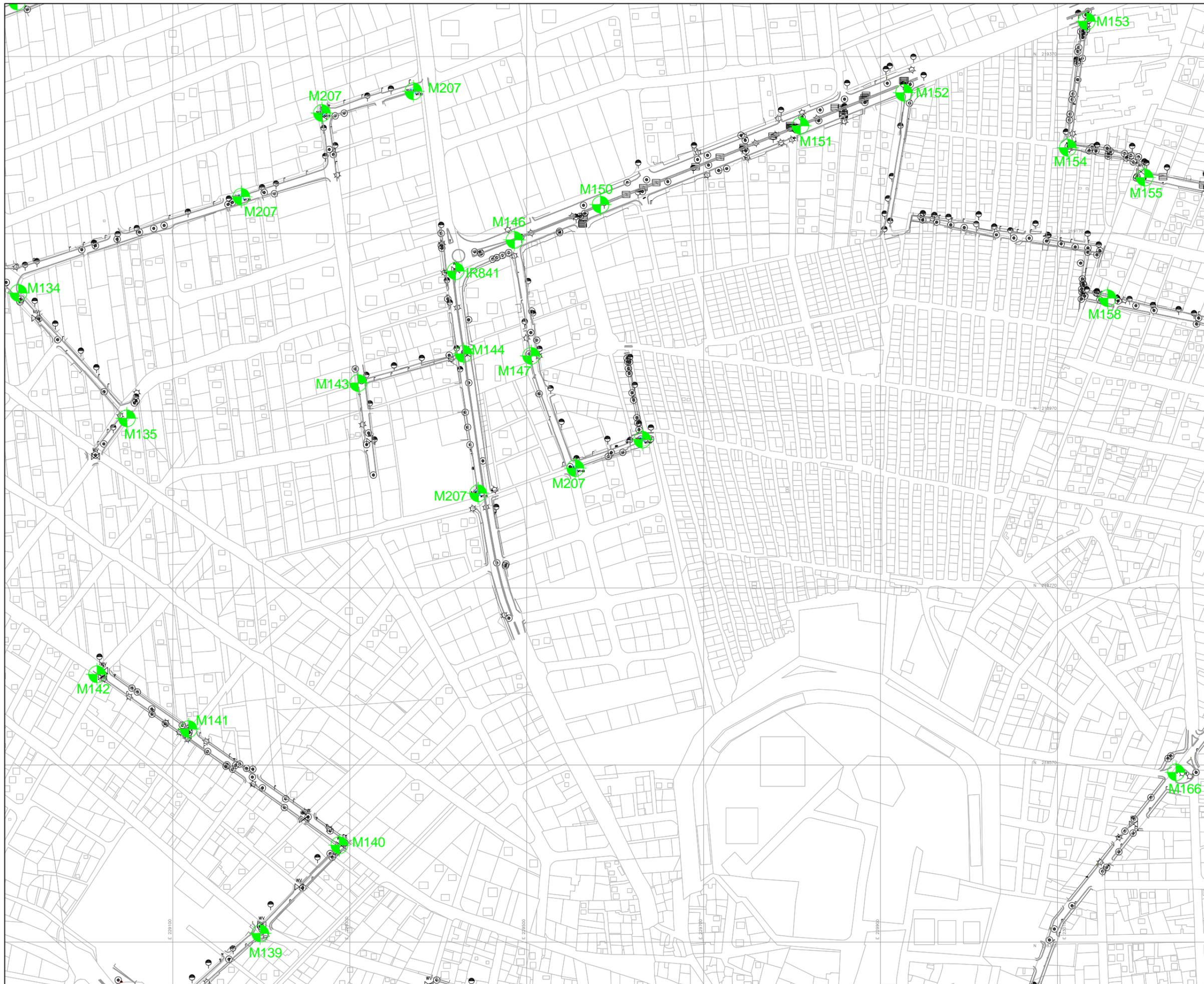
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
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ARABTECH JARDANEH, JORDAN

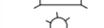
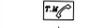
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

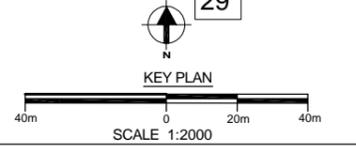
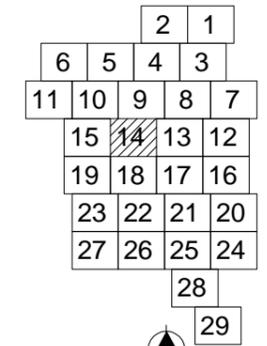
Drawing Title
Survey Works
Sheet (13 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-13	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

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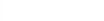
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

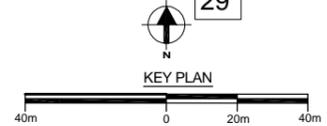
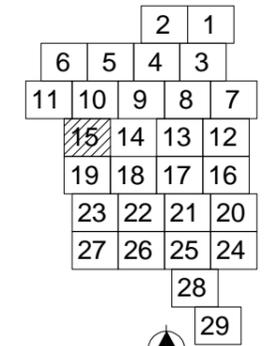
Drawing Title
Survey Works
Sheet (14 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-14	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



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No.	DESCRIPTION	BY	DATE

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Project Title
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 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

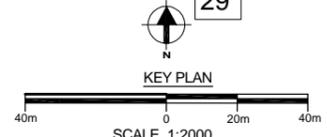
Drawing Title
Survey Works
Sheet (15 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-15	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



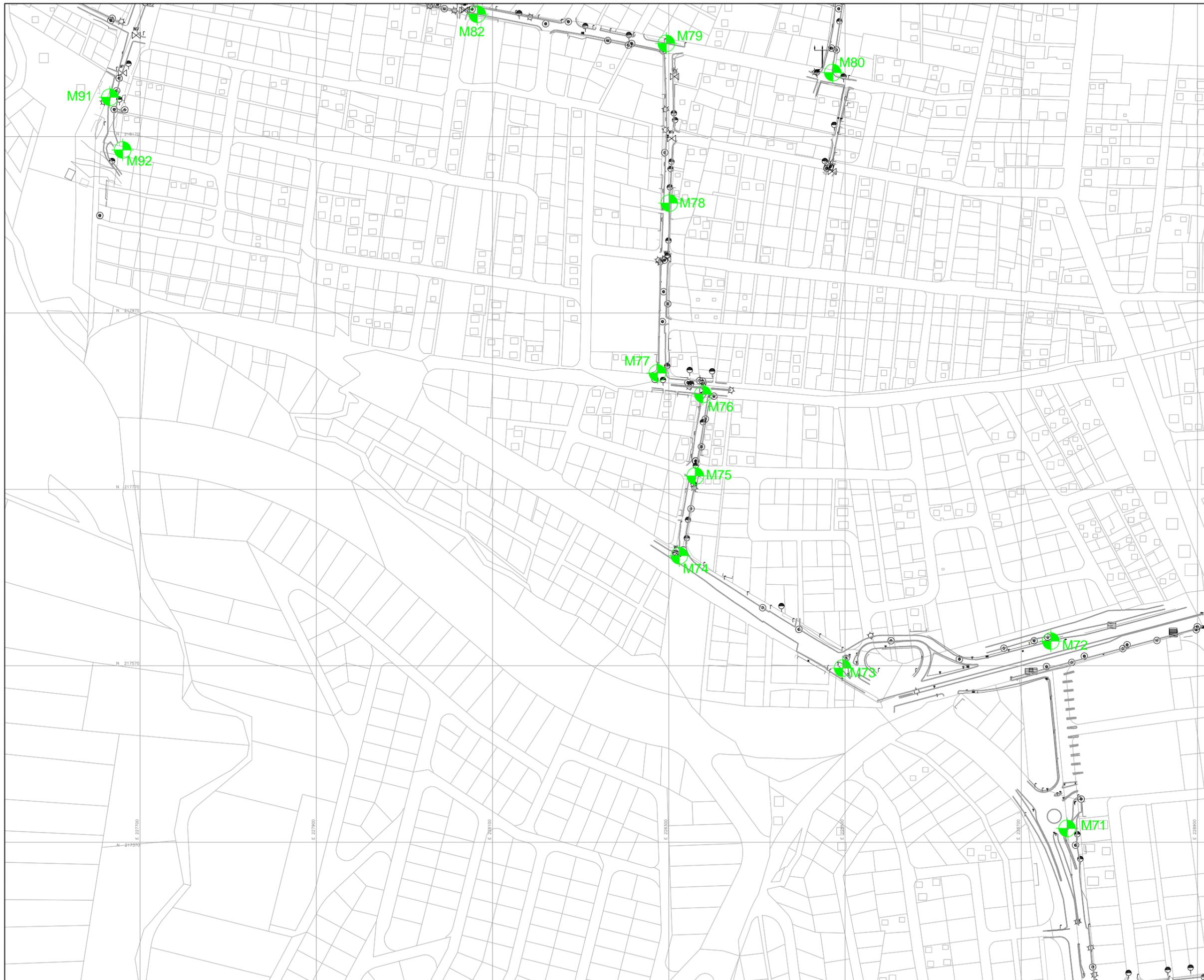
REVISIONS			
No.	DESCRIPTION	BY	DATE

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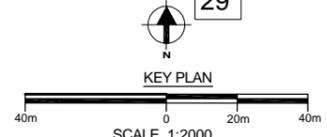
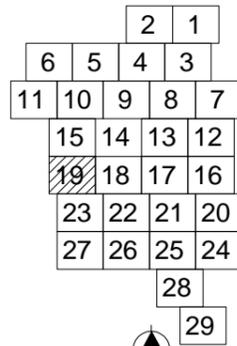
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
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Design By	Reviewed By	Mar.2017
Checked By	Date	
Drawing No.	Scale	Size
SU-18	1/2000	A1



-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



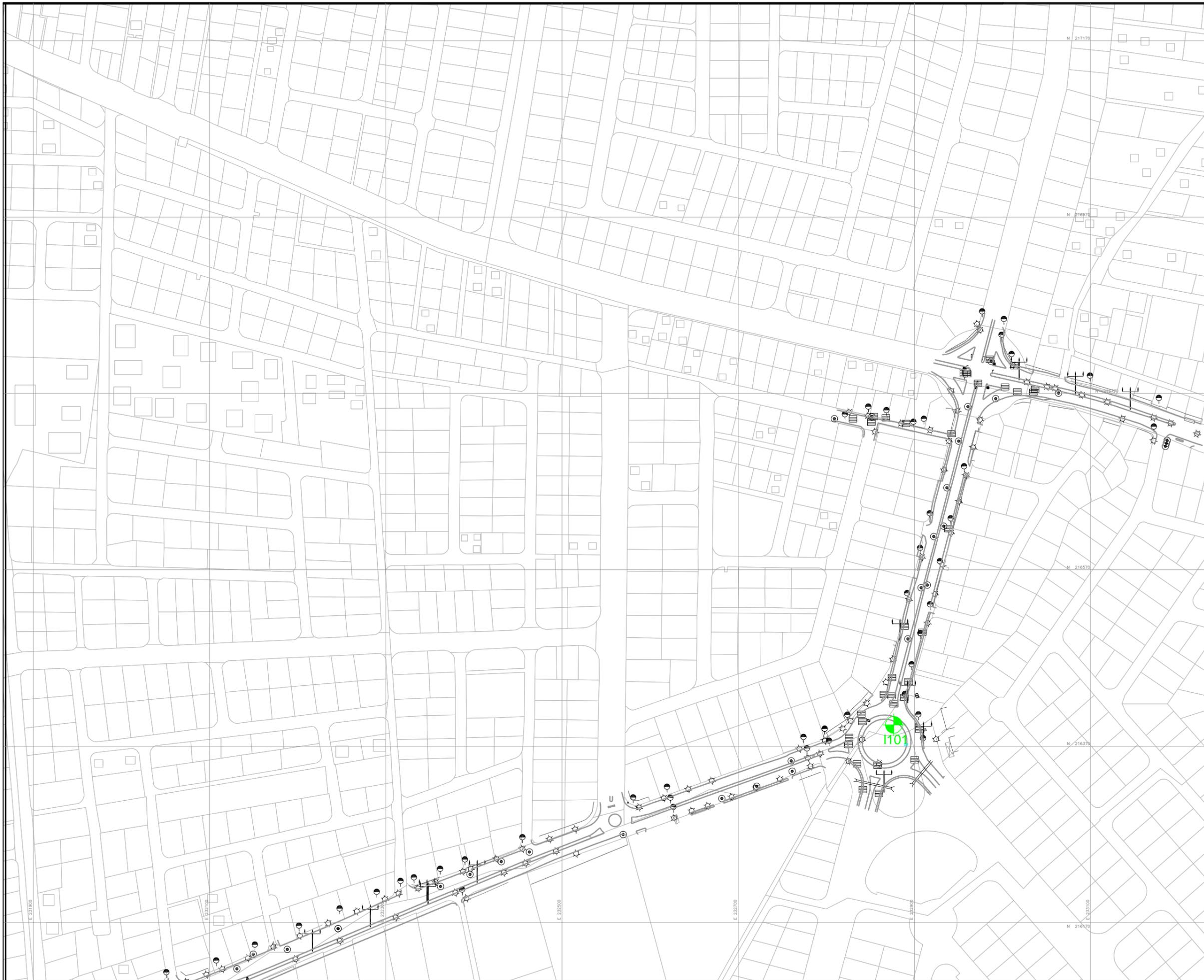
REVISIONS			
No.	DESCRIPTION	BY	DATE

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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

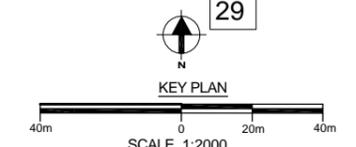
Drawing Title
Survey Works
Sheet (19 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-19	1/2000	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



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No.	DESCRIPTION	BY	DATE

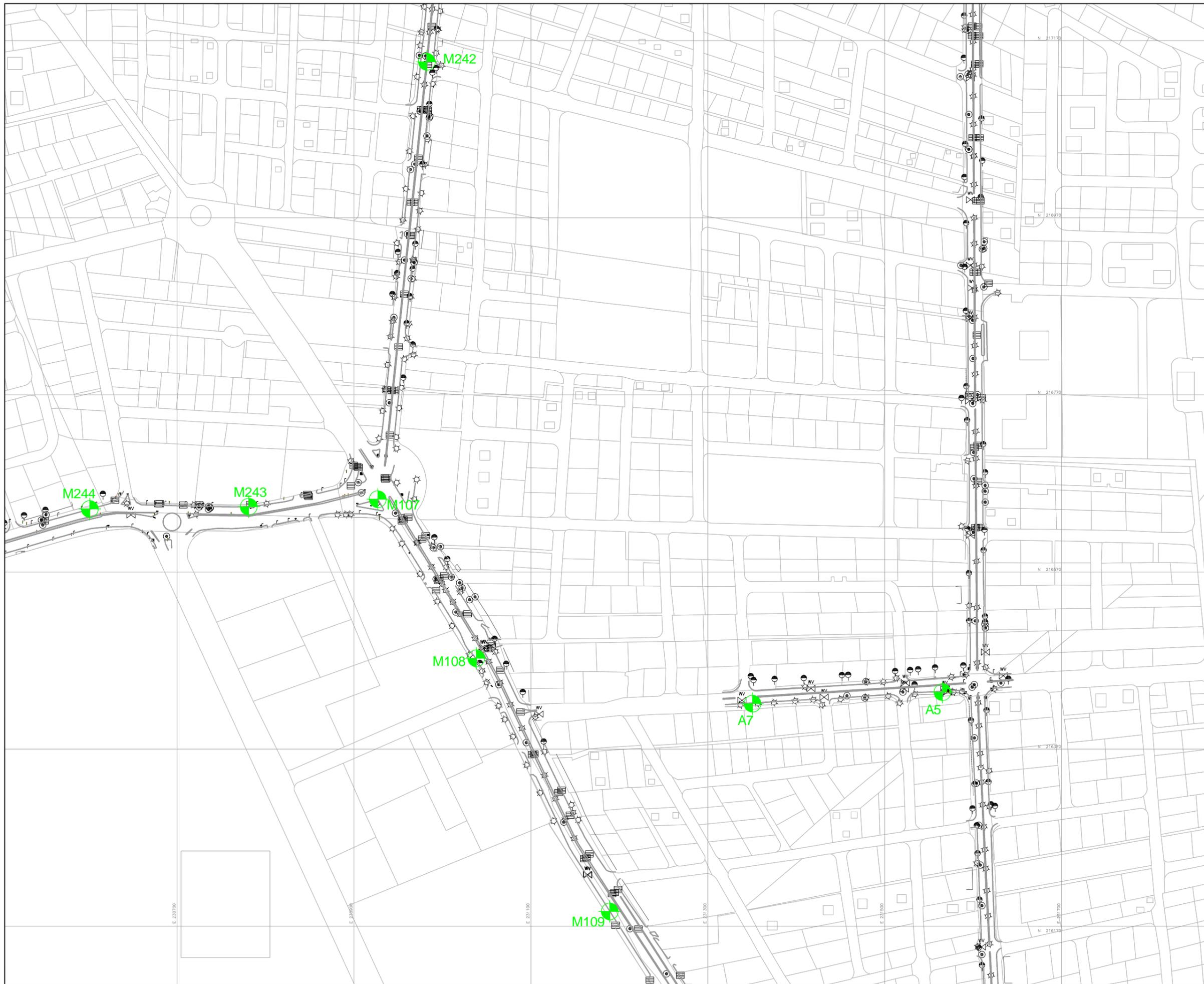
Consultant
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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

Drawing Title
Survey Works
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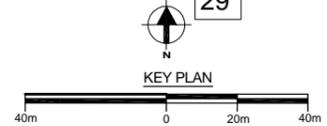
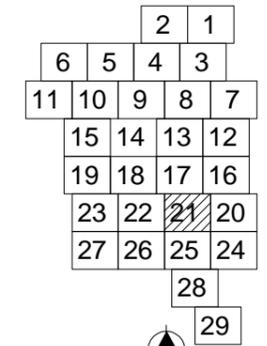
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	1/2000		

SU-20



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

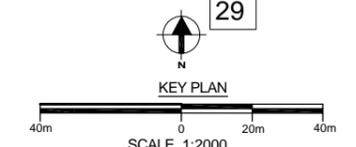
Drawing Title
Survey Works
Sheet (21 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
SU-21	1/2000	A1	



Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
- EXISTING TELEPHONE MANHOLE
- BENCHMARK
- ELECTRICAL MANHOLE
- STORM WATER MANHOLE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST



REVISIONS			
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 THE STUDY FOR BASIC DETAILED DESIGN AND
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

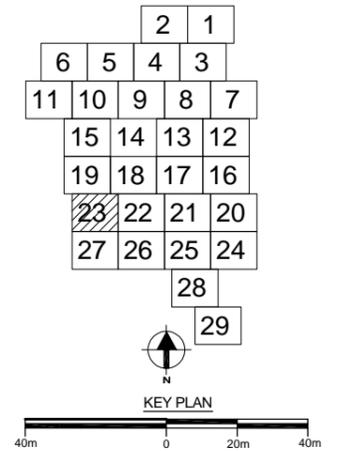
Drawing Title
Survey Works
Sheet (22 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-22	1/2000	A1



Legend:

	ASPHALTED ROADS
	BUILDING
	FENCE
	WALL
	CURBSTONE
	TRACK
	CONCRETE
	WATER TANK
	CULVERT
	EXISTING ELECTRICAL POLE
	EXISTING TELEPHONE POST
	EXISTING TELEPHONE MANHOLE
	BENCHMARK
	ELECTRICAL MANHOLE
	STORM WATER MANHOLE
	EXISTING WATER VALVE
	EXISTING MANHOLE
	EXISTING LIGHT POST
	HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

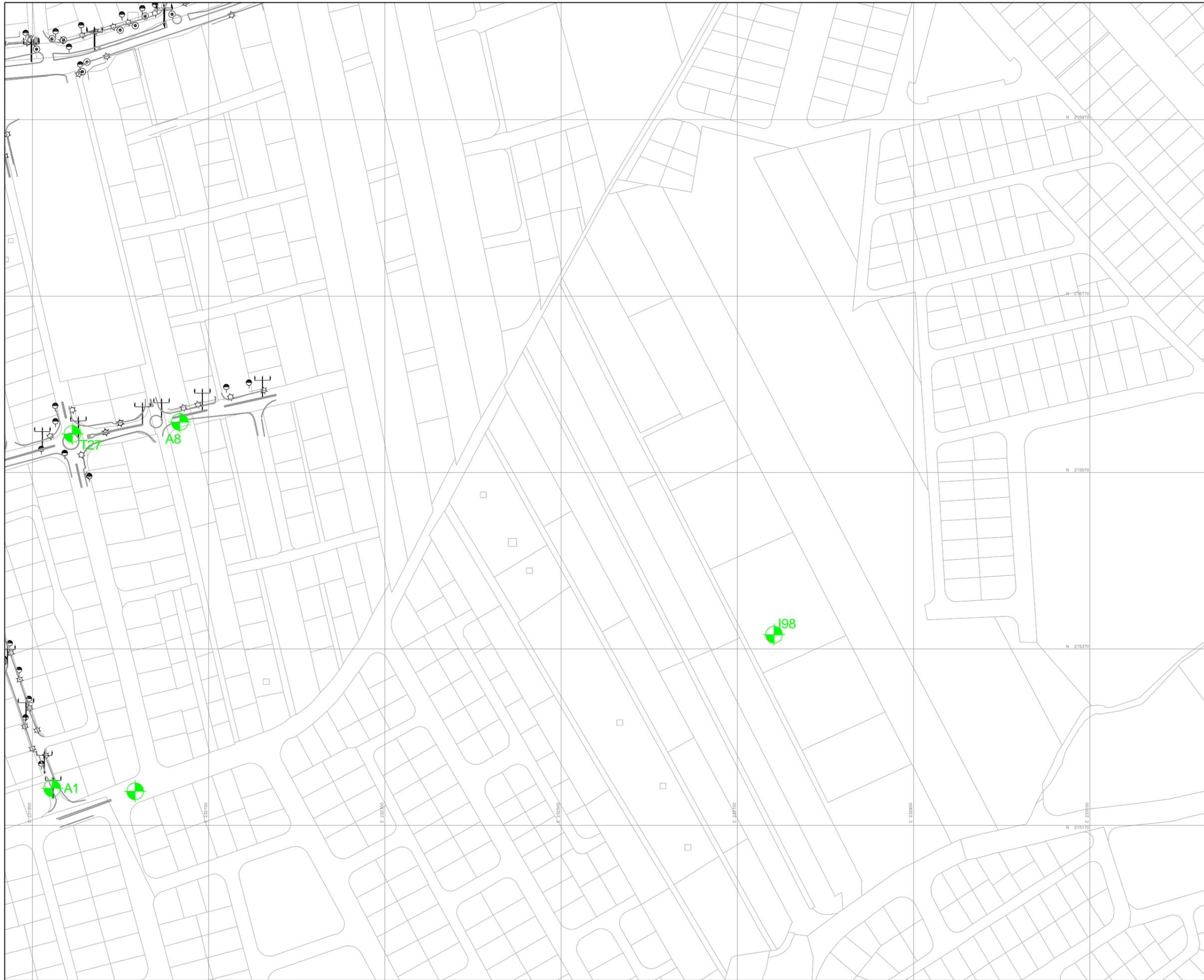
Consultant
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Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

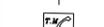
Drawing Title
Survey Works
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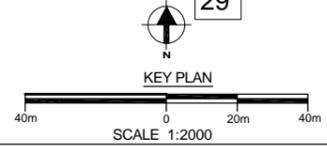
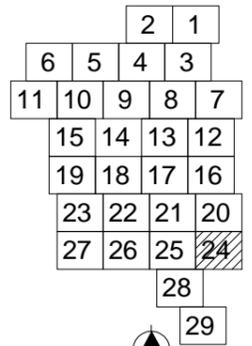
Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
SU-23	1/2000

Mar.2017	Size
A1	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



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 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

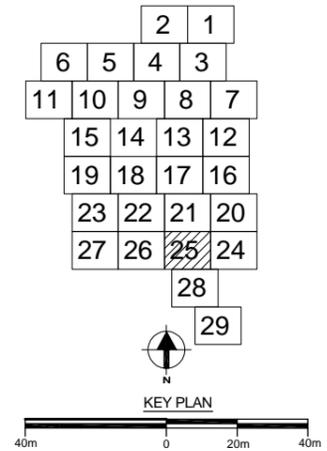
Drawing Title
Survey Works
Sheet (24 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	SU-24	1/2000	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



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Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

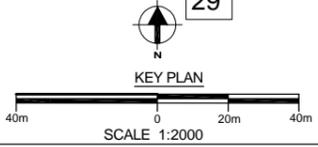
Drawing Title
Survey Works
Sheet (25 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Date		
Drawing No.	Scale	Size	
SU-25	1/2000	A1	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



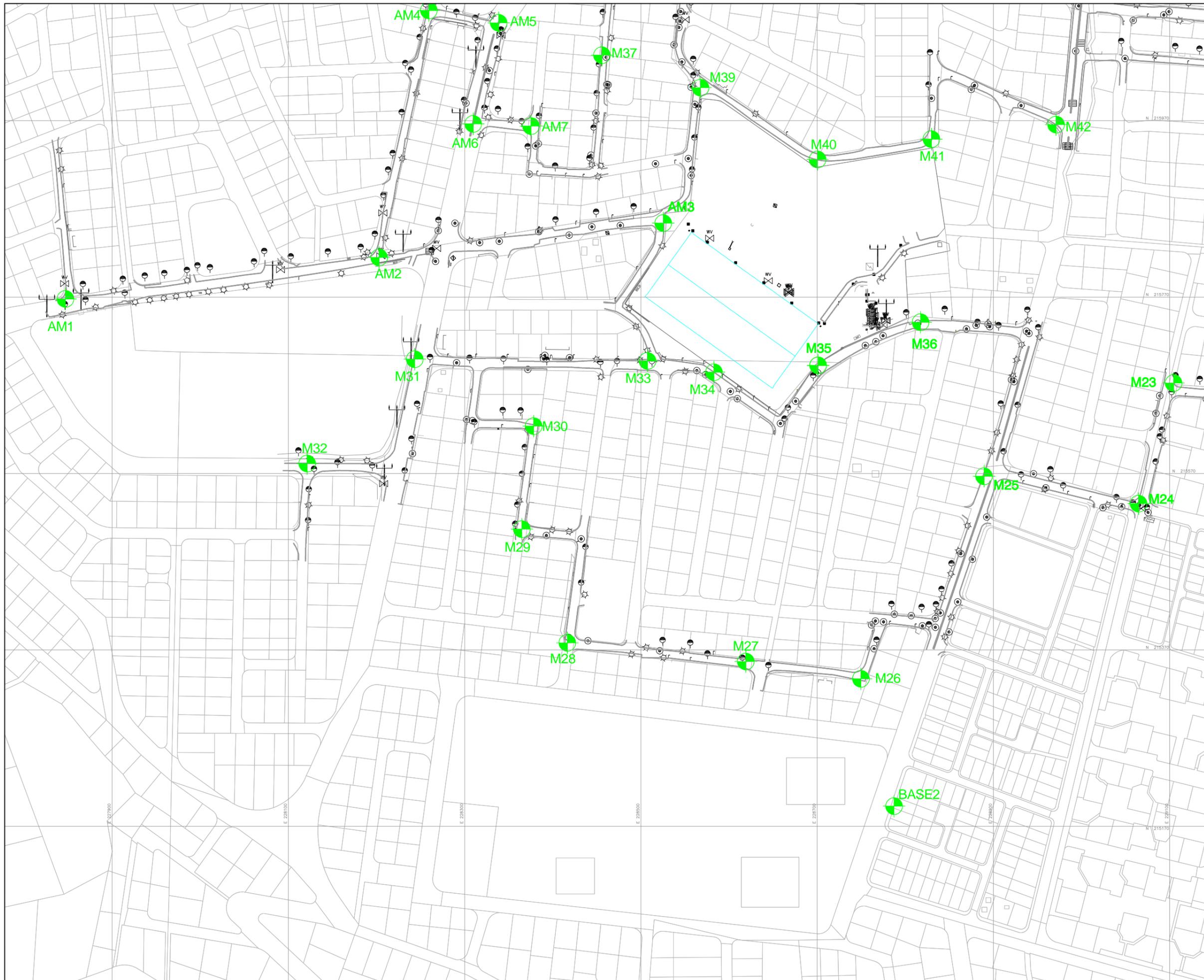
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No.	DESCRIPTION	BY	DATE

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Project Title
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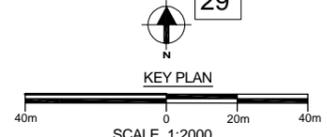
Drawing Title
Survey Works
Sheet (26 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	1/2000		
SU-26			



Legend:

- ASPHALTED ROADS
- BUILDING
- FENCE
- WALL
- CURBSTONE
- TRACK
- CONCRETE
- WATER TANK
- CULVERT
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POST
- EXISTING TELEPHONE MANHOLE
- BENCHMARK
- ELECTRICAL MANHOLE
- STORM WATER MANHOLE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- EXISTING LIGHT POST
- HIGH ELECTRIC POST



REVISIONS			
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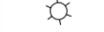
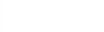
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

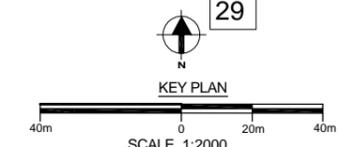
Drawing Title
Survey Works
Sheet (27 of 29)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
SU-27	1/2000	A1	



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
-  STORM WATER MANHOLE
-  EXISTING WATER VALVE
-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



REVISIONS			
No.	DESCRIPTION	BY	DATE

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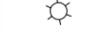
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
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 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

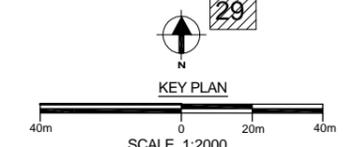
Drawing Title
Survey Works
Sheet (28 of 29)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
SU-28	1/2000	A1



Legend:

-  ASPHALTED ROADS
-  BUILDING
-  FENCE
-  WALL
-  CURBSTONE
-  TRACK
-  CONCRETE
-  WATER TANK
-  CULVERT
-  EXISTING ELECTRICAL POLE
-  EXISTING TELEPHONE POST
-  EXISTING TELEPHONE MANHOLE
-  BENCHMARK
-  ELECTRICAL MANHOLE
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-  EXISTING MANHOLE
-  EXISTING LIGHT POST
-  HIGH ELECTRIC POST



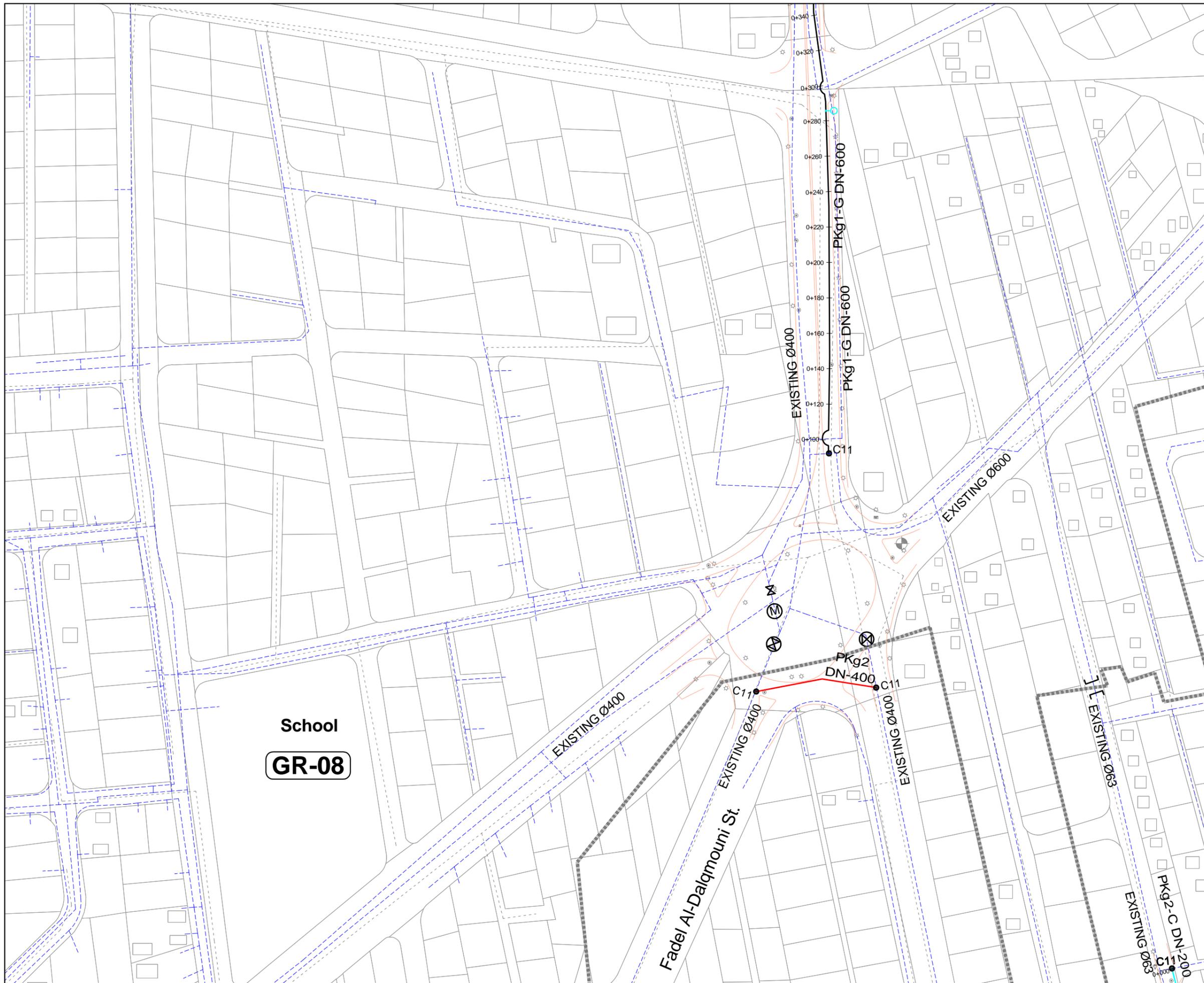
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No.	DESCRIPTION	BY	DATE

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Project Title
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**Survey Works
 Sheet (29 of 29)**

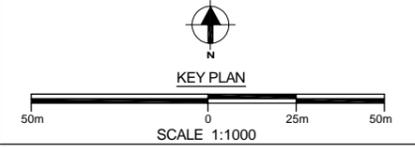
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
SU-29	1/2000	A1	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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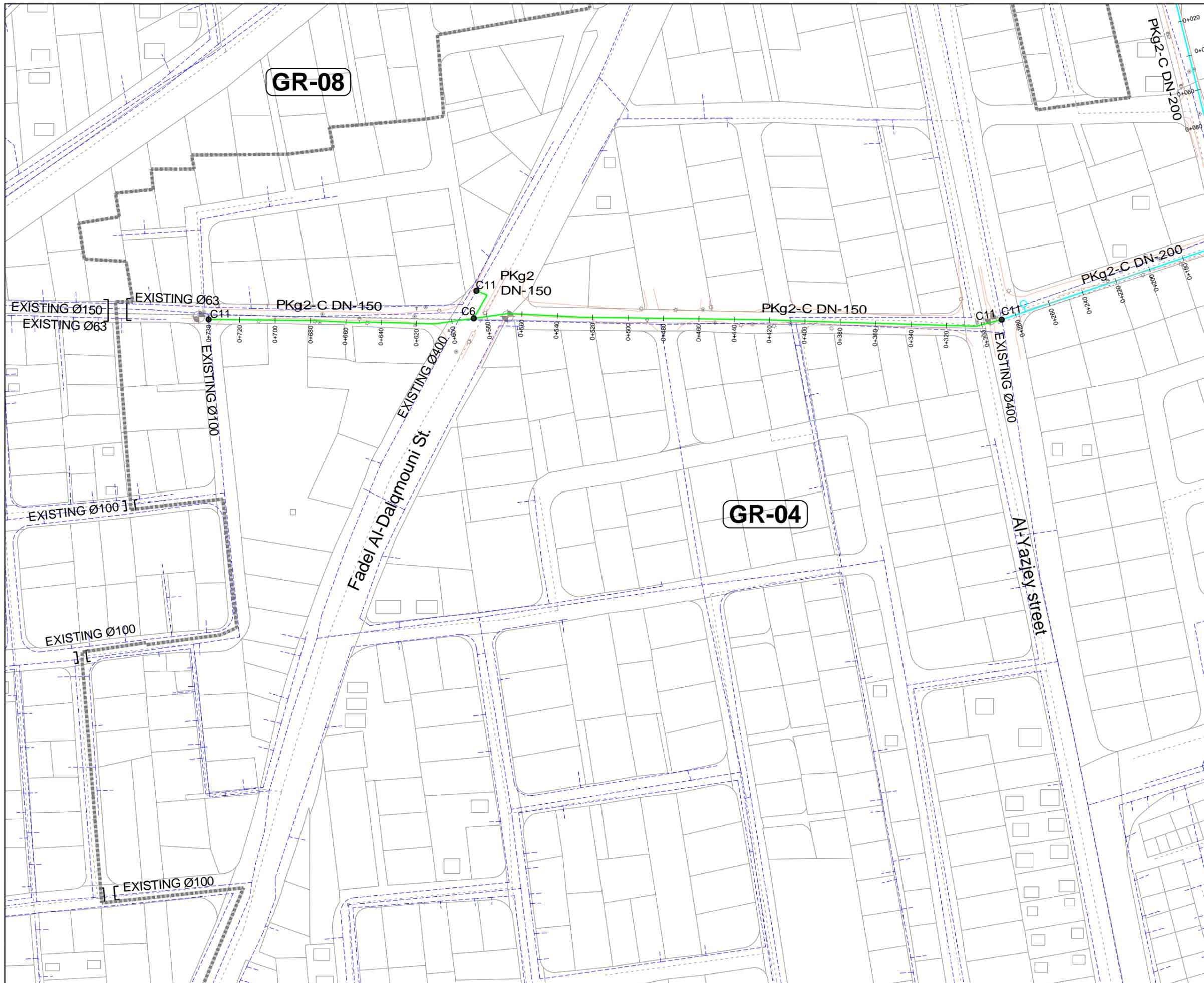
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

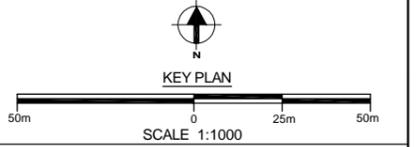
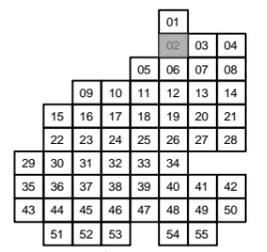
Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(01 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-01	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - ▬ DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
*CONNECTION TYPE is shown in Drawing No.ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (DC) DISCONNECTION
 - (AV) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (TM) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SWM) STORM WATER MANHOLE
 - (EM) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

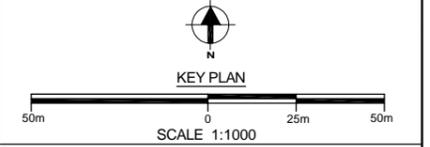
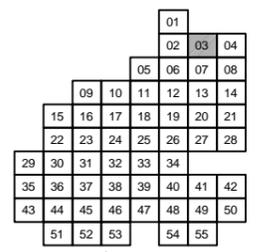
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(02 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-02	1/1000	A1	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No. ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (DC) DISCONNECTION
 - (AVC) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (MWH) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

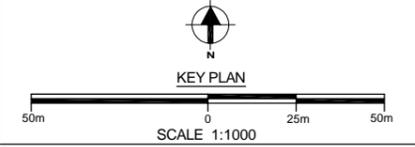
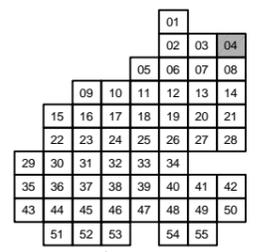
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(03 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-03	1/1000	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



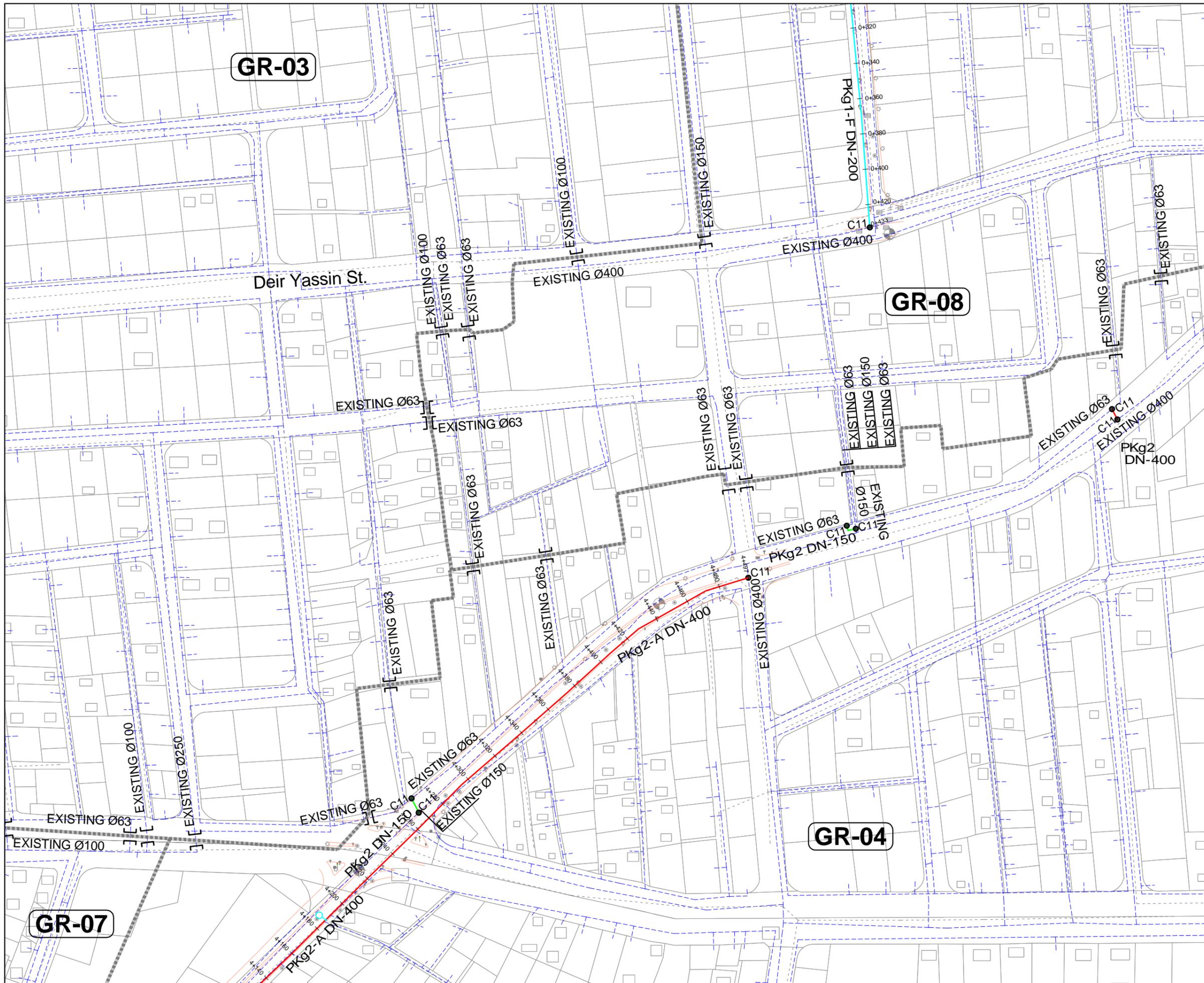
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
Sheet(04 of 55)

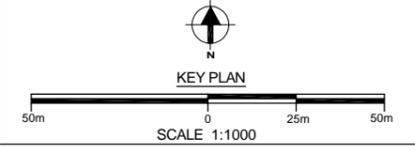
Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
G-04	1/1000
	Size
	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(05 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-05	1/1000	A1

GR-08

EXISTING Ø150
EXISTING Ø400
EXISTING Ø63

Deir Yassien St.

Al-Yazley St.

Cemetery

GR-04

EXISTING Ø400

PKg2
DN-150

EXISTING Ø1000

C11

C11

School

- NOTES:
- 1.All Pipelines Diameters Less Than 150mm are PE.
 - 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 - 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
*CONNECTION TYPE is shown in Drawing No.ST-01,02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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KEY PLAN

50m 0 25m 50m

SCALE 1:1000

REVISIONS

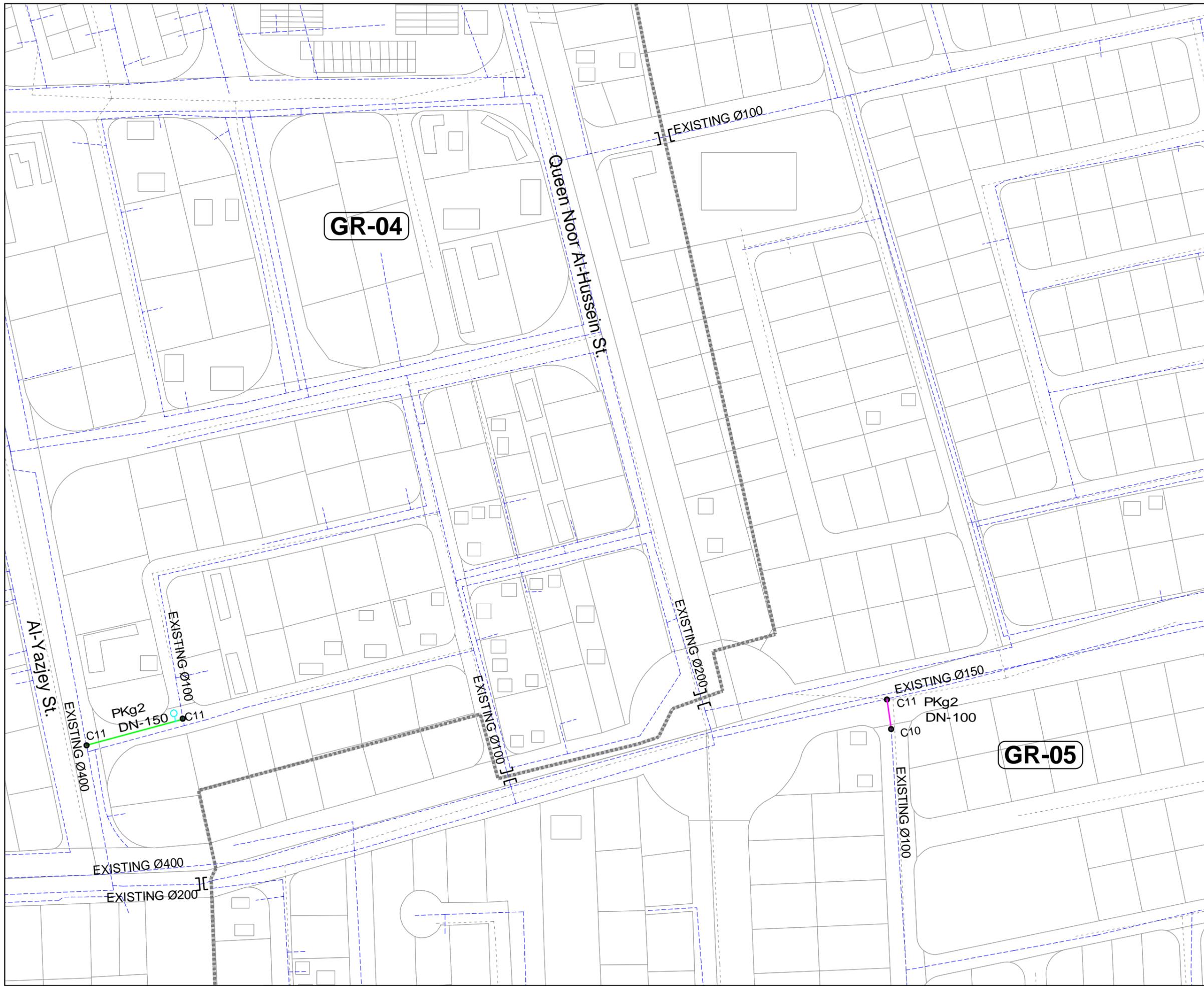
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND
 DRAFT BIDDING DOCUMENTS (COMPONENT B)
 UNDER THE PROJECT FOR THE STUDY ON WATER
 SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
 REFUGEES IN NORTHERN GOVERNORATES IN THE
 HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(06 of 55)

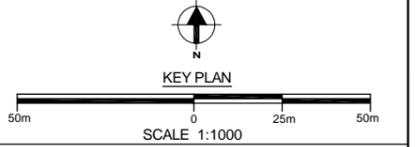
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-06	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

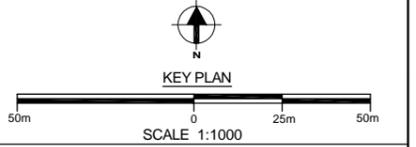
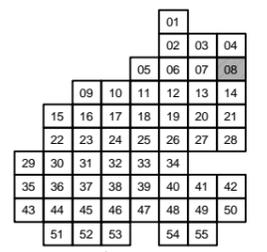
Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(07 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-07	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (D) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (TMH) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(08 of 55)

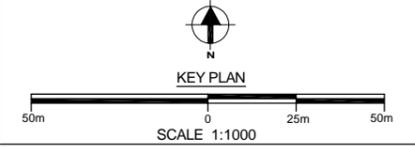
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-08	1/1000	A1	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
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 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(09 of 55)

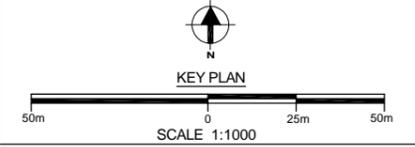
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-09	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
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 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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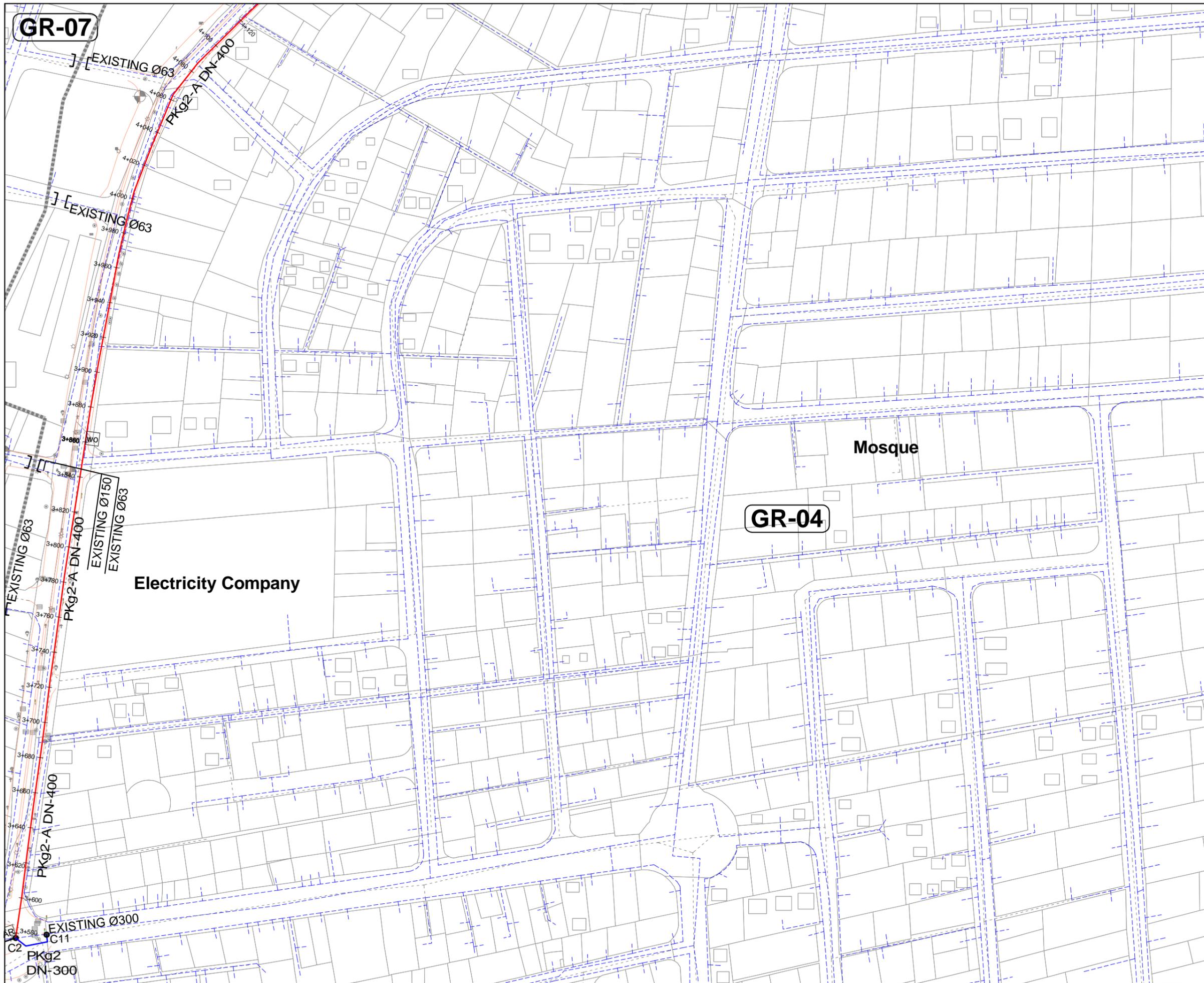
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(10 of 55)

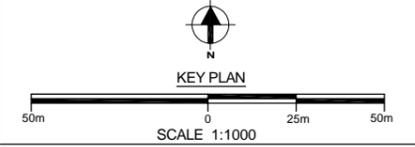
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-10	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	22	23	24	25	26
	29	30	31	32	33
	35	36	37	38	39
	43	44	45	46	47
	51	52	53	54	55



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

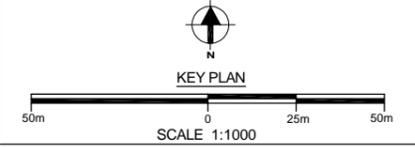
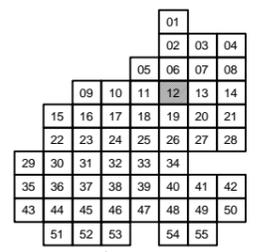
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(11 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-11	1/1000	A1



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - ===== DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (CV) FLOW CONTROL VALVE
 - (PRV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01,02
 - (NCV) NORMALLY CLOSED VALVE
 - (D) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (EM) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (ETP) EXISTING TELEPHONE POLE
 - (ETM) EXISTING TELEPHONE MANHOLE
 - (EWS) EXISTING WATER VALVE
 - (SWM) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (ELP) EXISTING LIGHT POLE
 - (B) BENCHMARK



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(12 of 55)

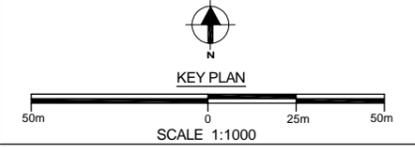
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-12	1/1000	A1	



- NOTES:**
1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE C2
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(13 of 55)

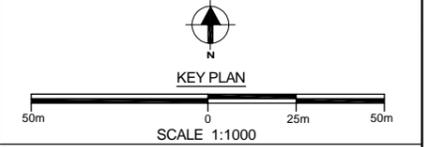
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-13	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(14 of 55)

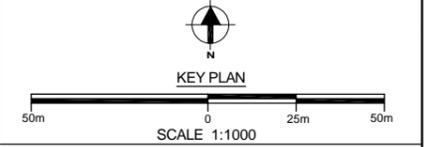
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-14	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - ▬▬▬▬▬▬ DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (I) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (MTH) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

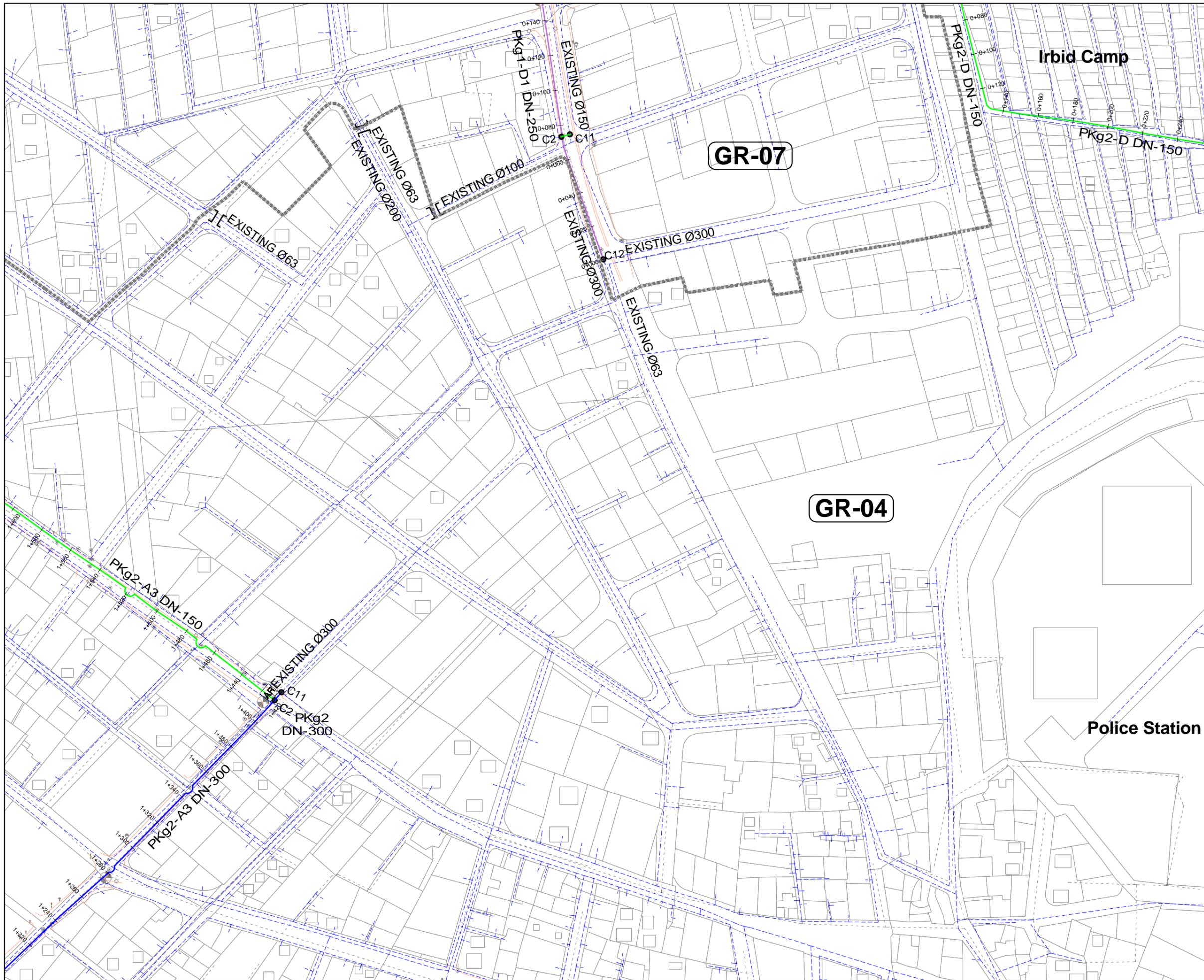
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(15 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-15	1/1000	A1

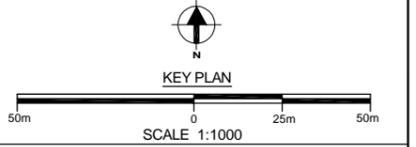
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NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (D) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (MTH) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK

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	35	36	37	38	39
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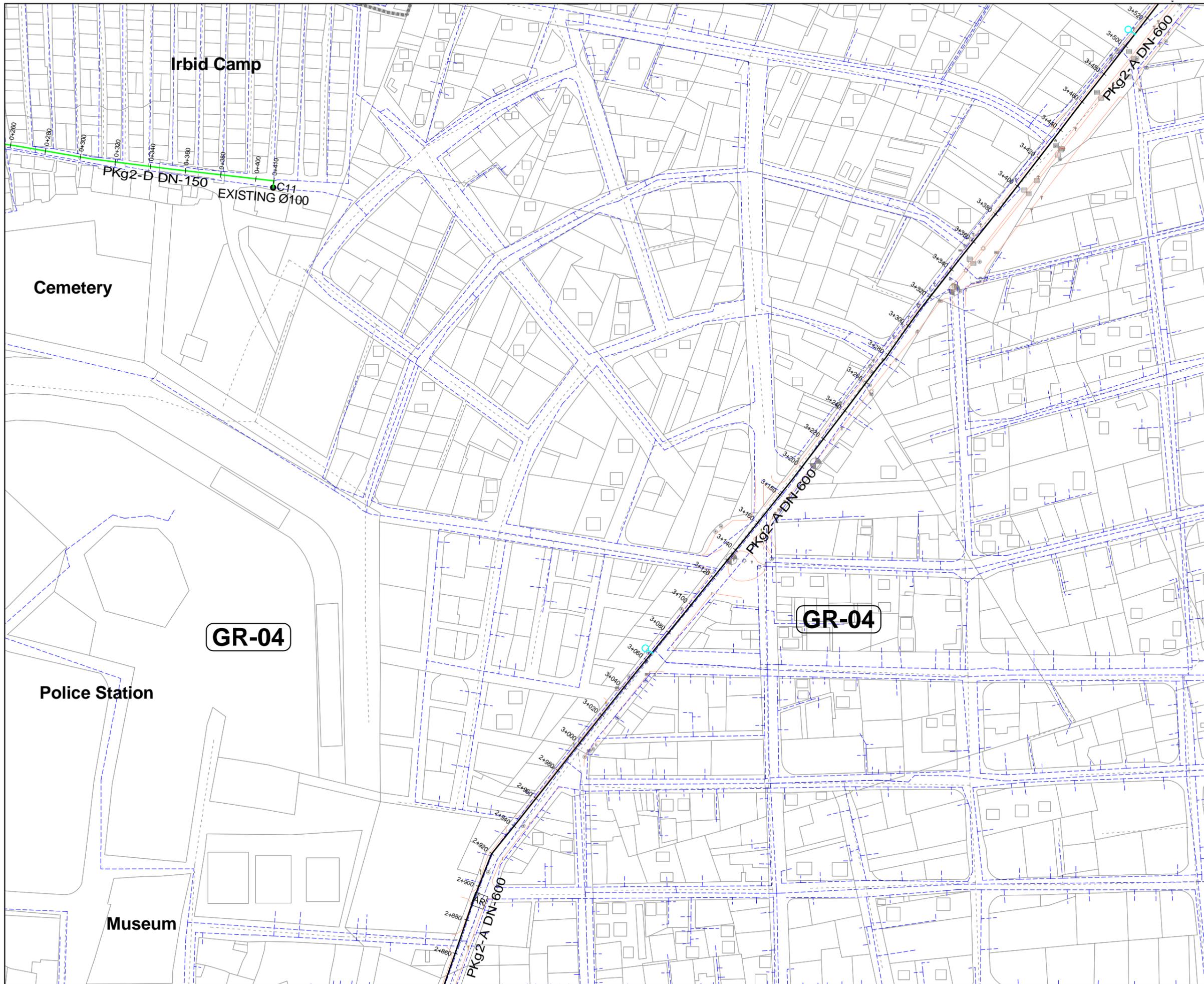
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(16 of 55)

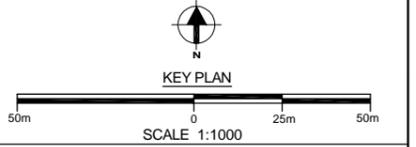
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-16	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - DMA BOUNDARY
 - LINE ASPHALT
 - M FLOW METER
 - F FLOW CONTROL VALVE
 - RV PRESSURE REDUCING VALVE
 - CX CONNECTION TYPE C1
 - N CONNECTION TYPE N1
 - C CONNECTION TYPE C1
 - NCV NORMALLY CLOSED VALVE
 - D DISCONNECTION
 - AVC AIR VALVE CHAMBER
 - WVC WASHOUT CHAMBER
 - FH FIRE HYDRANT
 - EM EXISTING MANHOLE
 - EP EXISTING ELECTRICAL POLE
 - ETP EXISTING TELEPHONE POLE
 - ETM EXISTING TELEPHONE MANHOLE
 - EWW EXISTING WATER VALVE
 - SWM STORM WATER MANHOLE
 - EMH ELECTRICAL MANHOLE
 - ELP EXISTING LIGHT POLE
 - B BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(17 of 55)

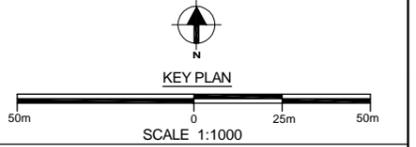
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-17	1/1000	A1



- NOTES:**
1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
*CONNECTION TYPE is shown in Drawing No. ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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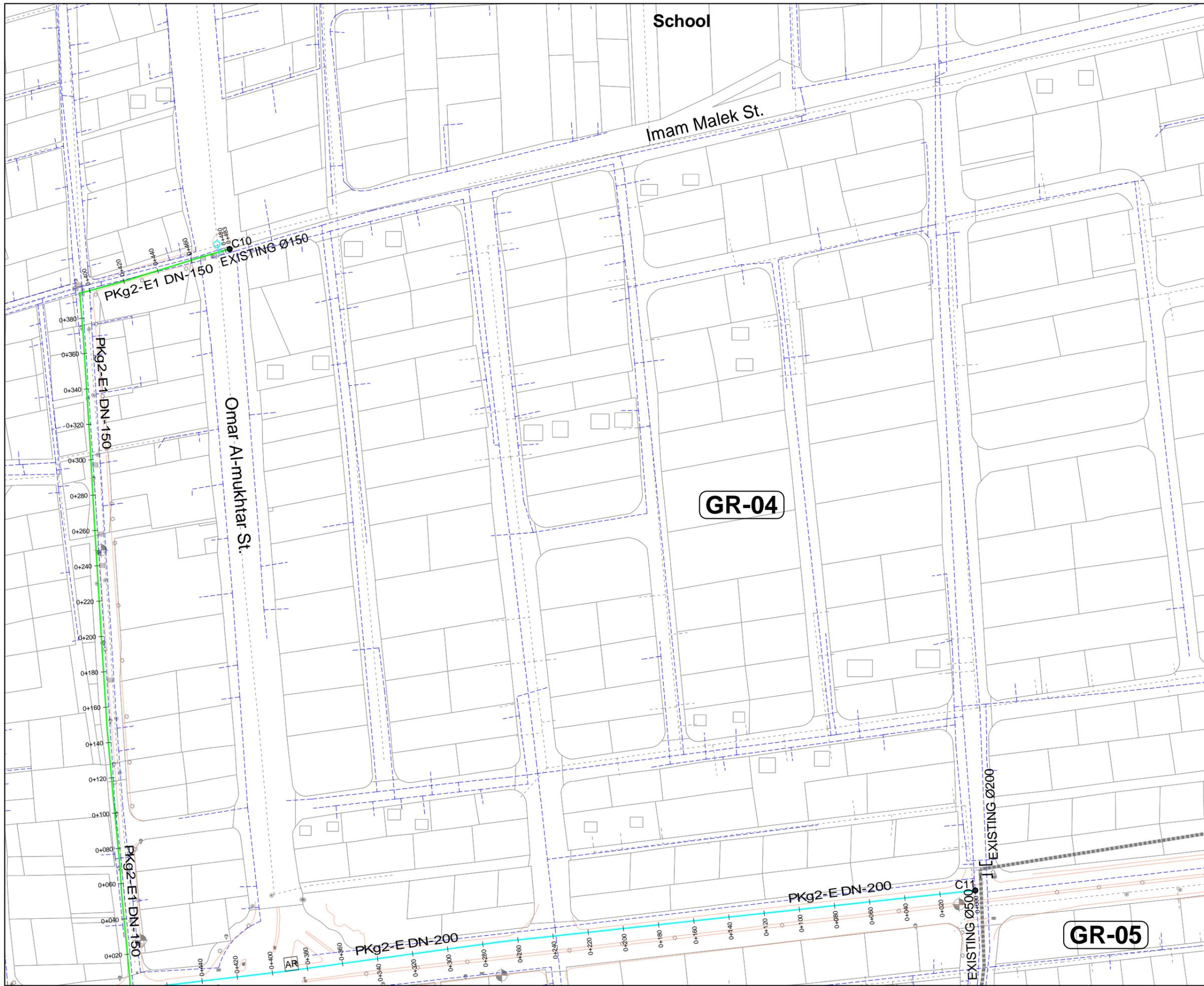
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(18 of 55)

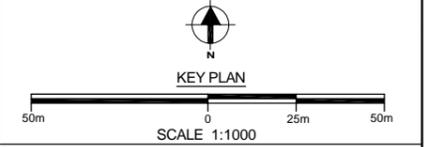
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-18	1/1000	



- NOTES:**
- All Pipelines Diameters Less Than 150mm are PE.
 - All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 - Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(19 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-19	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	51	52	53	54	55



KEY PLAN
 50m 0 25m 50m
 SCALE 1:1000

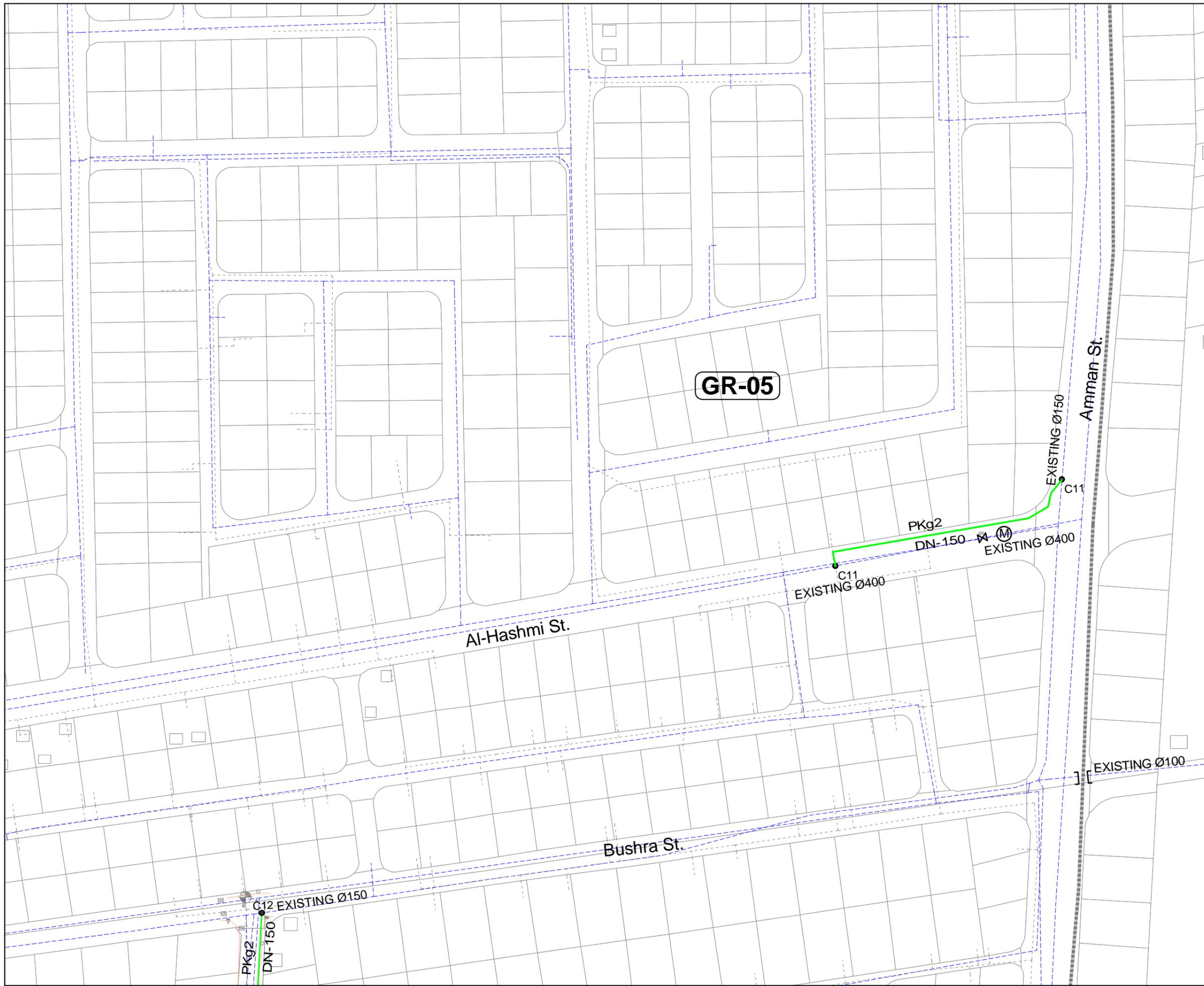
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(20 of 55)

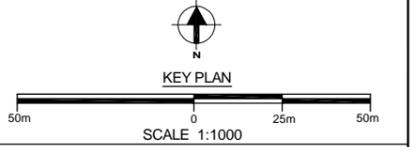
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-20	1/1000	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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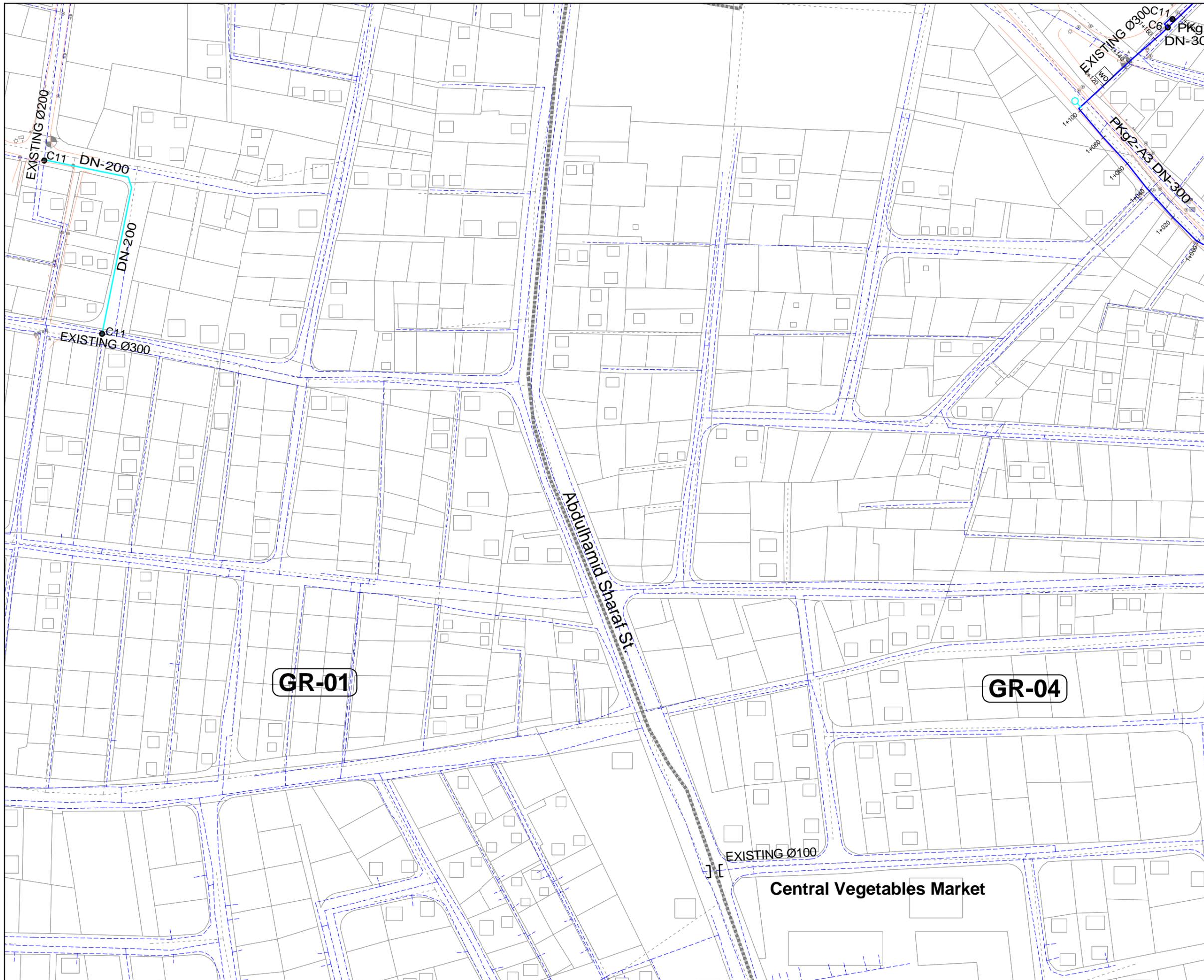
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(21 of 55)

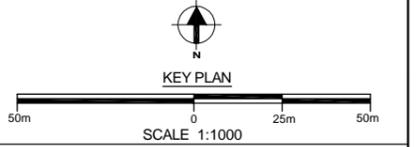
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-21	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	24	25	26	27	28
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53	54	55			



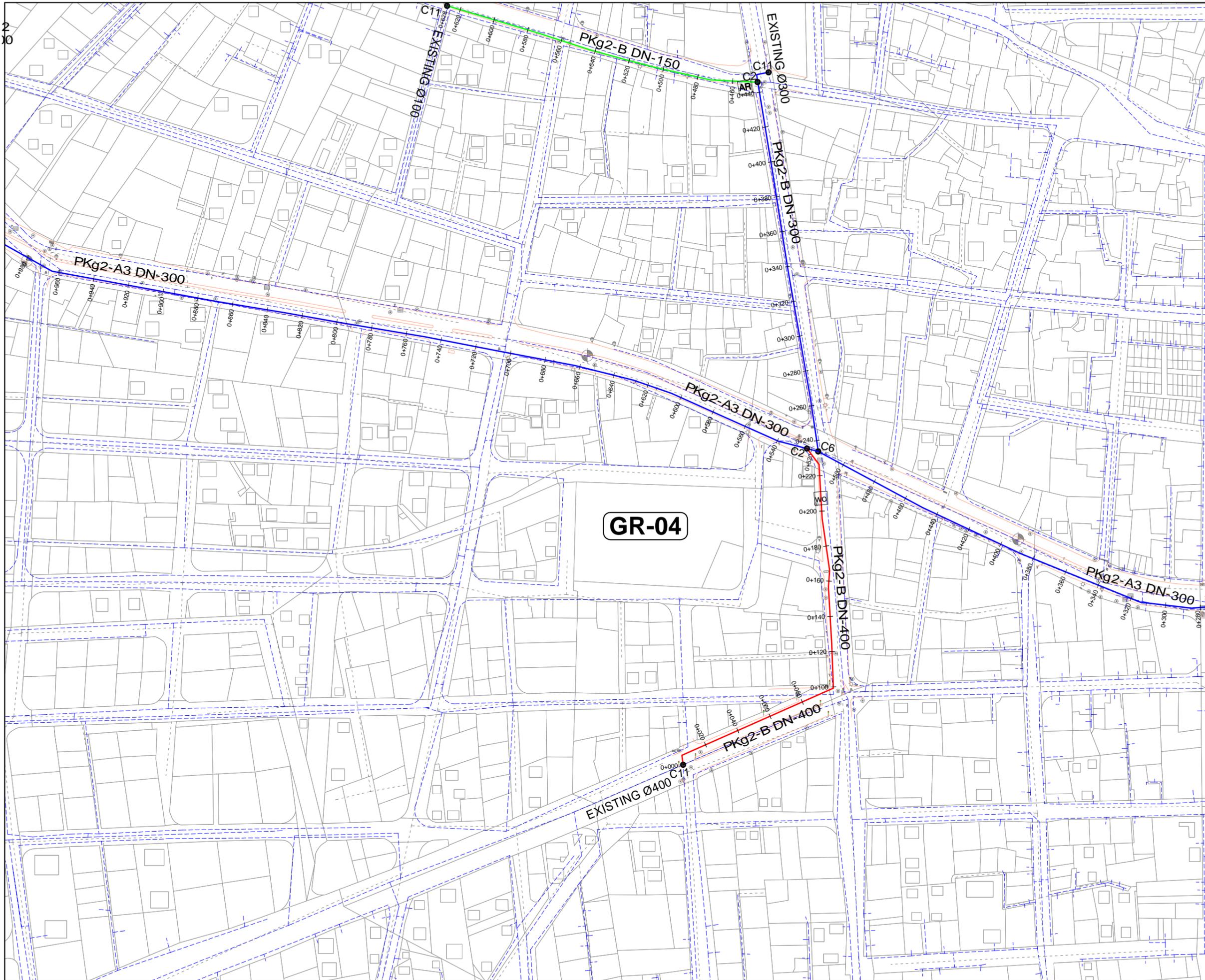
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(22 of 55)

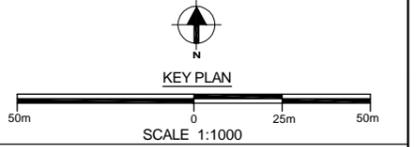
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-22	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - - - EXISTING SEWER PIPE
 - - - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No. ST-01.02
 - (NCV) NORMALLY CLOSED VALVE
 - (D) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (MTH) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (L) EXISTING LIGHT POLE
 - (B) BENCHMARK

			01		
			02	03	04
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51	52	53	54	55	



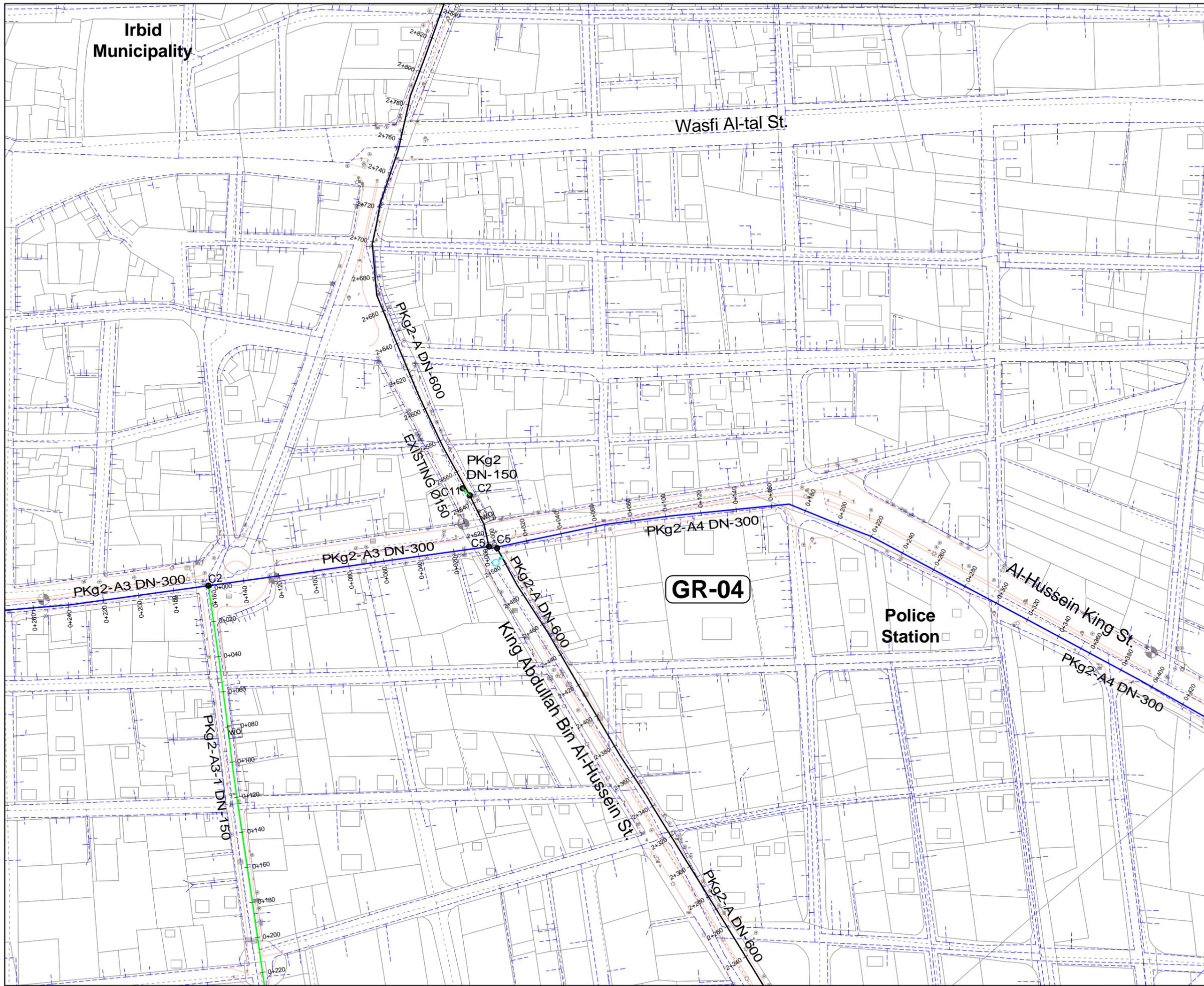
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(23 of 55)

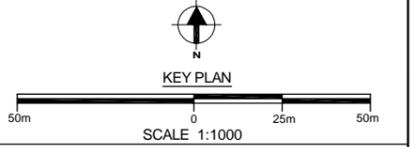
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-23	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	09	10	11	12	13
	14	15	16	17	18
	19	20	21	22	23
	24	25	26	27	28
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53	54	55			



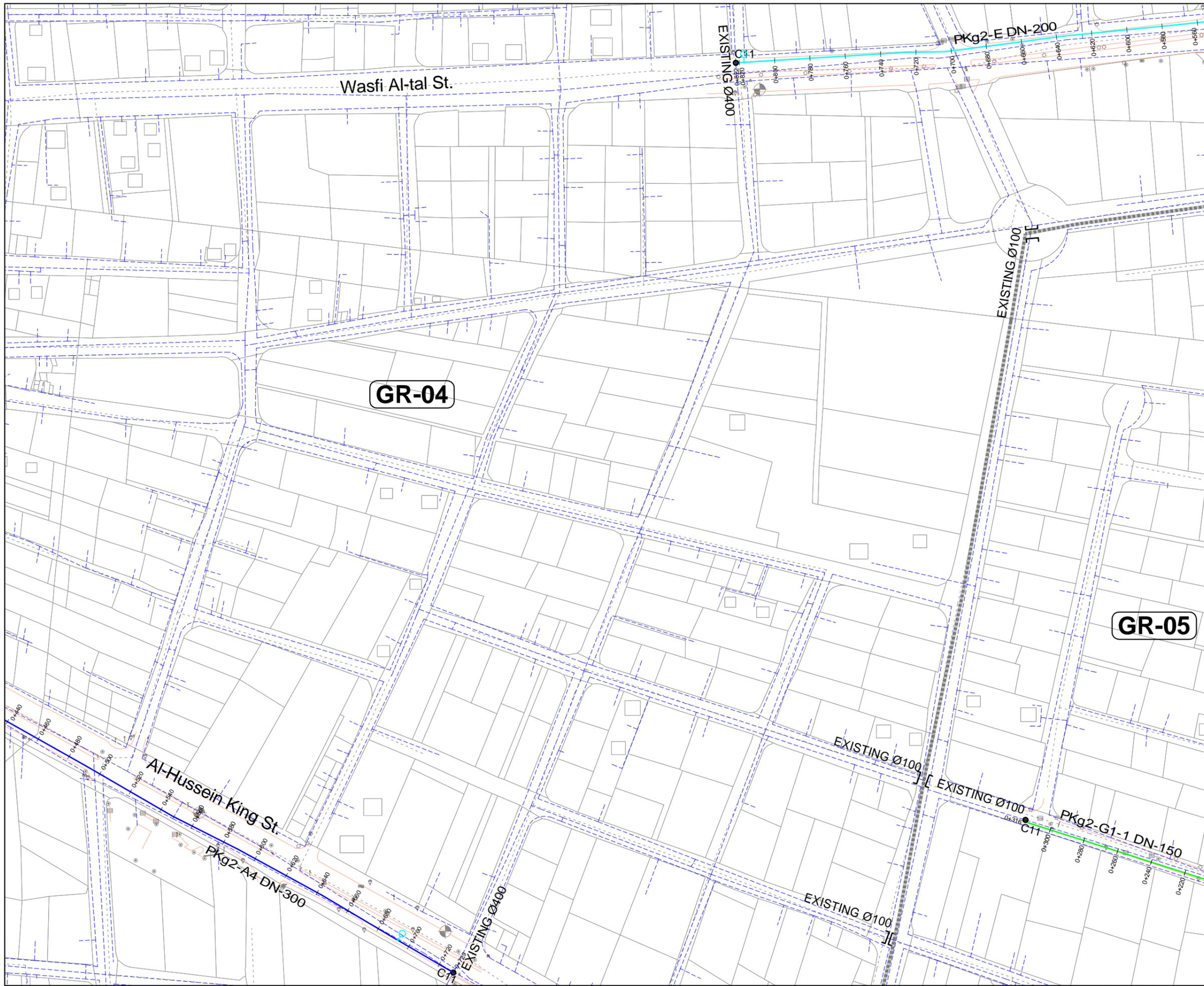
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(24 of 55)

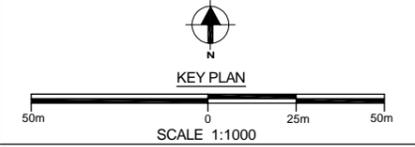
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-24	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
• CONNECTION TYPE is shown in Drawing No. ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	09	10	11	12	13	14
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22	23	24	25	26	27	28
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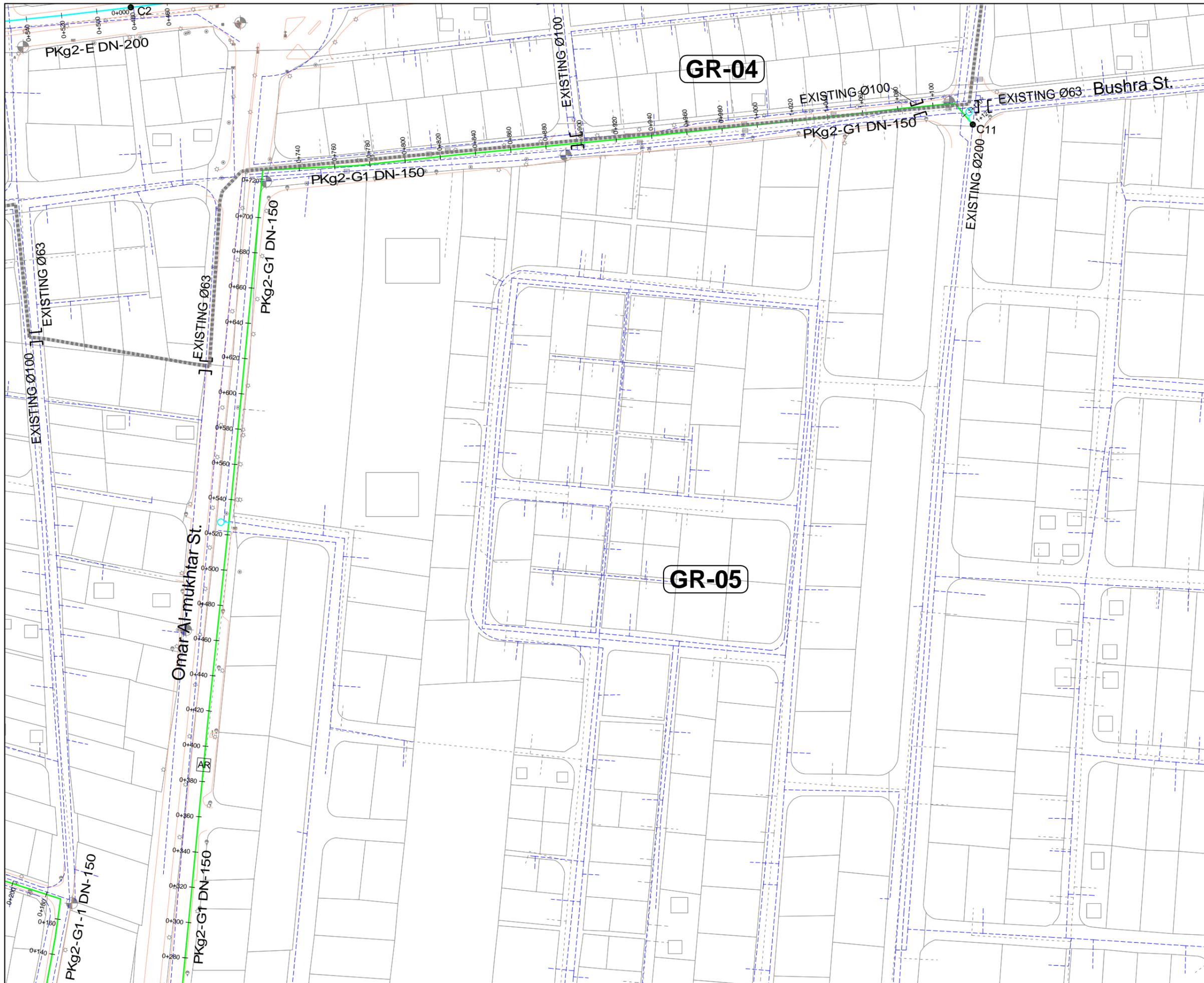
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(25 of 55)

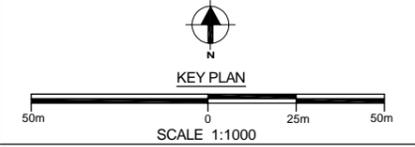
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-25	1/1000	A1	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE C2
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	24	25	26	27	28
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41	42	43	44	45	46
47	48	49	50	51	52
53	54	55			



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

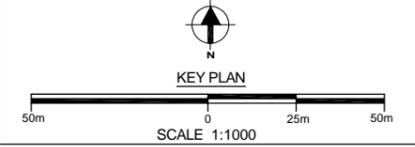
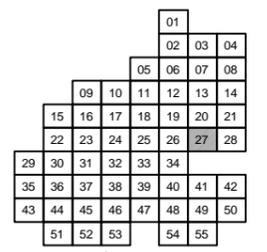
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(26 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-26	1/1000	A1



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

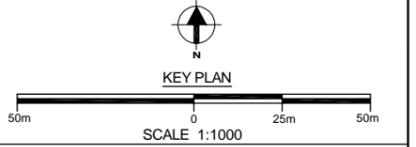
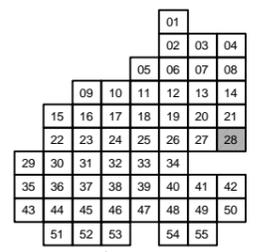
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(27 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-27	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



REVISIONS		
No.	DESCRIPTION	BY DATE

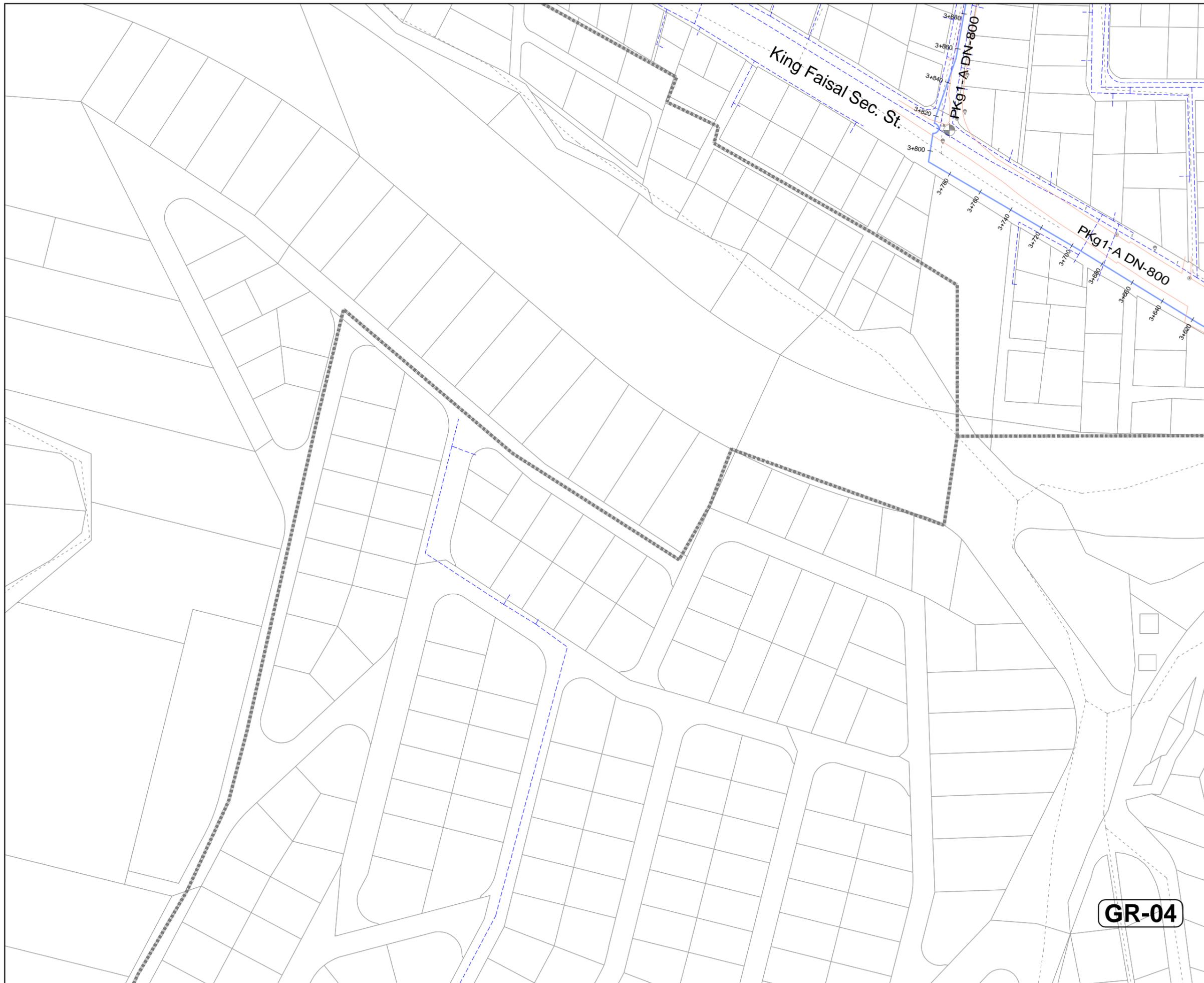
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(28 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-28	1/1000	

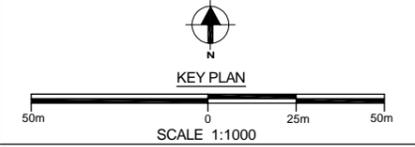
EXISTING Ø100



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE C2
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

			01				
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REVISIONS			
No.	DESCRIPTION	BY	DATE

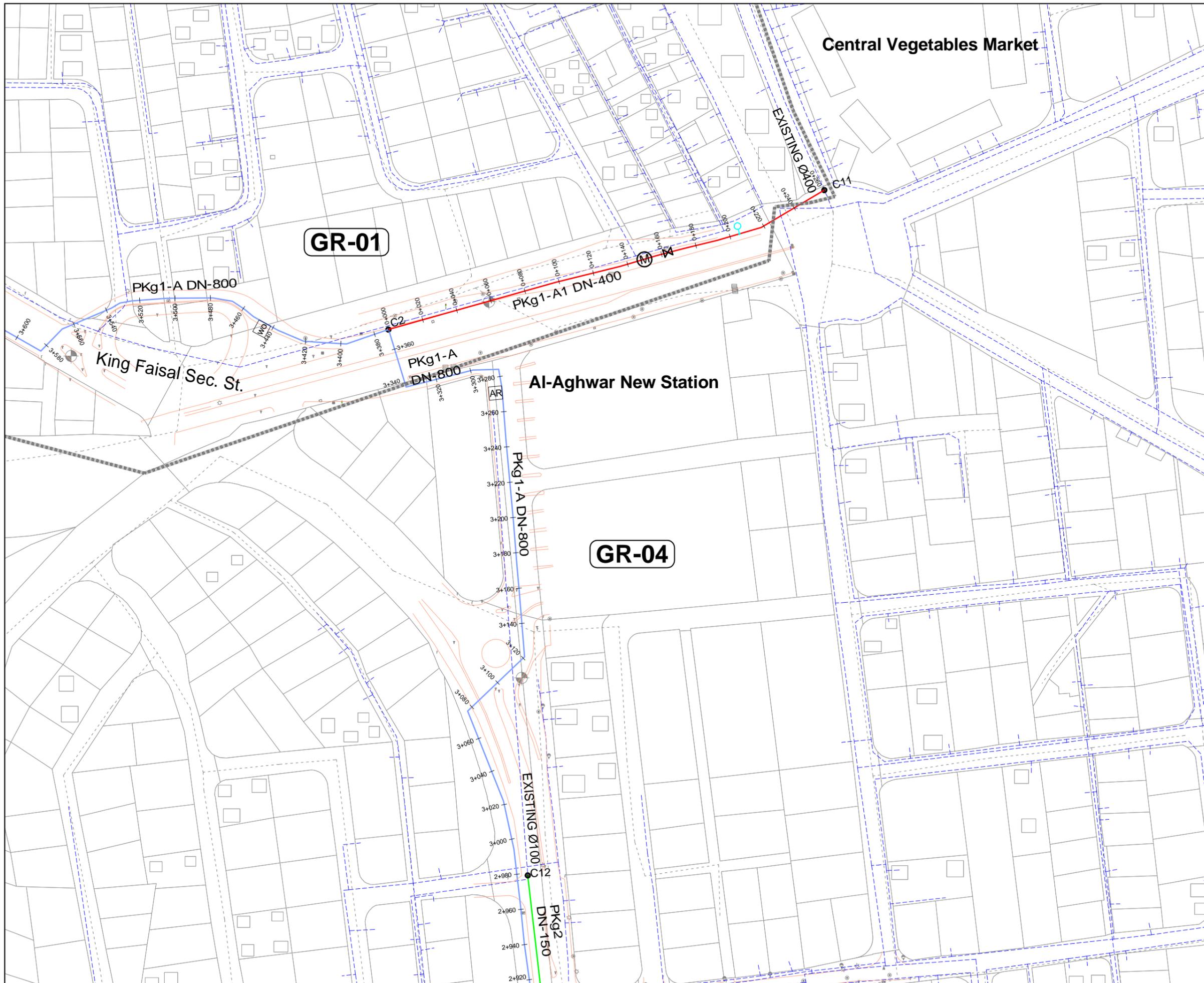
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(29 of 55)

GR-04

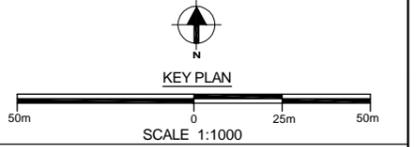
Design By	Reviewed By	Checked By	Date	Mar.2017
Drawing No.	Scale	Size	1/1000 A1	
G-29	1/1000	A1		



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(30 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-30	1/1000	A1

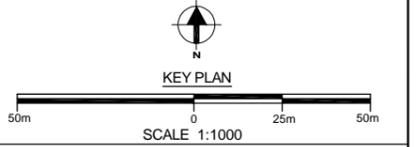


- NOTES:**
1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT

- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE C1
- NORMALLY CLOSED VALVE
- DISCONNECTION
- AIR VALVE CHAMBER
- WASHOUT CHAMBER
- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POLE
- EXISTING TELEPHONE MANHOLE
- EXISTING WATER VALVE
- STORM WATER MANHOLE
- ELECTRICAL MANHOLE
- EXISTING LIGHT POLE
- BENCHMARK

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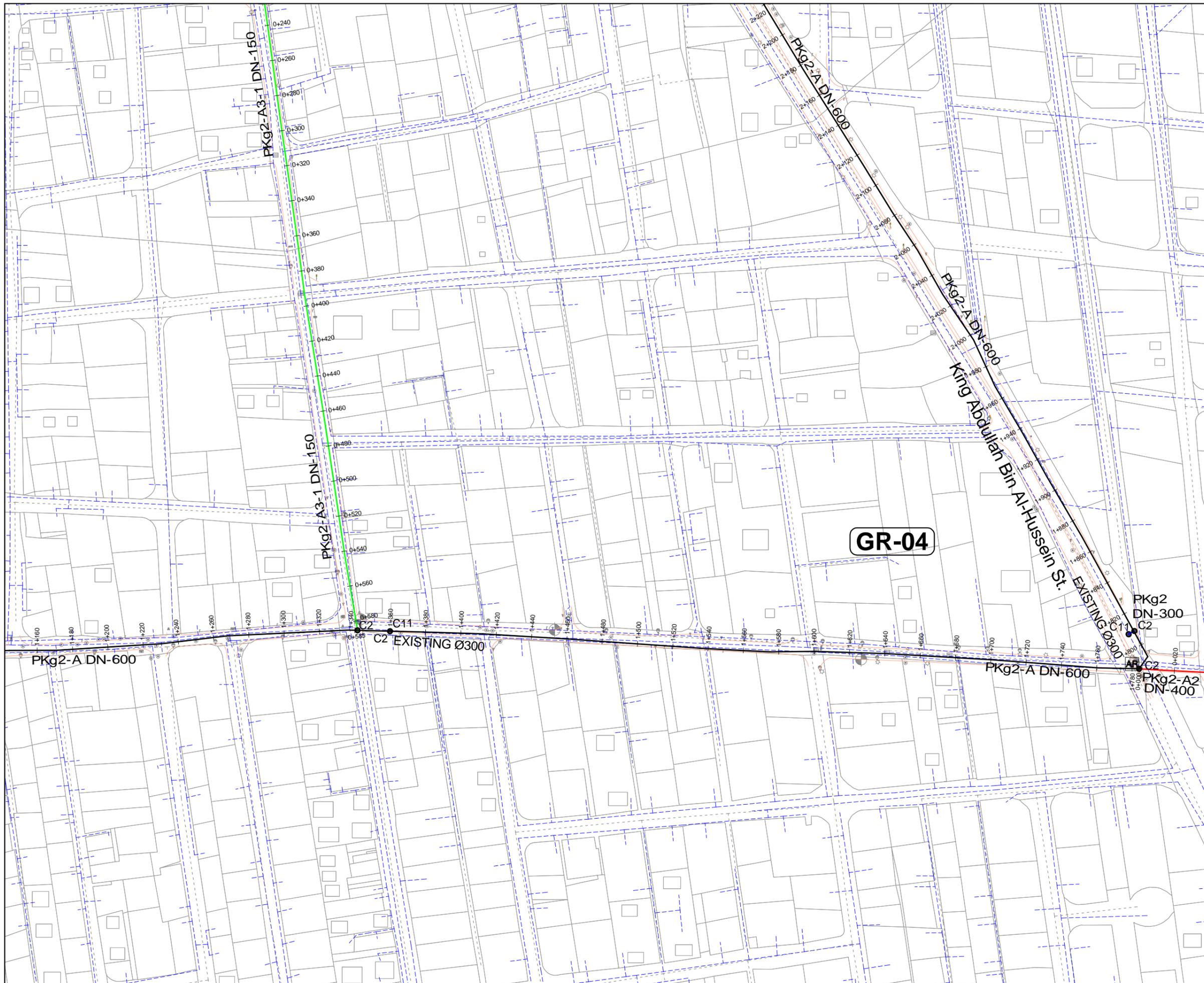
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(31 of 55)

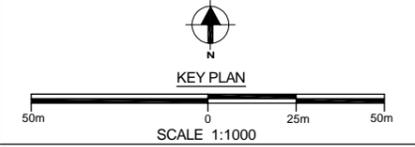
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-31	1/1000	A1	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE C2
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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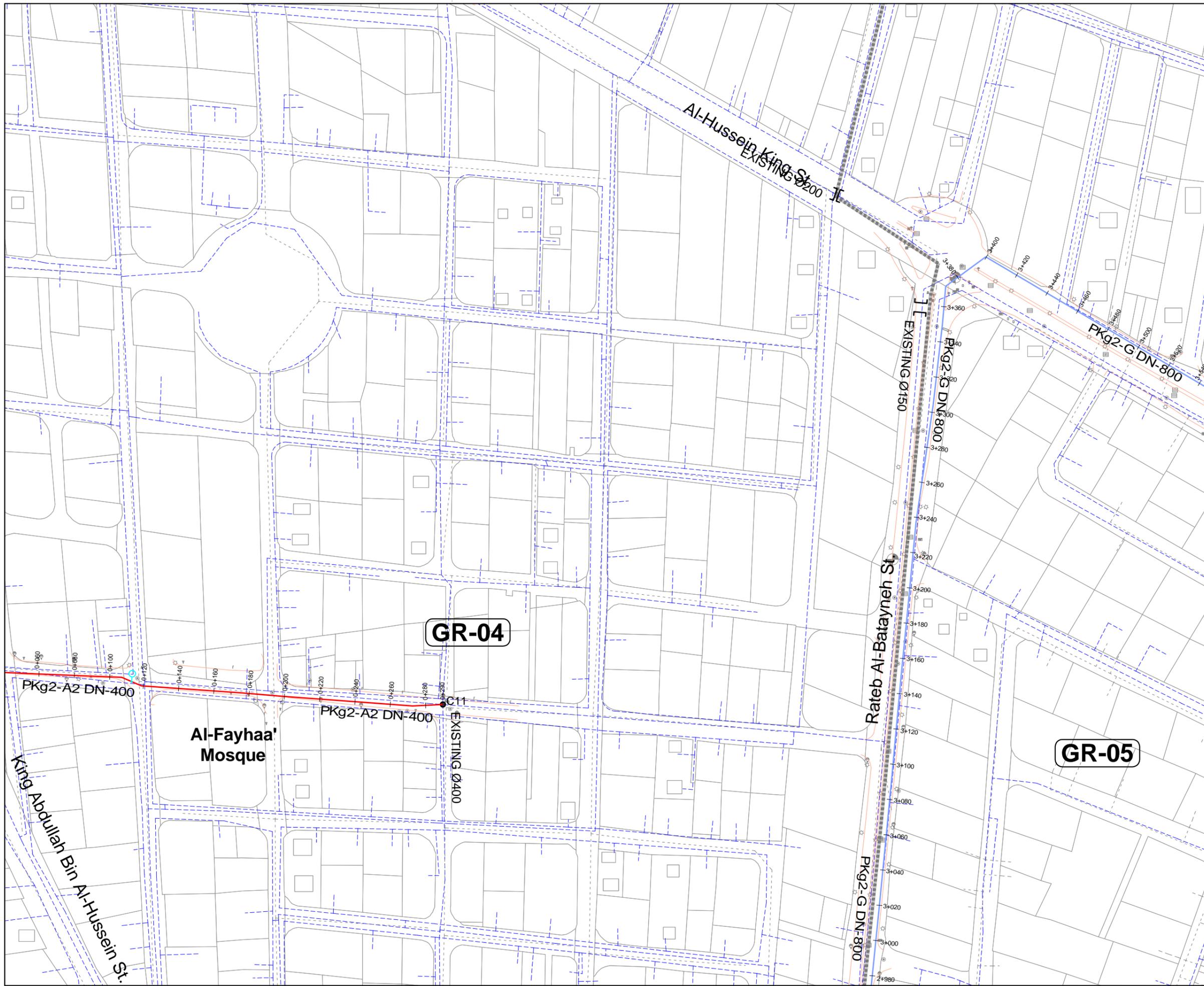
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(32 of 55)

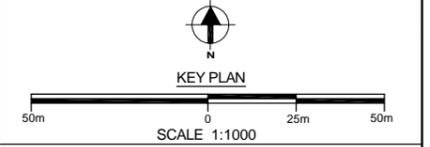
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-32	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE C2
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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GR-04

GR-05

REVISIONS		BY	DATE
No.	DESCRIPTION		

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(33 of 55)

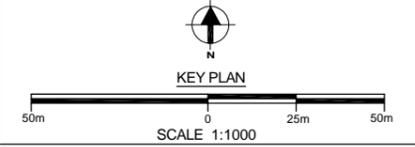
Design By	Reviewed By	Scale	Size
Checked By	Date	1/1000	A1
Drawing No.	G-33		



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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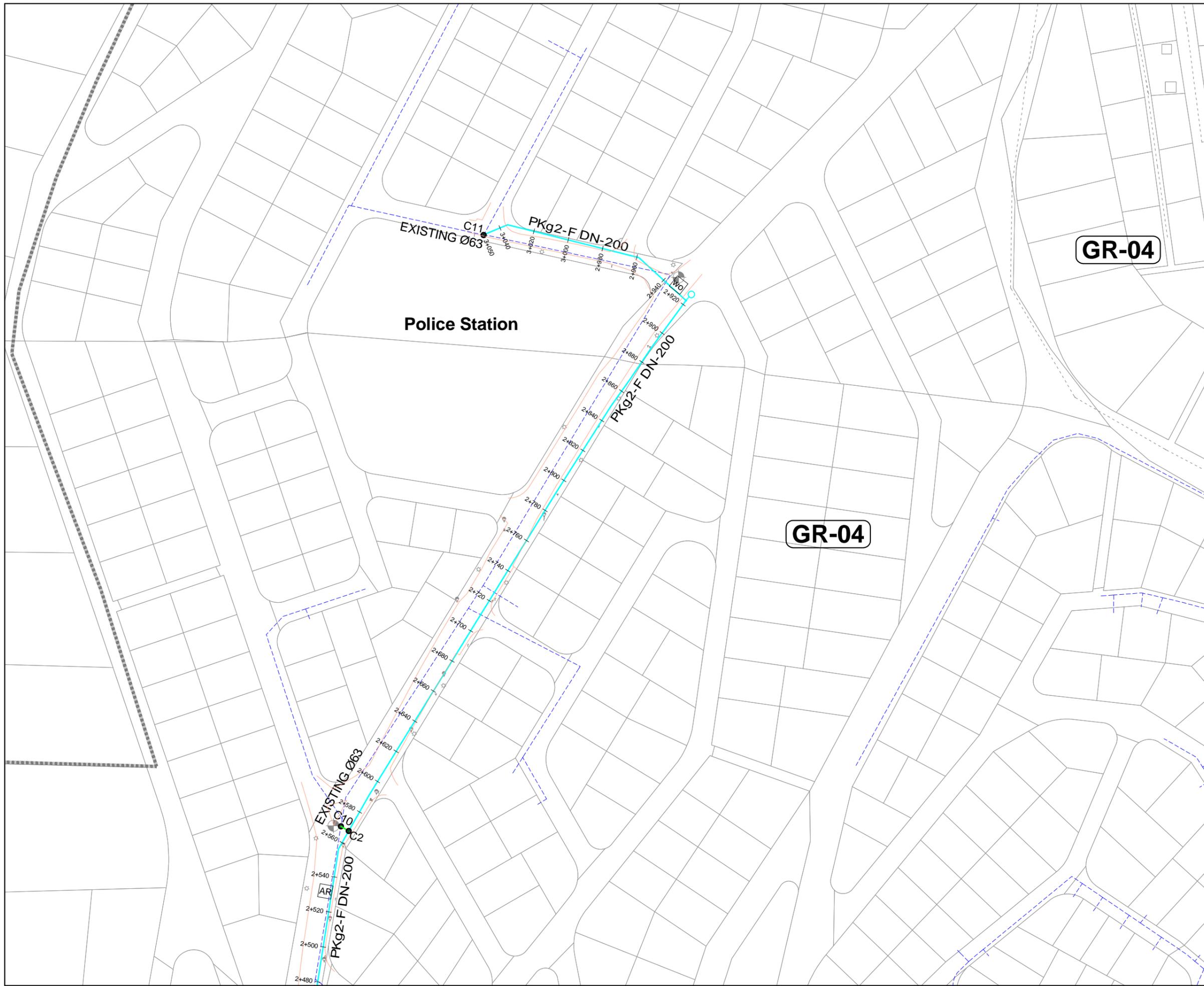
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(34 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-34	1/1000	A1

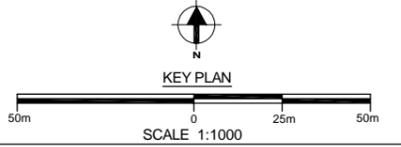


NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT

- FLOW METER
- FLOW CONTROL VALVE
- PRESSURE REDUCING VALVE
- CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01,02
- NORMALLY CLOSED VALVE
- DISCONNECTION
- AIR VALVE CHAMBER
- WASHOUT CHAMBER
- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING ELECTRICAL POLE
- EXISTING TELEPHONE POLE
- EXISTING TELEPHONE MANHOLE
- EXISTING WATER VALVE
- STORM WATER MANHOLE
- ELECTRICAL MANHOLE
- EXISTING LIGHT POLE
- BENCHMARK

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REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(35 of 55)

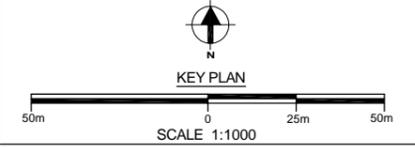
Design By	Reviewed By	Checked By	Date	Mar.2017
Drawing No.	Scale	Size		
G-35	1/1000	A1		



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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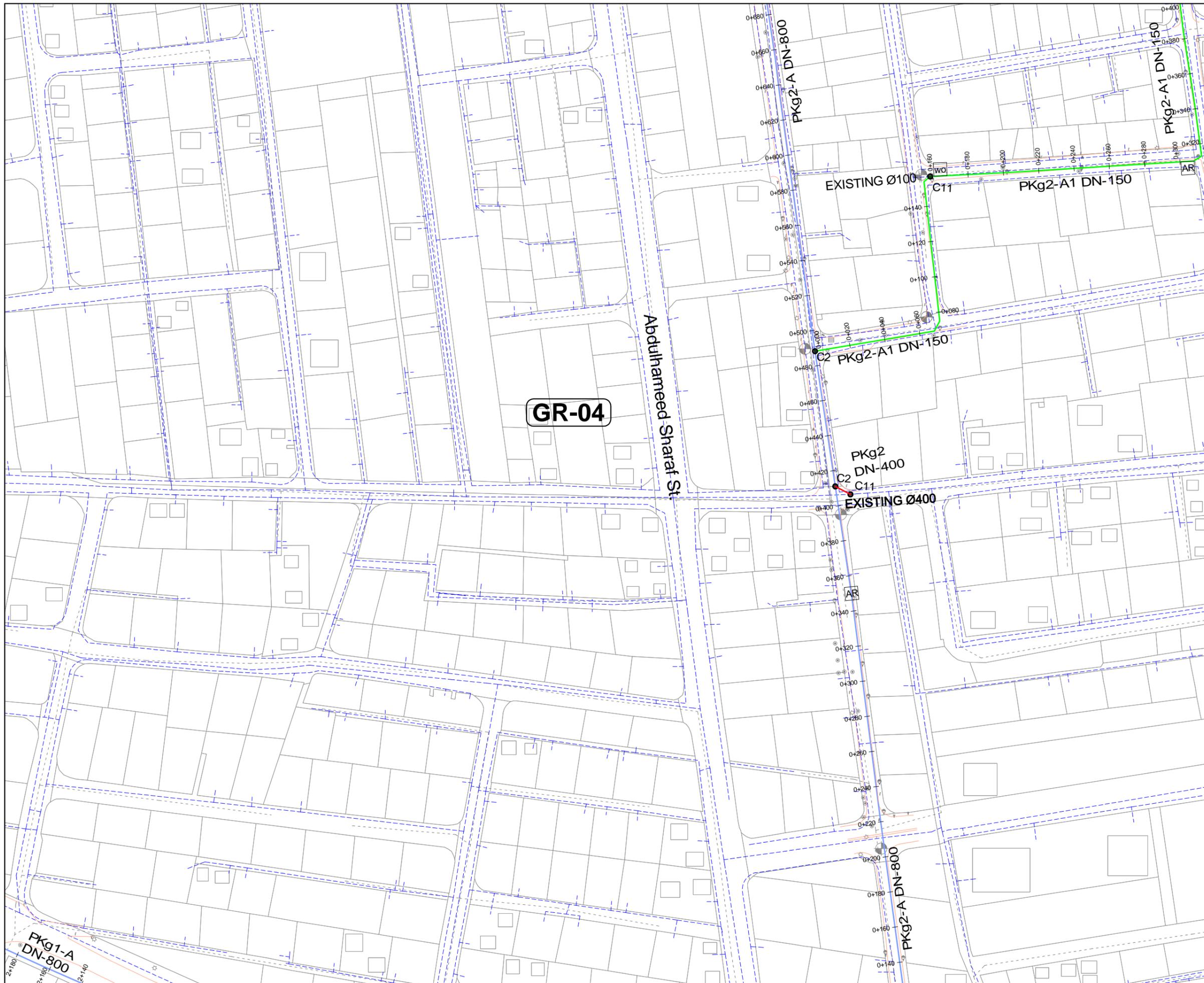
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(36 of 55)

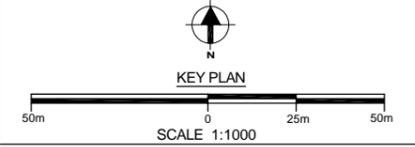
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-36	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - M FLOW METER
 - X FLOW CONTROL VALVE
 - RV PRESSURE REDUCING VALVE
 - CX CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No. ST-01.02
 - N NORMALLY CLOSED VALVE
 - D DISCONNECTION
 - AR AIR VALVE CHAMBER
 - WO WASHOUT CHAMBER
 - FH FIRE HYDRANT
 - MH EXISTING MANHOLE
 - EP EXISTING ELECTRICAL POLE
 - TP EXISTING TELEPHONE POLE
 - MTH EXISTING TELEPHONE MANHOLE
 - WV EXISTING WATER VALVE
 - SMH STORM WATER MANHOLE
 - EMH ELECTRICAL MANHOLE
 - L EXISTING LIGHT POLE
 - B BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(37 of 55)

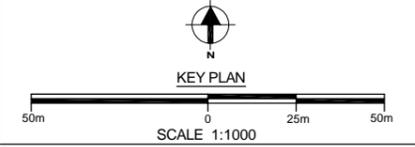
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-37	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(38 of 55)

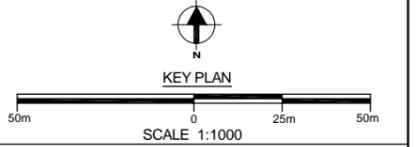
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-38	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - CONNECTION TYPE is shown in Drawing No. ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	35	36	37	38	39
	43	44	45	46	47
	51	52	53	54	55



REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(39 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-39	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
*CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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35	36	37	38	39	40
43	44	45	46	47	48
51	52	53	54	55	



KEY PLAN
 50m 0 25m 50m
 SCALE 1:1000

REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

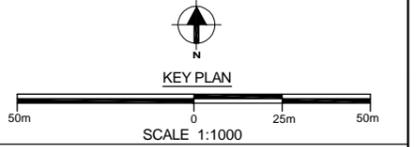
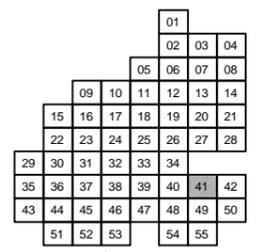
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(40 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-40	1/1000	A1	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



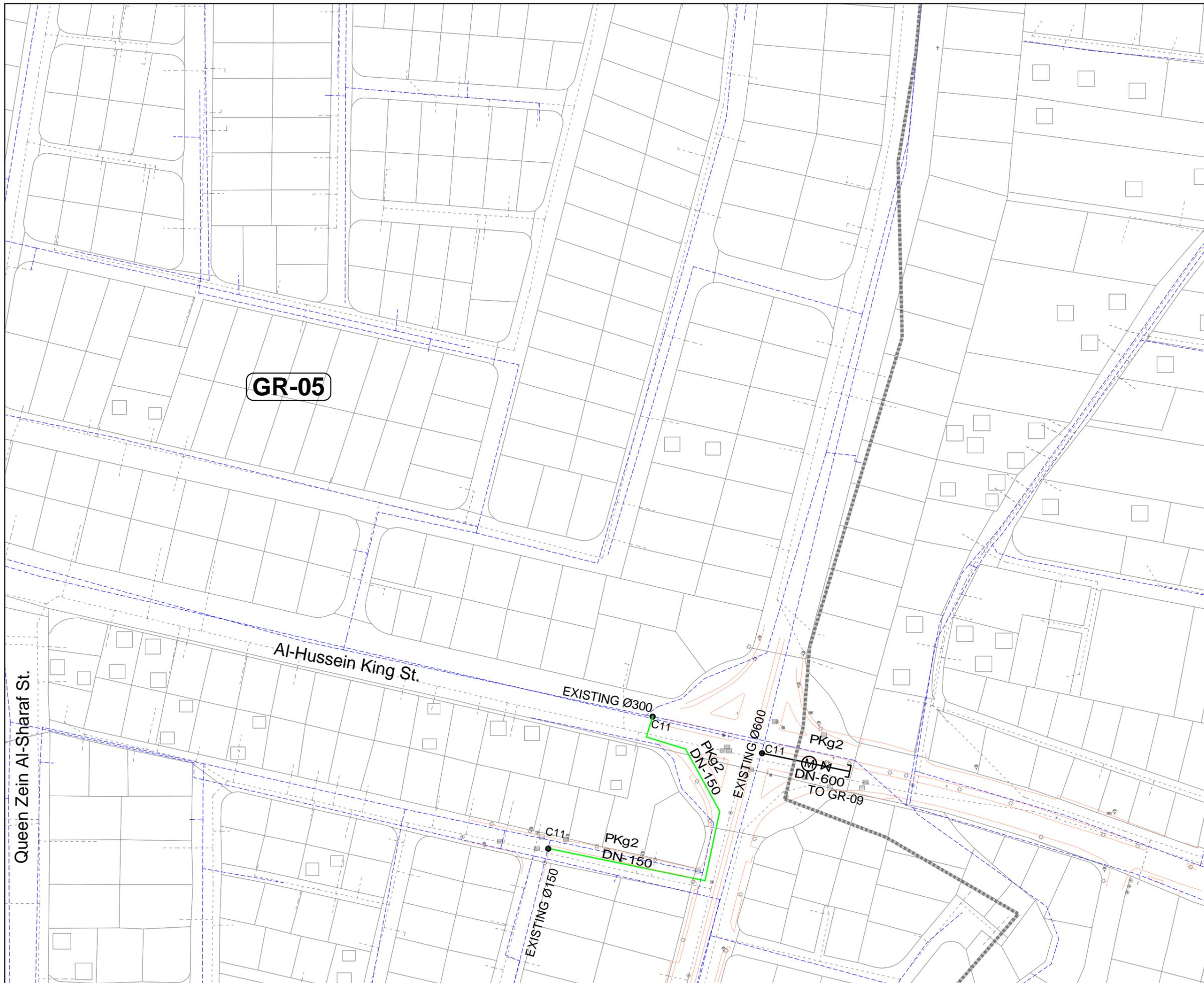
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(41 of 55)

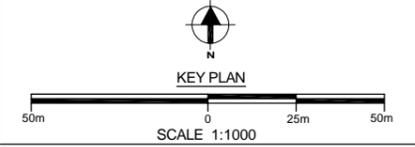
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-41	1/1000	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01,02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(42 of 55)

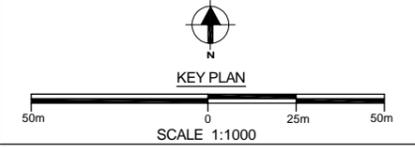
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-42	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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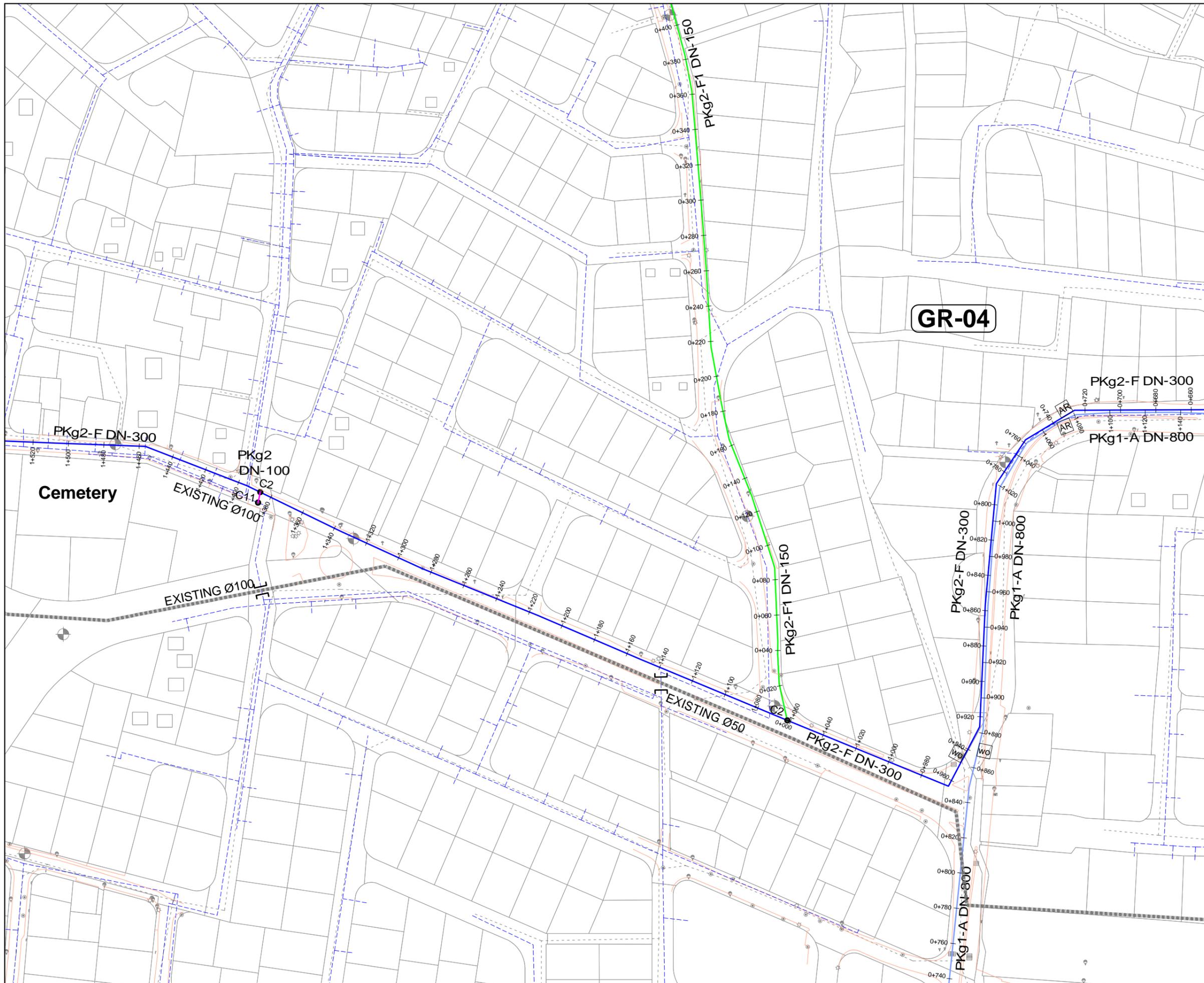
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(43 of 55)

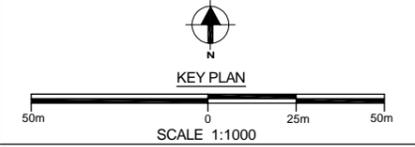
Design By	Reviewed By	Checked By	Date	Mar.2017
Drawing No.	Scale	Size		
G-43	1/1000	A1		



- NOTES:**
- 1.All Pipelines Diameters Less Than 150mm are PE.
 - 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 - 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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	43	44	45	46	47
	51	52	53	54	55



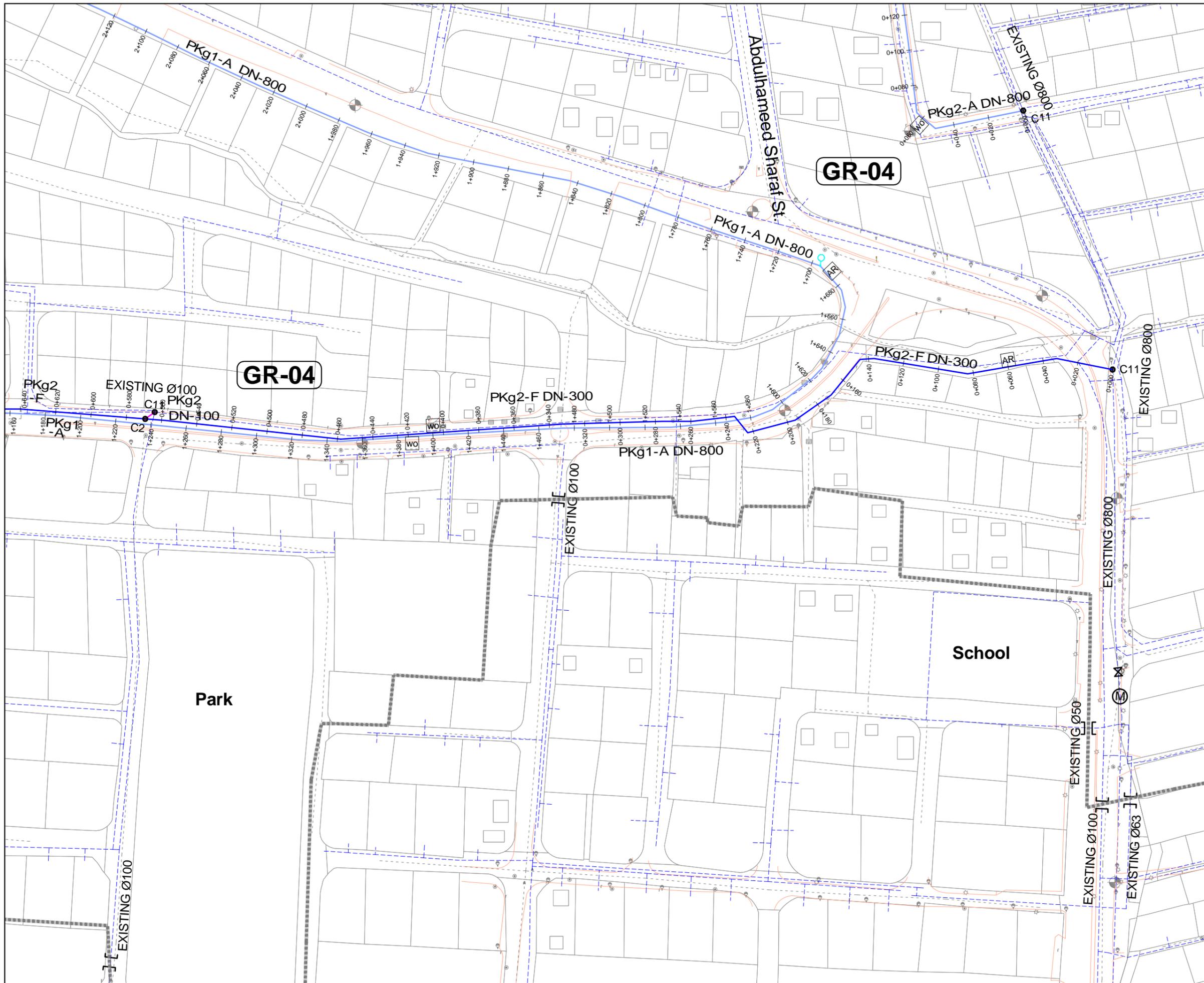
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(44 of 55)

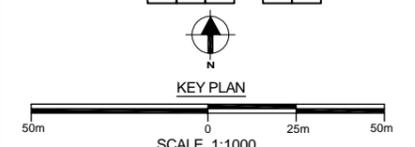
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-44	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - DMA BOUNDARY
 - LINE ASPHALT
 - (M) FLOW METER
 - (X) FLOW CONTROL VALVE
 - (RV) PRESSURE REDUCING VALVE
 - (CX) CONNECTION TYPE C1
 - (NCV) CONNECTION TYPE C1
 - (N) NORMALLY CLOSED VALVE
 - (D) DISCONNECTION
 - (AR) AIR VALVE CHAMBER
 - (WC) WASHOUT CHAMBER
 - (FH) FIRE HYDRANT
 - (MH) EXISTING MANHOLE
 - (EP) EXISTING ELECTRICAL POLE
 - (TP) EXISTING TELEPHONE POLE
 - (TMM) EXISTING TELEPHONE MANHOLE
 - (WV) EXISTING WATER VALVE
 - (SWMH) STORM WATER MANHOLE
 - (EMH) ELECTRICAL MANHOLE
 - (ELP) EXISTING LIGHT POLE
 - (B) BENCHMARK

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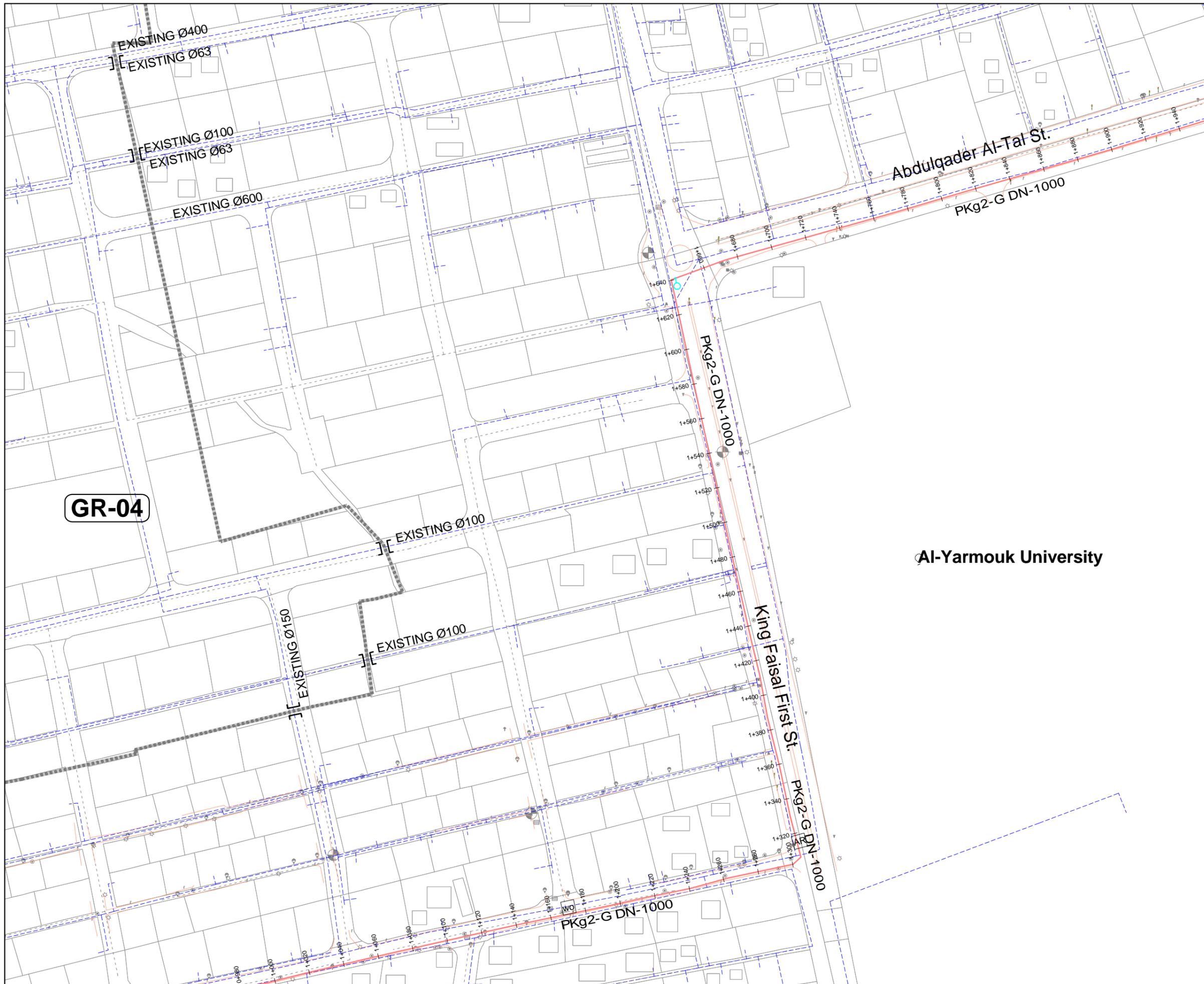
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(45 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-45	1/1000	A1



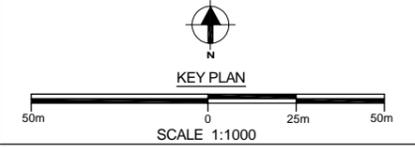
NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

GR-04

Al-Yarmouk University

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35	36	37	38	39	40	41	42
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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(46 of 55)

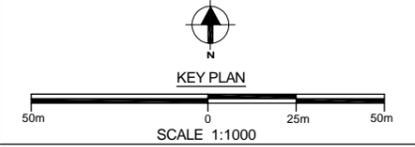
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-46	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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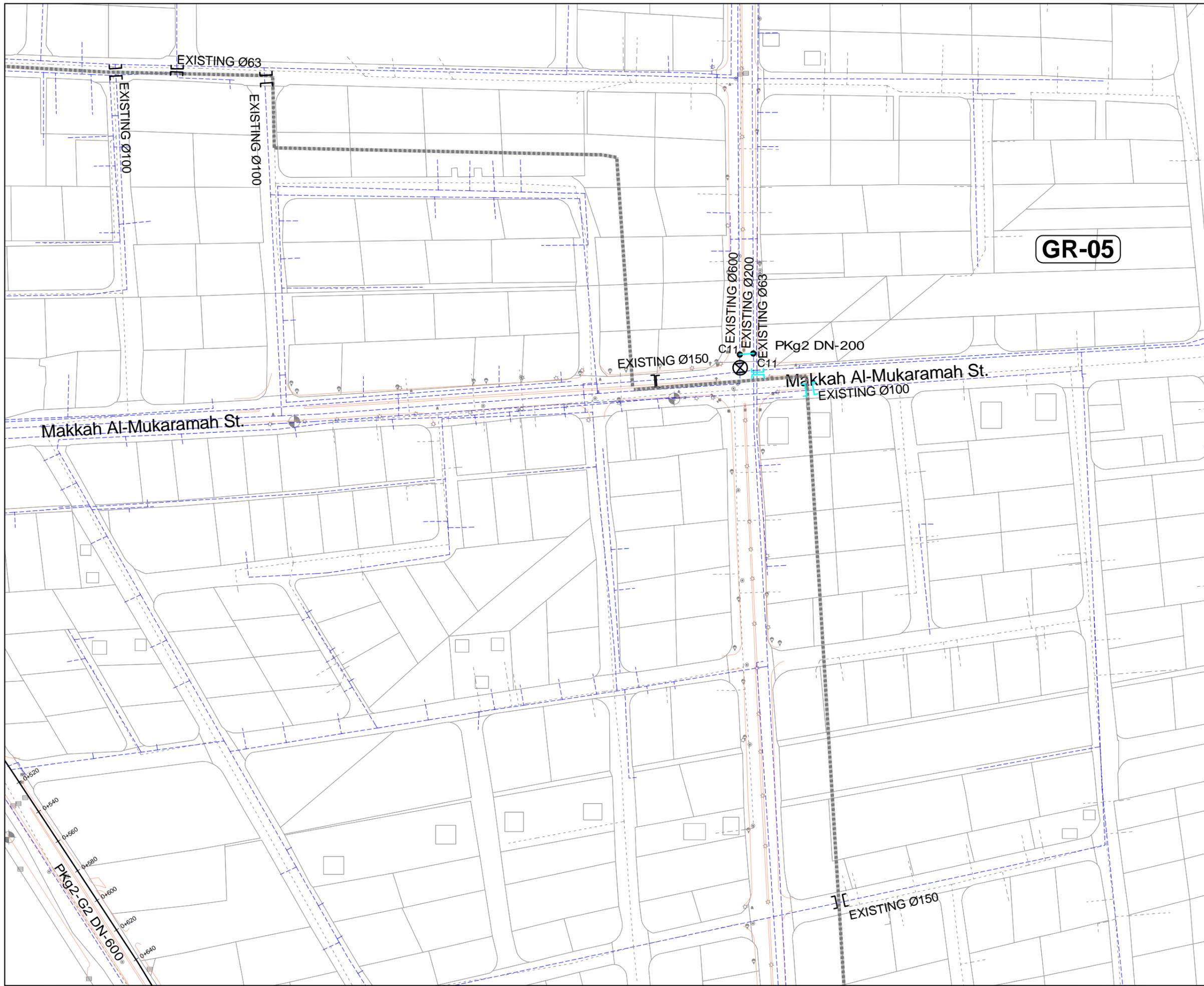
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(47 of 55)

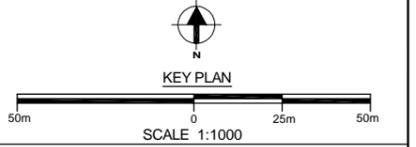
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-47	1/1000	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
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 - CONNECTION TYPE C1
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 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

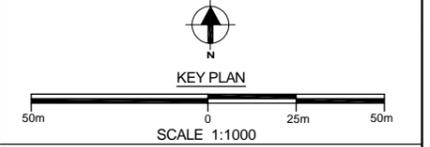
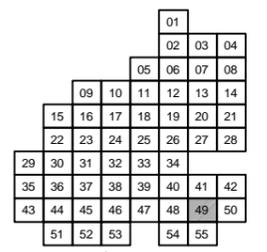
Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(48 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-48	1/1000	A1



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



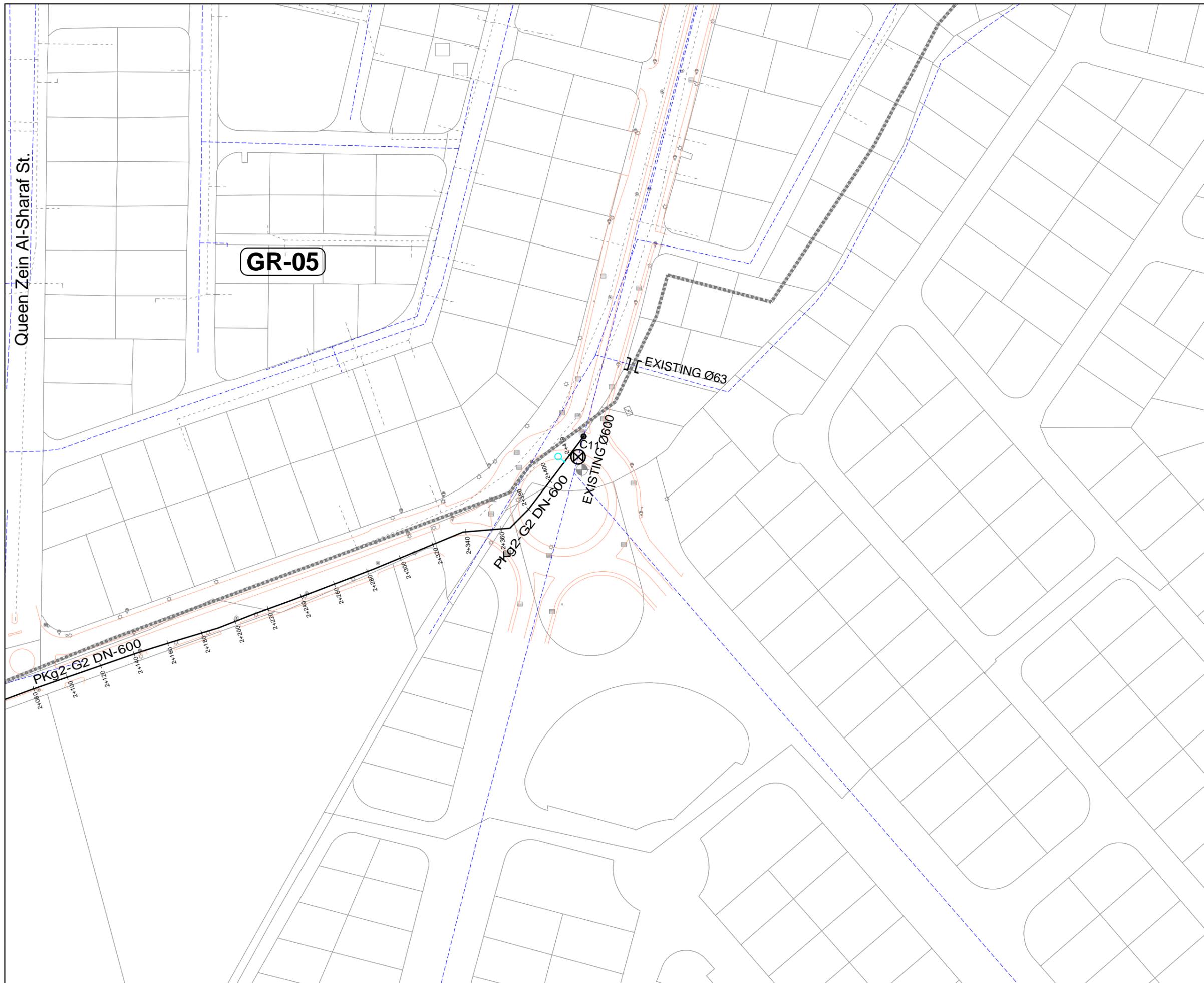
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(49 of 55)

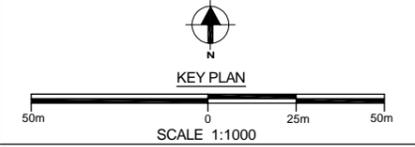
Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-49	1/1000	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

			01		
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		09	10	11	12
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	29	30	31	32	33
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	43	44	45	46	47
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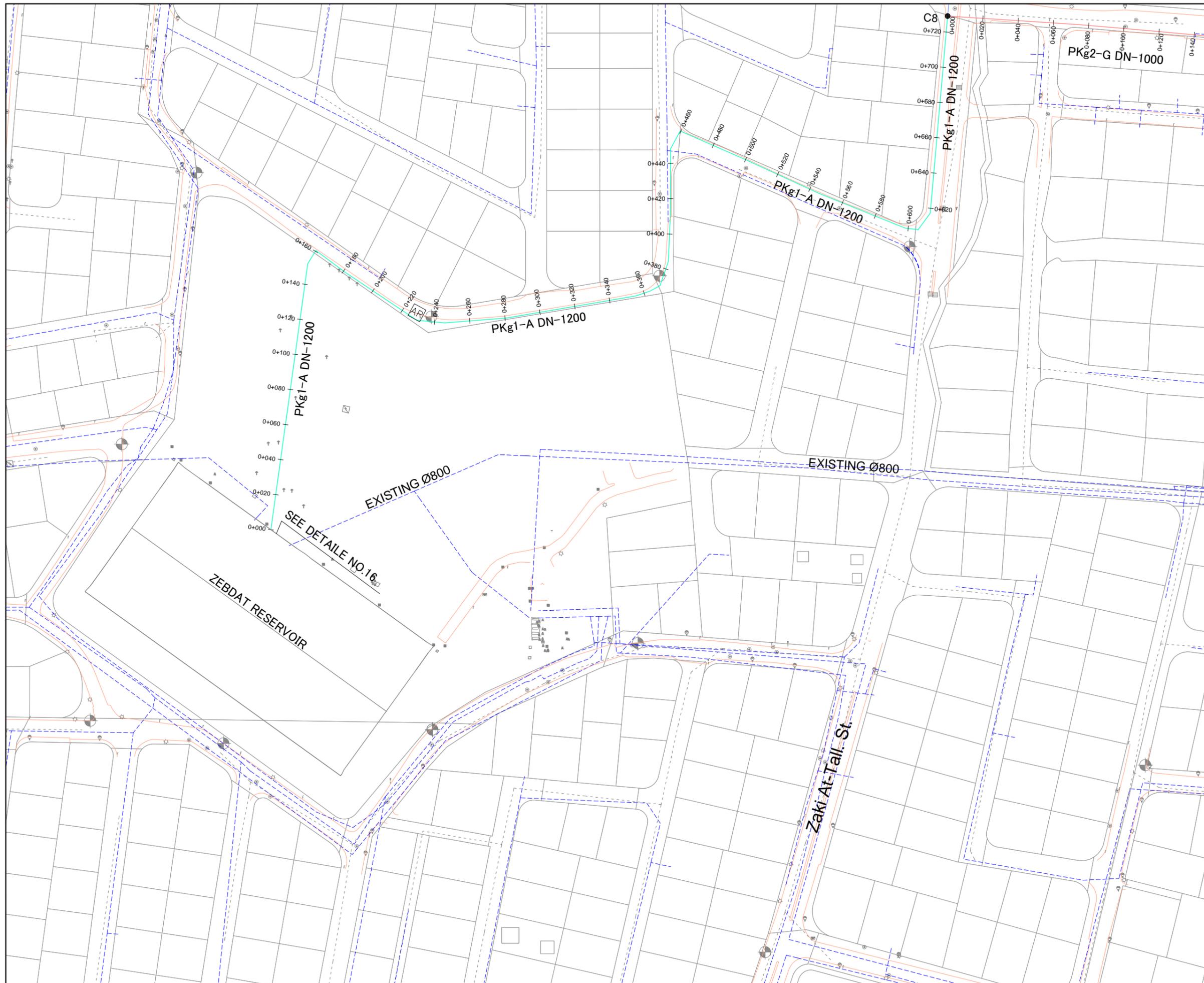
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(50 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-50	1/1000	



- NOTES:
- 1.All Pipelines Diameters Less Than 150mm are PE.
 - 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 - 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - - - EXISTING SEWER PIPE
 - - - EXISTING WATER PIPE
 - - - - - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

			01		
			02	03	04
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			08		
	09	10	11	12	13
15	16	17	18	19	20
22	23	24	25	26	27
28	29	30	31	32	33
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46	47	48	49	50	
51	52	53	54	55	



KEY PLAN



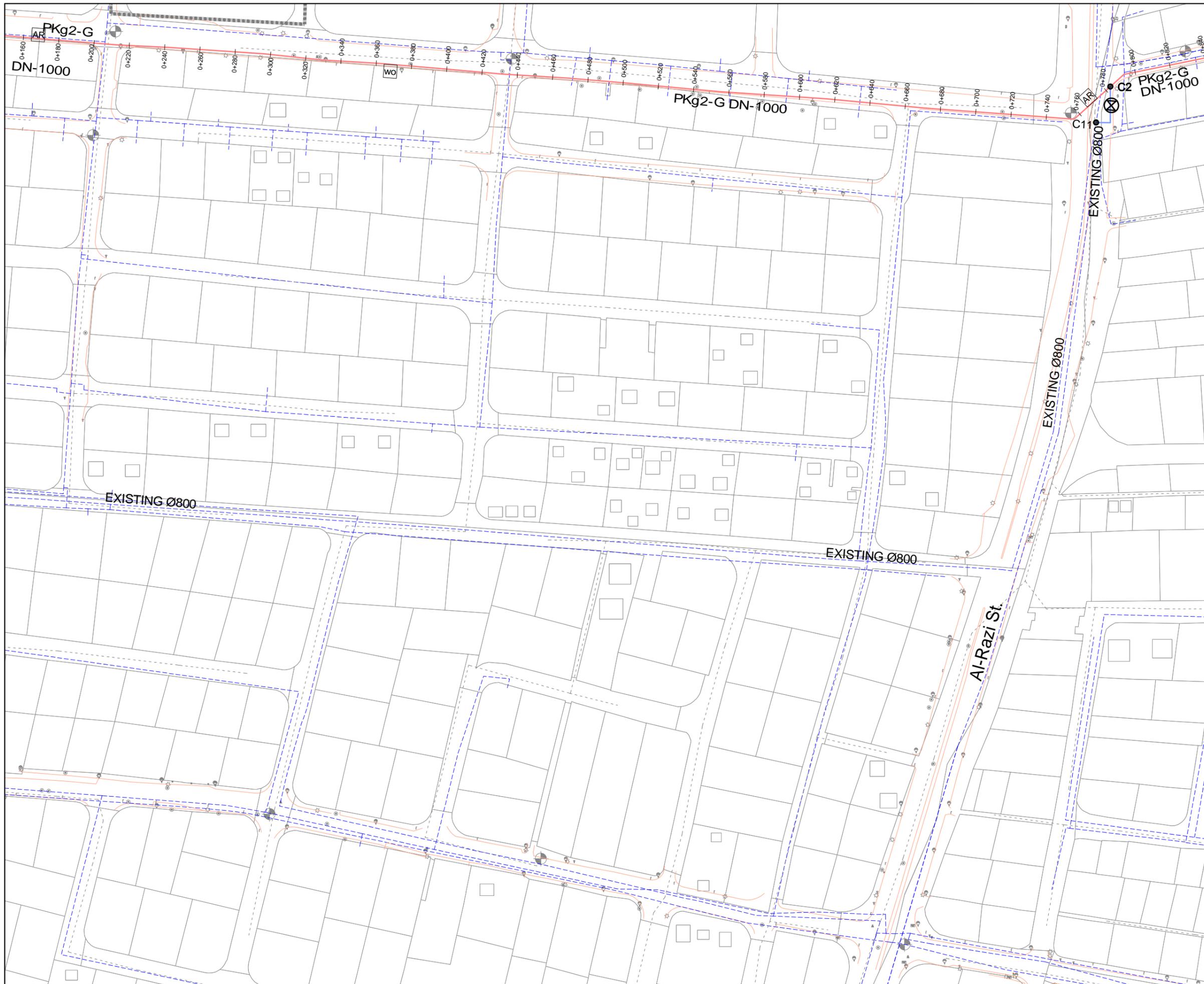
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

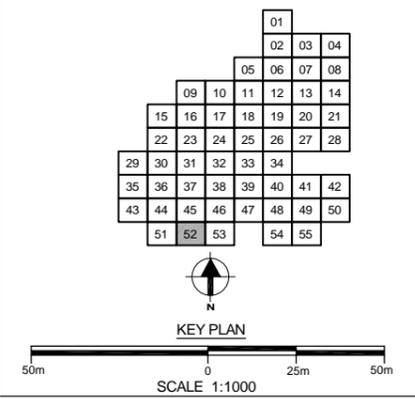
Drawing Title
Water Network Layout
Gravity System - Package-2
Sheet(51 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	
Drawing No.	G-51	1/1000	A1



- NOTES:**
- All Pipelines Diameters Less Than 150mm are PE.
 - All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 - Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



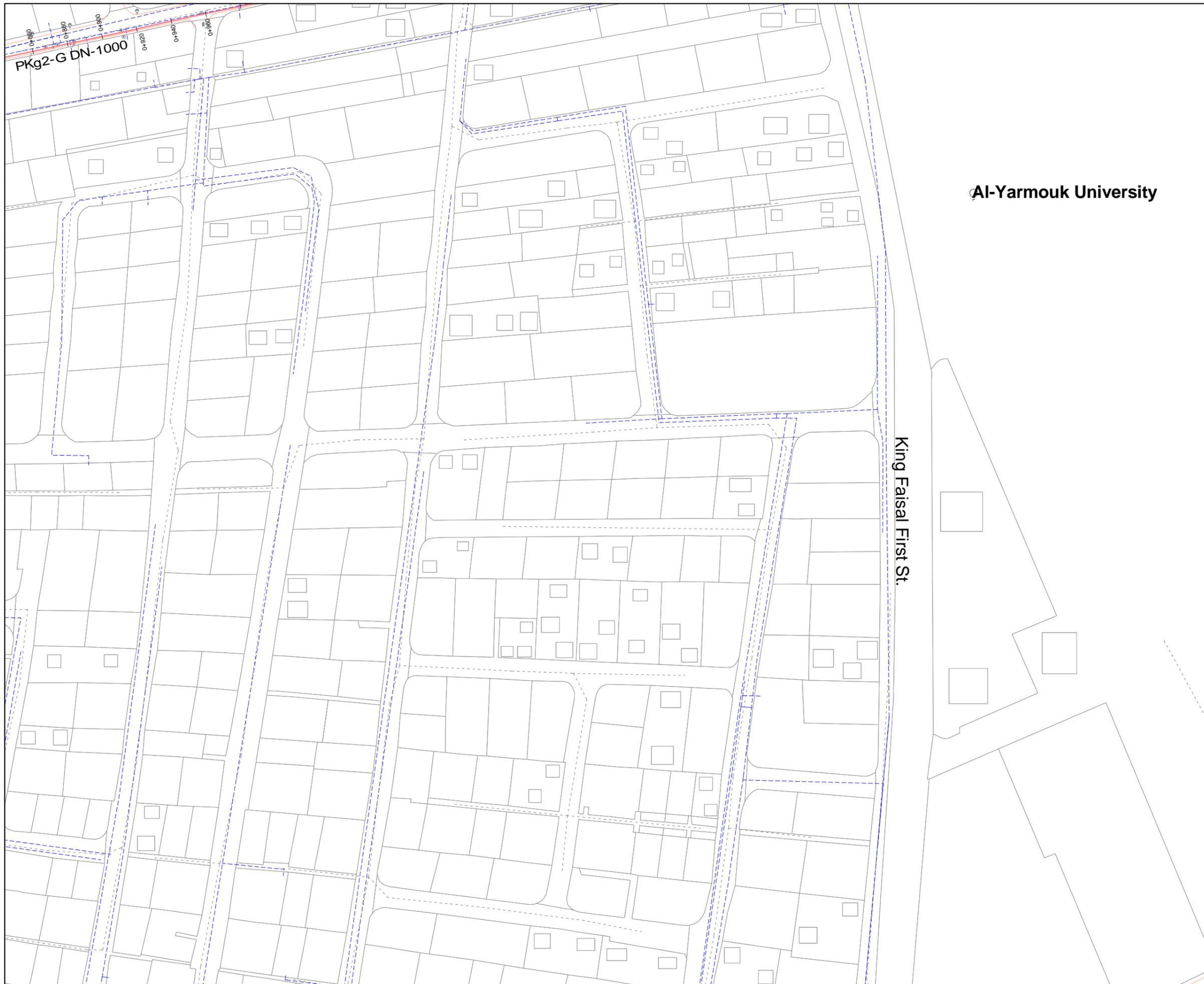
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

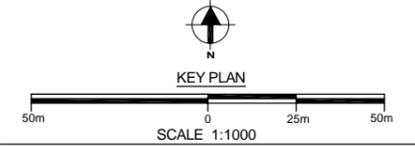
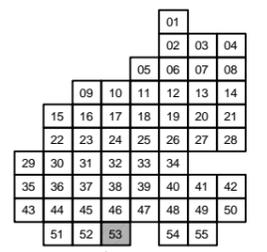
Drawing Title
Water Network Layout Gravity System - Package-2 Sheet(52 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	G-52	1/1000	



NOTES:
 1.All Pipelines Diameters Less Than 150mm are PE.
 2.All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3.Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No.ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



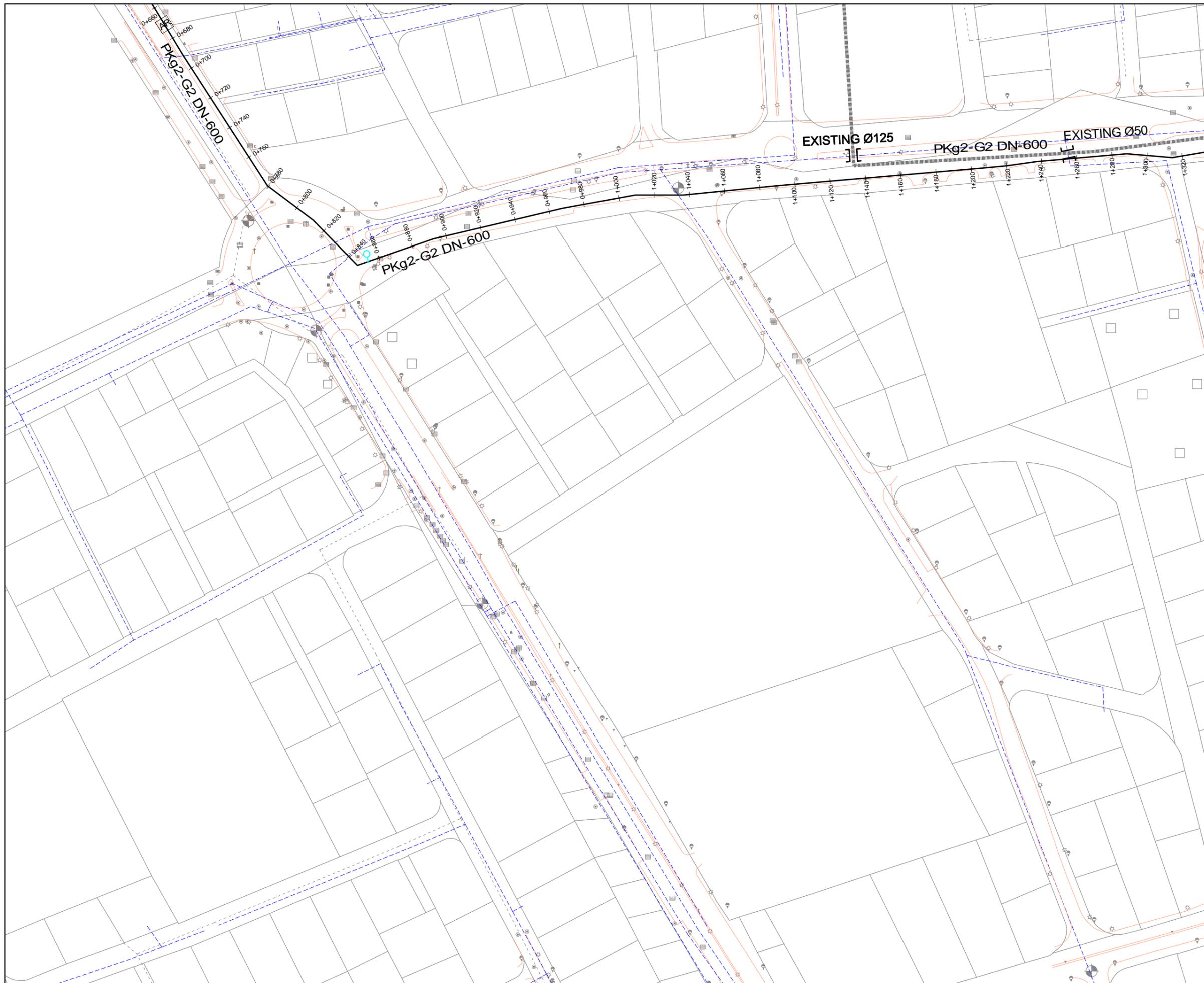
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(53 of 55)

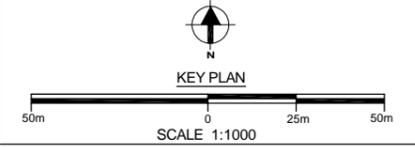
Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
G-53	1/1000
Size	A1



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
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 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK

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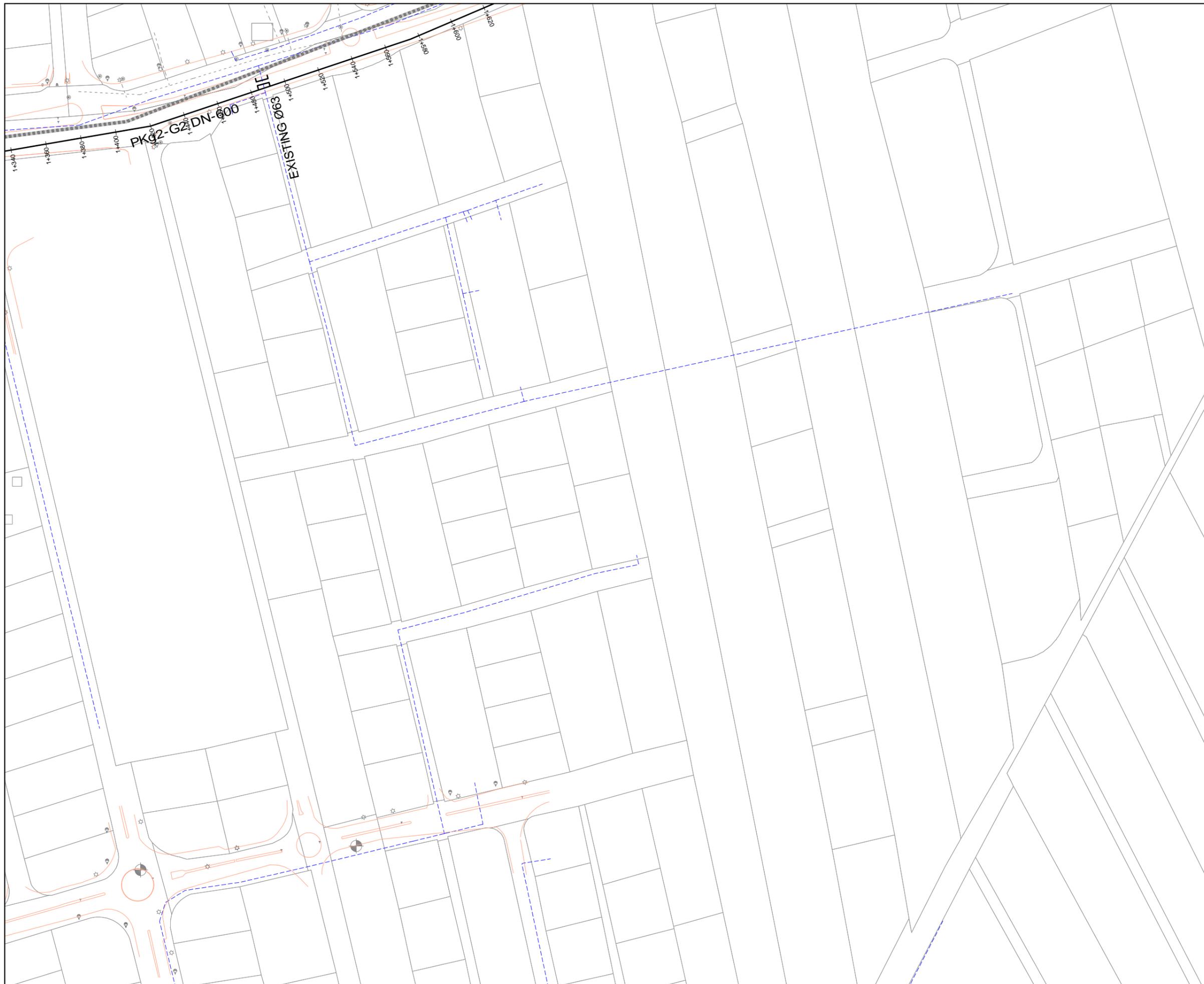
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

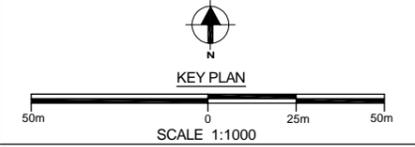
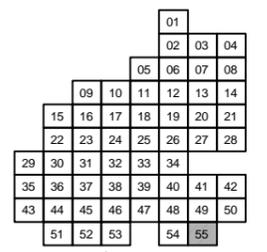
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(54 of 55)

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
G-54	1/1000	A1	



NOTES:
 1. All Pipelines Diameters Less Than 150mm are PE.
 2. All Pipelines Diameters Greater and Equal to 150mm are Ductile Iron DI.
 3. Arrangement of the Connection to Existing Pipelines Shall be Verified by the Contractor.

- LEGEND:**
- PROPOSED DN-1200mm
 - PROPOSED DN-1000mm
 - PROPOSED DN-800mm
 - PROPOSED DN-600mm
 - PROPOSED DN-400mm
 - PROPOSED DN-300mm
 - PROPOSED DN-250mm
 - PROPOSED DN-200mm
 - PROPOSED DN-150mm
 - PROPOSED OD-125mm
 - EXISTING SEWER PIPE
 - EXISTING WATER PIPE
 - DMA BOUNDARY
 - LINE ASPHALT
 - FLOW METER
 - FLOW CONTROL VALVE
 - PRESSURE REDUCING VALVE
 - CONNECTION TYPE C1
 *CONNECTION TYPE is shown in Drawing No. ST-01.02
 - NORMALLY CLOSED VALVE
 - DISCONNECTION
 - AIR VALVE CHAMBER
 - WASHOUT CHAMBER
 - FIRE HYDRANT
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL POLE
 - EXISTING TELEPHONE POLE
 - EXISTING TELEPHONE MANHOLE
 - EXISTING WATER VALVE
 - STORM WATER MANHOLE
 - ELECTRICAL MANHOLE
 - EXISTING LIGHT POLE
 - BENCHMARK



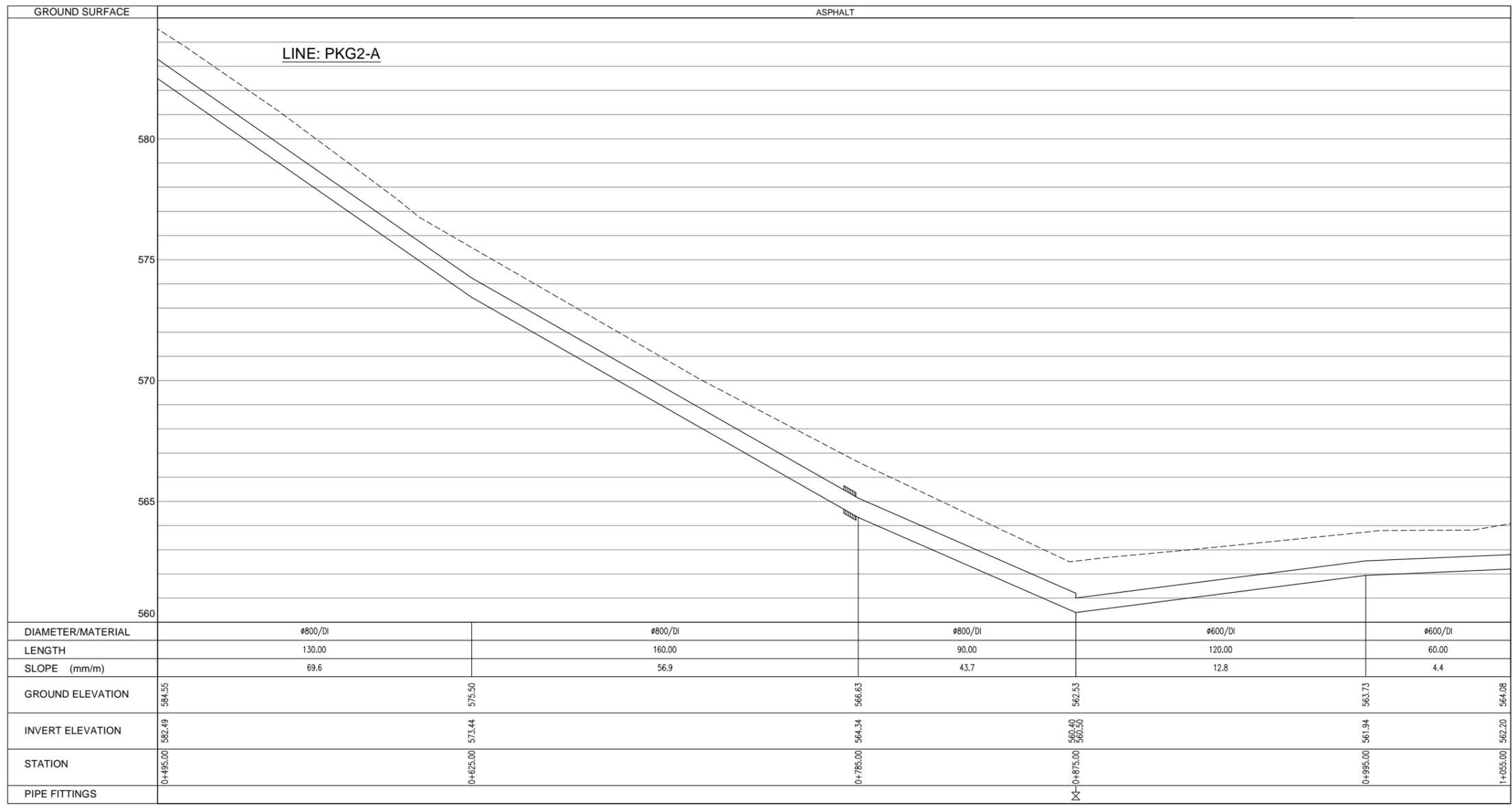
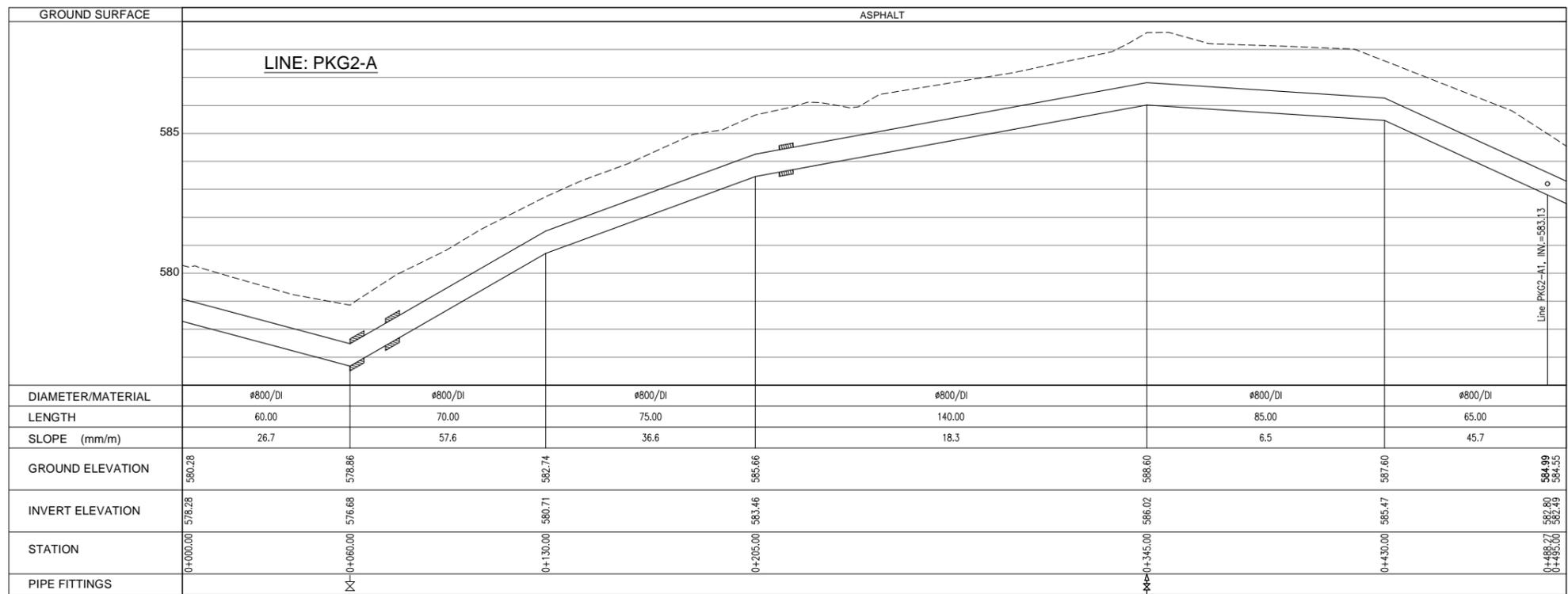
REVISIONS		
No.	DESCRIPTION	BY DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

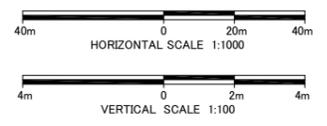
Drawing Title
Water Network Layout
Gravity System - Package-2
 Sheet(55 of 55)

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
G-55	1/1000	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads

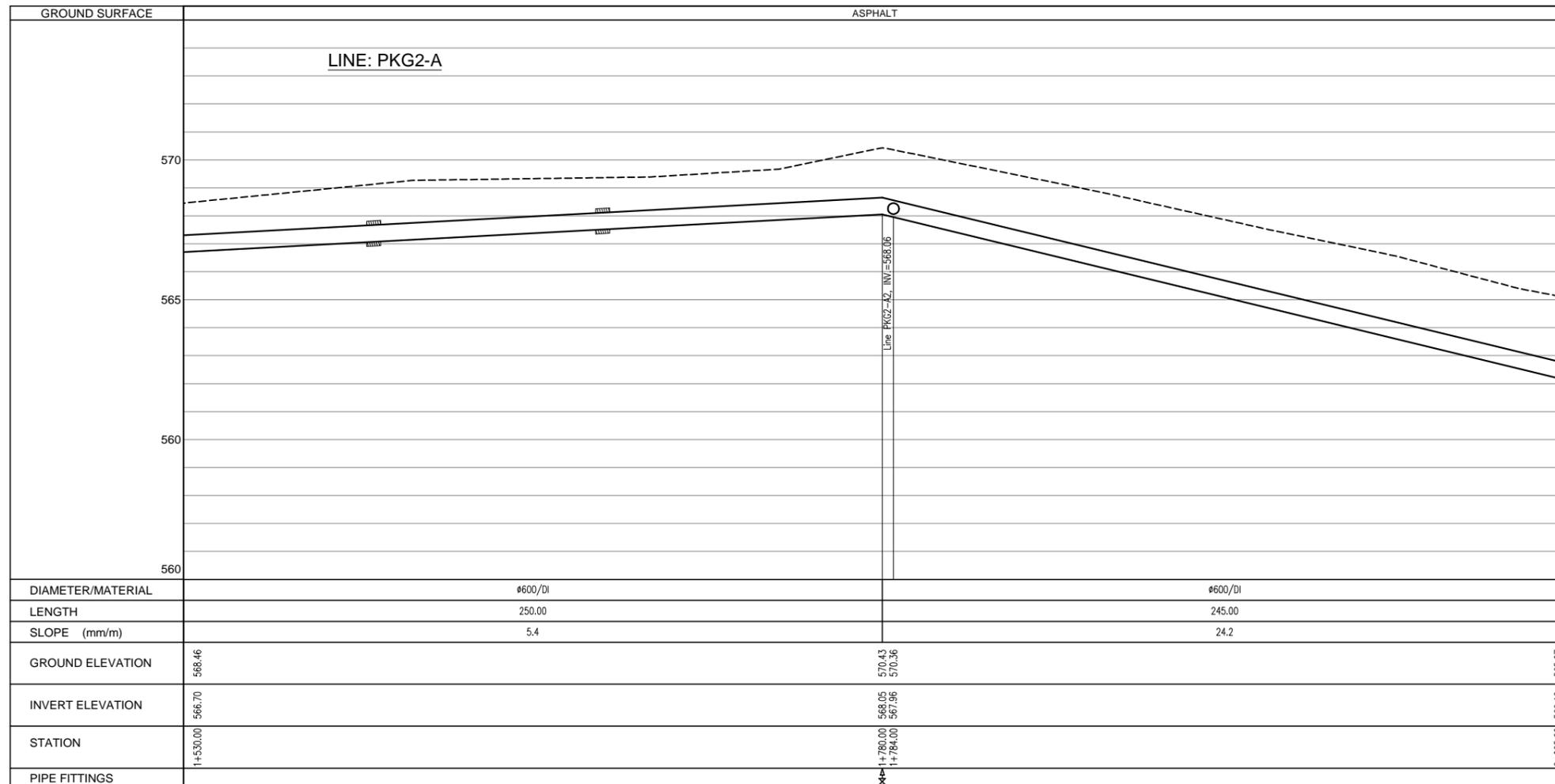
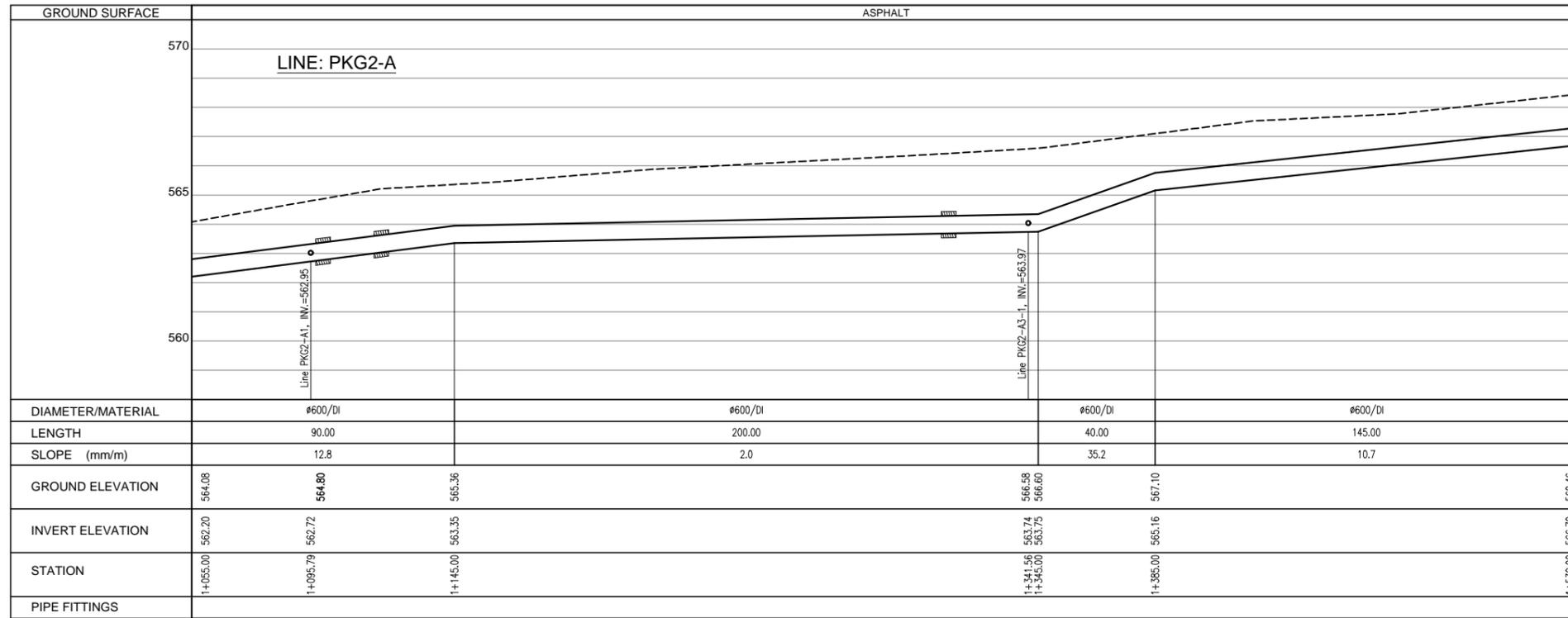


REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

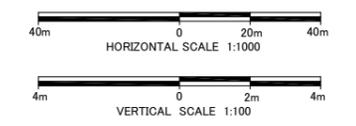
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title			
GRAVITY SYSTEM			
Profile of Line PKG2-A from Sta.0+00 to 1+055.00			
Design By		Reviewed By	
Checked By		Date	Mar. 2017
Drawing No.	PRG-01	Scale	H:1/1000 V:1/100
		Size	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



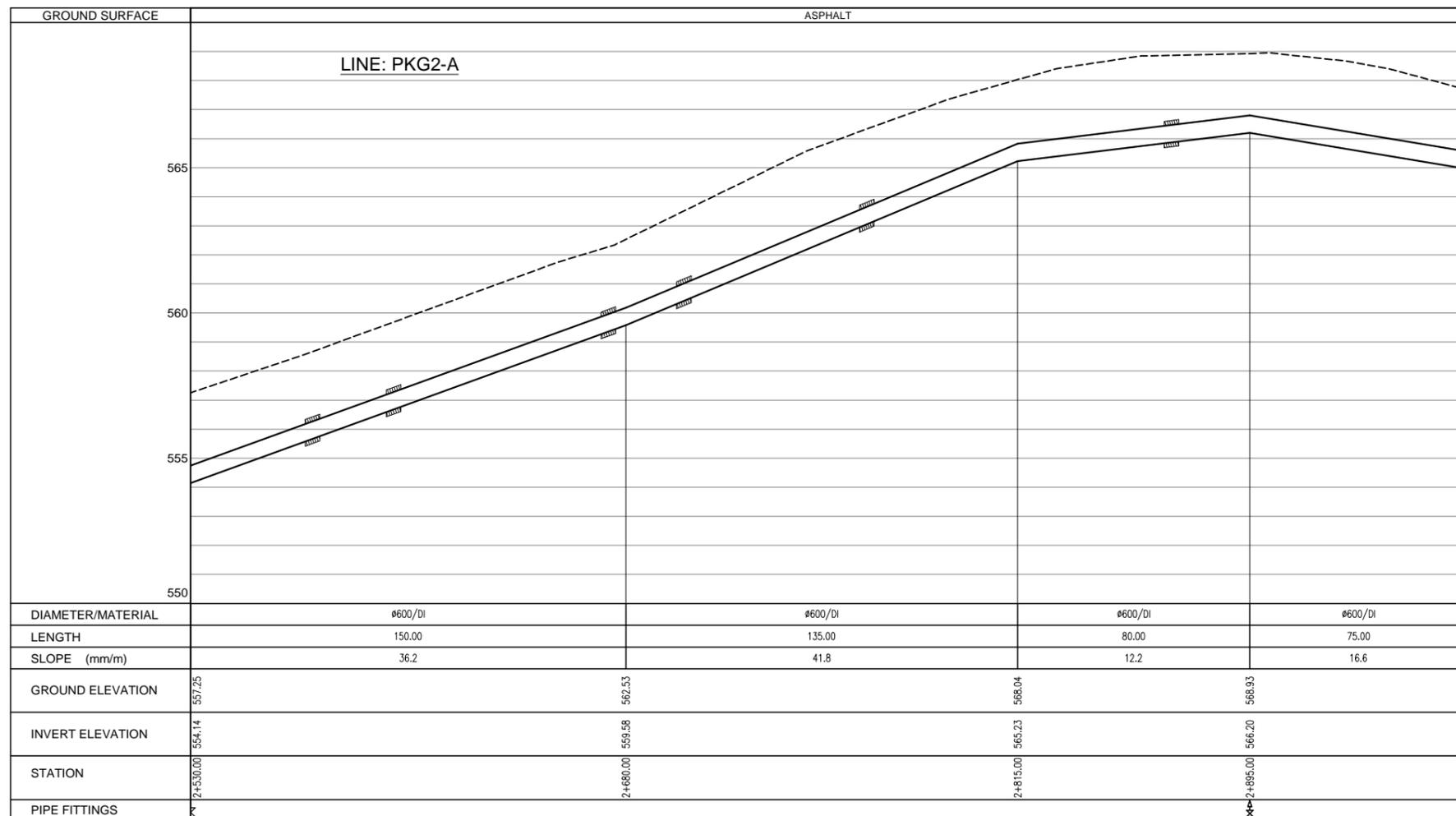
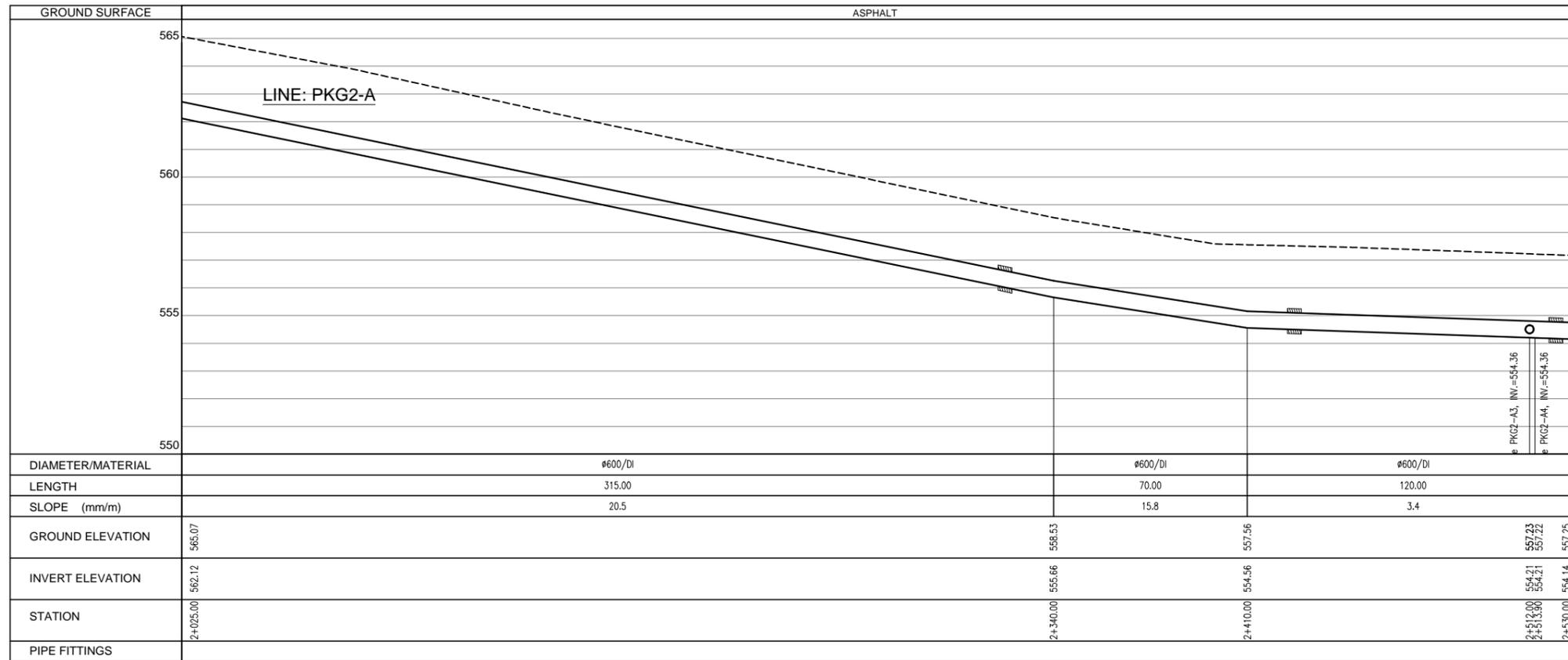
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

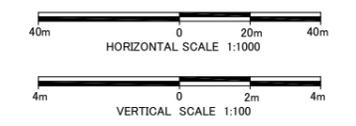
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A from Sta.1+055.00 to 2+025.00

Design By	Reviewed By	Date	Mar. 2017
Checked By	Scale	H:1/1000	Size
Drawing No.	PRG-02	V:1/100	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



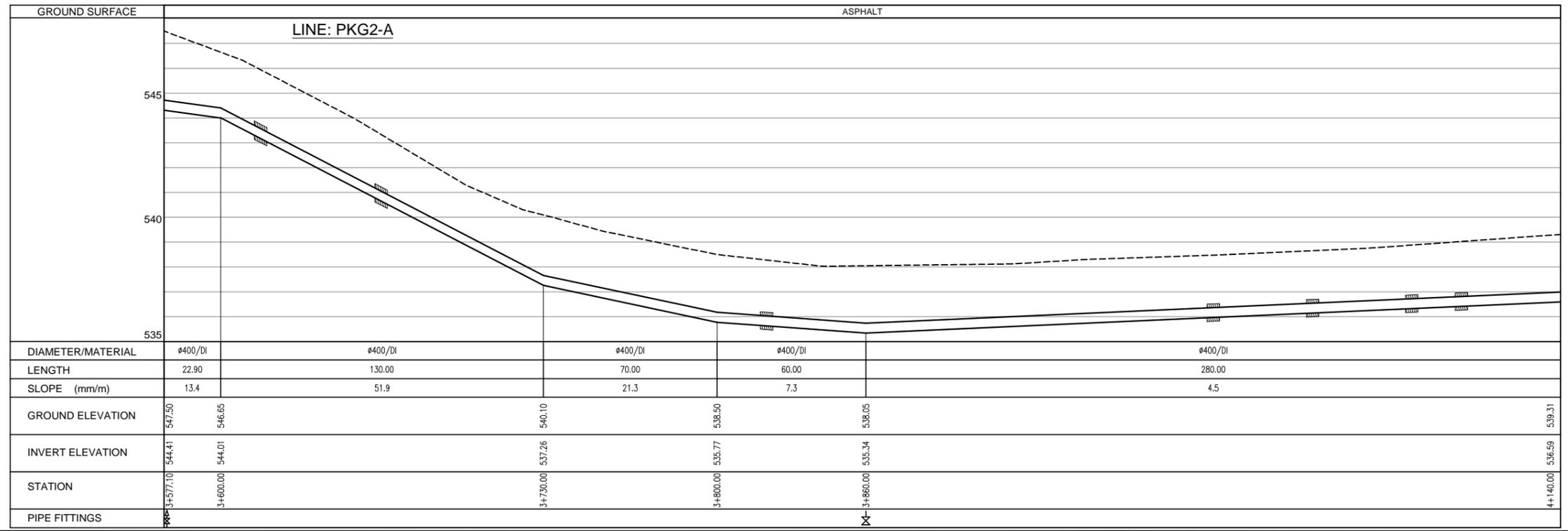
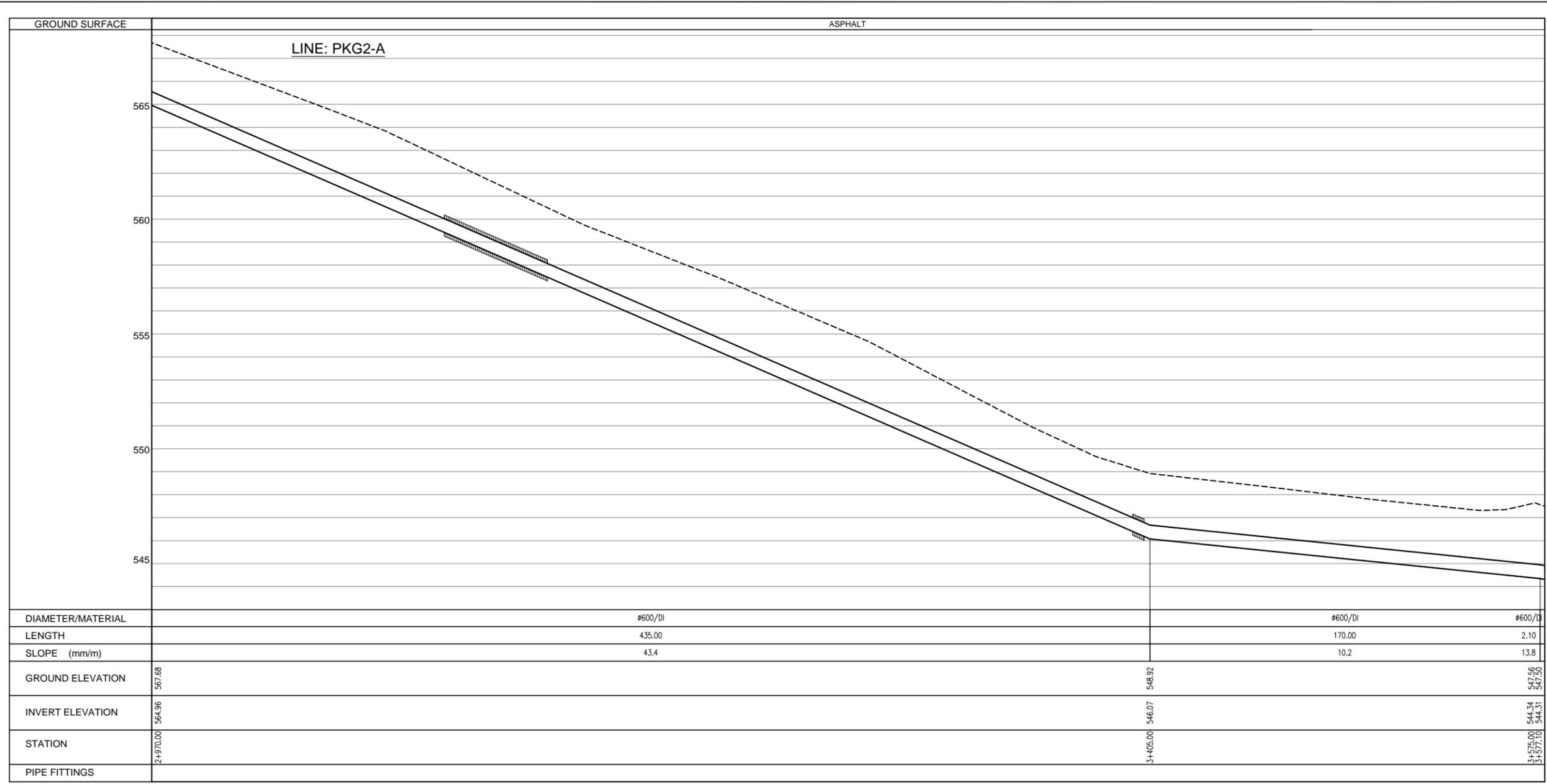
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

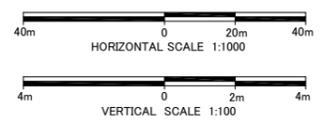
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A from Sta.2+025.00 to 2+970.00

Design By	Reviewed By	Date	Mar. 2017
Checked By			
Drawing No.	Scale	H:1/1000	Size
PRG-03		V:1/100	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



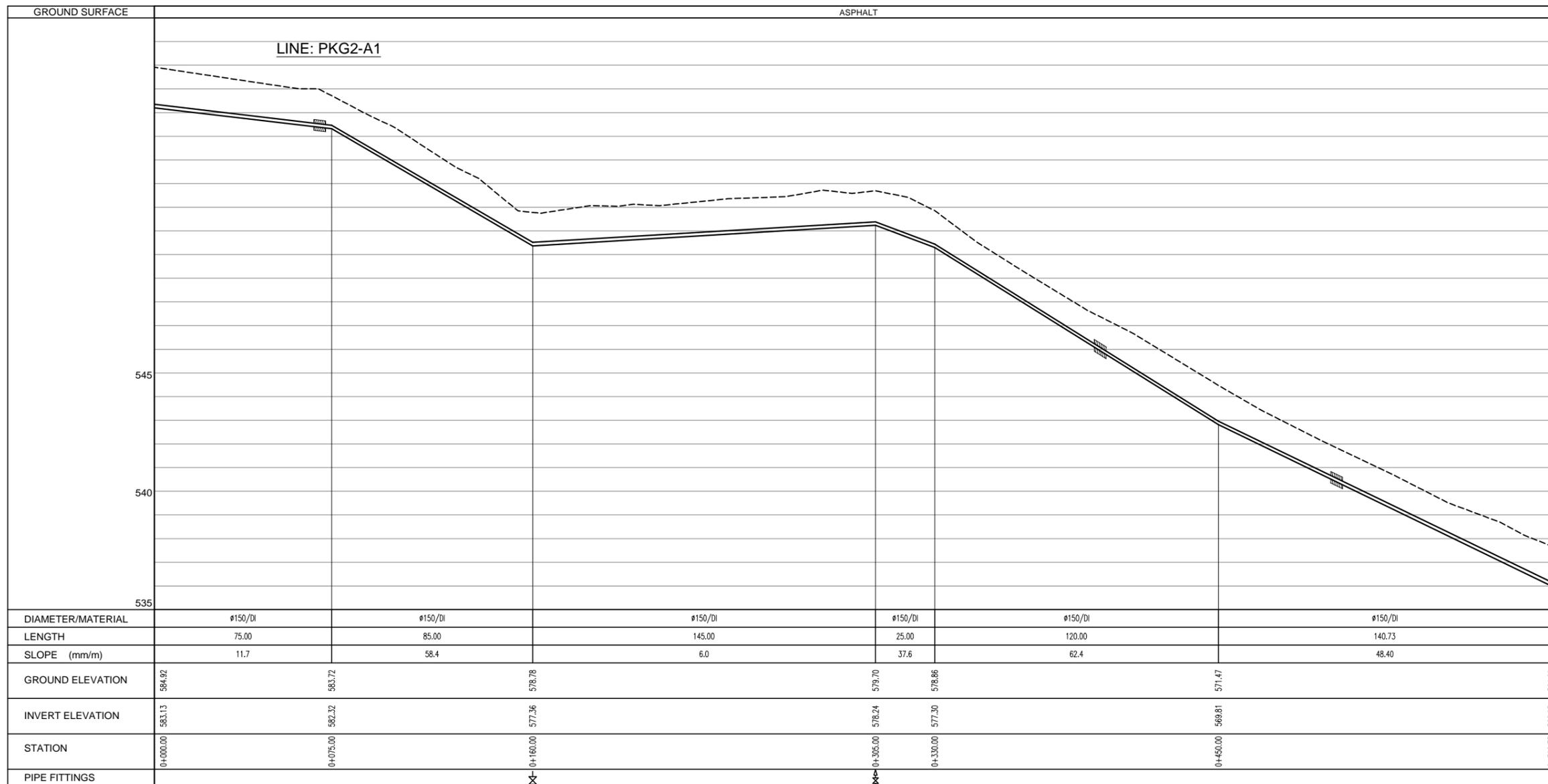
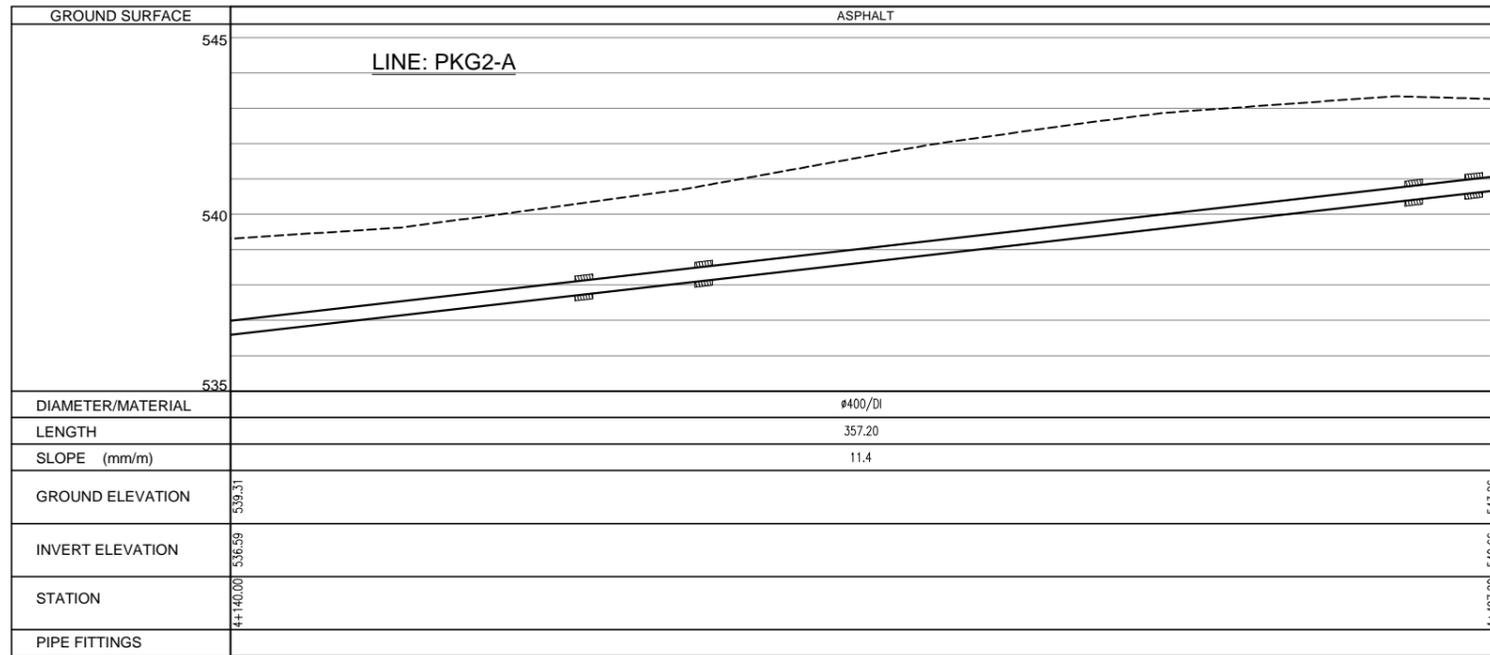
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A from Sta. 2+970.00 to 4+140.00

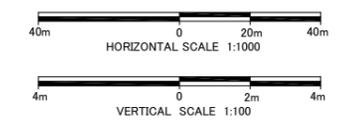
Design By	Reviewed By	Checked By	Date	Mar. 2017
Drawing No.	Scale	H:1/1000	V:1/100	Size
PRG-04				A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



REVISIONS			
No.	DESCRIPTION	BY	DATE

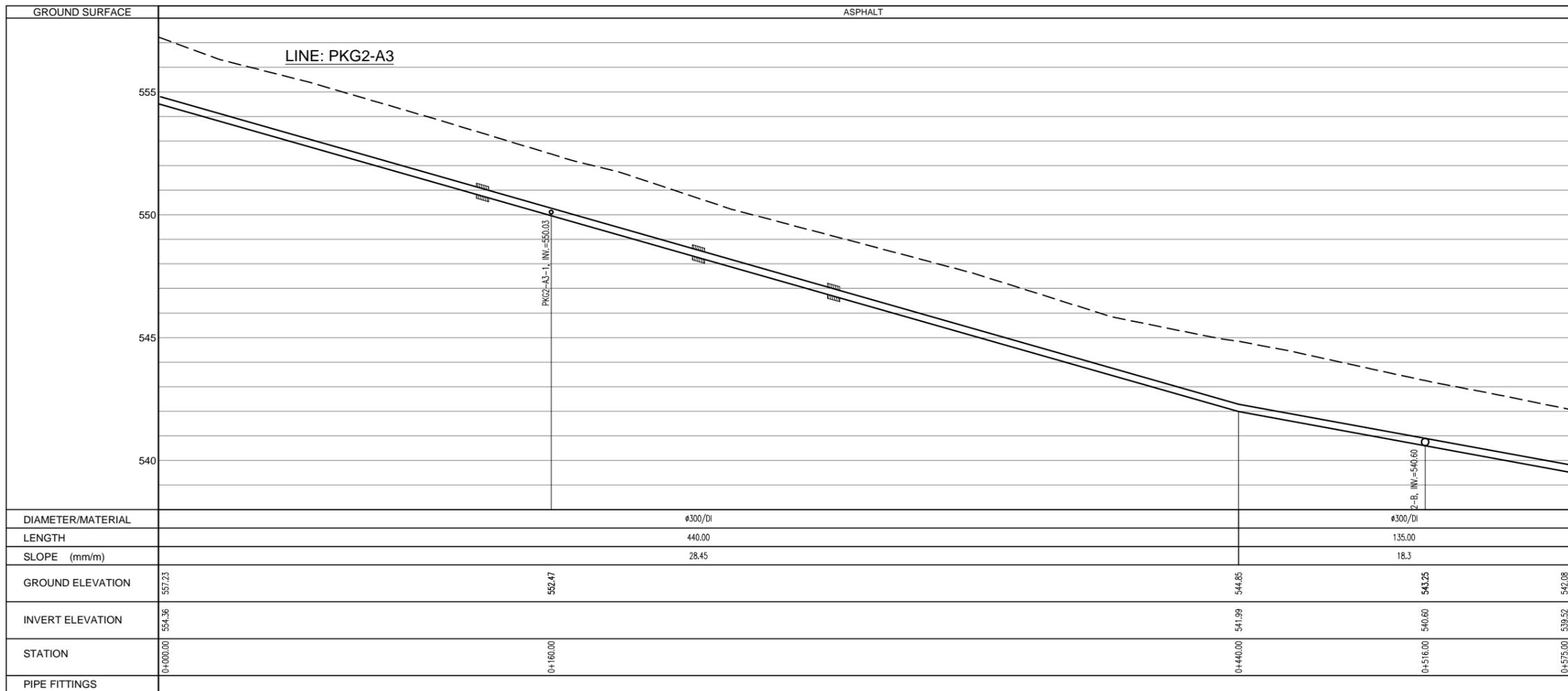
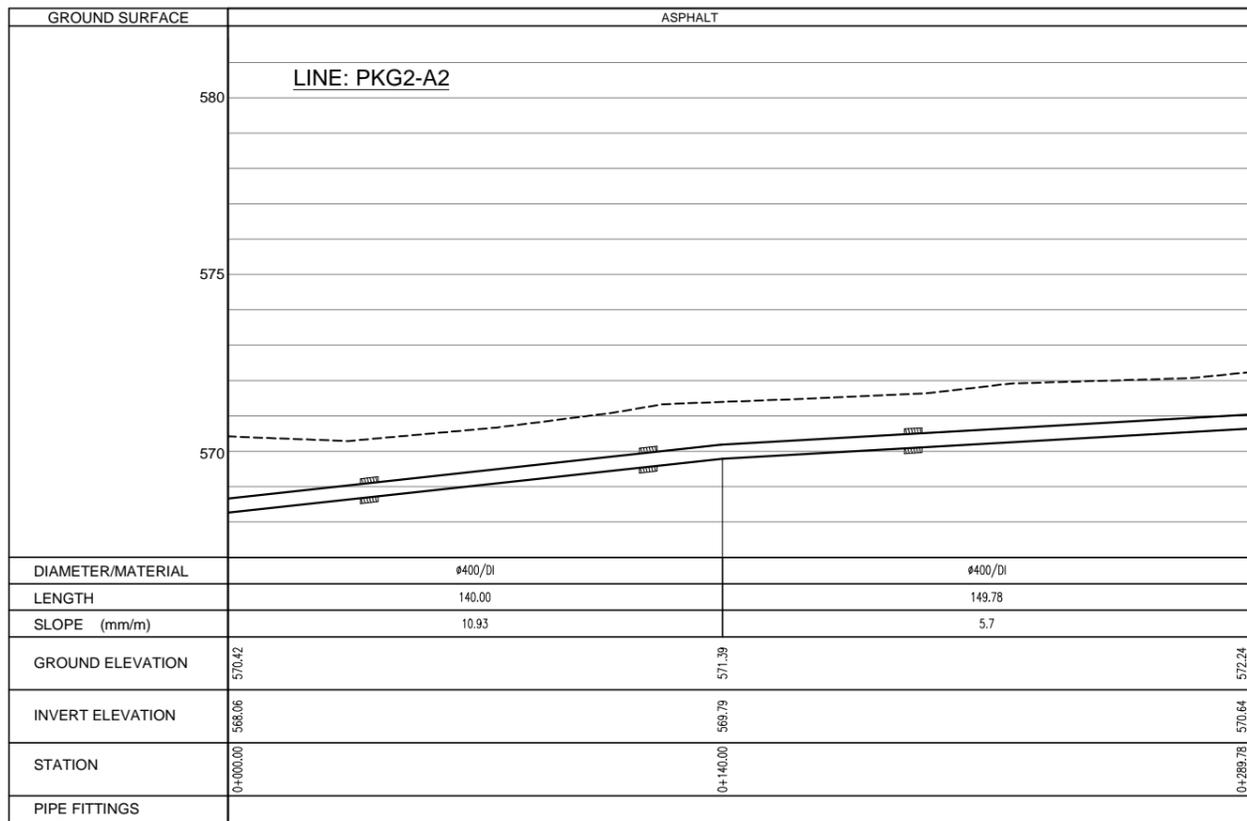
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A from Sta. 4+140.00 to 4+497.20
 Profile of Line PKG2-A-1 from Sta. 0+000 to 0+590.73

Design By	Reviewed By
Checked By	Date
	Mar. 2017

Drawing No.	Scale	H:1/1000	Size
PRG-05		V:1/100	A1

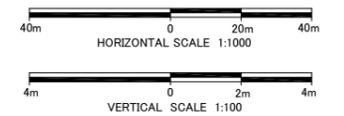


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



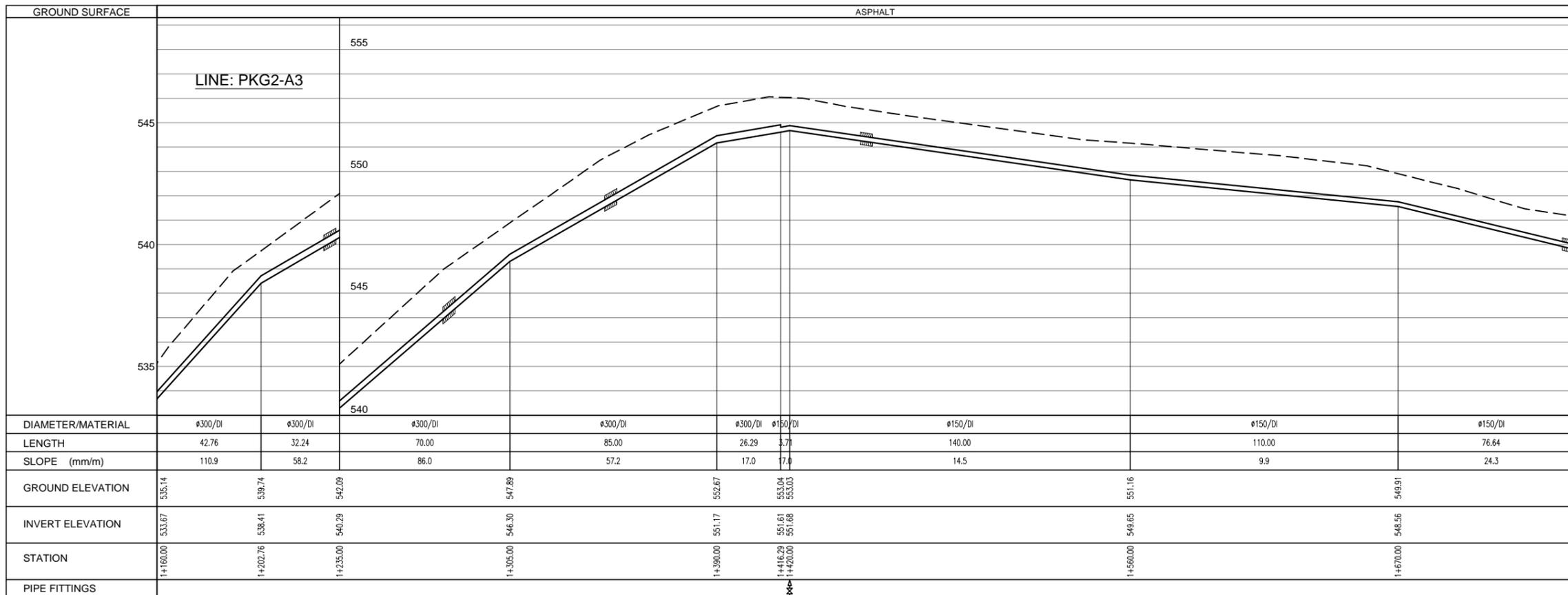
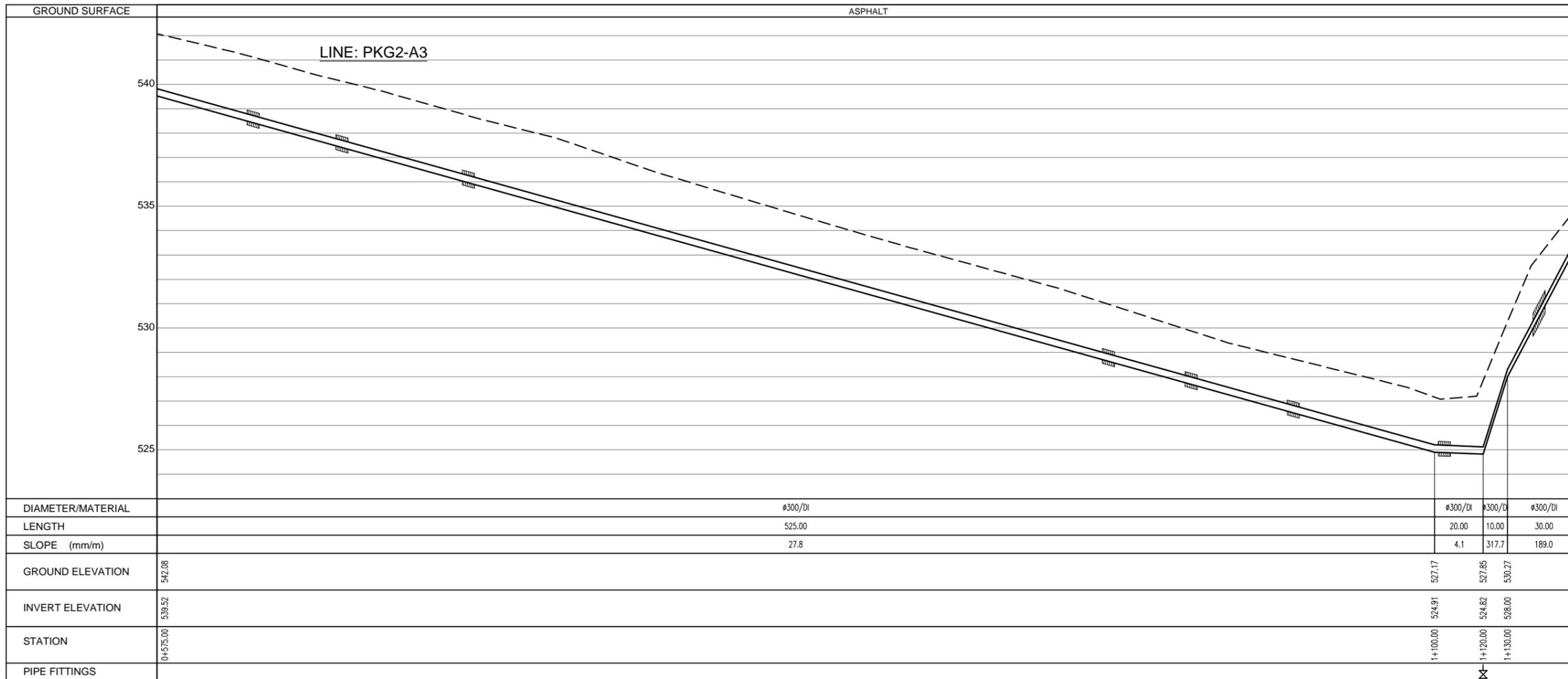
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

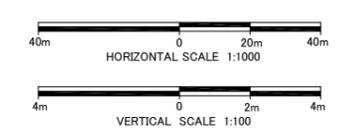
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A-2 from Sta. 0+00 to 0+289.78
 Profile of Line PKG2-A-3 from Sta. 0+00 to 0+575.00

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-06	H:1/1000 V:1/100
Size	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



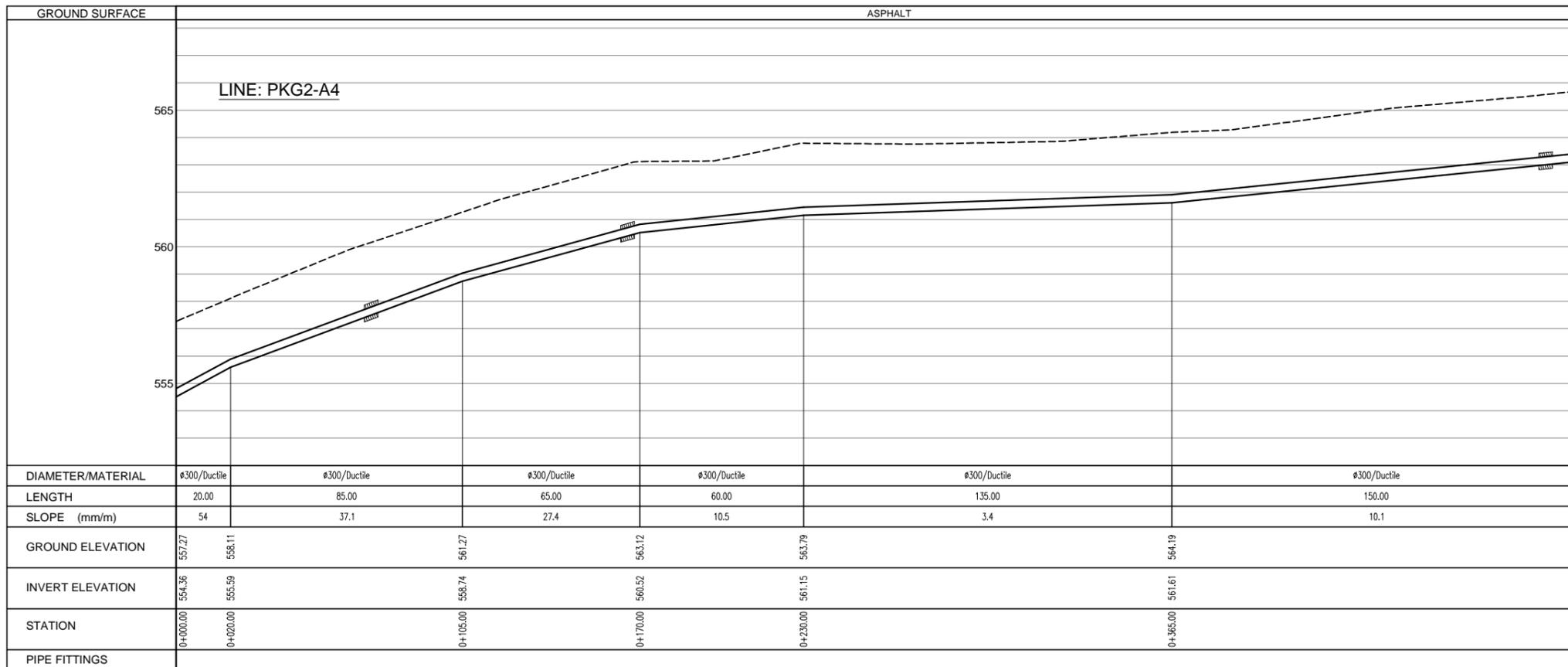
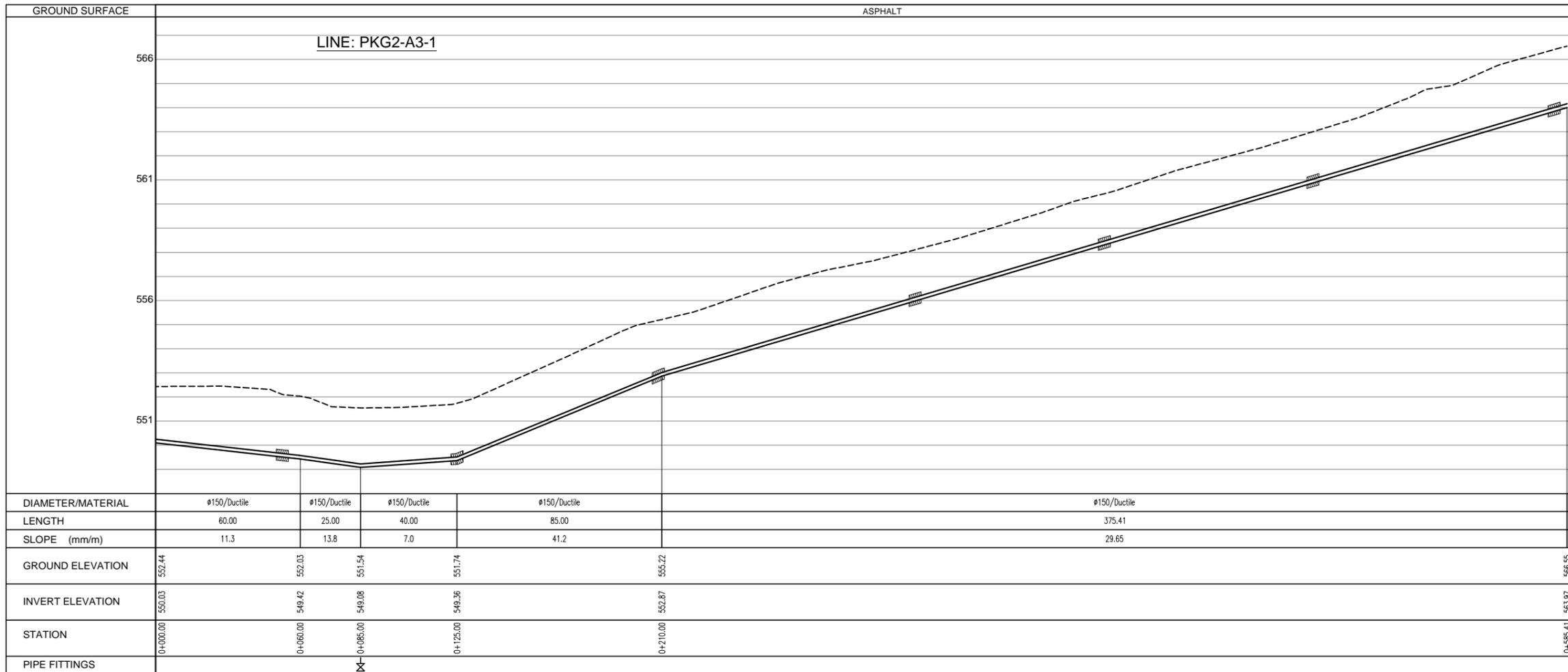
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A-3 from Sta. 0+575.00 to 1+746.64

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-07	H:1/1000 V:1/100
Size	A1

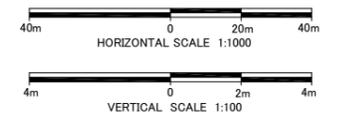


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



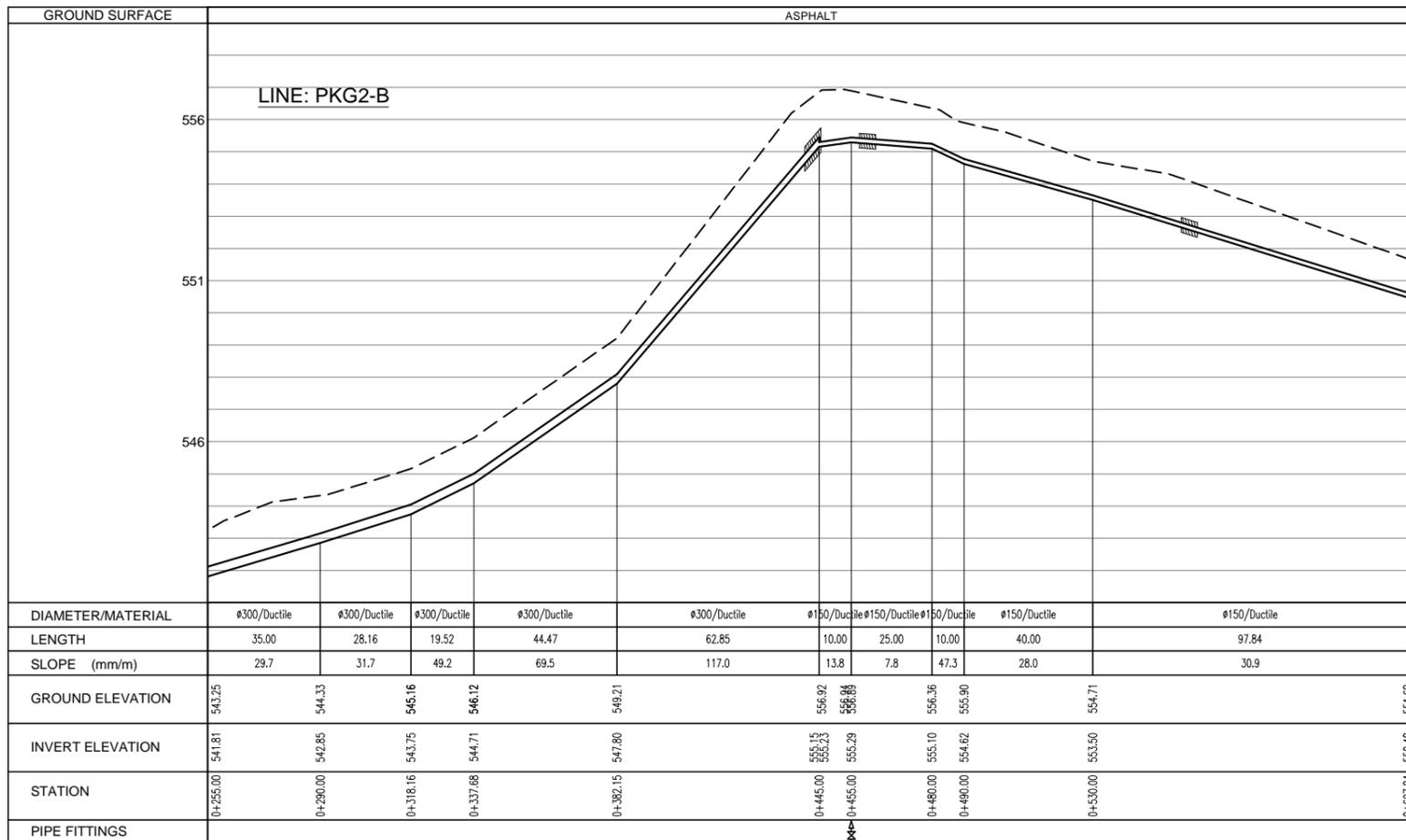
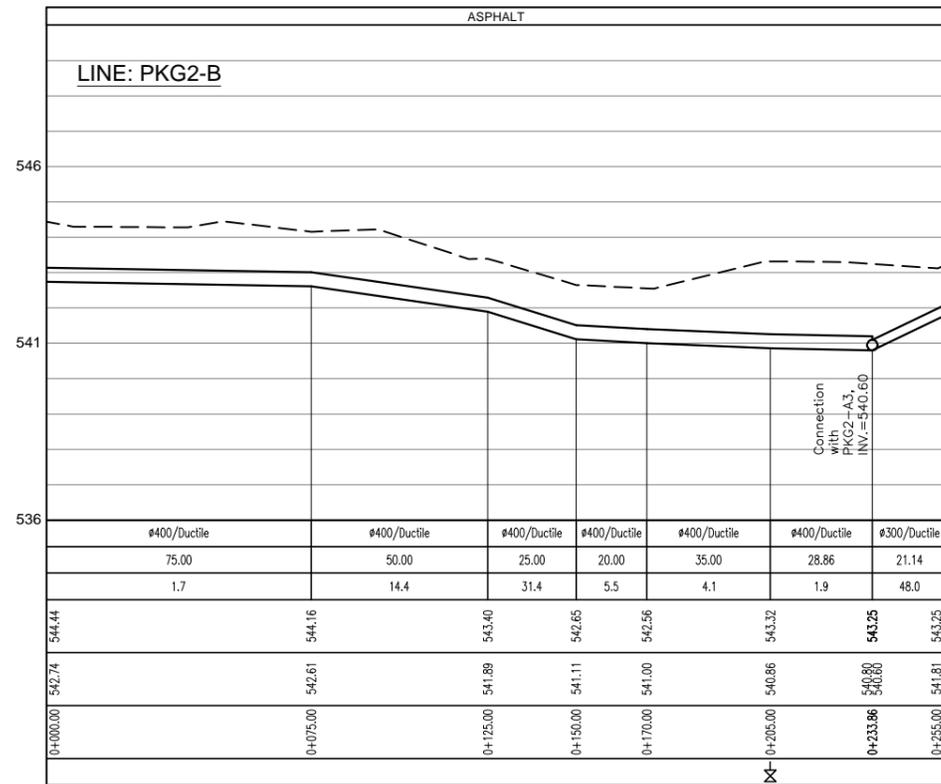
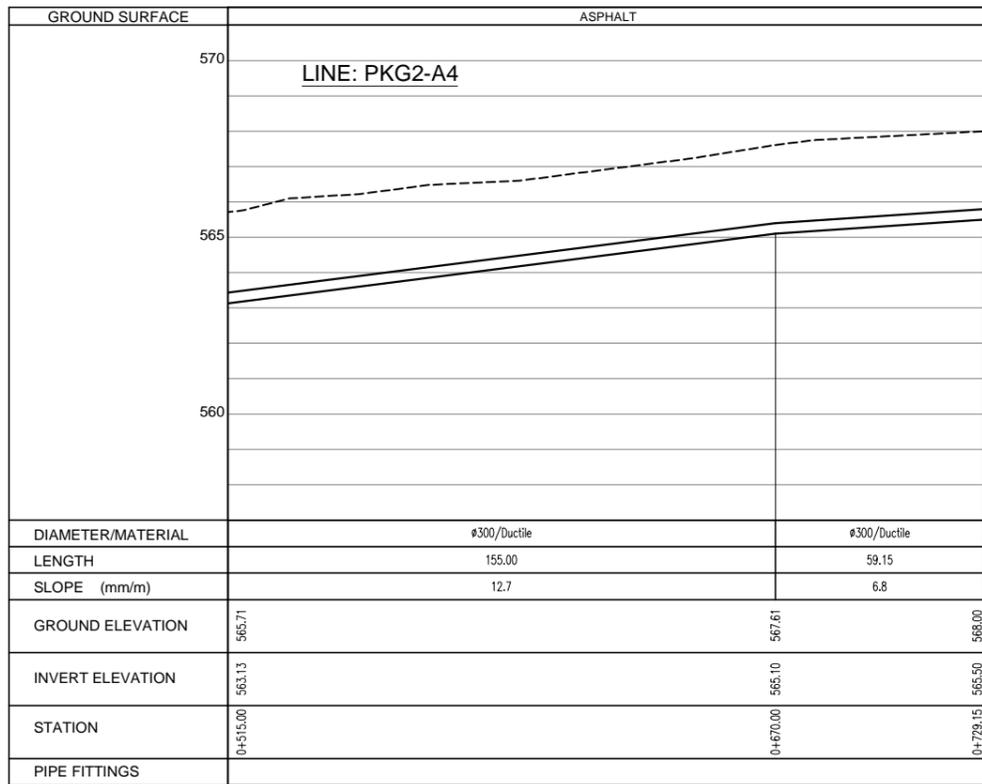
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

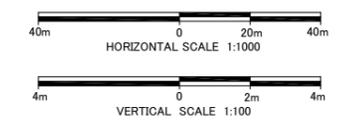
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A-3-1 from Sta. 0+00 to 0+585.41
 Profile of Line PKG2-A-4 from Sta. 0+00 to 0+515.00

Design By	Reviewed By	
Checked By	Date	Mar. 2017
Drawing No. PRG-08	Scale H:1/1000 V:1/100	Size A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



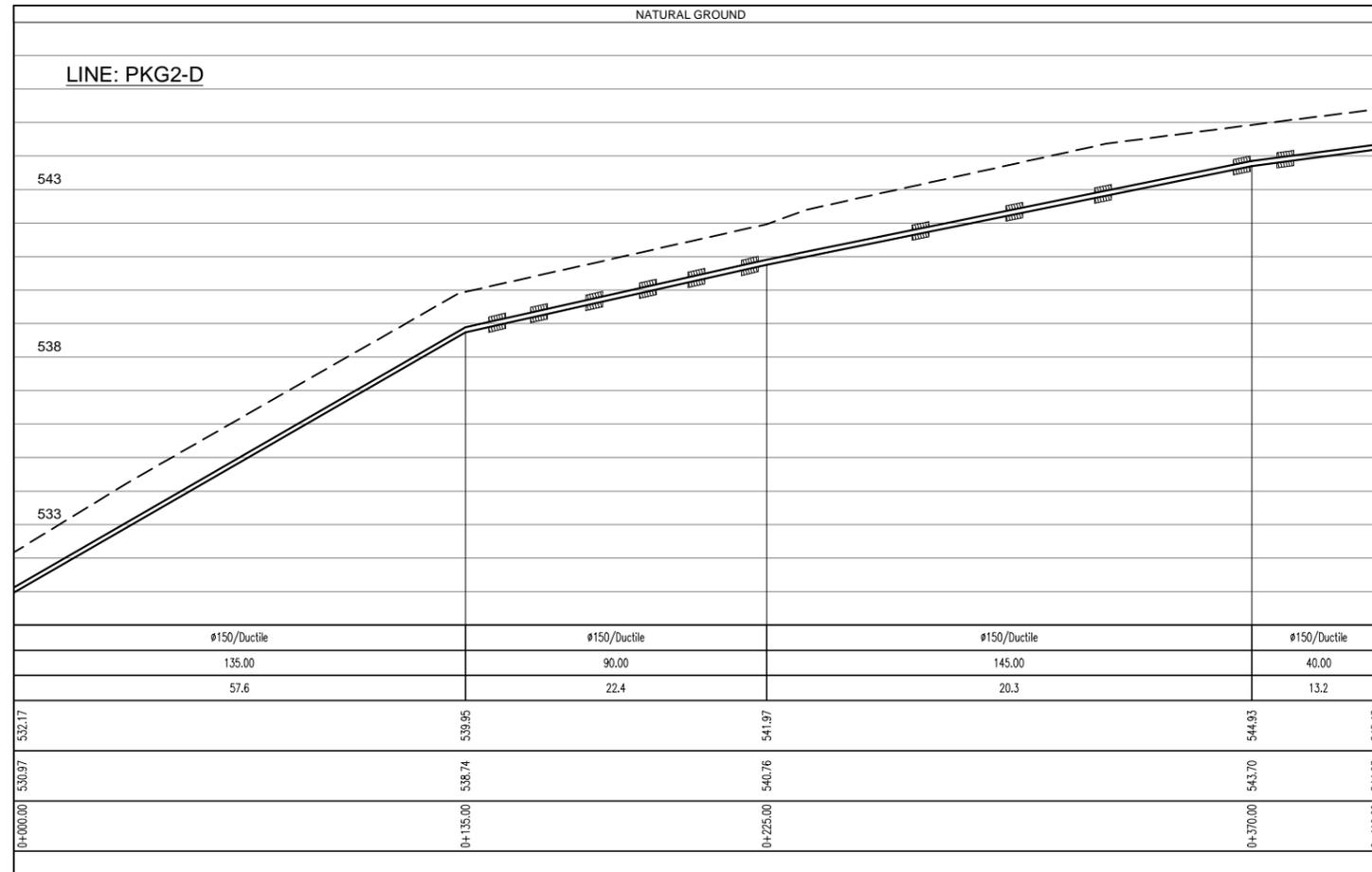
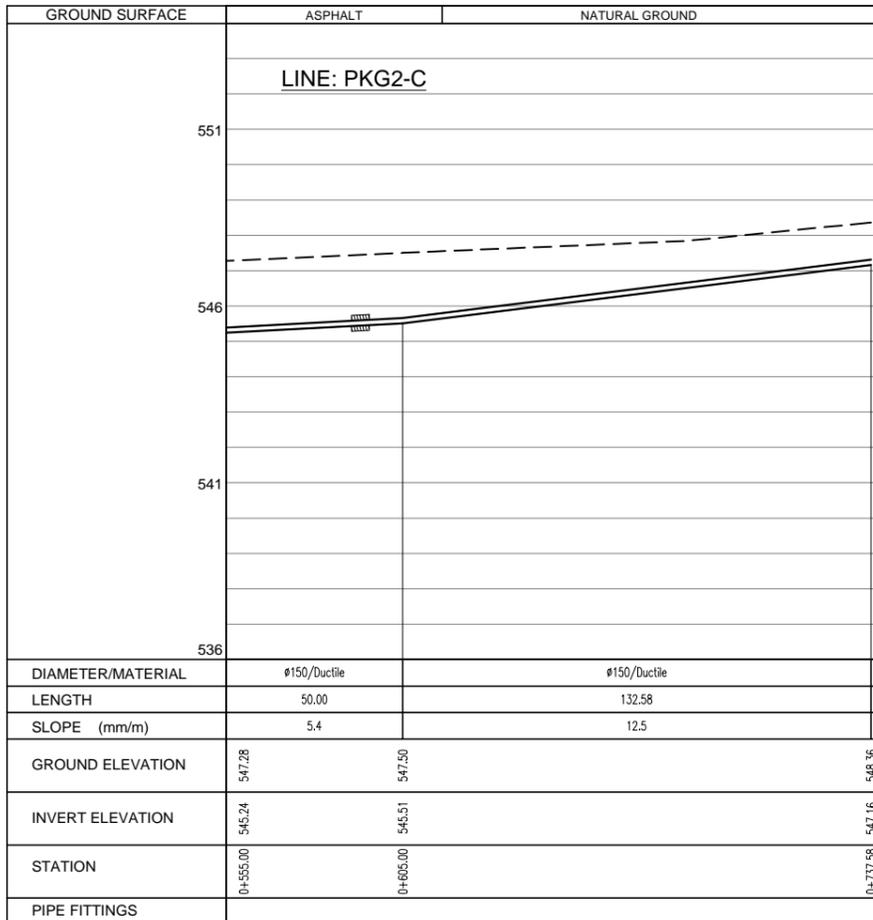
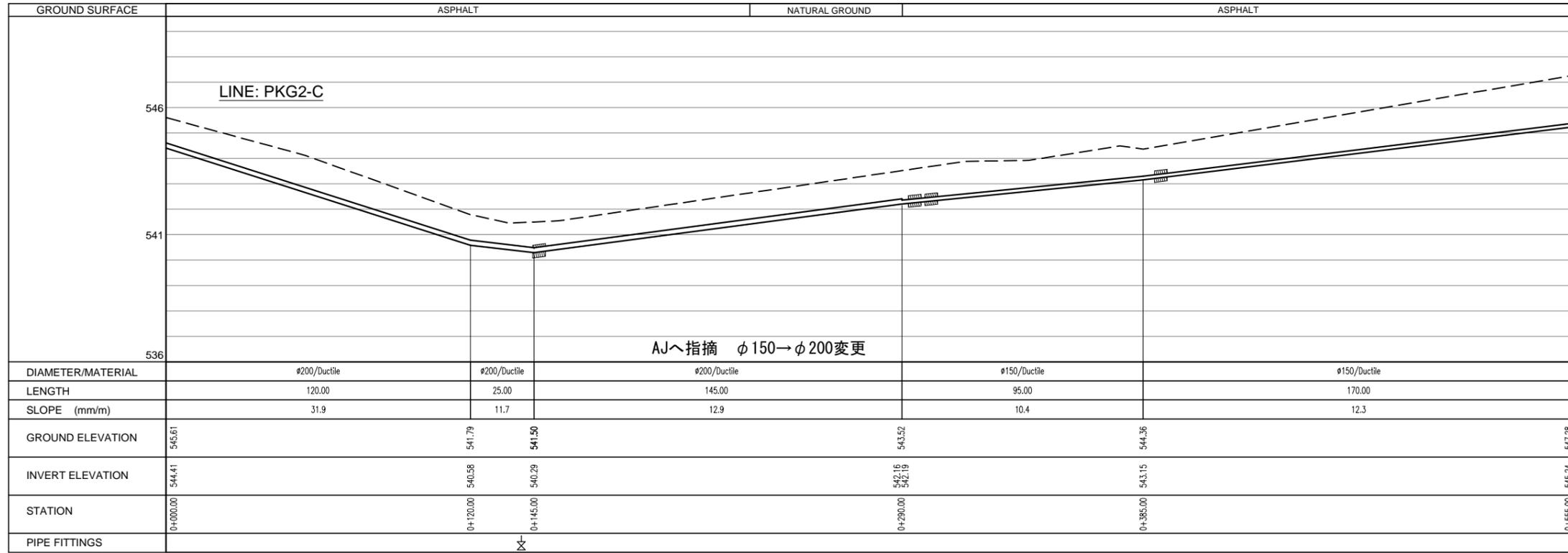
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-A-4 from Sta. 0+585.41 to 0+729.15
 Profile of Line PKG2-B from Sta. 0+00 to 0+627.84

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-09	H:1/1000 V:1/100
Size	A1

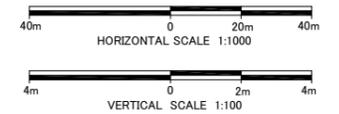


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



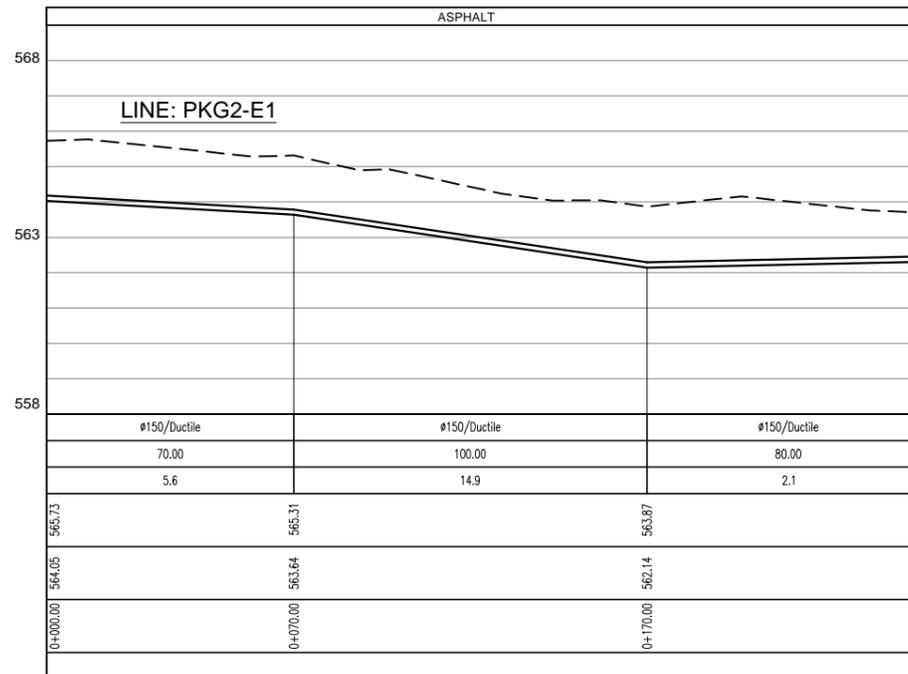
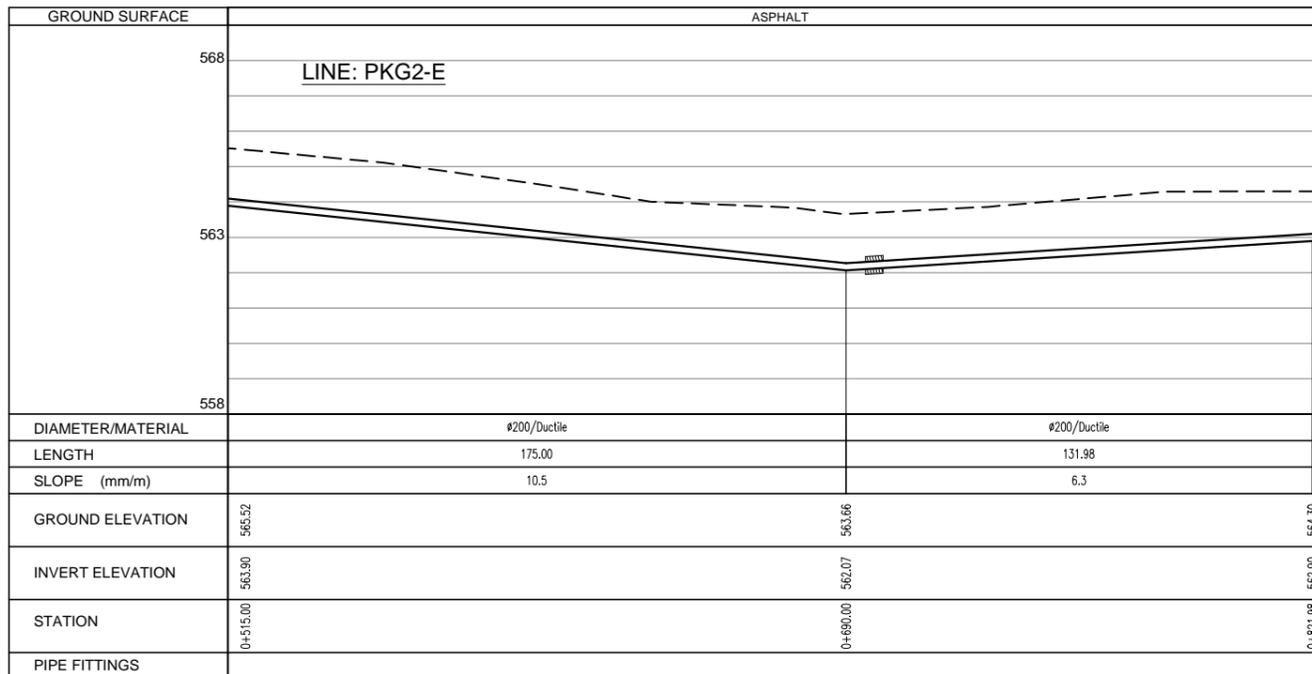
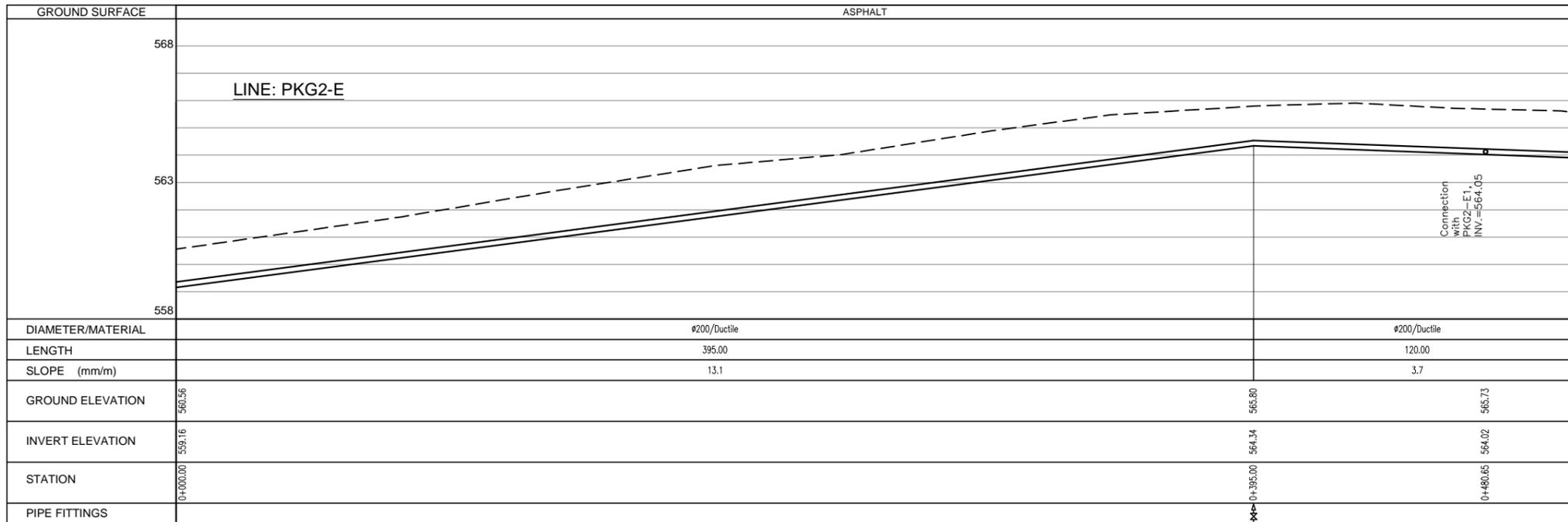
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

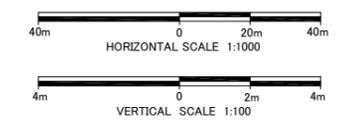
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-C from Sta. 0+00 to 0+737.58
 Profile of Line PKG2-D from Sta. 0+00 to 0+410.00

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-10	H:1/1000 V:1/100
Size	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



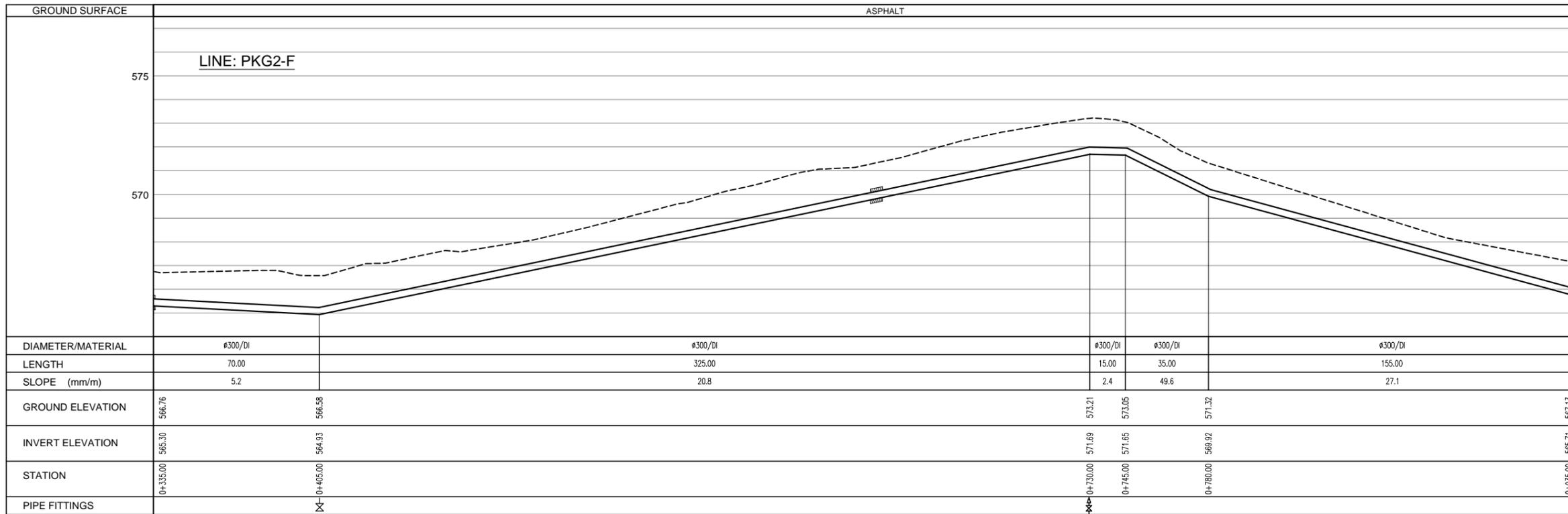
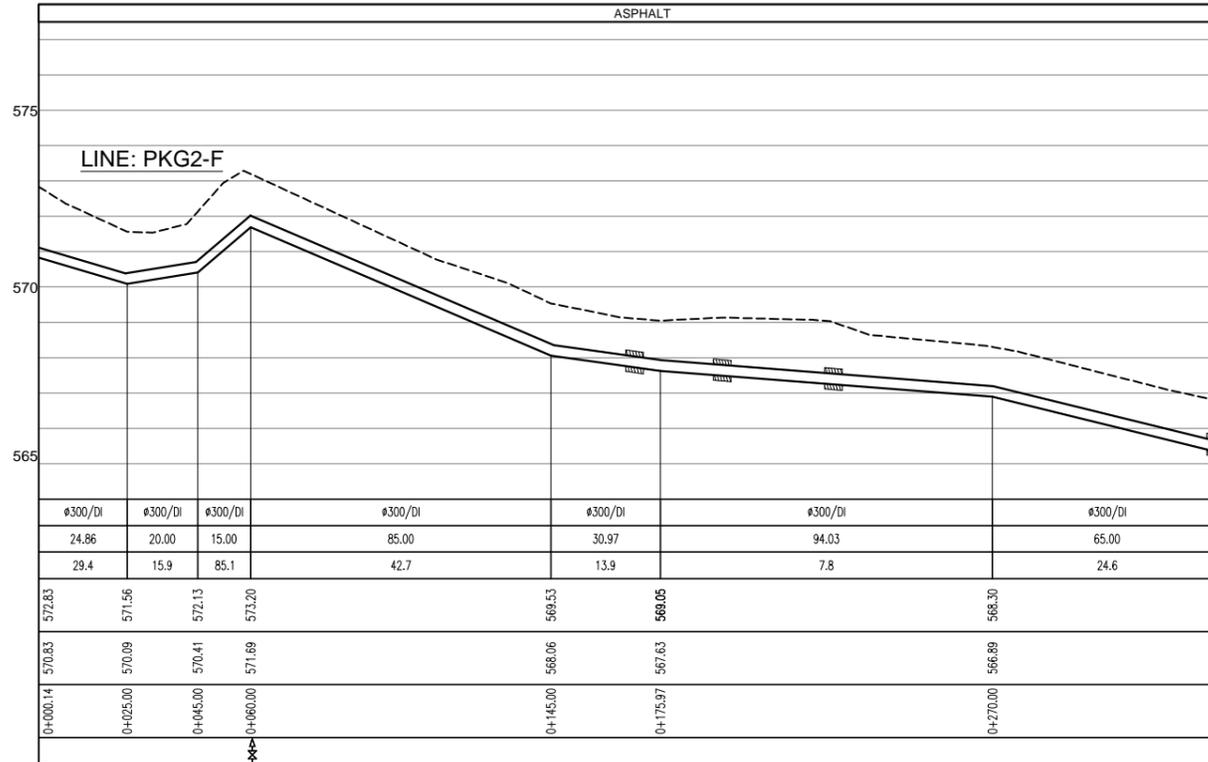
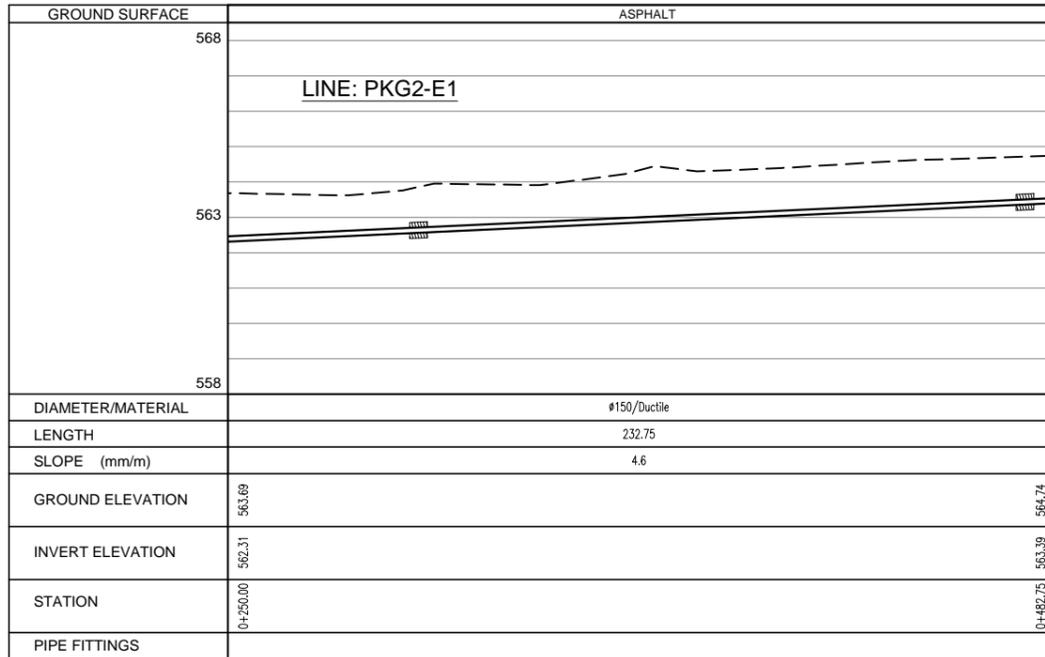
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

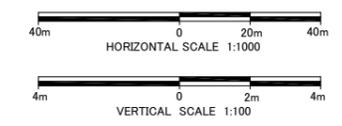
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-E from Sta. 0+00 to 0+821.98
 Profile of Line PKG2-E1 from Sta. 0+00 to 0+250.00

Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No.	Scale	Size
PRG-11	H:1/1000 V:1/100	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



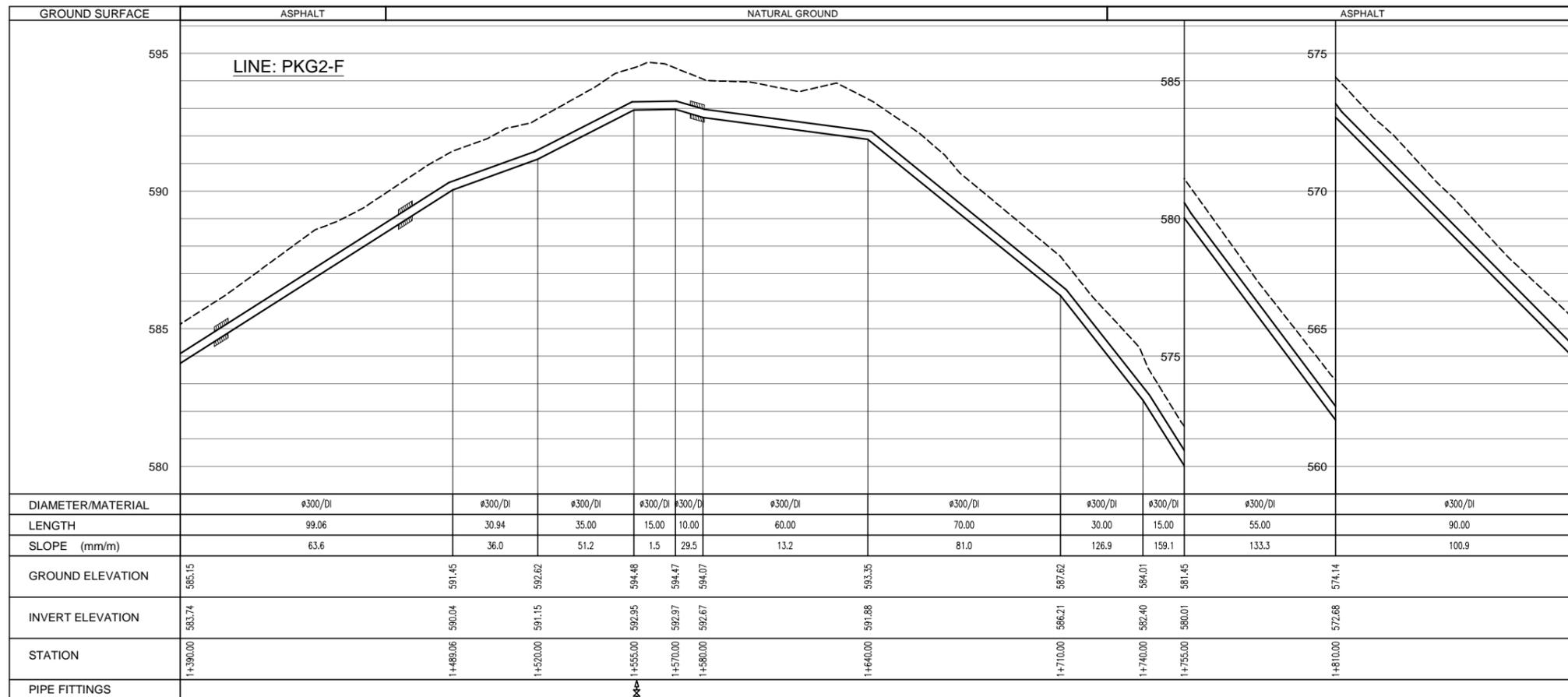
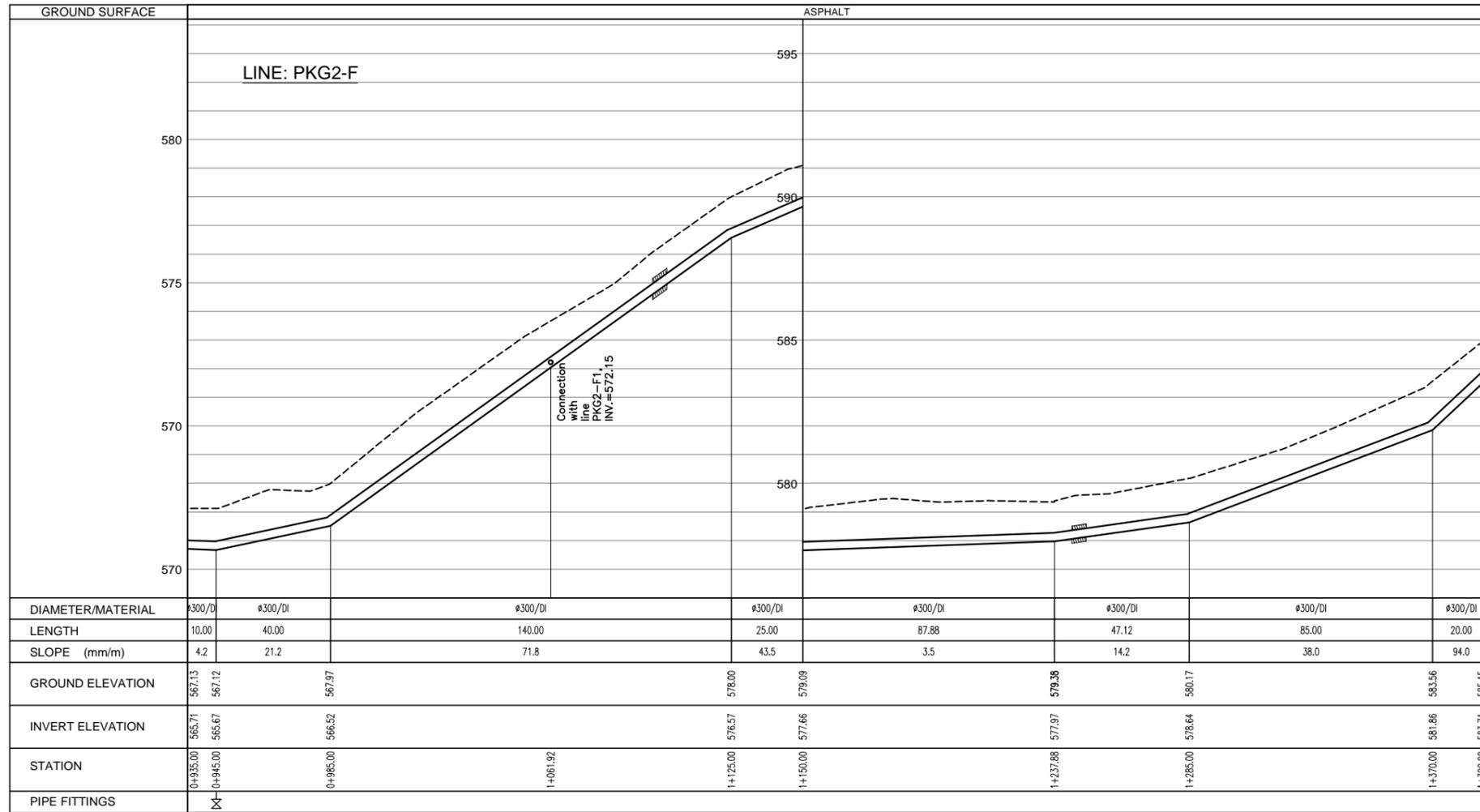
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

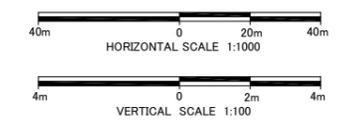
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-E1 from Sta. 0+250.00 to 0+482.75
 Profile of Line PKG2-F from Sta. 0+00 to 0+935.00

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-12	H:1/1000 V:1/100
Size	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



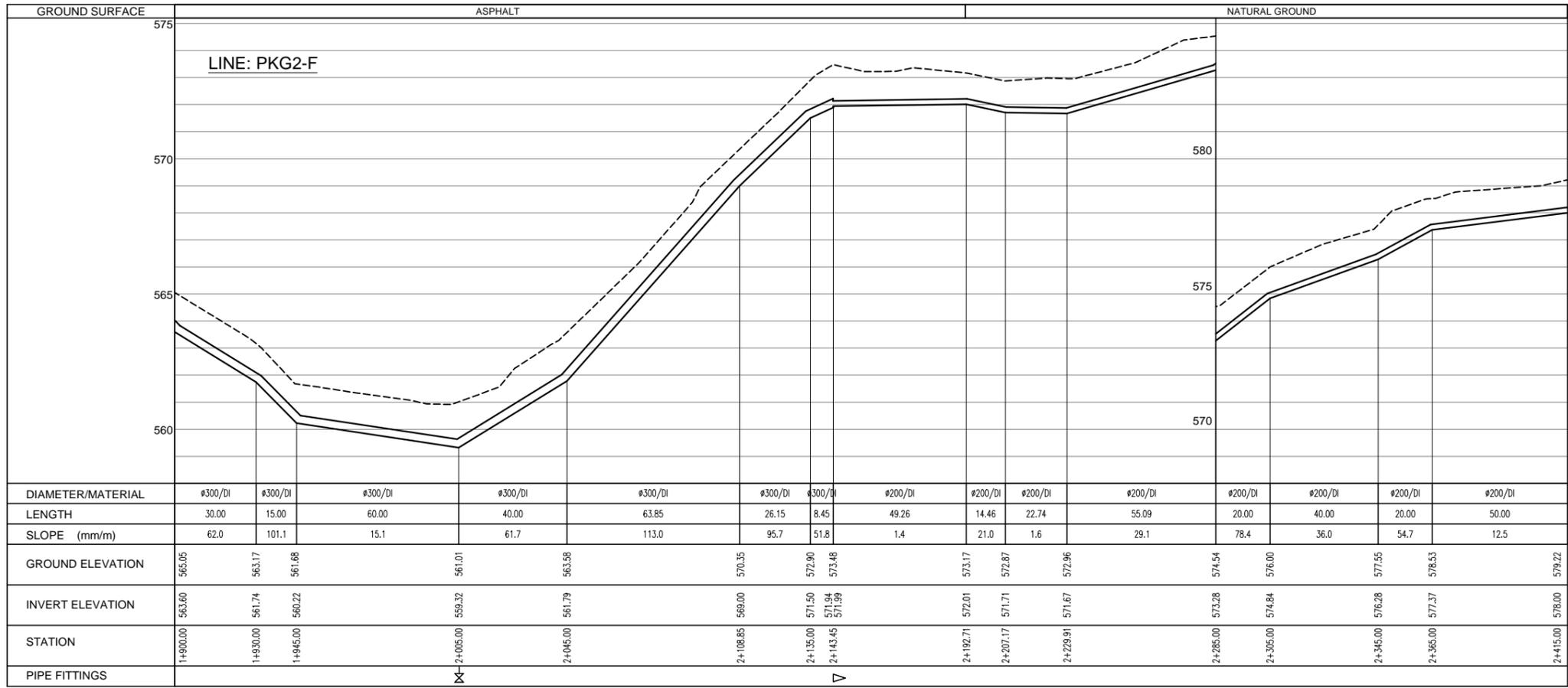
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

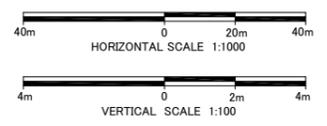
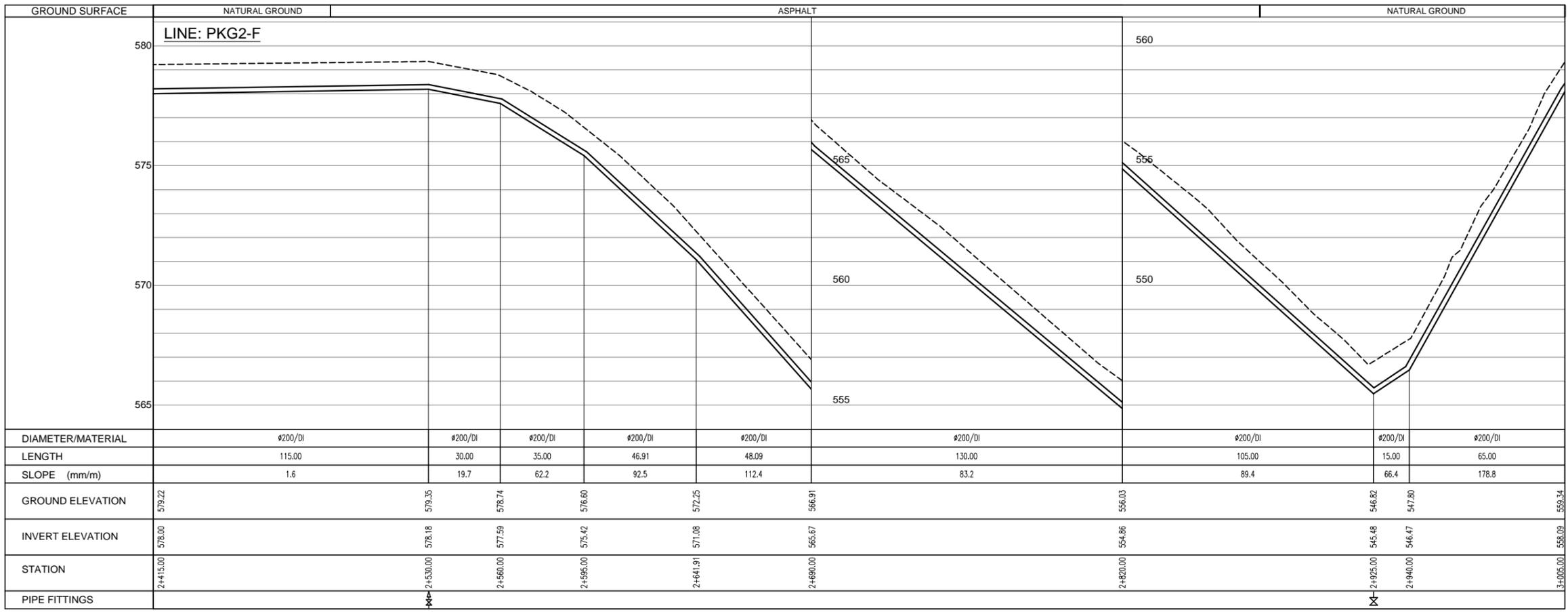
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-F from Sta. 0+935.00 to 1+900.00

Design By	Reviewed By	Checked By	Date	Mar. 2017
Drawing No.	Scale	H:1/1000	V:1/100	Size
PRG-13				A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



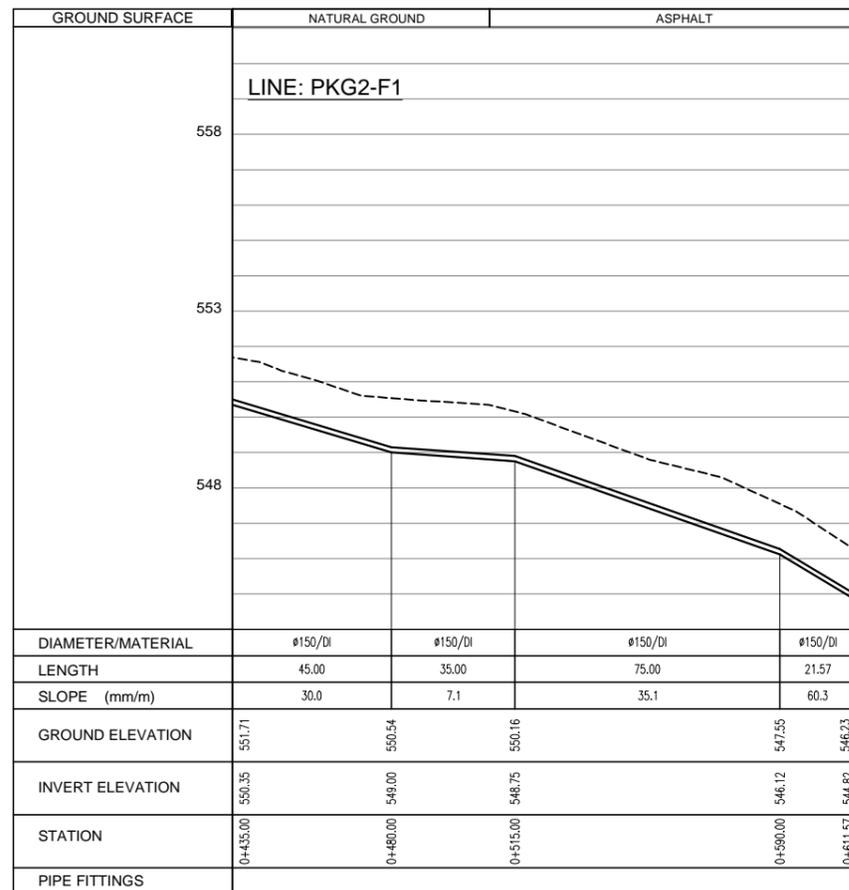
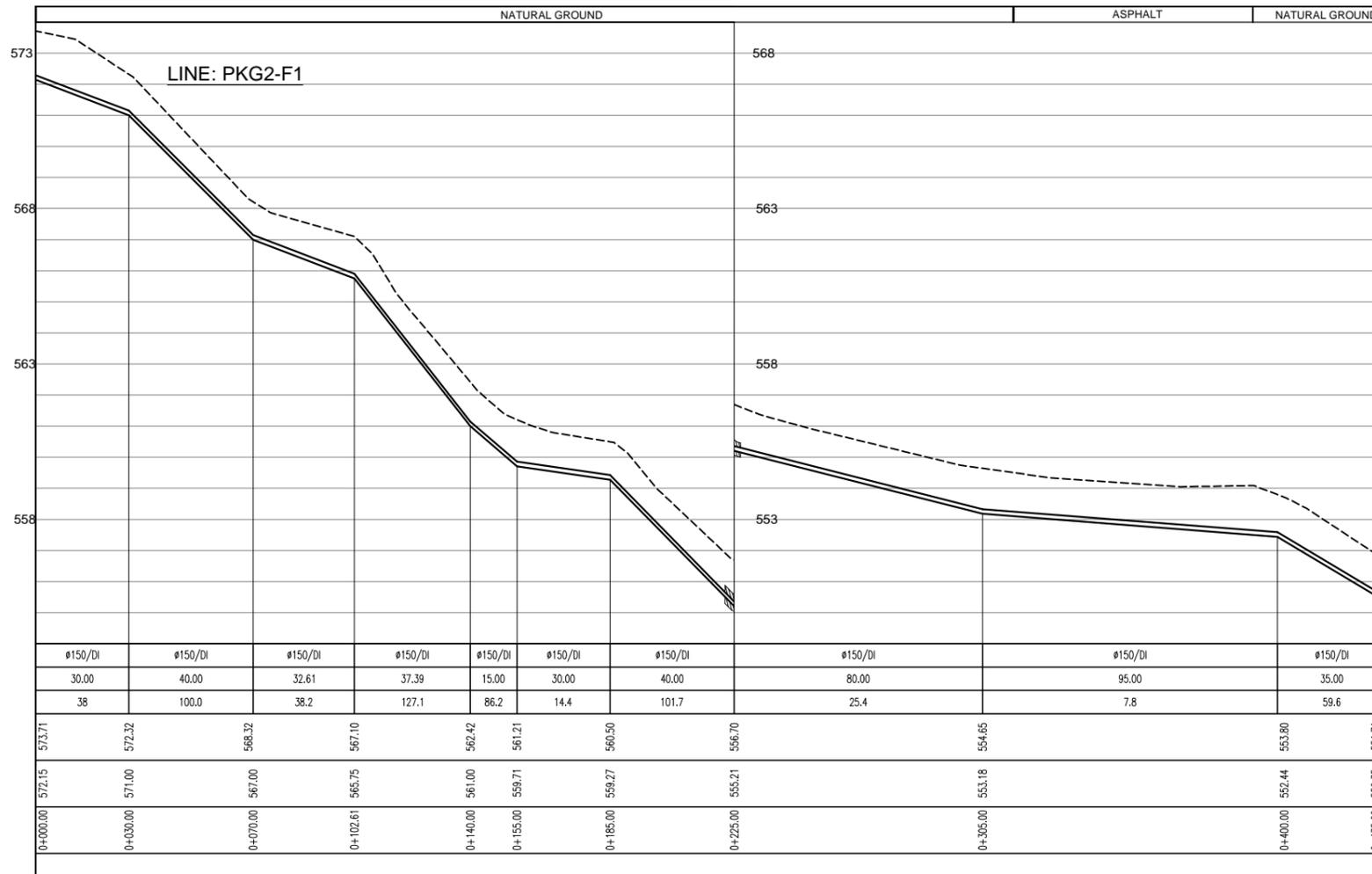
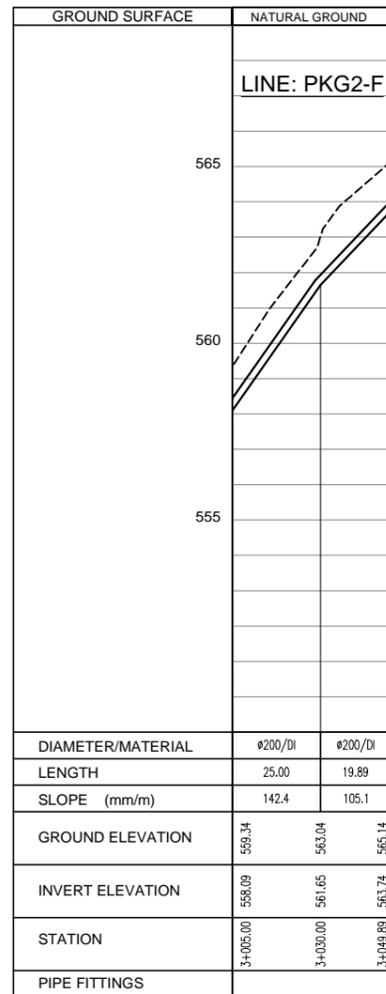
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

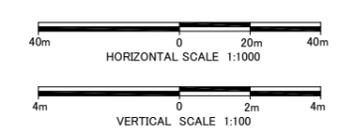
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-F from Sta. 1+900 to 3+005.00

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-14	H:1/1000 V:1/100
Size	A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER
 - PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



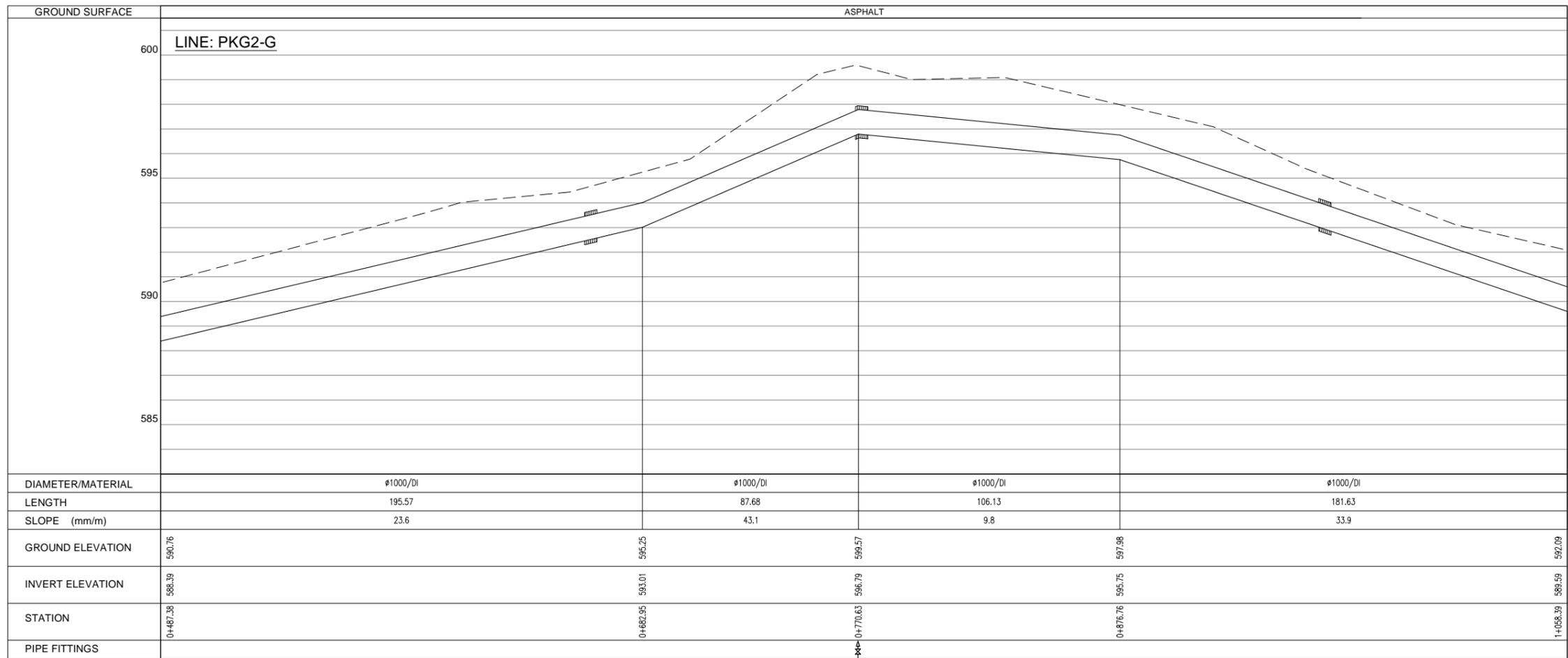
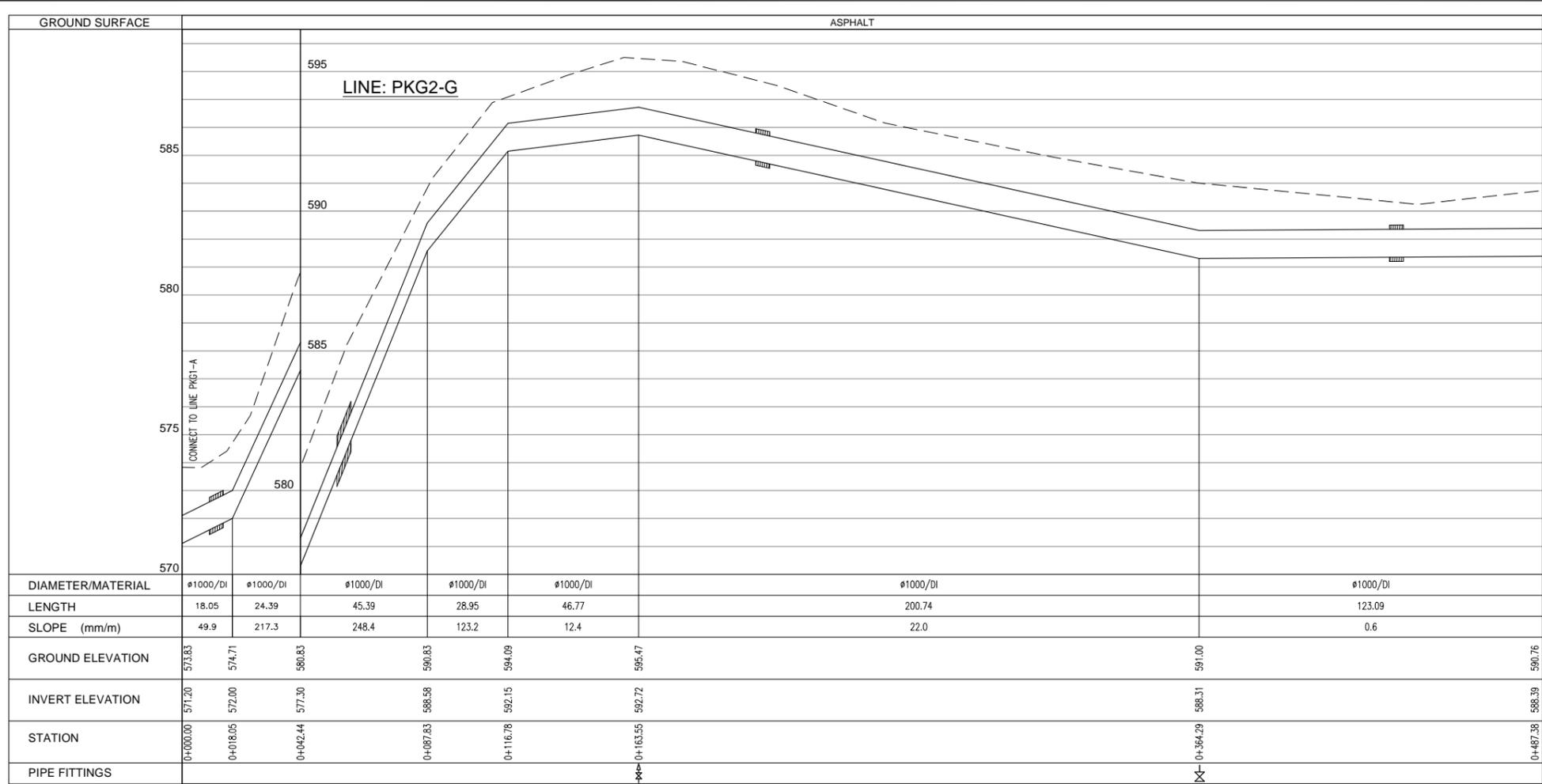
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-F from Sta. 3+005.00 to 3+049.89
 Profile of Line PKG2-F1

Design By	Reviewed By
Checked By	Date
Drawing No.	Scale
PRG-15	H:1/1000 V:1/100
Size	A1

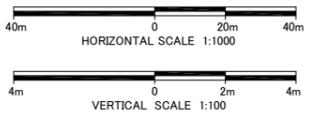


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



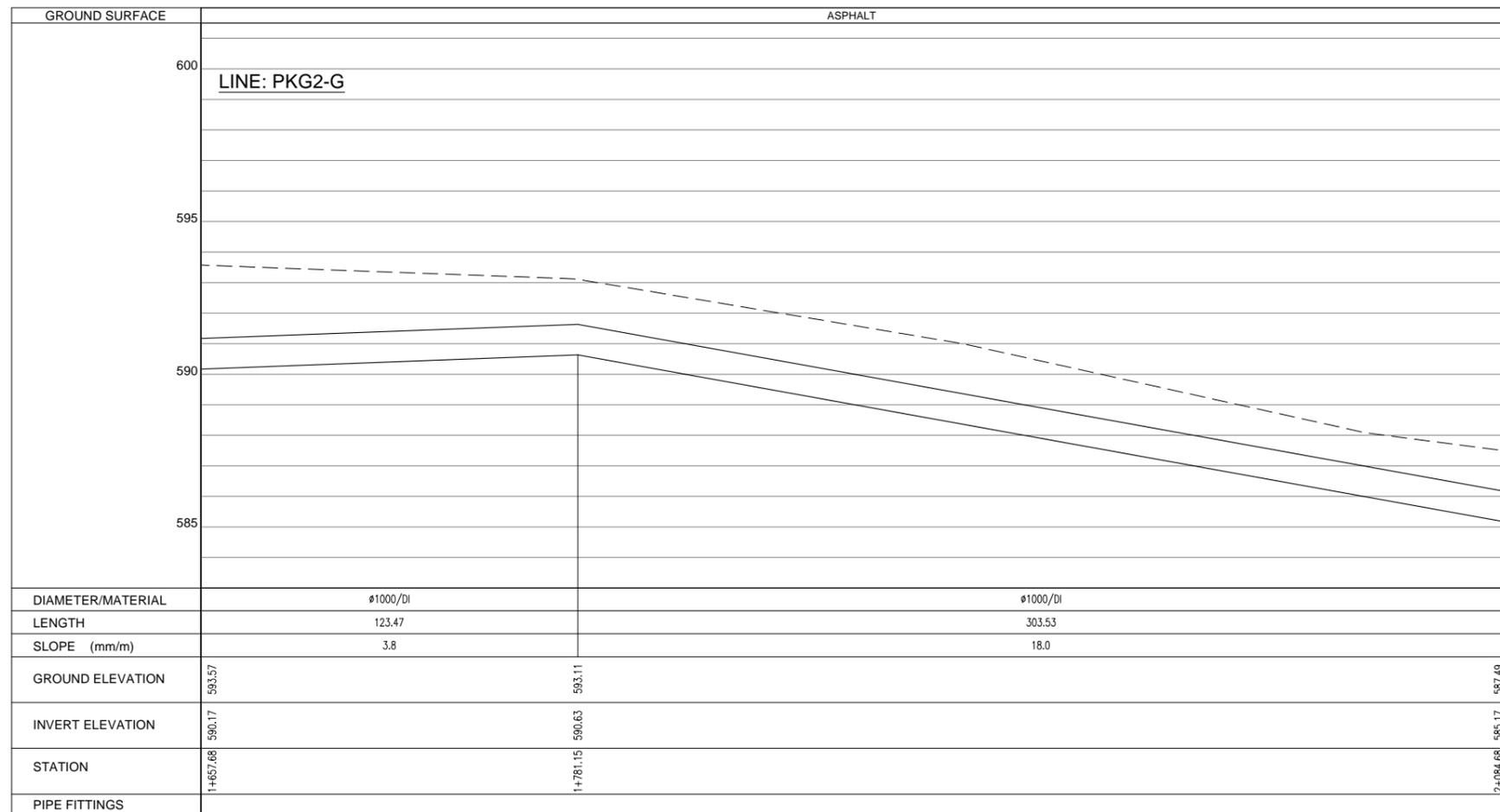
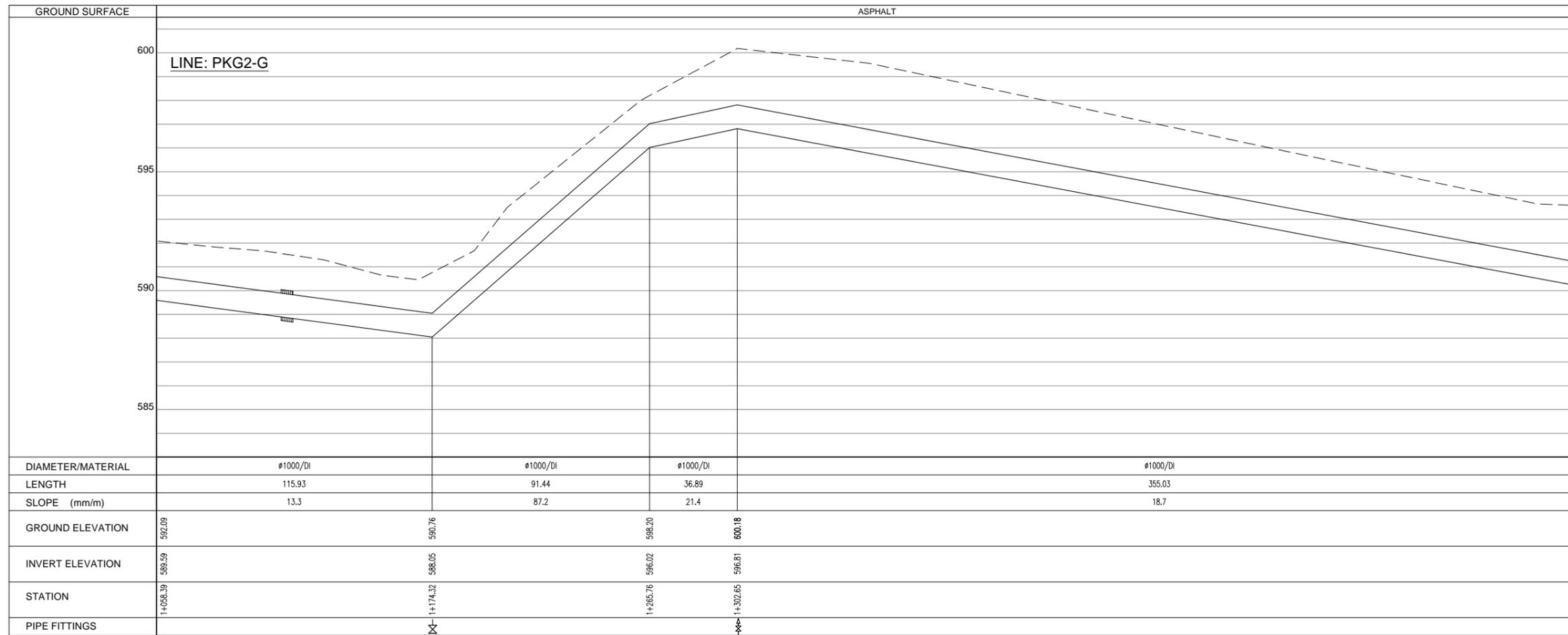
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

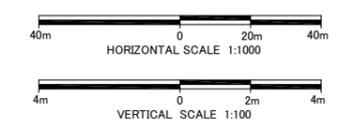
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G from Sta.0+00 to 1+058.39

Design By	Reviewed By
Checked By	Date
Mar. 2017	
Drawing No. PRG-16	Scale H:1/1000 V:1/100
Size A1	



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



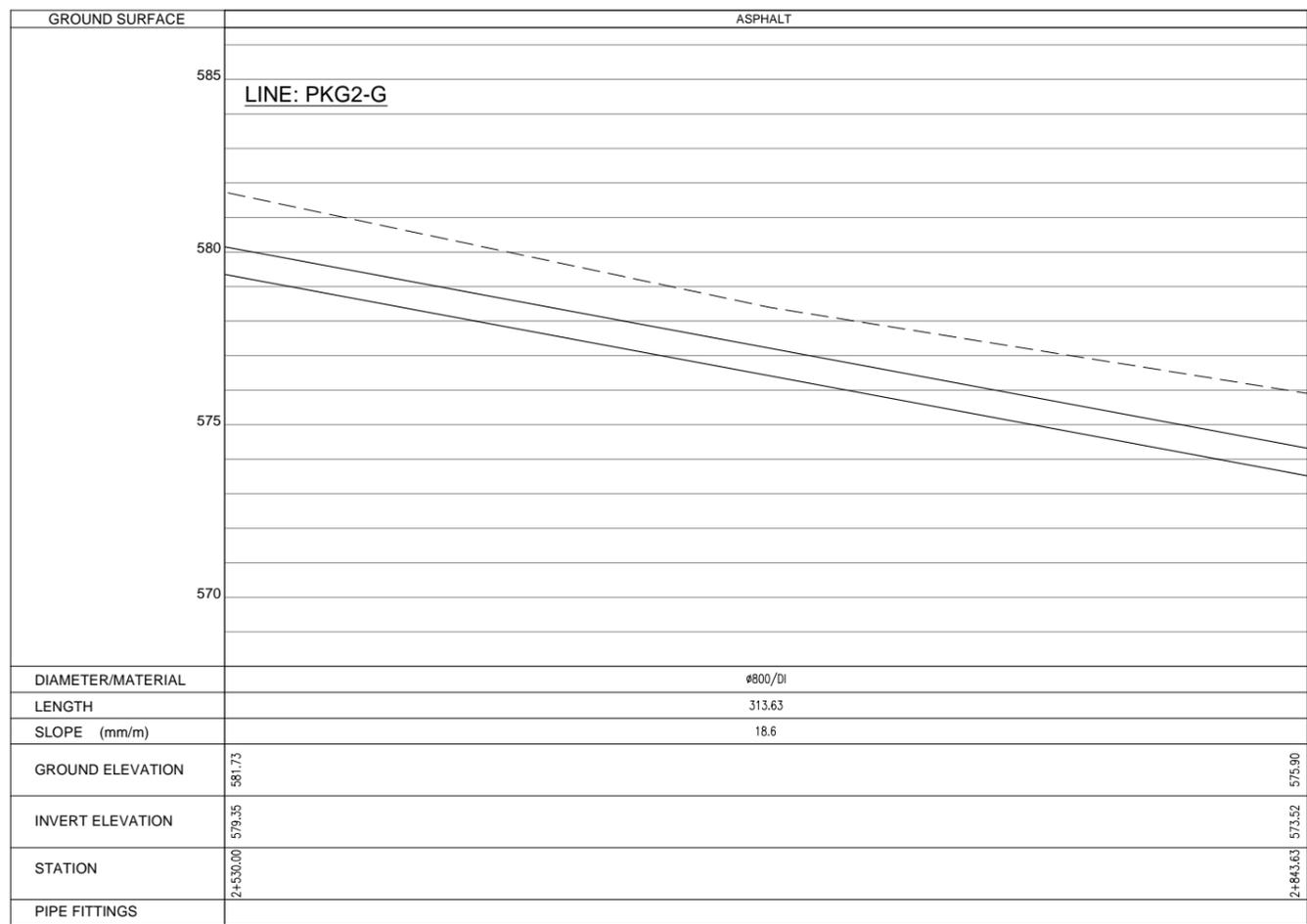
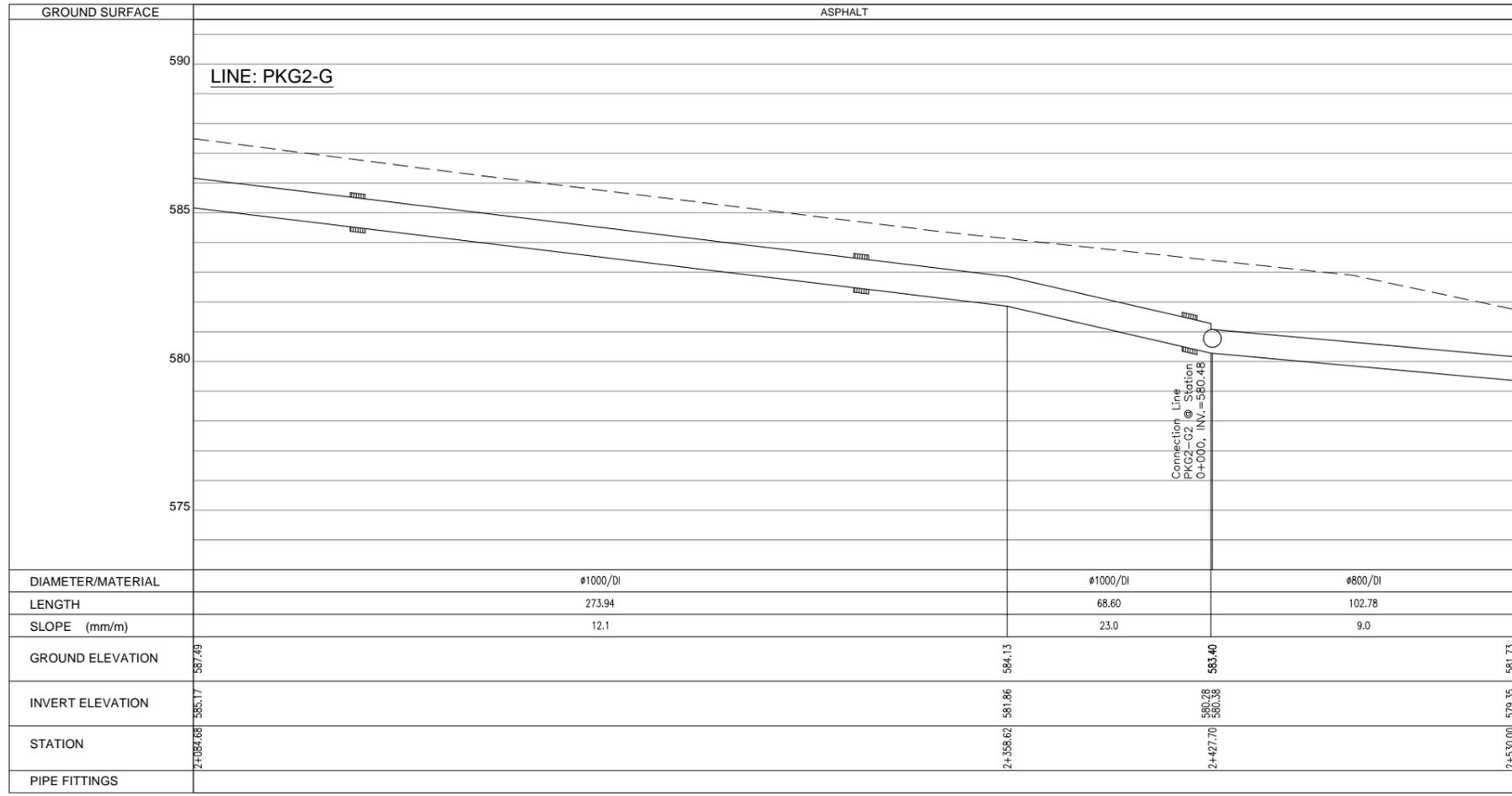
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

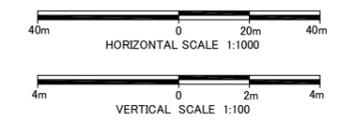
Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G from Sta.1+058.39 to 2+084.68

Design By	Reviewed By	Date	Mar. 2017
Checked By			
Drawing No.	Scale	H:1/1000 V:1/100	Size A1
PRG-17			



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:
 Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



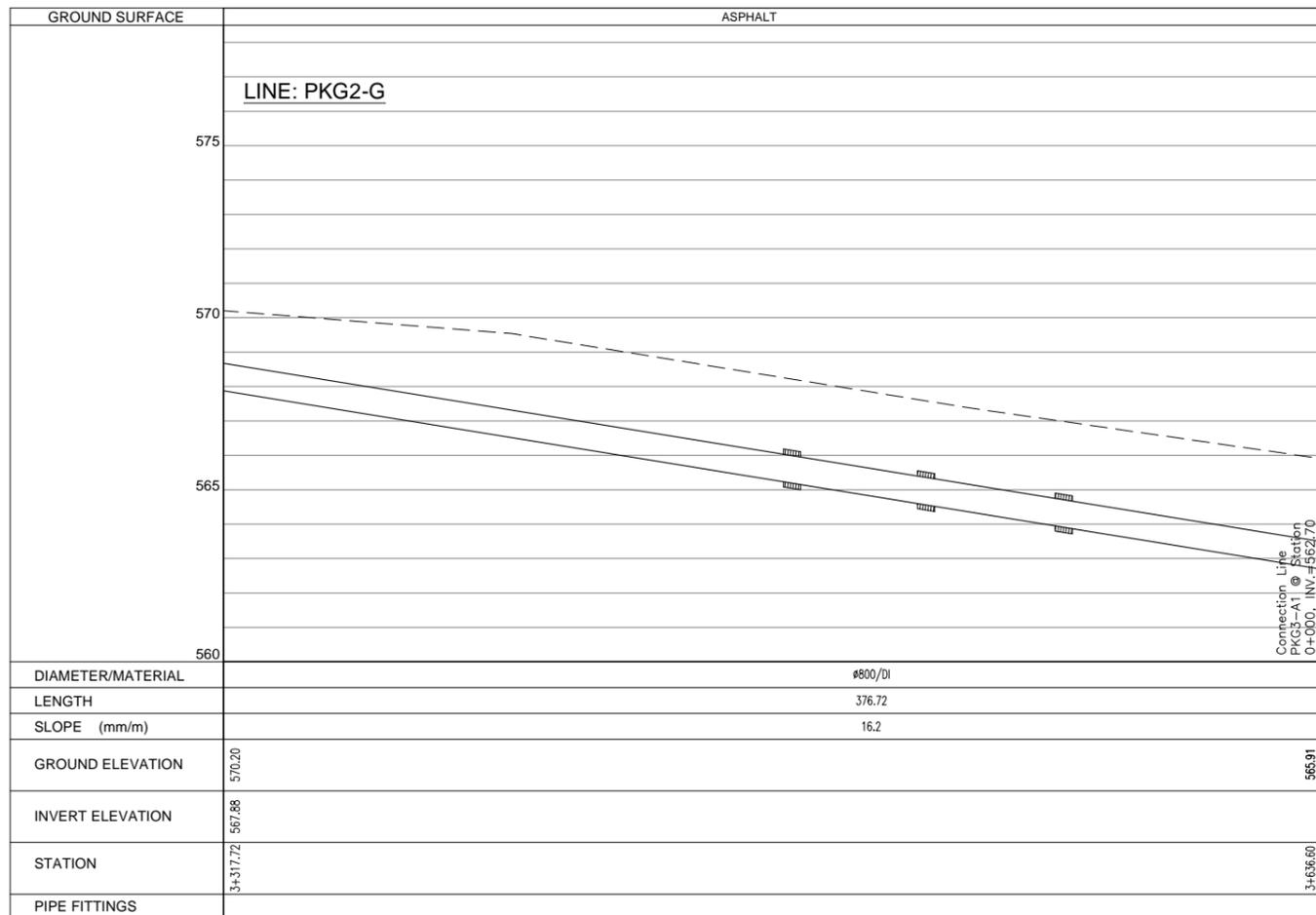
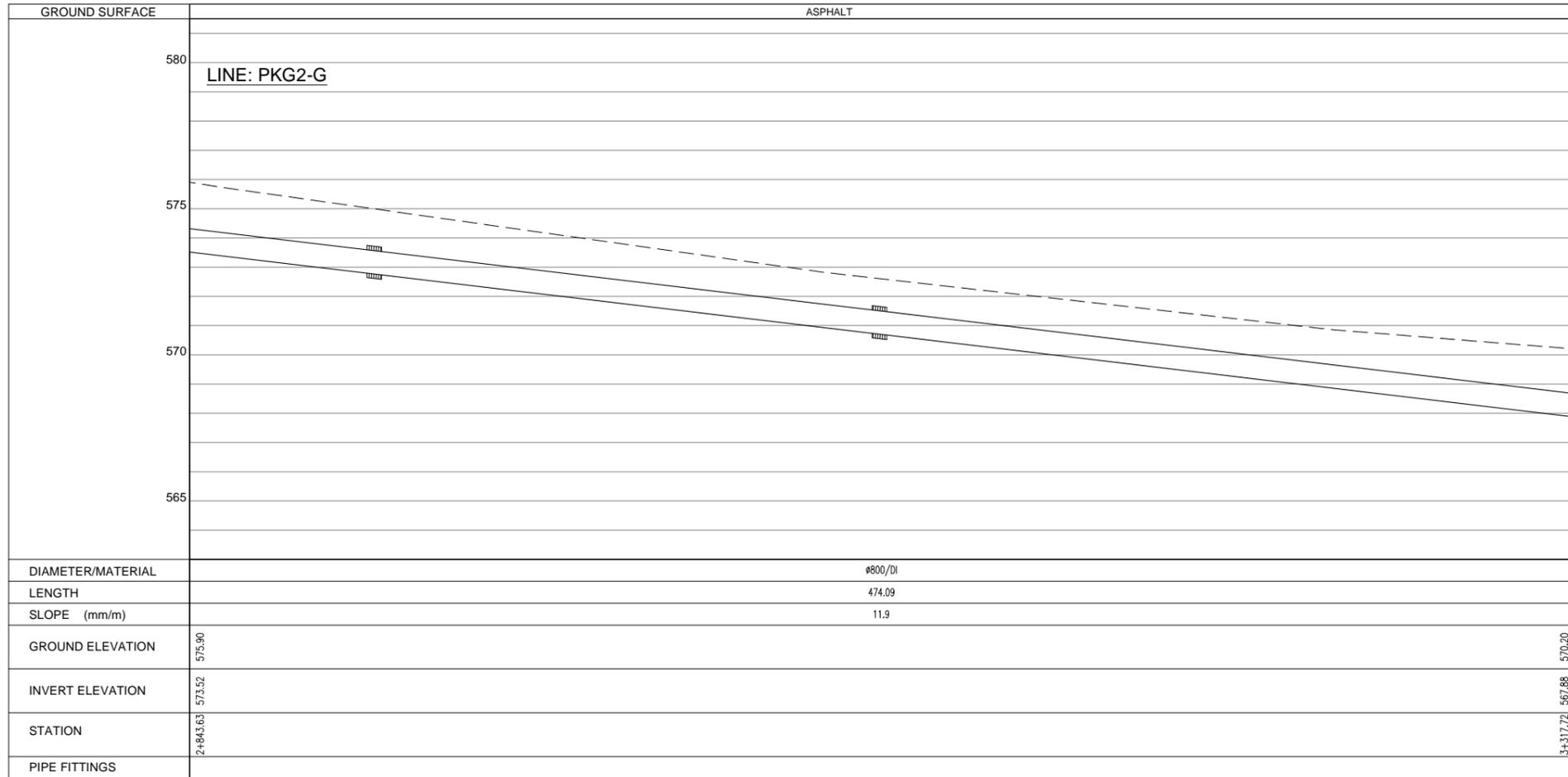
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G from Sta. 2+084.68 to 2+843.63

Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No.	Scale	Size
PRG-18	H:1/1000 V:1/100	A1

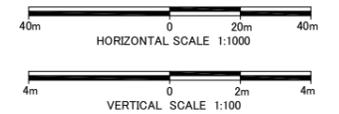


LEGEND:

-  AIR VALVE
-  WASHOUT
-  ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
-  *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



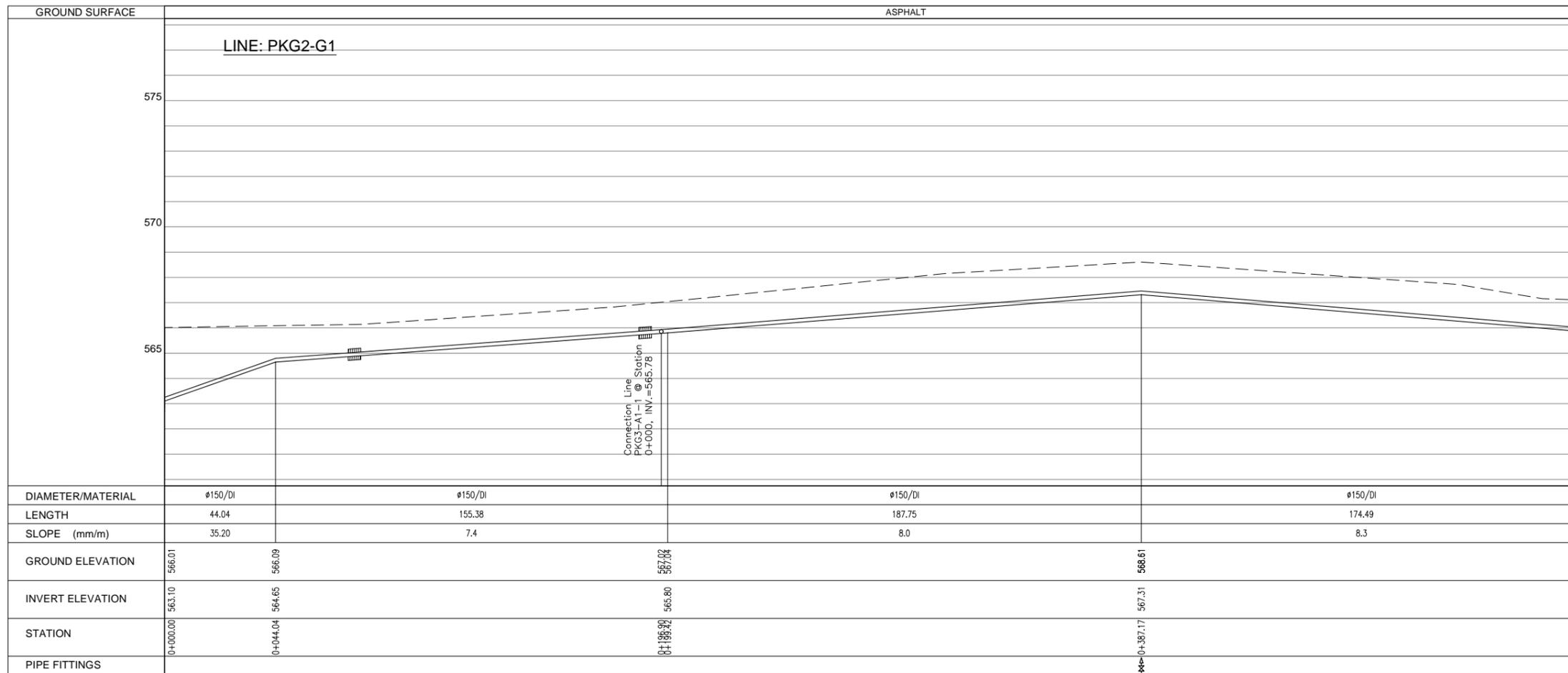
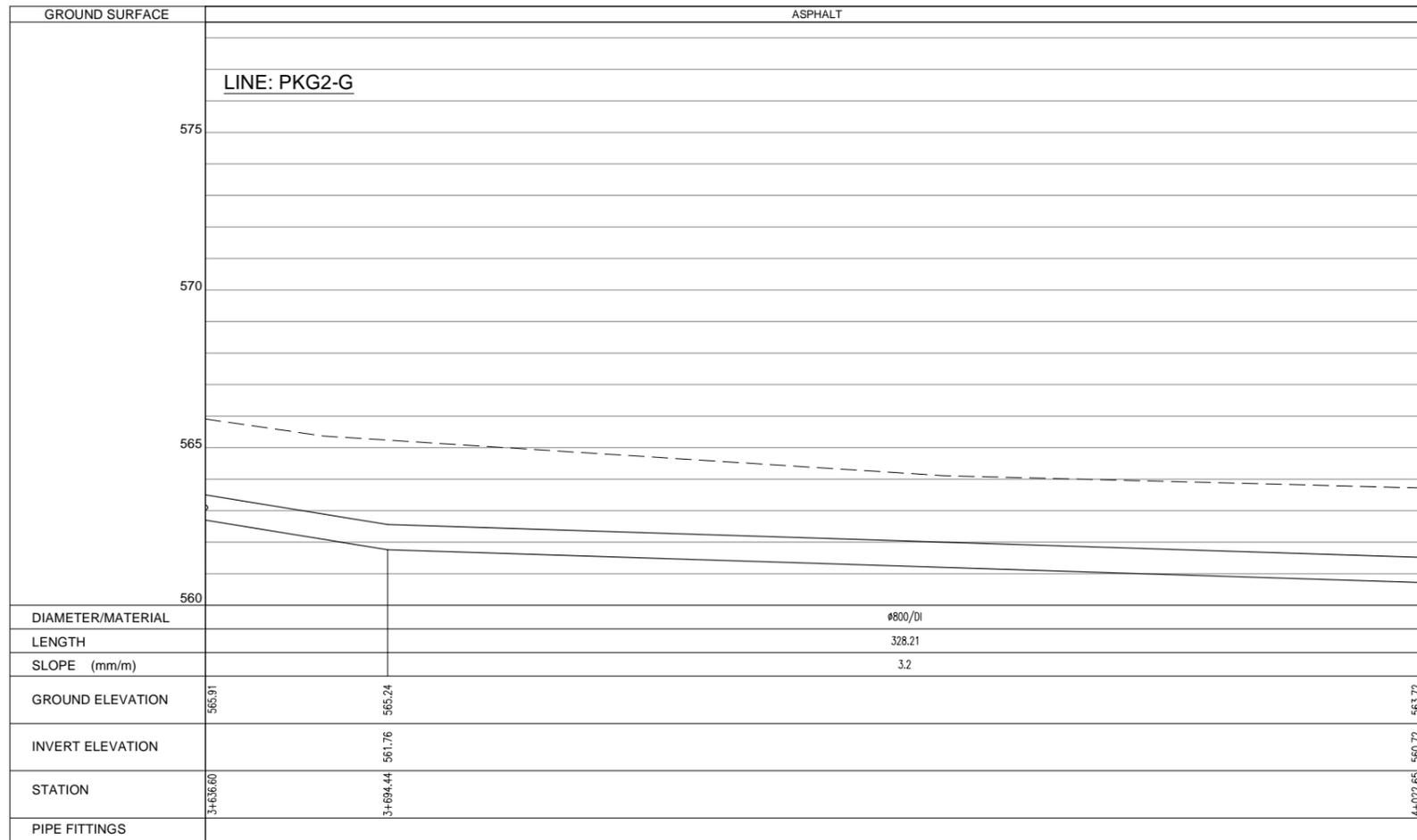
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G from Sta. 2+843.63 to 3+636.60

Design By	Reviewed By	Date	Mar. 2017
Checked By			
Drawing No.	Scale	H:1/1000 V:1/100	Size A1
PRG-19			

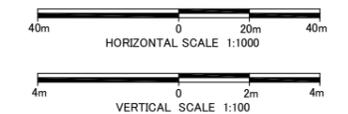


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



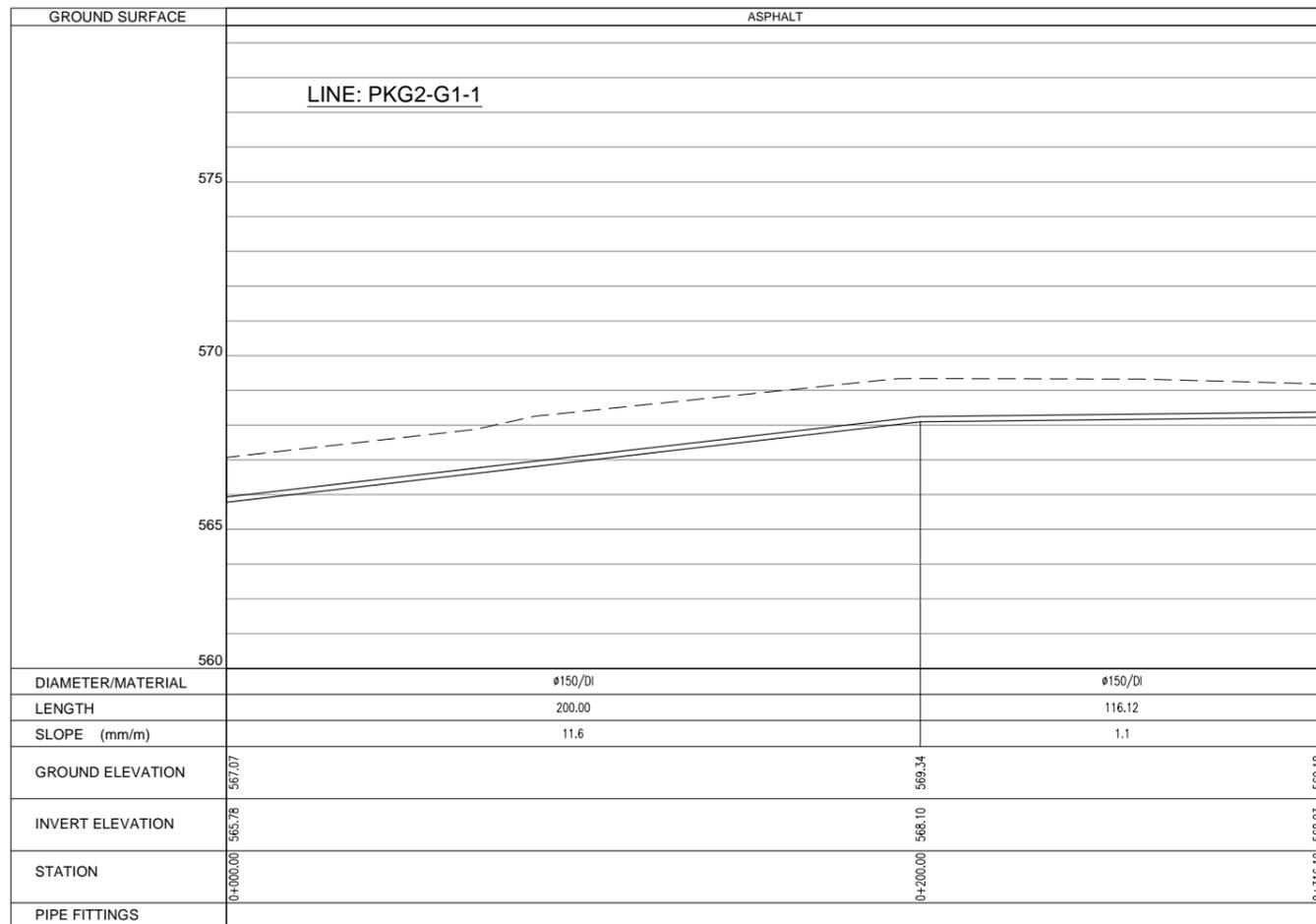
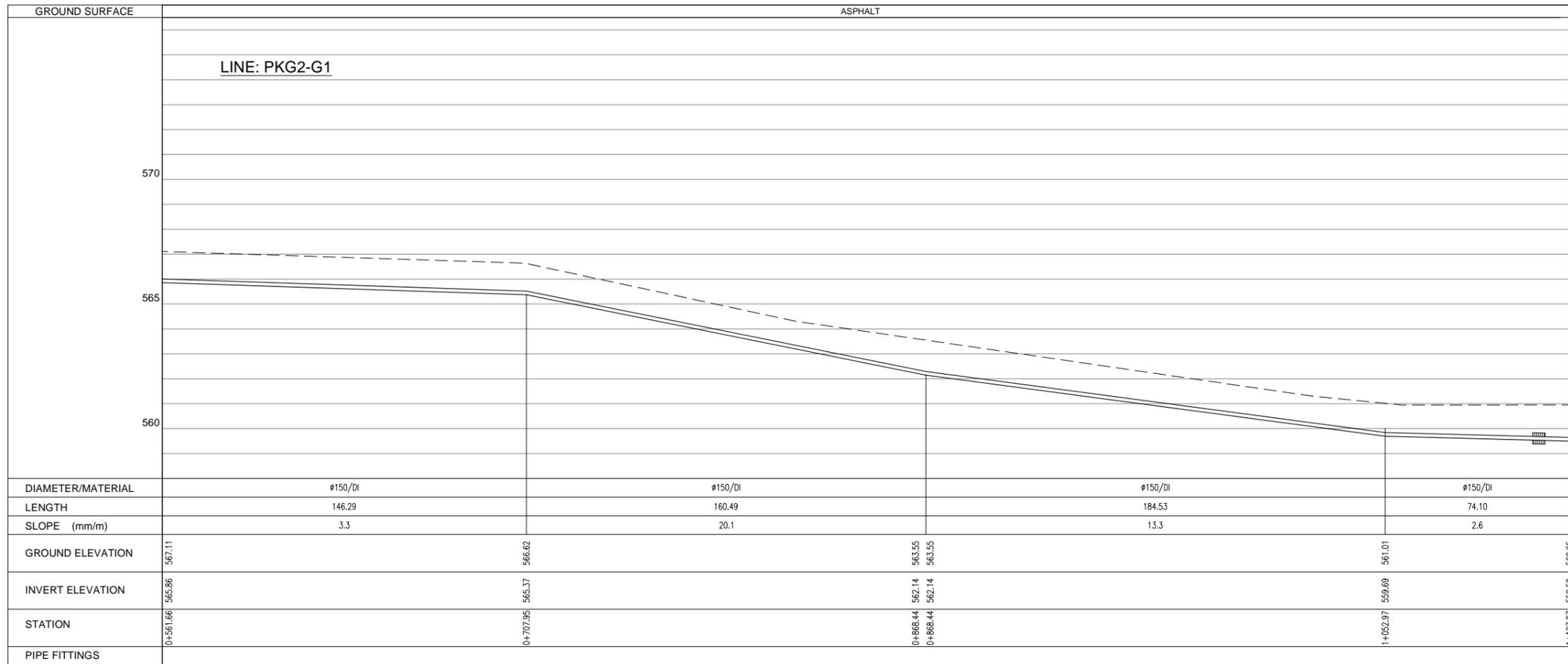
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G from Sta. 3+636.60 to 4+022.65
 Profile of Line PKG2-G-1 from Sta. 0+00 to 0+561.66

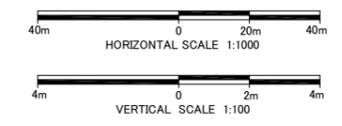
Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No. PRG-20	Scale H:1/1000 V:1/100	Size A1



- LEGEND:**
- AIR VALVE
 - WASHOUT
 - ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
 - *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



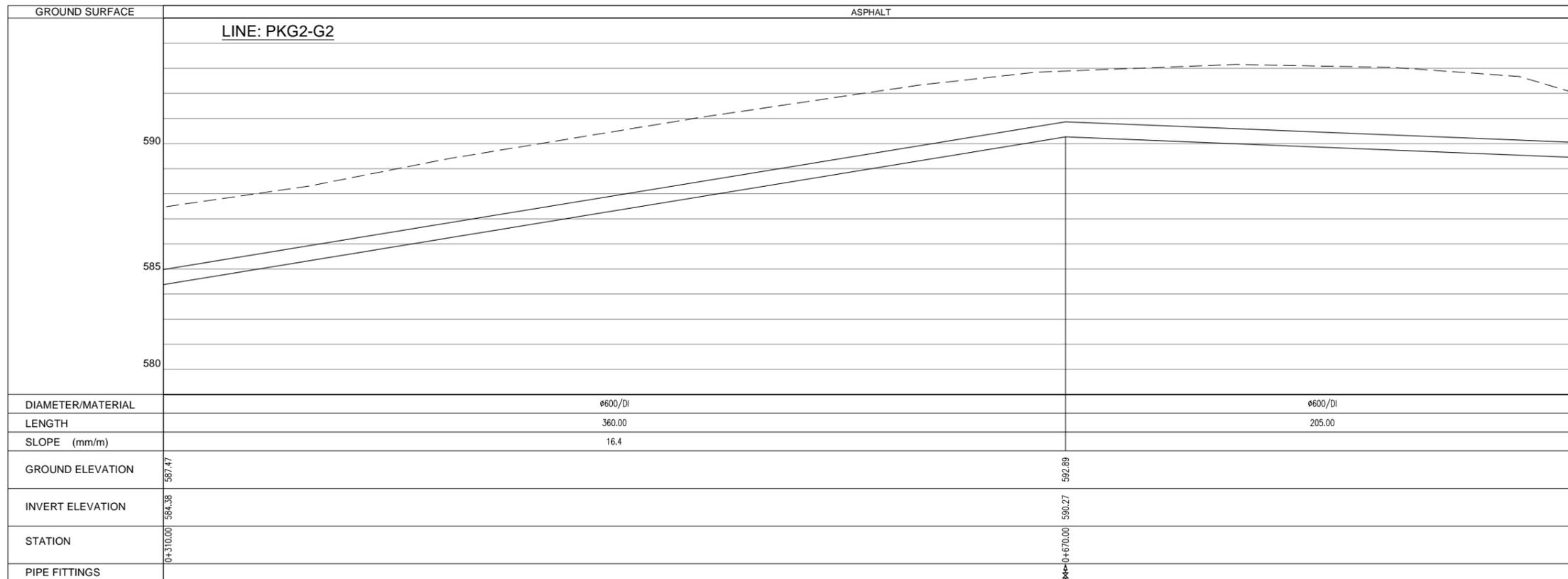
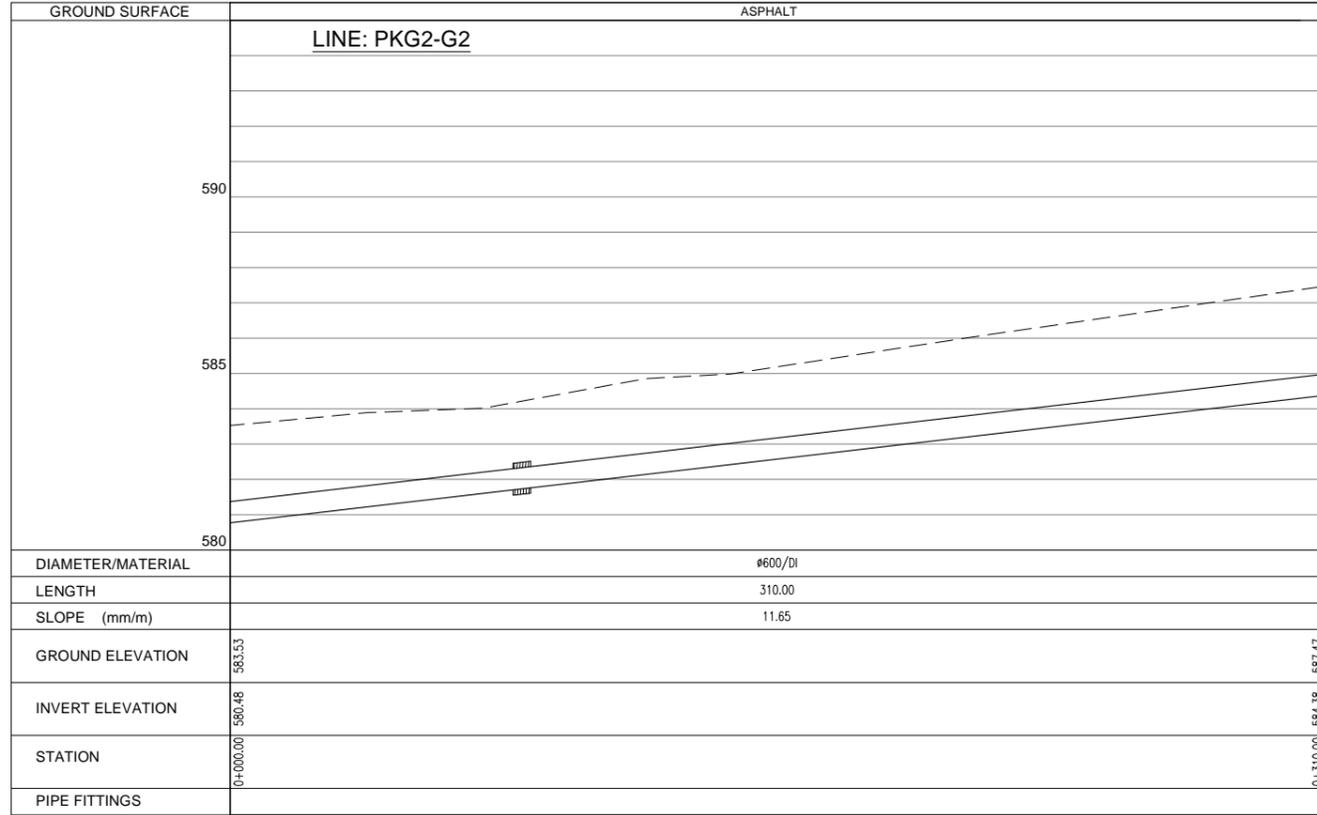
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G-1 from Sta. 0+561.66 to 1+127.07
 Profile of Line PKG2-G-1-1 from Sta. 0+00 to 0+316.12

Design By	Reviewed By		
Checked By	Date	Mar. 2017	
Drawing No.	Scale	H:1/1000	Size
PRG-21	V:1/100		A1

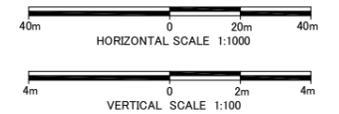


LEGEND:

-  AIR VALVE
-  WASHOUT
-  ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



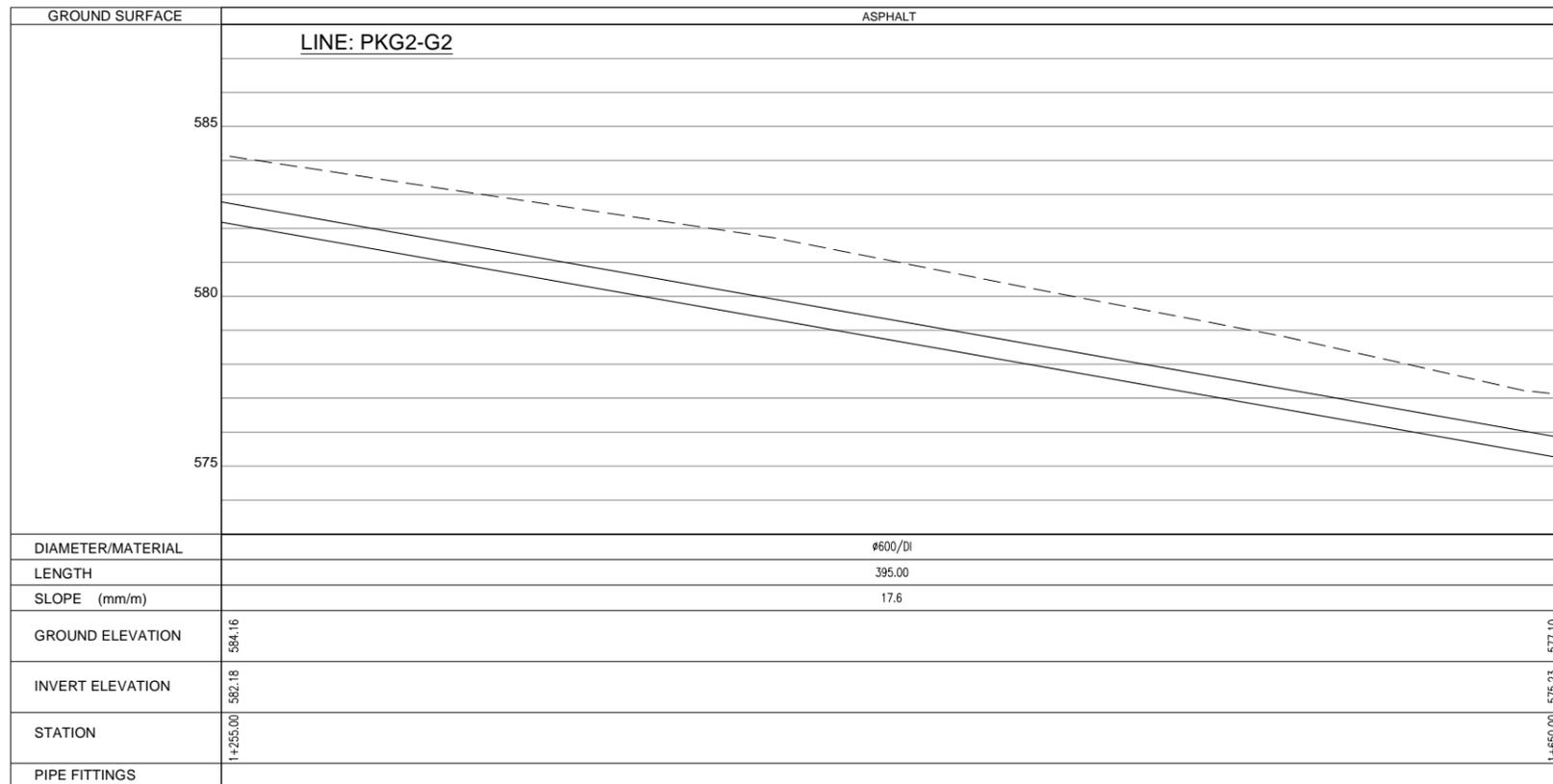
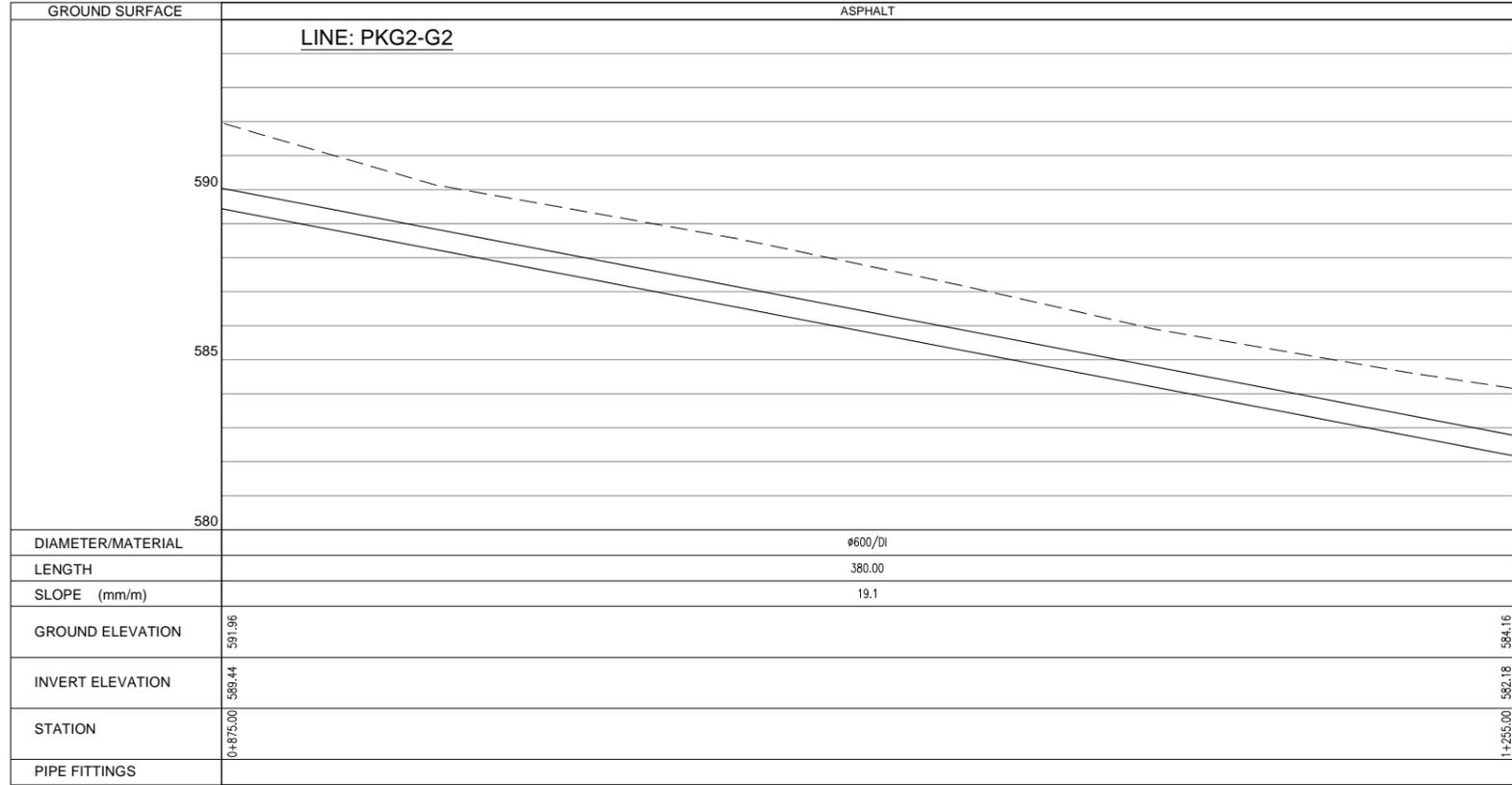
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G-2 from Sta. 0+00 to 0+875.00

Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No.	Scale	Size
PRG-22	H:1/1000 V:1/100	A1

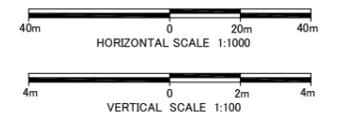


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
*SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



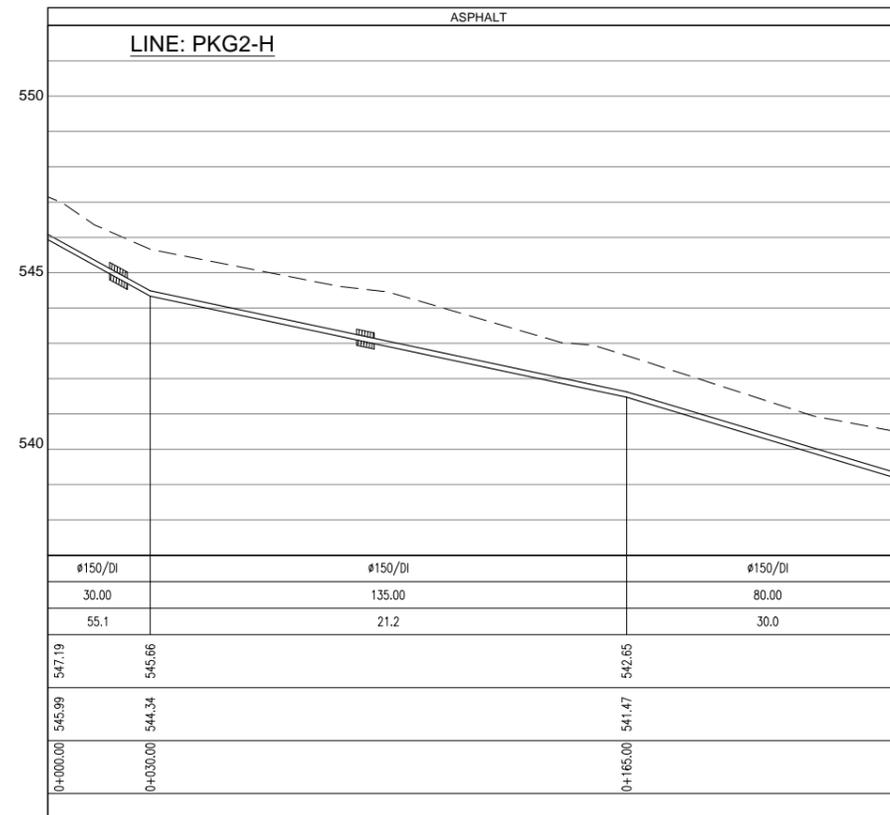
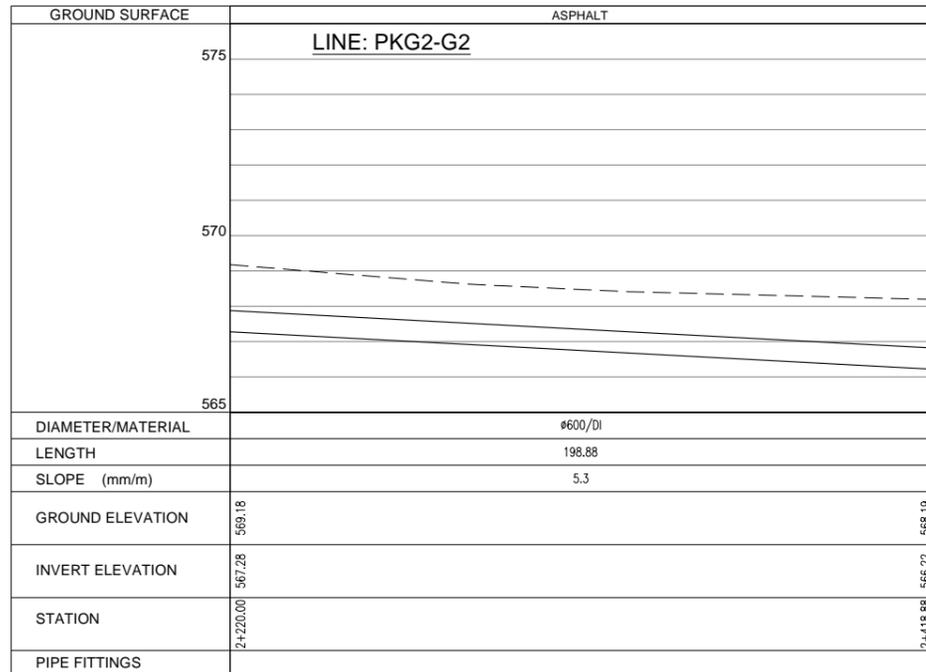
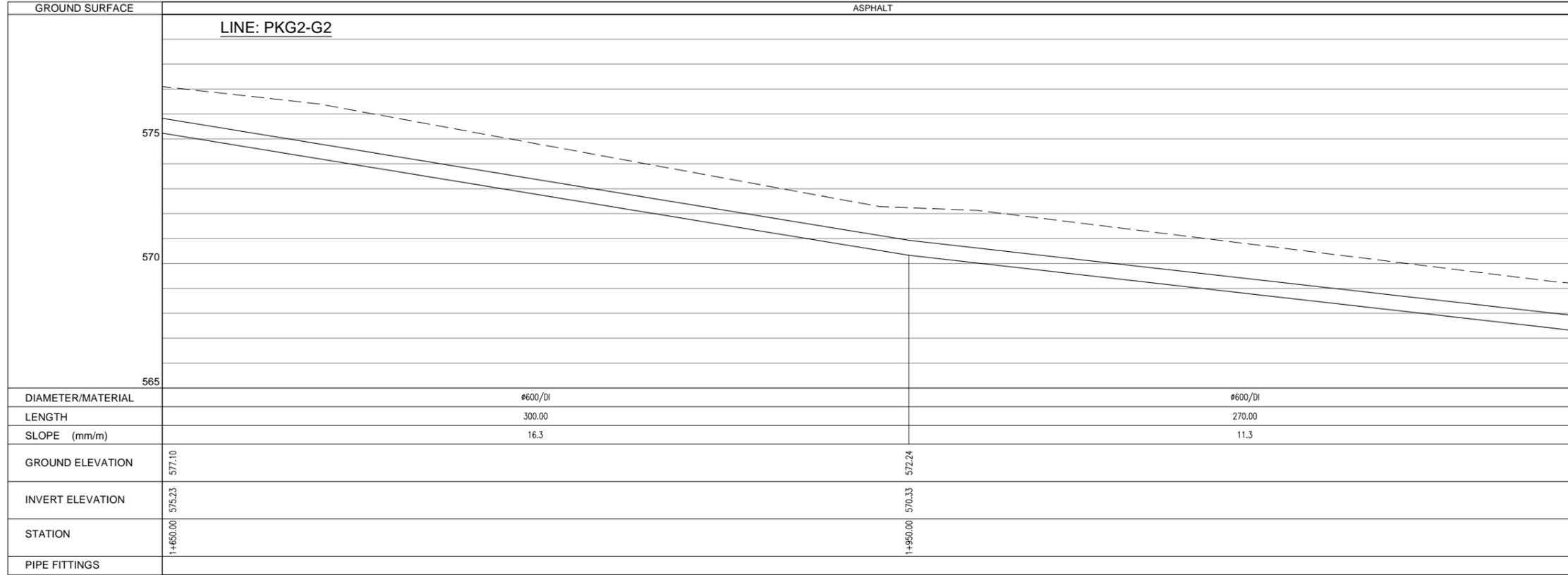
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G-2 from Sta. 0+875.00 to 1+650.00

Design By	Reviewed By
Checked By	Date
Mar. 2017	
Drawing No. PRG-23	Scale H:1/1000 V:1/100
Size A1	

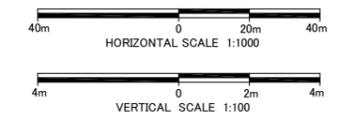


LEGEND:

- AIR VALVE
- WASHOUT
- ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
- *SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-G-2 from Sta. 1+650.00 to 2+418.88
 Profile of Line PKG2-H from Sta. 0+000 to 0+245.00

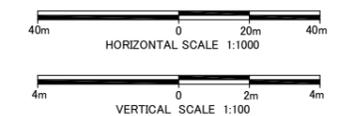
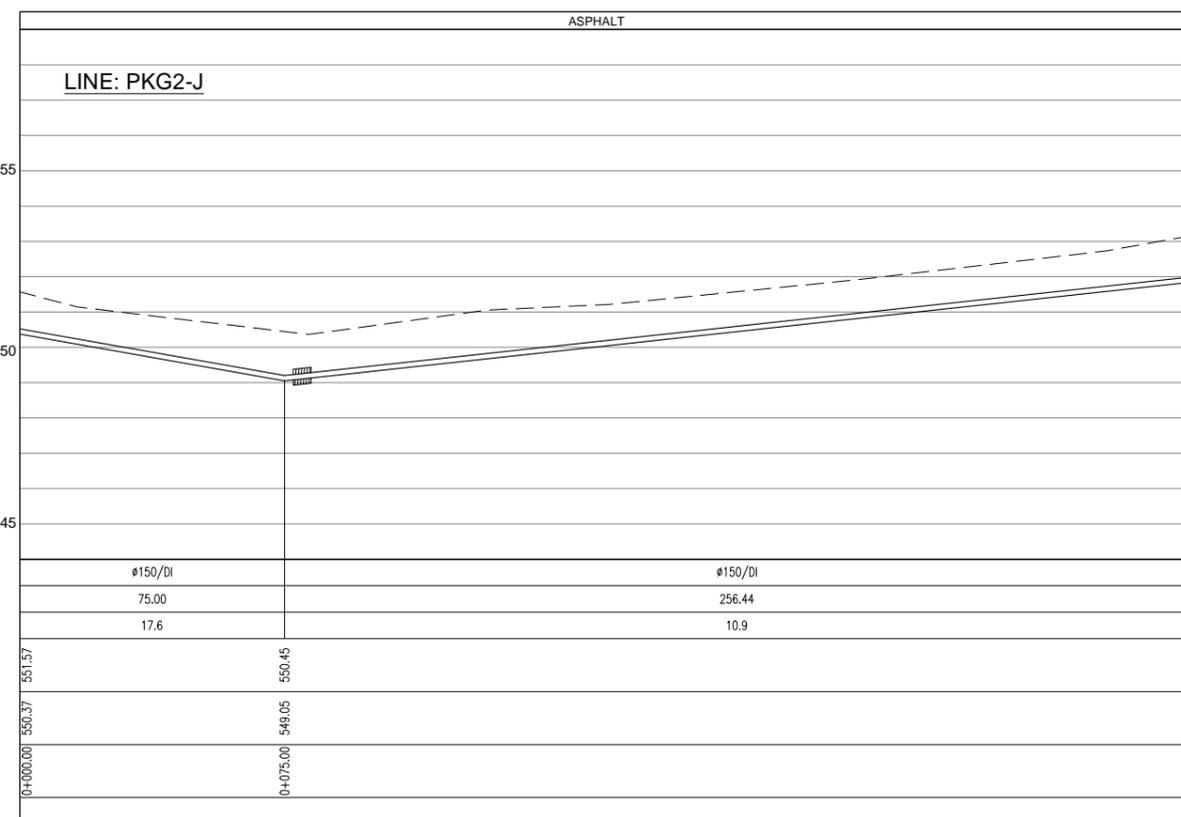
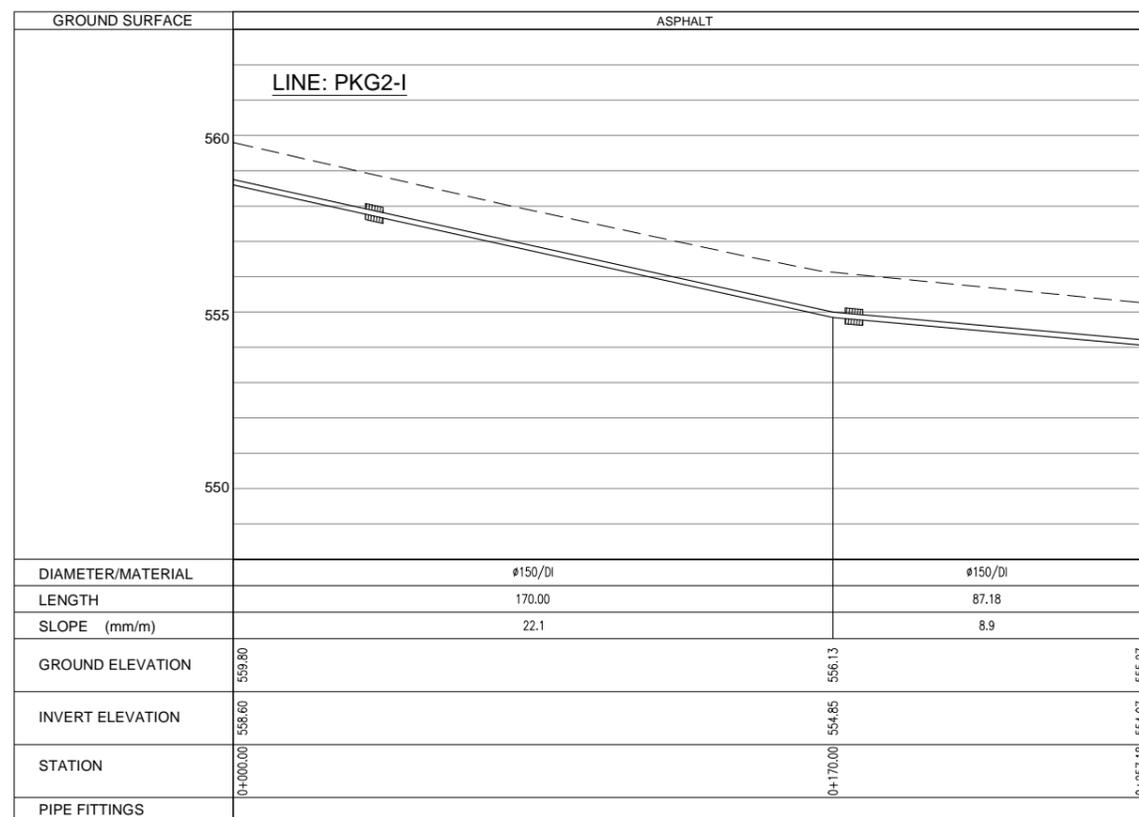
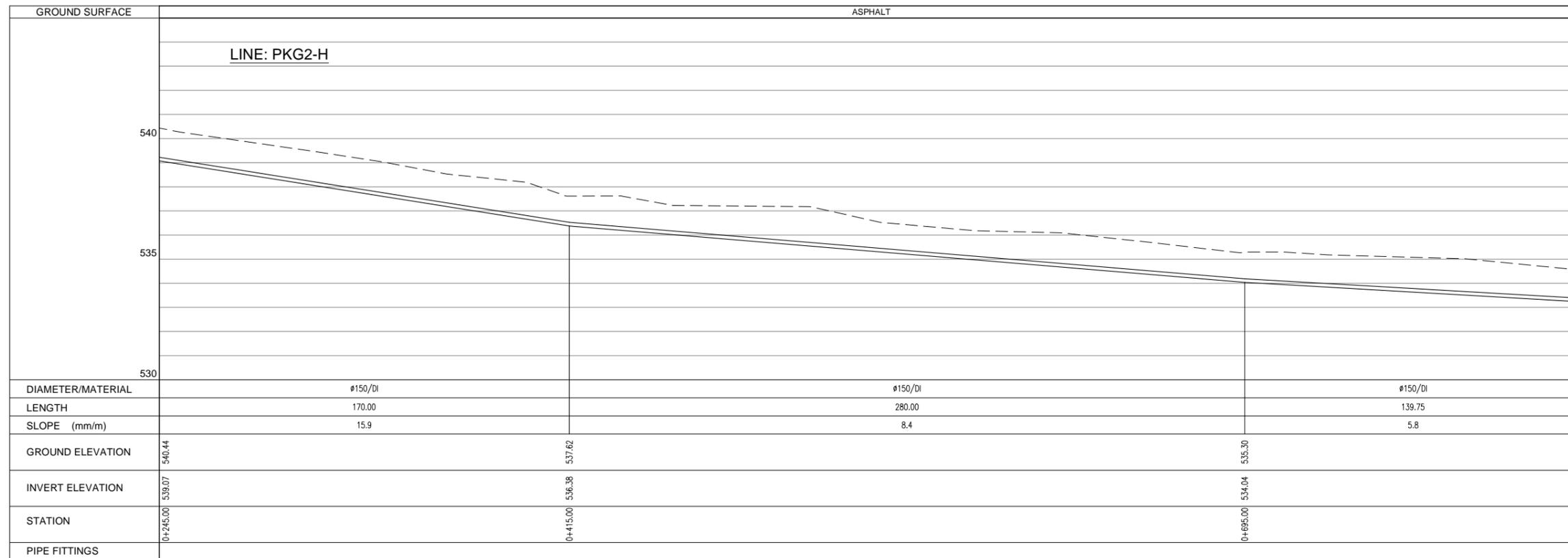
Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No. PRG-24	Scale H:1/1000 V:1/100	Size A1

LEGEND:

-  AIR VALVE
-  WASHOUT
-  ENCASEMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES
*SEE Drawing No.ST-14

NOTES:

Minimum depth of pipeline (top level) shall be 1.0m for Municipality Roads and 2.0m for MoPWH Roads



REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
GRAVITY SYSTEM
 Profile of Line PKG2-H from Sta. 0+245.00 to 0+834.75
 Profile of Line PKG2-I from Sta. 0+000 to 0+257.18
 Profile of Line PKG2-J from Sta. 0+000 to 0+331.44

Design By	Reviewed By	
Checked By	Date	
Mar. 2017		
Drawing No.	Scale	Size
PRG-25	H:1/1000 V:1/100	A1

DETAIL CONNECTIONS OF NEW PIPELINES WITH TWO DIFFERENT DIAMETERS

CONNECTIONS NO.	SYMBOLS	DETAIL	LIST OF (DI) FITTINGS REQUIRED	DETAIL	LIST OF (DI & PE) FITTINGS REQUIRED	DETAIL	LIST OF (PE) FITTINGS REQUIRED
			DN1 (DI) > DN2 (DI)	DN1 (DI) > DN2 (PE)	DN1 (PE) > DN2 (PE)		
C1			EXTENDED PIPELINES 1 SOCKET REDUCER DN1/DN2		1 FLANGED SPIGOT DN2 1 SOCKET REDUCER DN1/DN2 1 ELECTRO FUSION FLANGED ADAPTOR DN2		1 ELECTRO FUSION REDUCER
C2			PERPENDICULAR PIPELINES 1 ALL FLANGED TEE DN1/DN2 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 1 FLANGED ADAPTER DN1		1 ALL FLANGED TEE DN1/DN2 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 1 FLANGED ADAPTER DN1 1 ELECTRO FUSION FLANGED ADAPTER DN2 1 FLANGED SOCKET DN1		1 ELECTRO FUSION TEE DN1/DN2 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 2 ELECTRO FUSION FLANGED ADAPTER DN1 2 ELECTRO FUSION FLANGED ADAPTER DN2
C3			PERPENDICULAR PIPELINES 1 ALL FLANGED TEE DN1/DN2 1 FLANGED SOCKET DN1 2 FLANGED GATE VALVE DN2 2 FLANGED ADAPTER DN2 1 FLANGED REDUCER DN1/DN2		1 ALL FLANGED TEE DN1/DN2 1 FLANGED SOCKET DN1 2 FLANGED GATE VALVE DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2 1 FLANGED REDUCER DN1/DN2		1 ELECTRO FUSION TEE DN1/DN2 2 FLANGED GATE VALVE DN2 4 ELECTRO FUSION FLANGED ADAPTER DN2 1 ELECTRO FUSION REDUCER DN1/DN2
C4			PERPENDICULAR PIPELINES 1 ALL FLANGED TEE DN1 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 1 FLANGED ADAPTER DN1		1 ALL FLANGED TEE DN1 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 1 FLANGED ADAPTER DN1 1 REDUCER FLANGED DN1/DN2 1 ELECTRO FUSION FLANGED ADAPTER DN2		1 ELECTRO FUSION TEE DN1 1 FLANGED GATE VALVE DN1 1 FLANGED GATE VALVE DN2 2 ELECTRO FUSION FLANGED ADAPTER DN1 2 ELECTRO FUSION FLANGED ADAPTER DN2 1 ELECTRO FUSION REDUCER DN1/DN2
C5			PERPENDICULAR PIPELINES 1 ALL FLANGED TEE DN1 2 FLANGED REDUCER DN1/DN2 1 FLANGED SOCKET DN1 2 FLANGED GATE VALVE DN2 2 FLANGED ADAPTER DN2		1 ALL FLANGED TEE DN1 1 FLANGED SOCKET DN1 2 FLANGED GATE VALVE DN2 2 FLANGED GATE VALVE DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2		1 ELECTRO FUSION TEE DN1 2 ELECTRO FUSION REDUCER DN1/DN2 2 FLANGED GATE VALVE DN2 4 ELECTRO FUSION FLANGED ADAPTER DN2

DETAIL CONNECTIONS OF NEW PIPELINES WITH EQUAL DIAMETERS

DETAIL NO.	SYMBOLS	DETAIL	LIST OF (DI) FITTINGS REQUIRED	DETAIL	LIST OF (DI & PE) FITTINGS REQUIRED	DETAIL	LIST OF (PE) FITTINGS REQUIRED
			DN1 (DI) = DN2 (DI)	DN1 (DI) = DN2 (PE)	DN1 (PE) = DN2 (PE)		
C6			PERPENDICULAR PIPELINES 1 TEE ALL FLANGED DN 1 FLANGED SOCKET DN 2 FLANGED GATE VALVES DN 2 FLANGED ADAPTERS DN		1 ELECTRO FUSION TEE DN 2 FLANGED GATE VALVE DN 1 FLANGED SOCKET DN 5 ELECTRO FUSION FLANGED ADAPTER DN		1 ELECTRO FUSION TEE DN 2 FLANGED GATE VALVES DN 4 ELECTRO FUSION FLANGED ADAPTERS DN
C7			END POINT FOR DN :- 1 FLANGED SOCKET DN 1 BLIND FLANGE DN				1 ELECTRO FUSION END CAP

DETAIL CONNECTIONS OF NEW PIPELINES WITH THREE DIFFERENT DIAMETERS

DETAIL NO.	SYMBOLS	DETAIL	LIST OF (DI) FITTINGS REQUIRED	DETAIL	LIST OF (DI & PE) FITTINGS REQUIRED	DETAIL	LIST OF (PE) FITTINGS REQUIRED
			DN1 (DI) > DN2 (DI) > DN3 (DI)	DN1 (DI) > DN2 (DI) > DN3 (PE)	DN1 (PE) > DN2 (PE) > DN3 (PE)		
C8			PERPENDICULAR PIPELINES 1 TEE ALL FLANGED DN1/DN2 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVE DN2 1 FLANGED GATE VALVE DN3 1 FLANGED ADAPTER DN2		1 TEE ALL FLANGED DN1/DN2 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVES DN2 1 FLANGED GATE VALVES DN3 1 FLANGED ADAPTER DN2 1 FLANGED REDUCER DN1/DN3 1 ELECTRO FUSION FLANGED ADAPTER DN3		1 ELECTRO FUSION TEE DN1/DN2 1 ELECTRO FUSION REDUCER DN1/DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2 1 ELECTRO FUSION REDUCER DN1/DN3 1 FLANGED GATE VALVE DN3 2 ELECTRO FUSION FLANGED ADAPTER DN3
C9			PERPENDICULAR PIPELINES 1 TEE ALL FLANGED DN1 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVE DN2 1 FLANGED GATE VALVE DN3 1 FLANGED ADAPTER DN2		1 TEE ALL FLANGED DN1 1 FLANGED SOCKET DN1 1 FLANGED GATE VALVES DN2 1 FLANGED GATE VALVES DN3 1 FLANGED REDUCER DN1/DN2 1 FLANGED REDUCER DN1/DN3		1 ELECTRO FUSION TEE DN1 1 ELECTRO FUSION REDUCER DN1/DN2 1 ELECTRO FUSION REDUCER DN1/DN3 1 FLANGED GATE VALVE DN2 1 FLANGED GATE VALVE DN3 2 ELECTRO FUSION FLANGED ADAPTER DN2 2 ELECTRO FUSION FLANGED ADAPTER DN3

NOTES:

- 1 : FLANGED SPIGOT SHALL BE USED INSTEAD OF FLANGED SOCKET IF PIPE LAYING DIRECTION REQUIRES.
- 2 : ADDITIONAL ISOLATION VALVES AND/OR FLANGED ADAPTERS TO BE INSTALLED IF INSTRUCTED.
- 3 : IF UNFAVORABLE SITE CONDITION PREVAIL CONNECTION DETAILS MAY BE CHANGED WITH THE APPROVAL OF THE ENGINEER.
- 4 : IN CASE OF EXISTING PIPE OF (CI) SAME FITTINGS AS TO (DI) TO BE USED
- 5 : BUTTERFLY VALVE SHALL BE USED IN CASE OF DIAMETER MORE THAN 300mm.

REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
 Standard Details
 Schedule of Connection Details

Design By	Reviewed By	Checked By	Date	Mar.2017
Drawing No.	Scale	Size		
ST 01	N.T.S	A1		

DETAIL CONNECTIONS OF EXISTING AND NEW PIPELINES

CONNECTIONS NO.	SYMBOLS	DN1 NEW LINE	DN2 EXISTING LINE	DETAILS	LIST OF FITTINGS REQUIRED	DETAILS	LIST OF FITTINGS REQUIRED
		PIPE MATERIAL	PIPE MATERIAL		DN1 = DN2		DN1 > DN2
C10		DI	DI		1 COUPLER DN1		1 FLANGE SOCKET DN1 1 FLANGED ADAPTER DN2 1 FLANGE REDUCER DN1/DN2
		PE	DI		1 ELECTRO FUSION FLANGED ADAPTER DN1 1 FLANGED ADAPTER DN2		1 ELECTRO FUSION REDUCER DN1/DN2 1 ELECTRO FUSION FLANGED ADAPTER DN2 1 FLANGED ADAPTER DN2
		DI	PE		1 FLANGE SOCKET DN1 1 ELECTRO FUSION FLANGED ADAPTER DN2		1 SOCKET REDUCER DN1/DN2 1 FLANGE SPIGOT DN2 1 ELECTRO FUSION FLANGED ADAPTER DN2
		PE	PE		1 ELECTRO FUSION COUPLER DN1		1 ELECTRO FUSION REDUCER DN1/DN2
		DI	DI		1 FLANGED GATE VALVE DN1 2 FLANGED ADAPTER DN1		
C11		DI	DI		1 ALL FLANGED TEE DN1 2 FLANGED ADAPTER DN1 1 FLANGED SOCKET DN1		1 ALL FLANGED TEE DN1 2 FLANGED ADAPTER DN2 2 FLANGE REDUCER DN1/DN2 1 FLANGED SOCKET DN1
		PE	DI		1 ALL FLANGED TEE DN2 2 FLANGED ADAPTER DN2 1 ELECTRO FUSION FLANGED ADAPTER DN1		1 ELECTRO FUSION TEE DN1 1 ELECTRO FUSION REDUCER DN1/DN2 2 FLANGED ADAPTER DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2
		PE	PE		1 ELECTRO FUSION TEE DN1		1 ELECTRO FUSION TEE DN1 2 ELECTRO FUSION REDUCER DN1/DN2
		DI	PE		1 ELECTRO FUSION TEE WITH FLANGED BRANCH DN2 1 FLANGED ADAPTER DN1		1 ALL FLANGED TEE DN1 2 FLANGED REDUCER DN1/DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2 1 FLANGED SOCKET DN1
C12		DI	DI		1 ALL FLANGED TEE DN1 2 FLANGED ADAPTER DN1 1 FLANGED SOCKET DN1		1 ALL FLANGED TEE DN1/DN2 1 FLANGED SOCKET DN1 2 FLANGED ADAPTER DN2 1 FLANGED REDUCER DN1/DN2
		DI	PE		1 ELECTRO FUSION TEE DN2 1 ELECTRO FUSION FLANGED ADAPTER DN2 1 FLANGED ADAPTER DN1		1 ALL FLANGED TEE DN1/DN2 2 ELECTRO FUSION FLANGED ADAPTER DN2 (PE) 1 FLANGED SOCKET DN1 1 FLANGED REDUCER DN1/DN2
		PE	DI		1 ALL FLANGED TEE DN2 2 FLANGED ADAPTER DN2 1 ELECTRO FUSION FLANGED ADAPTER DN1		1 ELECTRO FUSION TEE WITH FLANGED BRANCH DN1/DN2 1 ELECTRO FUSION REDUCER DN1/DN2 1 ELECTRO FUSION FLANGED ADAPTER DN1 2 FLANGED ADAPTER DN2
		PE	PE		1 ELECTRO FUSION TEE DN1		1 ELECTRO FUSION TEE DN1 2 ELECTRO FUSION REDUCER DN1/DN2

NOTES:

- 1 : FLANGED SPIGOT SHALL BE USED INSTEAD OF FLANGED SOCKET IF PIPE LAYING DIRECTION REQUIRES.
- 2 : ADDITIONAL ISOLATION VALVES AND/OR FLANGED ADAPTERS TO BE INSTALLED IF INSTRUCTED.
- 3 : IF UNFAVORABLE SITE CONDITION PREVAIL CONNECTION DETAILS MAY BE CHANGED WITH THE APPROVAL OF THE ENGINEER.
- 4 : IN CASE OF EXISTING PIPE OF (CI) SAME FITTINGS AS TO (DI) TO BE USED
- 5 : BUTTERFLY VALVE SHALL BE USED IN CASE OF DIAMETER MORE THAN 300mm.

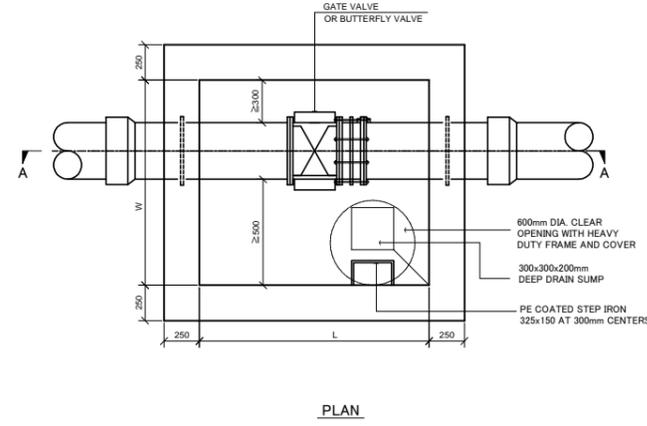
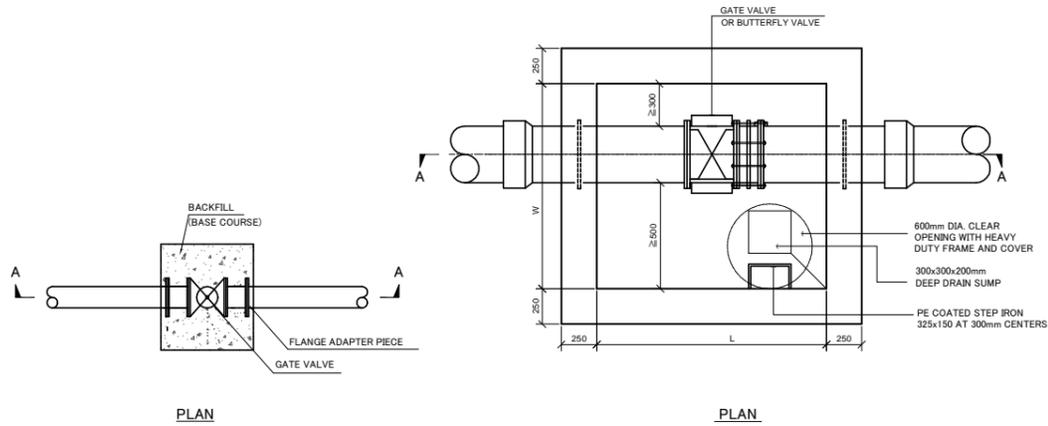
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Schedule of Connection Details

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
ST 02	N.T.S	A1	

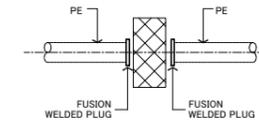
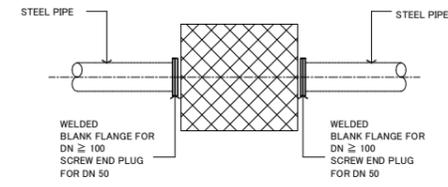
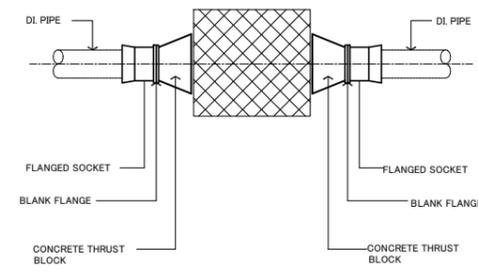


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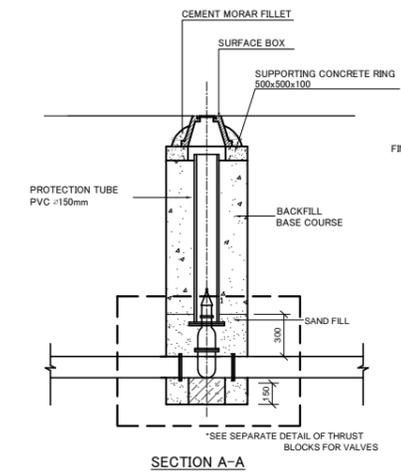
*THRUST BLOCKS SIZE SHALL BE CALCULATED BASED ON PIPE SIZE AND PRESSURE

*DESIGN OF THRUST BLOCK FOR DISCONNECTION SHALL BE SAME AS THE THRUST BLOCK FOR GATE VALVES SHOWN IN Drawing NO.ST 15

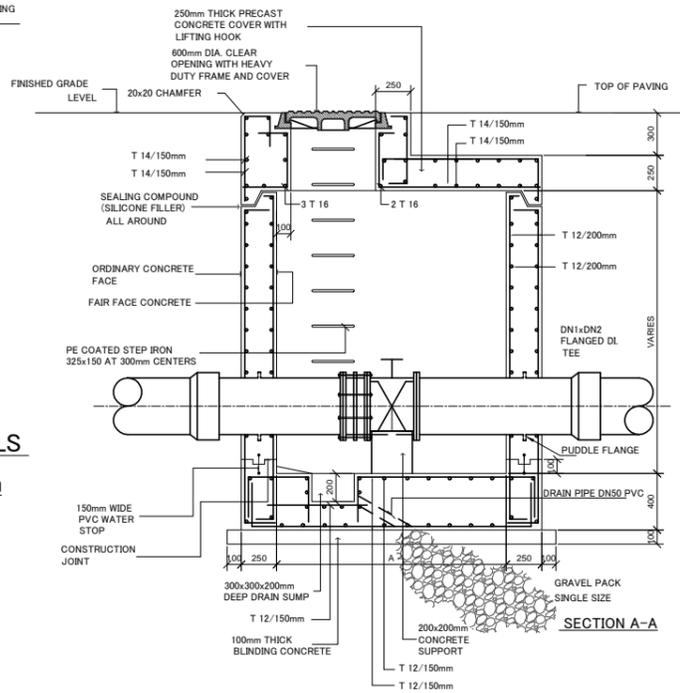
* BUTTERFLY VALVE for DISCONNECTION SHALL BE USED IN CASE OF DIAMETER 300mm OR MORE.



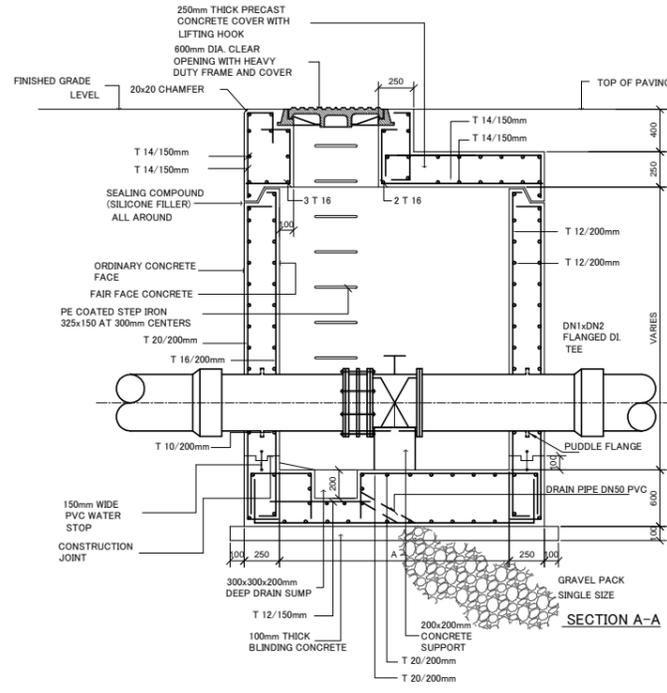
DISCONNECTION DETAILS



CONNECTION CHAMBER DETAILS BETWEEN DIAMETER ≤ 150mm



CONNECTION CHAMBER DETAILS BETWEEN DIAMETER ≤ 400mm



CONNECTION CHAMBER DETAILS BETWEEN DIAMETER > 400mm

NOTES:

- 1-ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
- 2-ALL JOINTS BETWEEN PIPES&CONCRETE SHALL BE WATER TIGHT
- 3-WHEN FRESH CONCRETE IS PLACED AGAINST A HARDENED CONCRETE SURFACE, THE JOINT BETWEEN THE TWO POURS IS CALLED A CONSTRUCTION JOINT AND SHALL BE PROVIDED WITH HEAVY DUTY WATER STOP 250mm WIDE.
- 4-CONCRETE AND REINFORCEMENT
 - CONCRETE SHALL BE CLASS(I) FOR REINFORCED CONCRETE.
 - REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL, 4200KG/CM2 YIELD STRESS.
- 5-ALL CONCRETE BASES SHALL HAVE BLINDING CONCRETE POURED ON GROUND.

REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
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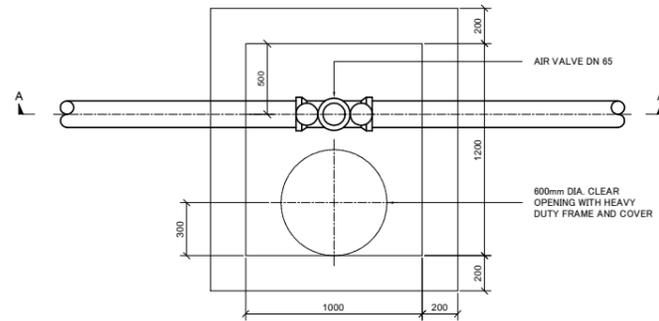
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Connection Structural Chamber & Disconnection Details

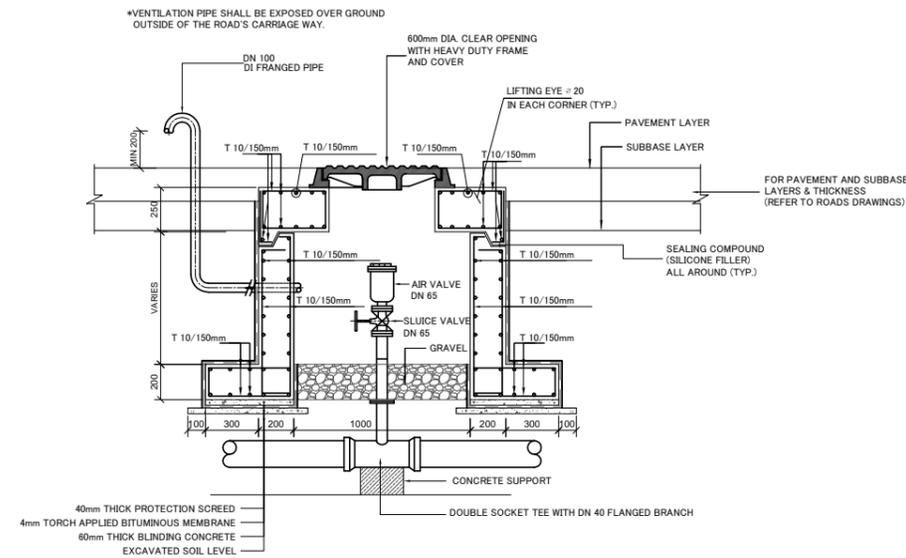
Design By	Reviewed By	Checked By	Date	Mar.2017
Drawing No.	Scale	N.T.S	Size	A1
ST 03				

NOTES:

- 1-ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
- 2-ALL JOINTS BETWEEN PIPES&CONCRETE SHALL BE WATER TIGHT
- 3-WHEN FRESH CONCRETE IS PLACED AGAINST A HARDENED CONCRETE SURFACE, THE JOINT BETWEEN THE TWO POURS IS CALLED A CONSTRUCTION JOINT AND SHALL BE PROVIDED WITH HEAVY DUTY WATER STOP 250mm WIDE.
- 4-CONCRETE AND REINFORCEMENT
 - CONCRETE SHALL BE CLASS(I) FOR REINFORCED CONCRETE.
 - REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL, 4200KG/CM2 YIELD STRESS.
- 5-ALL CONCRETE BASES SHALL HAVE BLINDING CONCRETE POURED ON GROUND.



TOP PLAN



SECTION A-A

AIR VALVE IN ROADS FOR DI-MAIN LINES DN = 150mm

REVISIONS

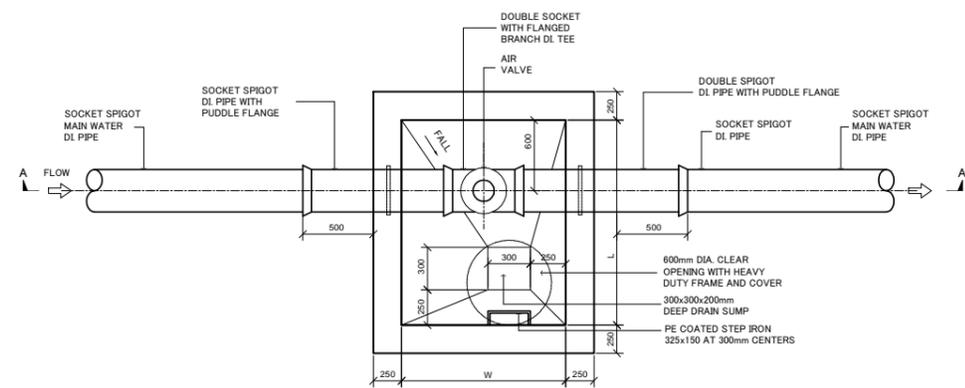
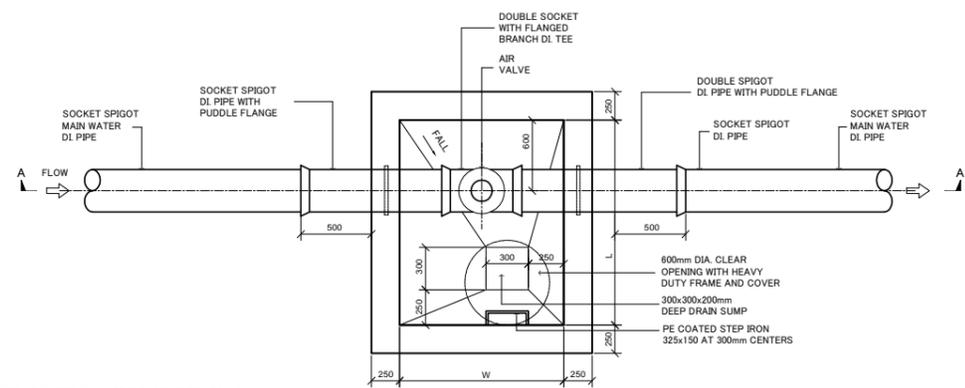
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

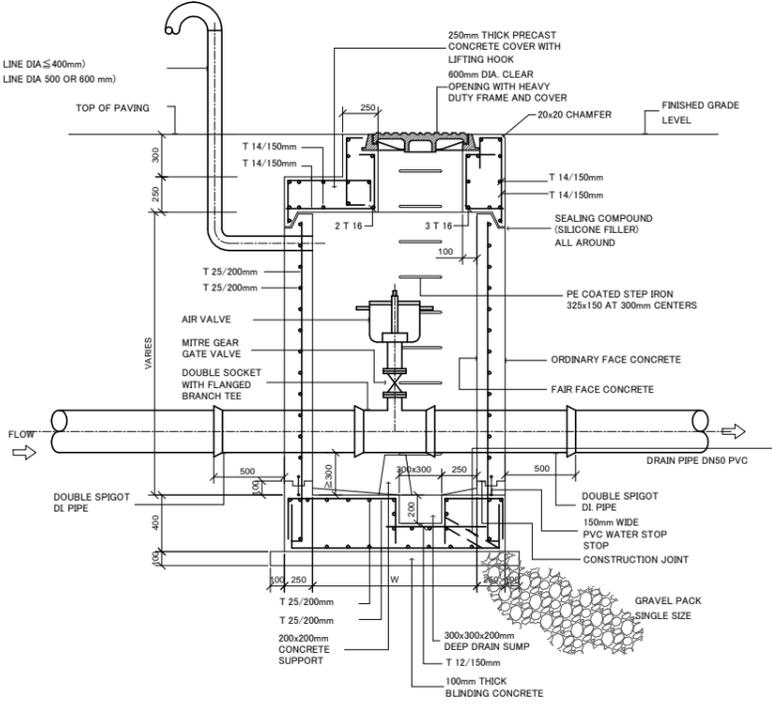
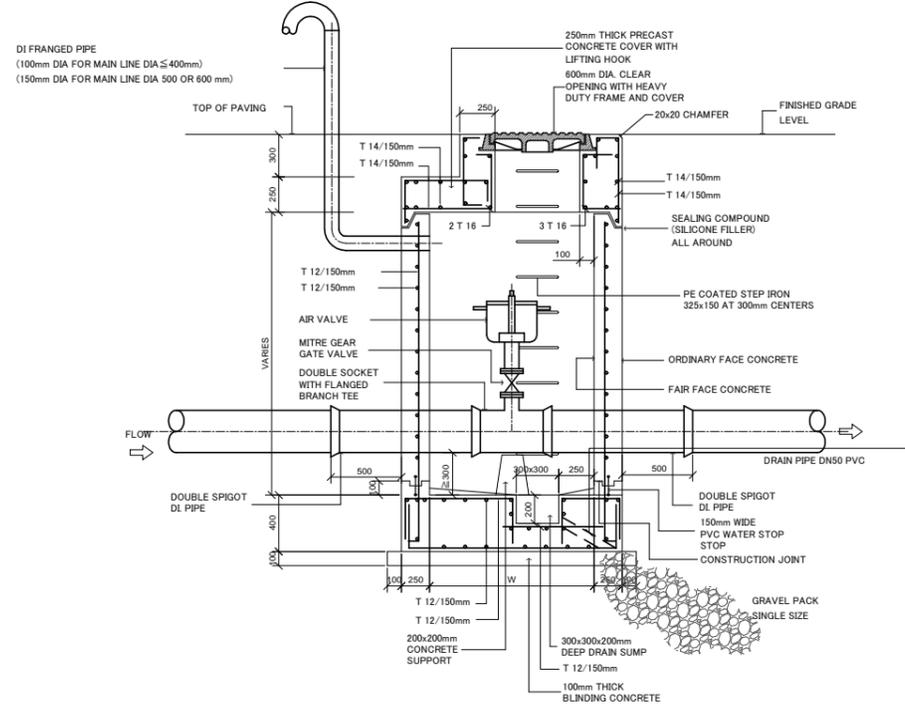
Drawing Title
Standard Details
Air Valve Chambers

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
ST 04	N.T.S	A1	



*VENTILATION PIPE SHALL BE EXPOSED OVER GROUND OUTSIDE OF THE ROAD'S CARRIAGE WAY.

*VENTILATION PIPE SHALL BE EXPOSED OVER GROUND OUTSIDE OF THE ROAD'S CARRIAGE WAY.



AIR VALVE CHAMBERS SCHEDULE

TYPE OF AIR VALVE	MAIN LINE DN IN mm	AIR VALVE DIA IN mm	CHAMBER SIZE	
			L IN mm	W IN mm
DOUBLE AIR VALVE	200	80	1500	1200
DOUBLE AIR VALVE	250	80	1500	1200
DOUBLE AIR VALVE	300	80	1600	1200
DOUBLE AIR VALVE	400	100	1600	1400

AIR VALVE CHAMBER FOR DI. MAIN LINES DN ≥ 200 & ≤ 400

AIR VALVE CHAMBERS SCHEDULE

TYPE OF AIR VALVE	MAIN LINE DN IN mm	AIR VALVE DIA IN mm	CHAMBER SIZE	
			L IN mm	W IN mm
DOUBLE AIR VALVE	600	100	1700	1500
DOUBLE AIR VALVE	800	150	1700	1500
DOUBLE AIR VALVE	1000	200	1800	1800
DOUBLE AIR VALVE	1200	200	1900	2200

AIR VALVE CHAMBER FOR DI. MAIN LINES DN > 400

NOTES:

- 1-ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
- 2-ALL JOINTS BETWEEN PIPES&CONCRETE SHALL BE WATER TIGHT
- 3-WHEN FRESH CONCRETE IS PLACED AGAINST A HARDENED CONCRETE SURFACE, THE JOINT BETWEEN THE TWO POURS IS CALLED A CONSTRUCTION JOINT AND SHALL BE PROVIDED WITH HEAVY DUTY WATER STOP 250mm WIDE.
- 4-CONCRETE AND REINFORCEMENT
 - CONCRETE SHALL BE CLASS(I) FOR REINFORCED CONCRETE.
 - REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL, 4200KG/CM2 YIELD STRESS.
- 5-ALL CONCRETE BASES SHALL HAVE BLINDING CONCRETE POURED ON GROUND.
- 6-VENT PIPE SHALL BE INSTALLED IN APPROPRIATE PLACE OUT OF THE ASPHALTED ROAD.

REVISIONS

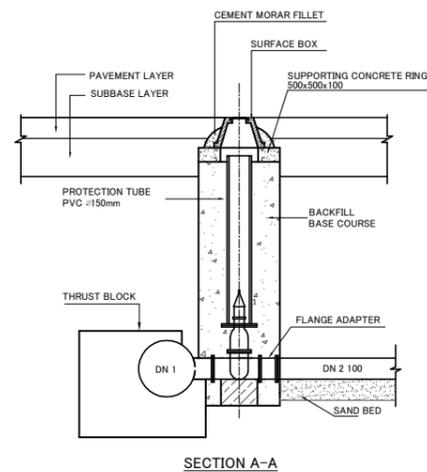
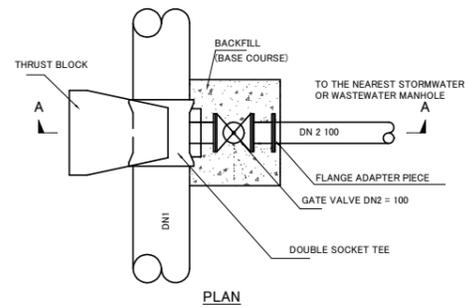
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

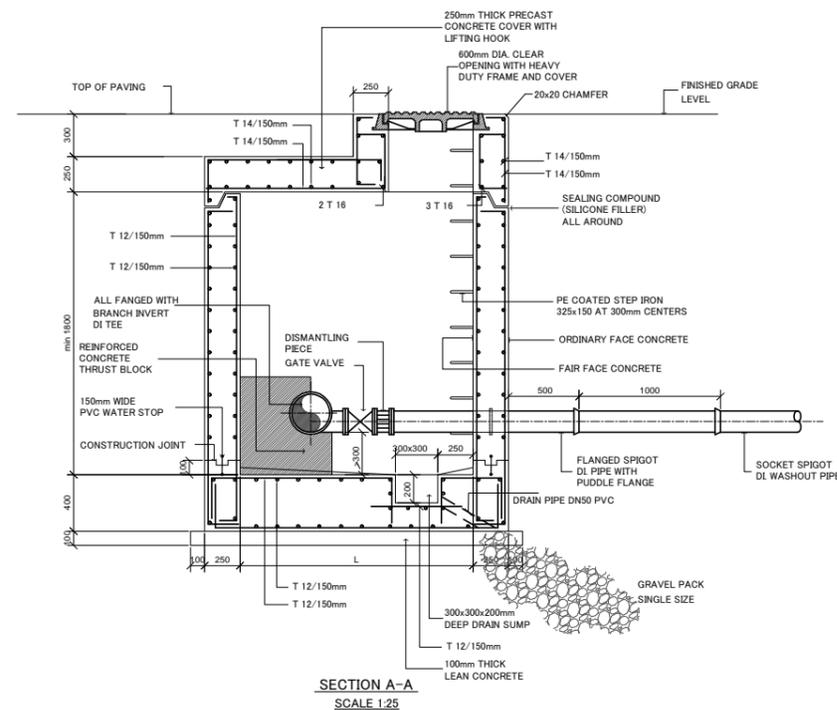
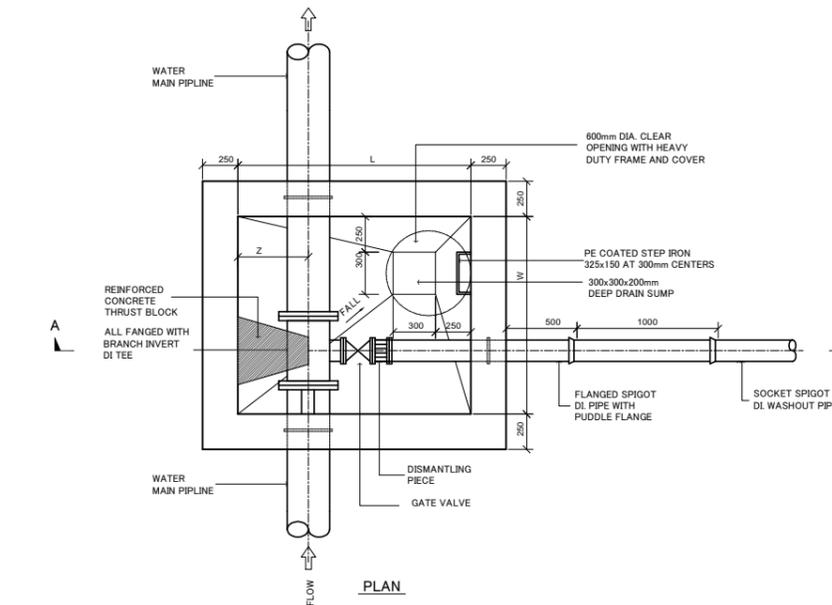
Drawing Title
Standard Details
Air Valve Chambers

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	N.T.S	Size
Drawing No.	ST 05	Scale	A1



WASHOUT TYPE (1) CHAMBER DETAILS
FOR PIPES \leq 200mm

MAIN LINE IN mm	WASHOUT PIPE & VALVE DIAMETER IN mm
150	100
200	100



WASHOUT TYPE (2) CHAMBER DETAILS
200mm < FOR PIPES < 500mm

WASHOUT VALVE CHAMBER SCHEDULE

PIPE DN IN mm	L IN mm	W IN mm	Z IN mm	WASHOUT PIPE & VALVE DIAMETER
300	1600	1400	500	150
400	1800	1400	500	150
250	1500	1300	500	150

NOTES:

- 1-ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
- 2-ALL JOINTS BETWEEN PIPES&CONCRETE SHALL BE WATER TIGHT
- 3-WHEN FRESH CONCRETE IS PLACED AGAINST A HARDENED CONCRETE SURFACE, THE JOINT BETWEEN THE TWO POURS IS CALLED A CONSTRUCTION JOINT AND SHALL BE PROVIDED WITH HEAVY DUTY WATER STOP 250mm WIDE.
- 4-CONCRETE AND REINFORCEMENT
 - CONCRETE SHALL BE CLASS(I) FOR REINFORCED CONCRETE.
 - REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL, 4200KG/CM2 YIELD STRESS.
- 5-ALL CONCRETE BASES SHALL HAVE BLINDING CONCRETE POURED ON GROUND.

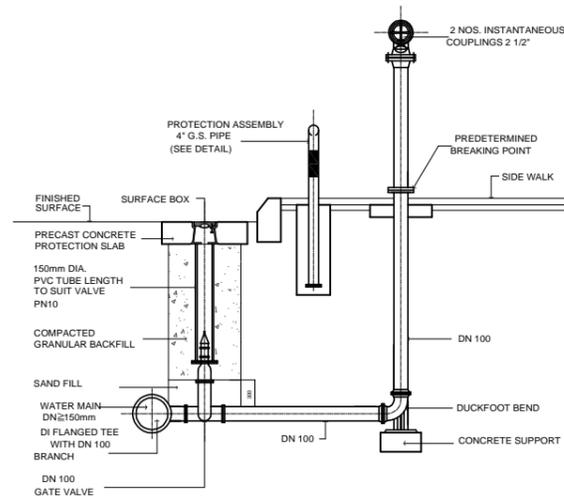
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No.	DESCRIPTION	BY	DATE

Consultant
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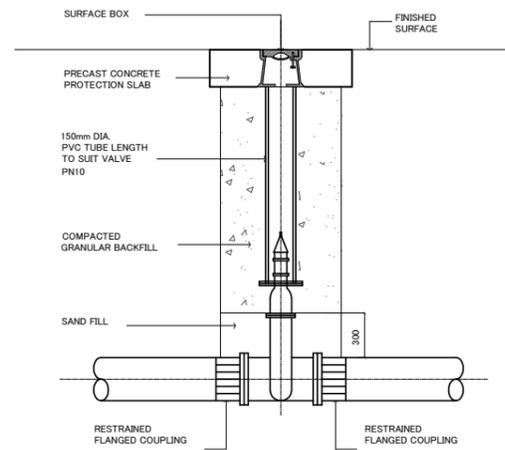
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Washout Chambers

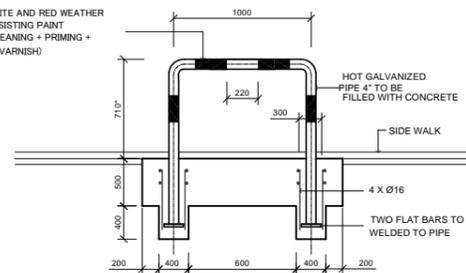
Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	N.T.S	Size
Drawing No.	ST 06	Scale	A1



**FIRE HYDRANT
TYPICAL INSTALLATION**



GATE VALVE WITH SURFACE BOX DETAIL FOR DN100mm



**PROTECTION ASSEMBLY
FRONT VIEW**

* DEPENDS ON HYDRANT OUTLET

NOTES:

- 1-ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
- 2-ALL JOINTS BETWEEN PIPES&CONCRETE SHALL BE WATER TIGHT
- 3-WHEN FRESH CONCRETE IS PLACED AGAINST A HARDENED CONCRETE SURFACE, THE JOINT BETWEEN THE TWO POURS IS CALLED A CONSTRUCTION JOINT AND SHALL BE PROVIDED WITH HEAVY DUTY WATER STOP 250mm WIDE.
- 4-CONCRETE AND REINFORCEMENT
 - CONCRETE SHALL BE CLASS(I) FOR REINFORCED CONCRETE.
 - REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL, 4200KG/CM² YIELD STRESS.
- 5-ALL CONCRETE BASES SHALL HAVE BLINDING CONCRETE POURED ON GROUND.

REVISIONS			
No.	DESCRIPTION	BY	DATE

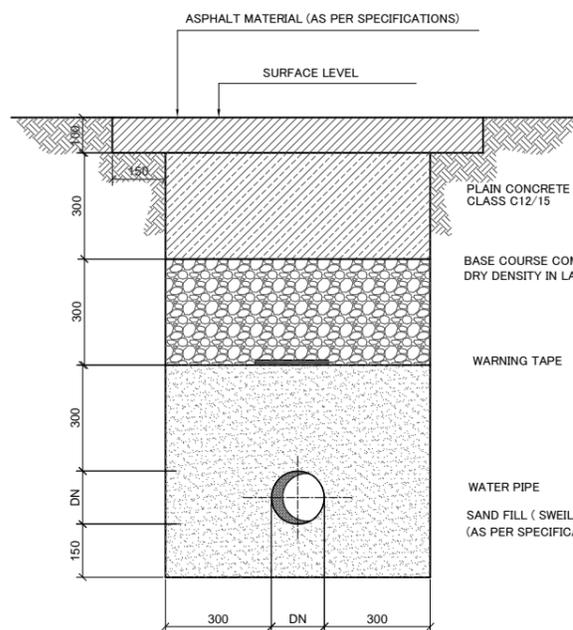
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

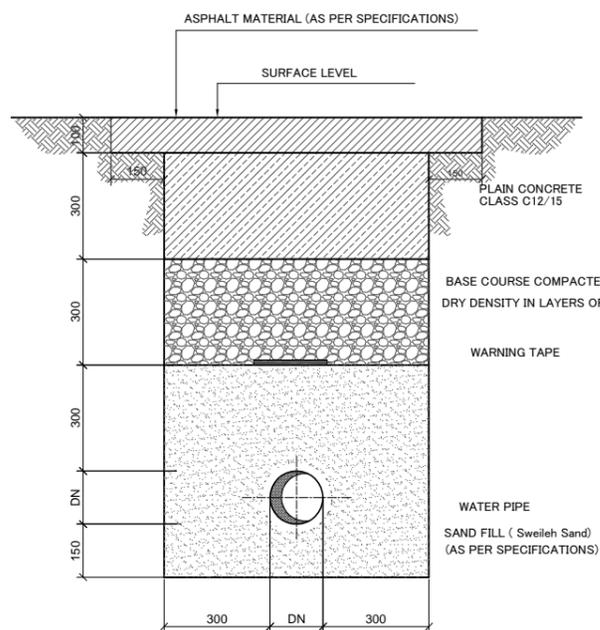
Drawing Title
**Standard Details
 Fire Hydrant**

Design By	Reviewed By	Date	Mar.2017
Checked By	Scale	Size	A1
Drawing No.	ST 08	N.T.S	A1

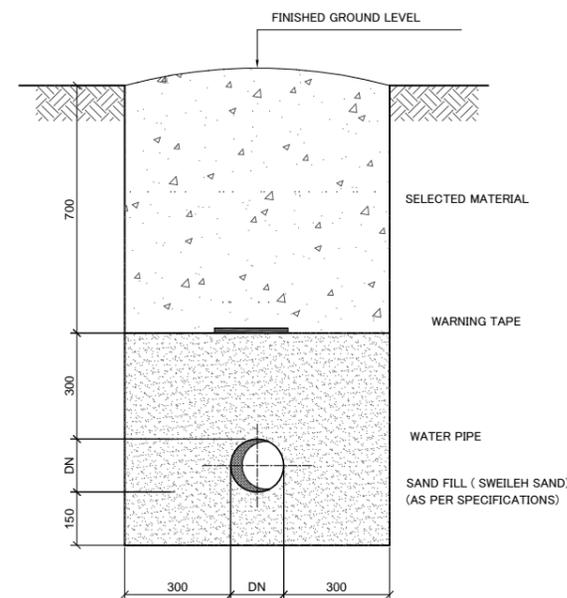
Typical Trench Cross Sections Details within Irbid Municipality Roads



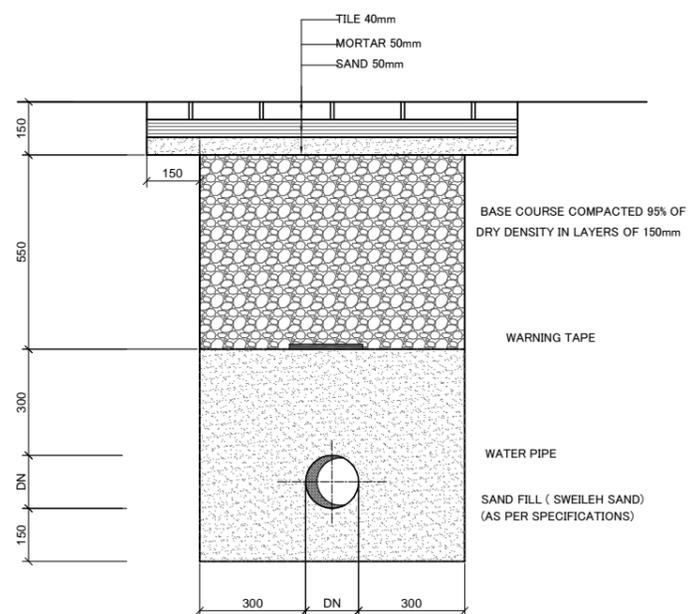
ALONG ROADS WITH ASPHALT SURFACE



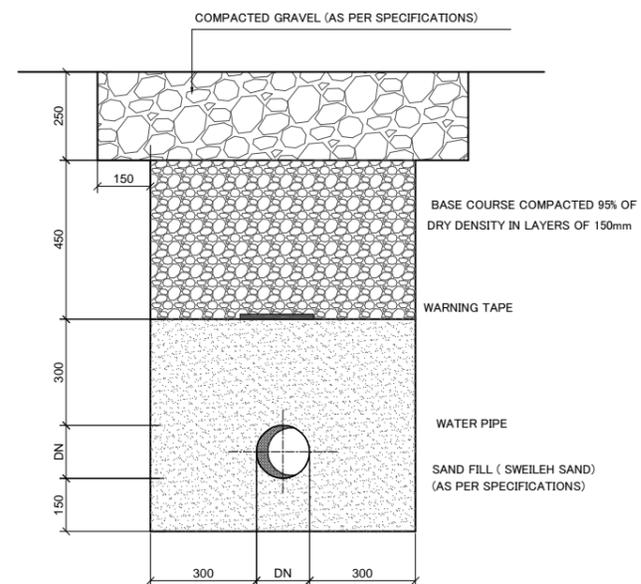
FOR PIPES CROSSING ROADS WITH ASPHALT SURFACE AT SKEW OR RIGHT ANGLES



IN NATURAL GROUND



ALONG STONE PAVED ROADS IN OLD CITY TILE AND PAVED SIDE WALKS



ALONG ROADS WITH DIRT/GRAVEL SURFACE

NOTES:

- 1 - TOTAL COVER FROM GROUND SURFACE TO TOP OF PIPE TO BE 1.0 m MINIMUM EXCEPT WHERE SHOWN OTHERWISE ON PROFILE.
- 2 - ALL DIMENSIONS IN MILLIMETERS EXCEPT MENTIONED OTHERWISE.
- 3 - WARNING TAPE WITH ALUMINIUM STRIP CONDUCTOR ON ALL TRANSMISSION PIPES (30 CM ABOVE PIPE CREST)
- 4 - IN GREATER MUNICIPALITY AREAS, THE CONTRACTOR SHALL COMPLY WITH THE LOCAL REQUIREMENTS (CONCRETE PROTECTION IN ROADS OF ANY SURFACE)
- 5 - THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE MINISTRY OF PUBLIC WORKS AND HOUSING IN RESPECT OF TRENCH BACKFILLING REQUIREMENTS IN ANY ROADS.
- 6 - WHERE PIPES CROSS MAIN ROADS, A TRENCHLEES INSTALLATION SHALL BE USED LIAISON REQUIRED WITH THE RELEVANT AUTHORITIES.

REVISIONS			
No.	DESCRIPTION	BY	DATE

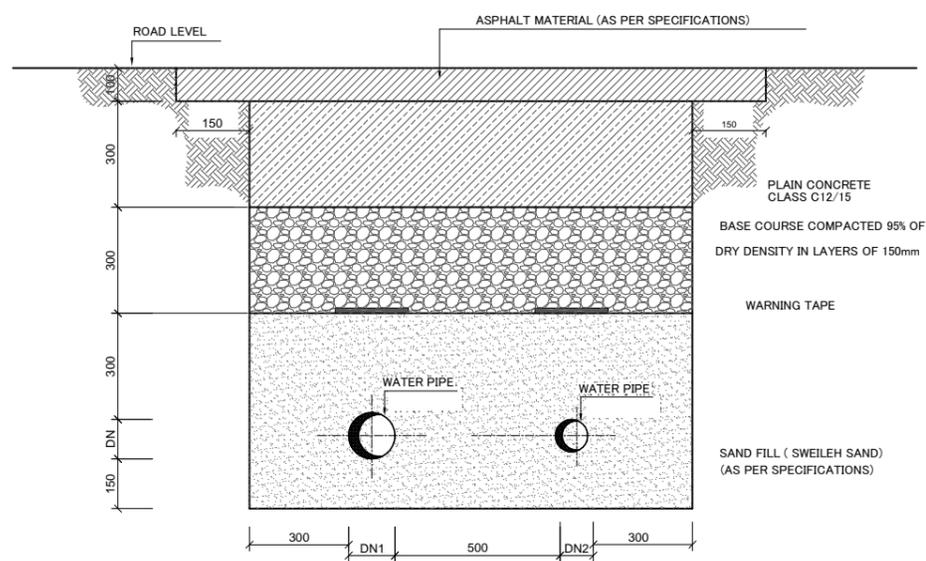
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
ARABTECH JARDANEH, JORDAN

Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

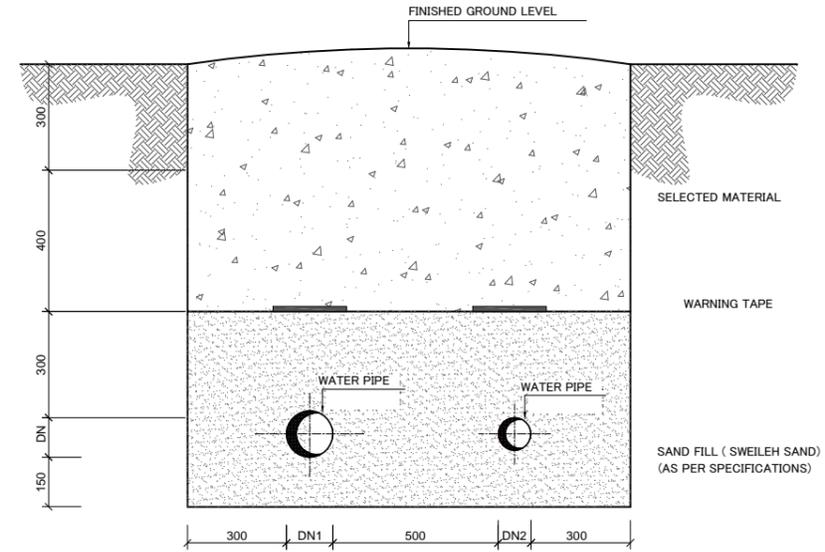
Drawing Title
Standard Details
 Typical Trench Cross Sections For Ductile Iron Pipes And Pe Dn ≥ 90

Design By	Reviewed By	Checked By	Date
			Mar.2017
Drawing No.	Scale	Size	
ST 09	1:10	A1	

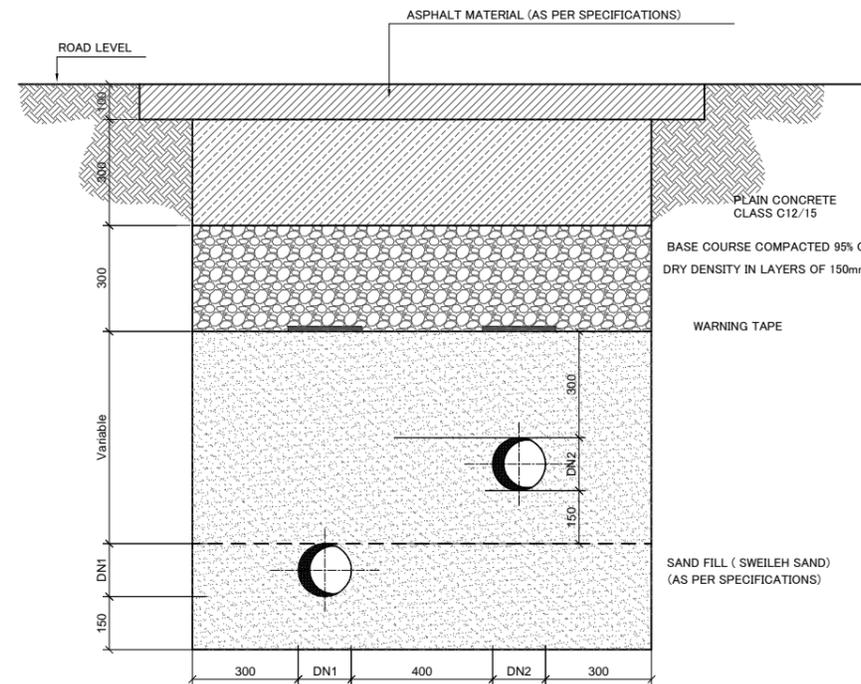
Typical Trench Cross Sections Details within Irbid Municipality Roads



ALONG ROADS WITH ASPHALT SURFACE
DN1 & DN2 > 200



IN NATURAL GROUND



TYPICAL CROSS SECTIONS FOR TWO PIPES IN ONE TRENCH
DN2 ≤ 200

NOTES:

- 1 - TOTAL COVER FROM GROUND SURFACE TO TOP OF PIPE TO BE 1.0 m MINIMUM EXCEPT WHERE SHOWN OTHERWISE ON PROFILE.
- 2 - ALL DIMENSIONS IN MILLIMETERS EXCEPT MENTIONED OTHERWISE.
- 3 - WARNING TAPE WITH ALUMINIUM STRIP CONDUCTOR ON ALL TRANSMISSION PIPES (30 CM ABOVE PIPE CREST)
- 4 - IN GREATER MUNICIPALITY AREAS, THE CONTRACTOR SHALL COMPLY WITH THE LOCAL REQUIREMENTS (CONCRETE PROTECTION IN ROADS OF ANY SURFACE)
- 5 - THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE MINISTRY OF PUBLIC WORKS AND HOUSING IN RESPECT OF TRENCH BACKFILLING REQUIREMENTS IN ANY ROADS.
- 6 - WHERE PIPES CROSS MAIN ROADS, A TRENCHLEES INSTALLATION SHALL BE USED LIAISON REQUIRED WITH THE RELEVANT AUTHORITIES.

REVISIONS

No.	DESCRIPTION	BY	DATE

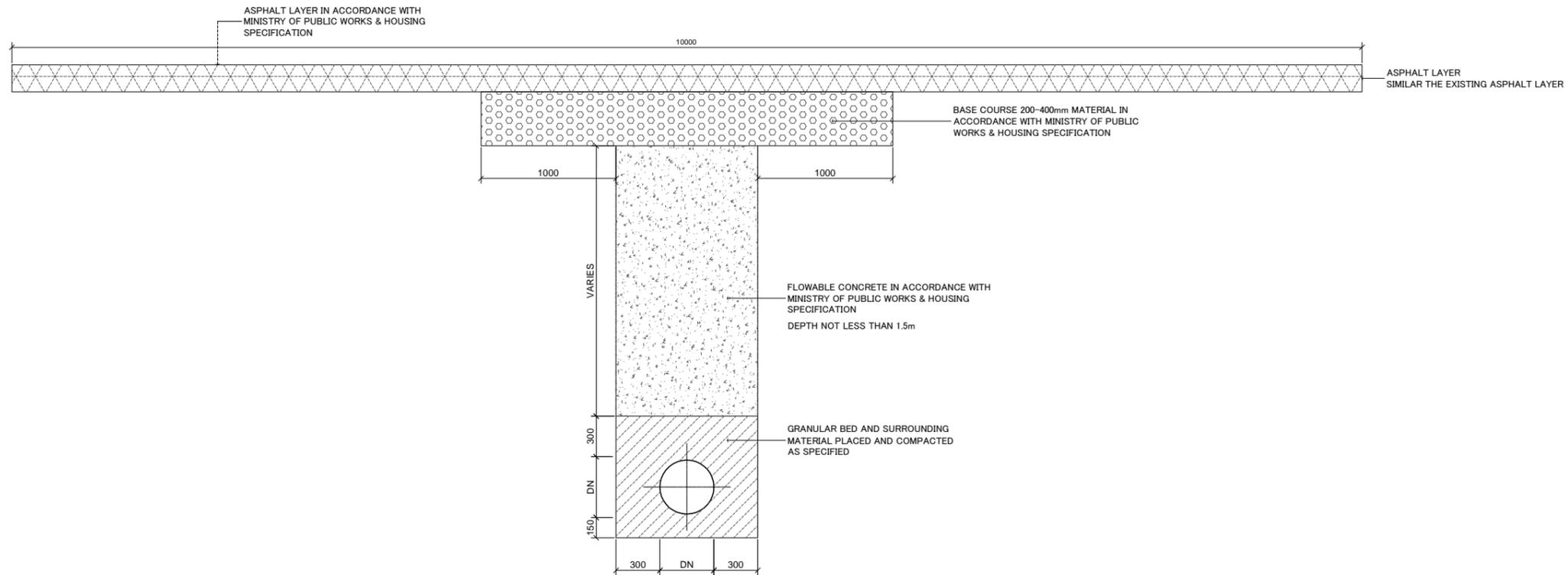
Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
in association with
ARABTECH JARDANEH, JORDAN

Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

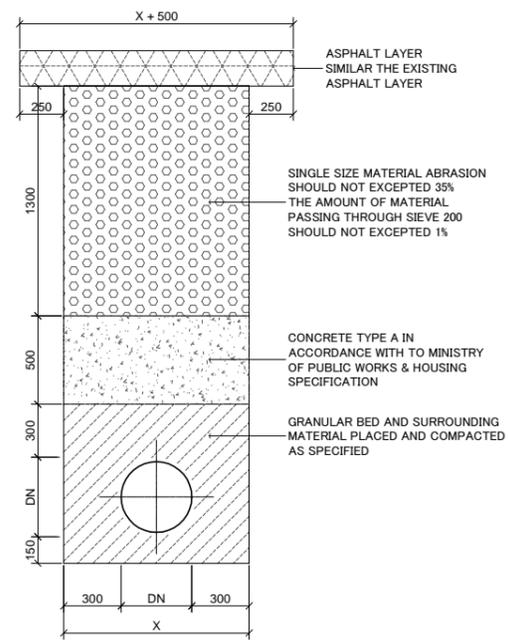
Drawing Title
Standard Details
Typical Cross Sections For Two Ductile Iron Pipes In One Trench

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
ST 10	1:10	A1	

Typical Trench Cross Sections Details within MoPHW Roads



CROSS SECTION OF PIPELINE CROSSING THE ROAD



CROSS SECTION OF PIPELINE ALONG THE ROAD

NOTES:

1. DIMENSIONS
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
2. CONCRETE AND REINFORCEMENT
CONCRETE SHALL BE CLASS (30) FOR REINFORCED CONCRETE
AND FOR BENCHING, HAUNCHING ETC.
REINFORCEMENT SHALL BE DEFORMED HIGH YIELD STEEL,
4200kg/cm² YIELD STRESS.
3. THE SHOWN REINSTATEMENT WORKS ARE THE MINIMUM
REQUIREMENTS.
HOWEVER, THE CONTRACTOR SHALL RESTORE ALL REMOVED
PAVEMENTS, SIDEWALKS, AND CURBING AND REPLACE THEM IN
THE SAME ORIGINAL SEQUENCE OF LAYERS.

REVISIONS

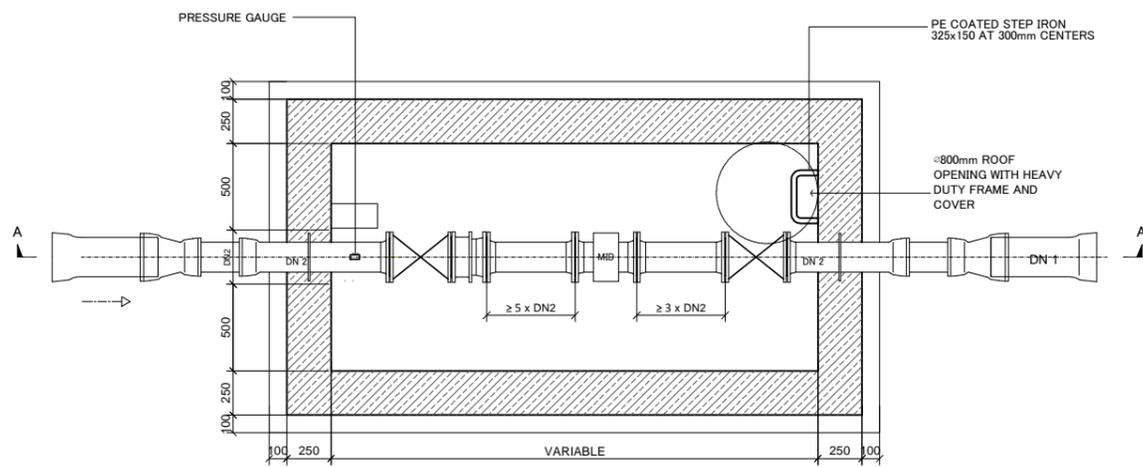
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
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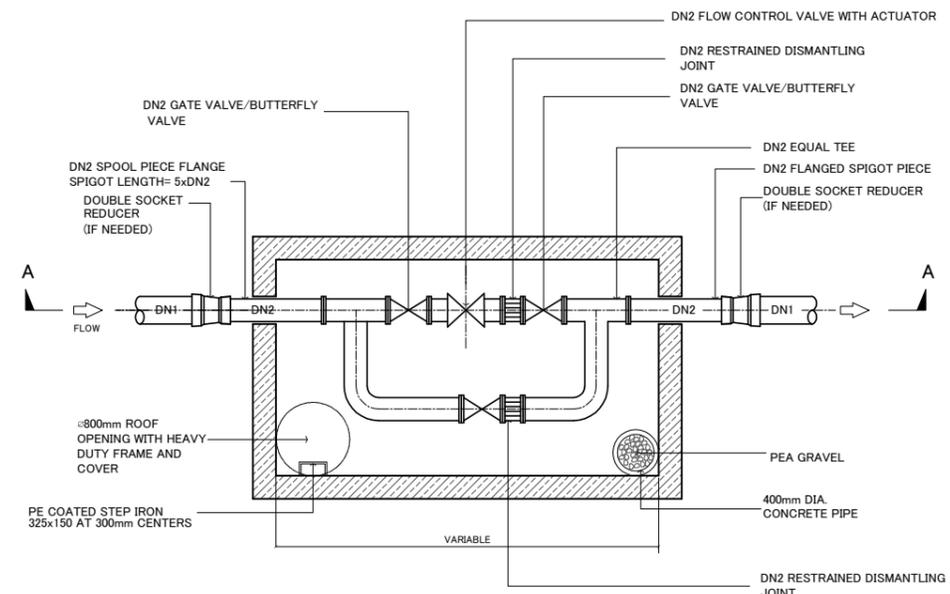
Project Title
THE STUDY FOR BASIC DETAILED DESIGN AND
DRAFT BIDDING DOCUMENTS (COMPONENT B)
UNDER THE PROJECT FOR THE STUDY ON WATER
SECTOR FOR THE HOST COMMUNITIES OF SYRIAN
REFUGEES IN NORTHERN GOVERNORATES IN THE
HASHIMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Cross Section For Road Crossing Pipeline

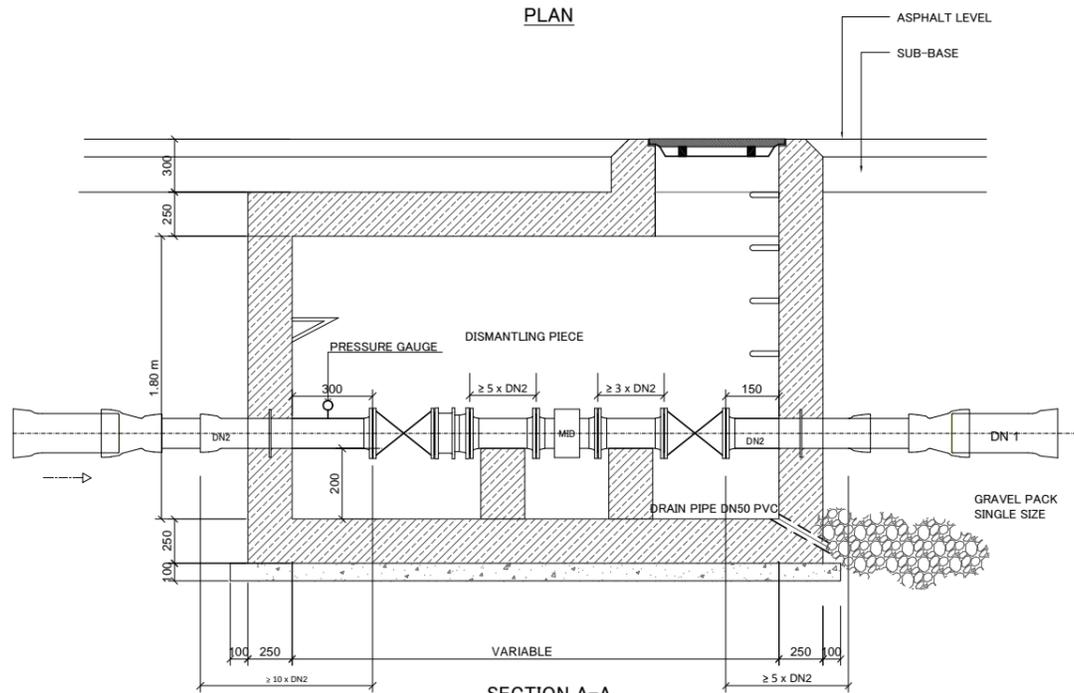
Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
ST 11	N.T.S	A1	



PLAN

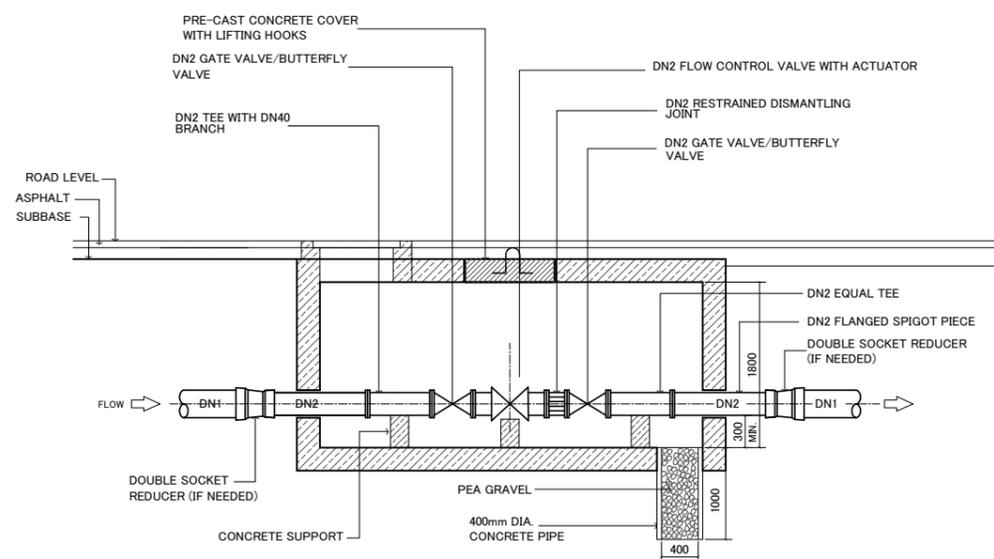


PLAN



SECTION A-A

ELECTRO MAGNETIC FLOW METER



SECTION A-A

FLOW CONTROL VALVE

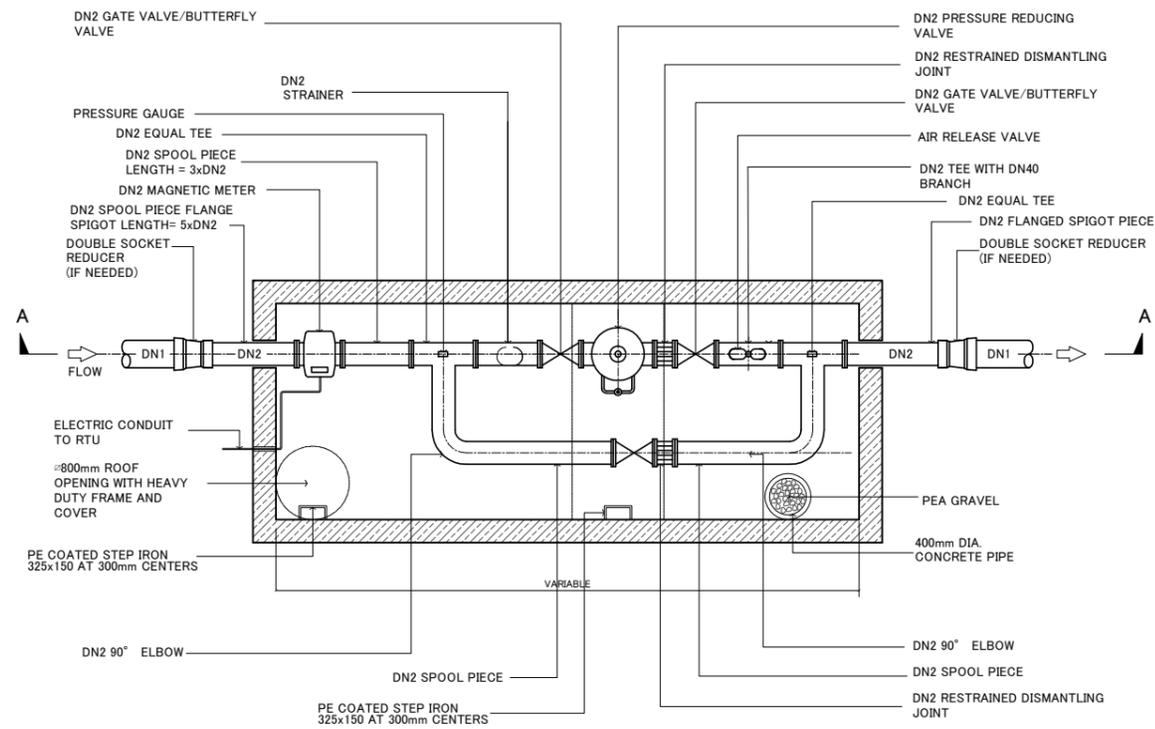
REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
TEC INTERNATIONAL CO., LTD., JAPAN
 in association with
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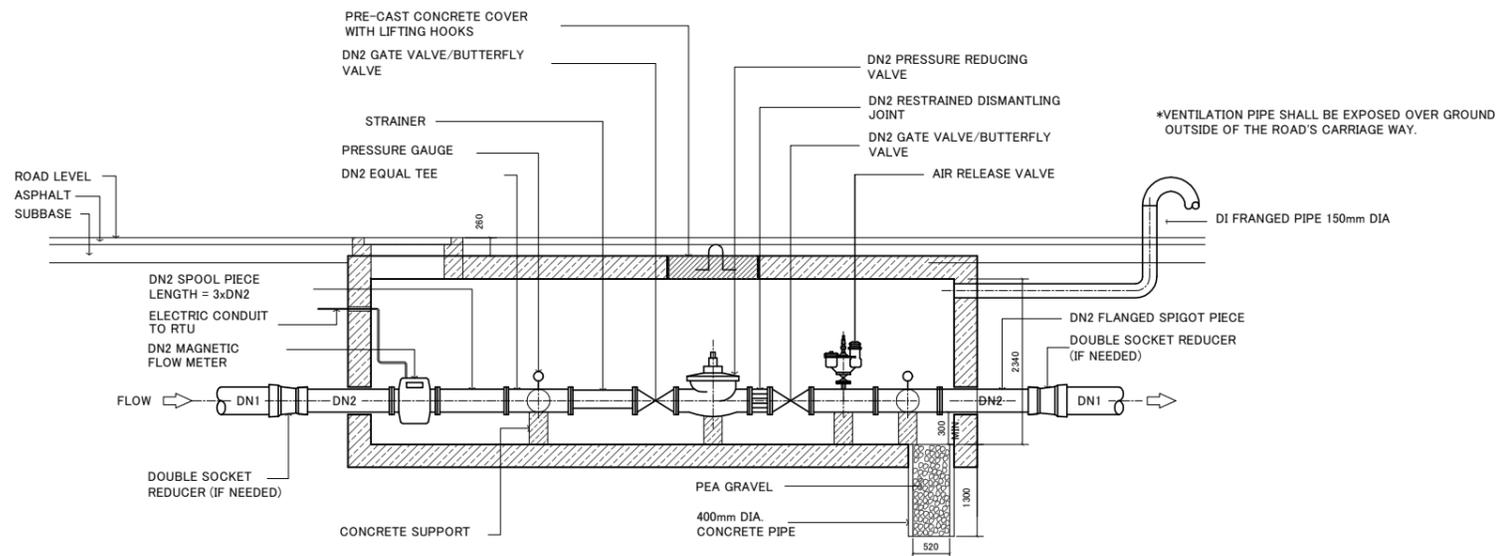
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
 Standard Details
 Electro Magnetic Flow Meter & Flow Control Valve

Design By	Reviewed By	
Checked By	Date	Mar.2017
Drawing No.	Scale	Size
ST 12	N.T.S	A1



PLAN



SECTION A-A

PRESSURE REDUCING VALVE

DMA	DN1	DN2	PRESSURE SETTING (m)	FLOW L/s
GR-02	300	250	50	85.45
GR-03	400	350	60	197.28
GR-07	400	350	80	187.85

REVISIONS

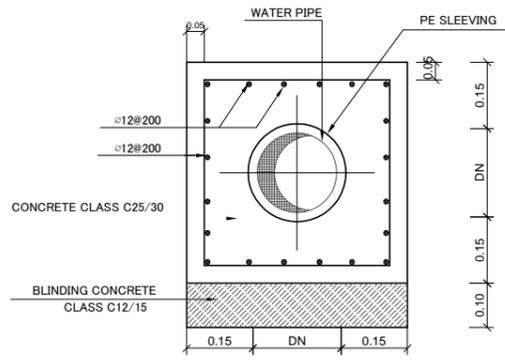
No.	DESCRIPTION	BY	DATE

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TEC INTERNATIONAL CO., LTD., JAPAN
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ARABTECH JARDANEH, JORDAN

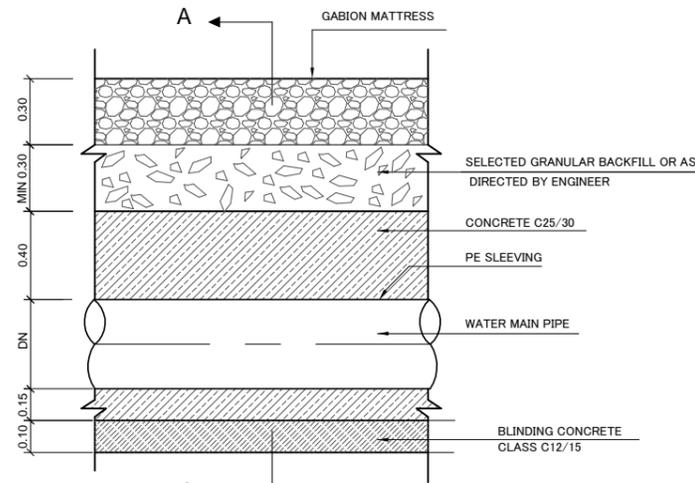
Project Title
 THE STUDY FOR BASIC DETAILED DESIGN AND DRAFT BIDDING DOCUMENTS (COMPONENT B) UNDER THE PROJECT FOR THE STUDY ON WATER SECTOR FOR THE HOST COMMUNITIES OF SYRIAN REFUGEES IN NORTHERN GOVERNORATES IN THE HASHEMITE KINGDOM OF JORDAN

Drawing Title
Standard Details
Pressure Reducing Station Valve

Design By	Reviewed By	Date	Mar.2017
Checked By			
Drawing No.	Scale	Size	
ST 13	N.T.S	A1	

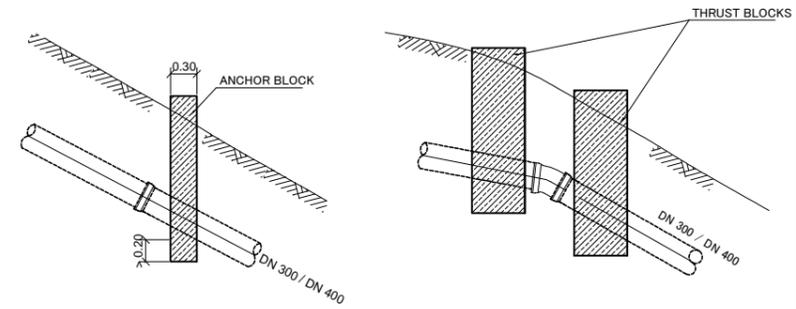


PIPE ENCASMENT DETAILS



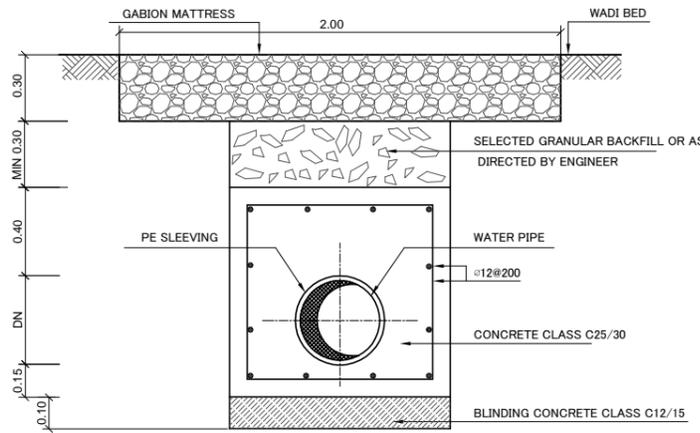
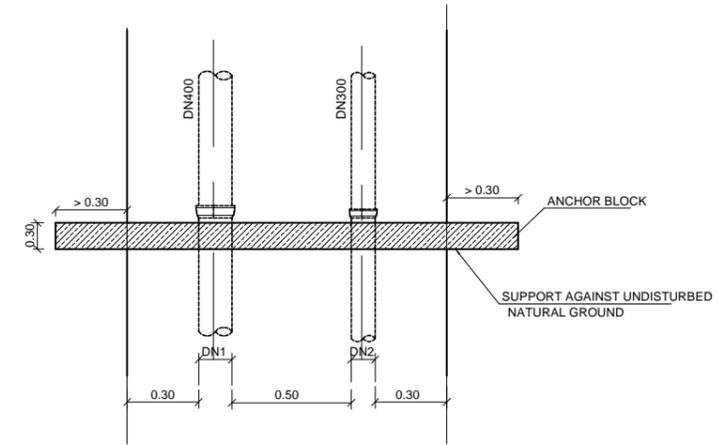
LONGITUDINAL SECTION

TOP VIEW
TYPICAL DETAILS - PIPE INSTALLATION ON STEEP SLOPE



LONGITUDINAL SECTION

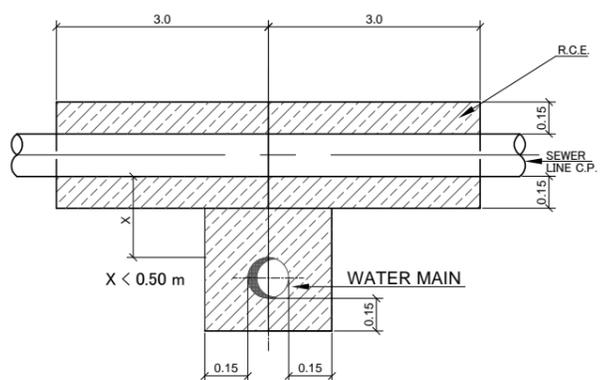
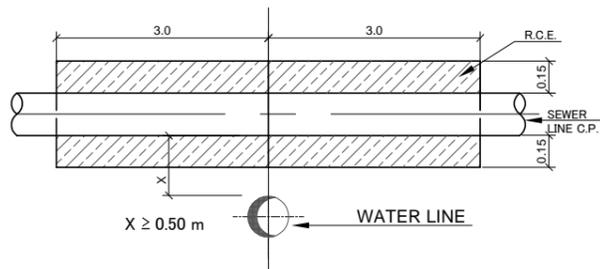
INSTALLATION OF VERTICAL BEND



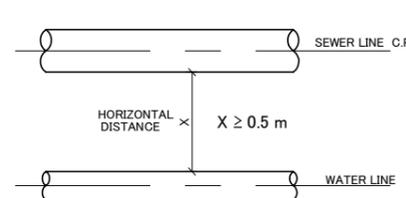
SECTION A-A

CONCRETE ENCASMENT AND WADI CROSSING DETAILS

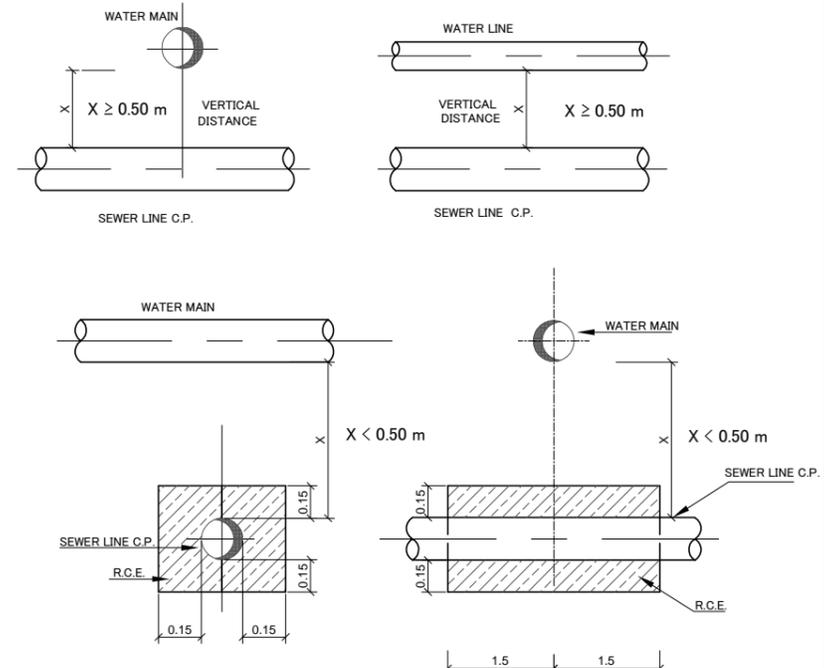
WATER LINE CROSSING BELOW SEWERS



WATER LINE IN PARALLEL TO SEWER LINE



WATER LINE CROSSING OVER SEWERS



Note: In case $X < 0.50\text{m}$ depending on site condition, encasement of water pipe is necessary.

Note: In case $X < 0.50\text{m}$ depending on site condition, encasement of sewer pipe is necessary.

CONCRETE ENCASMENT OF WATER/SEWER PIPELINES AT CLOSE TO SEWER LINES

REVISIONS			
No.	DESCRIPTION	BY	DATE

Consultant
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Project Title
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Drawing Title
Standard Details
Installation Of Di Pipes On Slope And Crossing Sewer Line

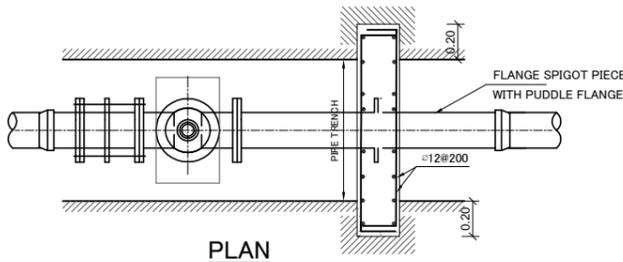
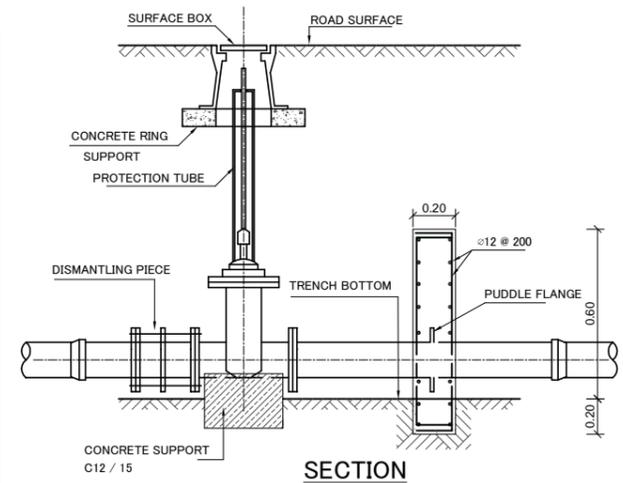
Design By	Reviewed By		
Checked By	Date	Mar.2017	
Drawing No.	Scale	Size	
ST 14	N.T.S	A1	

DIMENSIONS OF THRUST BLOCKS FOR PIPE BENDS AND TEES
BASED ON TEST PRESSURE OF 16 BAR AND SOIL BEARING CAPACITY OF 10N/cm²

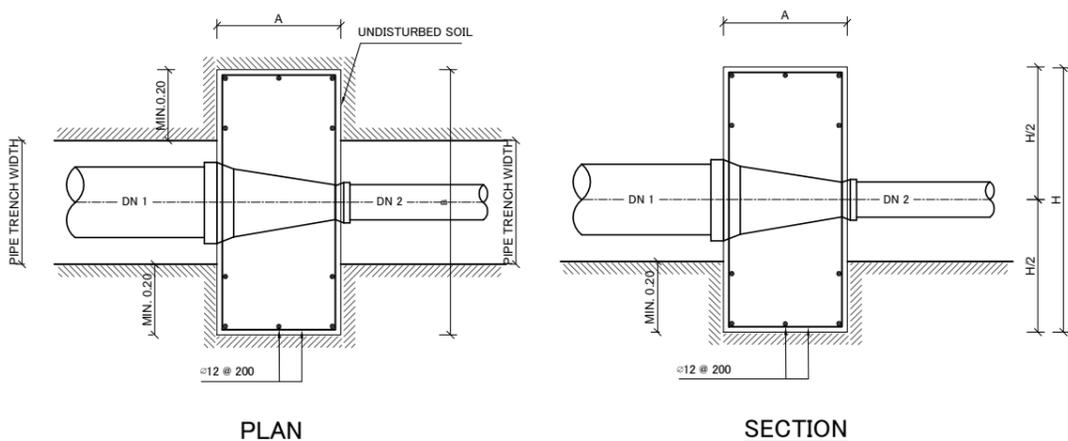
DIAMETER	90° BENDS			45° BENDS			30° BENDS			22.5° BENDS			11.25° BENDS		
	Width A [m]	Height H [m]	Length B [m]	Width A [m]	Height H [m]	Length B [m]	Width A [m]	Height H [m]	Length B [m]	Width A [m]	Height H [m]	Length B [m]	Width A [m]	Height H [m]	Length B [m]
DN100	0.51	0.33	0.28	0.36	0.25	0.19	0.28	0.22	0.14	0.23	0.20	0.11	0.13	0.18	0.06
DN150	0.77	0.49	0.41	0.54	0.38	0.28	0.42	0.33	0.21	0.34	0.30	0.17	0.20	0.26	0.08
DN200	1.03	0.65	0.55	0.72	0.50	0.38	0.55	0.44	0.28	0.46	0.40	0.22	0.26	0.35	0.11
DN250	1.28	0.81	0.69	0.90	0.63	0.47	0.69	0.55	0.35	0.57	0.50	0.28	0.33	0.44	0.14
DN300	1.54	0.98	0.83	1.08	0.75	0.56	0.83	0.66	0.42	0.69	0.60	0.34	0.40	0.53	0.17
DN400	2.05	1.30	1.10	1.44	1.00	0.75	1.11	0.88	0.56	0.92	0.80	0.45	0.53	0.70	0.22
DN500	2.56	1.63	1.38	1.80	1.25	0.94	1.39	1.10	0.70	1.15	1.00	0.56	0.66	0.88	0.28
DN600	3.08	1.95	1.65	2.16	1.50	1.13	1.66	1.32	0.84	1.38	1.20	0.67	0.79	1.05	0.34
DN700	3.59	2.28	1.93	2.52	1.75	1.32	1.94	1.54	0.98	1.61	1.40	0.79	0.92	1.23	0.39
DN800	4.10	2.60	2.21	2.89	2.00	1.50	2.22	1.76	1.12	1.84	1.60	0.90	1.06	1.40	0.45
DN900	4.61	2.93	2.48	3.25	2.25	1.69	2.49	1.98	1.26	2.07	1.80	1.01	1.19	1.58	0.50
DN1000	5.13	3.25	2.76	3.61	2.50	1.88	2.77	2.20	1.40	2.30	2.00	1.12	1.32	1.75	0.56
DN1200	6.15	3.90	3.31	4.33	3.00	2.26	3.33	2.64	1.68	2.76	2.40	1.35	1.58	2.10	0.67

DIMENSIONS OF THRUST BLOCKS FOR REDUCERS BASED
ON TEST PRESSURE OF 16 BAR AND SOIL
BEARING CAPACITY OF 10 N/cm²

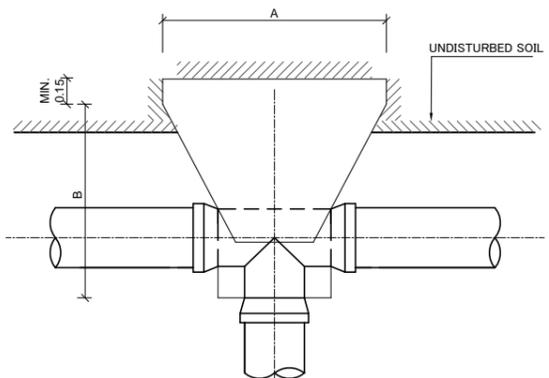
LARGE DIAMETER	SMALL DIAMETER	WIDTH A (m)	HEIGHT H (m)	LENGTH B (m)
1200	1000	0.80	3	1.86
1000	900	0.60	2.50	1.42
900	700	0.60	3.15	1.67
700	600	0.60	2.45	1.24
600	400	0.60	2.40	1.71
500	400	0.55	2	1.19
400	300	0.40	1.60	1.26
400	250	0.40	2	1.42
300	250	0.30	1.50	0.78
300	200	0.30	1.50	1.21
300	150	0.30	1.50	1.64
200	150	0.30	1	0.89
200	100	0.30	1	1.53
150	100	0.20	0.75	1.05



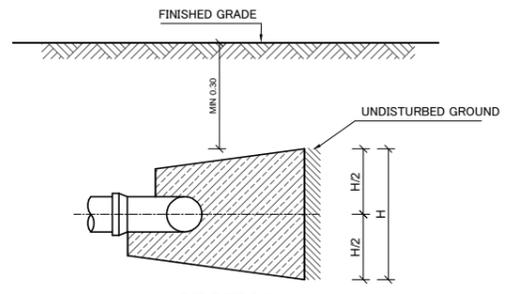
THRUST BLOCK FOR GATE VALVES DN ≤ 200



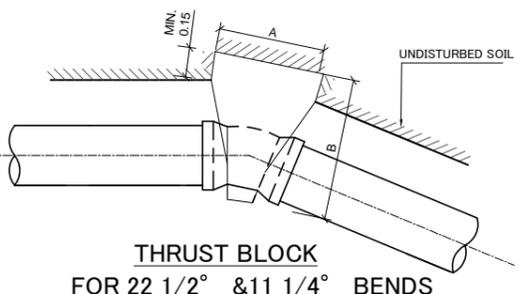
THRUST BLOCK FOR REDUCER



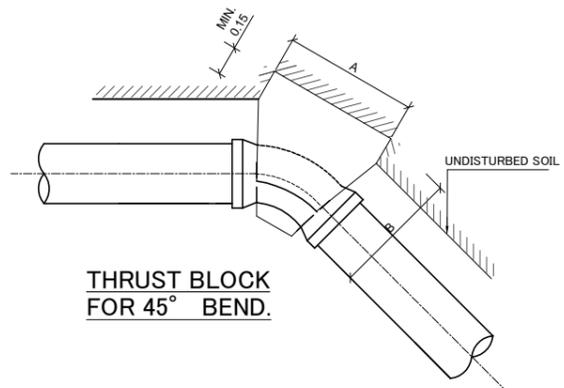
THRUST BLOCK FOR TEE



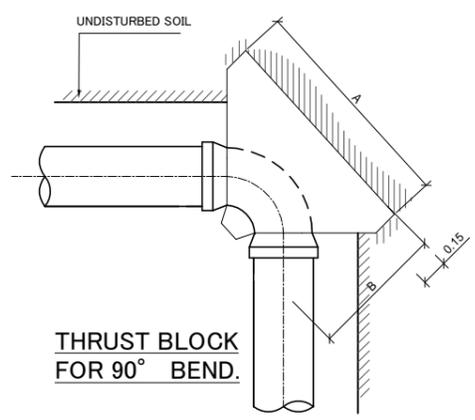
THRUST BLOCK FOR BEND OR TEE



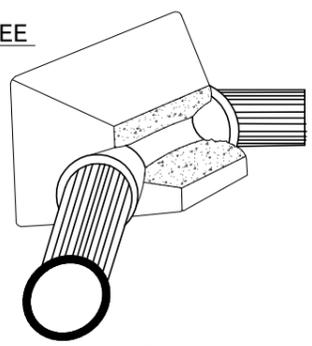
THRUST BLOCK FOR 22 1/2° & 11 1/4° BENDS



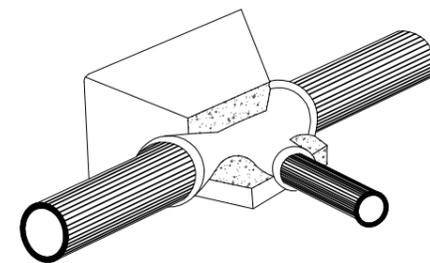
THRUST BLOCK FOR 45° BEND.



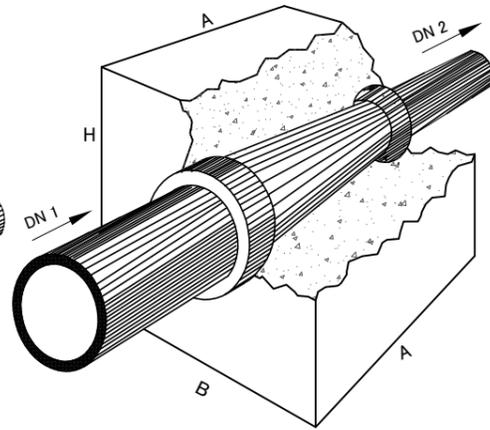
THRUST BLOCK FOR 90° BEND.



3D VIEW THRUST BLOCK FOR BENDS



3D VIEW THRUST BLOCK FOR TEE



3D VIEW THRUST BLOCK FOR REDUCER

- NOTES:**
- GENERALLY THRUST BLOCK SHALL ENCASE THE REDUCER FITTING.
 - IN CASE THE LENGTH OF REDUCER IS TOO SHORT, THE THRUST BLOCK MUST BE PLACED ON THE PIPELINE WITH REDUCED.
 - ALL THRUST BLOCKS TO BE CONCRETE C25/30
 - IN CASE SITE CONDITION DON'T ALLOW INSTALLATION OF THRUST BLOCK, ANCHORED SOCKET (TIED JOINTS) PIPE MAY BE USED INSTEAD. THE LENGTH OF ANCHORED SOCKET ARE TO BE DETERMINED ACCORDING TO PRESSURE AND SOIL CONDITION AND APPROVED BY ENGINEER .
 - ALL DIMENSIONS IN METRES EXCEPT MENTIONED OTHERWISE .
 - REINFORCEMENT SPACING IN mm .

NOTE: CONTRACTOR TO RECALCULATE VALUES CONSIDERING PREVAILING SOIL BEARING CAPACITY AND TEST PRESSURE.

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Drawing Title
Standard Details
Thrust Blocks For Pipe Line Installation

Design By	Reviewed By		
Checked By	Date	Mar.2017	
Drawing No.	Scale	Size	
ST 15	N.T.S	A1	